Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	NKR-DHURAZ63
Equipment	:	DHUR-AZ63 11a/b/g/n/ac 2x2 module
Brand Name	:	WNC
Model Name	:	DHUR-AZ63
Applicant	:	Wistron NeWeb Corporation 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan
Manufacturer	:	Wistron NeWeb Corporation 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan
Standard	:	47 CFR FCC Part 15.247

The product was received on Oct. 27, 2021, and testing was started from Nov. 05, 2021 and completed on Nov. 30, 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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History of this test report

Report No.	Version	Description	Issued Date
FR1O2738AC	01	Initial issue of report	Dec. 13, 2021

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:
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: Sandy Chuang

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
2400-2483.5	BT-BR	1	1
2400-2483.5	BT-EDR	1	1

Note:
- Bluetooth BR uses a GFSK (1Mbps).
- Bluetooth EDR uses a combination of π/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

Set	Ant.	Port			Brand	Part Number	Antenna Type	Connector	Support Type	Equip EUT
		WLAN 2.4GHz (WLAN/BT)	WLAN 5GHz	BT						
1	1	1	1	-	WNC	Wifi Ant0	Printed	N/A	WLAN	1
	2	2	2	-	WNC	Wifi Ant1	Printed	N/A		
2	1	1	1	-	WNC	81.EK615.GAA	PIFA	I-PEX	WLAN	2
	2	2	2	-						
3	1	1	1	-	WNC	81.EK615.GAF	PIFA	I-PEX	WLAN	2
	2	2	2	-						
4	1	-	-	1	WNC	81.EK615.GAM	PIFA	I-PEX	BT	1 or 2
5	1	-	-	1	WNC	81.EK615.GAV	PIFA	I-PEX	BT	1 or 2
6	1	-	-	1	WNC	81.EK615.G90	PIFA	I-PEX	BT	1 or 2

Note1:

Set	Ant.	Port			Antenna Gain (dBi)		
		WLAN 2.4GHz (WLAN/BT)	WLAN 5GHz	BT	WLAN 2.4GHz	WLAN 5GHz	Bluetooth
1	1	1	1	-	5.31	5.92	-
	2	2	2	-	5.26	5.91	-
2	1	1	1	-	2.26	6.93	-
	2	2	2	-	2.26	6.93	-
3	1	1	1	-	3.09	5.35	-
	2	2	2	-	3.09	5.35	-
4	1	-	-	1	-	-	4.04
5	1	-	-	1	-	-	4.87
6	1	-	-	1	-	-	0.75

Note2: The above information was declared by manufacturer.

Only the highest gain antenna was selected from each different type of antenna to test. Thus, antenna set 1, 3 were selected to perform the WLAN 2.4GHz test, antenna set 1, 2 were selected to perform the WLAN 5GHz test, and antenna set 5 was selected to perform the Bluetooth test.

Note3:

<WLAN 2.4GHz Function>

For IEEE 802.11b/g/n/ax (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

<WLAN 5GHz Function>

For IEEE 802.11a/n/ac (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

<Bluetooth Function> (1TX/1RX)

Only Port 1 can be used as transmitting/receiving.

Note 4: Directional gain information

Maximum Output Power	Power Spectral Density
Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left[\sum_{k=1}^{N_{SCT}} g_{j,k}\right]^2}{N_{ANT}}\right]$

Ex.

Directional Gain (NSS1) formula : $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left[\sum_{k=1}^{N_{SCT}} g_{j,k}\right]^2}{N_{ANT}}\right]$

NSS1(g1,1) = $10^{G1/20}$; NSS1(g1,2)= $10^{G2/20}$

gj,k =(Nss1(g1,1) + Nss1(g1,2)

DG = 10 log[(Nss1(g1,1) + Nss1(g1,2) / N_{ANT}] => 10 log[($10^{G1/20}$ + $10^{G2/20}$ + / N_{ANT}]

Where ;

G1 = Ant 1 Gain ; G2 = Ant 2 Gain

<For EUT 1>

2.4GHz DG = 8.30 dBi

5 GHz U-NII-1 DG = 8.93 dBi

5 GHz U-NII-2A DG = 8.93 dBi

5 GHz U-NII-2C DG = 8.93 dBi

5 GHz U-NII-3 DG = 8.93 dBi

<For EUT 2>

2.4GHz DG = 6.10 dBi

5 GHz U-NII-1 DG = 9.94 dBi

5 GHz U-NII-2A DG = 9.94 dBi

5 GHz U-NII-2C DG = 9.94 dBi

5 GHz U-NII-3 DG = 9.94 dBi

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-BR(1Mbps)	0.577	2.39	2.884m	1k
BT-EDR(2Mbps)	0.577	2.39	2.887m	1k
BT-EDR(3Mbps)	0.578	2.38	2.889m	1k

Note:
- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From host system
Test Software Version	WCN_Combo_Tool.exe

1.1.5 Table for EUT Information

EUT	WLAN Antenna	Bluetooth Antenna	Equip Antenna Set
1	Internal	External	Set 1, 4~6
2	External	External	Set 2~6

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

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH02-CB	Jay Lo	23.4-25.7 / 64-66	Nov. 15, 2021~ Nov. 17, 2021
Radiated (Below 1GHz)	03CH05-CB	Ken Yeh	19.6~20.1 / 64~68	Nov. 18, 2021~ Nov. 19, 2021
Radiated (Above 1GHz)	03CH05-CB	Kevin Huang	24.1-25.2 / 55-58	Nov. 05, 2021~ Nov. 16, 2021
AC Conduction	CO01-CB	Ryan Huang	22~23 / 66~67	Nov. 30, 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)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 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
Operating Mode	Normal Link
1	EUT 1 with 2.4GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
2	EUT 1 with 5GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
3	EUT 2 with 2.4GHz WLAN (Ant. Set 3) + Bluetooth (Ant. Set 5)
4	EUT 2 with 5GHz WLAN (Ant. Set 2) + Bluetooth (Ant. Set 5)
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
1	EUT 2 with Set 5

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 1 in Z axis with 2.4GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
2	EUT 1 in Y axis with 2.4GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
3	EUT 1 in X axis with 2.4GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
Mode 1 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 will follow this same test mode.	
4	EUT 1 in Z axis with 5GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
5	EUT 2 in Z axis with 2.4GHz WLAN (Ant. Set 3) + Bluetooth (Ant. Set 5)
6	EUT 2 in Y axis with 2.4GHz WLAN (Ant. Set 3) + Bluetooth (Ant. Set 5)
7	EUT 2 in X axis with 2.4GHz WLAN (Ant. Set 3) + Bluetooth (Ant. Set 5)
Mode 5 has been evaluated to be the worst case among Mode 5~7, thus measurement for Mode 8 will follow this same test mode	
8	EUT 2 in Z axis with 5GHz WLAN (Ant. Set 2) + Bluetooth (Ant. Set 5)
For operating mode 5 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case as below:	
1	EUT 2 in X axis with Set 5

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT 1 with 2.4GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
2	EUT 1 with 5GHz WLAN (Ant. Set 1) + Bluetooth (Ant. Set 5)
3	EUT 2 with 2.4GHz WLAN (Ant. Set 3) + Bluetooth (Ant. Set 5)
4	EUT 2 with 5GHz WLAN (Ant. Set 2) + Bluetooth (Ant. Set 5)
Refer to Sporton Test Report No.: FA1O2738 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link Mode:

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	NB1	DELL	E6430	N/A
B	NB2	DELL	E6430	N/A
C	Bluetooth Speaker	MARUS	MSK06C-RD	N/A
D	AP Router	ASUS	RP-N53	MSQ-RPN53
E	Mouse	Logitech	M-U0026	N/A
F	Earphone	SHYARO CHI	MIC-04	N/A
G	Test fixture	WNC	48DHUR09.SGB	N/A

For Radiated (below 1GHz):

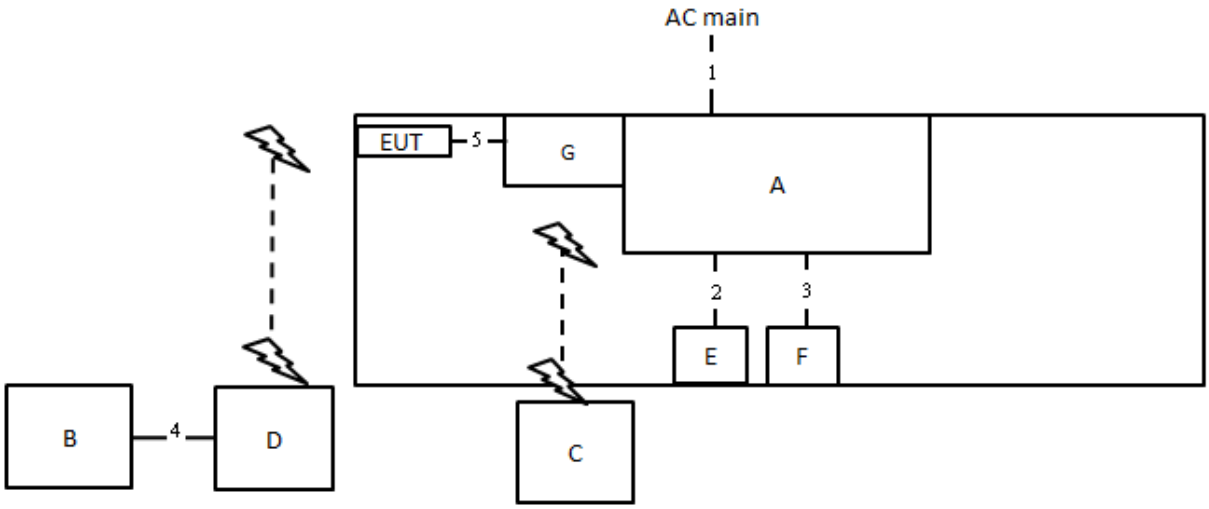
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB1	DELL	E4300	N/A
B	NB2	DELL	E4300	N/A
C	WLAN AP	D-LINK	DIR860L	KA2IR860LA1
D	Bluetooth Speaker	MI	XMYX02YM	2AJ7PXMYX02YM
E	Mouse	HP	FM100	N/A
F	Earphone	e-Power	S90W	N/A
G	Fixture	WNC	48DHUR09.SGB	N/A

For Radiated (above 1GHz) and RF Conducted:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	DELL	E4300	N/A
B	Fixture	WNC	48DHUR09.SGB	N/A

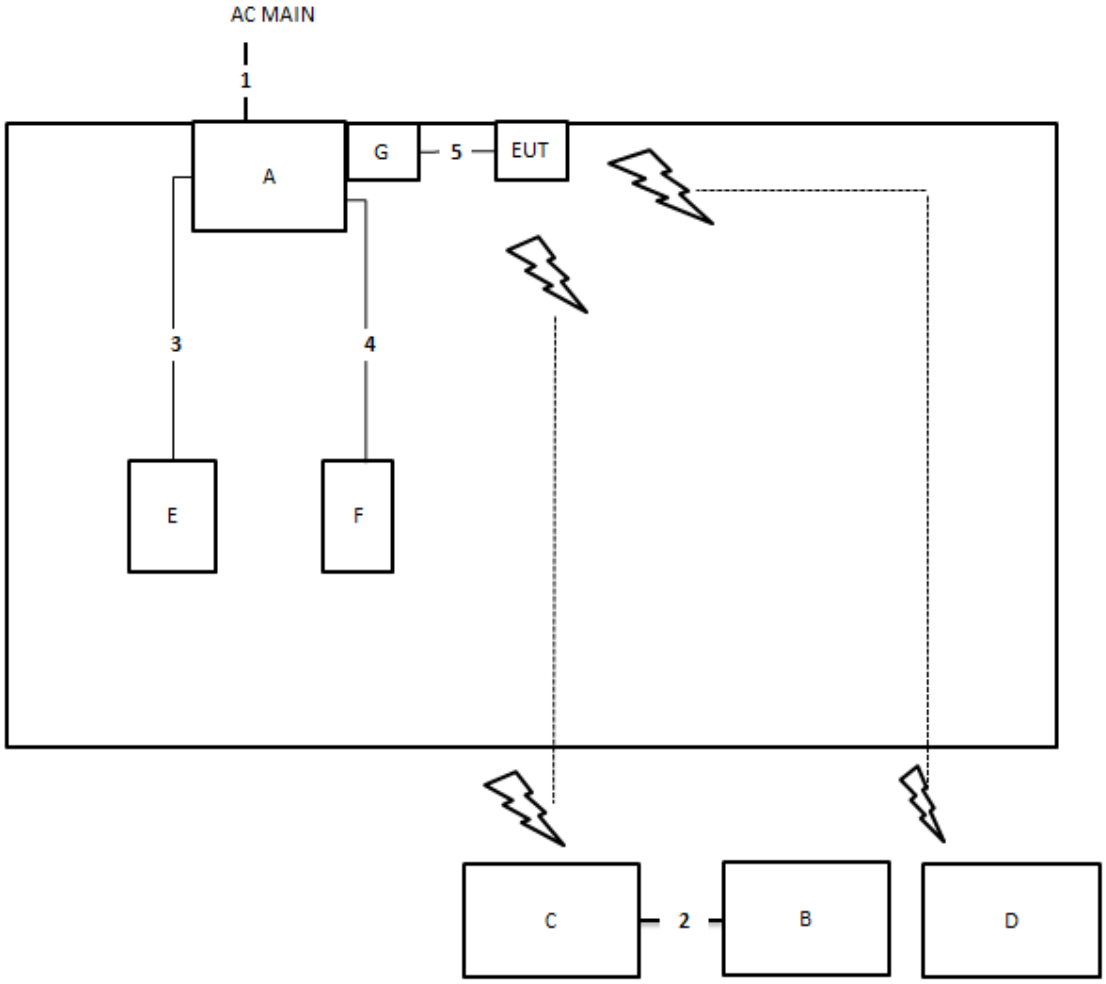
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



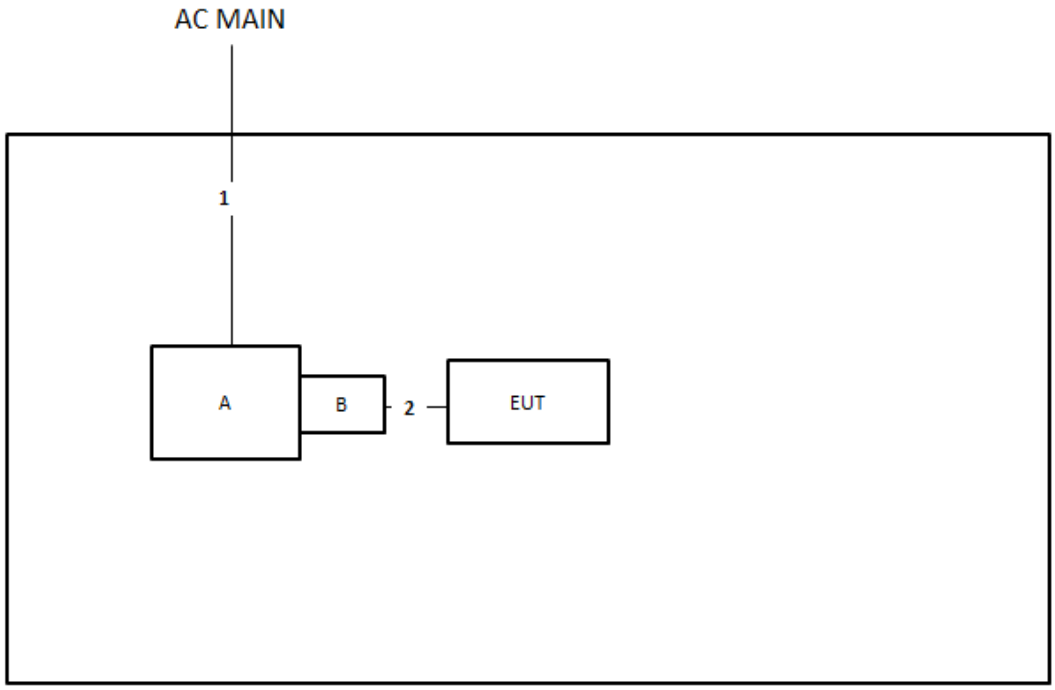
Item	Connection	Shielded	Length
1	Power cable	No	2.8m
2	USB cable	No	1m
3	Audio cable	No	1m
4	RJ45 cable	No	1.5m
5	Console cable	No	0.05m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ45 cable	No	1.5m
3	USB Cable	Yes	1m
4	Audio cable	No	1m
5	Console cable	No	0.05m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	Console cable	No	0.05m

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

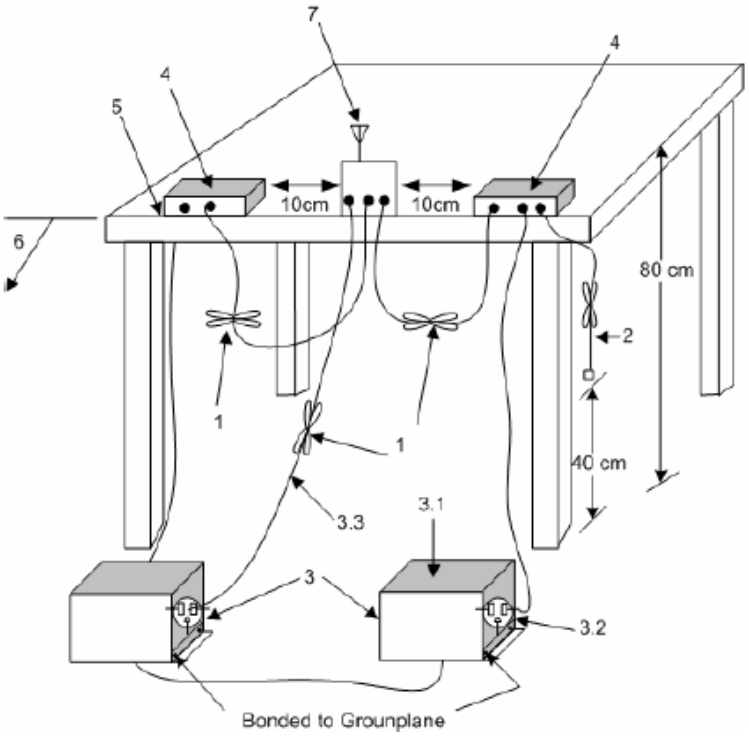
Refer a test equipment and calibration data table in this test report.

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

AC Power-line Conducted Emissions



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 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

3.1.6 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 ≥50 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 250 kHz.
▪ 50 >N≥25 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth>250 kHz.
▪ 2400-2483.5 MHz Band:
▪ N ≥75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz).
▪ 75>N ≥ 15 and ChS ≥ MAX (20 dB bandwidth 2/3,25 kHz).
▪ 5725-5850 MHz Band:
▪ N ≥ 75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 1 MHz.
N:Number of Hopping Frequencies; **ChS**: Hopping Channel Separation

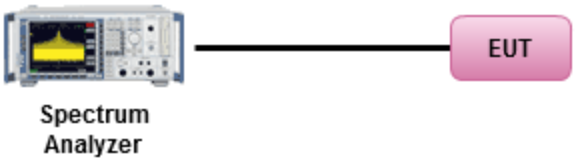
3.2.2 Measuring Instruments

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

20dB Bandwidth and Carrier Frequency Separation


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)


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 ≥50 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 250 kHz.
▪ 50 >N≥ 25 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth>250 kHz.
▪ 2400-2483.5 MHz Band:
▪ N ≥ 75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz).
▪ 75 >N ≥ 15 and ChS ≥ MAX (20 dB bandwidth 2/3,25 kHz).
▪ 5725-5850 MHz Band:
▪ N ≥ 75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 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

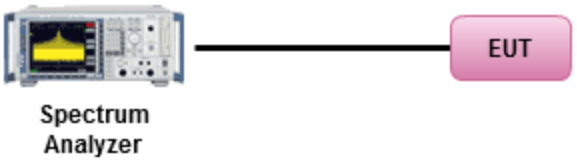
3.4.3 Measuring Instruments

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

Number of Hopping Frequencies and Hopping Frequencies Bandedge


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 ≥50; 0.4s in 20s period
▪ 50 >N≥ 25; 0.4s in 10s period
▪ 2400-2483.5 MHz Band:
▪ N ≥ 75; 0.4s in N x 0.4 period
▪ 75 >N ≥ 15; 0.4s in N x 0.4 period
▪ 5725-5850 MHz Band:
▪ N ≥ 75; 0.4s in 30s period
N:Number of Hopping Frequencies

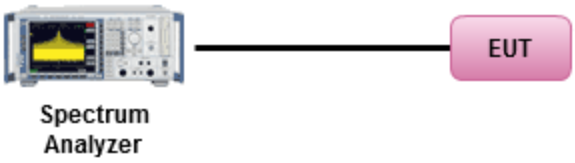
3.5.2 Measuring Instruments

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

Time of Occupancy (Dwell Time)


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.	

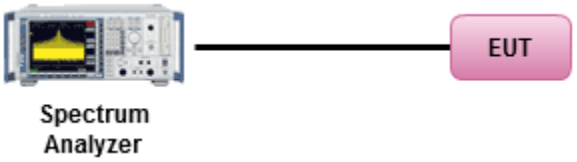
3.6.2 Measuring Instruments

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

Emissions in Non-restricted Frequency Bands


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 below30 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.

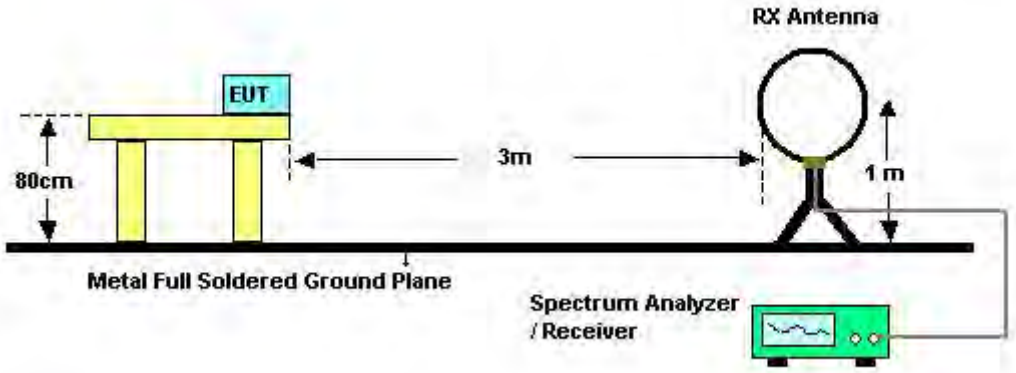
3.7.3 Test Procedures

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.

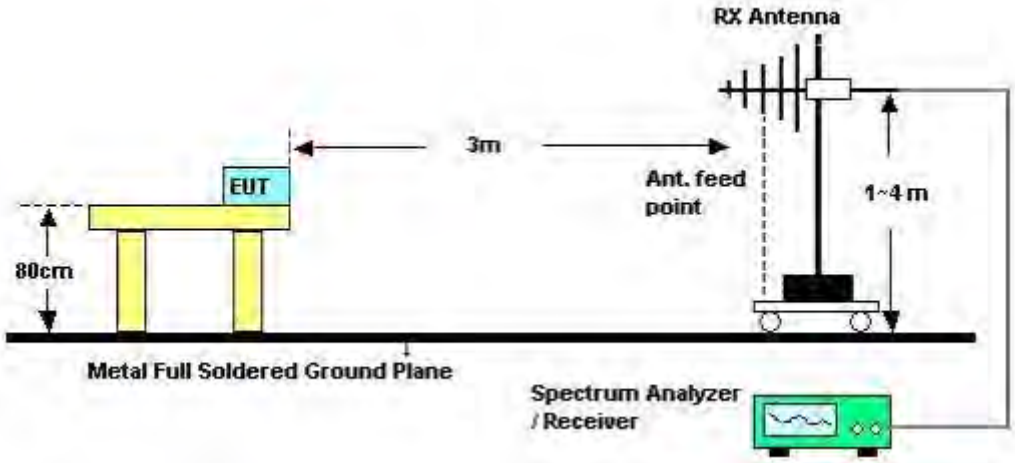
3.7.4 Test Setup

Emissions in Restricted Frequency Bands

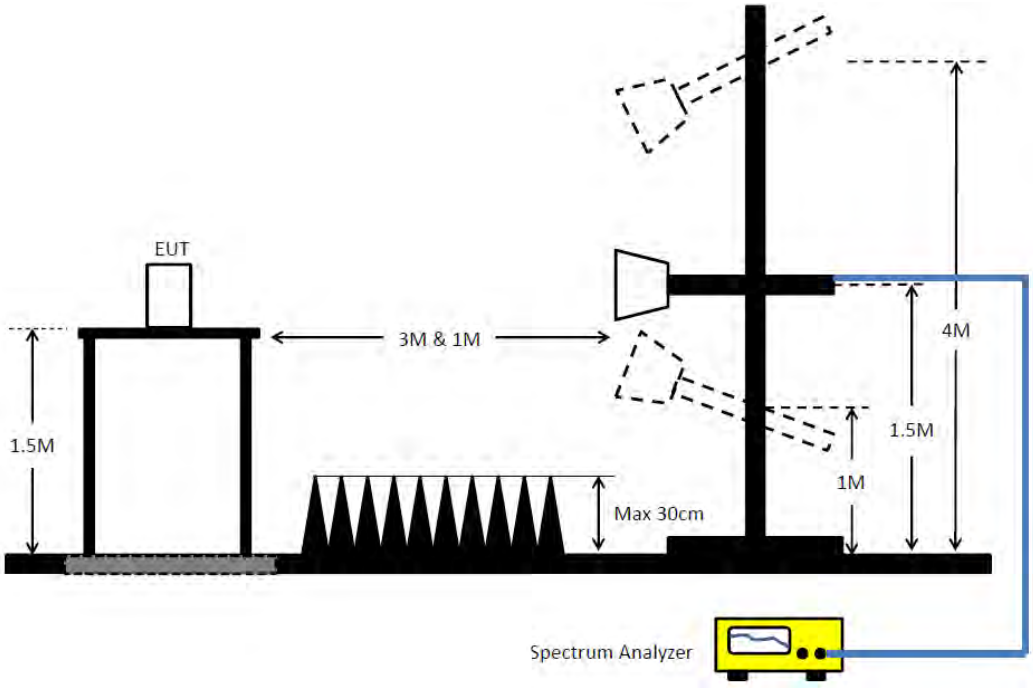
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



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-50-16-2	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)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 08, 2020	Nov. 07, 2021	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 07, 2021	Nov. 06, 2022	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 26, 2021	Mar. 25, 2022	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120 D-1291	1GHz~18GHz	Oct. 14, 2021	Oct. 13, 2022	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 27, 2021	Apr. 26, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Jul. 02, 2021	Jul. 01, 2022	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH05-CB)
Signal Analyzer	R&S	FSV40	101903	9kHz ~ 40GHz	Mar. 22, 2021	Mar. 21, 2022	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH05-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	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	Aug. 02, 2021	Aug. 01, 2022	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	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.

