Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	2AYRA-08450
Equipment	:	Linksys Velop Micro-Router 6
Brand Name	:	Linksys
Model Name	:	LN1100 v2, LN1110 v2, LN1115 v2
Applicant	:	Linksys USA, Inc. 121 Theory, Irvine, CA. 92617, USA
Standard	:	47 CFR FCC Part 15.247

The product was received on Jan. 02, 2024, and testing was started from Jan. 12, 2024 and completed on Feb. 21, 2024. 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
FR3D2303AD	01	Initial issue of report	Mar. 29, 2024

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	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen
Report Producer: Cathy Chiu

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	-	-	GALTRONICS	02102073-08042E1	Dipole Antenna	U.FL	Note1
2	2	-	-	GALTRONICS	02102073-08042E2	Dipole Antenna	U.FL	
3	-	1	-	GALTRONICS	02102142-08042E2	Dipole Antenna	U.FL	
4	-	2	-	GALTRONICS	02102142-08042E1	Dipole Antenna	U.FL	
5	-	-	1	GALTRONICS	02036073-07196-1	Metal onboard	U.FL	

Note1:

Ant.	Antenna Gain (dBi)						
	WLAN 2.4GHz	WLAN 5GHz UNII 1	WLAN 5GHz UNII 2A	WLAN 5GHz UNII 2C	WLAN 5GHz UNII 3	WLAN 5GHz UNII 4	Bluetooth
1	2.04	-	-	-	-	-	-
2	1.53	-	-	-	-	-	-
3	-	2.10	2.63	2.68	2.68	2.53	-
4	-	3.19	3.27	2.98	3.50	3.50	-
5	-	-	-	-	-	-	2.92

Note 2: The above information was declared by manufacturer.

Note 3: Directional gain information

Type	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	$Directional Gain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{sum}}\left[\sum_{k=1}^{N_{sum}} g_{j,k}\right]^2}{N_{ANT}}\right]$
BF	$Directional Gain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{sum}}\left[\sum_{k=1}^{N_{sum}} g_{j,k}\right]^2}{N_{sum}}\right]$	$Directional Gain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{sum}}\left[\sum_{k=1}^{N_{sum}} g_{j,k}\right]^2}{N_{sum}}\right]$

Ex.

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

NSS1(g1,1) = $10^{G1/20}$; NSS1(g1,2)= $10^{G2/20}$; NSS1(g1,2)= $10^{G3/20}$; NSS1(g1,2)= $10^{G4/20}$

gj,k =(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2

DG = 10 log[(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2 / N_{ANT}] => 10 log[($10^{G1/20}$ + $10^{G2/20}$ + $10^{G3/20}$ + $10^{G4/20}$)^2 / N_{ANT}]

Where ;

2.4G G1= 2.04 dBi ;G2= 1.53 dBi ;

5G UNII-1 G1 = 2.10 dBi; G2 = 3.19 dBi;

5G UNII-2A G1 = 2.63 dBi; G2 = 3.27 dBi;

5G UNII-2C G1 = 2.68 dBi; G2 = 2.98 dBi;

5G UNII-3 G1 = 2.68 dBi; G2 = 3.50 dBi;

5G UNII-4 G1 = 2.53 dBi; G2 = 3.50 dBi;

2.4G DG = 4.80 dBi

5G UNII-1 DG = 5.67 dBi

5G UNII-2A DG = 5.97 dBi

5G UNII-2C DG = 5.84 dB

5G UNII-3 DG = 6.11 dBi

5G UNII-4 DG = 6.04 dBi

<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> (1TX/1RX):
Only Port 1 can be used as transmitting/receiving antenna.
Port 1 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz)_1/T
BT-BR(1Mbps)	0.741	1.3	2.887m	1k
BT-EDR(2Mbps)	0.822	0.85	2.889m	1k
BT-EDR(3Mbps)	0.744	1.28	2.891m	1k

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter
Test Software Version	QSPR 5.0-00197

1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description
LN1100 v2	For retail
LN1110 v2	For e-commerce
LN1115 v2	For Warehouse

Note 1: From the above models, model: LN1100 v2 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.

1.1.6 Table for EUT Supports Function

Function
AP Router
Mesh

Note1: For above table list, only AP Router mode was tested and recorded in this test.

