Testing Laboratory
3787

RADIO TEST REPORT

FCC ID	:	2AYRA-08330
Equipment	:	Velop AX3000 WiFi 6 System
Brand Name	:	LINKSYS
Model Name	:	MX2000, MX20EC, MX20MS, MX20WH
Applicant	:	Linksys USA, Inc. 12045 East Waterfront Drive Playa Vista, CA 90094, United States.
Standard	:	47 CFR FCC Part 15.247

The product was received on Jul. 13, 2021, and testing was started from Jul. 13, 2021 and completed on Sep. 09, 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.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR171418AB	01	Initial issue of report	Oct. 07, 2021
FR171418AB	02	Add the information of verifying the worst mode.	Nov. 01, 2021
FR171418AB	03	Revising antenna information.	Nov. 03, 2021
FR171418AB	04	Add the directional gain information to antenna information.	Nov. 19, 2021
FR171418AB	05	Add the directional gain information to antenna information.	Nov. 23, 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: Wendy Pan

1 General Description

1.1 Information

1.1.1 RF General Information

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

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

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

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	2.4GHz	5GHz	Bluetooth					
1	1	1	-	Galtronics	02102140-07575-1	PCB	I-PEX	Note1
2	2	2	-	Galtronics	02102140-07575-2	PCB	I-PEX	
3	-	-	1	Galtronics	02036073-07315	Metal	N/A	

Note1:

Ant.	Port			Antenna Gain (dBi)						
	2.4GHz	5GHz	Bluetooth	2.4GHz	5GHz UNII-1	5GHz UNII-2A	5GHz UNII-2C	5GHz UNII-3	5GHz UNII-4	Bluetooth
1	1	1	-	2.12	2.51	2.64	3.58	3.67	3.81	-
2	2	2	-	2.67	3.26	3.20	2.95	3.01	3.17	-
3	-	-	1	-	-	-	-	-		5.3

Note2: The above information was declared by manufacturer.

For 2.4GHz function:
For IEEE 802.11b/g/n/VHT/ax (2TX/2RX):
Port 1 and Port 2 can be used as transmitting/receiving antenna.
Port 1 and Port 2 could transmit/receive simultaneously.
For 5GHz function:
For IEEE 802.11a/n/ac/ax (2TX/2RX):
Port 1 and Port 2 can be used as transmitting/receiving antenna.
Port 1 and Port 2 could transmit/receive simultaneously.
For Bluetooth Function:
For Bluetooth mode (1TX/1RX)
Only Port 1 can be use as transmit and receive antenna.

Note3: Directional gain information

	Maximum Output Power	Power Spectral Density
Non-BF	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	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$
BF	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

Ex.

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

NSS1(g1,1) = $10^{G1/20}$; NSS1(g1,2)= $10^{G2/20}$; gj,k =(Nss1(g1,1) + Nss1(g1,2))^2

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

2.4GHz DG = 10 log[($10^{2.12/20}$ + $10^{2.67/20}$)^2 / N_{ANT}] = 5.41 dBi

5 GHz Band1 DG = 10 log[($10^{2.51/20}$ + $10^{3.26/20}$)^2 / N_{ANT}] = 5.9 dBi

5 GHz Band2 DG = 10 log[($10^{2.64/20}$ + $10^{3.2/20}$)^2 / N_{ANT}] = 5.93 dBi

5 GHz Band3 DG = 10 log[($10^{3.58/20}$ + $10^{2.95/20}$)^2 / N_{ANT}] = 6.28 dBi

5 GHz Band4 DG = 10 log[($10^{3.67/20}$ + $10^{3.01/20}$)^2 / N_{ANT}] = 6.36 dBi

5.9 GHz DG = 10 log[($10^{3.81/20}$ + $10^{3.17/20}$)^2 / N_{ANT}] =6.51 dBi

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-BR(1Mbps)	0.779	1.08	2.888m	1k
BT-EDR(2Mbps)	0.738	1.32	2.878m	1k
BT-EDR(3Mbps)	0.739	1.31	2.879m	1k

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

1.1.4 EUT Operational Condition

EUT Power Type	From Adapter
Test Software Version	DOS [ver 6.1.7601]、QSPR Version 5.0-00199

1.1.5 Table for Multiple Listing

Brand	Model Name	Description
LINKSYS	MX2000	All the models are identical, the difference model served as marketing strategy.
	MX20EC	
	MX20MS	
	MX20WH	

Note 1: From the above models, model: MX2000 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 ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH03-CB	Serway Lee	22.1~23.4 / 59~60	Jul. 21, 2021~ Sep. 07, 2021
Radiated<1GHz	03CH03-CB	Ken Yeh	25.2-27.3 / 55-58	Sep. 09, 2021
Radiated>1GHz	03CH02-CB	Eason Chen	25.8-28.2 / 56-59	Jul. 13, 2021 ~ Aug. 11, 2021
	03CH04-CB	Eason Chen	24.6-25.7 / 55-58	Jul. 13, 2021 ~ Aug. 11, 2021
AC Conduction	CO01-CB	Ryo Fan	23~24 / 56~57	Sep. 06, 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 Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	EUT + Adapter 1 + US plug
2	EUT + Adapter 2
3	EUT + Adapter 3
4	EUT + Adapter 4 + US plug
For operating mode 1 is the worst case and it was record in this test report.	

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
	CTX
1	EUT in Z axis CTX WLAN 2.4GHz + Adapter 1 + US plug
2	EUT in Z axis CTX WLAN 2.4GHz + Adapter 2
3	EUT in Z axis CTX WLAN 2.4GHz + Adapter 3
4	EUT in Z axis CTX WLAN 2.4GHz + Adapter 4 + US plug
Mode 2 has been evaluated to be the worst case among Mode 1~4, thus measurement for Mode 5 ~ 6 will follow this same test mode.	
5	EUT in Z axis CTX Bluetooth + Adapter 2
6	EUT in Z axis CTX WLAN 5GHz + Adapter 2
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Z axis. So the measurement will follow this same test configuration.
	EUT in Z axis CTX

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT in Z axis WLAN 2.4GHz + WLAN 5GHz + Bluetooth
Refer to Sporton Test Report No.: FA171418 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:
During the test, the EUT operation to normal function.

2.4 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter 1 (Removable plug)	Ktec	KSA-18W-120150D5	INPUT: 100-240V~50/60Hz, 0.5A OUTPUT: 12.0V, 1.5A, 18.0W
Adapter 2 (Fixed plug)	Ktec	KSA-18W-120150VU	INPUT: 100-240V~50/60Hz, 0.5A OUTPUT: 12V, 1.5A
Adapter 3 (Fixed plug)	APD	WB-18Q12FU	INPUT: 100-240V~, 50-60Hz, 0.6A Max. OUTPUT: 12V, 1.5A
Adapter 4 (Removable plug)	APD	WB-18Q12R	INPUT: 100-240V~, 50-60Hz, 0.6A, Max. OUTPUT: 12.0V, 1.5A, 18.0W
Others			
US plug*2 (for adapter 1 and adapter 4 use) RJ-45 cable*1: Non-shielded, 0.9m			

2.5 Support Equipment

For AC Conduction:

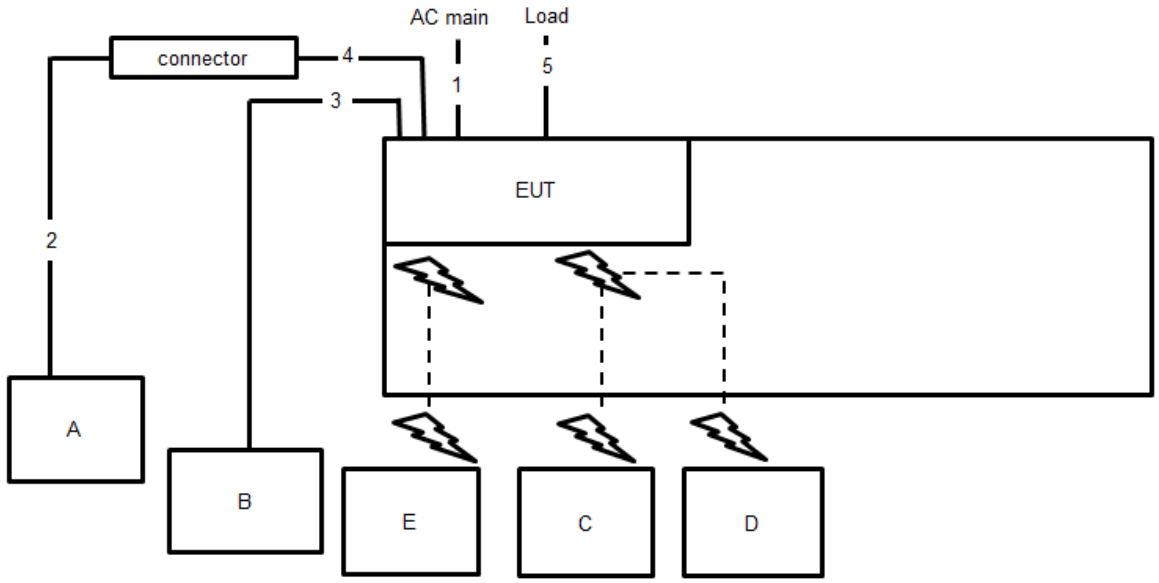
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	WAN NB	DELL	E6430	N/A
B	LAN NB	DELL	E6430	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	iPad	Apple	A1430	N/A

For Radiated and RF Conducted:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A

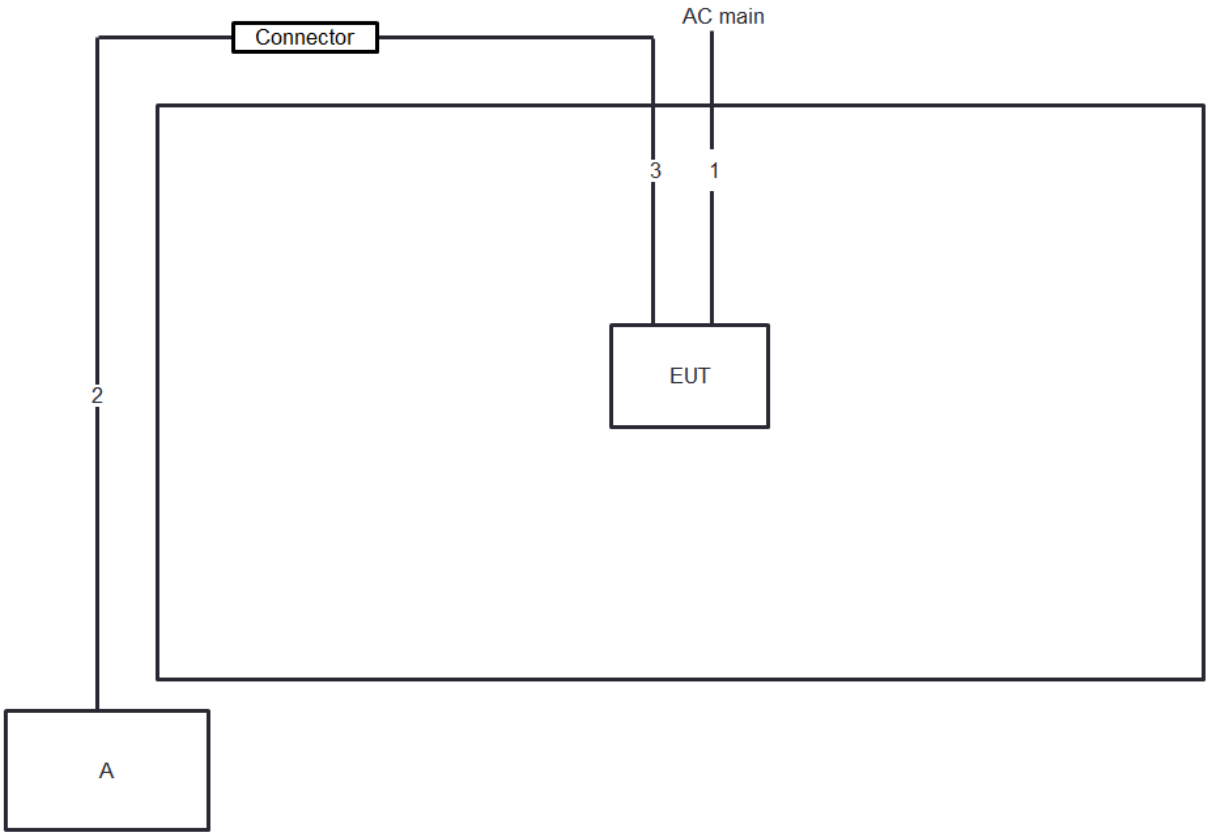
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



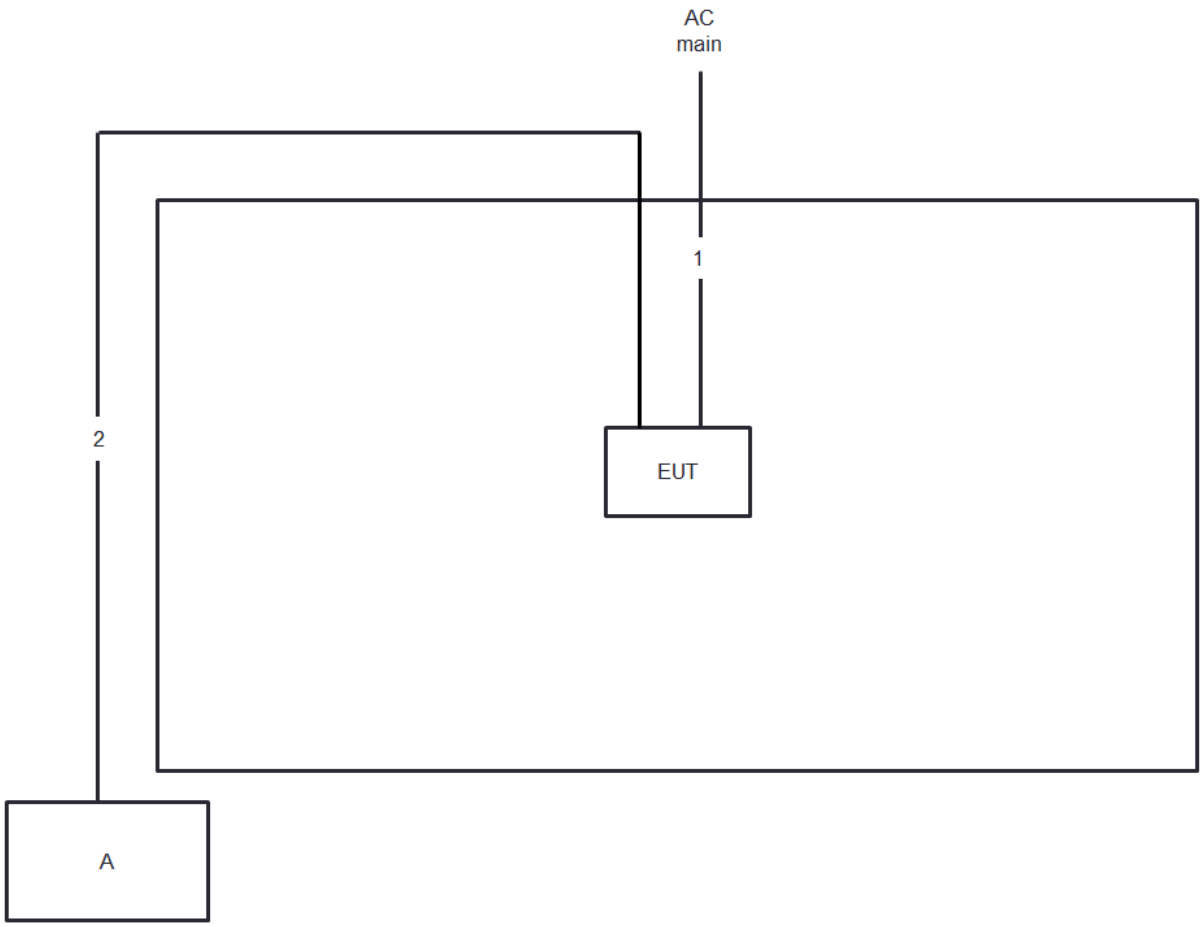
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	0.9m
5	RJ-45 cable*2	No	1.5m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	0.9m

Test Setup Diagram - Radiated Test > 1GHz



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

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

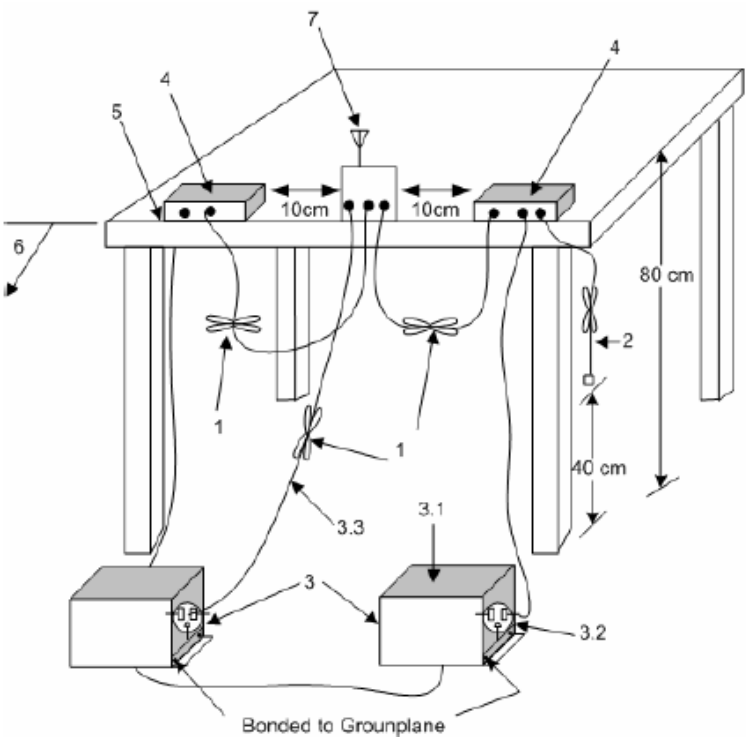
Refer a test equipment and calibration data table in this test report.

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.

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 ≥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

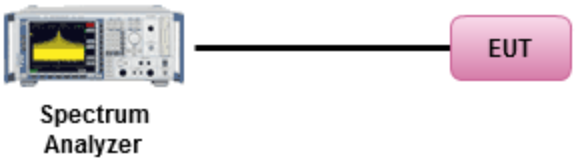
3.2.2 Measuring Instruments

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

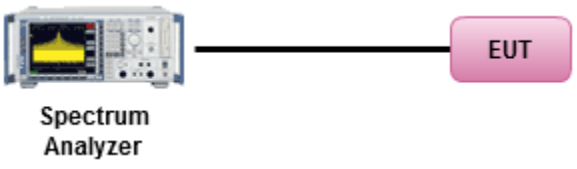
3.4.3 Measuring Instruments

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

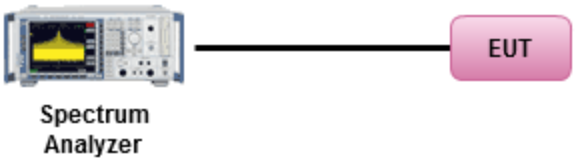
3.5.2 Measuring Instruments

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.	

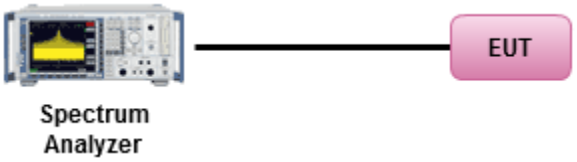
3.6.2 Measuring Instruments

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.

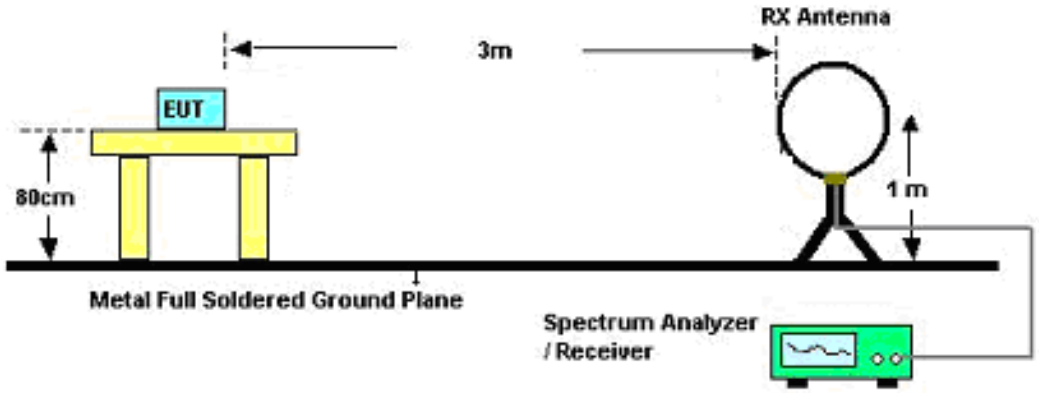
3.7.3 Test Procedures

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.