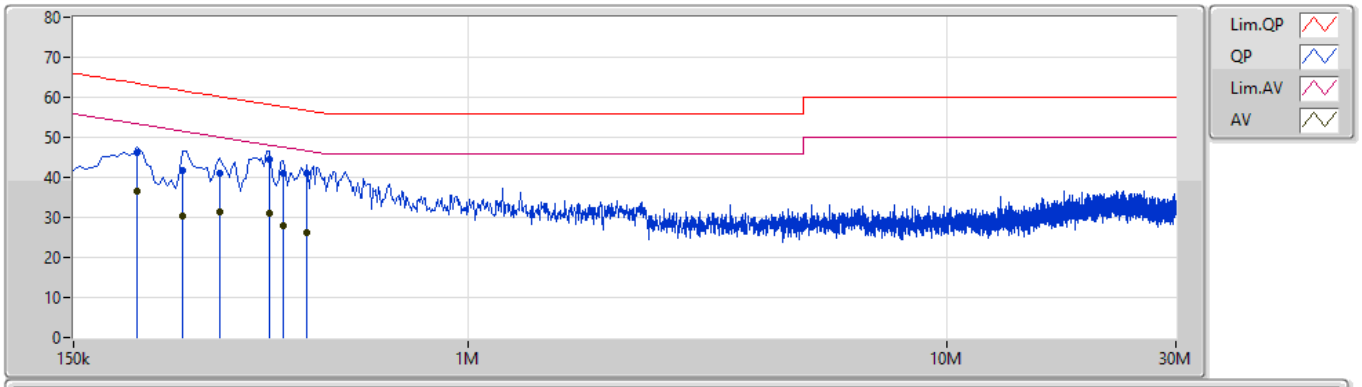
N.C.R. means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 3	Pass	QP	384k	44.45	58.20	-13.75	Neutral

Mode 3

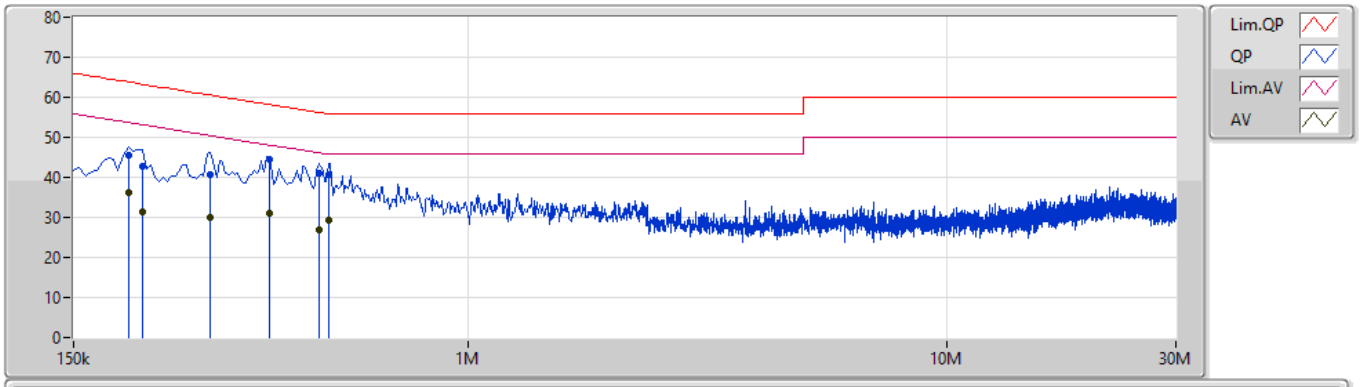
30/11/2021



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	204k	46.24	63.44	-17.20	9.89	Line	-	36.35	0.04	0.04	9.81
AV	204k	36.71	53.44	-16.73	9.89	Line	-	26.82	0.04	0.04	9.81
QP	253.5k	41.82	61.64	-19.82	9.89	Line	-	31.93	0.04	0.04	9.81
AV	253.5k	30.32	51.64	-21.32	9.89	Line	-	20.43	0.04	0.04	9.81
QP	303k	41.20	60.17	-18.97	9.90	Line	-	31.30	0.04	0.04	9.82
AV	303k	31.41	50.17	-18.76	9.90	Line	-	21.51	0.04	0.04	9.82
QP	384k	44.44	58.20	-13.76	9.90	Line	"Worst"	34.54	0.04	0.04	9.82
AV	384k	31.20	48.20	-17.00	9.90	Line	-	21.30	0.04	0.04	9.82
QP	411k	41.02	57.63	-16.61	9.90	Line	-	31.12	0.04	0.04	9.82
AV	411k	27.76	47.63	-19.87	9.90	Line	-	17.86	0.04	0.04	9.82
QP	460.5k	41.05	56.69	-15.64	9.90	Line	-	31.15	0.04	0.04	9.82
AV	460.5k	26.20	46.69	-20.49	9.90	Line	-	16.30	0.04	0.04	9.82

Mode 3

30/11/2021



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	195k	45.61	63.82	-18.21	9.88	Neutral	-	35.73	0.03	0.04	9.81
AV	195k	36.13	53.82	-17.69	9.88	Neutral	-	26.25	0.03	0.04	9.81
QP	208.5k	42.78	63.27	-20.49	9.88	Neutral	-	32.90	0.03	0.04	9.81
AV	208.5k	31.45	53.27	-21.82	9.88	Neutral	-	21.57	0.03	0.04	9.81
QP	289.5k	40.61	60.53	-19.92	9.89	Neutral	-	30.72	0.03	0.04	9.82
AV	289.5k	30.12	50.53	-20.41	9.89	Neutral	-	20.23	0.03	0.04	9.82
QP	384k	44.45	58.20	-13.75	9.89	Neutral	"Worst"	34.56	0.03	0.04	9.82
AV	384k	31.19	48.20	-17.01	9.89	Neutral	-	21.30	0.03	0.04	9.82
QP	487.5k	40.92	56.21	-15.29	9.89	Neutral	-	31.03	0.03	0.04	9.82
AV	487.5k	26.84	46.21	-19.37	9.89	Neutral	-	16.95	0.03	0.04	9.82
QP	510k	40.55	56.00	-15.45	9.90	Neutral	-	30.65	0.04	0.04	9.82
AV	510k	29.26	46.00	-16.74	9.90	Neutral	-	19.36	0.04	0.04	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)	798.75k	763.368k	763KF1D	792.5k	759.62k
BT-EDR(2Mbps)	1.308M	1.184M	1M18G1D	1.306M	1.184M
BT-EDR(3Mbps)	1.284M	1.191M	1M19G1D	1.28M	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

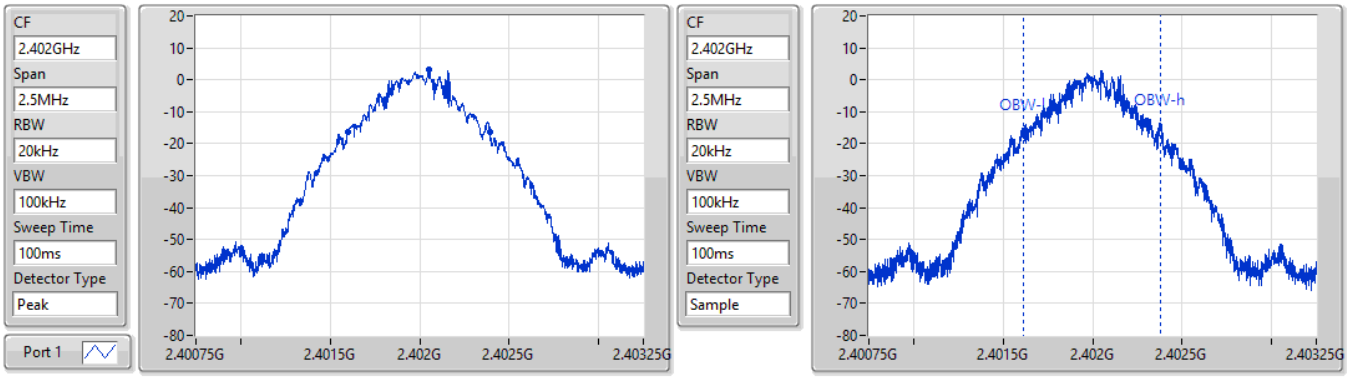
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	797.5k	763.368k
2440MHz	Pass	Inf	798.75k	760.87k
2480MHz	Pass	Inf	792.5k	759.62k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.306M	1.184M
2440MHz	Pass	Inf	1.306M	1.184M
2480MHz	Pass	Inf	1.308M	1.184M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.28M	1.191M
2440MHz	Pass	Inf	1.284M	1.189M
2480MHz	Pass	Inf	1.283M	1.188M

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

BT-BR(1Mbps) EBW-FS

2402MHz

15/11/2021

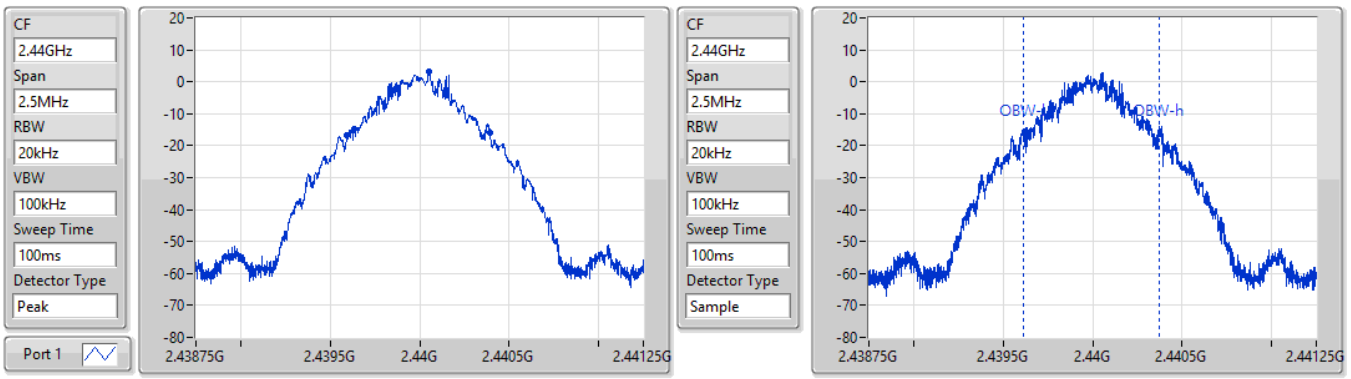


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
797.5k	2.401596G	2.402394G	763.368k	2.401614G	2.402377G	Inf	1

BT-BR(1Mbps) EBW-FS

2440MHz

15/11/2021

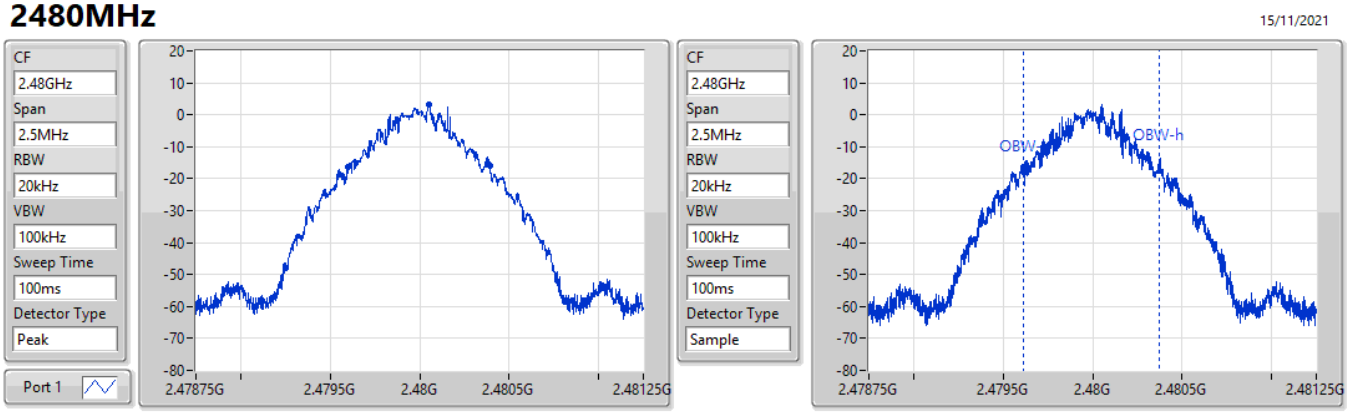


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
798.75k	2.439595G	2.440394G	760.87k	2.439614G	2.440375G	Inf	1

BT-BR(1Mbps)

EBW-FS

2480MHz

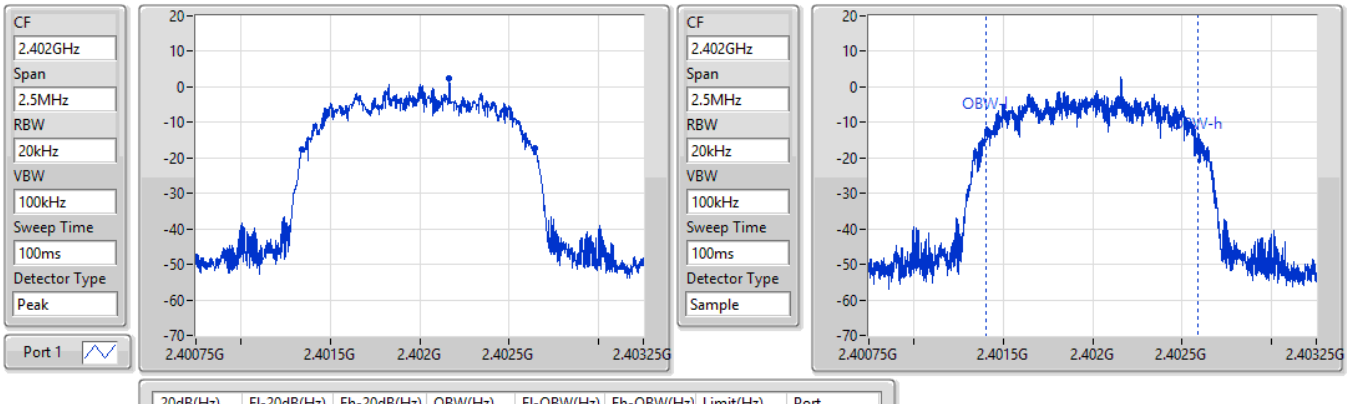


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
792.5k	2.4796G	2.480393G	759.62k	2.479614G	2.480374G	Inf	1

BT-EDR(2Mbps)

EBW-FS

2402MHz

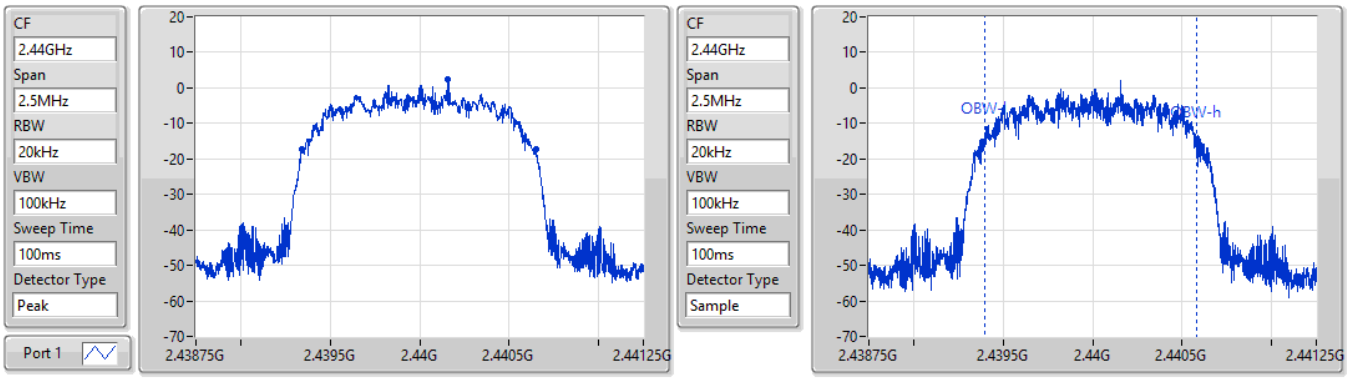


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.306M	2.40134G	2.402646G	1.184M	2.401402G	2.402586G	Inf	1

BT-EDR(2Mbps) EBW-FS

2440MHz

15/11/2021

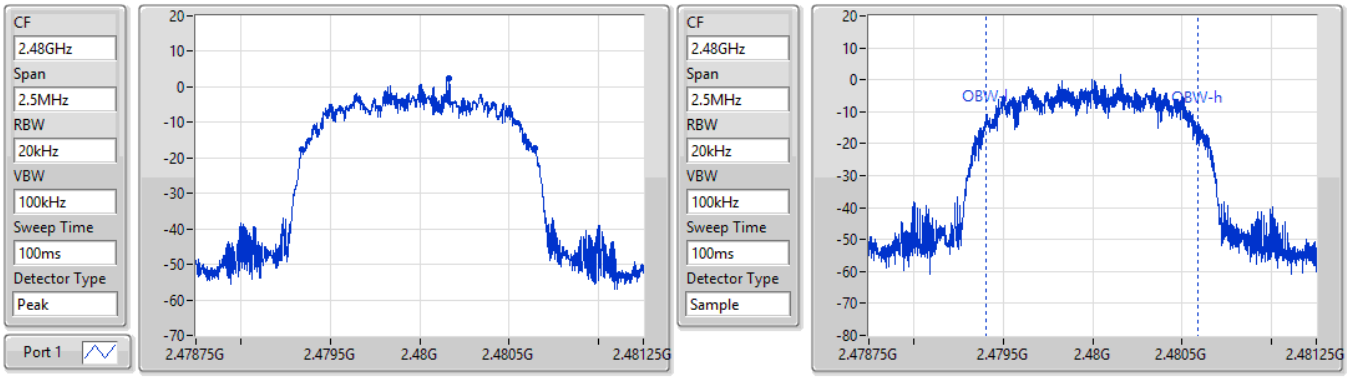


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.306M	2.439343G	2.440649G	1.184M	2.439399G	2.440583G	Inf	1

BT-EDR(2Mbps) EBW-FS

2480MHz

15/11/2021

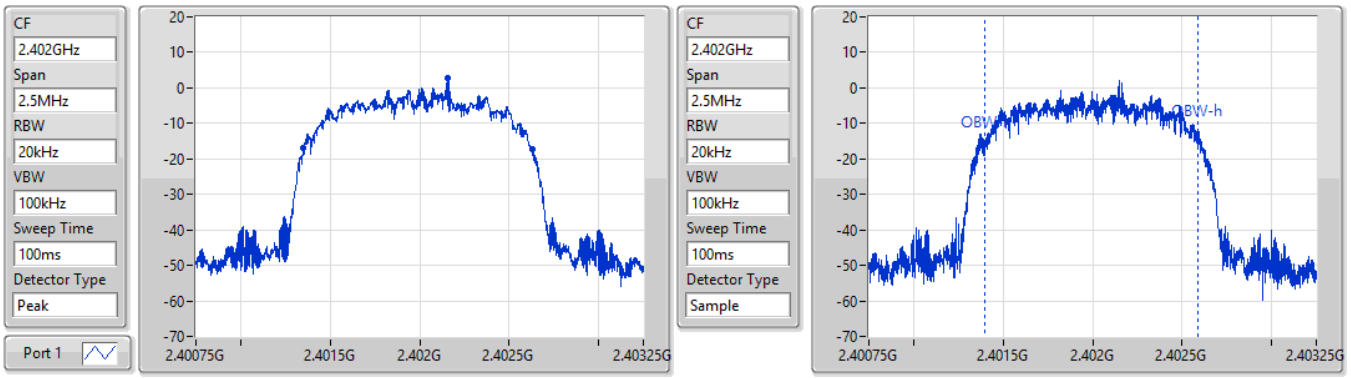


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.308M	2.47934G	2.480648G	1.184M	2.479402G	2.480586G	Inf	1

BT-EDR(3Mbps) EBW-FS

2402MHz

15/11/2021

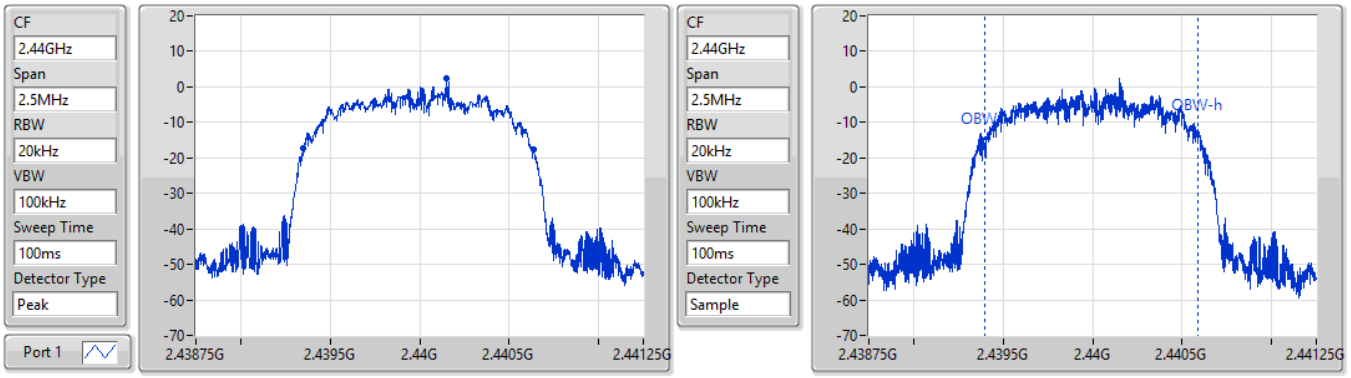


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.28M	2.40135G	2.40263G	1.191M	2.401395G	2.402586G	Inf	1

BT-EDR(3Mbps) EBW-FS

2440MHz

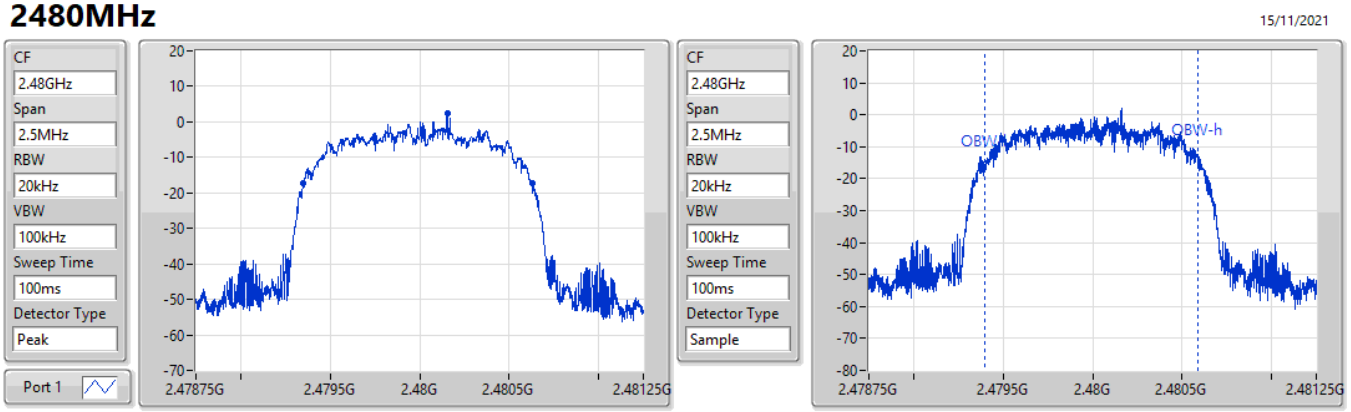
15/11/2021



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.284M	2.43935G	2.440634G	1.189M	2.439398G	2.440587G	Inf	1

BT-EDR(3Mbps) **EBW-FS**

2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.283M	2.47935G	2.480633G	1.188M	2.479399G	2.480587G	Inf	1

Summary

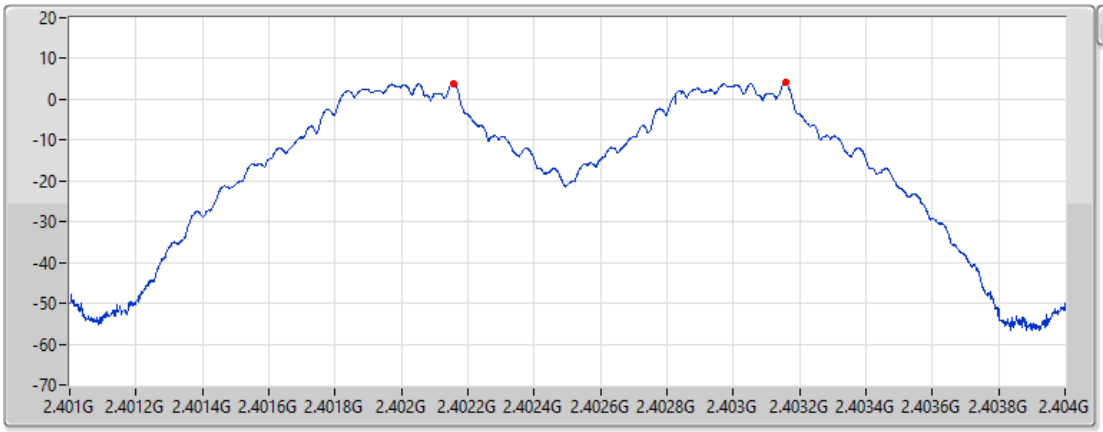
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.002M	1.0005M
BT-EDR(2Mbps)	1.0035M	1.0005M
BT-EDR(3Mbps)	1.0005M	1.0005M

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402157G	2.403157G	1.0005M	530.3025k
2440MHz	Pass	2.440155G	2.441157G	1.002M	531.9675k
2480MHz	Pass	2.479157G	2.480157G	1.0005M	527.805k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402157G	2.403159G	1.002M	869.796k
2440MHz	Pass	2.440154G	2.441157G	1.0035M	869.796k
2480MHz	Pass	2.479157G	2.480157G	1.0005M	871.128k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402157G	2.403157G	1.0005M	851.814k
2440MHz	Pass	2.440157G	2.441157G	1.0005M	855.144k
2480MHz	Pass	2.479155G	2.480156G	1.0005M	854.478k