Note2: 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	Owen Hsu	21.6~22.6 / 68~69	Jan. 17, 2024~ Jan. 25, 2024
Radiated (Below 1GHz)	03CH05-CB	Gordon Hung	21.9-22.4 / 55-58	Feb. 21, 2024
Radiated (Above 1GHz)	03CH05-CB	Gordon Hung	21.9-22.4 / 55-58	Jan. 12, 2024~ Jan. 24, 2024
AC Conduction	CO01-CB	Summer Li	19-20 / 54-55	Jan. 25, 2024

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.1 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.1 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	3.1 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.1 dB	Confidence levels of 95%
Bandwidth Measurement	2.2%	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

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

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
2	EUT + Adapter 2
3	EUT + Adapter 3 + US Plug
For operating mode 2 is the worst case and it was record in this test report.	

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

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz + Bluetooth
Refer to Sporton Test Report No.: FA3D2303 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

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter 1	Ktec	KSA-18W-120150VU	INPUT: 100-240V ~ 50/60Hz, 0.5A OUTPUT: 12V, 1.5A
Adapter 2	MOSO	MS-V1500R120-018H0-US	INPUT: 100-240V~50/60Hz, 0.6A max. OUTPUT: 12V, 1.5A
Adapter 3	Ktec	KSA-18W-120150D5	INPUT: 100-240V ~ 50/60Hz, 0.5A OUTPUT: 12.0V, 1.5A, 18.0W
Others			
RJ-45 cable*1, non-shielded, 1m			
US Plug*1 (Equip with Adapter 3 use only)			

2.5 Support Equipment

For AC Conduction:

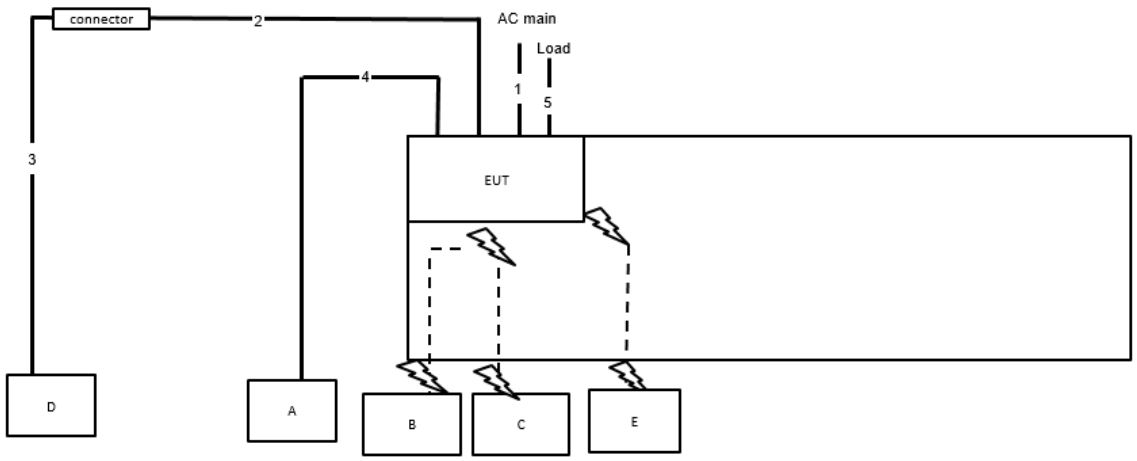
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	LAN NB	DELL	E6430	N/A
B	2.4G NB	DELL	E6430	N/A
C	5G NB	DELL	E6430	N/A
D	WAN NB	DELL	E6430	N/A
E	iPhone 12	Apple	A2403	N/A

For Radiated and RF Conducted:

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

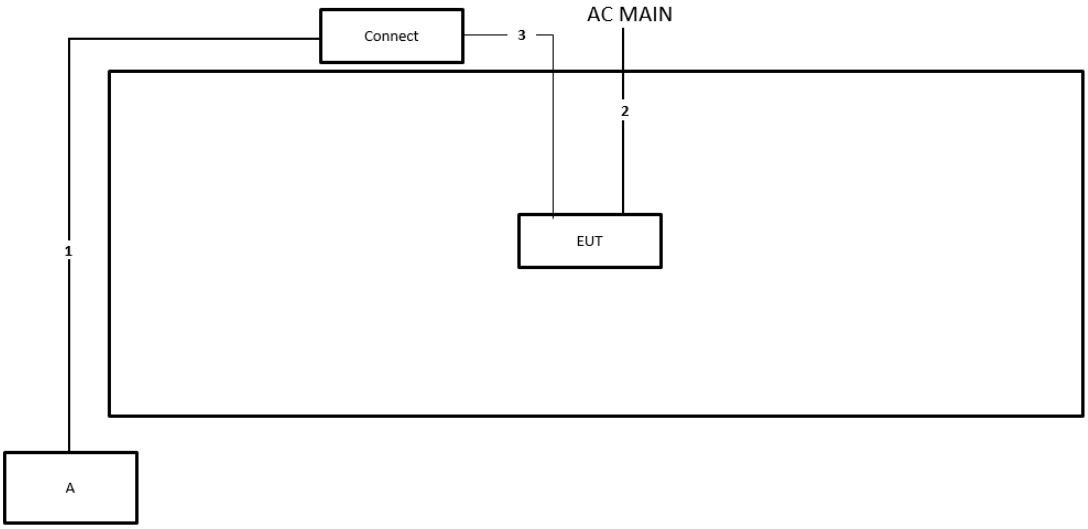
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



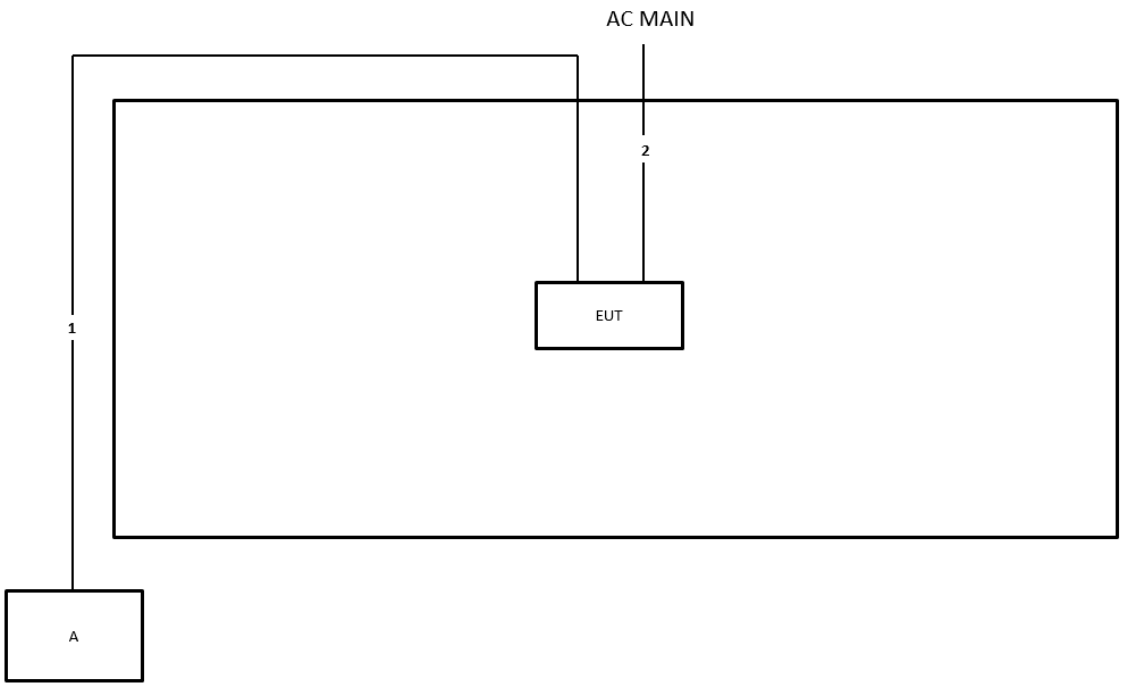
Item	Connection	Shielded	Length
1	Power cable	No	1.6m
2	RJ-45 cable	No	1m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m
5	RJ-45 cable*3	No	1.5m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.6m
3	RJ-45 cable	No	1.0m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.6m