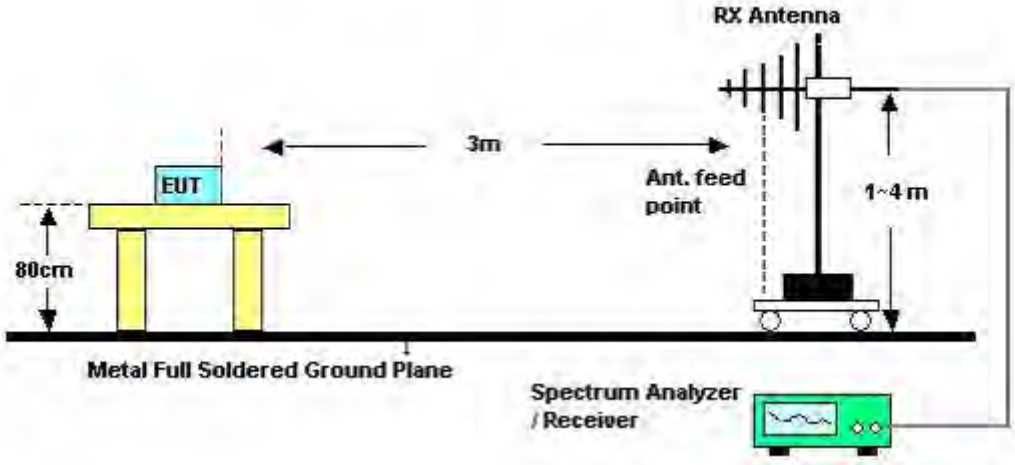
3.7.4 Test Setup

Emissions in Restricted Frequency Bands

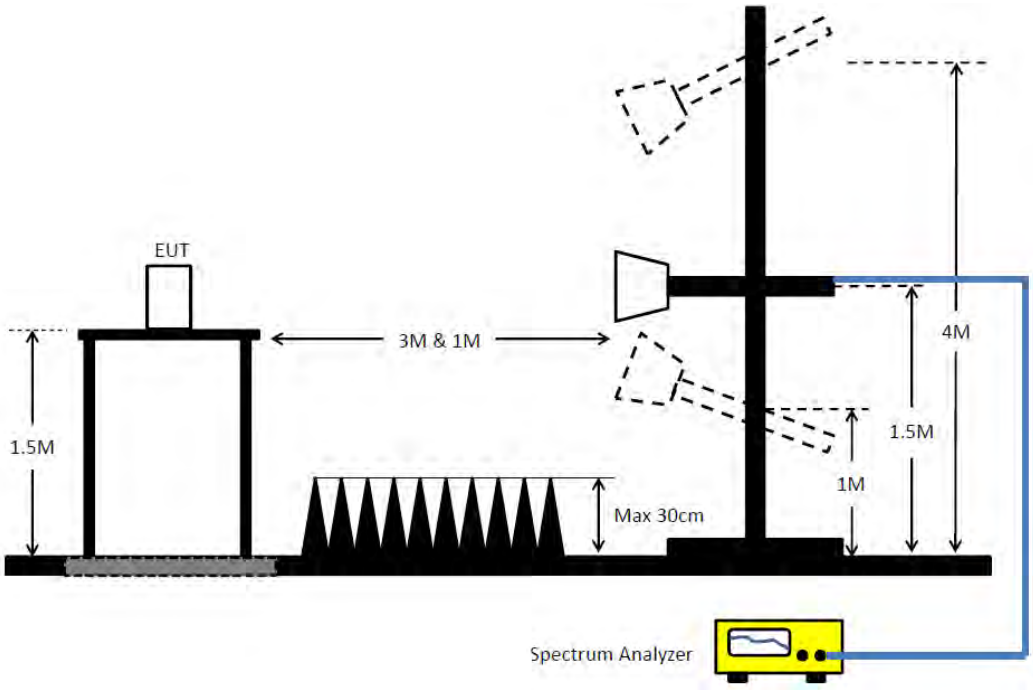
9kHz ~30MHz



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 (03CH03-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH03-CB	30 MHz ~ 1 GHz	Jan. 27, 2021	Jan. 26, 2022	Radiation (03CH03-CB)
Bilog Antenna with 6 dB attenuator	Schaffner & EMCI	CBL6112B & N-6-06	2928 & AT-N0608	20MHz ~ 2GHz	Feb. 22, 2021	Feb. 21, 2022	Radiation (03CH03-CB)
Horn Antenna	ETS・Lindgren	3115	6821	750MHz~18GHz	Jan. 26, 2021	Jan. 25, 2022	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8447D	2944A10259	9kHz ~ 1.3GHz	Jan. 11, 2021	Jan. 10, 2022	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 04, 2021	Jun. 03, 2022	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH03-CB)
RF Cable-low	Woken	RG402	Low Cable-02+29	30MHz ~ 1GHz	Aug. 20, 2021	Aug. 19, 2022	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH03-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz 3m	Mar. 27, 2021	Mar. 26, 2022	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	May 04, 2021	May 03, 2022	Radiation (03CH02-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 18, 2021	Jun. 17, 2022	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH02-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 15, 2020	Oct. 14, 2021	Radiation (03CH02-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH04-CB	1GHz ~18GHz 3m	Feb. 25, 2021	Feb. 24, 2022	Radiation (03CH04-CB)
Horn Antenna	ETS・Lindgren	3115	00143147	750MHz~18GHz	Oct. 23, 2020	Oct. 22, 2021	Radiation (03CH04-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 18, 2021	Jun. 17, 2022	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH04-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Feb. 19, 2021	Feb. 18, 2022	Radiation (03CH04-CB
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+67	1GHz - 18GHz	Nov. 05, 2020	Nov. 04, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 15, 2021	Jul. 14, 2022	Radiation (03CH04-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Dec. 31, 2020	Dec. 30, 2021	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Aug. 17, 2020	Aug. 16, 2021	Conducted (TH03-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Power Sensor	Anritsu	MA2411B	1531344	300MHz~40GHz	Jul. 27, 2021	Jul. 26, 2022	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Aug. 17, 2020	Aug. 16, 2021	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1728002	300MHz~40GHz	Jul. 27, 2021	Jul. 26, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-11	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-12	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-13	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH03-CB)

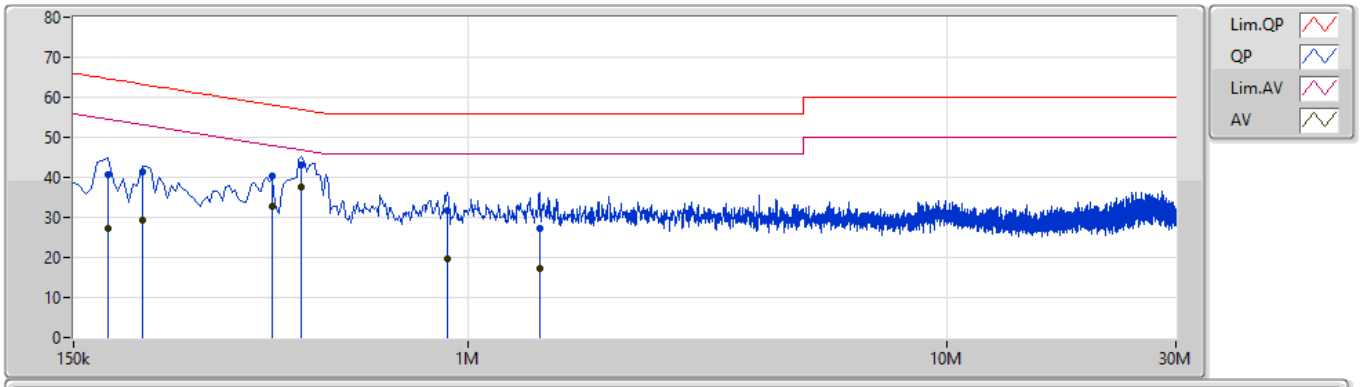
Note: Calibration Interval of instruments listed above is one year.
NCR means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	447k	37.54	46.94	-9.40	Line

Mode 1

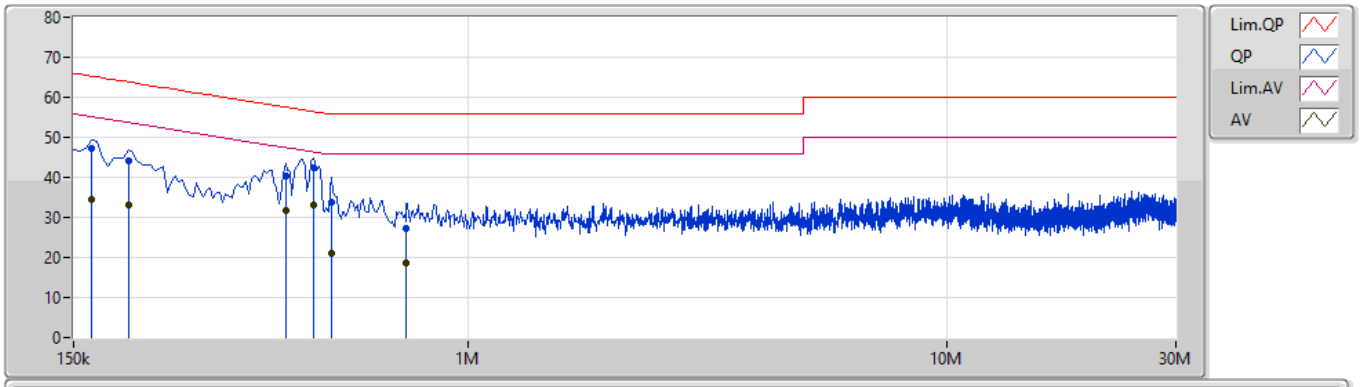
06/09/2021



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	177k	40.80	64.62	-23.82	9.89	Line	-	30.91	0.04	0.04	9.81
AV	177k	27.17	54.62	-27.45	9.89	Line	-	17.28	0.04	0.04	9.81
QP	208.5k	41.50	63.27	-21.77	9.89	Line	-	31.61	0.04	0.04	9.81
AV	208.5k	29.24	53.27	-24.03	9.89	Line	-	19.35	0.04	0.04	9.81
QP	388.5k	40.39	58.10	-17.71	9.90	Line	-	30.49	0.04	0.04	9.82
AV	388.5k	32.78	48.10	-15.32	9.90	Line	-	22.88	0.04	0.04	9.82
QP	447k	43.23	56.94	-13.71	9.90	Line	-	33.33	0.04	0.04	9.82
AV	447k	37.54	46.94	-9.40	9.90	Line	"Worst"	27.64	0.04	0.04	9.82
QP	906k	31.83	56.00	-24.17	9.93	Line	-	21.90	0.06	0.04	9.83
AV	906k	19.74	46.00	-26.26	9.93	Line	-	9.81	0.06	0.04	9.83
QP	1.41M	27.19	56.00	-28.81	9.95	Line	-	17.24	0.07	0.05	9.83
AV	1.41M	17.32	46.00	-28.68	9.95	Line	-	7.37	0.07	0.05	9.83

Mode 1

06/09/2021



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	163.5k	47.23	65.27	-18.04	9.88	Neutral	-	37.35	0.03	0.04	9.81
AV	163.5k	34.52	55.27	-20.75	9.88	Neutral	-	24.64	0.03	0.04	9.81
QP	195k	44.13	63.82	-19.69	9.88	Neutral	-	34.25	0.03	0.04	9.81
AV	195k	33.27	53.82	-20.55	9.88	Neutral	-	23.39	0.03	0.04	9.81
QP	415.5k	40.31	57.53	-17.22	9.89	Neutral	-	30.42	0.03	0.04	9.82
AV	415.5k	31.88	47.53	-15.65	9.89	Neutral	-	21.99	0.03	0.04	9.82
QP	474k	42.39	56.44	-14.05	9.89	Neutral	-	32.50	0.03	0.04	9.82
AV	474k	33.15	46.44	-13.29	9.89	Neutral	"Worst"	23.26	0.03	0.04	9.82
QP	519k	33.80	56.00	-22.20	9.90	Neutral	-	23.90	0.04	0.04	9.82
AV	519k	20.93	46.00	-25.07	9.90	Neutral	-	11.03	0.04	0.04	9.82
QP	744k	27.20	56.00	-28.80	9.91	Neutral	-	17.29	0.04	0.04	9.83
AV	744k	18.61	46.00	-27.39	9.91	Neutral	-	8.70	0.04	0.04	9.83

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)	881.25k	842.079k	842KF1D	880k	837.081k
BT-EDR(2Mbps)	1.31M	1.189M	1M19G1D	1.31M	1.188M
BT-EDR(3Mbps)	1.279M	1.196M	1M20G1D	1.278M	1.192M

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

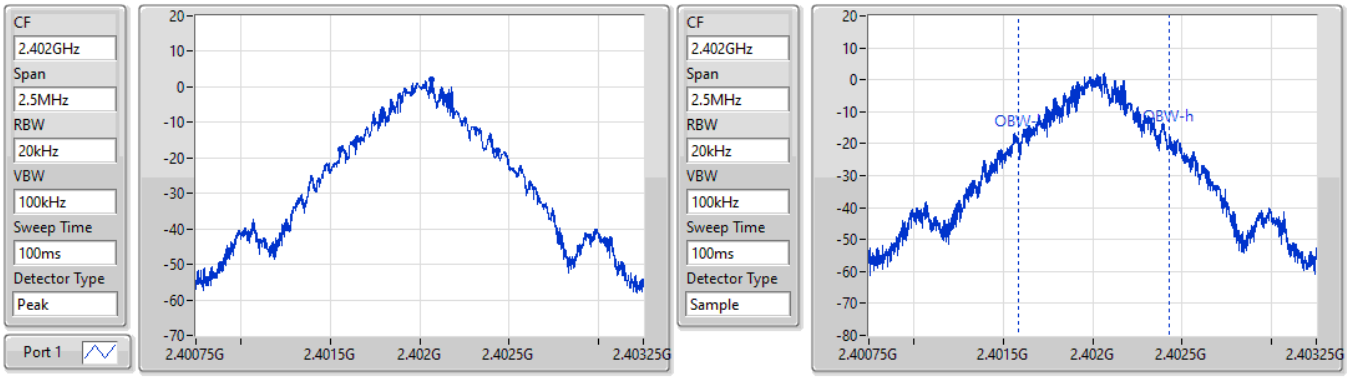
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	881.25k	842.079k
2440MHz	Pass	Inf	881.25k	837.081k
2480MHz	Pass	Inf	880k	839.58k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.31M	1.189M
2440MHz	Pass	Inf	1.31M	1.188M
2480MHz	Pass	Inf	1.31M	1.189M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.279M	1.196M
2440MHz	Pass	Inf	1.278M	1.196M
2480MHz	Pass	Inf	1.278M	1.192M

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

BT-BR(1Mbps) EBW-FS

2402MHz

10/08/2021

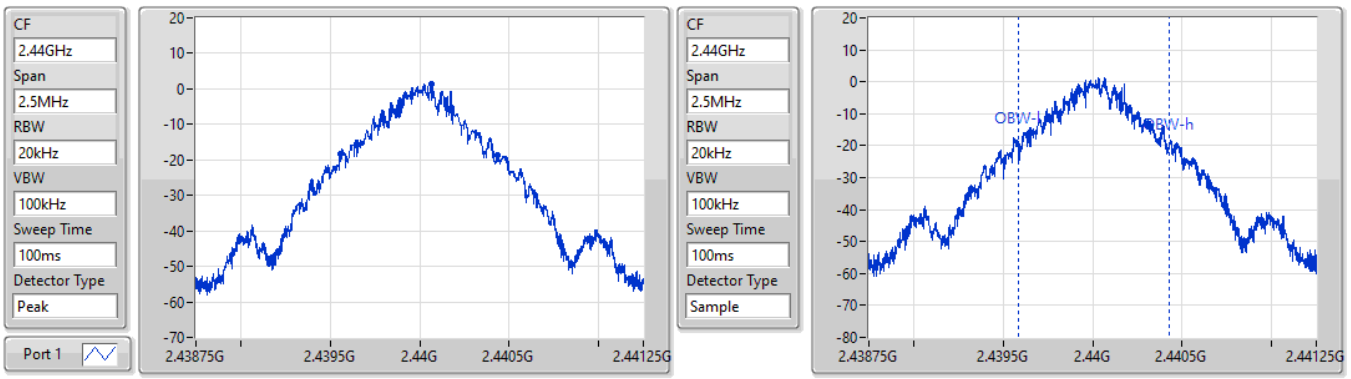


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
881.25k	2.401556G	2.402438G	842.079k	2.401584G	2.402426G	Inf	1

BT-BR(1Mbps) EBW-FS

2440MHz

10/08/2021

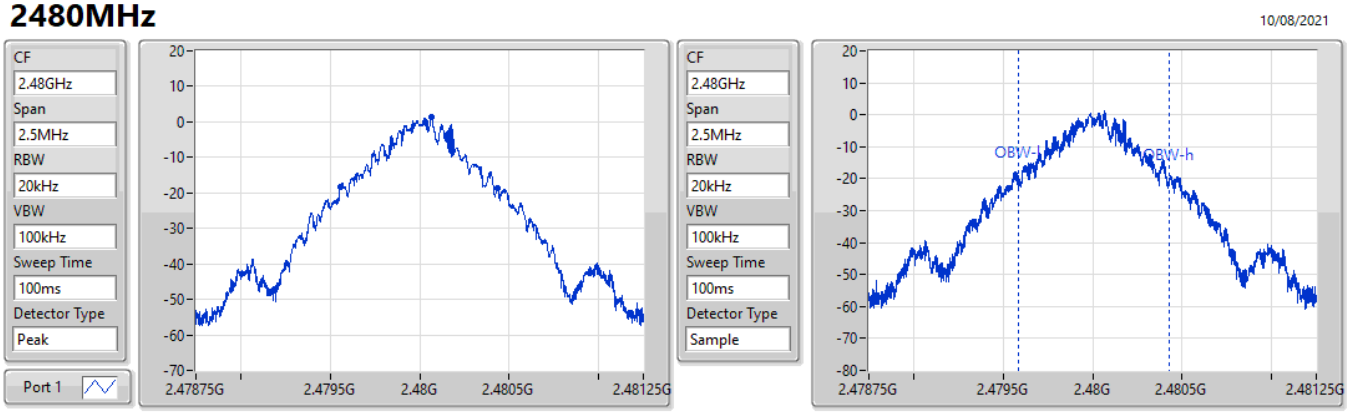


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
881.25k	2.439556G	2.440438G	837.081k	2.439589G	2.440426G	Inf	1

BT-BR(1Mbps)

EBW-FS

2480MHz

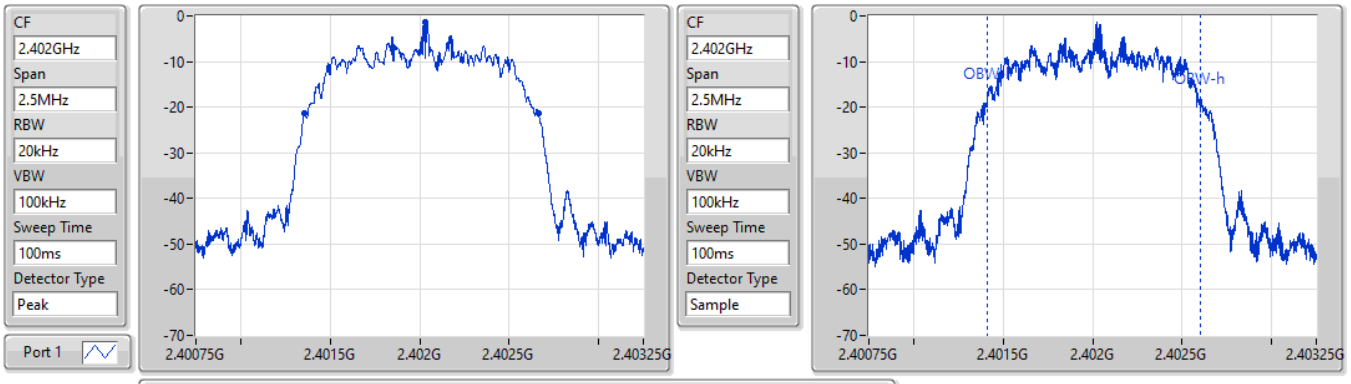


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
880k	2.479556G	2.480436G	839.58k	2.479586G	2.480426G	Inf	1

BT-EDR(2Mbps)

EBW-FS

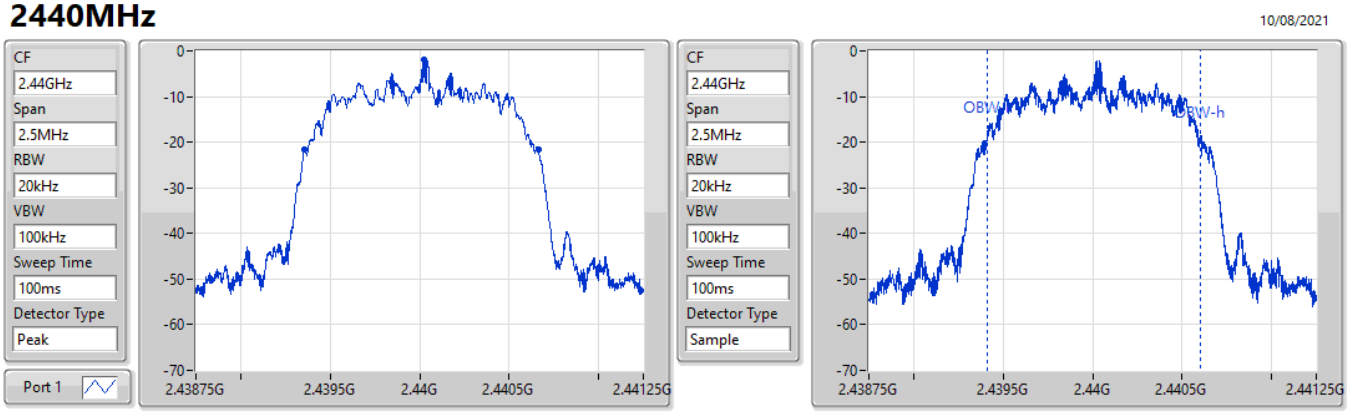
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.31M	2.401354G	2.402664G	1.189M	2.401414G	2.402603G	Inf	1

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

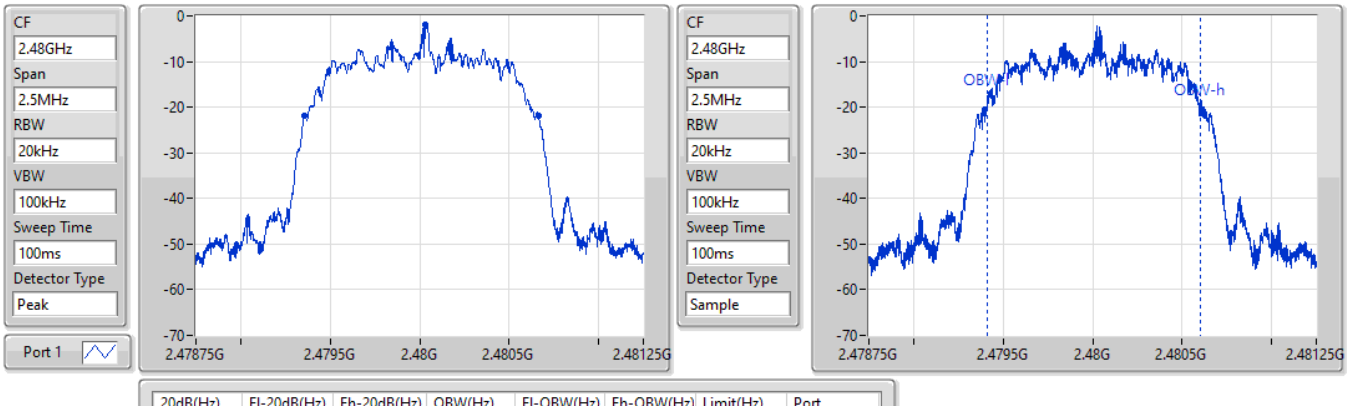
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.31M	2.439354G	2.440664G	1.188M	2.439414G	2.440602G	Inf	1

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

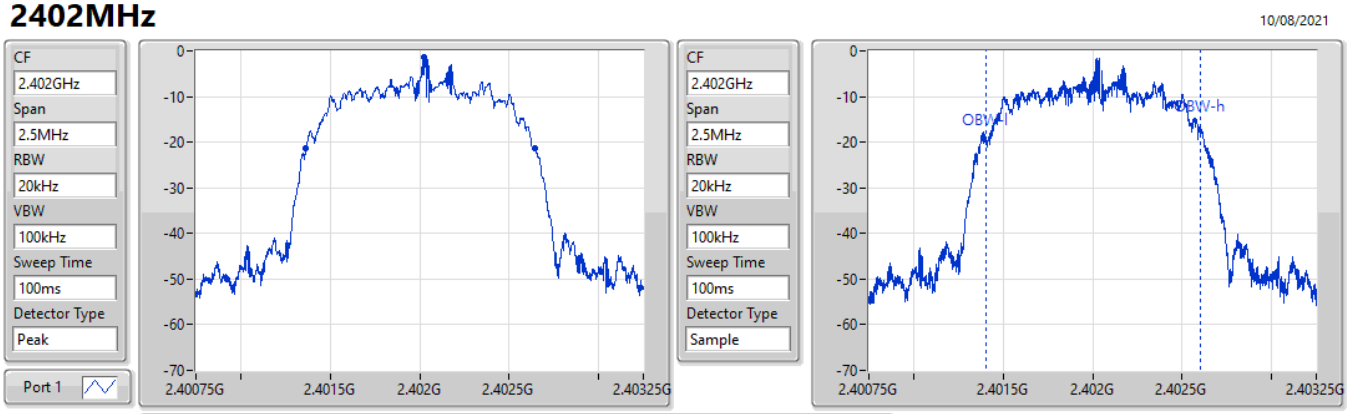
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.31M	2.479354G	2.480664G	1.189M	2.479414G	2.480603G	Inf	1

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

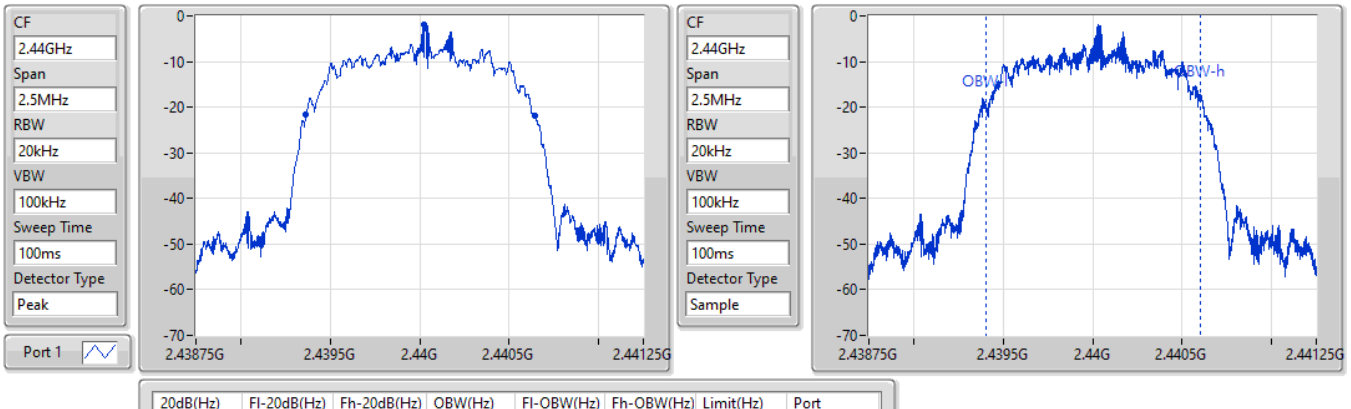
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.279M	2.401365G	2.402644G	1.196M	2.401407G	2.402602G	Inf	1