BT-BR(1Mbps) Channel Separation-FS

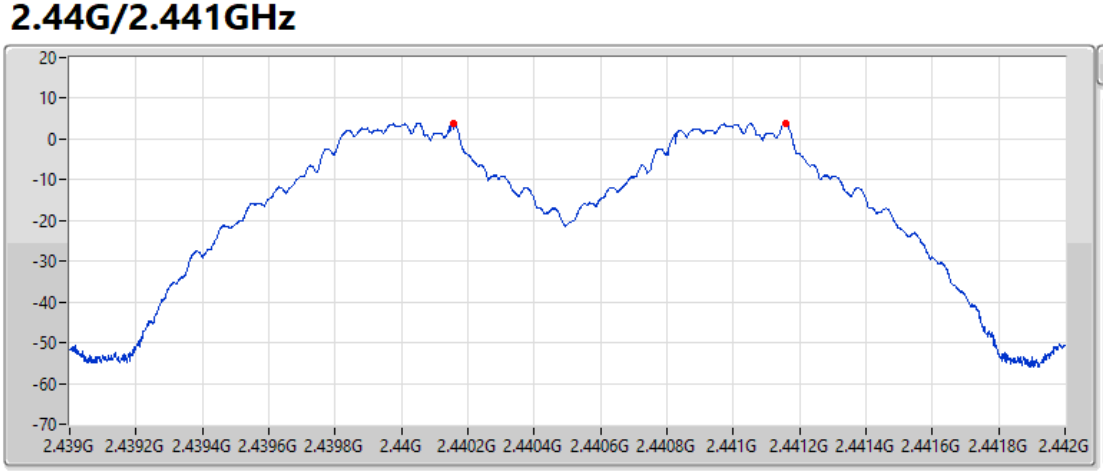
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402157G	2.403157G	1.0005M	530.3025k

BT-BR(1Mbps) Channel Separation-FS

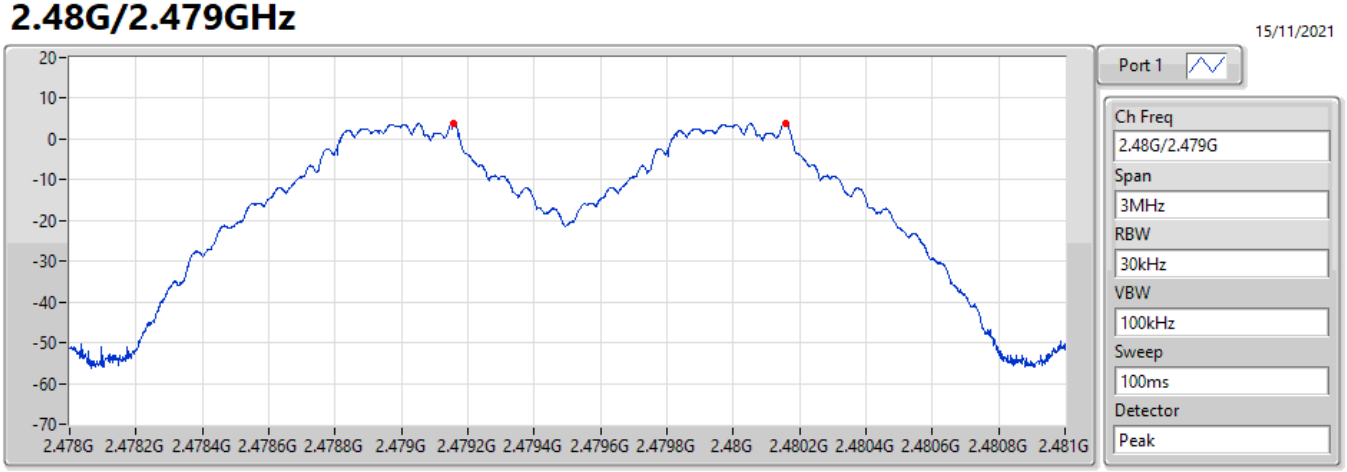
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440155G	2.441157G	1.002M	531.9675k

BT-BR(1Mbps) Channel Separation-FS

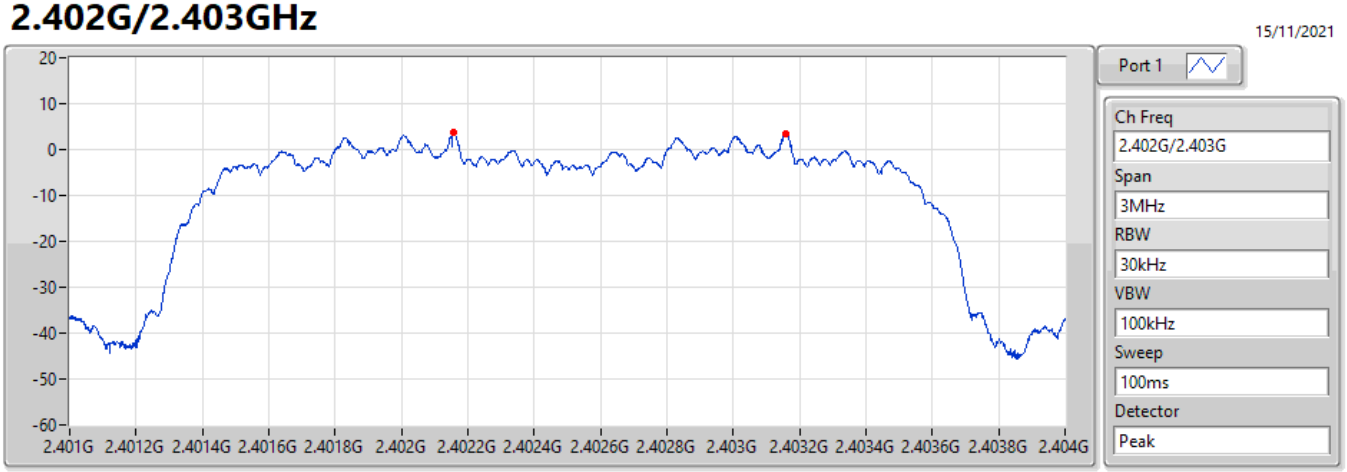
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479157G	2.480157G	1.0005M	527.805k

BT-EDR(2Mbps) Channel Separation-FS

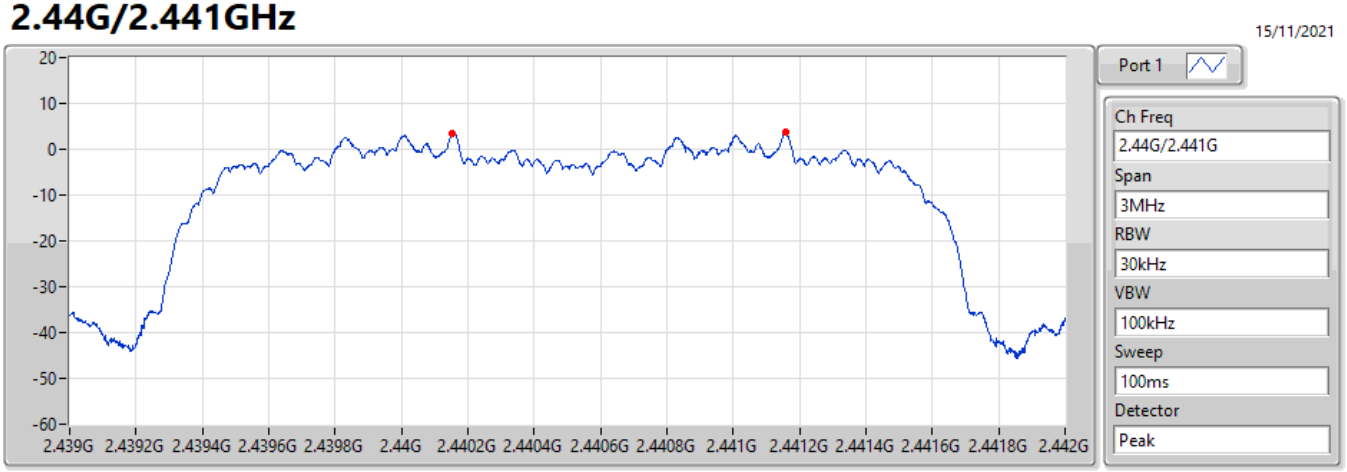
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402157G	2.403159G	1.002M	869.796k

BT-EDR(2Mbps) Channel Separation-FS

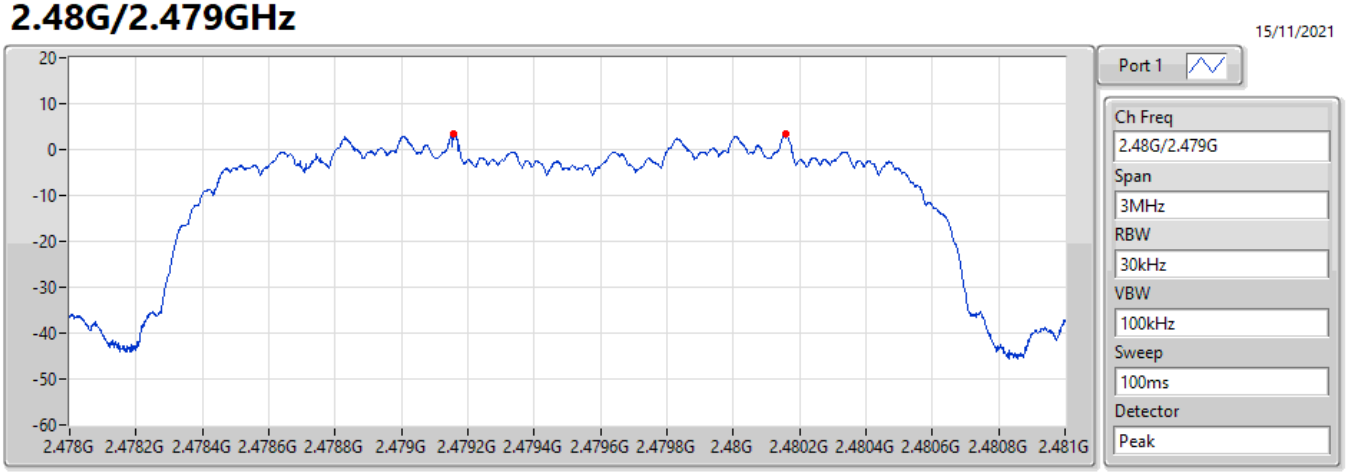
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440154G	2.441157G	1.0035M	869.796k

BT-EDR(2Mbps) Channel Separation-FS

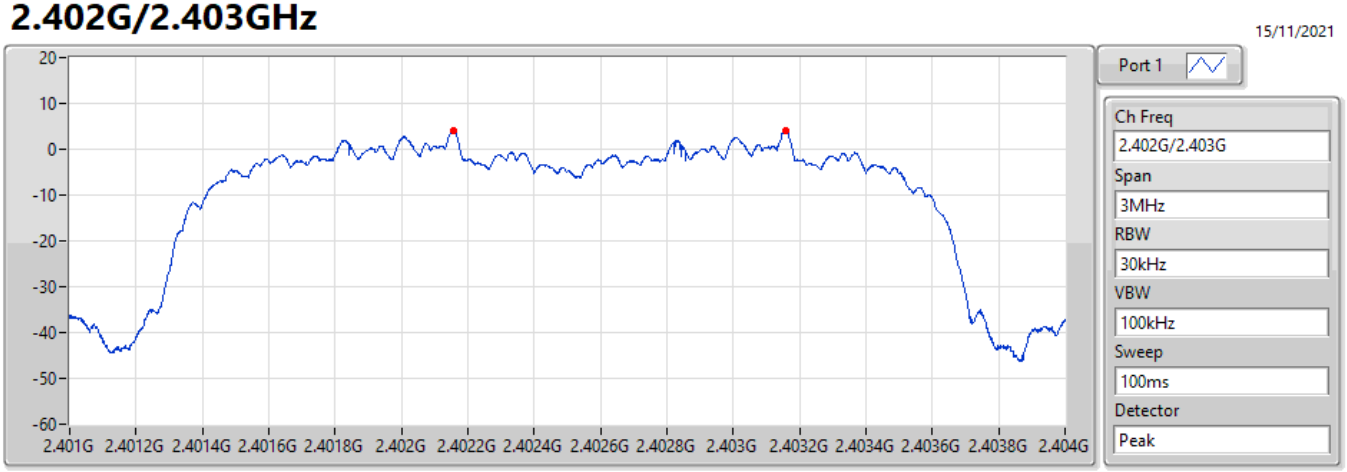
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479157G	2.480157G	1.0005M	871.128k

BT-EDR(3Mbps) Channel Separation-FS

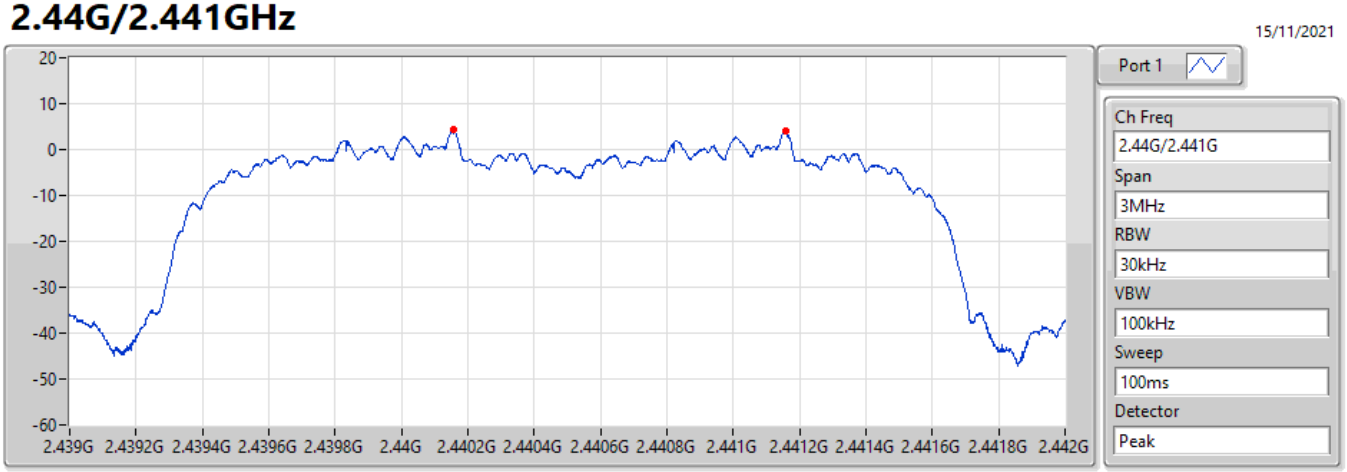
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402157G	2.403157G	1.0005M	851.814k

BT-EDR(3Mbps) Channel Separation-FS

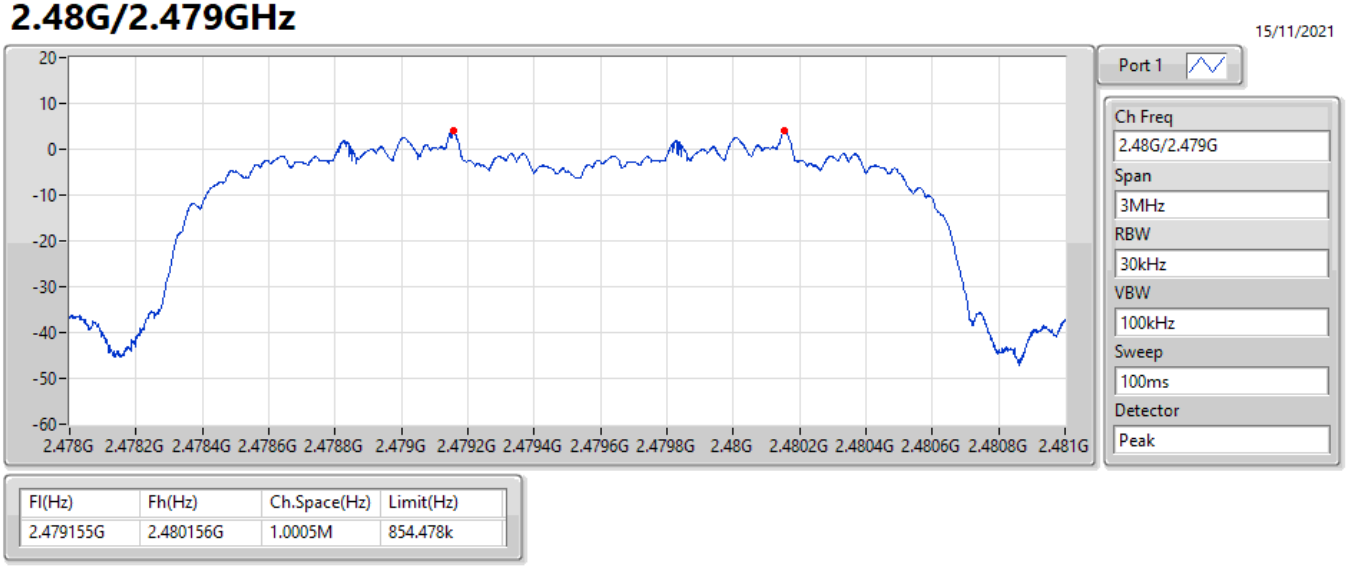
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440157G	2.441157G	1.0005M	855.144k

BT-EDR(3Mbps) **Channel Separation-FS**

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479155G	2.480156G	1.0005M	854.478k

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	6.07	0.00405
BT-EDR(2Mbps)	6.11	0.00408
BT-EDR(3Mbps)	6.15	0.00412

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	4.87	6.07	21.00
2440MHz	Pass	4.87	5.87	21.00
2480MHz	Pass	4.87	5.71	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	4.87	6.11	21.00
2440MHz	Pass	4.87	5.96	21.00
2480MHz	Pass	4.87	6.06	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	4.87	6.14	21.00
2440MHz	Pass	4.87	6.15	21.00
2480MHz	Pass	4.87	6.10	21.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	6.86	0.00485
BT-EDR(2Mbps)	9.46	0.00883
BT-EDR(3Mbps)	9.90	0.00977

Result

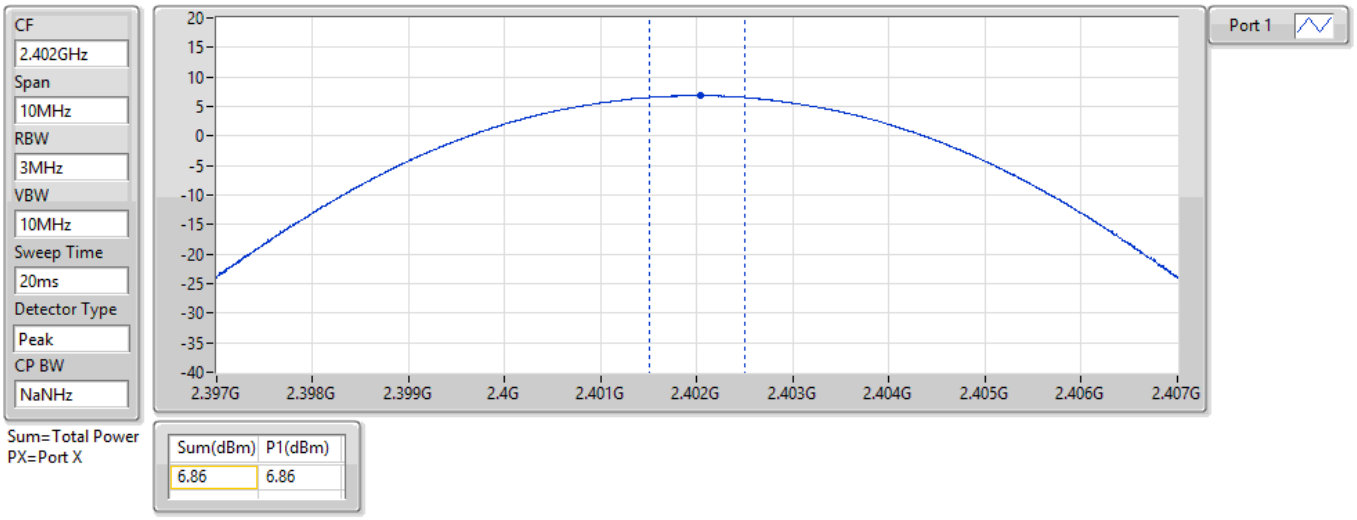
Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	4.87	6.86	21.00
2440MHz	Pass	4.87	6.79	21.00
2480MHz	Pass	4.87	6.76	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	4.87	9.39	21.00
2440MHz	Pass	4.87	9.46	21.00
2480MHz	Pass	4.87	9.21	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	4.87	9.88	21.00
2440MHz	Pass	4.87	9.90	21.00
2480MHz	Pass	4.87	9.60	21.00