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

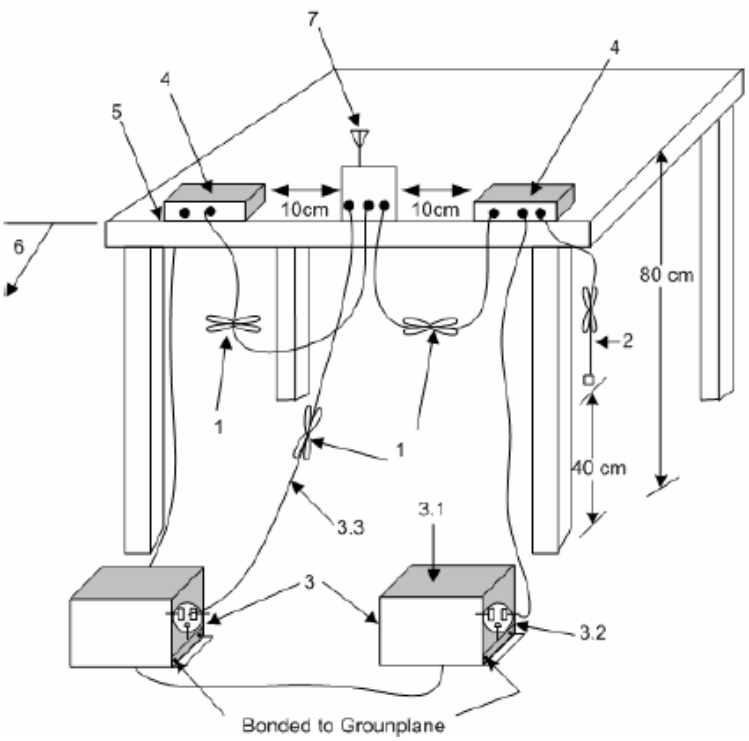
Refer a test equipment and calibration data table in this test report.

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

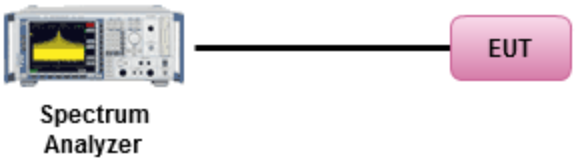
3.2.2 Measuring Instruments

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

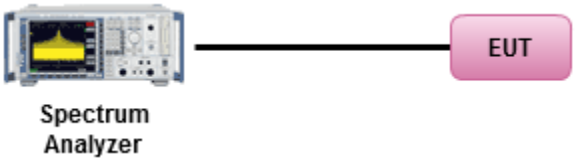
3.4.3 Measuring Instruments

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

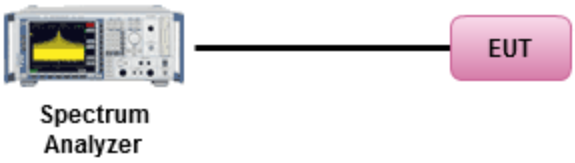
3.5.2 Measuring Instruments

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.	

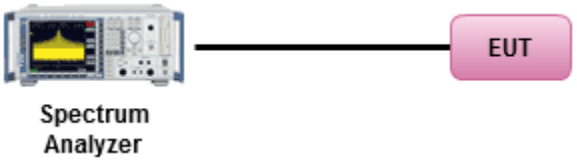
3.6.2 Measuring Instruments

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.