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

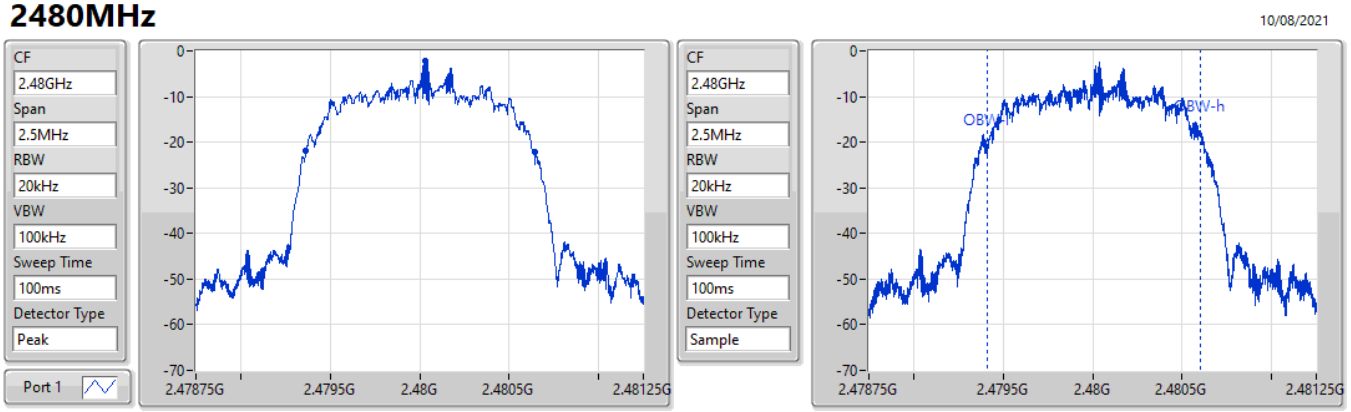
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.278M	2.439365G	2.440643G	1.196M	2.439405G	2.440601G	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
1.278M	2.479365G	2.480643G	1.192M	2.479409G	2.480601G	Inf	1

Summary

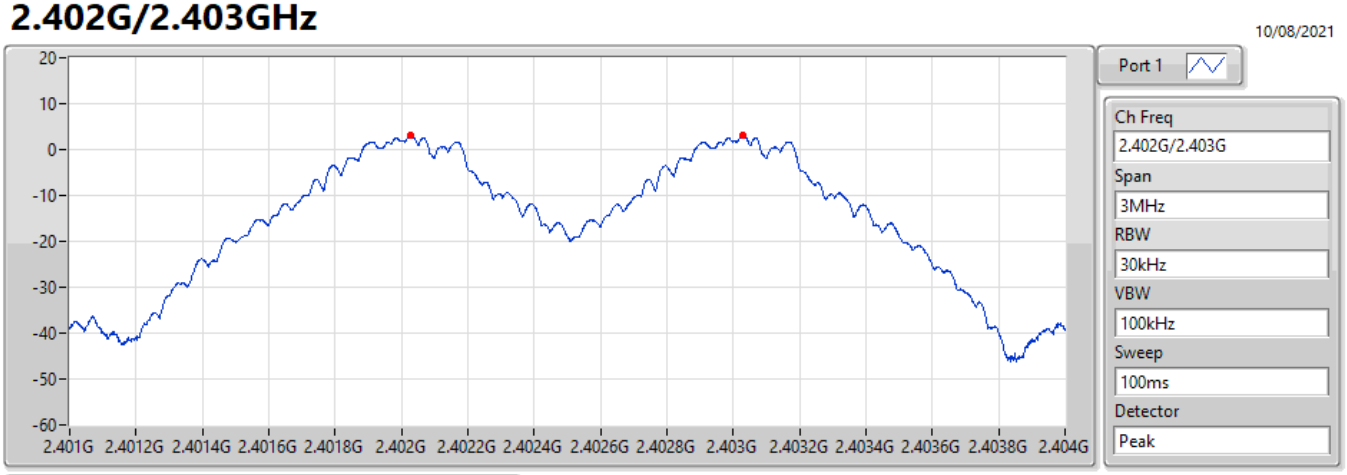
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.002M	1.0005M
BT-EDR(2Mbps)	1.0005M	1.0005M
BT-EDR(3Mbps)	1.0005M	999k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402026G	2.403028G	1.002M	586.9125k
2440MHz	Pass	2.440026G	2.441027G	1.0005M	586.9125k
2480MHz	Pass	2.479025G	2.480027G	1.002M	586.08k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402028G	2.403028G	1.0005M	872.46k
2440MHz	Pass	2.440026G	2.441027G	1.0005M	872.46k
2480MHz	Pass	2.479026G	2.480027G	1.0005M	872.46k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402026G	2.403025G	999k	851.814k
2440MHz	Pass	2.440026G	2.441027G	1.0005M	851.148k
2480MHz	Pass	2.479028G	2.480027G	999k	851.148k

BT-BR(1Mbps) **Channel Separation-FS**

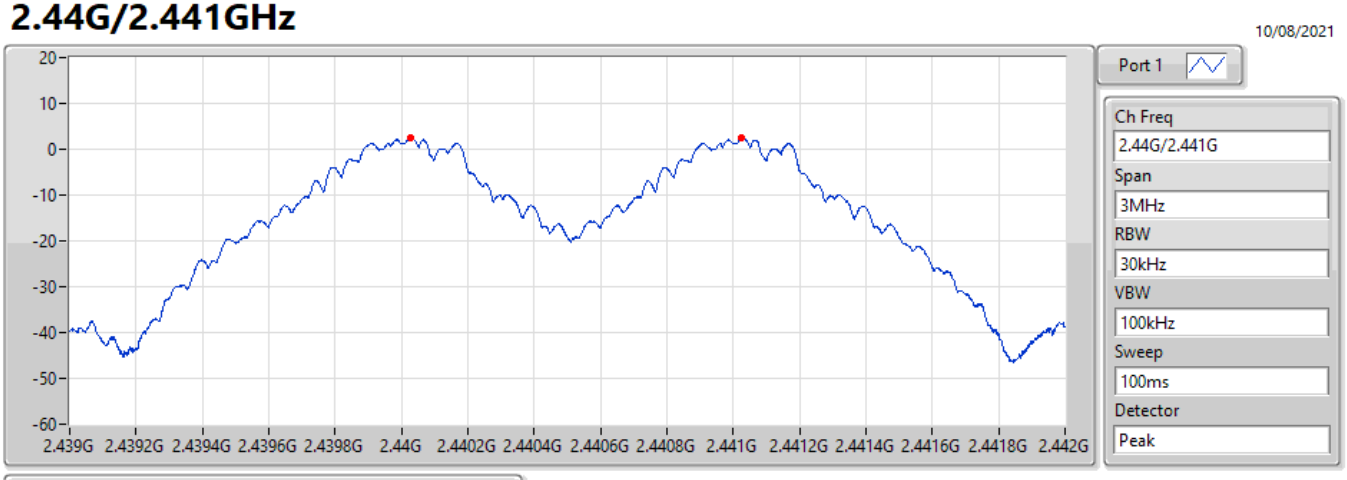
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402026G	2.403028G	1.002M	586.9125k

BT-BR(1Mbps) **Channel Separation-FS**

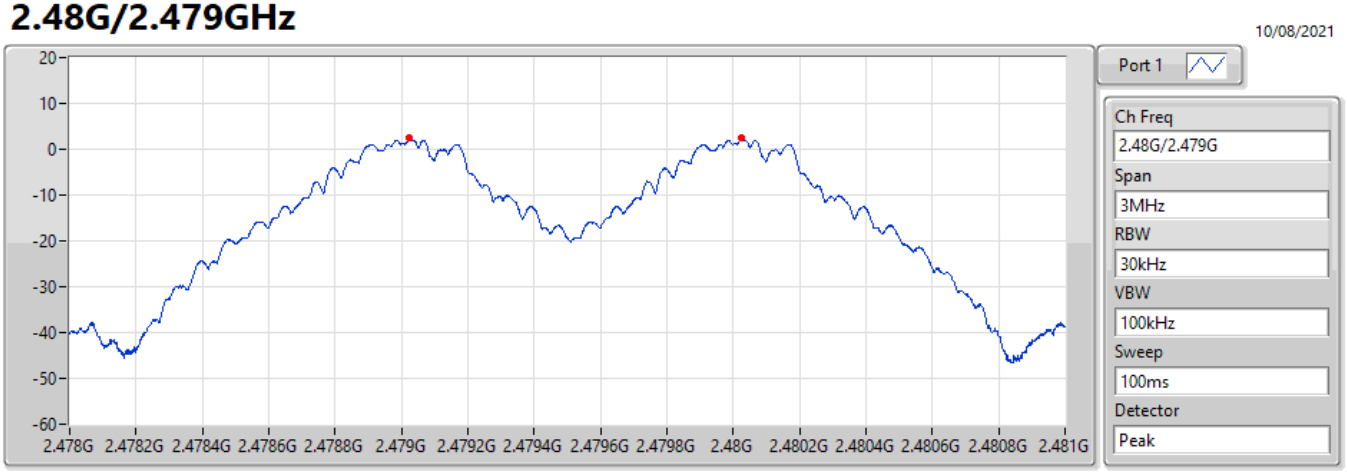
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440026G	2.441027G	1.0005M	586.9125k

BT-BR(1Mbps) Channel Separation-FS

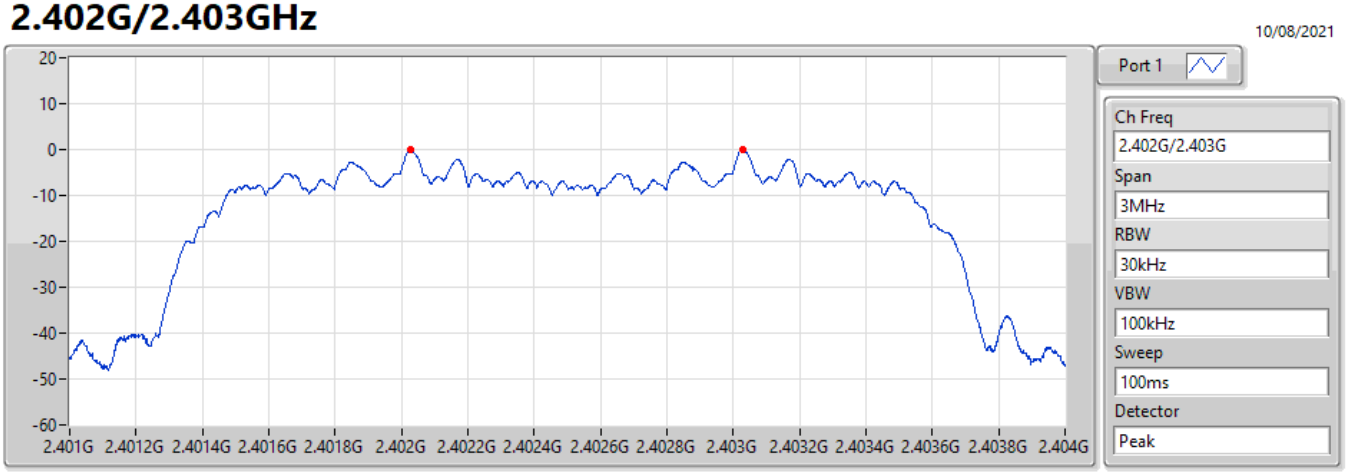
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479025G	2.480027G	1.002M	586.08k

BT-EDR(2Mbps) Channel Separation-FS

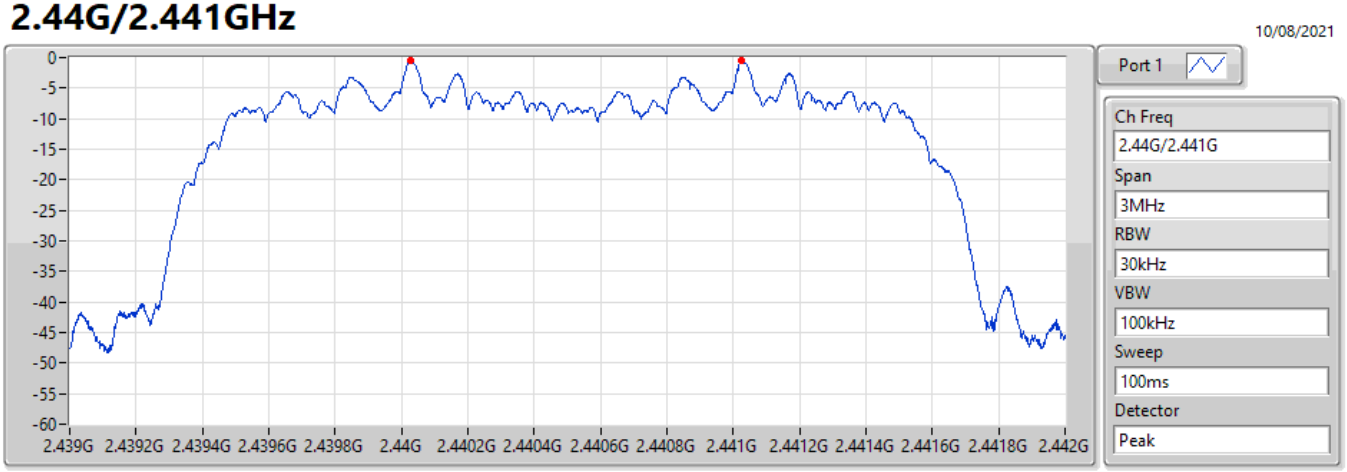
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402028G	2.403028G	1.0005M	872.46k

BT-EDR(2Mbps) Channel Separation-FS

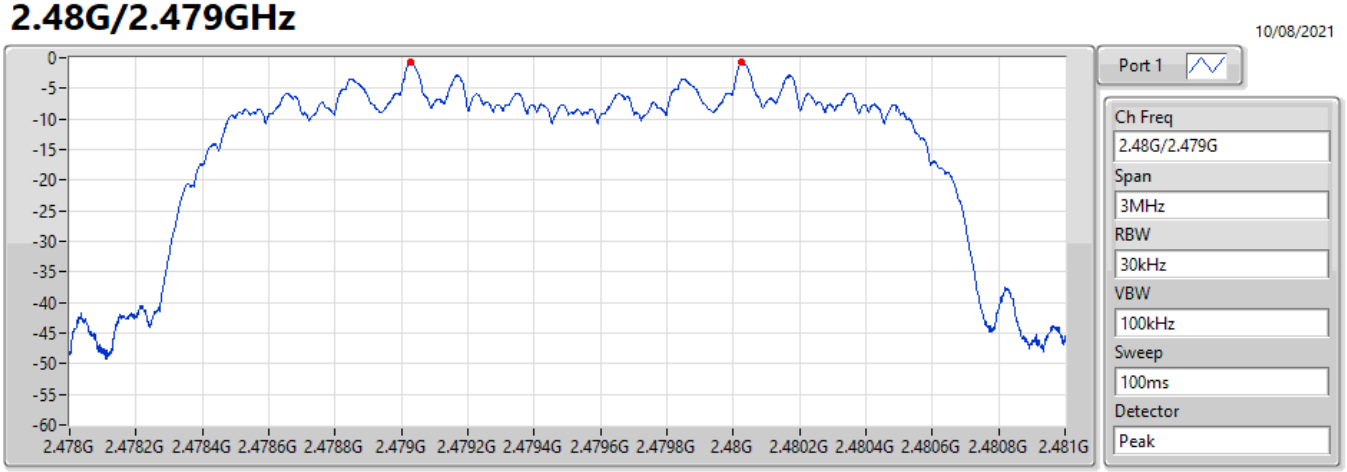
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440026G	2.441027G	1.0005M	872.46k

BT-EDR(2Mbps) Channel Separation-FS

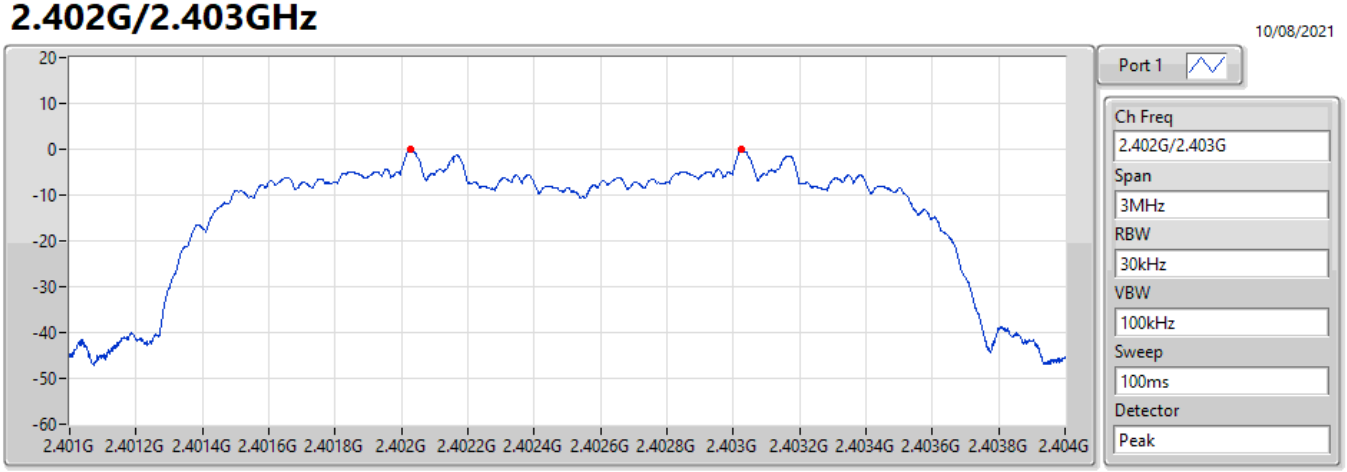
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479026G	2.480027G	1.0005M	872.46k

BT-EDR(3Mbps) Channel Separation-FS

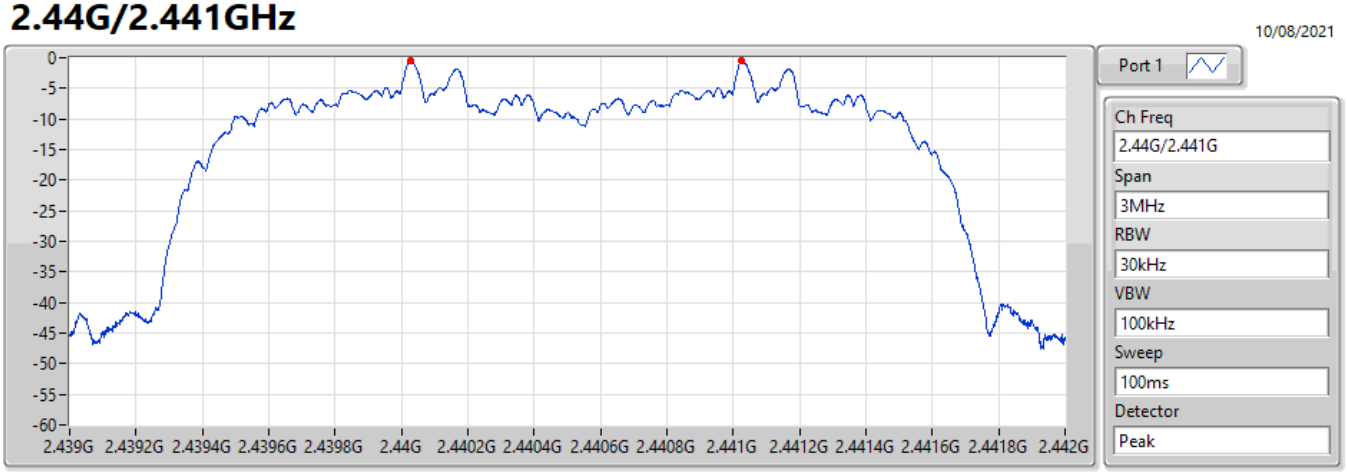
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402026G	2.403025G	999k	851.814k

BT-EDR(3Mbps) Channel Separation-FS

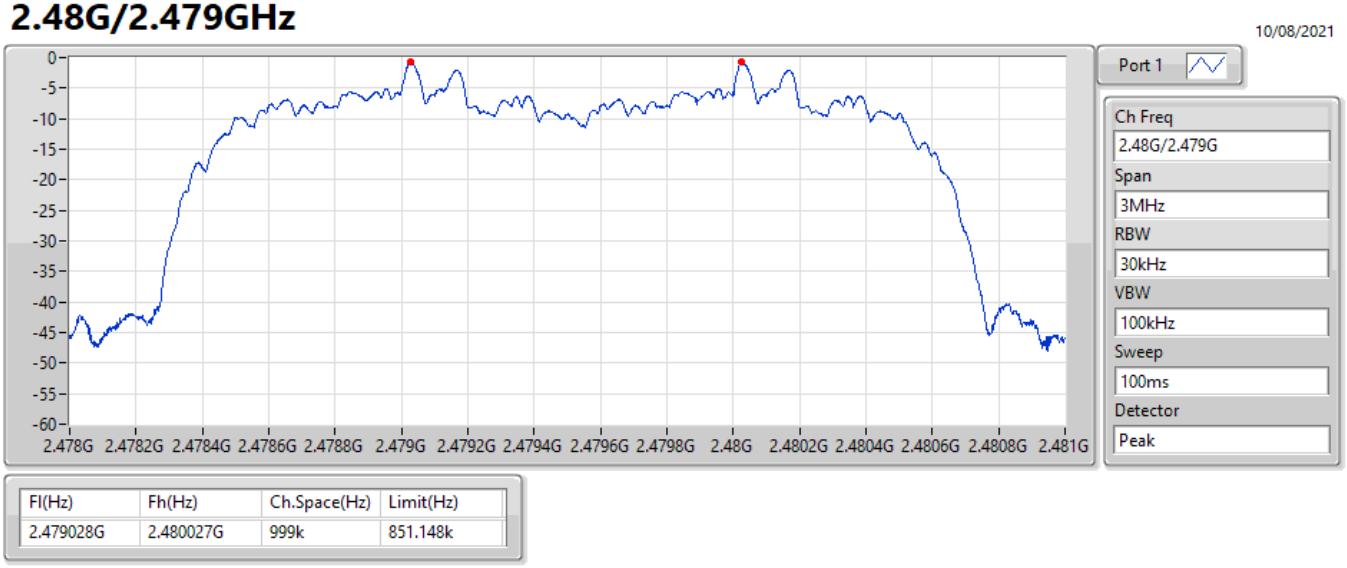
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440026G	2.441027G	1.0005M	851.148k

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

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479028G	2.480027G	999k	851.148k

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	5.68	0.00370
BT-EDR(2Mbps)	4.29	0.00269
BT-EDR(3Mbps)	4.43	0.00277

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	5.30	5.68	21.00
2440MHz	Pass	5.30	5.27	21.00
2480MHz	Pass	5.30	5.01	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	5.30	4.29	21.00
2440MHz	Pass	5.30	3.97	21.00
2480MHz	Pass	5.30	3.74	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	5.30	4.43	21.00
2440MHz	Pass	5.30	4.05	21.00
2480MHz	Pass	5.30	3.98	21.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	5.46	0.00352
BT-EDR(2Mbps)	2.04	0.00160
BT-EDR(3Mbps)	2.07	0.00161

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	5.30	5.46	21.00
2440MHz	Pass	5.30	5.05	21.00
2480MHz	Pass	5.30	4.78	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	5.30	2.04	21.00
2440MHz	Pass	5.30	1.63	21.00
2480MHz	Pass	5.30	1.36	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	5.30	2.07	21.00
2440MHz	Pass	5.30	1.66	21.00
2480MHz	Pass	5.30	1.39	21.00