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

BT-BR(1Mbps) **PK Power-FS**

2402MHz

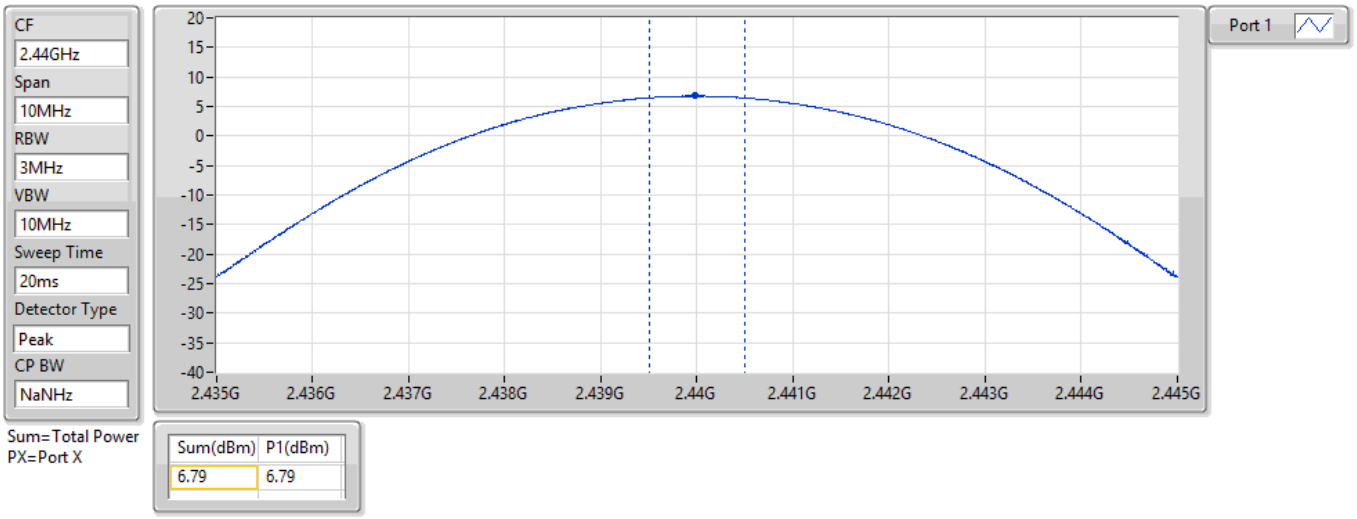
15/11/2021



BT-BR(1Mbps) **PK Power-FS**

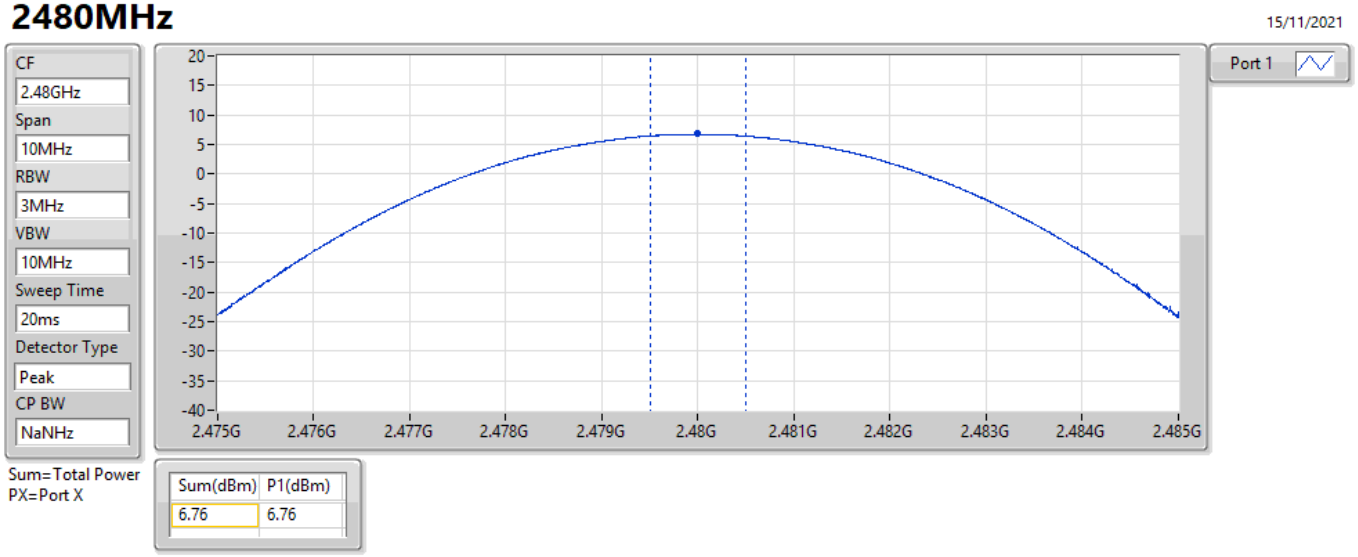
2440MHz

15/11/2021



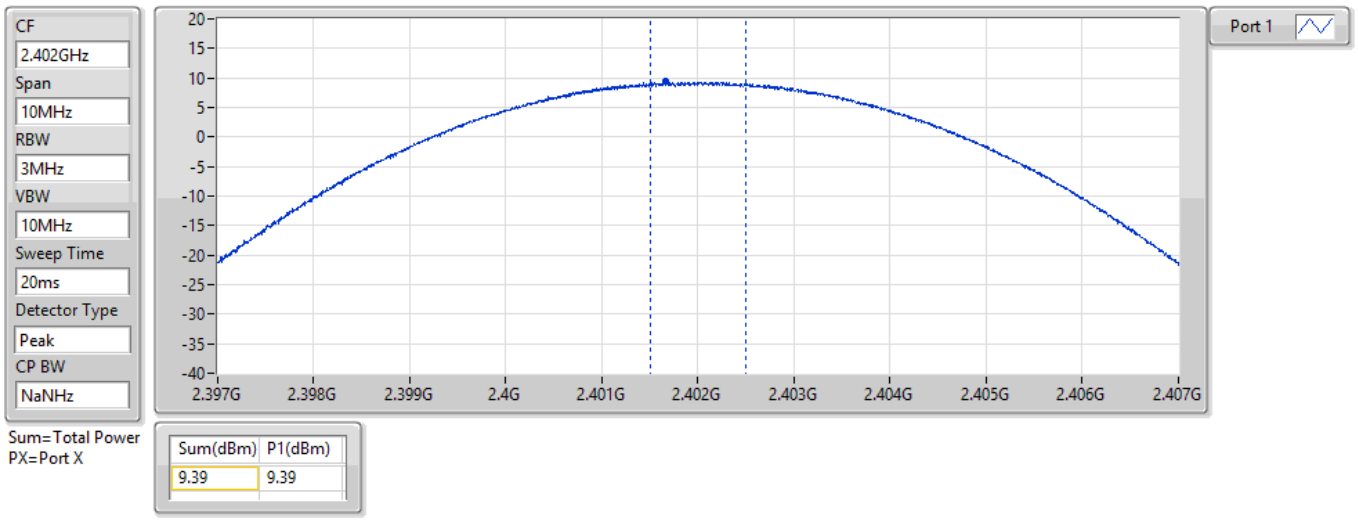
BT-BR(1Mbps) PK Power-FS

2480MHz



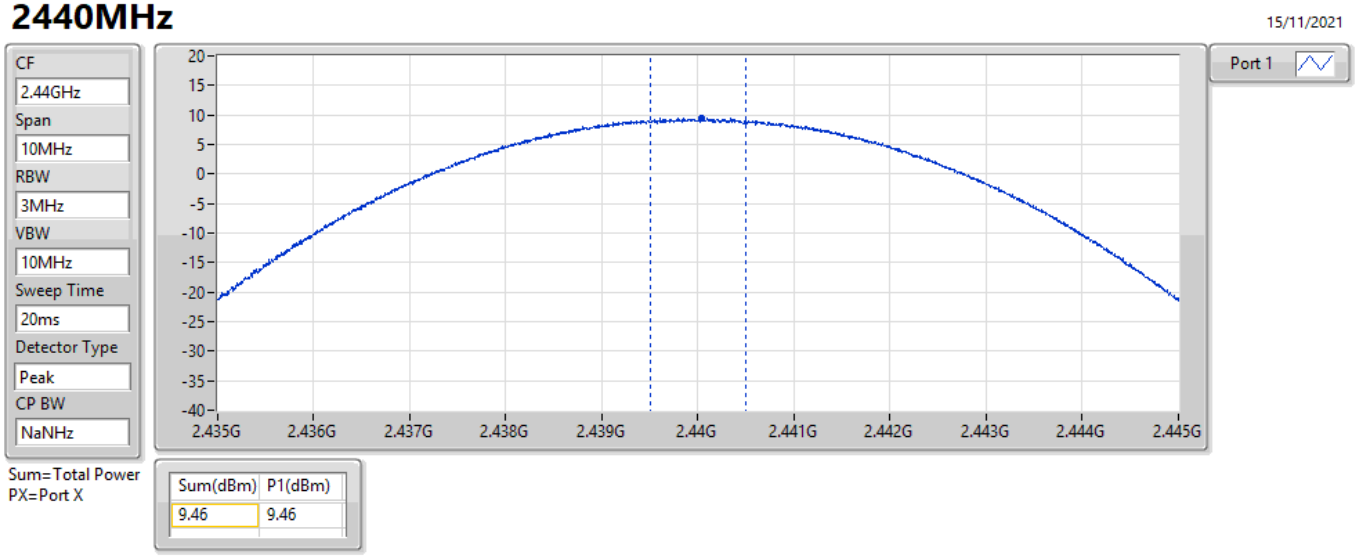
BT-EDR(2Mbps) PK Power-FS

2402MHz



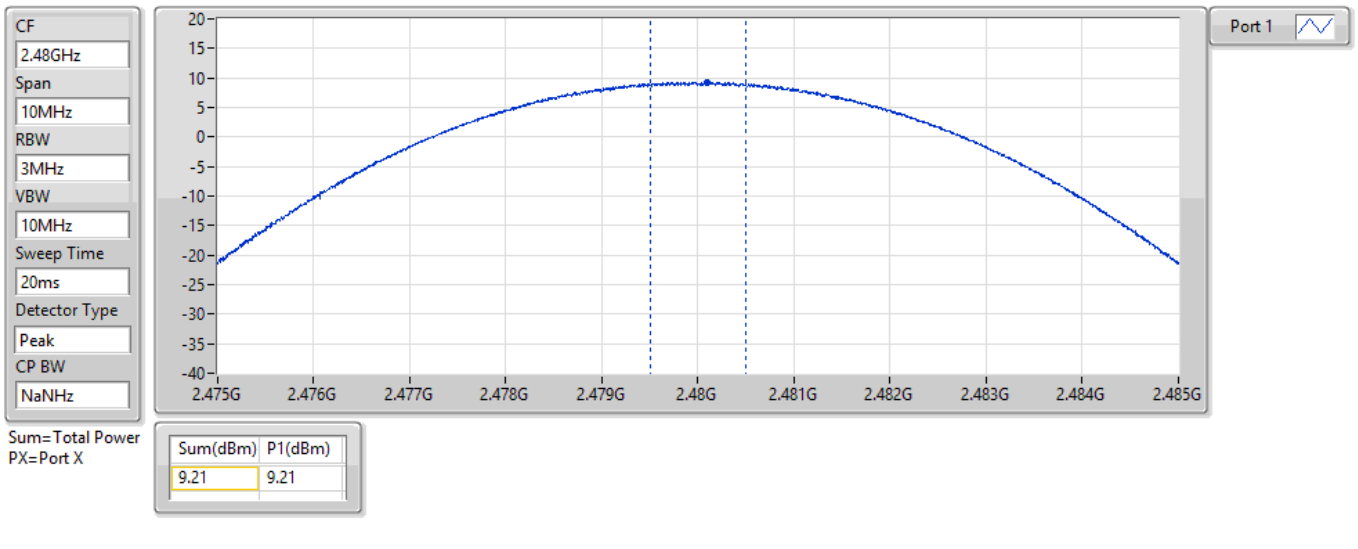
BT-EDR(2Mbps) PK Power-FS

2440MHz



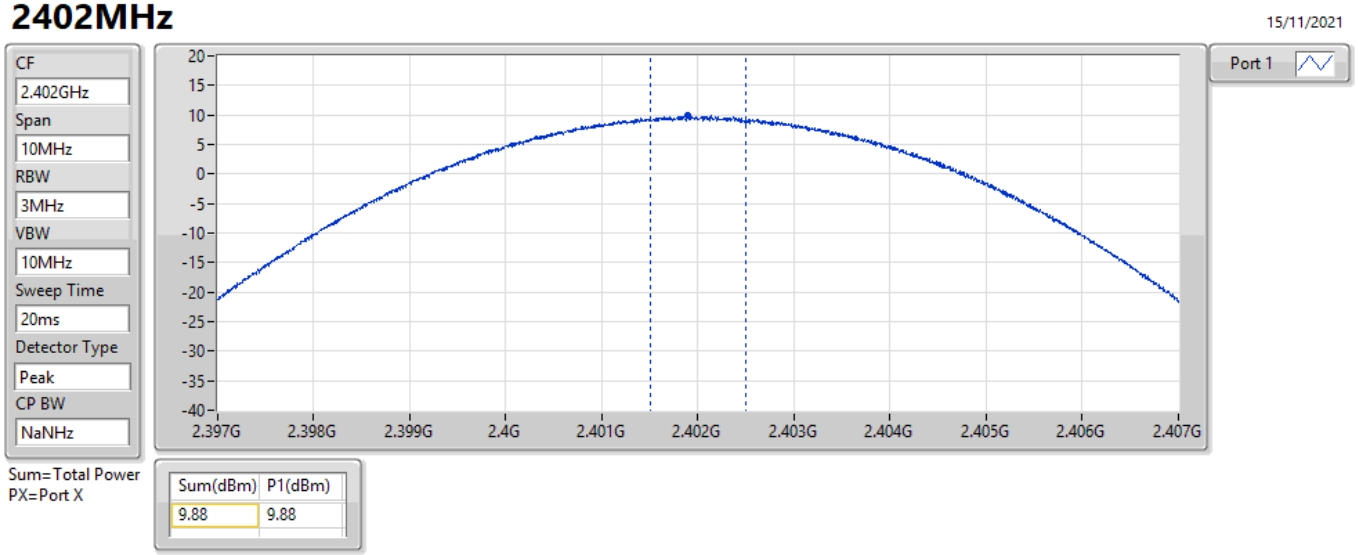
BT-EDR(2Mbps) PK Power-FS

2480MHz



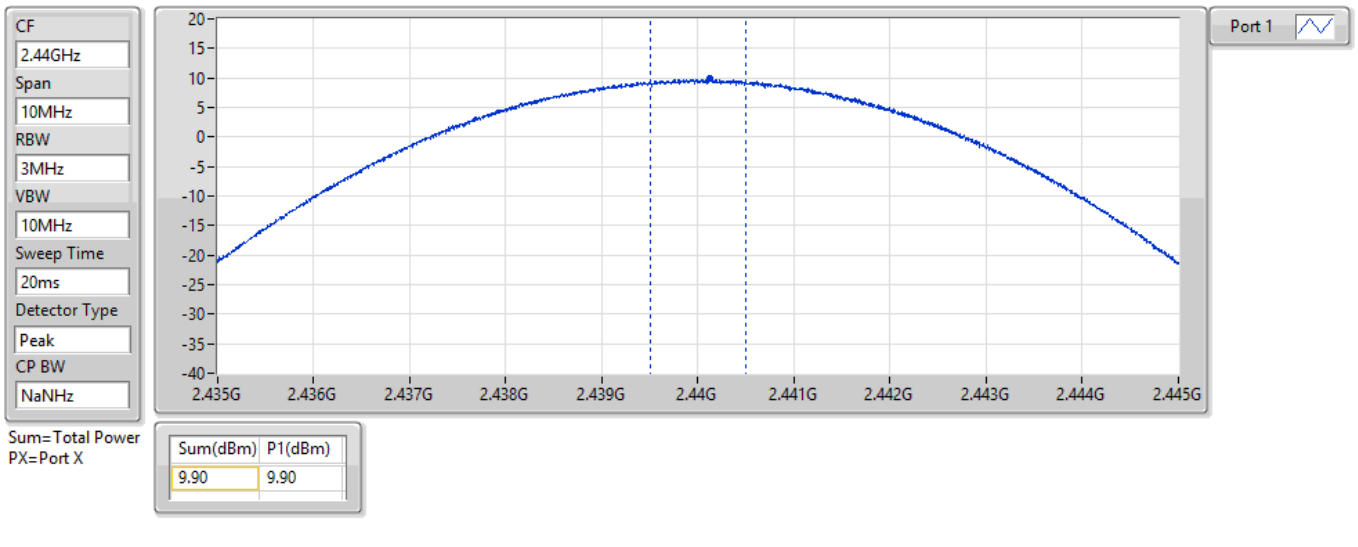
BT-EDR(3Mbps) PK Power-FS

2402MHz



BT-EDR(3Mbps) PK Power-FS

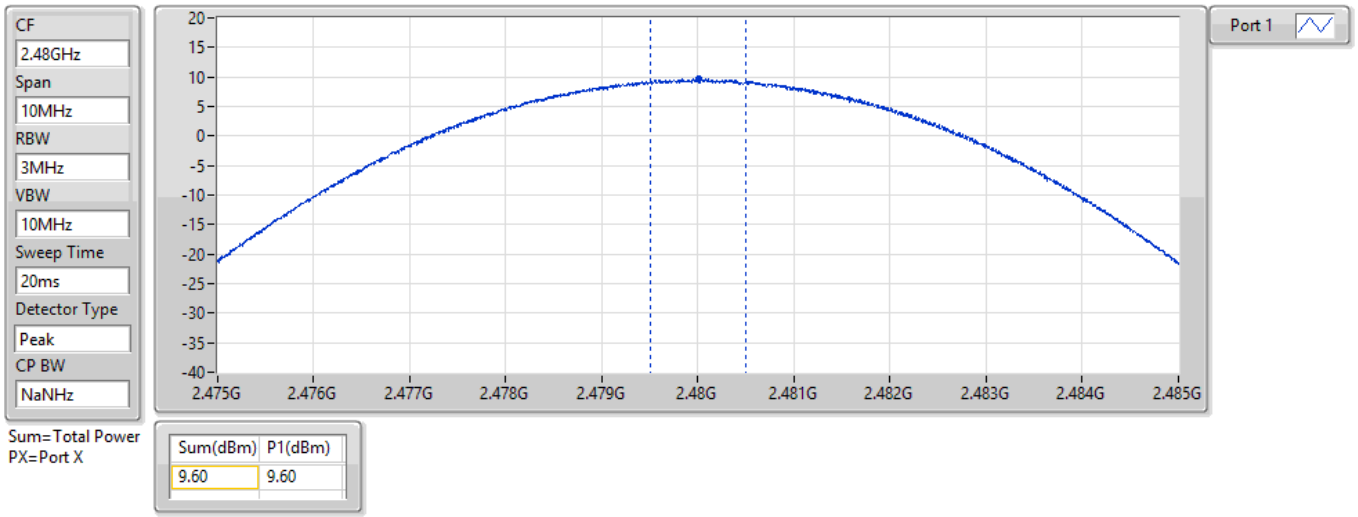
2440MHz



BT-EDR(3Mbps) **PK Power-FS**

2480MHz

15/11/2021



Summary

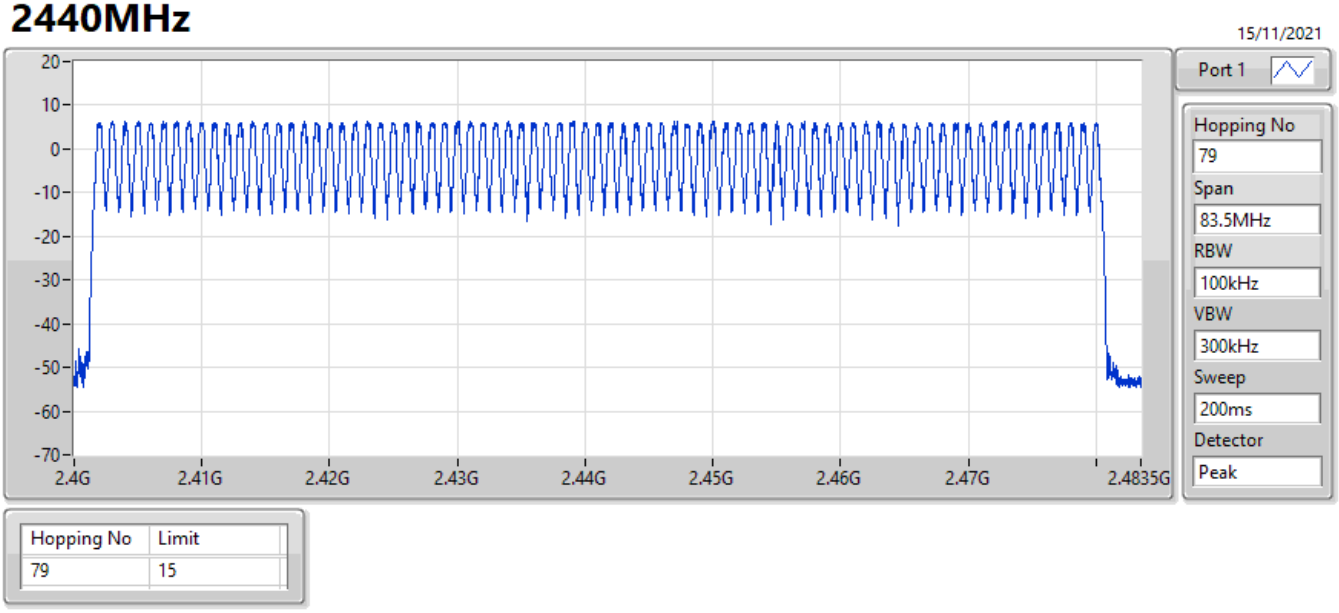
Mode	Max-Hop No
2.4-2.4835GHz	-
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

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) **Hopping-FS**

2440MHz

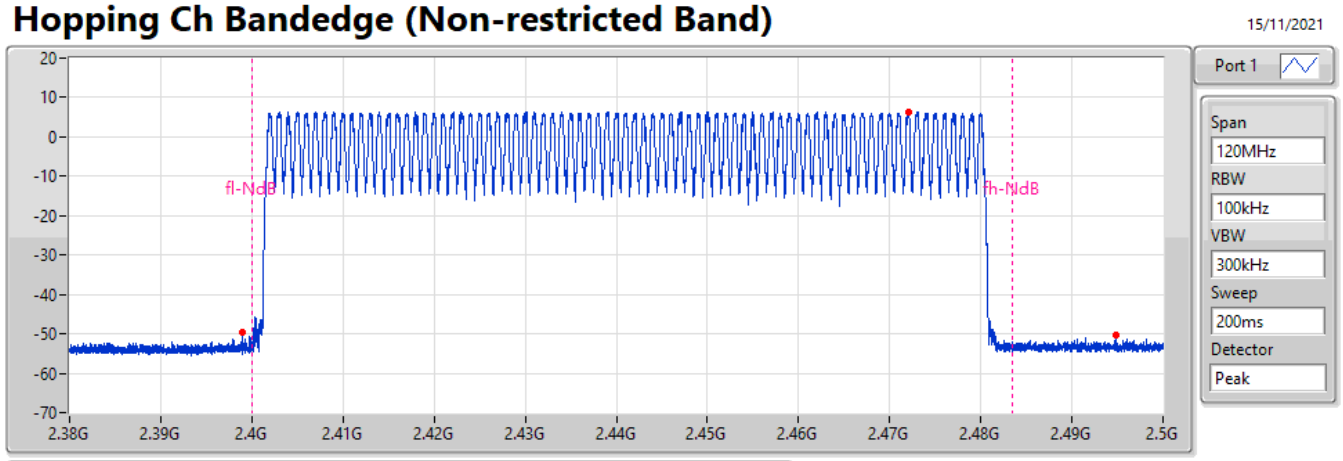


Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

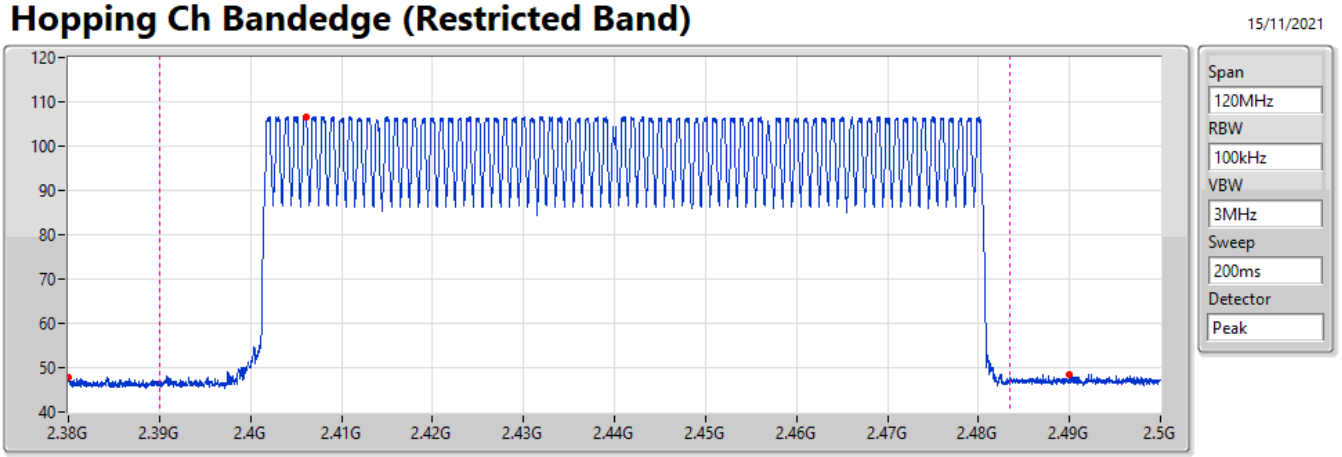


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-13.63	2.47216G	6.37	2.39899G	-49.62	2.494825G	-50.47

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

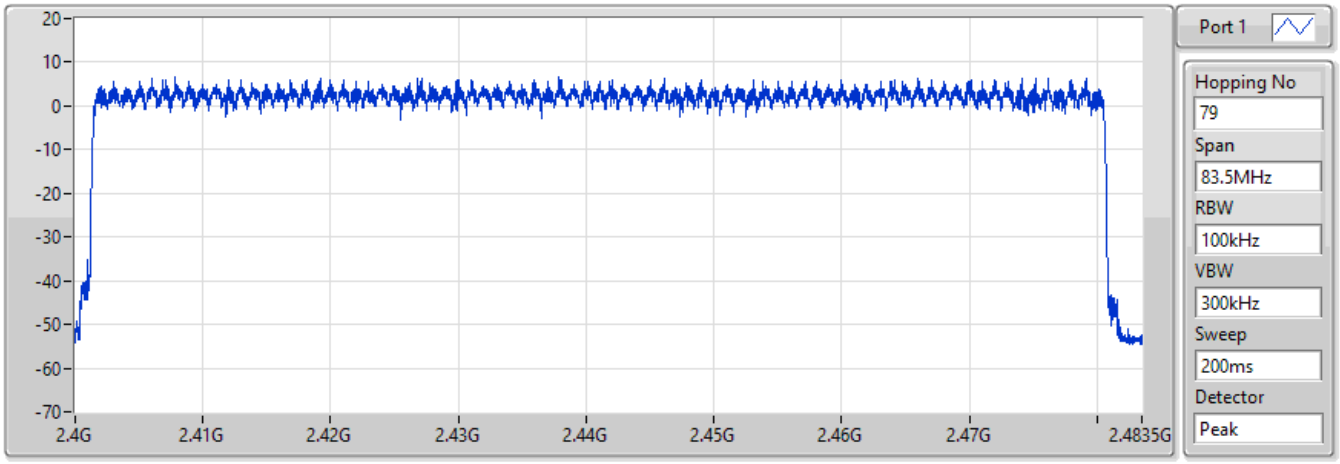


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.406145G	106.59	2.380045G	47.85	17.75	2.49004G	48.42	18.32	74	54	3.125	-30.1

BT-EDR(2Mbps)

Hopping-FS

2440MHz

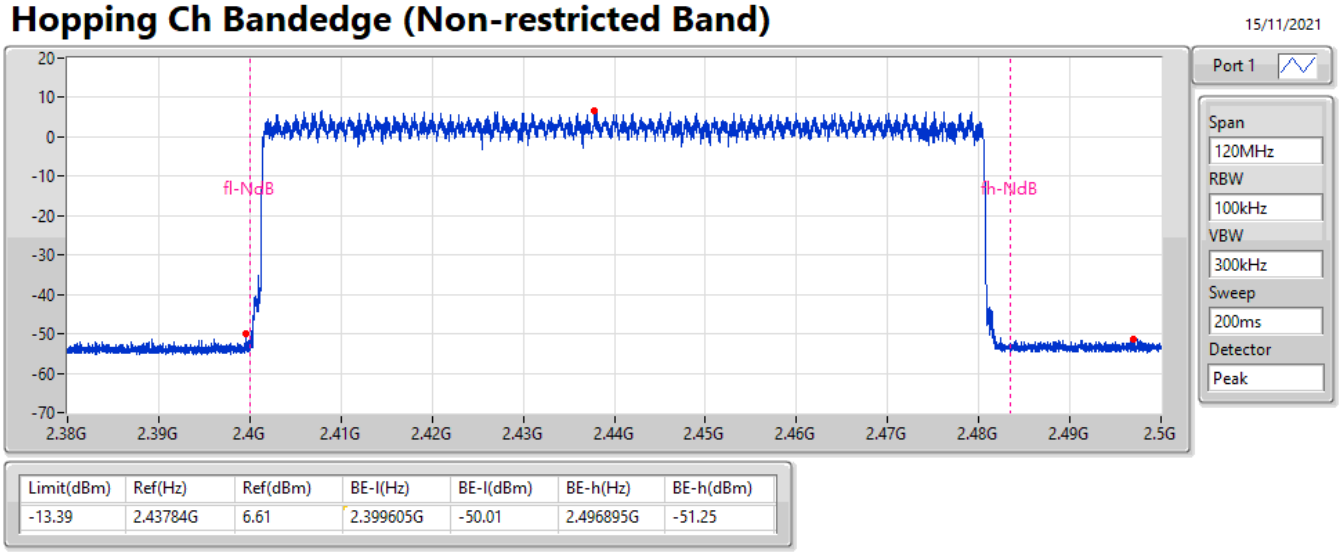


Hopping No	Limit
79	15

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

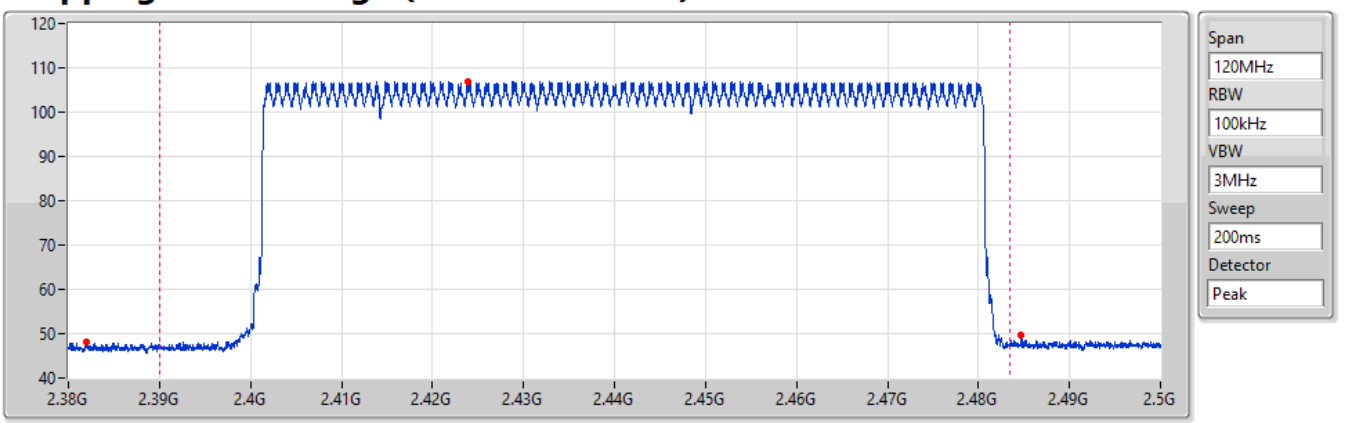


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-13.39	2.43784G	6.61	2.399605G	-50.01	2.496895G	-51.25