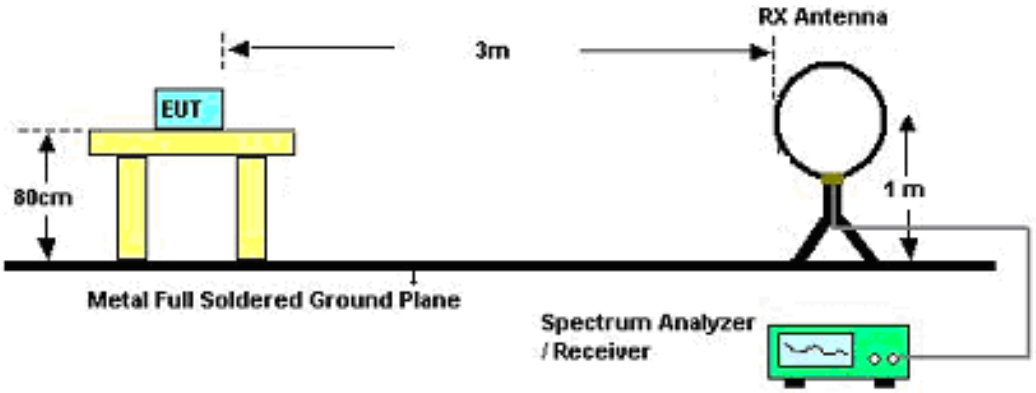
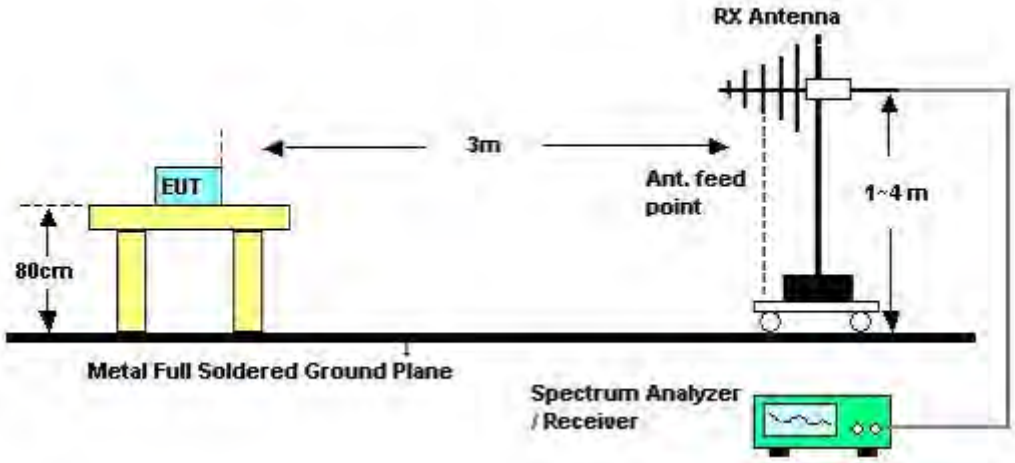
3.7.2 Measuring Instruments