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

Summary

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

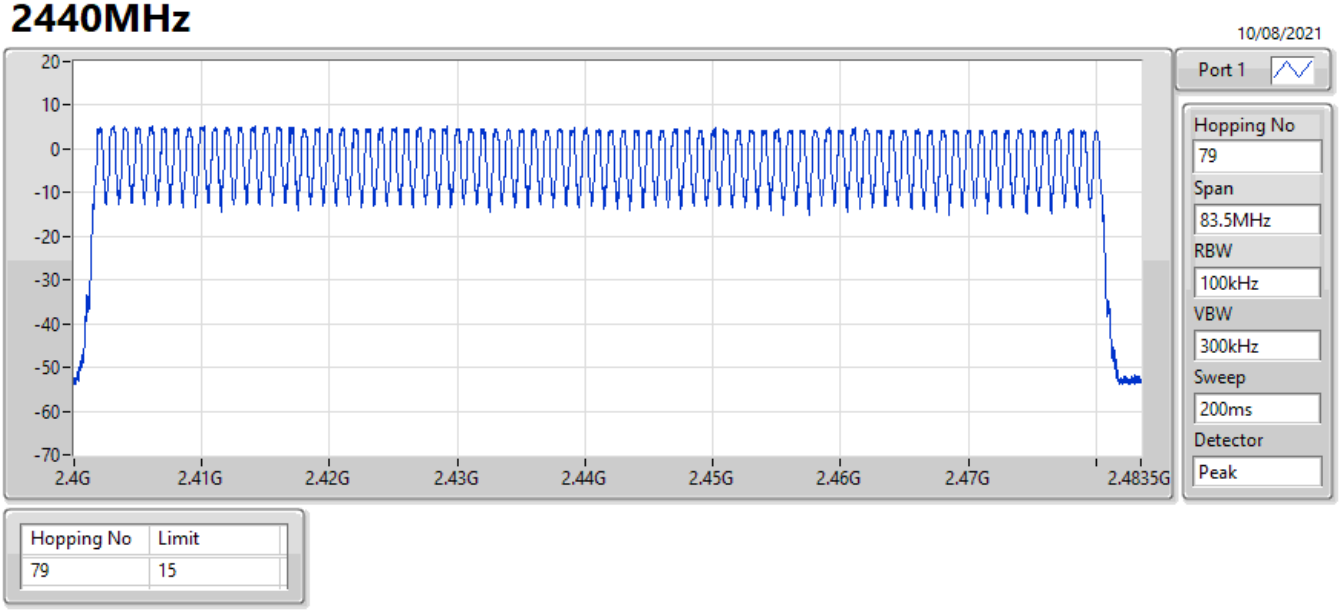
Result

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

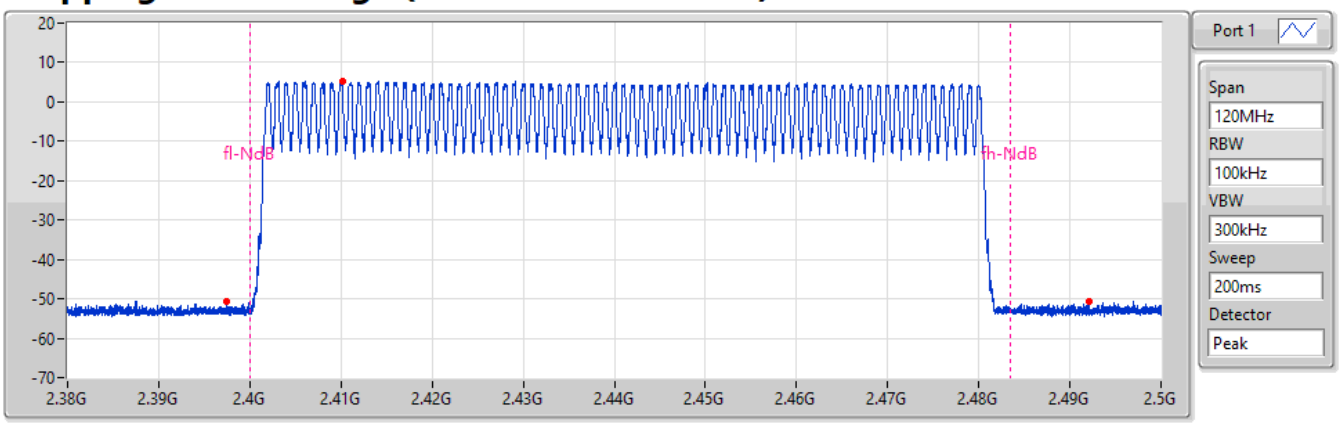


Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

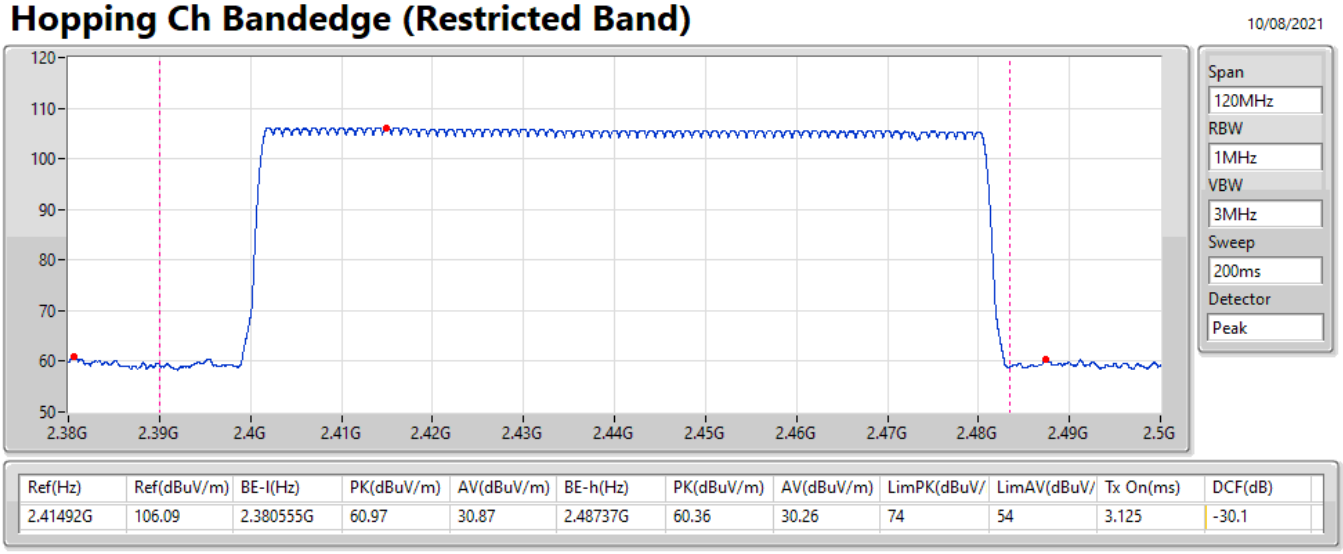


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-14.61	2.410165G	5.39	2.397505G	-50.64	2.49211G	-50.49

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

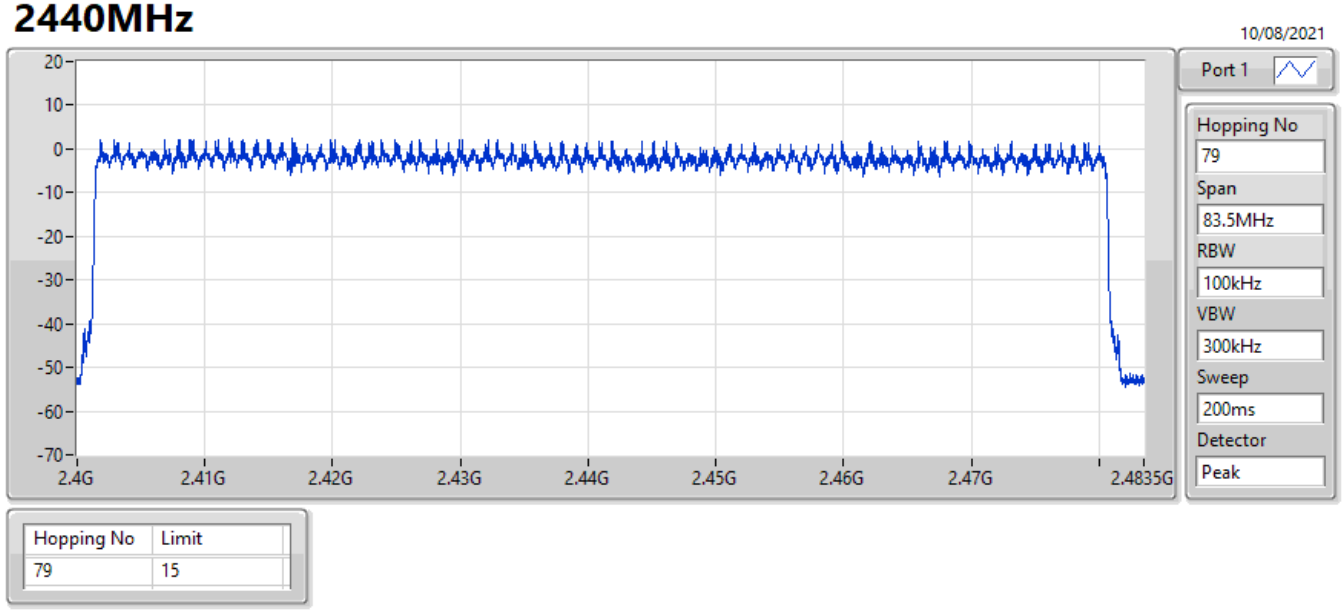


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.41492G	106.09	2.380555G	60.97	30.87	2.48737G	60.36	30.26	74	54	3.125	-30.1

BT-EDR(2Mbps)

Hopping-FS

2440MHz

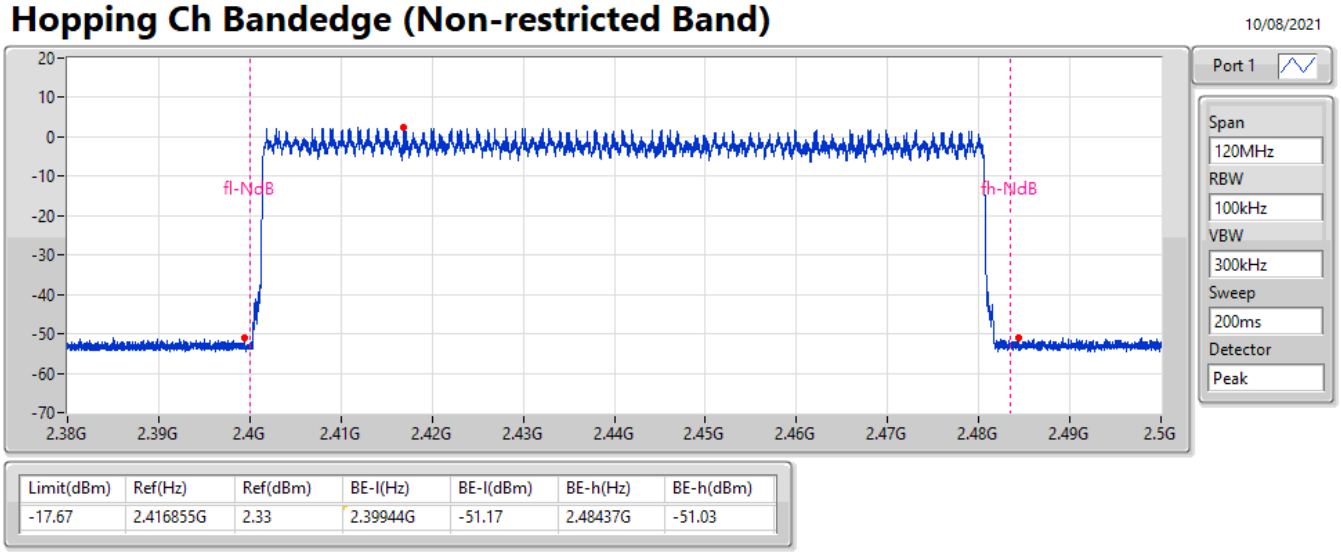


Hopping No	Limit
79	15

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

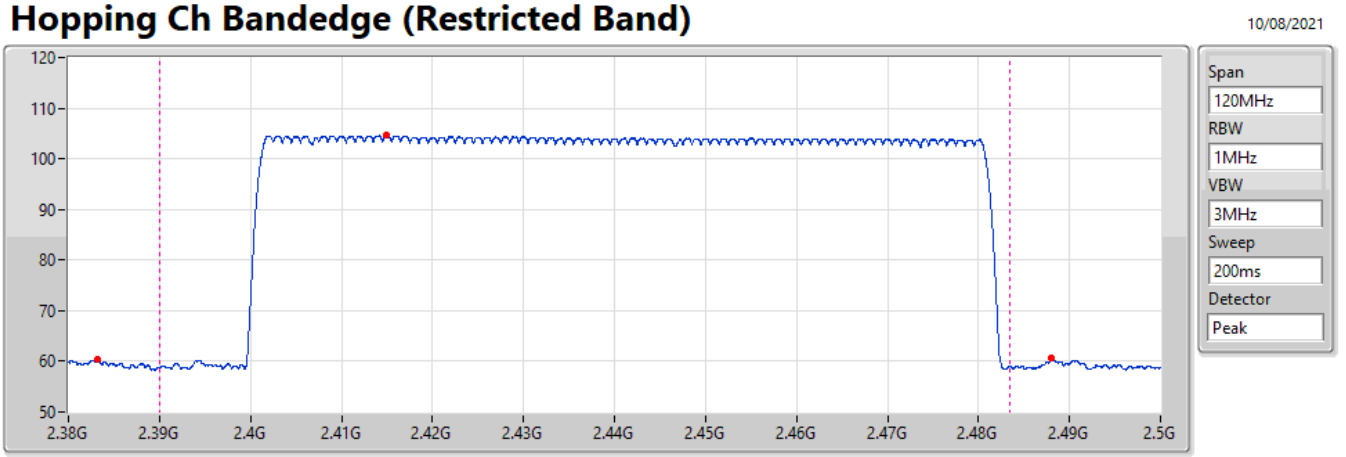


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-17.67	2.416855G	2.33	2.39944G	-51.17	2.48437G	-51.03

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

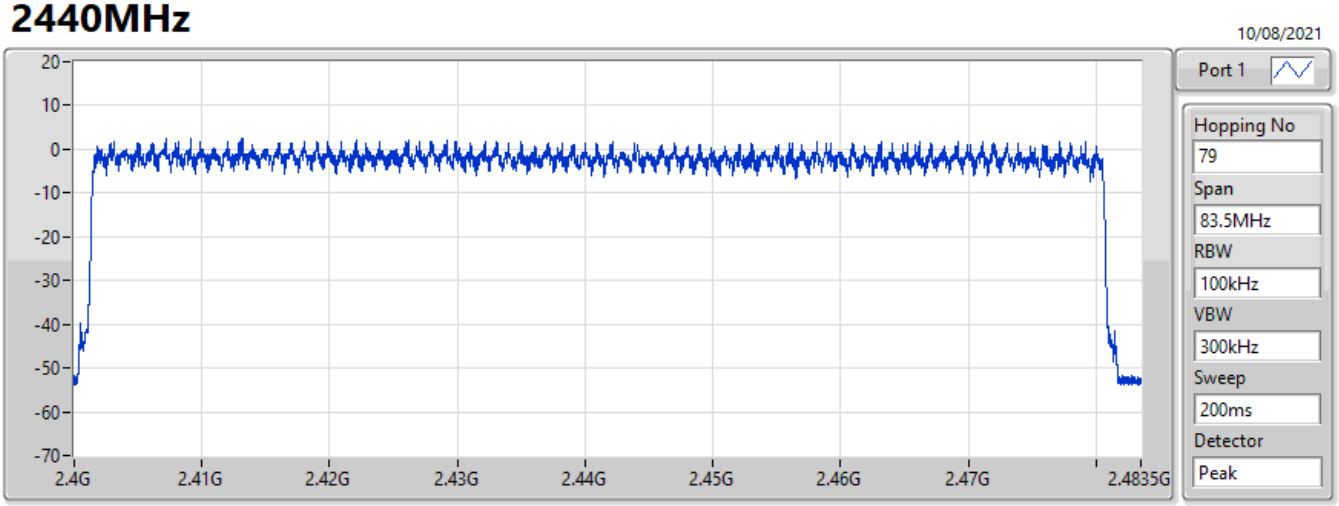


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.414875G	104.57	2.38318G	60.36	30.26	2.48806G	60.55	30.45	74	54	3.125	-30.1

BT-EDR(3Mbps)

2440MHz

Hopping-FS

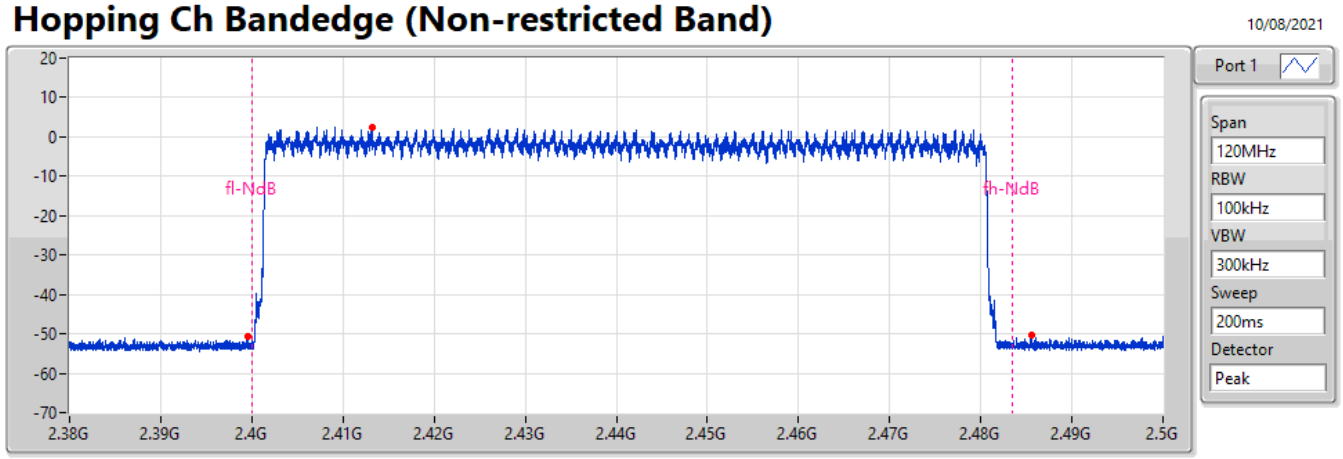


Hopping No	Limit
79	15

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

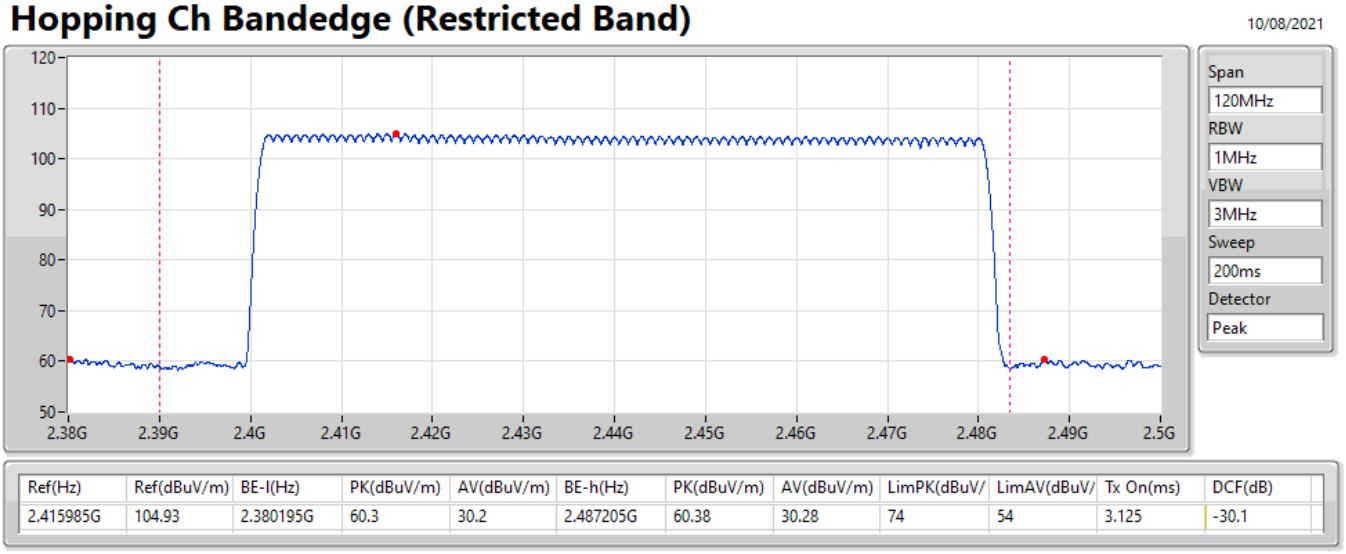


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-17.6	2.413165G	2.4	2.3995G	-50.81	2.485645G	-50.32

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)
2.415985G	104.93	2.380195G	60.3	30.2	2.487205G	60.38	30.28	74	54	3.125	-30.1

Summary

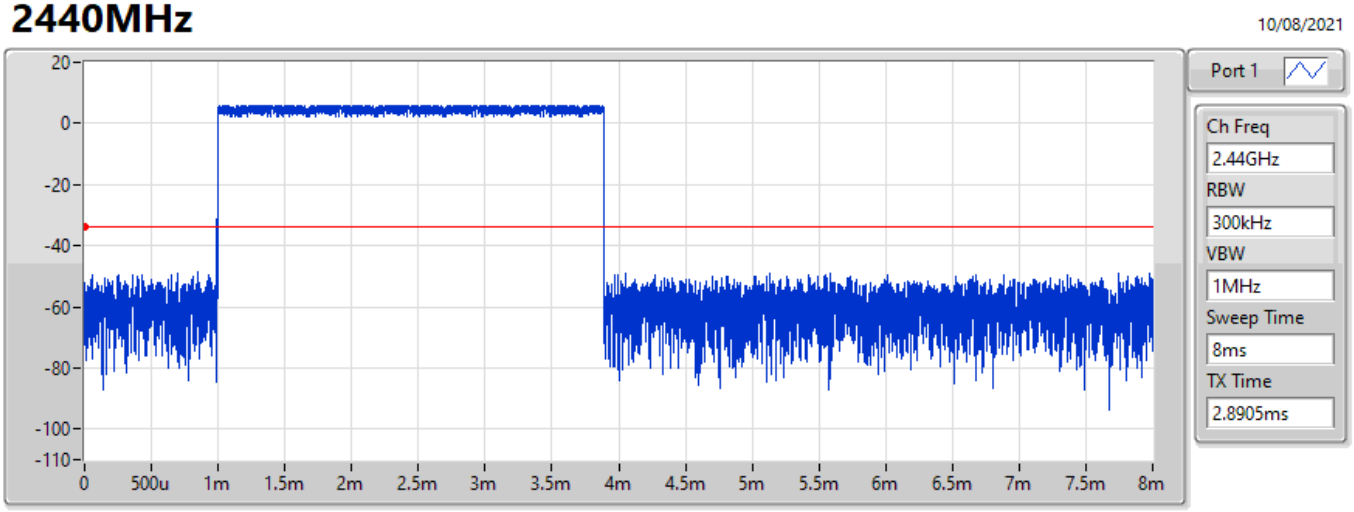
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.1273m_DH5
BT-EDR(2Mbps)	308.2339m_DH5
BT-EDR(3Mbps)	308.4471m_DH5

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.1273m_DH5	400m	2.8905m
2440MHz	Pass	8	154.023675m_DH5-AFH	400m	2.88975m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.2339m_DH5	400m	2.8915m
2440MHz	Pass	8	154.130275m_DH5-AFH	400m	2.89175m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.4471m_DH5	400m	2.8935m
2440MHz	Pass	8	81.695575m_DH5-AFH	400m	1.53275m