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

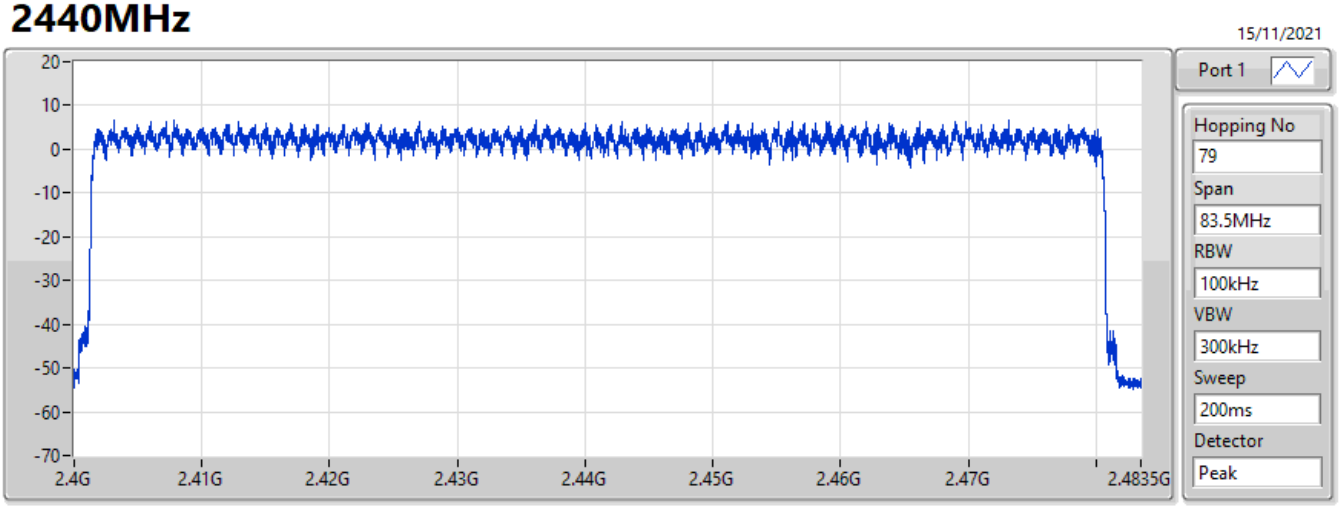


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.42383G	106.8	2.38195G	47.99	17.89	2.48473G	49.67	19.57	74	54	3.125	-30.1

BT-EDR(3Mbps)

2440MHz

Hopping-FS

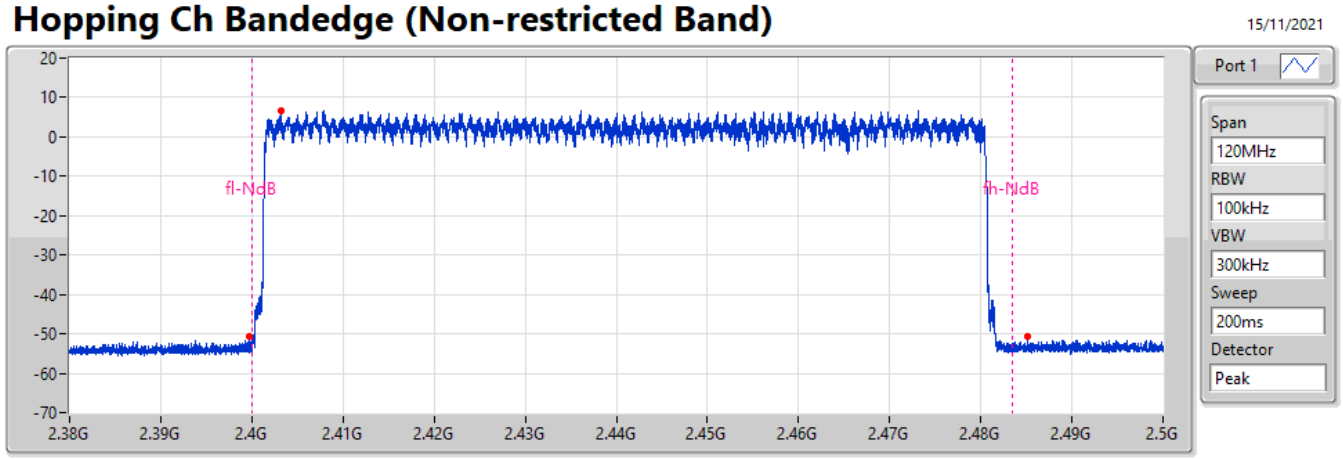


Hopping No	Limit
79	15

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

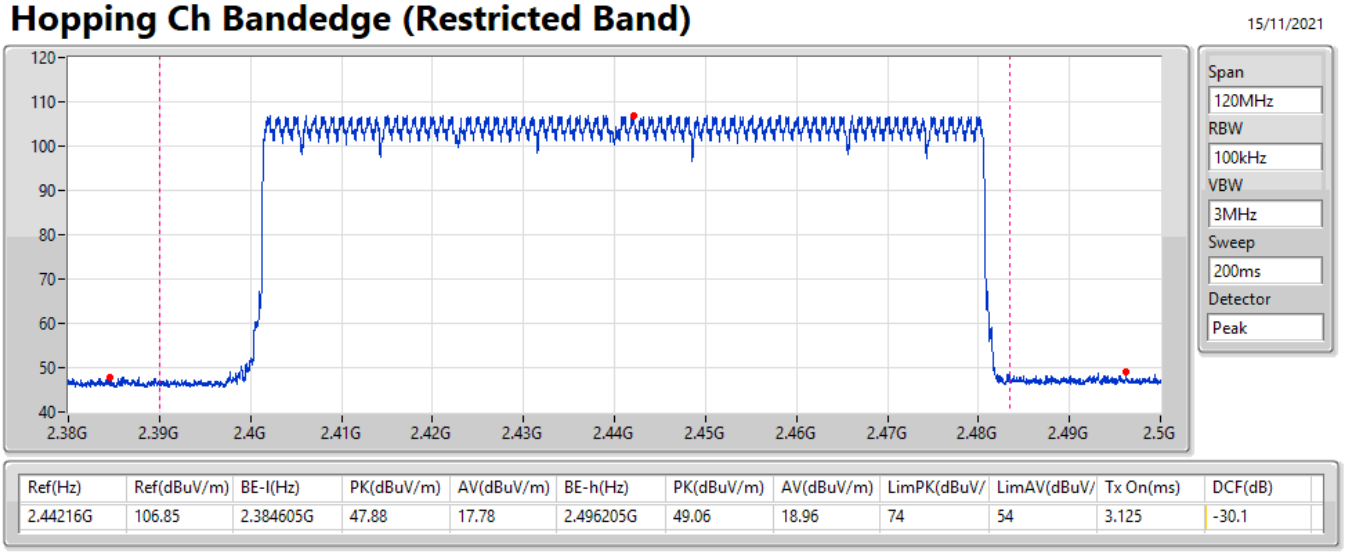


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-13.47	2.403145G	6.53	2.399725G	-50.7	2.485135G	-50.63

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)



Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.44216G	106.85	2.384605G	47.88	17.78	2.496205G	49.06	18.96	74	54	3.125	-30.1

Summary

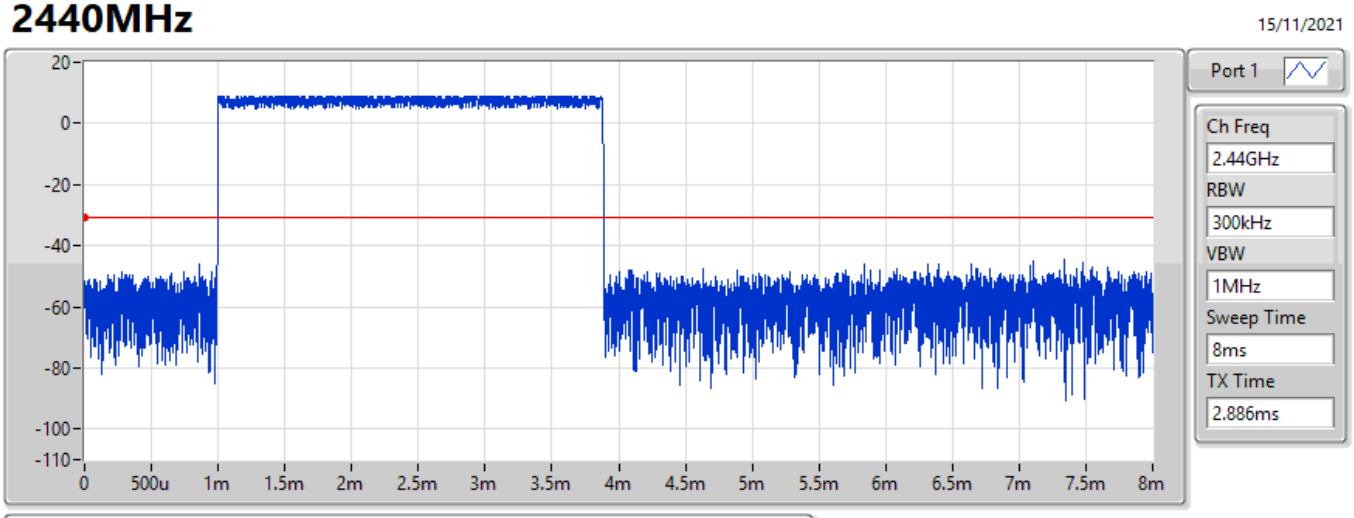
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	307.6476m_DH5
BT-EDR(2Mbps)	307.99405m_DH5
BT-EDR(3Mbps)	308.20725m_DH5

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.6476m_DH5	400m	2.886m
2440MHz	Pass	8	153.8238m_DH5-AFH	400m	2.886m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.99405m_DH5	400m	2.88925m
2440MHz	Pass	8	153.997025m_DH5-AFH	400m	2.88925m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.20725m_DH5	400m	2.89125m
2440MHz	Pass	8	154.103625m_DH5-AFH	400m	2.89125m

BT-BR(1Mbps) **Dwell-FS**

2440MHz

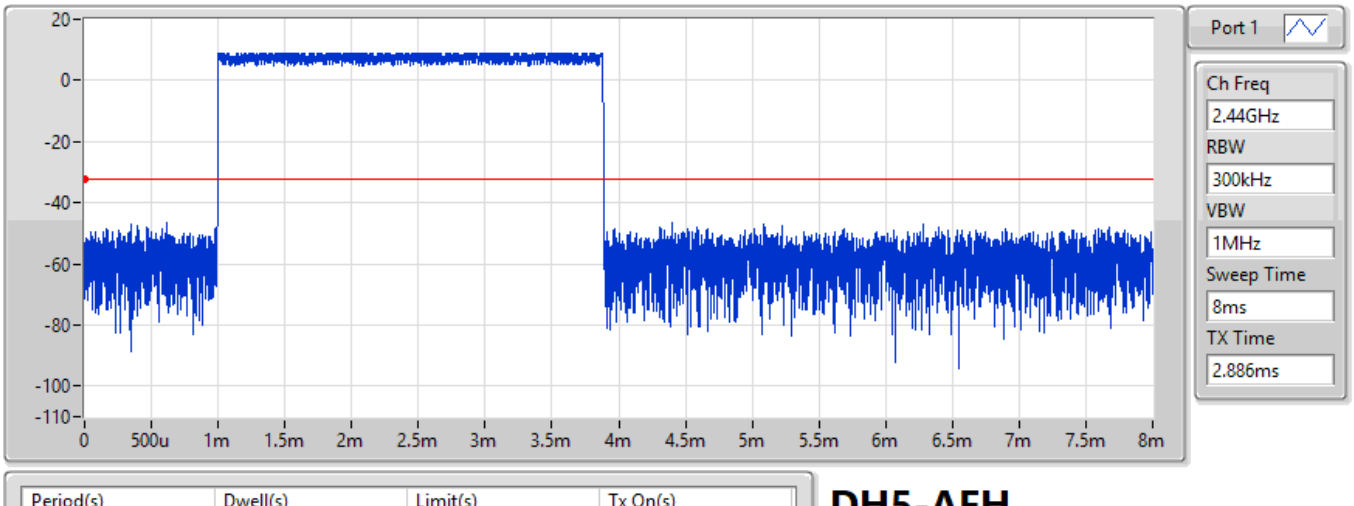


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.6476m_DH5	400m	2.886m

DH5

BT-BR(1Mbps) **Dwell-FS**

2440MHz

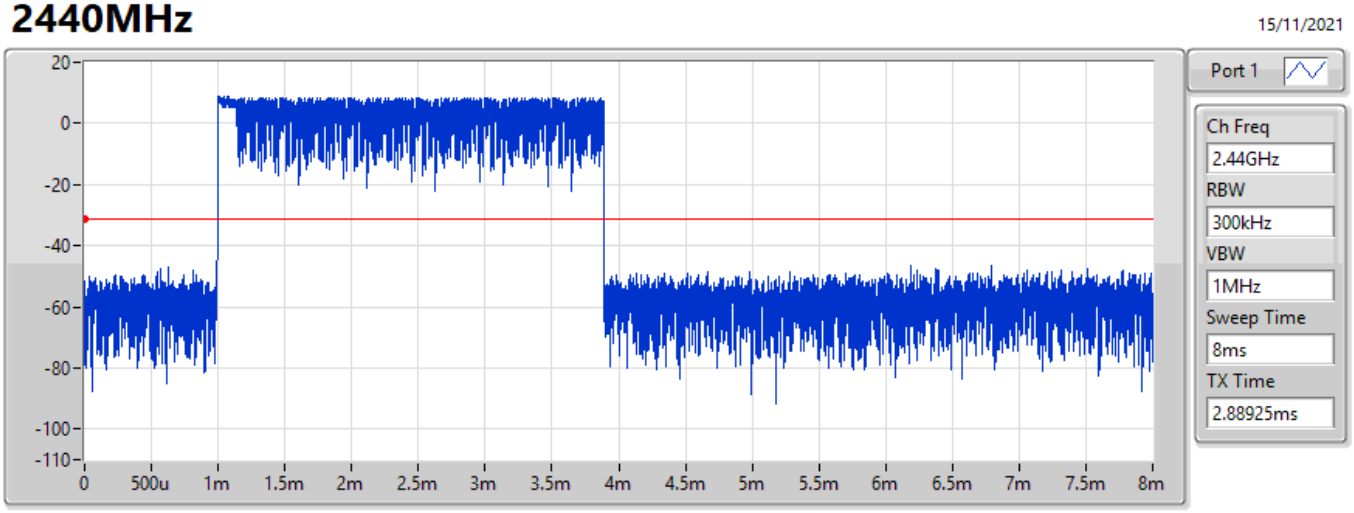


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.8238m_DH5-AFH	400m	2.886m

DH5-AFH

BT-EDR(2Mbps) **Dwell-FS**

2440MHz

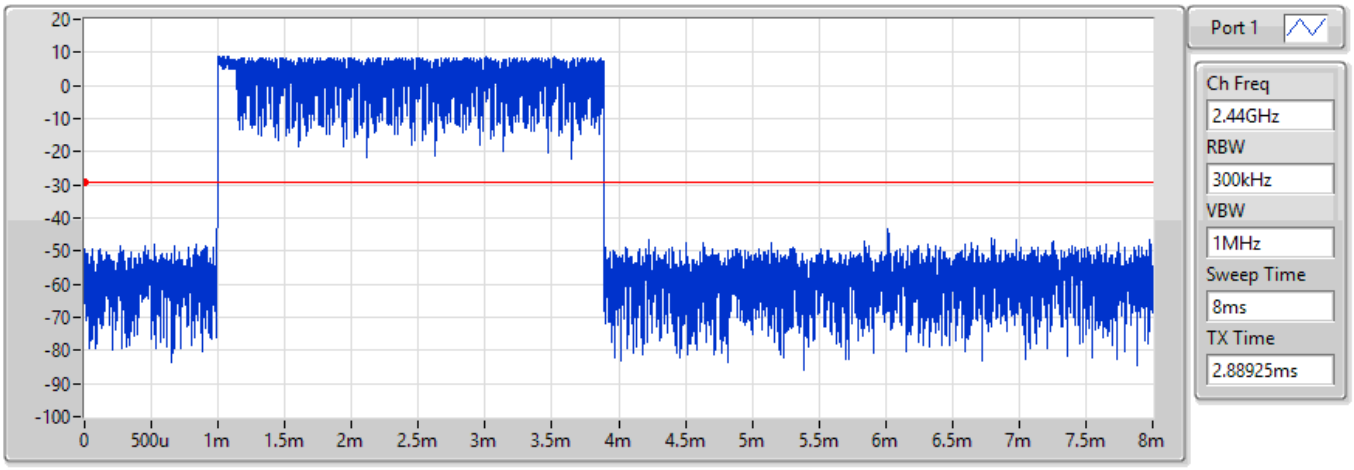


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.99405m_DH5	400m	2.88925m

DH5

BT-EDR(2Mbps) **Dwell-FS**

2440MHz

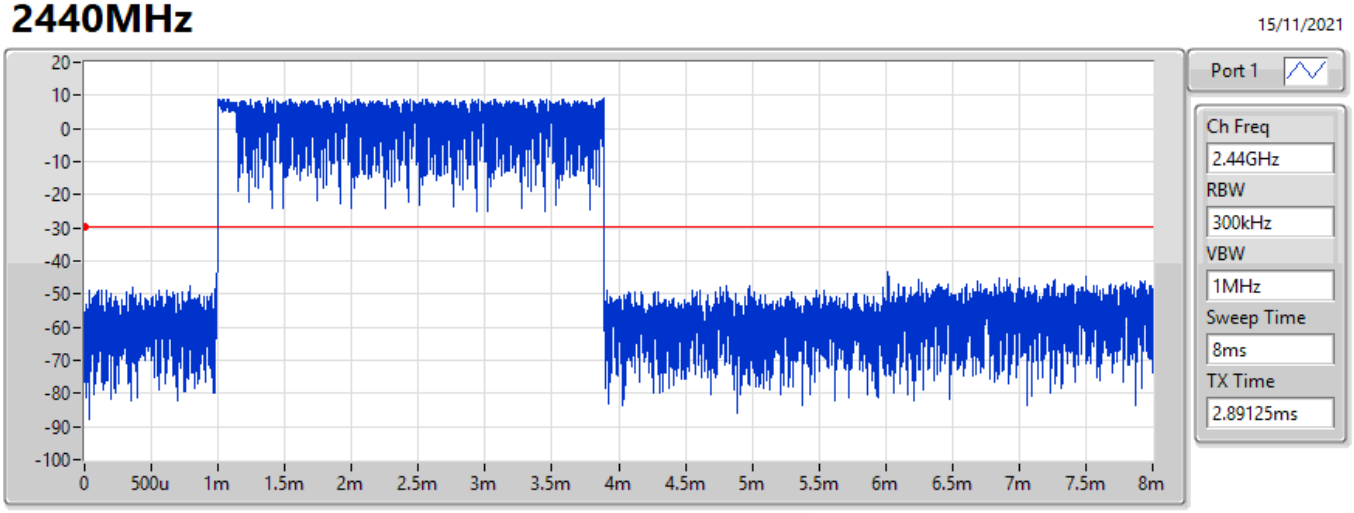


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.997025m_DH5-AFI	400m	2.88925m

DH5-AFH

BT-EDR(3Mbps) Dwell-FS

2440MHz

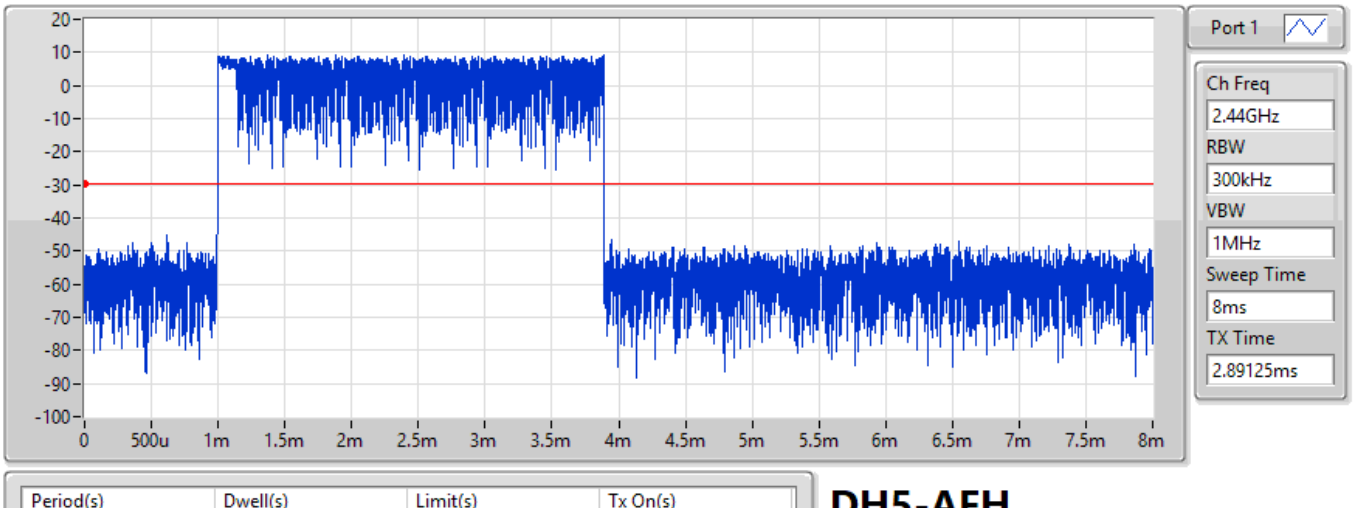


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.20725m_DH5	400m	2.89125m

DH5

BT-EDR(3Mbps) Dwell-FS

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.103625m_DH5-AFI	400m	2.89125m

DH5-AFH

Summary

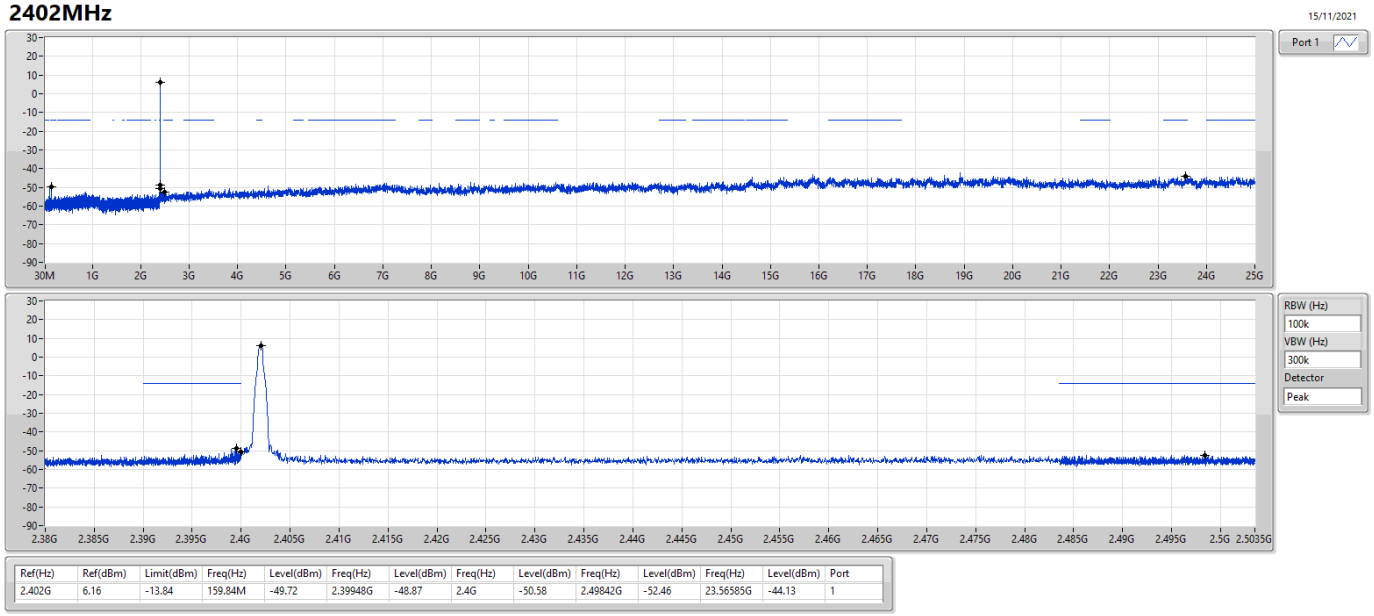
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.44G	6.32	-13.68	159.84M	-47.73	2.39151G	-52.75	2.4835G	-55.73	2.48906G	-51.68	16.60599G	-43.21	1
BT-EDR(2Mbps)	Pass	2.48008G	5.35	-14.65	159.84M	-47.38	2.3901G	-52.43	2.4835G	-53.64	2.48619G	-51.46	23.53492G	-43.09	1
BT-EDR(3Mbps)	Pass	2.44016G	6.45	-13.55	159.84M	-47.95	2.39498G	-52.58	2.4835G	-54.16	2.49245G	-51.72	23.27058G	-43.34	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	6.16	-13.84	159.84M	-49.72	2.39948G	-48.87	2.4G	-50.58	2.49842G	-52.46	23.56585G	-44.13	1
2440MHz	Pass	2.44G	6.32	-13.68	159.84M	-47.73	2.39151G	-52.75	2.4835G	-55.73	2.48906G	-51.68	16.60599G	-43.21	1
2480MHz	Pass	2.48016G	6.28	-13.72	159.84M	-49.45	2.39224G	-53.05	2.4G	-53.98	2.48528G	-51.11	16.58631G	-43.42	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.4018G	6.48	-13.52	159.84M	-47.80	2.39983G	-48.38	2.4G	-49.75	2.496G	-51.56	23.56866G	-43.54	1
2440MHz	Pass	2.43983G	6.48	-13.52	159.84M	-48.34	2.39946G	-52.02	2.4835G	-53.51	2.48524G	-50.90	24.60912G	-43.44	1
2480MHz	Pass	2.48008G	5.35	-14.65	159.84M	-47.38	2.3901G	-52.43	2.4835G	-53.64	2.48619G	-51.46	23.53492G	-43.09	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40213G	5.99	-14.01	159.84M	-50.44	2.39956G	-50.05	2.4G	-51.67	2.4854G	-52.08	24.95782G	-43.83	1
2440MHz	Pass	2.44016G	6.45	-13.55	159.84M	-47.95	2.39498G	-52.58	2.4835G	-54.16	2.49245G	-51.72	23.27058G	-43.34	1
2480MHz	Pass	2.47987G	6.25	-13.75	159.84M	-48.46	2.39039G	-52.50	2.4835G	-53.43	2.48497G	-51.51	16.6313G	-43.11	1