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

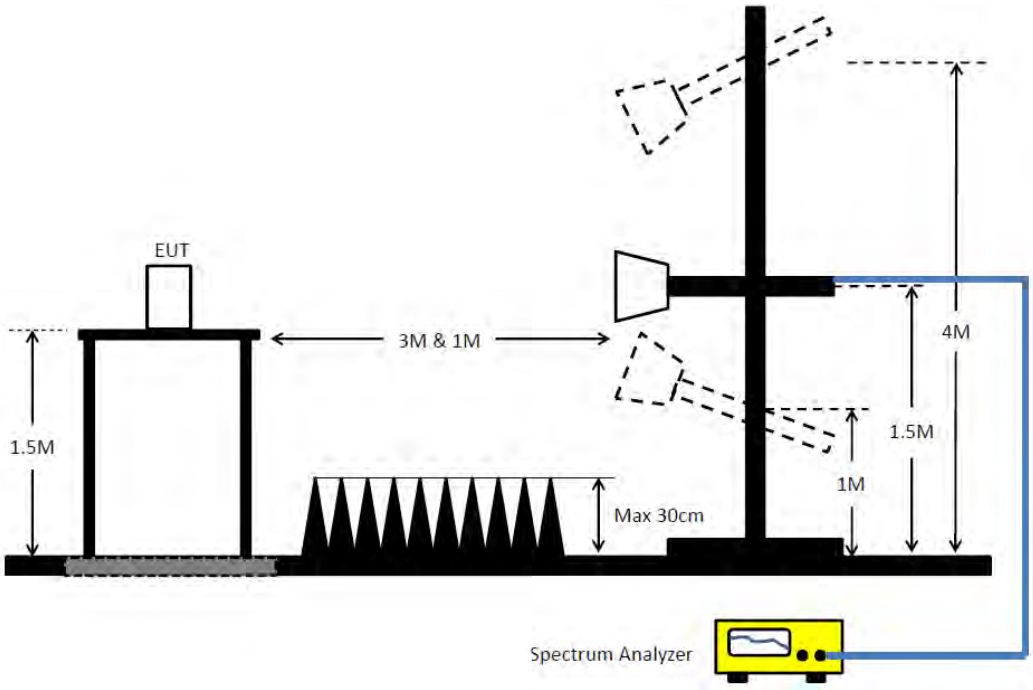
3.7.3 Test Procedures

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	Feb. 20, 2023	Feb. 19, 2024	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 16, 2023	Feb. 15, 2024	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 27, 2023	Apr. 26, 2024	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 09, 2023	Feb. 08, 2024	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	Oct. 17, 2023	Oct. 16, 2024	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 02, 2023	Aug. 01, 2024	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Sep. 29, 2023	Sep. 28, 2024	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 24, 2023	Mar. 23, 2024	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120 D	BBHA 9120 D-1291	1GHz~18GHz	Jun. 08, 2023	Jun. 07, 2024	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Sep. 04, 2023	Sep. 03, 2024	Radiation (03CH05-CB)
Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 03, 2023	May 02, 2024	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630 SE	980287	1GHz – 26.5GHz	Jun. 30, 2023	Jun. 29, 2024	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Apr. 18, 2023	Apr. 17, 2024	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 13, 2023	Jun. 12, 2024	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Dec. 06, 2023	Dec. 05, 2024	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Jan. 11, 2024	Jan. 10, 2025	Radiation (03CH05-CB)

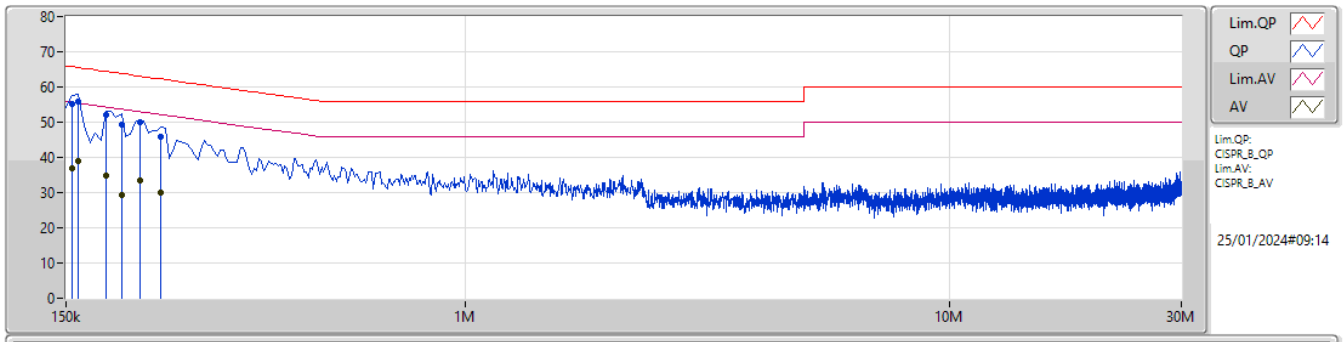
Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Dec. 22, 2023	Dec. 21, 2024	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-11	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-12	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 ~26.5 GHz	Oct. 03, 2023	Oct. 02, 2024	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

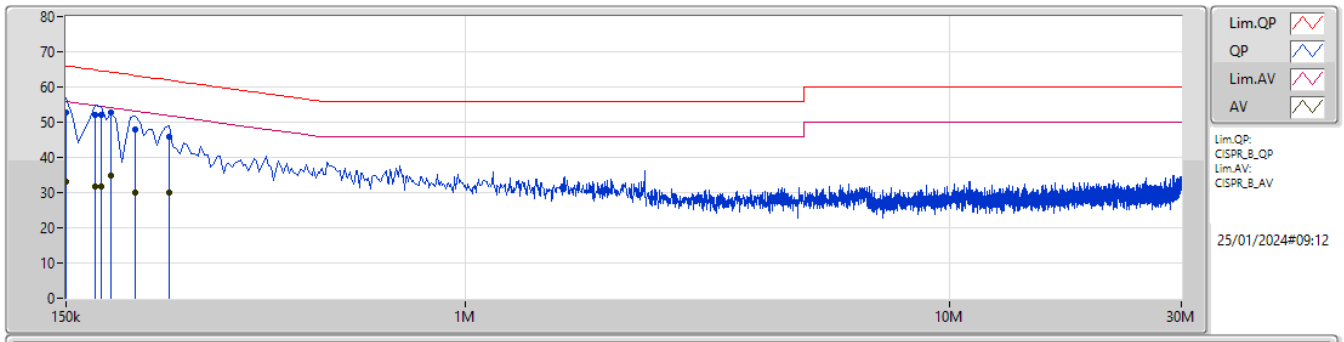
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	QP	159k	56.03	65.52	-9.49	Line