BT-BR(1Mbps) Dwell-FS

2440MHz

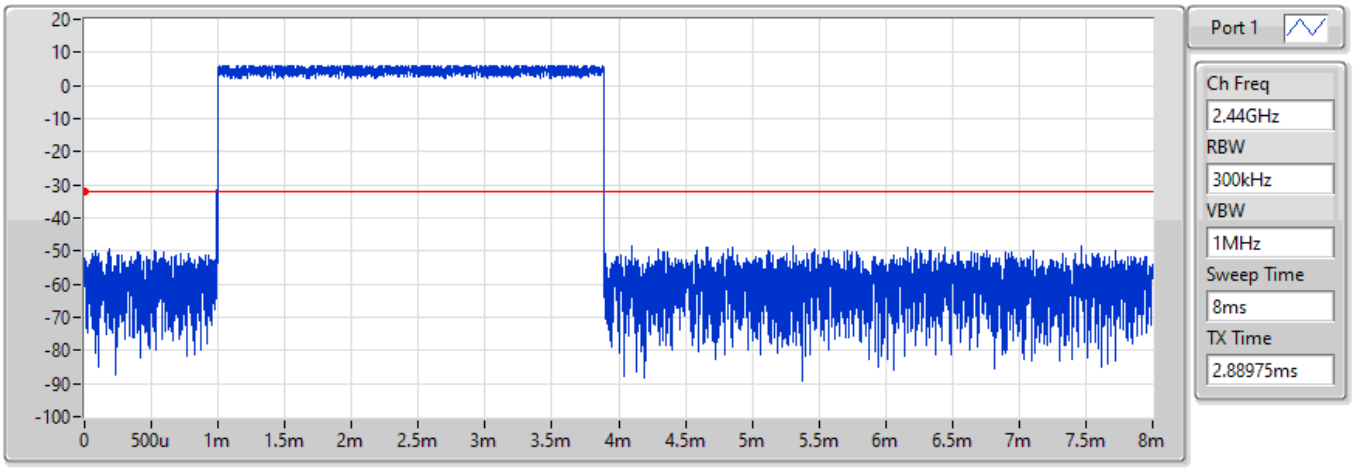


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.1273m_DH5	400m	2.8905m

DH5

BT-BR(1Mbps) Dwell-FS

2440MHz

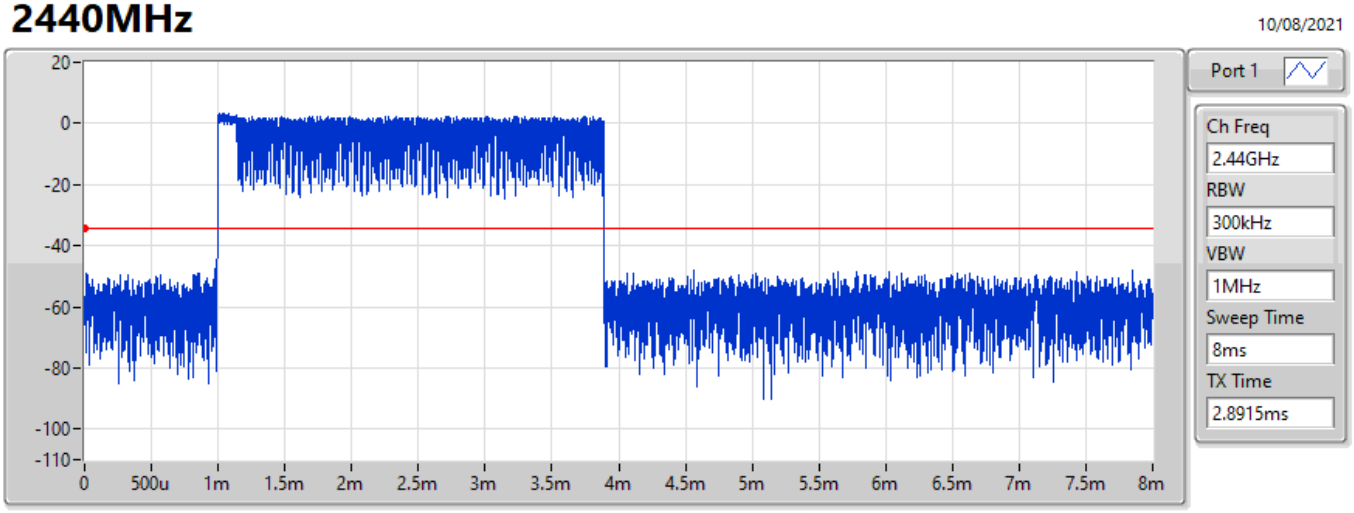


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.023675m_DH5-AFI	400m	2.88975m

DH5-AFH

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

2440MHz

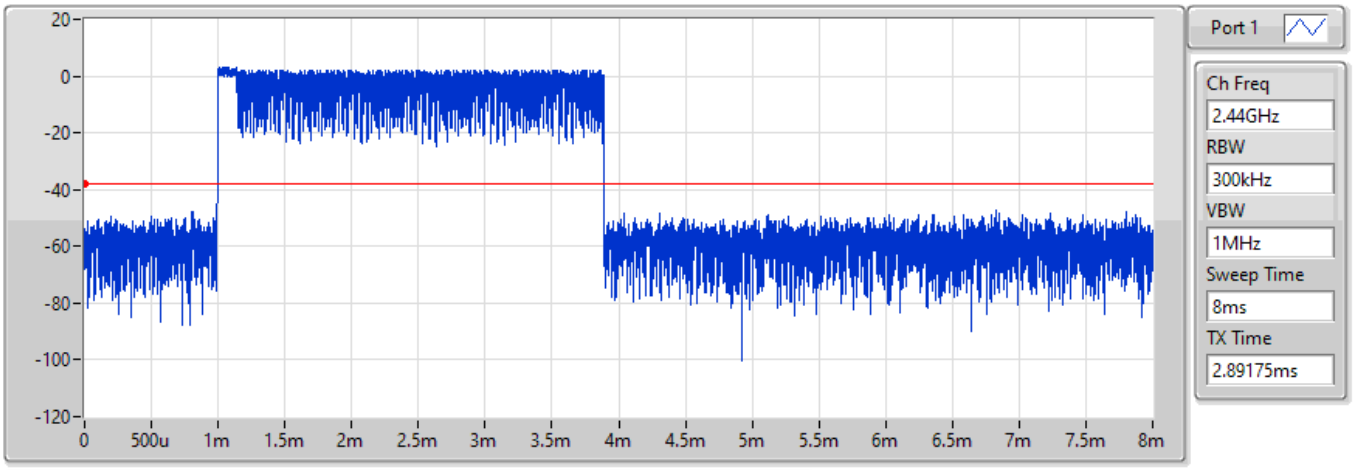


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.2339m_DH5	400m	2.8915m

DH5

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

2440MHz

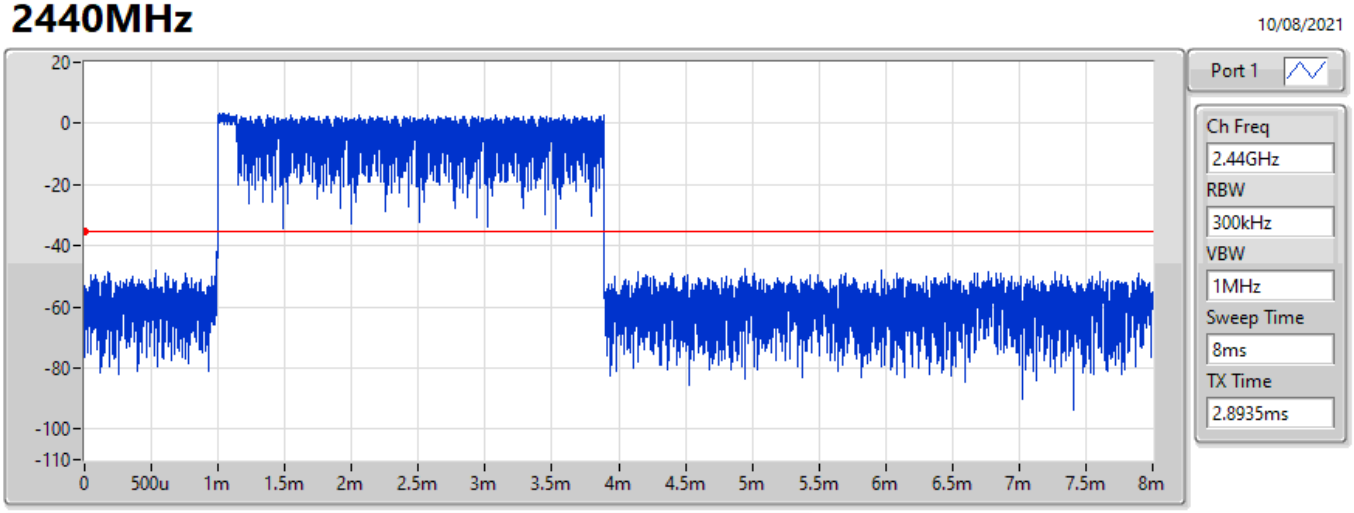


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.130275m_DH5-AFI	400m	2.89175m

DH5-AFH

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

2440MHz

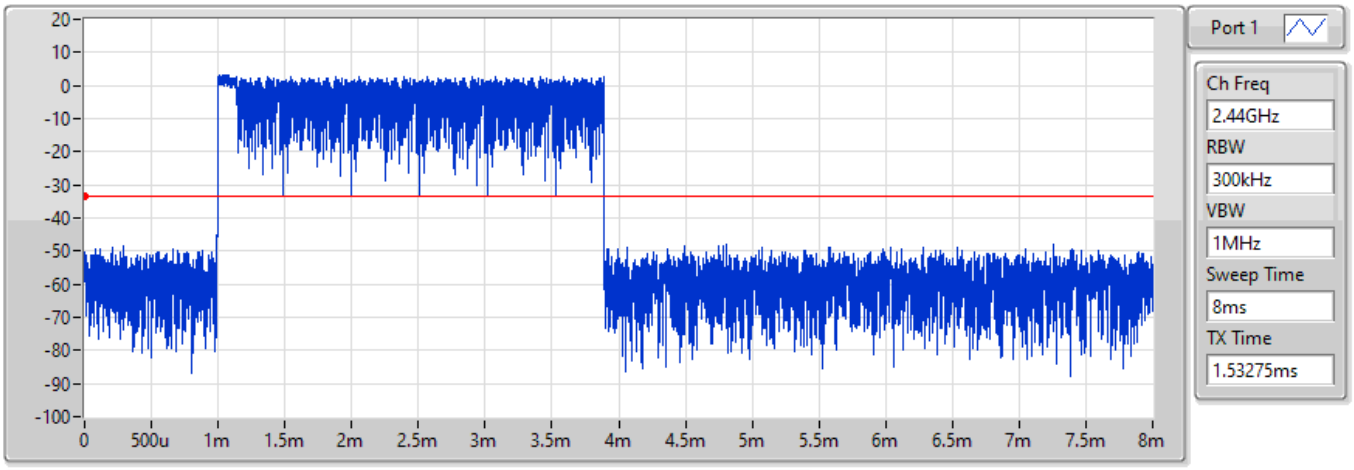


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.4471m_DH5	400m	2.8935m

DH5

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

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	81.695575m_DH5-AFH	400m	1.53275m

DH5-AFH

Summary

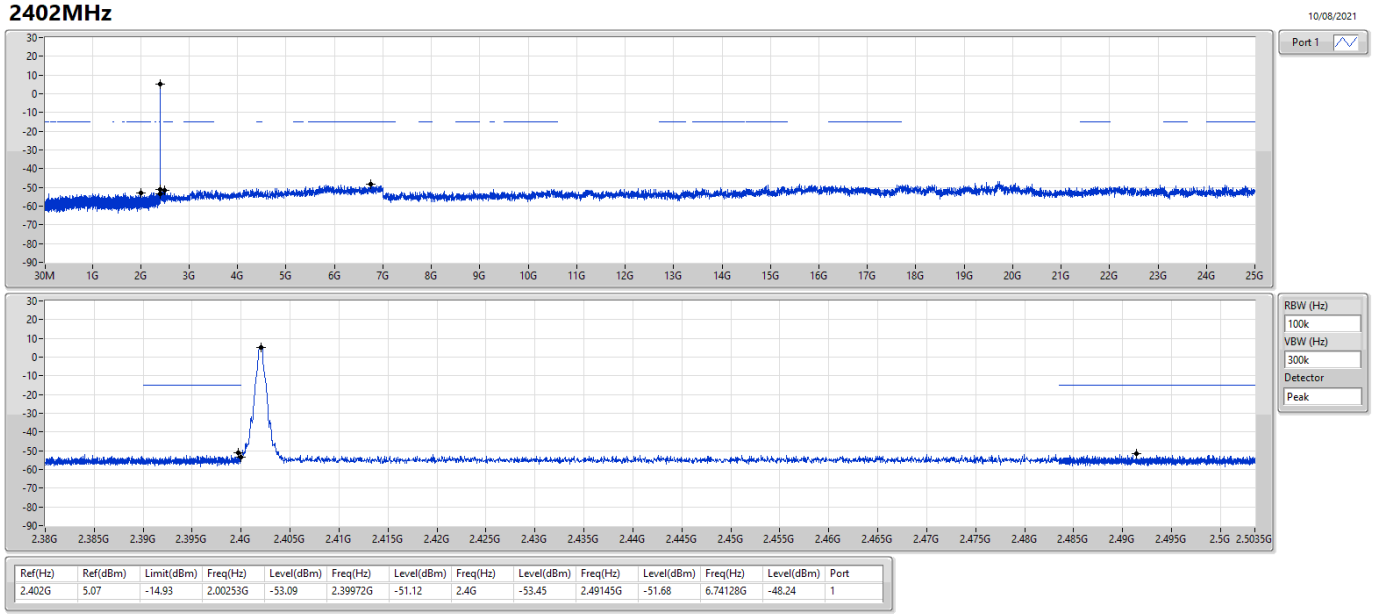
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.43987G	4.48	-15.52	2.12591G	-53.30	2.39575G	-51.44	2.4835G	-55.45	2.50206G	-51.31	17.69707G	-47.06	1
BT-EDR(2Mbps)	Pass	2.48016G	1.48	-18.52	287.91M	-52.01	2.39693G	-52.57	2.4G	-54.17	2.49289G	-51.07	15.2084G	-47.58	1
BT-EDR(3Mbps)	Pass	2.47999G	0.47	-19.53	714.14M	-52.52	2.39274G	-51.28	2.4835G	-55.21	2.48451G	-51.71	5.77112G	-47.35	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	5.07	-14.93	2.00253G	-53.09	2.39972G	-51.12	2.4G	-53.45	2.49145G	-51.68	6.74128G	-48.24	1
2440MHz	Pass	2.43987G	4.48	-15.52	2.12591G	-53.30	2.39575G	-51.44	2.4835G	-55.45	2.50206G	-51.31	17.69707G	-47.06	1
2480MHz	Pass	2.48003G	4.15	-15.85	2.19024G	-53.17	2.39529G	-52.43	2.4835G	-54.23	2.48864G	-51.73	15.24214G	-47.65	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	2.25	-17.75	287.91M	-52.37	2.39877G	-51.81	2.4G	-53.79	2.50052G	-51.86	5.87516G	-47.78	1
2440MHz	Pass	2.43983G	1.63	-18.37	2.16292G	-53.10	2.39097G	-52.02	2.4835G	-54.15	2.48427G	-51.75	5.9314G	-46.53	1
2480MHz	Pass	2.48016G	1.48	-18.52	287.91M	-52.01	2.39693G	-52.57	2.4G	-54.17	2.49289G	-51.07	15.2084G	-47.58	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40213G	2.36	-17.64	2.19494G	-52.64	2.39647G	-52.37	2.4G	-54.83	2.4969G	-52.43	14.8597G	-48.35	1
2440MHz	Pass	2.44012G	1.13	-18.87	913.6M	-52.75	2.39611G	-52.50	2.4G	-53.63	2.49766G	-51.47	17.60146G	-46.80	1
2480MHz	Pass	2.47999G	0.47	-19.53	714.14M	-52.52	2.39274G	-51.28	2.4835G	-55.21	2.48451G	-51.71	5.77112G	-47.35	1

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

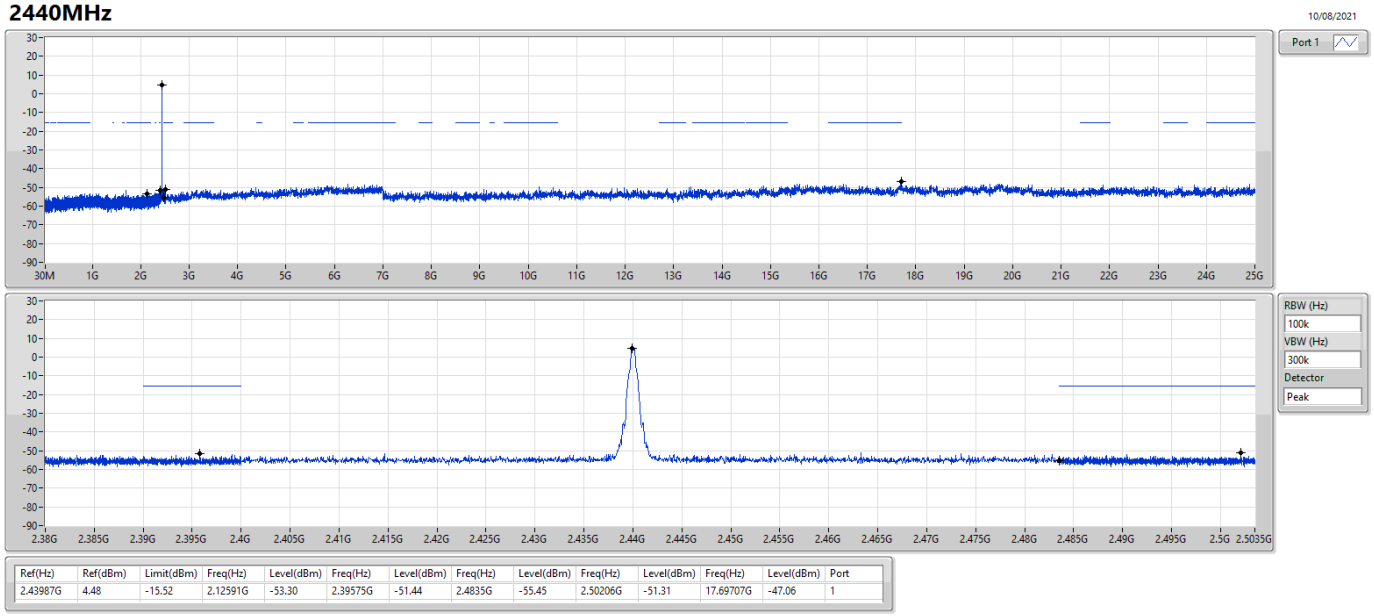
2402MHz



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	5.07	-14.93	2.00253G	-53.09	2.39972G	-51.12	2.4G	-53.45	2.49145G	-51.68	6.74128G	-48.24	1

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

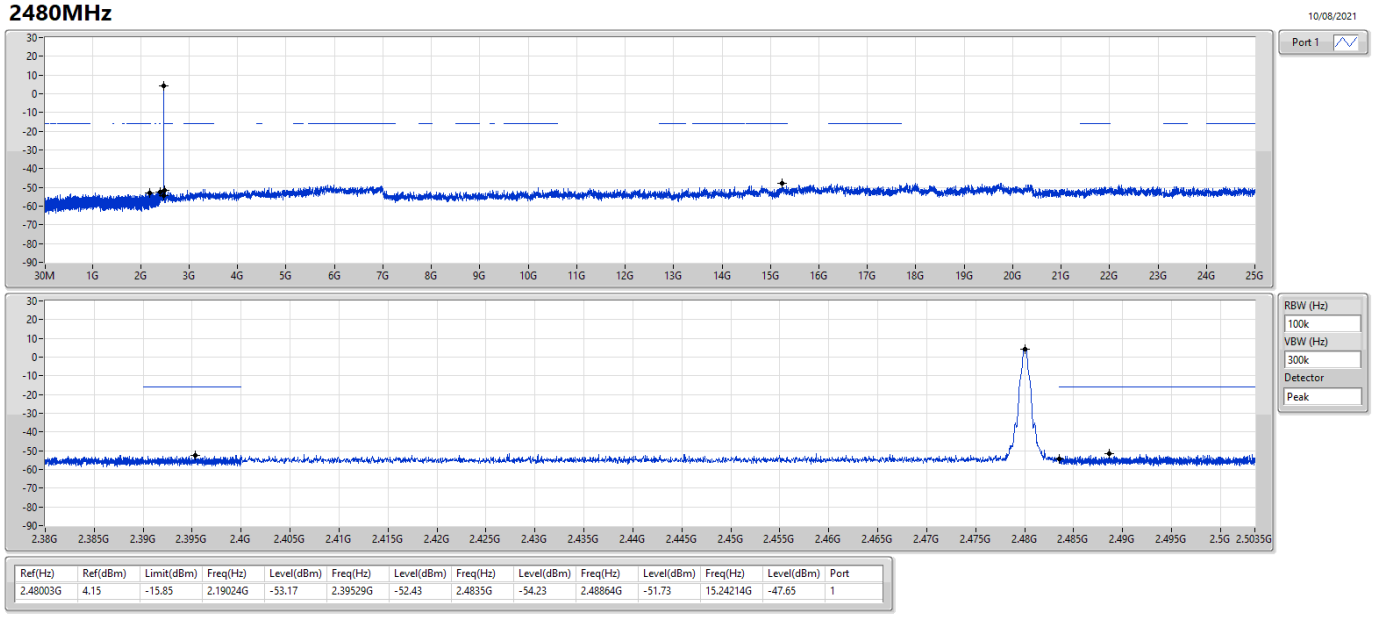
2440MHz



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
2.43987G	4.48	-15.52	2.12591G	-53.30	2.39575G	-51.44	2.4835G	-55.45	2.50206G	-51.31	17.69707G	-47.06	1

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

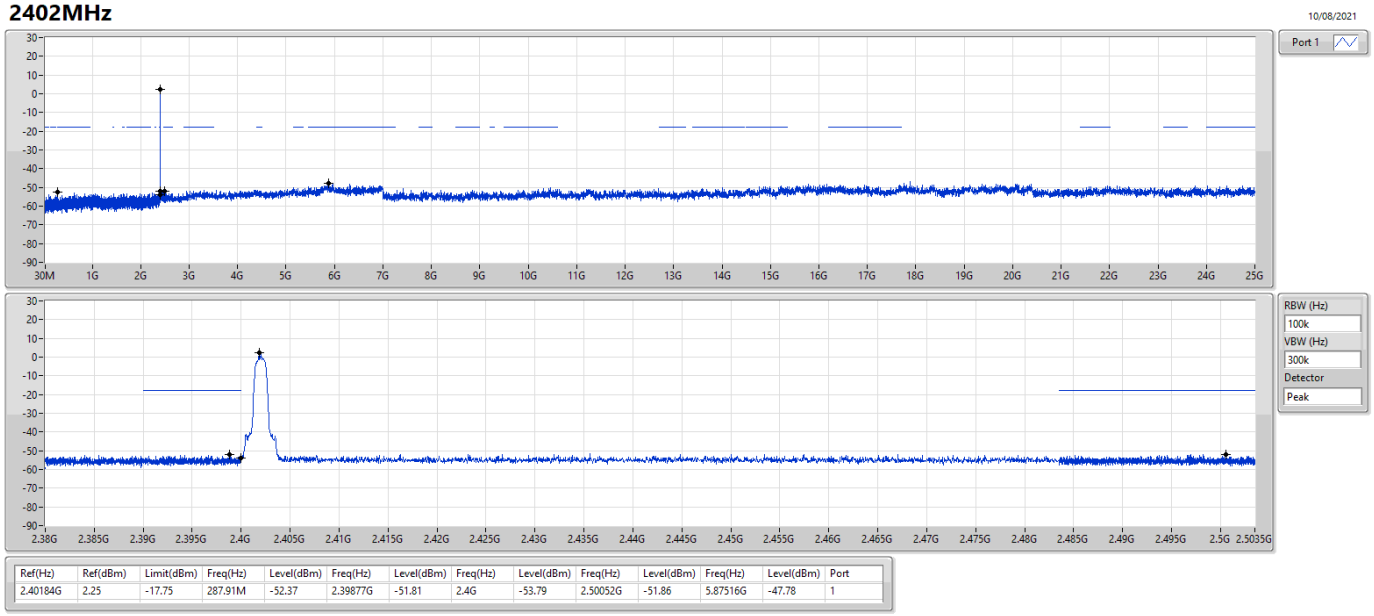
2480MHz



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
2.48003G	4.15	-15.85	2.19024G	-53.17	2.39529G	-52.43	2.4835G	-54.23	2.48864G	-51.73	15.24214G	-47.65	1