BT-BR(1Mbps) **CSENdB-FS**

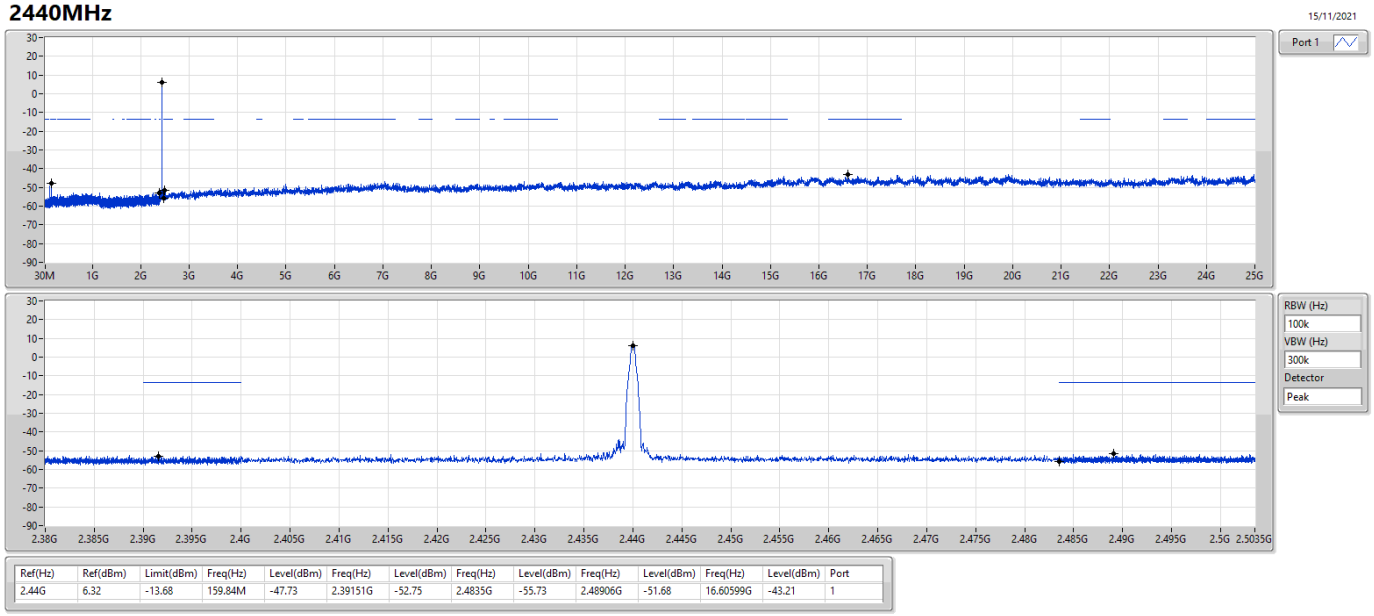
2402MHz



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
2.402G	6.16	-13.84	159.84M	-49.72	2.39948G	-48.87	2.4G	-50.58	2.49842G	-52.46	23.56585G	-44.13	1

BT-BR(1Mbps) **CSENdB-FS**

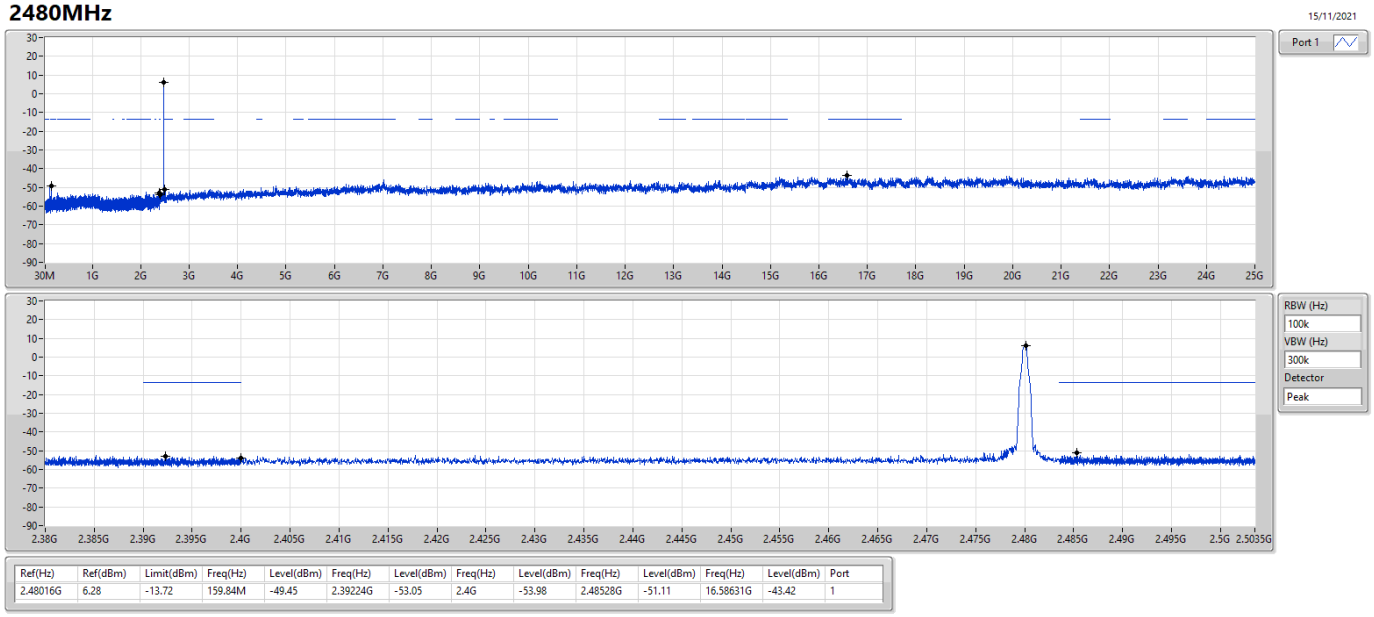
2440MHz



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
2.44G	6.32	-13.68	159.84M	-47.73	2.39151G	-52.75	2.4835G	-55.73	2.48906G	-51.68	16.60599G	-43.21	1

BT-BR(1Mbps) **CSENdB-FS**

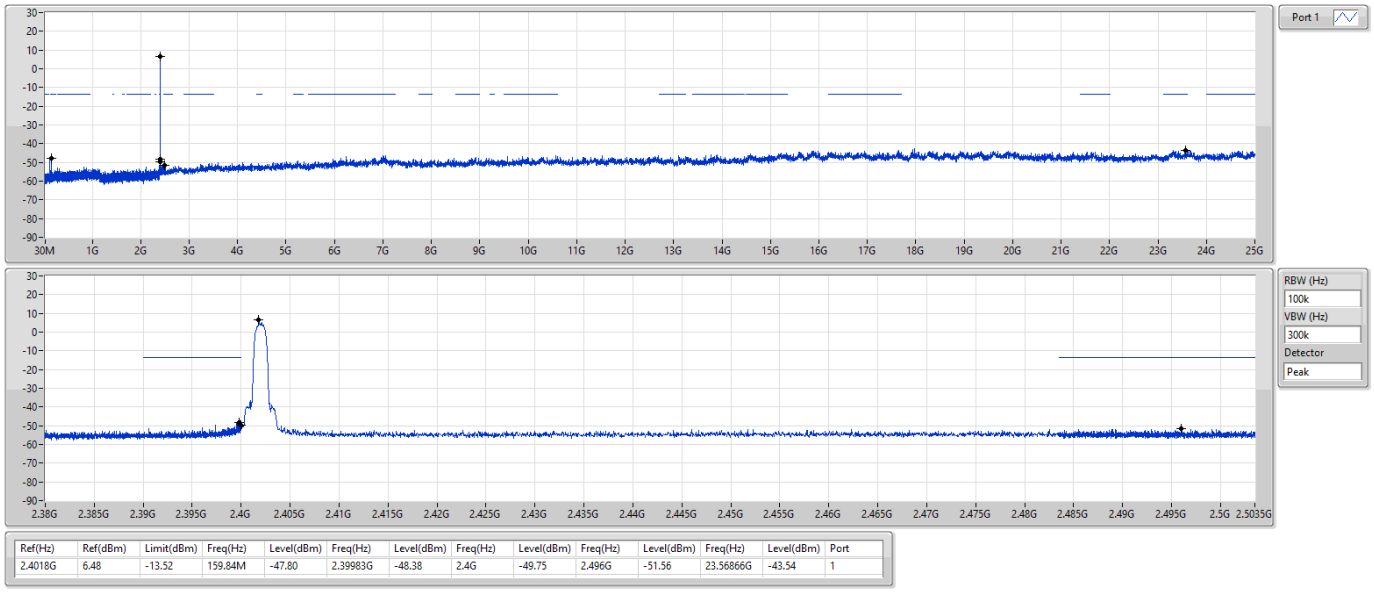
2480MHz



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
2.48016G	6.28	-13.72	159.84M	-49.45	2.39224G	-53.05	2.4G	-53.98	2.48528G	-51.11	16.58631G	-43.42	1

BT-EDR(2Mbps) **CSENdB-FS**

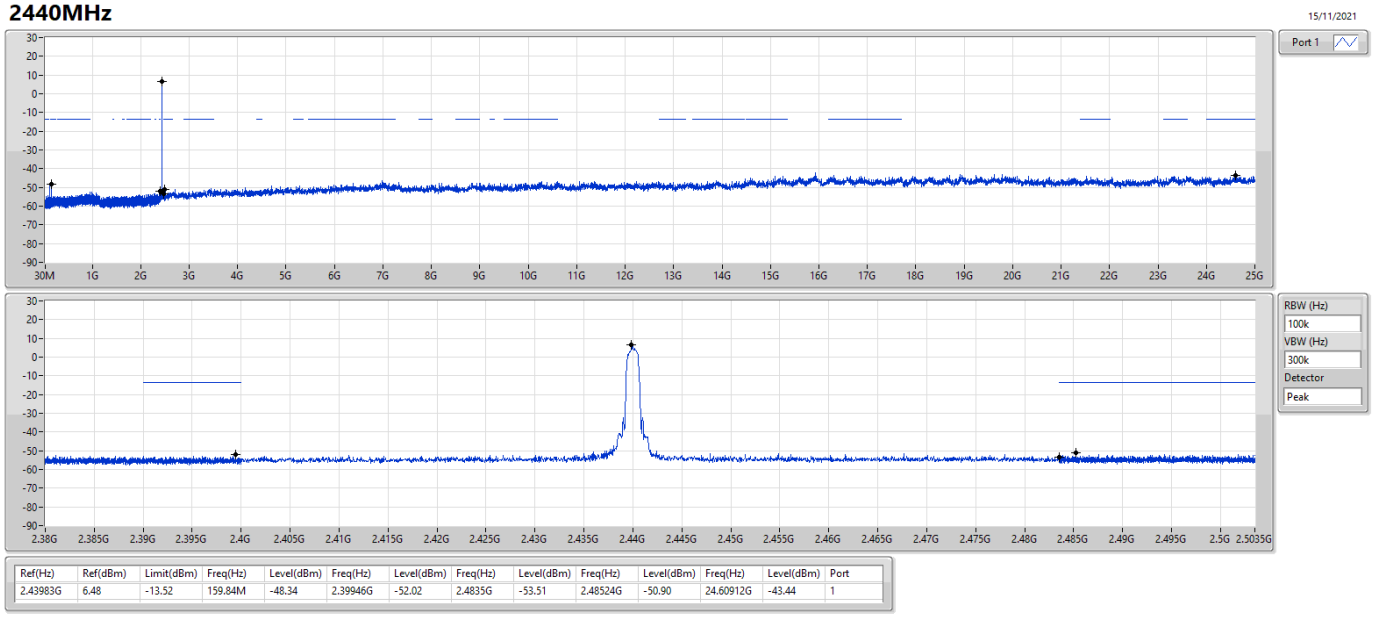
2402MHz



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
2.4018G	6.48	-13.52	159.84M	-47.80	2.39983G	-48.38	2.4G	-49.75	2.496G	-51.56	23.56866G	-43.54	1

BT-EDR(2Mbps) **CSENdB-FS**

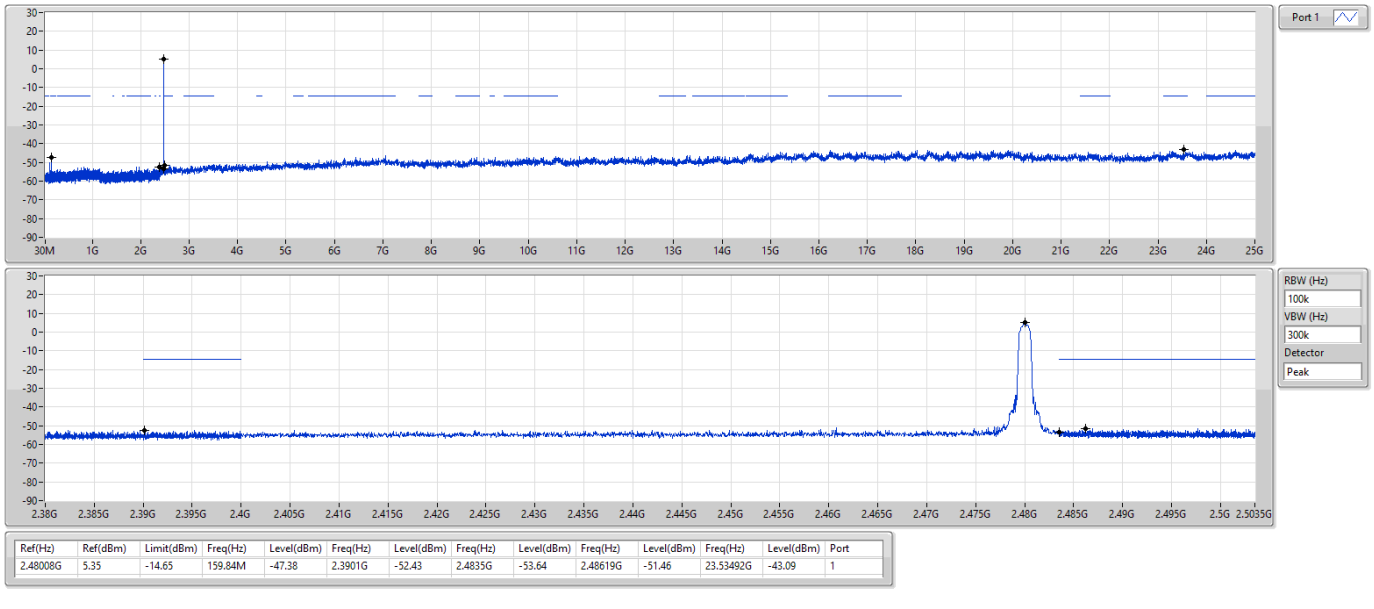
2440MHz



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
2.43983G	6.48	-13.52	159.84M	-48.34	2.39946G	-52.02	2.4835G	-53.51	2.48524G	-50.90	24.60912G	-43.44	1

BT-EDR(2Mbps) **CSENdB-FS**

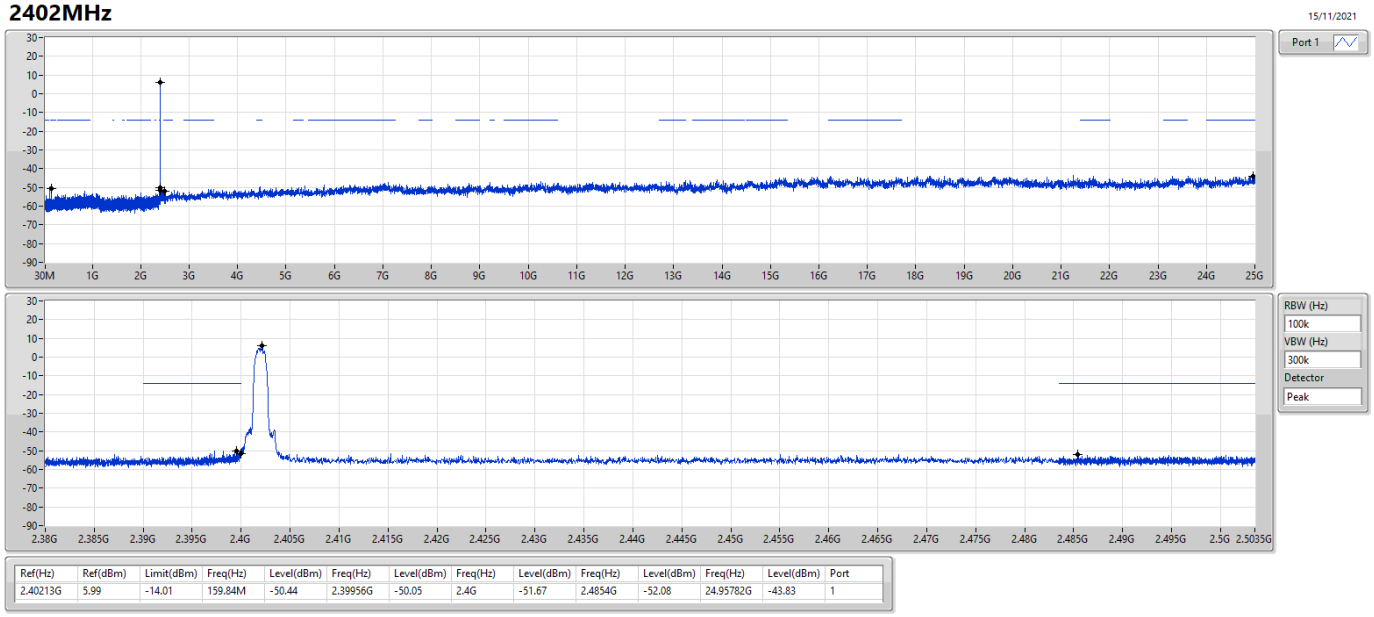
2480MHz



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
2.48008G	5.35	-14.65	159.84M	-47.38	2.3901G	-52.43	2.4835G	-53.64	2.48619G	-51.46	23.53492G	-43.09	1

BT-EDR(3Mbps) **CSENdB-FS**

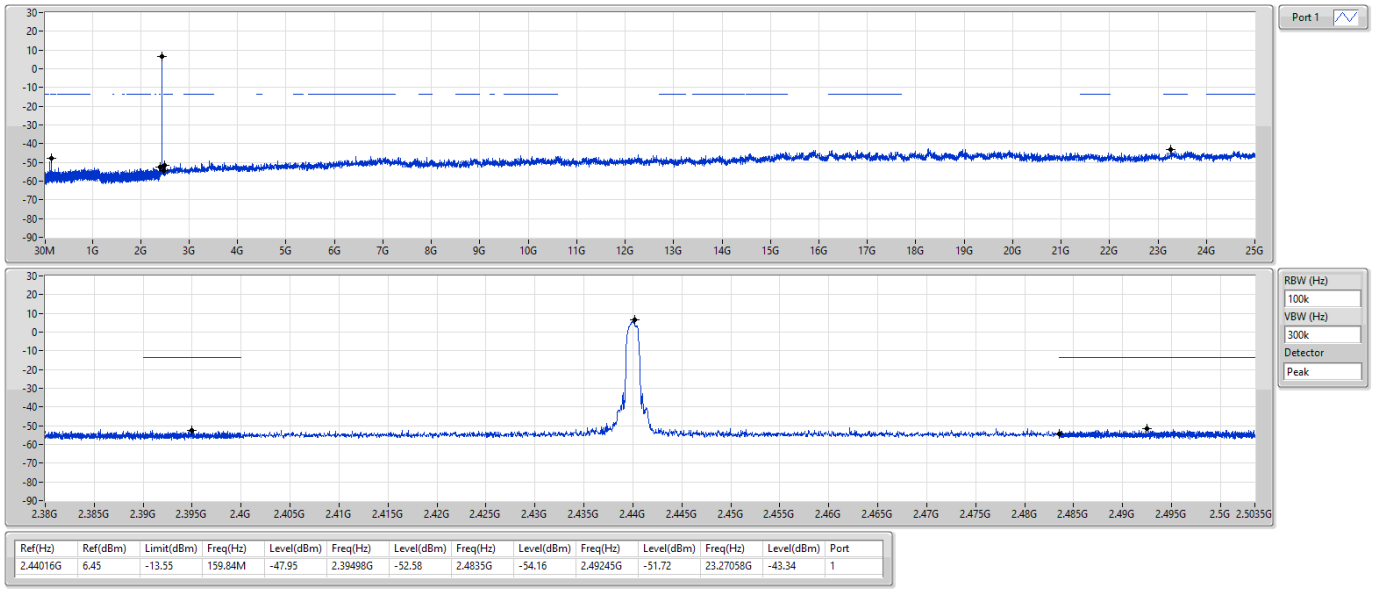
2402MHz



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
2.40213G	5.99	-14.01	159.84M	-50.44	2.39956G	-50.05	2.4G	-51.67	2.4854G	-52.08	24.95782G	-43.83	1

BT-EDR(3Mbps) **CSENdB-FS**

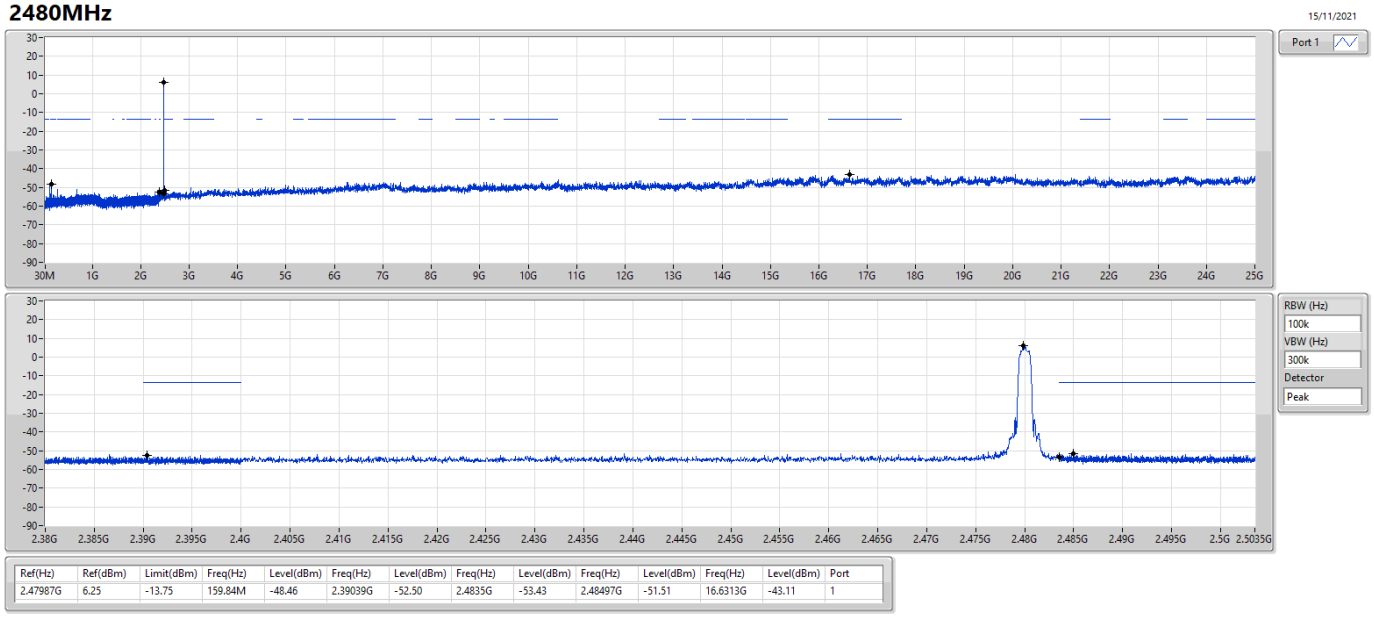
2440MHz



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
2.44016G	6.45	-13.55	159.84M	-47.95	2.39498G	-52.58	2.4835G	-54.16	2.49245G	-51.72	23.27058G	-43.34	1

BT-EDR(3Mbps) **CSENdB-FS**

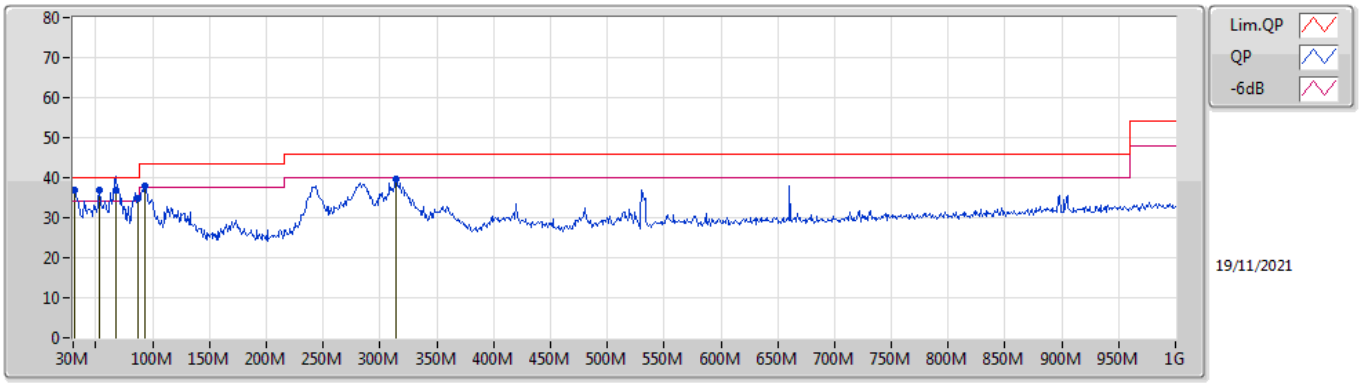
2480MHz



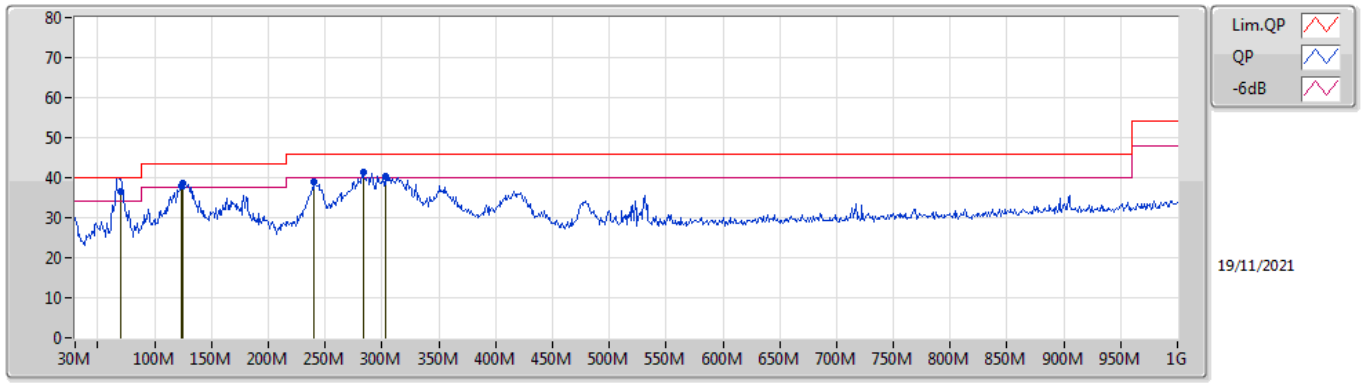
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47987G	6.25	-13.75	159.84M	-48.46	2.39039G	-52.50	2.4835G	-53.43	2.48497G	-51.51	16.6313G	-43.11	1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 5	Pass	QP	67.83M	36.93	40.00	-3.07	Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	30.97M	36.82	40.00	-3.18	-7.01	3	Vertical	351	1.00	-	43.83	23.68	0.82	31.51
PK	53.28M	36.80	40.00	-3.20	-17.85	3	Vertical	142	1.00	-	54.65	12.87	1.07	31.79
QP	67.83M	36.93	40.00	-3.07	-18.57	3	Vertical	49	1.25	"Worst"	55.50	12.05	1.26	31.88
PK	87.23M	34.88	40.00	-5.12	-16.46	3	Vertical	54	1.25	-	51.34	14.05	1.40	31.91
PK	93.05M	37.84	43.50	-5.66	-15.21	3	Vertical	5	1.25	-	53.05	15.22	1.46	31.89
PK	314.21M	39.54	46.00	-6.46	-9.93	3	Vertical	265	1.00	-	49.47	19.40	2.76	32.09