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.5k	55.10	65.75	-10.65	9.98	Line	-	45.12	0.09	0.02	9.87
AV	154.5k	36.79	55.75	-18.96	9.98	Line	-	26.81	0.09	0.02	9.87
QP	159k	56.03	65.52	-9.49	9.98	Line	"Worst"	46.05	0.09	0.02	9.87
AV	159k	39.04	55.52	-16.48	9.98	Line	-	29.06	0.09	0.02	9.87
QP	181.5k	52.07	64.41	-12.34	9.96	Line	-	42.11	0.08	0.02	9.86
AV	181.5k	34.69	54.41	-19.72	9.96	Line	-	24.73	0.08	0.02	9.86
QP	195k	49.14	63.82	-14.68	9.96	Line	-	39.18	0.08	0.02	9.86
AV	195k	29.48	53.82	-24.34	9.96	Line	-	19.52	0.08	0.02	9.86
QP	213k	49.86	63.09	-13.23	9.96	Line	-	39.90	0.08	0.02	9.86
AV	213k	33.44	53.09	-19.65	9.96	Line	-	23.48	0.08	0.02	9.86
QP	235.5k	45.98	62.25	-16.27	9.97	Line	-	36.01	0.08	0.02	9.87
AV	235.5k	30.00	52.25	-22.25	9.97	Line	-	20.03	0.08	0.02	9.87

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	52.66	66.00	-13.34	9.96	Neutral	-	42.70	0.07	0.02	9.87
AV	150k	33.18	56.00	-22.82	9.96	Neutral	-	23.22	0.07	0.02	9.87
QP	172.5k	52.13	64.83	-12.70	9.96	Neutral	-	42.17	0.07	0.02	9.87
AV	172.5k	31.71	54.83	-23.12	9.96	Neutral	-	21.75	0.07	0.02	9.87
QP	177k	52.13	64.62	-12.49	9.96	Neutral	-	42.17	0.07	0.02	9.87
AV	177k	31.71	54.62	-22.91	9.96	Neutral	-	21.75	0.07	0.02	9.87
QP	186k	52.66	64.20	-11.54	9.95	Neutral	"Worst"	42.71	0.07	0.02	9.86
AV	186k	34.72	54.20	-19.48	9.95	Neutral	-	24.77	0.07	0.02	9.86
QP	208.5k	47.96	63.27	-15.31	9.95	Neutral	-	38.01	0.07	0.02	9.86
AV	208.5k	30.17	53.27	-23.10	9.95	Neutral	-	20.22	0.07	0.02	9.86
QP	244.5k	45.94	61.95	-16.01	9.96	Neutral	-	35.98	0.07	0.02	9.87
AV	244.5k	30.06	51.95	-21.89	9.96	Neutral	-	20.10	0.07	0.02	9.87

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)	987.25k	858.691k	859KF1D	822.25k	852.845k
BT-EDR(2Mbps)	1.323M	1.203M	1M20G1D	1.216M	1.198M
BT-EDR(3Mbps)	1.342M	1.214M	1M21G1D	1.273M	1.183M

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

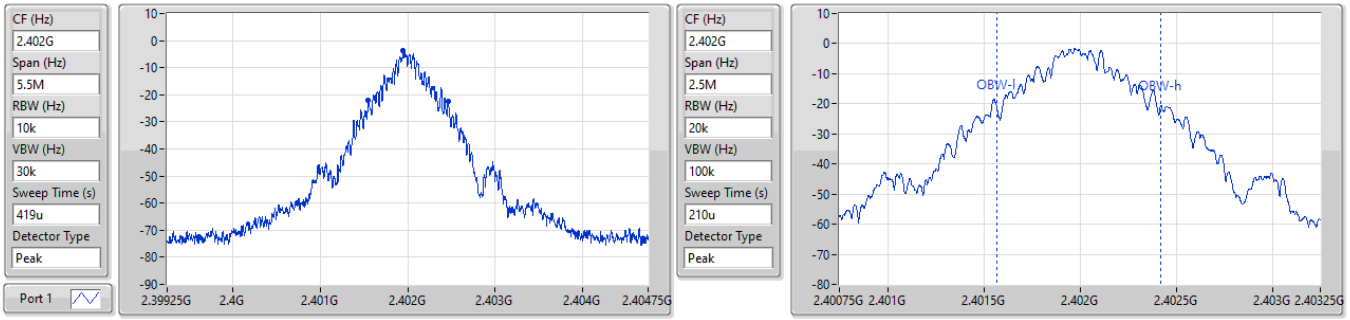
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	918.5k	853.078k
2440MHz	Pass	Inf	822.25k	858.691k
2480MHz	Pass	Inf	987.25k	852.845k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.323M	1.2M
2440MHz	Pass	Inf	1.317M	1.203M
2480MHz	Pass	Inf	1.216M	1.198M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.273M	1.206M
2440MHz	Pass	Inf	1.342M	1.183M
2480MHz	Pass	Inf	1.315M	1.214M