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

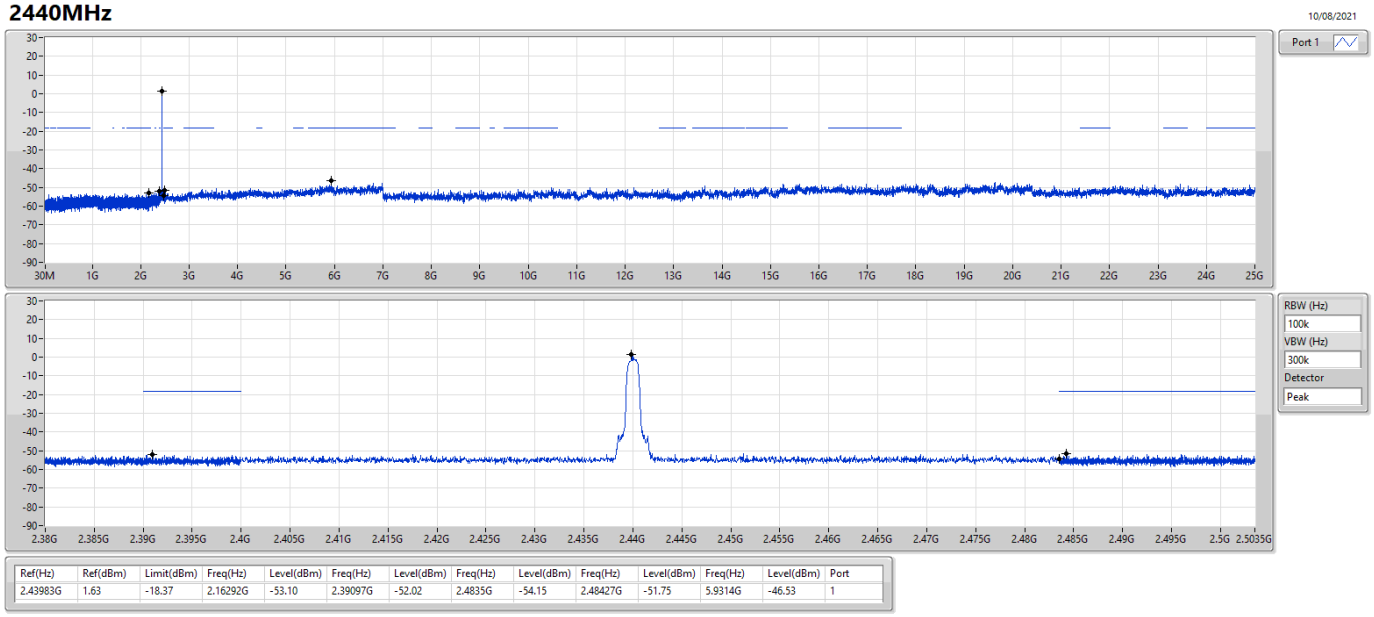
2402MHz



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
2.40184G	2.25	-17.75	287.91M	-52.37	2.39877G	-51.81	2.4G	-53.79	2.50052G	-51.86	5.87516G	-47.78	1

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

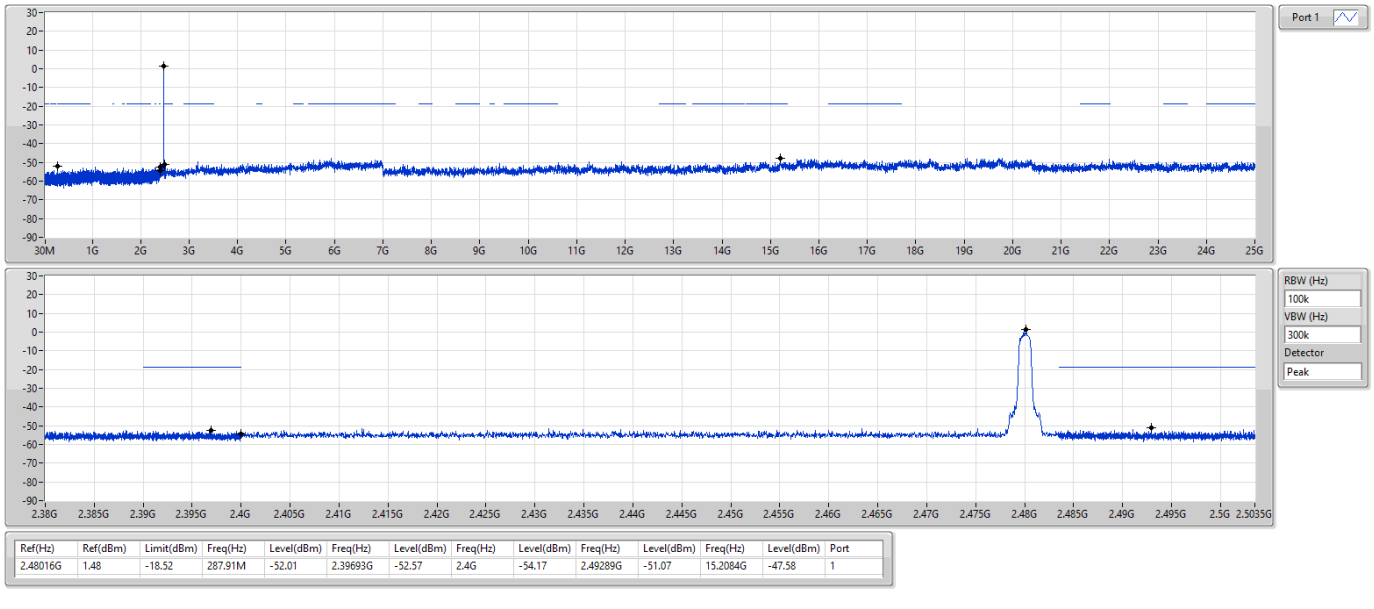
2440MHz



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	1.63	-18.37	2.16292G	-53.10	2.39097G	-52.02	2.4835G	-54.15	2.48427G	-51.75	5.9314G	-46.53	1

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

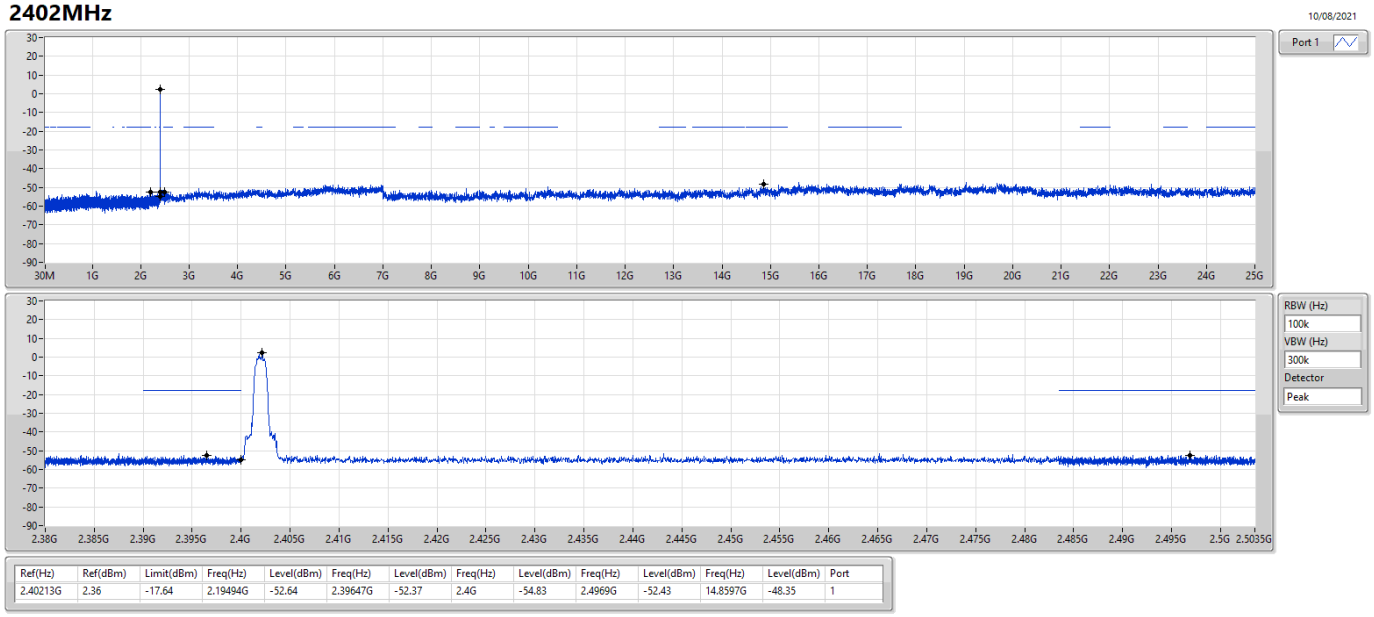
2480MHz



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
2.48016G	1.48	-18.52	287.91M	-52.01	2.39693G	-52.57	2.4G	-54.17	2.49289G	-51.07	15.2084G	-47.58	1

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

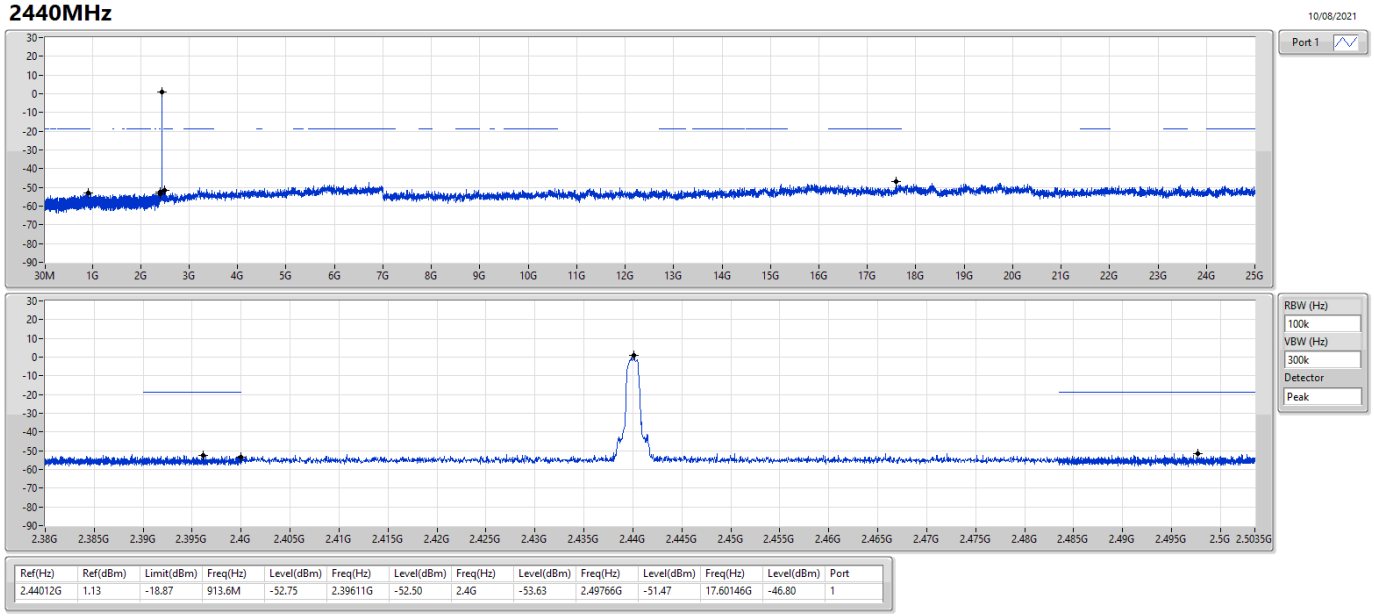
2402MHz



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	2.36	-17.64	2.19494G	-52.64	2.39647G	-52.37	2.4G	-54.83	2.4969G	-52.43	14.8597G	-48.35	1

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

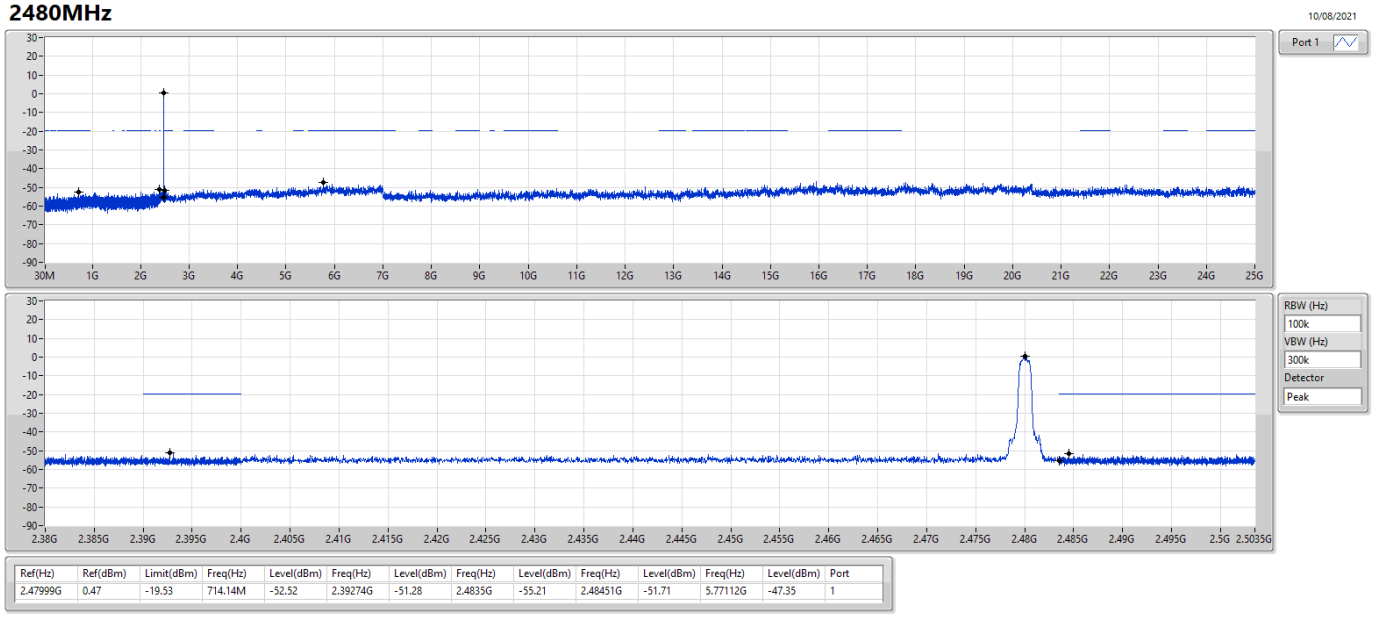
2440MHz



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
2.44012G	1.13	-18.87	913.6M	-52.75	2.39611G	-52.50	2.4G	-53.63	2.49766G	-51.47	17.60146G	-46.80	1

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

2480MHz

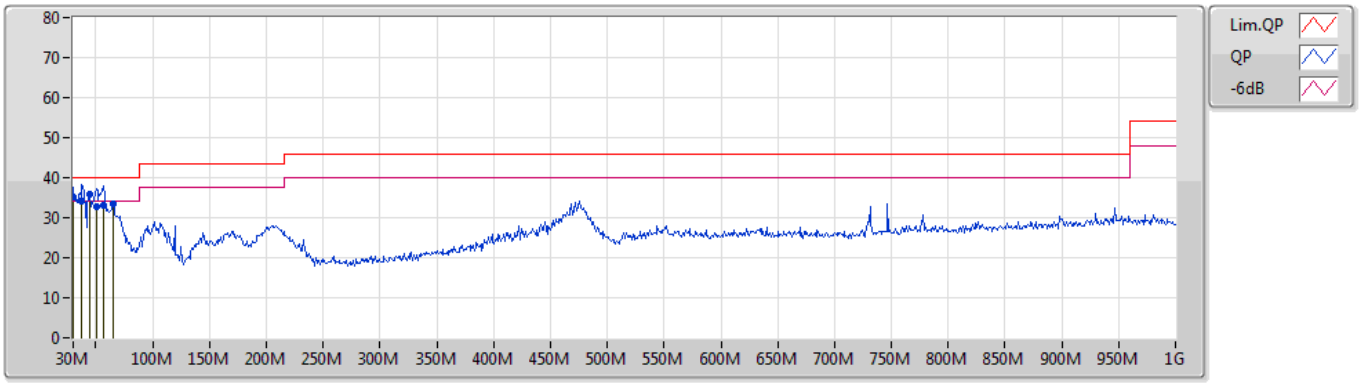


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47999G	0.47	-19.53	714.14M	-52.52	2.39274G	-51.28	2.4835G	-55.21	2.48451G	-51.71	5.77112G	-47.35	1

Summary

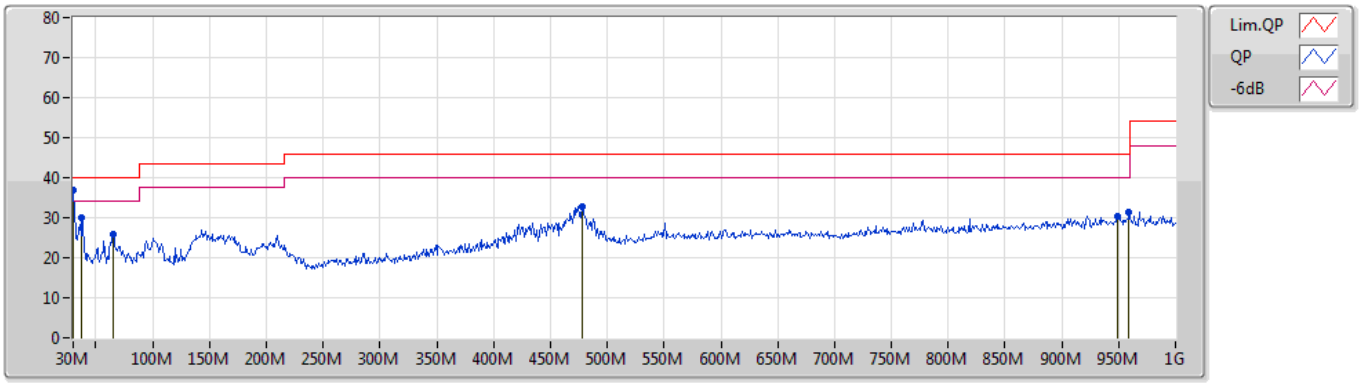
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 2	Pass	PK	30M	36.99	40.00	-3.01	Horizontal

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
QP	30M	35.31	40.00	-4.69	-4.21	3	Vertical	209	2.00	-	39.52	23.67	0.61	28.49
QP	37.76M	34.00	40.00	-6.00	-7.46	3	Vertical	271	1.25	-	41.46	20.29	0.73	28.48
PK	44.55M	35.69	40.00	-4.31	-10.84	3	Vertical	10	1.00	"Worst"	46.53	16.87	0.77	28.48
QP	50.37M	32.65	40.00	-7.35	-13.75	3	Vertical	4	1.00	-	46.40	13.91	0.83	28.49
QP	57.16M	33.01	40.00	-6.99	-15.31	3	Vertical	352	1.25	-	48.32	12.28	0.90	28.49
PK	64.92M	33.45	40.00	-6.55	-15.56	3	Vertical	99	1.25	-	49.01	11.97	0.95	28.48

Mode 2



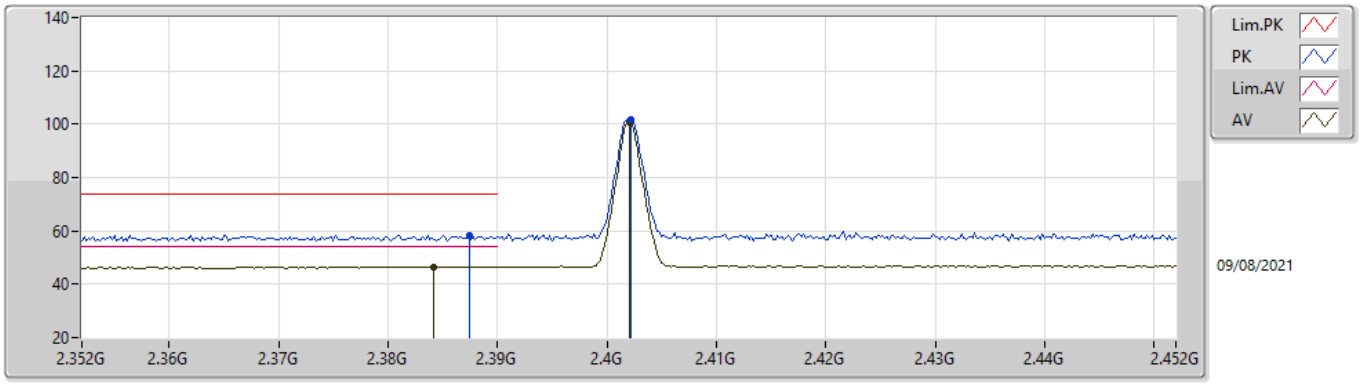
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	30M	36.99	40.00	-3.01	-4.21	3	Horizontal	322	2.00	"Worst"	41.20	23.67	0.61	28.49
PK	37.76M	30.01	40.00	-9.99	-7.46	3	Horizontal	291	1.25	-	37.47	20.29	0.73	28.48
PK	64.92M	25.86	40.00	-14.14	-15.56	3	Horizontal	261	2.00	-	41.42	11.97	0.95	28.48
PK	478.14M	32.69	46.00	-13.31	-3.79	3	Horizontal	142	1.00	-	36.48	22.65	2.66	29.10
PK	948.59M	30.40	46.00	-15.60	1.20	3	Horizontal	7	1.00	-	29.20	25.91	3.85	28.56
PK	959.26M	31.22	46.00	-14.78	1.28	3	Horizontal	360	1.00	-	29.94	25.94	3.87	28.53

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	46.98	54.00	-7.02	3	Vertical	26	2.43	-

BT-BR(1Mbps)

2402MHz_TX

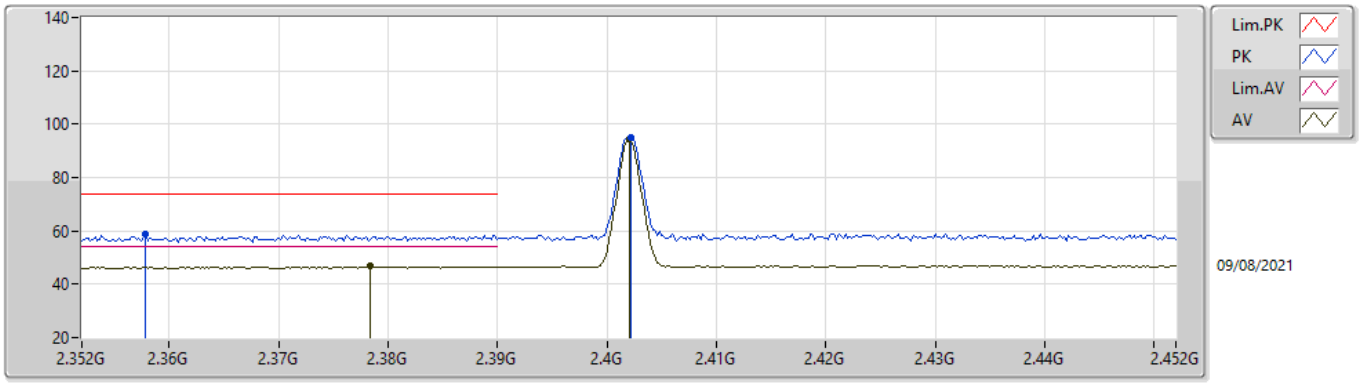


EUT Z_1TX
Setting 7
02-B-G-2

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	2.3874G	58.39	74.00	-15.61	27.61	3	Vertical	19	2.34	-	28.37	2.41	-
AV	2.3842G	46.54	54.00	-7.46	15.76	3	Vertical	19	2.34	-	28.37	2.41	-
PK	2.4022G	101.74	Inf	-Inf	70.94	3	Vertical	19	2.34	-	28.40	2.40	-
AV	2.402G	100.94	Inf	-Inf	70.14	3	Vertical	19	2.34	-	28.40	2.40	-

BT-BR(1Mbps)