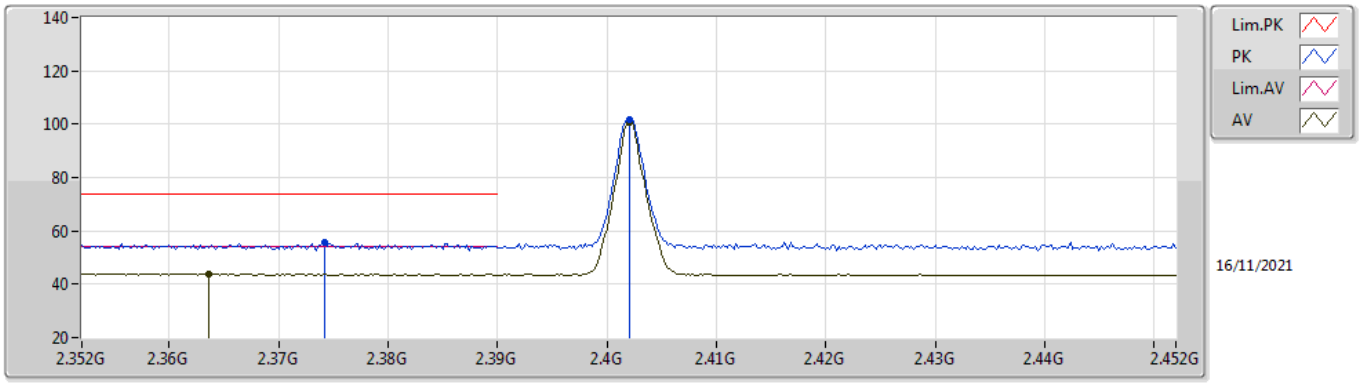
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
QP	69.77M	36.60	40.00	-3.40	-18.32	3	Horizontal	262	3.00	"Worst"	54.92	12.27	1.30	31.89
PK	123.12M	38.07	43.50	-5.43	-12.35	3	Horizontal	217	3.00	-	50.42	17.96	1.63	31.94
PK	124.09M	38.50	43.50	-5.00	-12.38	3	Horizontal	217	3.00	-	50.88	17.92	1.64	31.94
PK	240.49M	38.97	46.00	-7.03	-12.59	3	Horizontal	245	1.25	-	51.56	17.08	2.34	32.01
PK	283.17M	41.52	46.00	-4.48	-10.74	3	Horizontal	127	1.25	-	52.26	18.72	2.60	32.06
PK	302.57M	40.47	46.00	-5.53	-10.30	3	Horizontal	277	1.25	-	50.77	19.07	2.71	32.08

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	48.22	54.00	-5.78	3	Horizontal	47	1.30	-

BT-BR(1Mbps)

2402MHz_TX

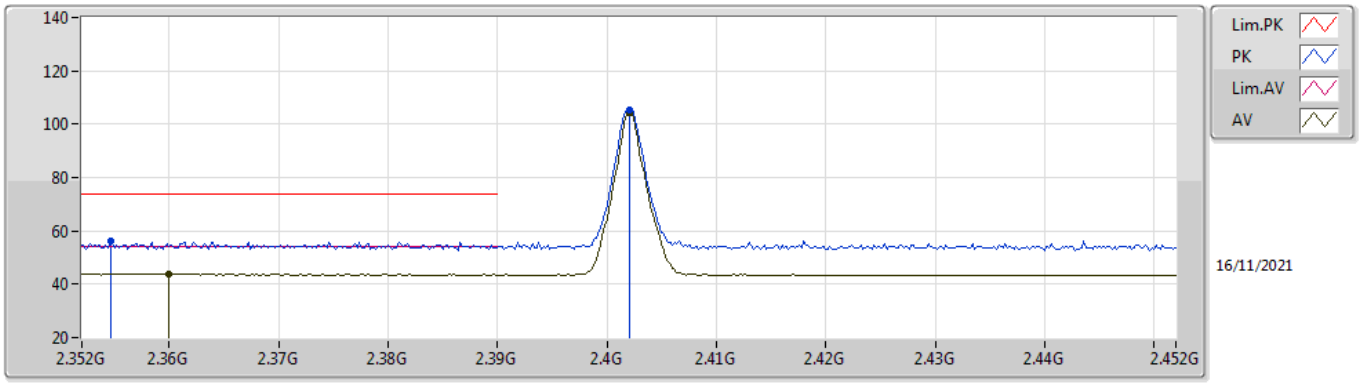


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3742G	55.67	74.00	-18.33	24.22	3	Vertical	307	2.43	-	27.65	3.80	-
AV	2.3636G	43.84	54.00	-10.16	12.37	3	Vertical	307	2.43	-	27.67	3.80	-
PK	2.402G	101.78	Inf	-Inf	70.38	3	Vertical	307	2.43	-	27.60	3.80	-
AV	2.402G	100.94	Inf	-Inf	69.54	3	Vertical	307	2.43	-	27.60	3.80	-

BT-BR(1Mbps)

2402MHz_TX

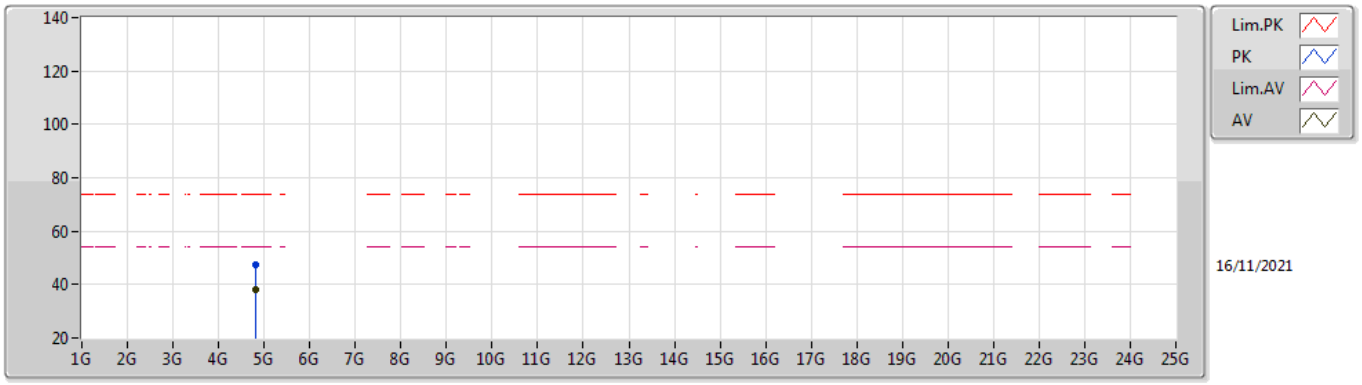


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3546G	56.45	74.00	-17.55	24.96	3	Horizontal	41	2.46	-	27.69	3.80	-
AV	2.36G	43.91	54.00	-10.09	12.43	3	Horizontal	41	2.46	-	27.68	3.80	-
PK	2.402G	105.23	Inf	-Inf	73.83	3	Horizontal	41	2.46	-	27.60	3.80	-
AV	2.402G	104.35	Inf	-Inf	72.95	3	Horizontal	41	2.46	-	27.60	3.80	-

BT-BR(1Mbps)

2402MHz_TX

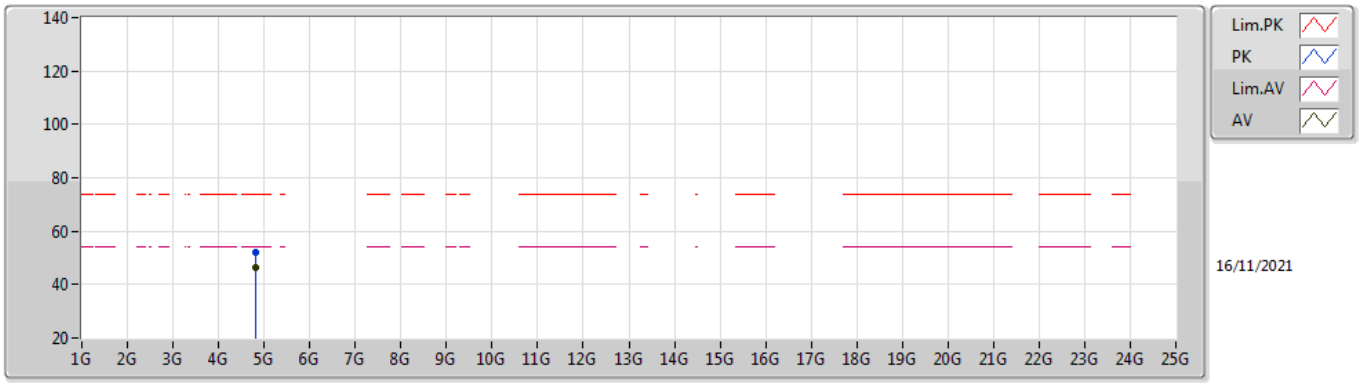


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8044G	47.28	74.00	-26.72	42.58	3	Vertical	198	2.20	-	31.39	6.30	32.99
AV	4.80396G	38.25	54.00	-15.75	33.55	3	Vertical	198	2.20	-	31.39	6.30	32.99

BT-BR(1Mbps)

2402MHz_TX

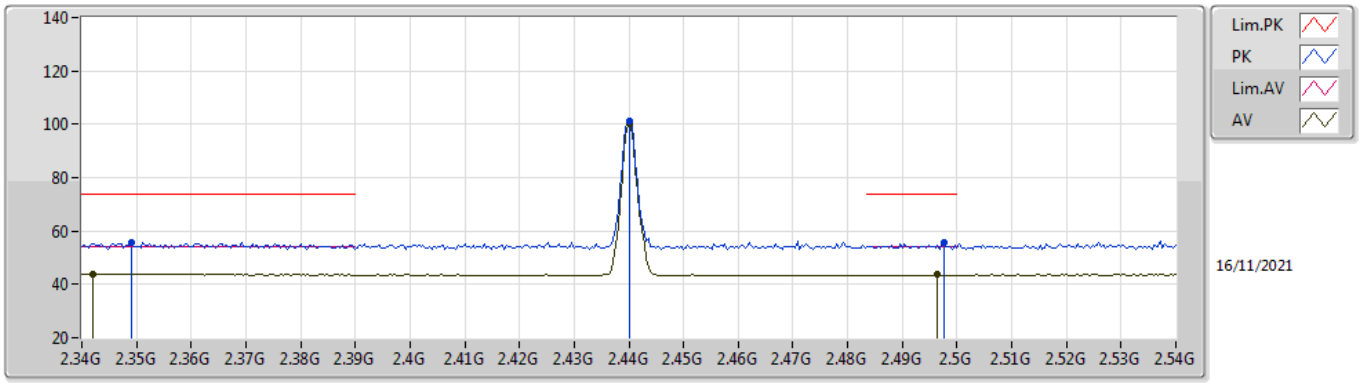


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.804G	52.13	74.00	-21.87	47.43	3	Horizontal	6	2.06	-	31.39	6.30	32.99
AV	4.80404G	46.55	54.00	-7.45	41.85	3	Horizontal	6	2.06	-	31.39	6.30	32.99

BT-BR(1Mbps)

2440MHz_TX

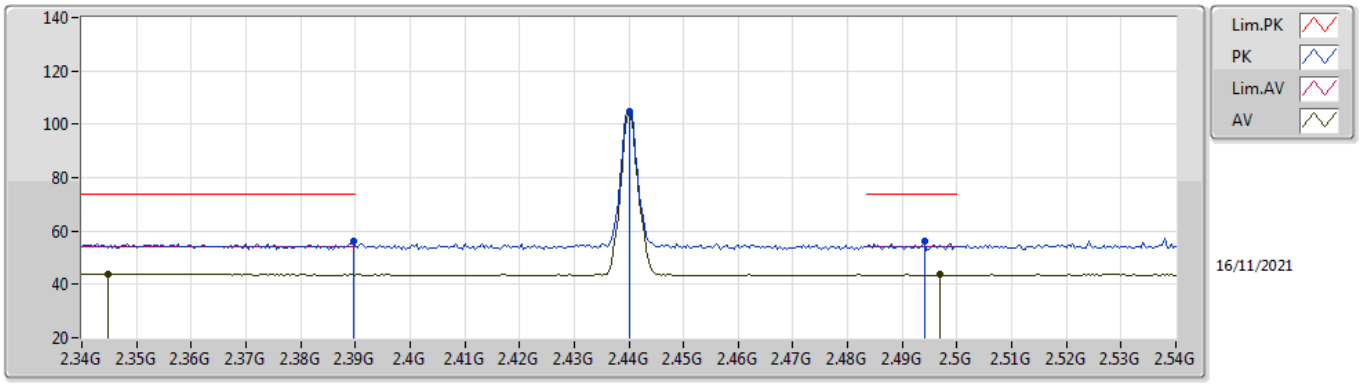


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3492G	55.60	74.00	-18.40	24.10	3	Vertical	309	2.29	-	27.70	3.80	-
AV	2.342G	43.98	54.00	-10.02	12.46	3	Vertical	309	2.29	-	27.72	3.80	-
PK	2.44G	101.07	Inf	-Inf	69.73	3	Vertical	309	2.29	-	27.52	3.82	-
AV	2.44G	100.15	Inf	-Inf	68.81	3	Vertical	309	2.29	-	27.52	3.82	-
PK	2.4976G	55.53	74.00	-18.47	24.18	3	Vertical	309	2.29	-	27.50	3.85	-
AV	2.4964G	43.56	54.00	-10.44	12.21	3	Vertical	309	2.29	-	27.50	3.85	-

BT-BR(1Mbps)

2440MHz_TX

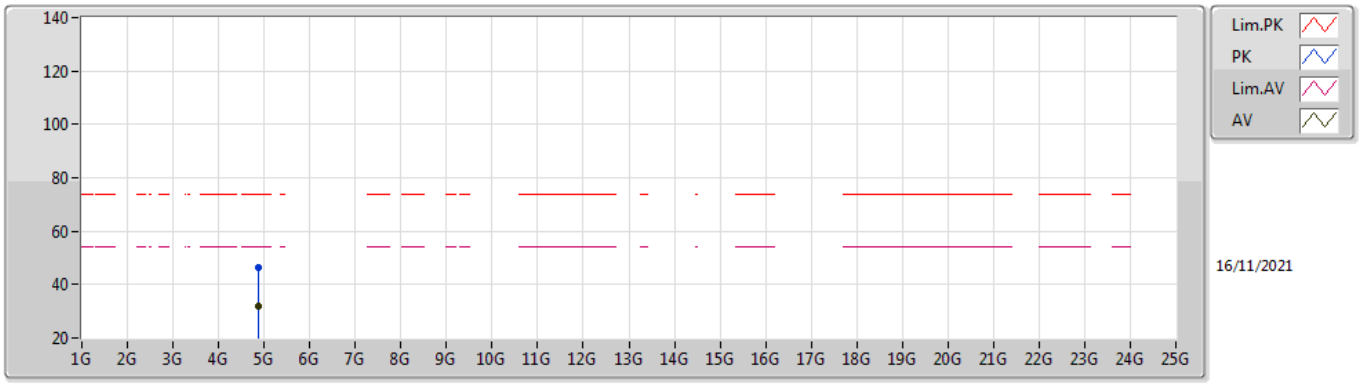


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3896G	55.97	74.00	-18.03	24.55	3	Horizontal	46	1.09	-	27.62	3.80	-
AV	2.3448G	43.99	54.00	-10.01	12.48	3	Horizontal	46	1.09	-	27.71	3.80	-
PK	2.44G	105.04	Inf	-Inf	73.70	3	Horizontal	46	1.09	-	27.52	3.82	-
AV	2.44G	104.12	Inf	-Inf	72.78	3	Horizontal	46	1.09	-	27.52	3.82	-
PK	2.494G	56.27	74.00	-17.73	24.92	3	Horizontal	46	1.09	-	27.50	3.85	-
AV	2.4968G	43.57	54.00	-10.43	12.22	3	Horizontal	46	1.09	-	27.50	3.85	-

BT-BR(1Mbps)

2440MHz_TX

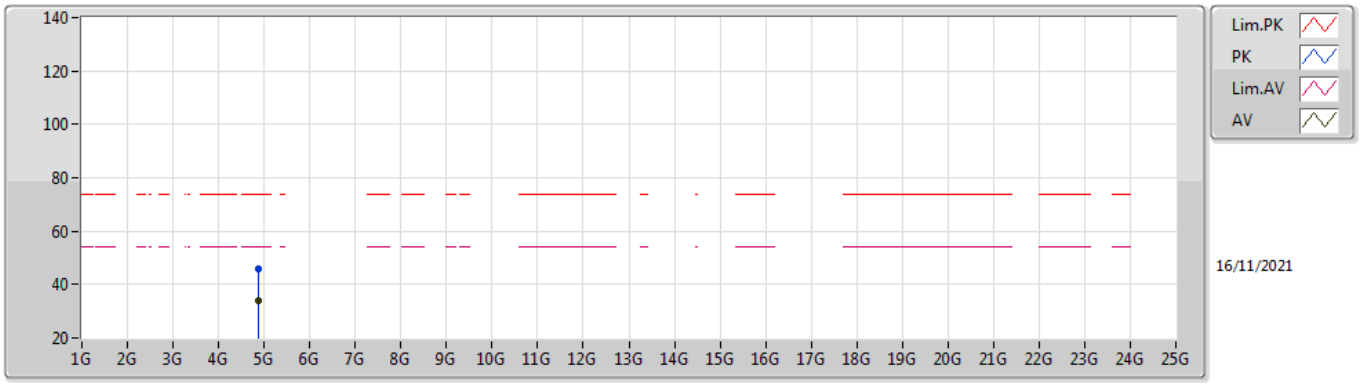


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8868G	46.33	74.00	-27.67	41.71	3	Vertical	228	2.97	-	31.30	6.30	32.98
AV	4.88884G	32.15	54.00	-21.85	27.53	3	Vertical	228	2.97	-	31.30	6.30	32.98

BT-BR(1Mbps)

2440MHz_TX

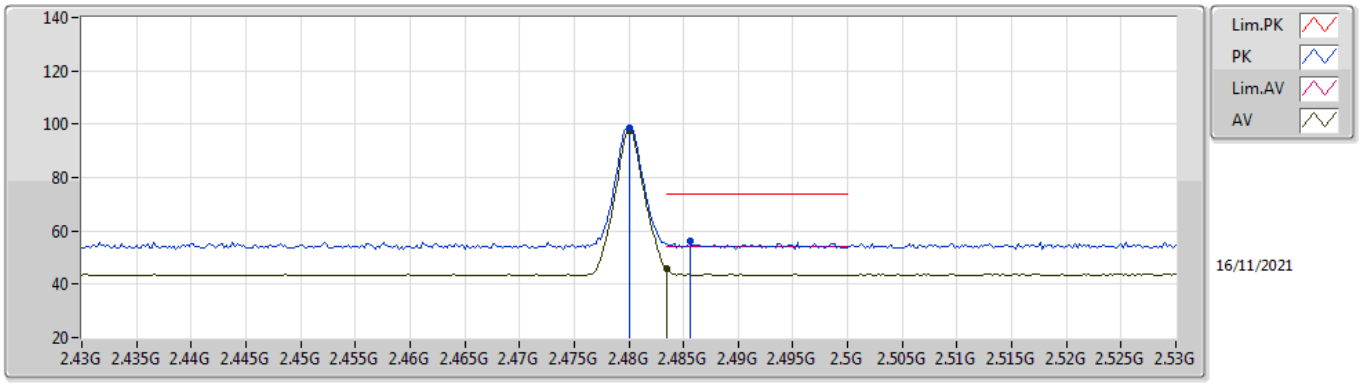


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8798G	45.67	74.00	-28.33	41.05	3	Horizontal	5	2.27	-	31.30	6.30	32.98
AV	4.88G	34.10	54.00	-19.90	29.48	3	Horizontal	5	2.27	-	31.30	6.30	32.98

BT-BR(1Mbps)

2480MHz_TX

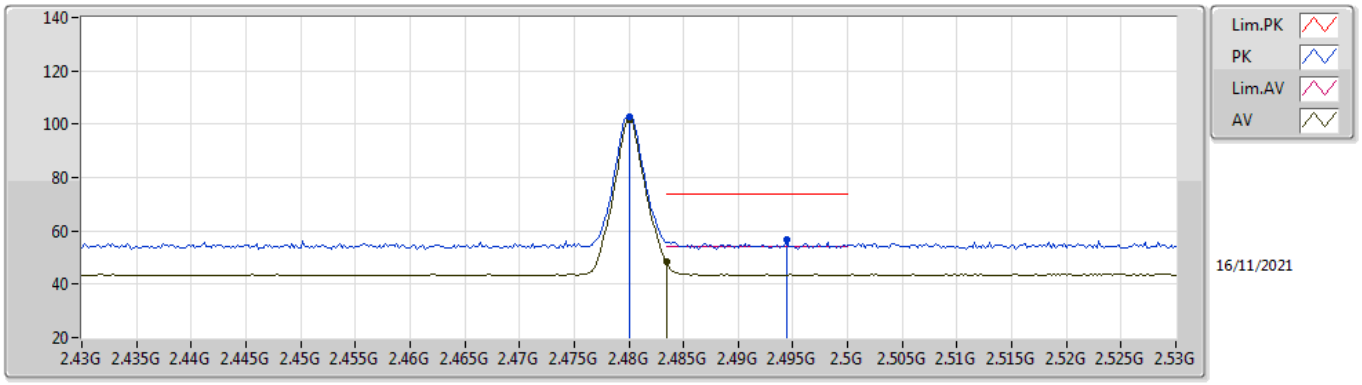


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	98.75	Inf	-Inf	67.41	3	Vertical	305	2.29	-	27.50	3.84	-
AV	2.48G	97.72	Inf	-Inf	66.38	3	Vertical	305	2.29	-	27.50	3.84	-
PK	2.4856G	56.26	74.00	-17.74	24.92	3	Vertical	305	2.29	-	27.50	3.84	-
AV	2.4835G	45.75	54.00	-8.25	14.41	3	Vertical	305	2.29	-	27.50	3.84	-

BT-BR(1Mbps)

2480MHz_TX

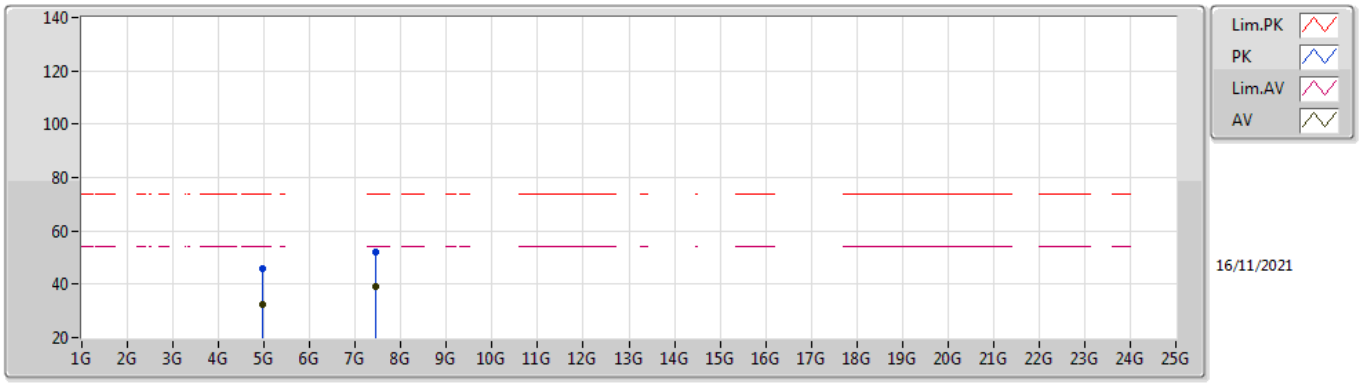


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	102.78	Inf	-Inf	71.44	3	Horizontal	47	1.30	-	27.50	3.84	-
AV	2.48G	101.72	Inf	-Inf	70.38	3	Horizontal	47	1.30	-	27.50	3.84	-
PK	2.4944G	56.51	74.00	-17.49	25.16	3	Horizontal	47	1.30	-	27.50	3.85	-
AV	2.4835G	48.22	54.00	-5.78	16.88	3	Horizontal	47	1.30	-	27.50	3.84	-

BT-BR(1Mbps)

2480MHz_TX

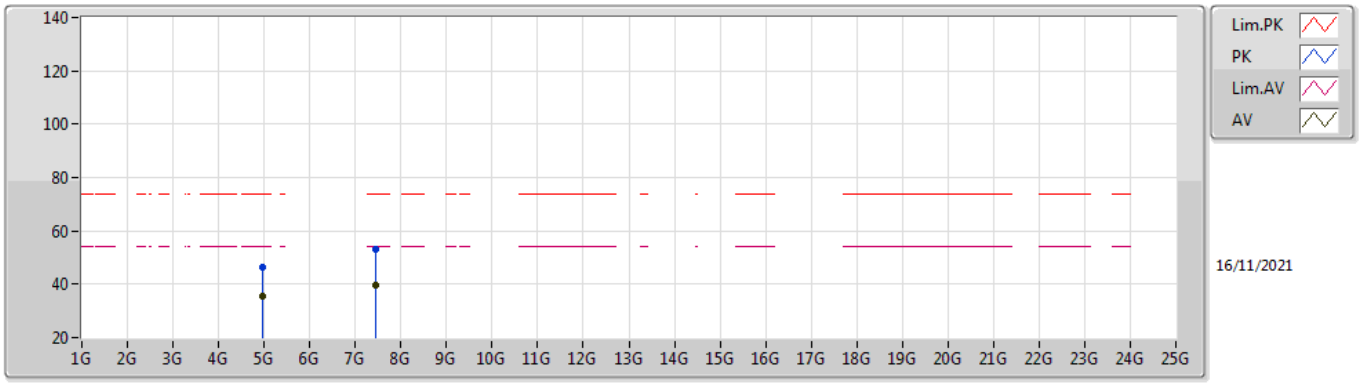


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.96652G	46.00	74.00	-28.00	41.09	3	Vertical	234	1.80	-	31.57	6.30	32.96
AV	4.96696G	32.41	54.00	-21.59	27.50	3	Vertical	234	1.80	-	31.57	6.30	32.96
PK	7.44644G	52.21	74.00	-21.79	41.46	3	Vertical	146	1.86	-	36.40	7.38	33.03
AV	7.4468G	39.26	54.00	-14.74	28.51	3	Vertical	146	1.86	-	36.40	7.38	33.03