2402MHz_TX

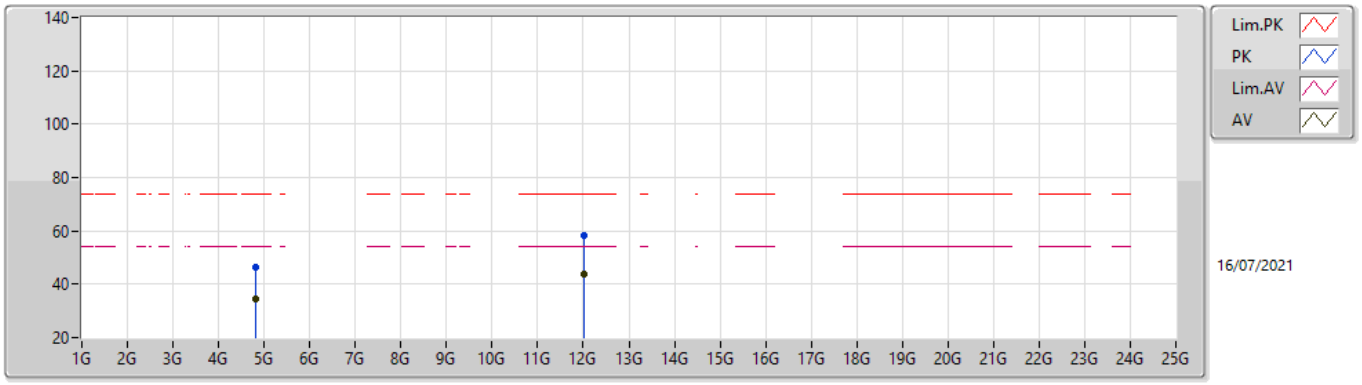


EUT Z_1TX
Setting 7
02-B-G-2

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	2.3578G	58.57	74.00	-15.43	27.83	3	Horizontal	48	2.22	-	28.32	2.42	-
AV	2.3784G	46.67	54.00	-7.33	15.90	3	Horizontal	48	2.22	-	28.36	2.41	-
PK	2.4022G	95.14	Inf	-Inf	64.34	3	Horizontal	48	2.22	-	28.40	2.40	-
AV	2.402G	94.25	Inf	-Inf	63.45	3	Horizontal	48	2.22	-	28.40	2.40	-

BT-BR(1Mbps)

2402MHz_TX

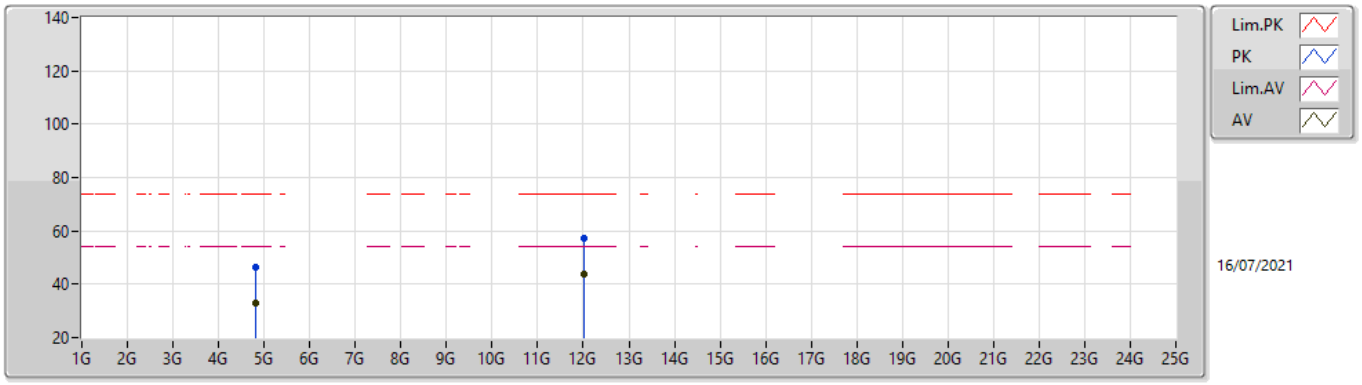


EUT Z_1TX
Setting 7
04-C-K-4

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	4.80393G	46.29	74.00	-27.71	41.73	3	Vertical	331	1.59	-	32.42	5.40	33.26
AV	4.804G	34.28	54.00	-19.72	29.72	3	Vertical	331	1.59	-	32.42	5.40	33.26
PK	12.01056G	58.18	74.00	-15.82	44.72	3	Vertical	56	1.80	-	38.80	9.61	34.95
AV	12.00932G	43.80	54.00	-10.20	30.35	3	Vertical	56	1.80	-	38.80	9.60	34.95

BT-BR(1Mbps)

2402MHz_TX

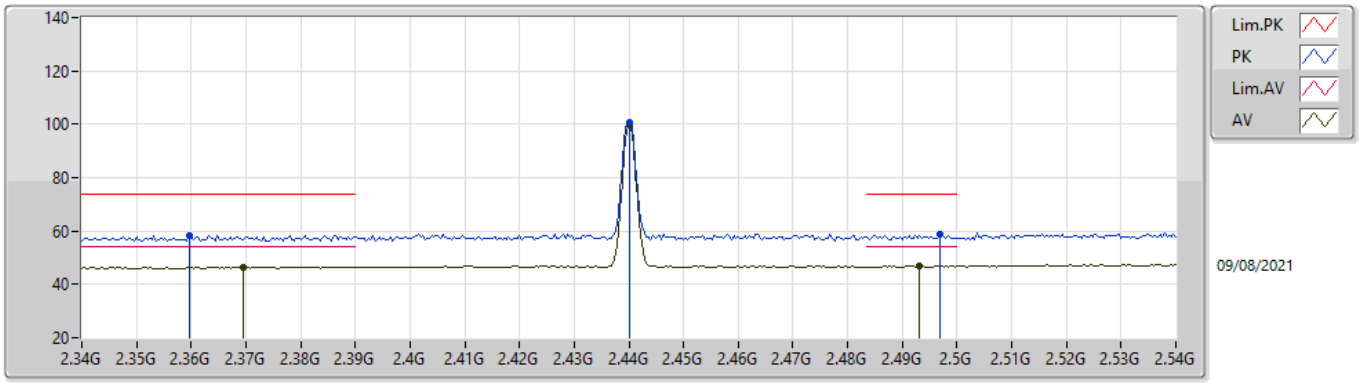


EUT Z_1TX
Setting 7
04-C-K-4

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	4.80321G	46.26	74.00	-27.74	41.70	3	Horizontal	234	2.88	-	32.42	5.40	33.26
AV	4.80415G	33.00	54.00	-21.00	28.44	3	Horizontal	234	2.88	-	32.42	5.40	33.26
PK	12.0075G	57.36	74.00	-16.64	43.91	3	Horizontal	230	1.80	-	38.80	9.60	34.95
AV	12.00917G	43.97	54.00	-10.03	30.52	3	Horizontal	230	1.80	-	38.80	9.60	34.95

BT-BR(1Mbps)

2440MHz_TX

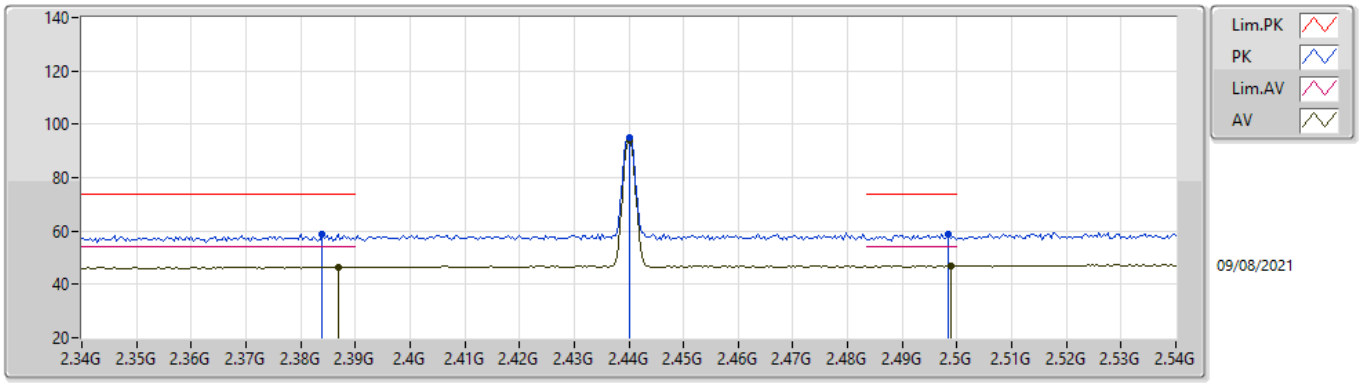


EUT Z_1TX
Setting 7
02-B-G-2

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	2.3596G	58.37	74.00	-15.63	27.63	3	Vertical	21	2.26	-	28.32	2.42	-
AV	2.3696G	46.52	54.00	-7.48	15.76	3	Vertical	21	2.26	-	28.34	2.42	-
PK	2.44G	100.63	Inf	-Inf	69.81	3	Vertical	21	2.26	-	28.40	2.42	-
AV	2.44G	99.77	Inf	-Inf	68.95	3	Vertical	21	2.26	-	28.40	2.42	-
PK	2.4968G	58.80	74.00	-15.20	27.76	3	Vertical	21	2.26	-	28.59	2.45	-
AV	2.4932G	46.81	54.00	-7.19	15.79	3	Vertical	21	2.26	-	28.57	2.45	-

BT-BR(1Mbps)

2440MHz_TX

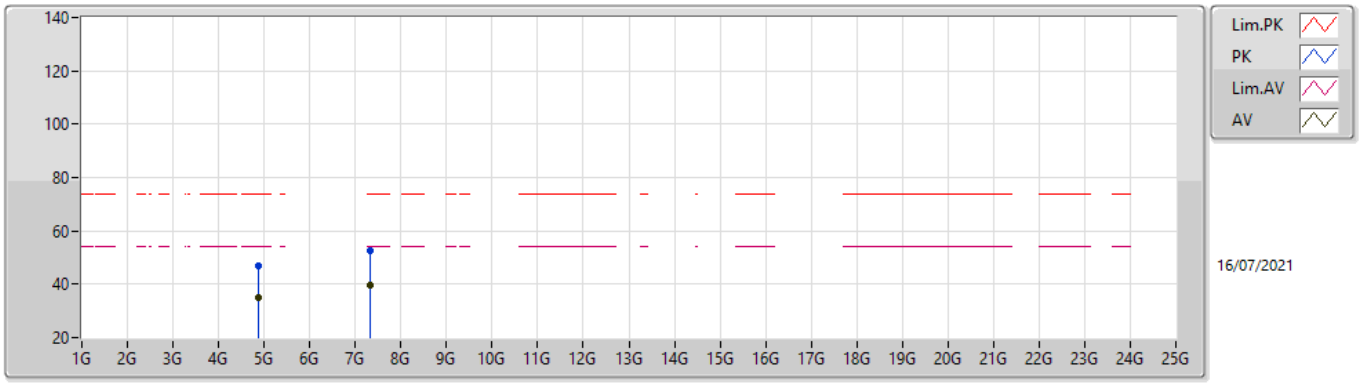


EUT Z_1TX
Setting 7
02-B-G-2

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	2.384G	59.00	74.00	-15.00	28.22	3	Horizontal	84	1.27	-	28.37	2.41	-
AV	2.3868G	46.62	54.00	-7.38	15.84	3	Horizontal	84	1.27	-	28.37	2.41	-
PK	2.44G	94.89	Inf	-Inf	64.07	3	Horizontal	84	1.27	-	28.40	2.42	-
AV	2.44G	94.04	Inf	-Inf	63.22	3	Horizontal	84	1.27	-	28.40	2.42	-
PK	2.4984G	59.04	74.00	-14.96	28.00	3	Horizontal	84	1.27	-	28.59	2.45	-
AV	2.4988G	46.87	54.00	-7.13	15.82	3	Horizontal	84	1.27	-	28.60	2.45	-

BT-BR(1Mbps)

2440MHz_TX

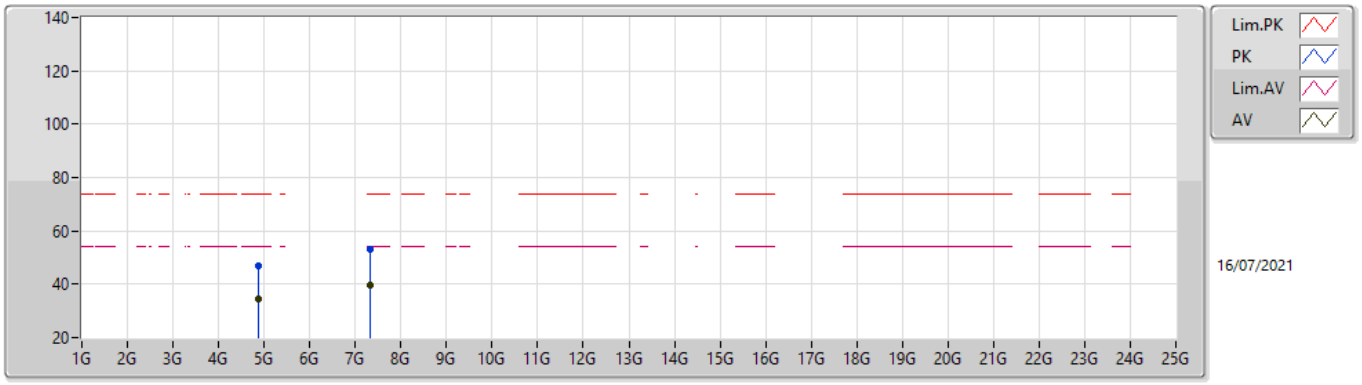


EUT Z_1TX
Setting 7
04-C-K-4

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	4.87995G	46.89	74.00	-27.11	41.91	3	Vertical	217	2.28	-	32.76	5.44	33.22
AV	4.88007G	34.93	54.00	-19.07	29.95	3	Vertical	217	2.28	-	32.76	5.44	33.22
PK	7.32302G	52.56	74.00	-21.44	41.98	3	Vertical	360	3.00	-	37.40	6.86	33.68
AV	7.32188G	39.60	54.00	-14.40	29.02	3	Vertical	360	3.00	-	37.40	6.86	33.68

BT-BR(1Mbps)

2440MHz_TX

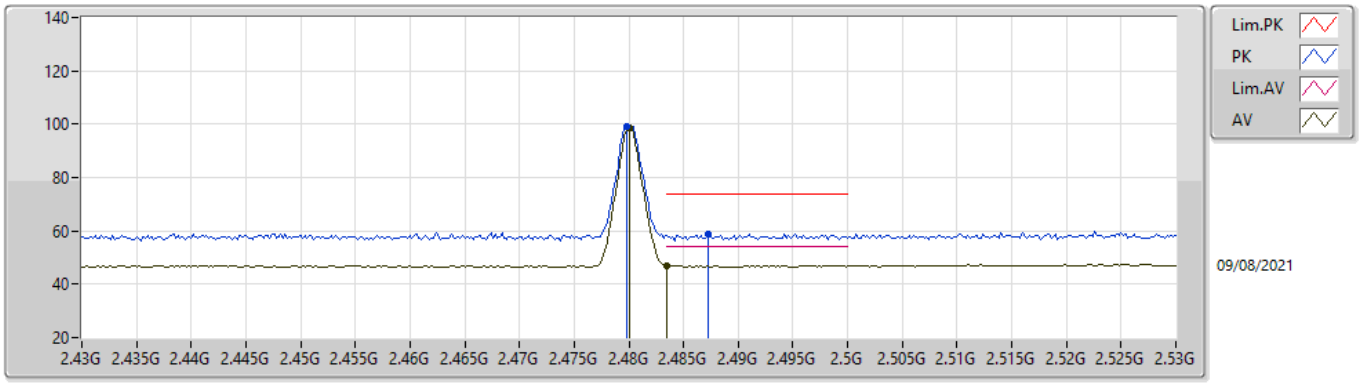


EUT Z_1TX
Setting 7
04-C-K-4

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	4.88008G	46.97	74.00	-27.03	41.99	3	Horizontal	84	2.65	-	32.76	5.44	33.22
AV	4.88008G	34.69	54.00	-19.31	29.71	3	Horizontal	84	2.65	-	32.76	5.44	33.22
PK	7.32552G	52.88	74.00	-21.12	42.30	3	Horizontal	280	1.80	-	37.40	6.86	33.68
AV	7.32888G	39.78	54.00	-14.22	29.20	3	Horizontal	280	1.80	-	37.40	6.86	33.68

BT-BR(1Mbps)

2480MHz_TX

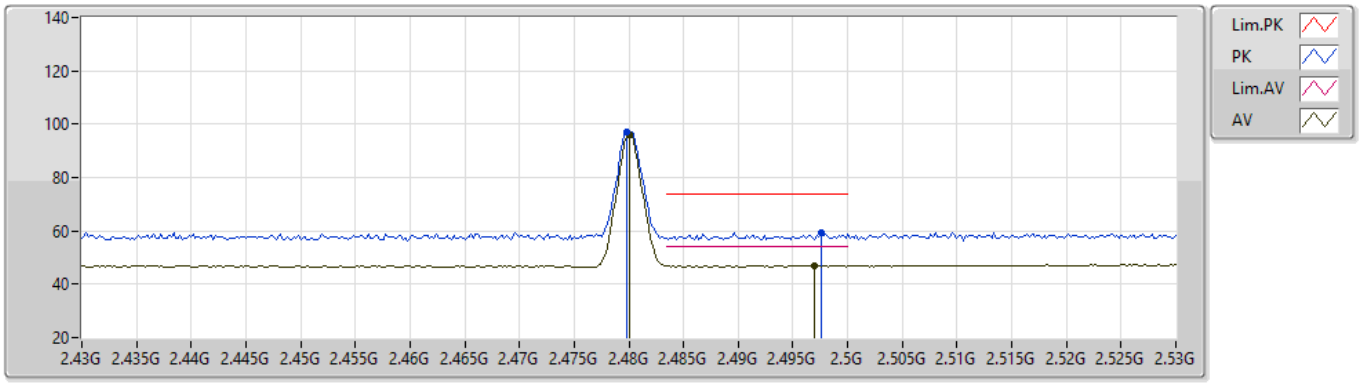


EUT Z_1TX
Setting 7
02-B-G-2

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	99.35	Inf	-Inf	68.39	3	Vertical	26	2.43	-	28.52	2.44	-
AV	2.48G	98.51	Inf	-Inf	67.55	3	Vertical	26	2.43	-	28.52	2.44	-
PK	2.4872G	58.77	74.00	-15.23	27.78	3	Vertical	26	2.43	-	28.55	2.44	-
AV	2.4835G	46.98	54.00	-7.02	16.01	3	Vertical	26	2.43	-	28.53	2.44	-

BT-BR(1Mbps)

2480MHz_TX

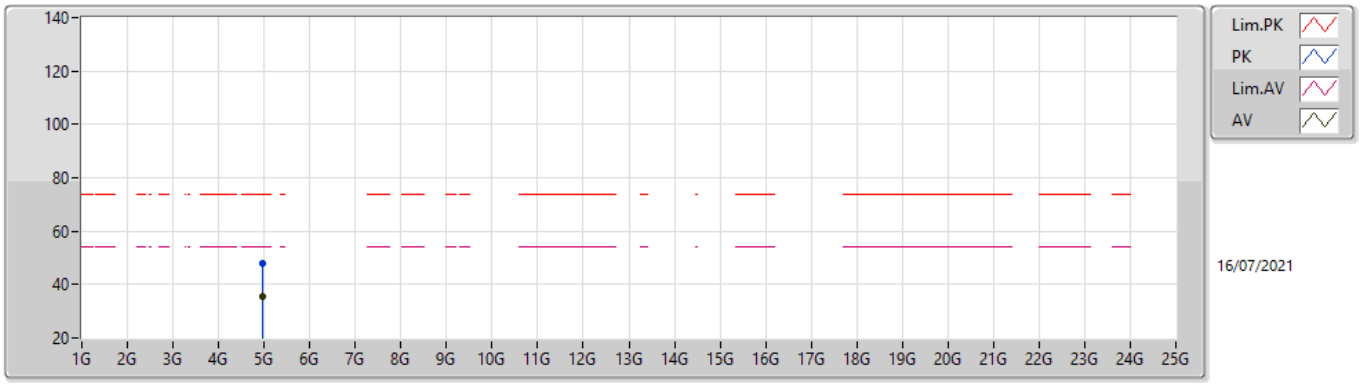


EUT Z_1TX
Setting 7
02-B-G-2

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	97.06	Inf	-Inf	66.10	3	Horizontal	233	2.74	-	28.52	2.44	-
AV	2.48G	96.18	Inf	-Inf	65.22	3	Horizontal	233	2.74	-	28.52	2.44	-
PK	2.4976G	59.43	74.00	-14.57	28.39	3	Horizontal	233	2.74	-	28.59	2.45	-
AV	2.497G	46.96	54.00	-7.04	15.92	3	Horizontal	233	2.74	-	28.59	2.45	-

BT-BR(1Mbps)

2480MHz_TX

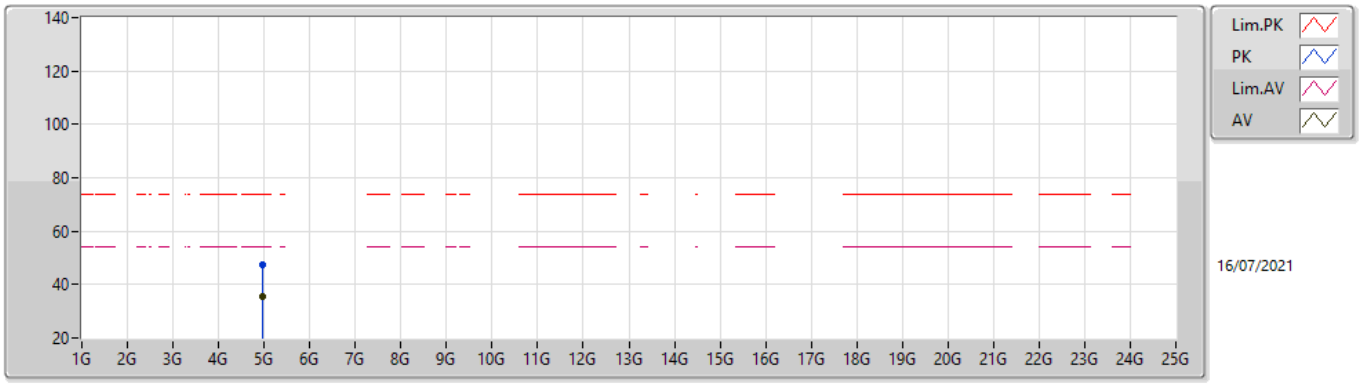


EUT Z_1TX
Setting 7
04-C-K-4

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	4.96051G	47.74	74.00	-26.26	42.46	3	Vertical	23	1.61	-	32.98	5.48	33.18
AV	4.95999G	35.30	54.00	-18.70	30.02	3	Vertical	23	1.61	-	32.98	5.48	33.18

BT-BR(1Mbps)

2480MHz_TX

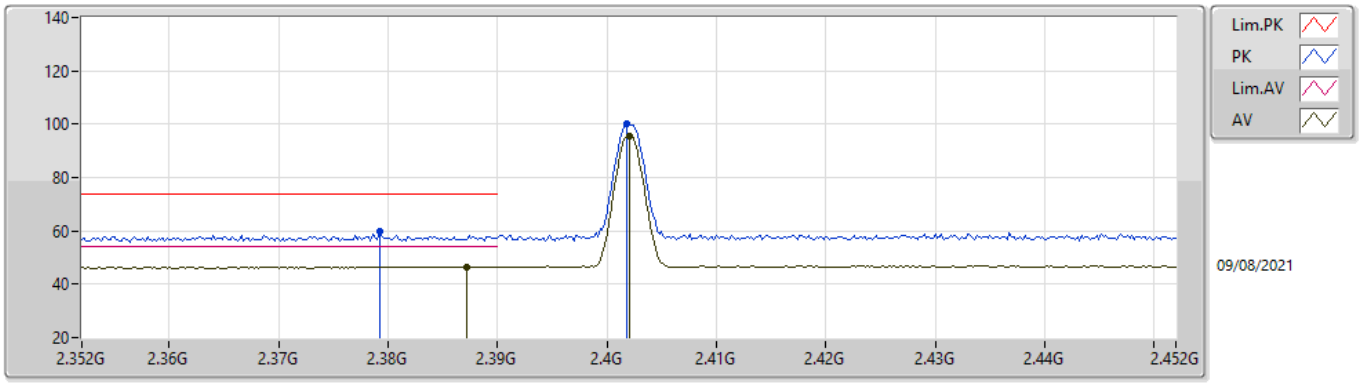


EUT Z_1TX
Setting 7
04-C-K-4

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	4.96017G	47.51	74.00	-26.49	42.23	3	Horizontal	88	2.82	-	32.98	5.48	33.18
AV	4.96006G	35.47	54.00	-18.53	30.19	3	Horizontal	88	2.82	-	32.98	5.48	33.18

BT-EDR(3Mbps)

2402MHz_TX

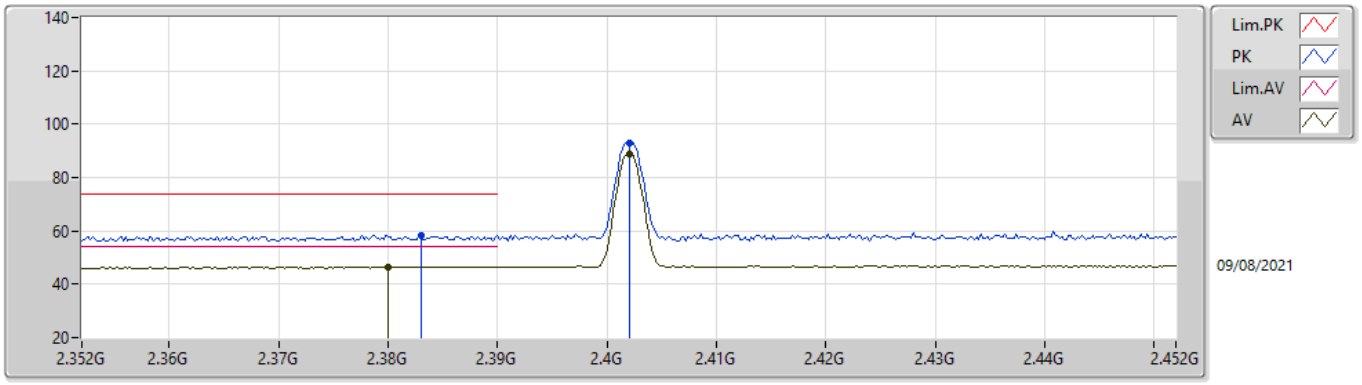


EUT Z_1TX
Setting 7
02-B-G-2

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	2.3792G	59.68	74.00	-14.32	28.91	3	Vertical	334	2.11	-	28.36	2.41	-
AV	2.3872G	46.55	54.00	-7.45	15.77	3	Vertical	334	2.11	-	28.37	2.41	-
PK	2.4018G	99.93	Inf	-Inf	69.13	3	Vertical	334	2.11	-	28.40	2.40	-
AV	2.402G	95.72	Inf	-Inf	64.92	3	Vertical	334	2.11	-	28.40	2.40	-

BT-EDR(3Mbps)

2402MHz_TX

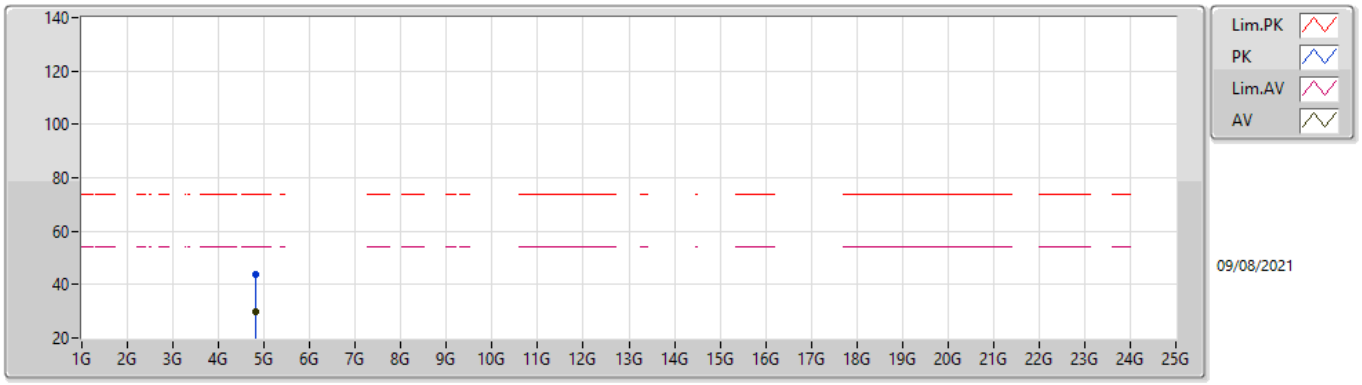


EUT Z_1TX
Setting 7
02-B-G-2

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	2.383G	58.53	74.00	-15.47	27.75	3	Horizontal	47.8	2.22	-	28.37	2.41	-
AV	2.38G	46.58	54.00	-7.42	15.81	3	Horizontal	47.8	2.22	-	28.36	2.41	-
PK	2.402G	93.07	Inf	-Inf	62.27	3	Horizontal	47.8	2.22	-	28.40	2.40	-
AV	2.402G	88.87	Inf	-Inf	58.07	3	Horizontal	47.8	2.22	-	28.40	2.40	-

BT-EDR(3Mbps)

2402MHz_TX

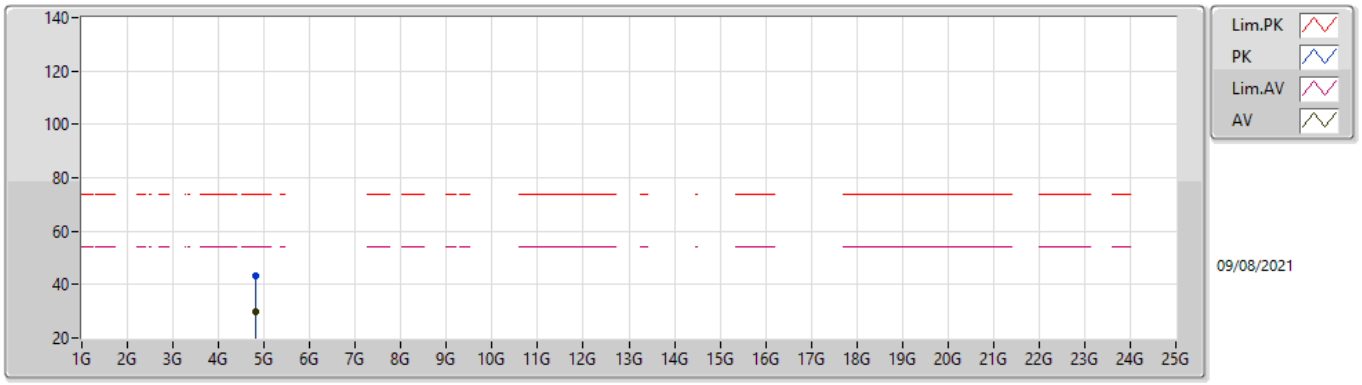


EUT Z_1TX
Setting 7
02-B-G-2

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	4.80516G	43.75	74.00	-30.25	38.56	3	Vertical	228	1.69	-	32.72	4.70	32.23
AV	4.80868G	29.96	54.00	-24.04	24.76	3	Vertical	228	1.69	-	32.73	4.70	32.23

BT-EDR(3Mbps)

2402MHz_TX

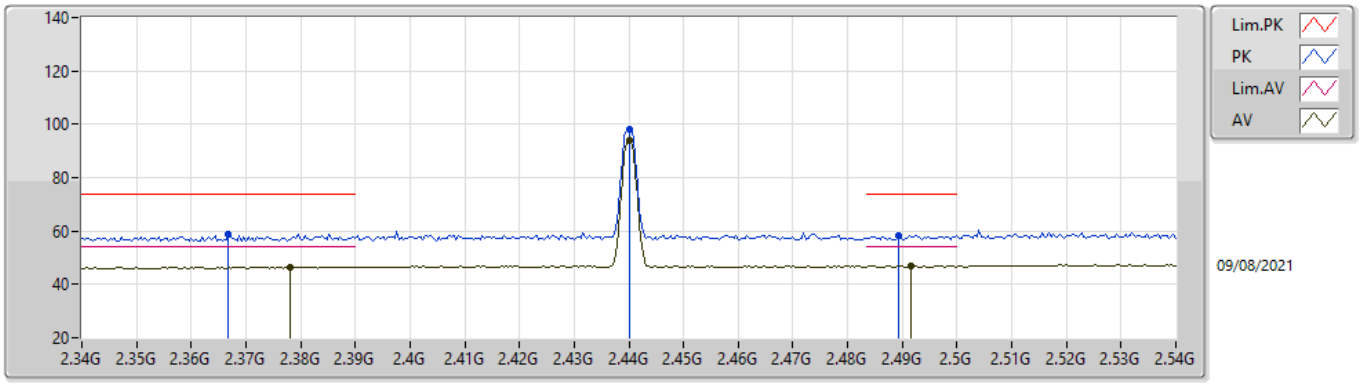


EUT Z_1TX
Setting 7
02-B-G-2

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	4.80884G	43.07	74.00	-30.93	37.86	3	Horizontal	222	2.07	-	32.74	4.70	32.23
AV	4.80704G	29.98	54.00	-24.02	24.78	3	Horizontal	222	2.07	-	32.73	4.70	32.23

BT-EDR(3Mbps)

2440MHz_TX

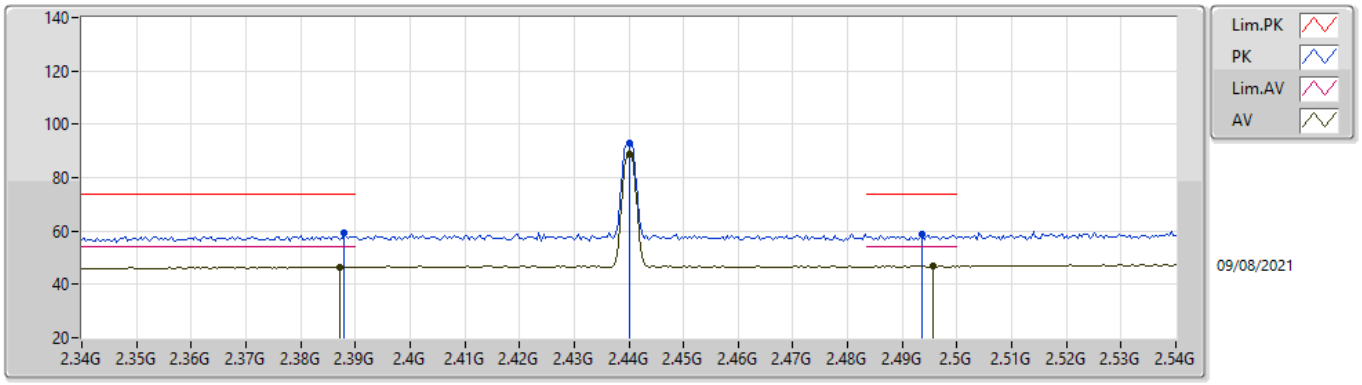


EUT Z_1TX
Setting 7
02-B-G-2

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	2.3668G	59.04	74.00	-14.96	28.29	3	Vertical	20	2.26	-	28.33	2.42	-
AV	2.378G	46.51	54.00	-7.49	15.74	3	Vertical	20	2.26	-	28.36	2.41	-
PK	2.44G	98.31	Inf	-Inf	67.49	3	Vertical	20	2.26	-	28.40	2.42	-
AV	2.44G	93.88	Inf	-Inf	63.06	3	Vertical	20	2.26	-	28.40	2.42	-
PK	2.4892G	58.32	74.00	-15.68	27.32	3	Vertical	20	2.26	-	28.56	2.44	-
AV	2.4916G	46.88	54.00	-7.12	15.86	3	Vertical	20	2.26	-	28.57	2.45	-

BT-EDR(3Mbps)

2440MHz_TX

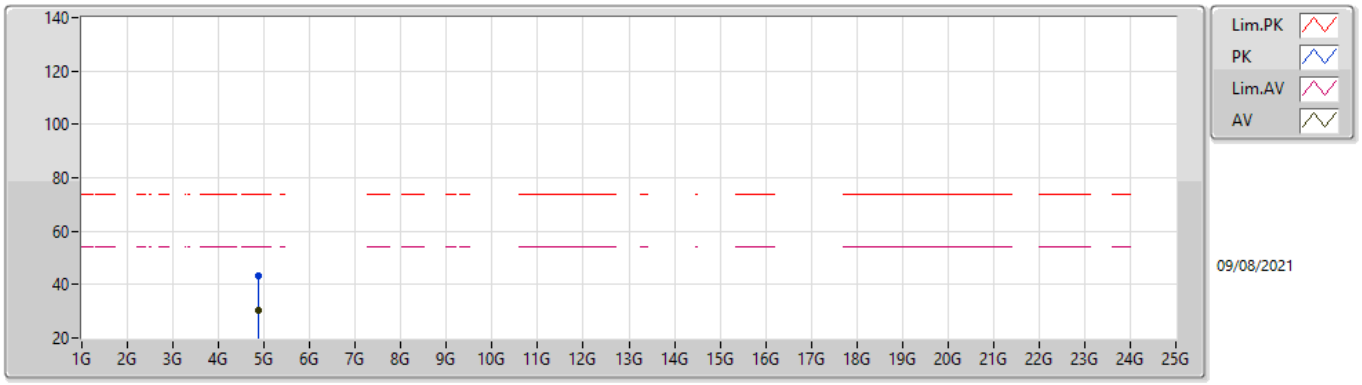


EUT Z_1TX
Setting 7
02-B-G-2

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	2.388G	59.06	74.00	-14.94	28.27	3	Horizontal	83	1.25	-	28.38	2.41	-
AV	2.3872G	46.49	54.00	-7.51	15.71	3	Horizontal	83	1.25	-	28.37	2.41	-
PK	2.44G	93.15	Inf	-Inf	62.33	3	Horizontal	83	1.25	-	28.40	2.42	-
AV	2.44G	88.95	Inf	-Inf	58.13	3	Horizontal	83	1.25	-	28.40	2.42	-
PK	2.4936G	58.89	74.00	-15.11	27.87	3	Horizontal	83	1.25	-	28.57	2.45	-
AV	2.4956G	46.87	54.00	-7.13	15.84	3	Horizontal	83	1.25	-	28.58	2.45	-

BT-EDR(3Mbps)

2440MHz_TX

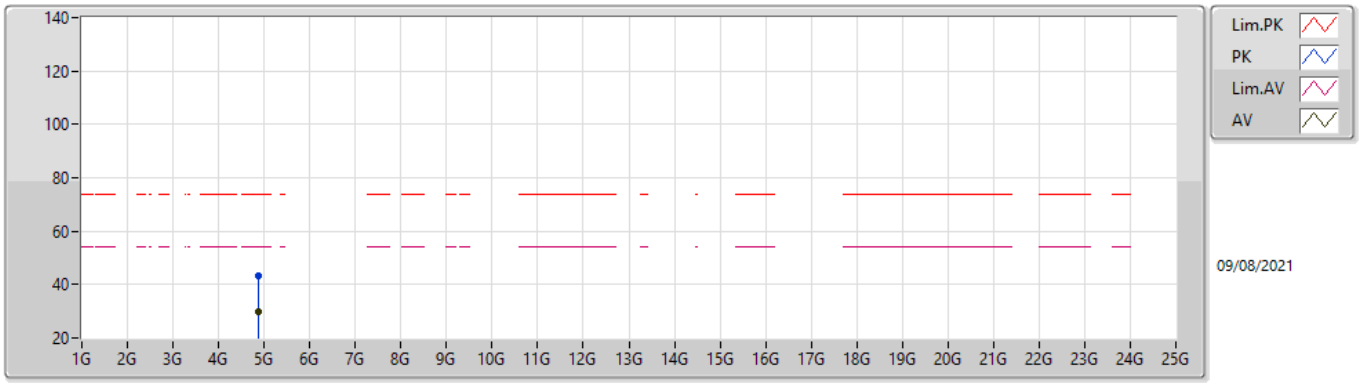


EUT Z_1TX
Setting 7
02-B-G-2

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	4.87672G	43.31	74.00	-30.69	37.86	3	Vertical	274	2.00	-	32.95	4.70	32.20
AV	4.8718G	30.15	54.00	-23.85	24.72	3	Vertical	274	2.00	-	32.94	4.70	32.21

BT-EDR(3Mbps)

2440MHz_TX

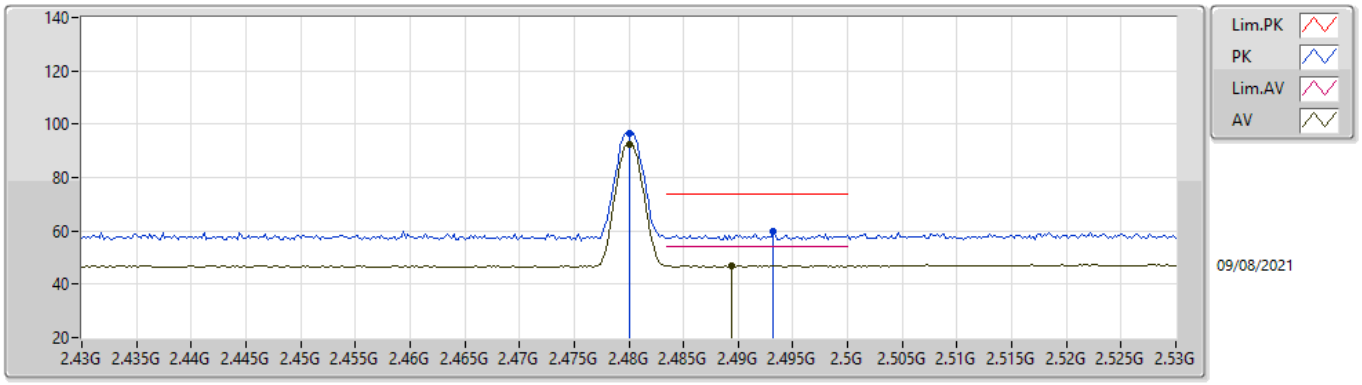


EUT Z_1TX
Setting 7
02-B-G-2

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	4.87016G	43.04	74.00	-30.96	37.61	3	Horizontal	334	1.04	-	32.94	4.70	32.21
AV	4.87028G	29.96	54.00	-24.04	24.53	3	Horizontal	334	1.04	-	32.94	4.70	32.21

BT-EDR(3Mbps)

2480MHz_TX

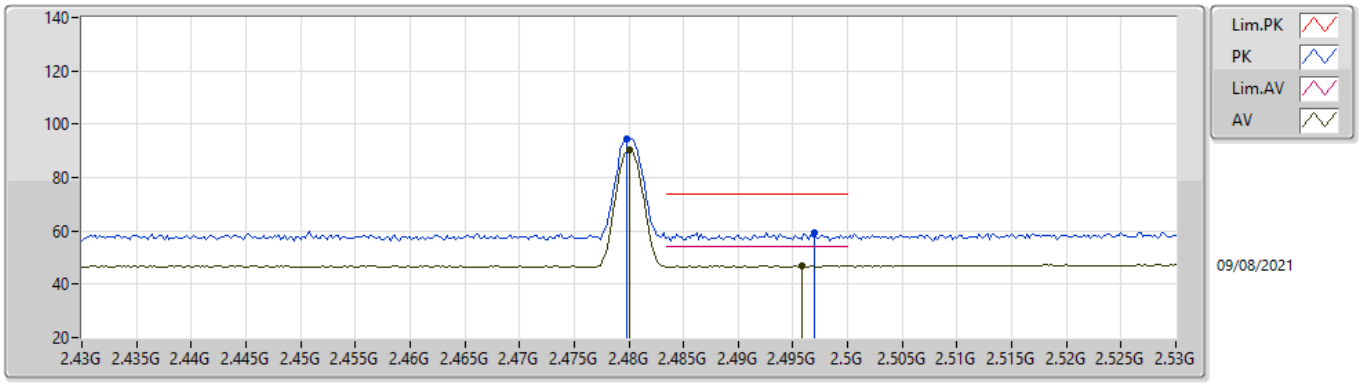


EUT Z_1TX
Setting 7
02-B-G-2

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	96.52	Inf	-Inf	65.56	3	Vertical	350	2.96	-	28.52	2.44	-
AV	2.48G	92.31	Inf	-Inf	61.35	3	Vertical	350	2.96	-	28.52	2.44	-
PK	2.4932G	59.89	74.00	-14.11	28.87	3	Vertical	350	2.96	-	28.57	2.45	-
AV	2.4894G	46.93	54.00	-7.07	15.93	3	Vertical	350	2.96	-	28.56	2.44	-

BT-EDR(3Mbps)

2480MHz_TX

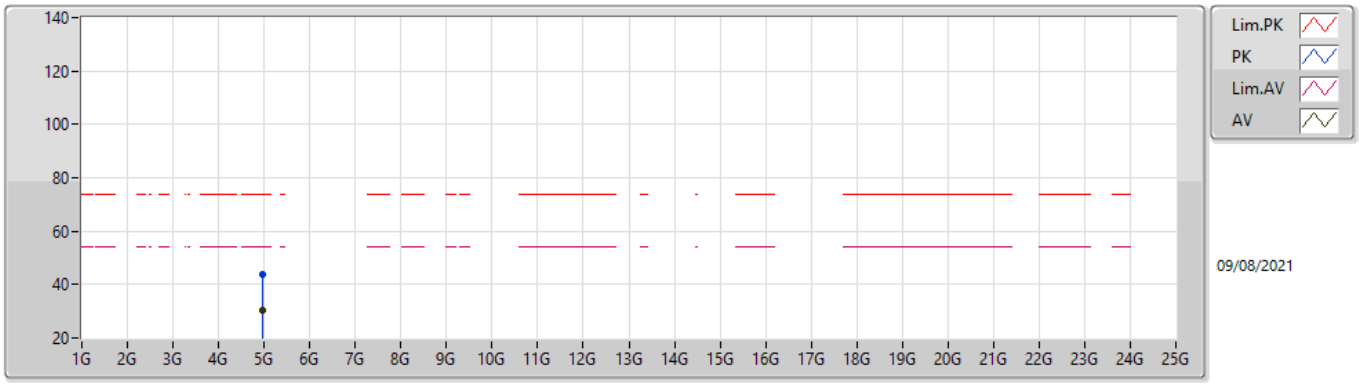


EUT Z_1TX
Setting 7
02-B-G-2

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	94.41	Inf	-Inf	63.45	3	Horizontal	233	2.73	-	28.52	2.44	-
AV	2.48G	90.12	Inf	-Inf	59.16	3	Horizontal	233	2.73	-	28.52	2.44	-
PK	2.497G	59.31	74.00	-14.69	28.27	3	Horizontal	233	2.73	-	28.59	2.45	-
AV	2.4958G	46.91	54.00	-7.09	15.88	3	Horizontal	233	2.73	-	28.58	2.45	-

BT-EDR(3Mbps)

2480MHz_TX

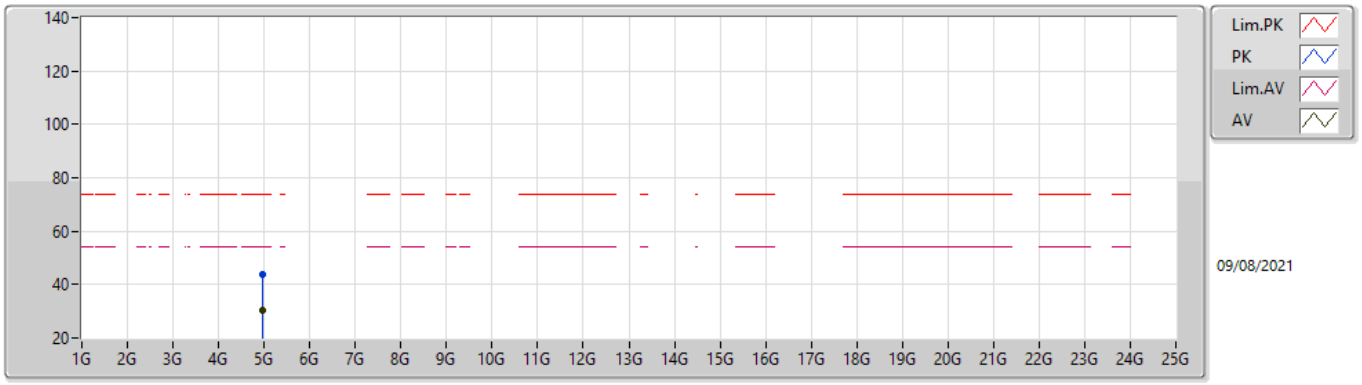


EUT Z_1TX
Setting 7
02-B-G-2

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	4.95348G	43.54	74.00	-30.46	37.73	3	Vertical	50	1.80	-	33.29	4.70	32.18
AV	4.95904G	30.29	54.00	-23.71	24.48	3	Vertical	50	1.80	-	33.28	4.70	32.17

BT-EDR(3Mbps)

2480MHz_TX



EUT Z_1TX
Setting 7
02-B-G-2

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	4.96384G	44.05	74.00	-29.95	38.25	3	Horizontal	160	1.79	-	33.27	4.70	32.17
AV	4.9562G	30.42	54.00	-23.58	24.61	3	Horizontal	160	1.79	-	33.29	4.70	32.18