BT-BR(1Mbps)

2480MHz_TX

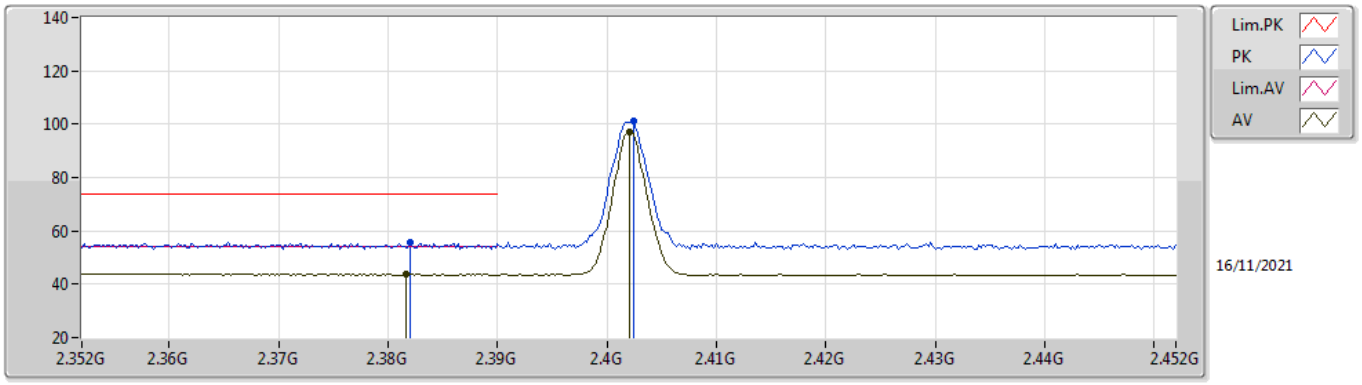


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95992G	46.60	74.00	-27.40	41.73	3	Horizontal	0	2.06	-	31.54	6.30	32.97
AV	4.95996G	35.41	54.00	-18.59	30.54	3	Horizontal	0	2.06	-	31.54	6.30	32.97
PK	7.43892G	53.20	74.00	-20.80	42.45	3	Horizontal	29	2.01	-	36.40	7.38	33.03
AV	7.43184G	39.56	54.00	-14.44	28.81	3	Horizontal	29	2.01	-	36.40	7.38	33.03

BT-EDR(3Mbps)

2402MHz_TX

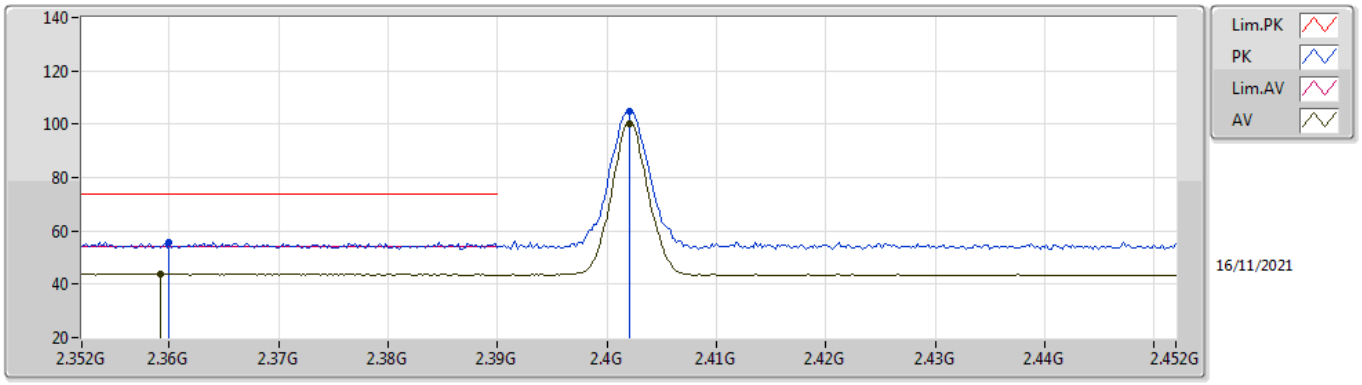


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.382G	55.68	74.00	-18.32	24.24	3	Vertical	307	2.42	-	27.64	3.80	-
AV	2.3816G	43.96	54.00	-10.04	12.52	3	Vertical	307	2.42	-	27.64	3.80	-
PK	2.4024G	101.00	Inf	-Inf	69.60	3	Vertical	307	2.42	-	27.60	3.80	-
AV	2.402G	96.89	Inf	-Inf	65.49	3	Vertical	307	2.42	-	27.60	3.80	-

BT-EDR(3Mbps)

2402MHz_TX

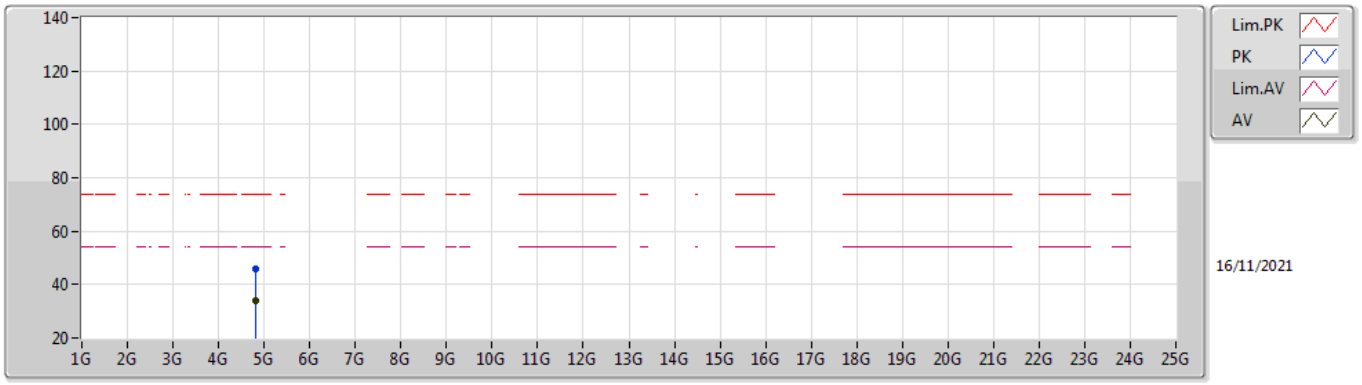


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.36G	55.58	74.00	-18.42	24.10	3	Horizontal	42	2.48	-	27.68	3.80	-
AV	2.3592G	43.93	54.00	-10.07	12.45	3	Horizontal	42	2.48	-	27.68	3.80	-
PK	2.402G	104.95	Inf	-Inf	73.55	3	Horizontal	42	2.48	-	27.60	3.80	-
AV	2.402G	100.28	Inf	-Inf	68.88	3	Horizontal	42	2.48	-	27.60	3.80	-

BT-EDR(3Mbps)

2402MHz_TX

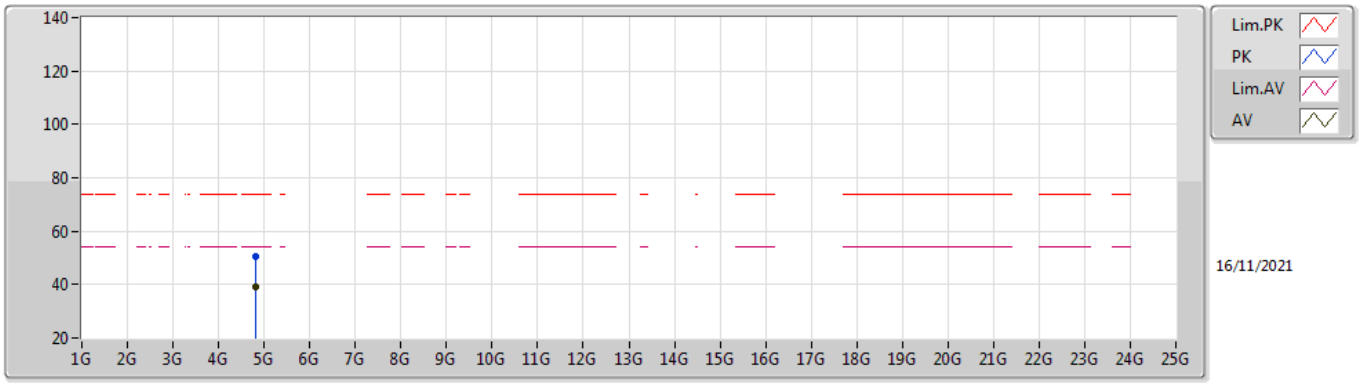


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80416G	45.73	74.00	-28.27	41.03	3	Vertical	198	2.32	-	31.39	6.30	32.99
AV	4.80412G	34.06	54.00	-19.94	29.36	3	Vertical	198	2.32	-	31.39	6.30	32.99

BT-EDR(3Mbps)

2402MHz_TX

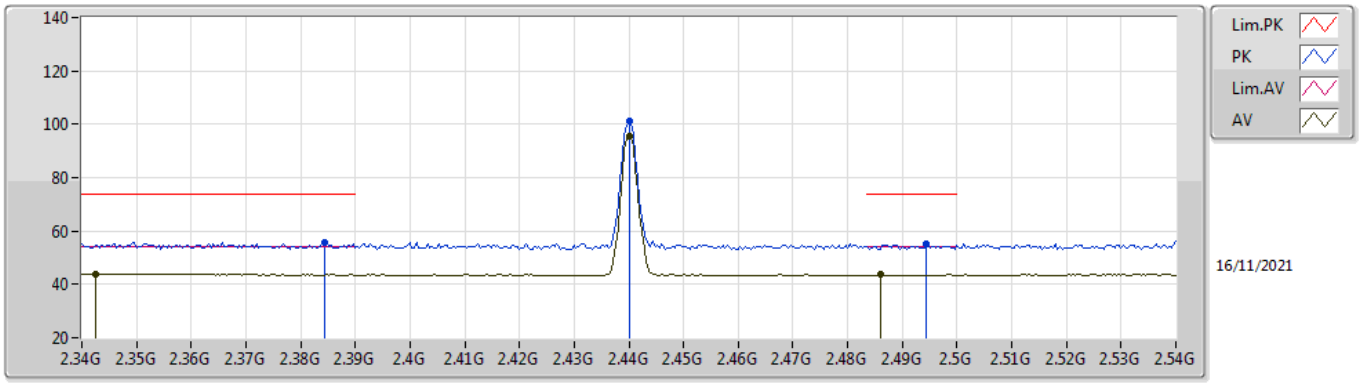


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.804G	50.75	74.00	-23.25	46.05	3	Horizontal	7	2.06	-	31.39	6.30	32.99
AV	4.80406G	39.04	54.00	-14.96	34.34	3	Horizontal	7	2.06	-	31.39	6.30	32.99

BT-EDR(3Mbps)

2440MHz_TX

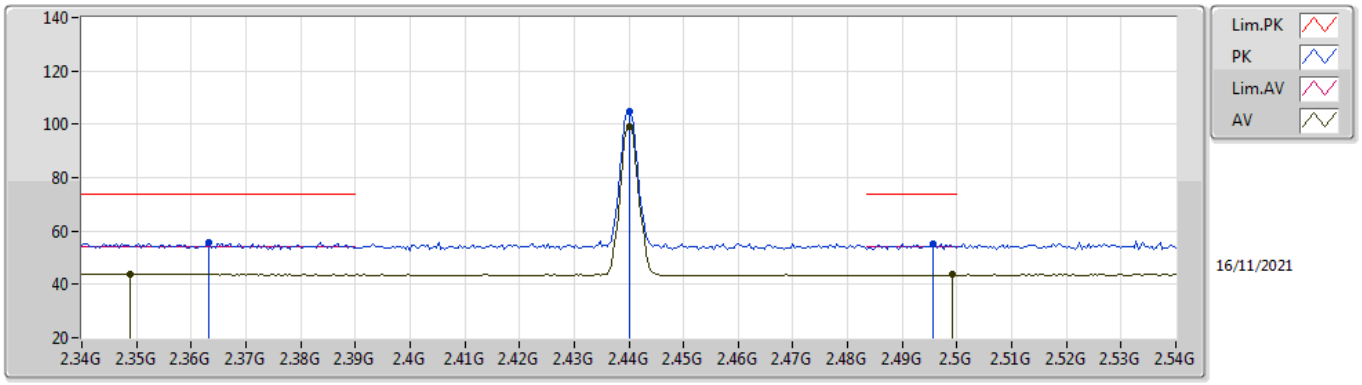


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3844G	55.82	74.00	-18.18	24.39	3	Vertical	307	2.29	-	27.63	3.80	-
AV	2.3424G	43.92	54.00	-10.08	12.40	3	Vertical	307	2.29	-	27.72	3.80	-
PK	2.44G	100.97	Inf	-Inf	69.63	3	Vertical	307	2.29	-	27.52	3.82	-
AV	2.44G	95.33	Inf	-Inf	63.99	3	Vertical	307	2.29	-	27.52	3.82	-
PK	2.4944G	55.15	74.00	-18.85	23.80	3	Vertical	307	2.29	-	27.50	3.85	-
AV	2.486G	43.76	54.00	-10.24	12.42	3	Vertical	307	2.29	-	27.50	3.84	-

BT-EDR(3Mbps)

2440MHz_TX

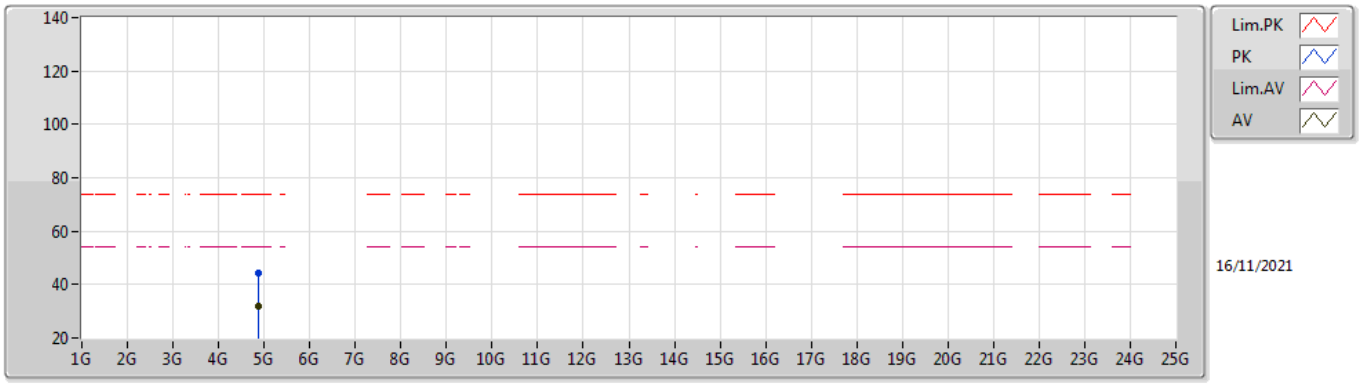


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3632G	55.80	74.00	-18.20	24.33	3	Horizontal	46	1.10	-	27.67	3.80	-
AV	2.3488G	43.97	54.00	-10.03	12.47	3	Horizontal	46	1.10	-	27.70	3.80	-
PK	2.44G	104.87	Inf	-Inf	73.53	3	Horizontal	46	1.10	-	27.52	3.82	-
AV	2.44G	99.16	Inf	-Inf	67.82	3	Horizontal	46	1.10	-	27.52	3.82	-
PK	2.4956G	55.13	74.00	-18.87	23.78	3	Horizontal	46	1.10	-	27.50	3.85	-
AV	2.4992G	43.55	54.00	-10.45	12.20	3	Horizontal	46	1.10	-	27.50	3.85	-

BT-EDR(3Mbps)

2440MHz_TX

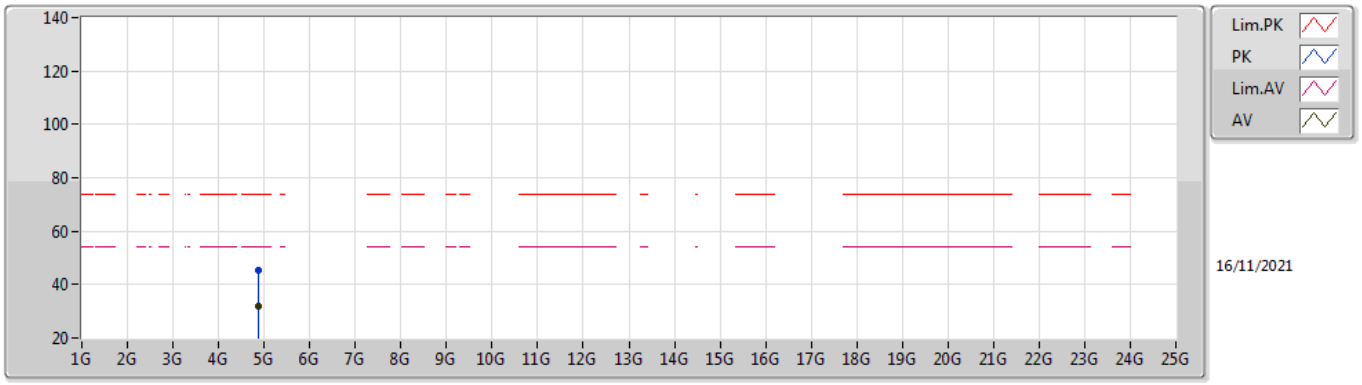


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88352G	44.39	74.00	-29.61	39.77	3	Vertical	18	1.95	-	31.30	6.30	32.98
AV	4.8884G	31.91	54.00	-22.09	27.29	3	Vertical	18	1.95	-	31.30	6.30	32.98

BT-EDR(3Mbps)

2440MHz_TX

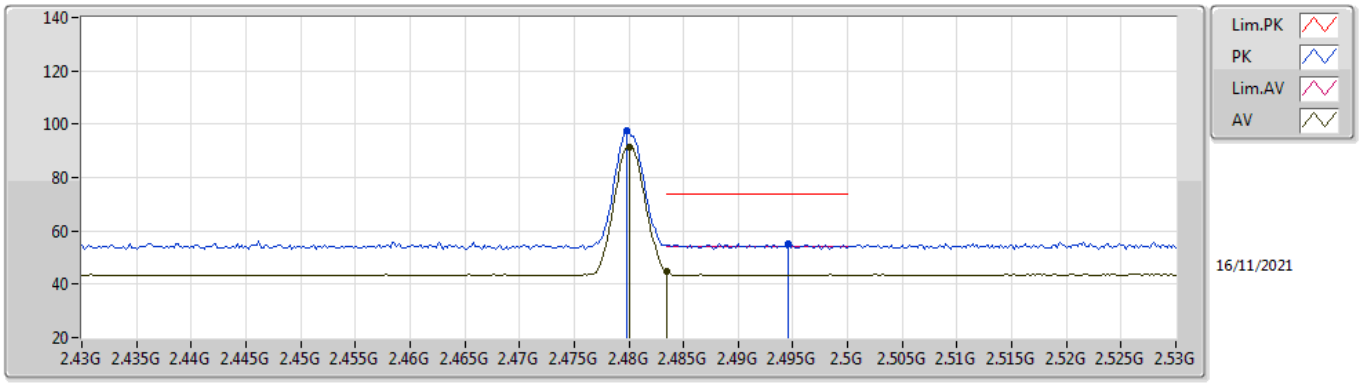


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88396G	45.20	74.00	-28.80	40.58	3	Horizontal	216	1.65	-	31.30	6.30	32.98
AV	4.88024G	32.12	54.00	-21.88	27.50	3	Horizontal	216	1.65	-	31.30	6.30	32.98

BT-EDR(3Mbps)

2480MHz_TX

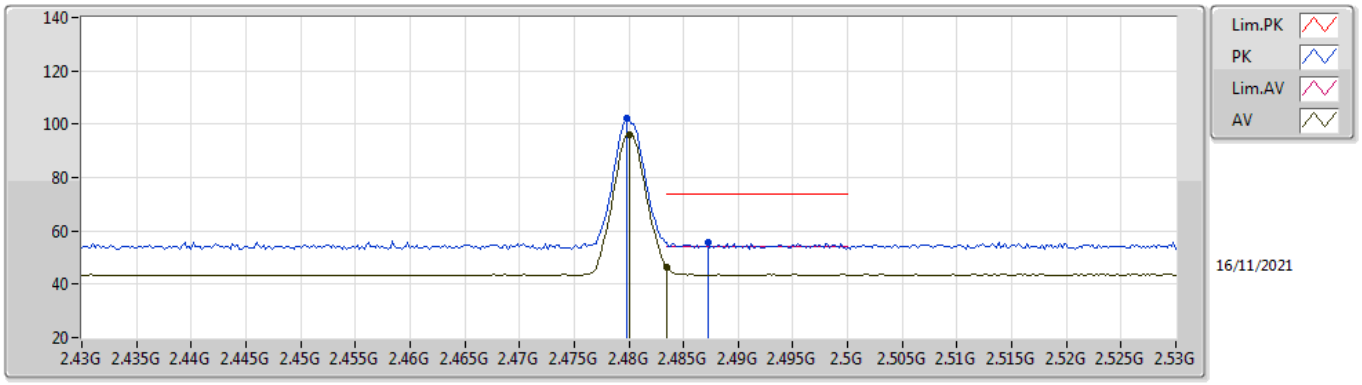


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4798G	97.49	Inf	-Inf	66.15	3	Vertical	304	2.29	-	27.50	3.84	-
AV	2.48G	91.40	Inf	-Inf	60.06	3	Vertical	304	2.29	-	27.50	3.84	-
PK	2.4946G	55.41	74.00	-18.59	24.06	3	Vertical	304	2.29	-	27.50	3.85	-
AV	2.4835G	44.73	54.00	-9.27	13.39	3	Vertical	304	2.29	-	27.50	3.84	-

BT-EDR(3Mbps)

2480MHz_TX

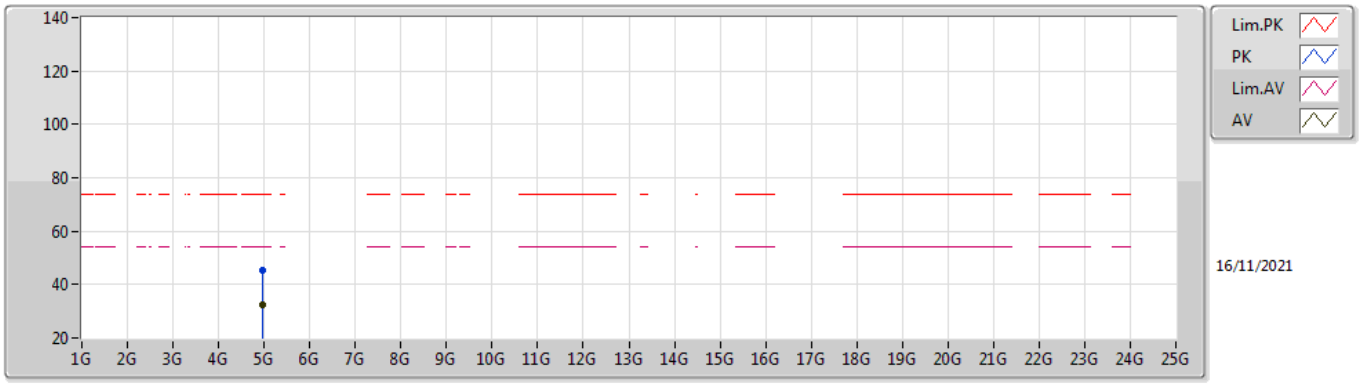


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4798G	102.01	Inf	-Inf	70.67	3	Horizontal	43	1.08	-	27.50	3.84	-
AV	2.48G	96.00	Inf	-Inf	64.66	3	Horizontal	43	1.08	-	27.50	3.84	-
PK	2.4872G	55.66	74.00	-18.34	24.32	3	Horizontal	43	1.08	-	27.50	3.84	-
AV	2.4835G	46.56	54.00	-7.44	15.22	3	Horizontal	43	1.08	-	27.50	3.84	-

BT-EDR(3Mbps)

2480MHz_TX

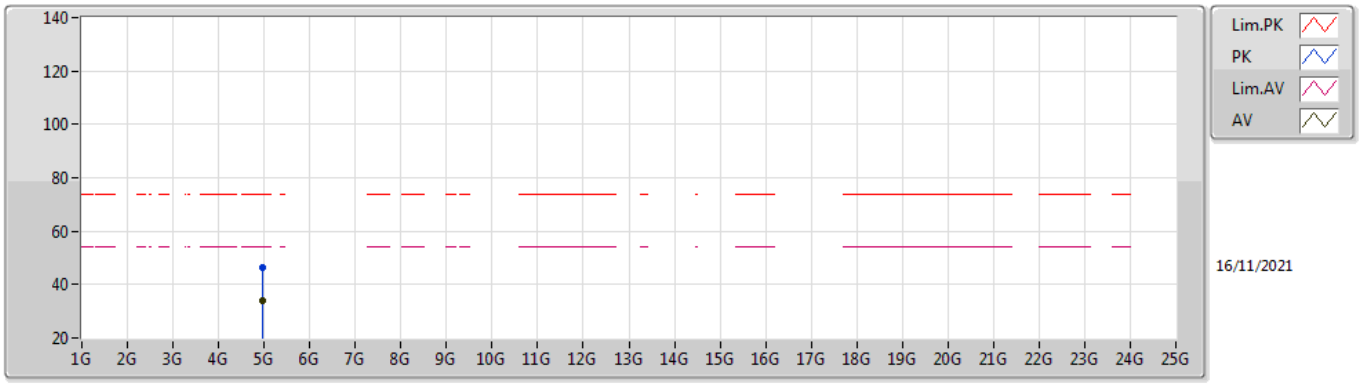


EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95924G	45.28	74.00	-28.72	40.41	3	Vertical	241	2.15	-	31.54	6.30	32.97
AV	4.95788G	32.31	54.00	-21.69	27.45	3	Vertical	241	2.15	-	31.53	6.30	32.97

BT-EDR(3Mbps)

2480MHz_TX



EUT X_1TX
Setting 7
01-C-B-4

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.96004G	46.46	74.00	-27.54	41.59	3	Horizontal	3	2.30	-	31.54	6.30	32.97
AV	4.96032G	33.73	54.00	-20.27	28.86	3	Horizontal	3	2.30	-	31.54	6.30	32.97