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

2.4-2.4835GHz_BT-BR(1Mbps) **EBW-FS**

2402MHz

25/01/2024

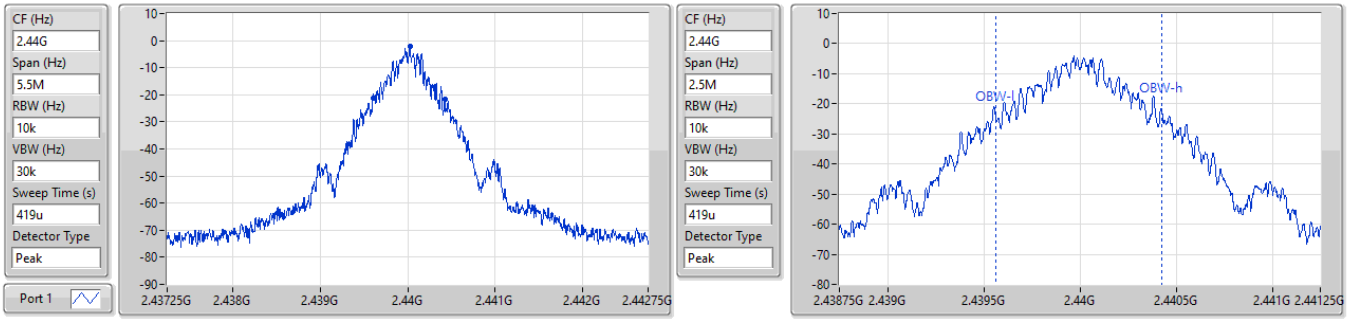


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
918.5k	2.401549G	2.402468G	853.078k	2.401567G	2.40242G	Inf	1

2.4-2.4835GHz_BT-BR(1Mbps) **EBW-FS**

2440MHz

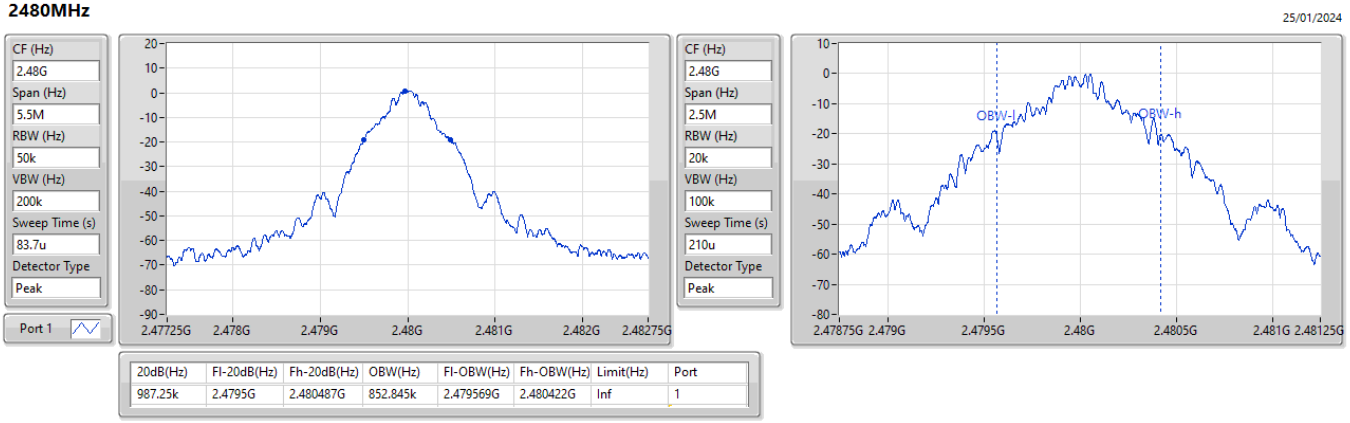
25/01/2024



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
822.25k	2.439601G	2.440424G	858.691k	2.439564G	2.440423G	Inf	1

2.4-2.4835GHz_BT-BR(1Mbps) **EBW-FS**

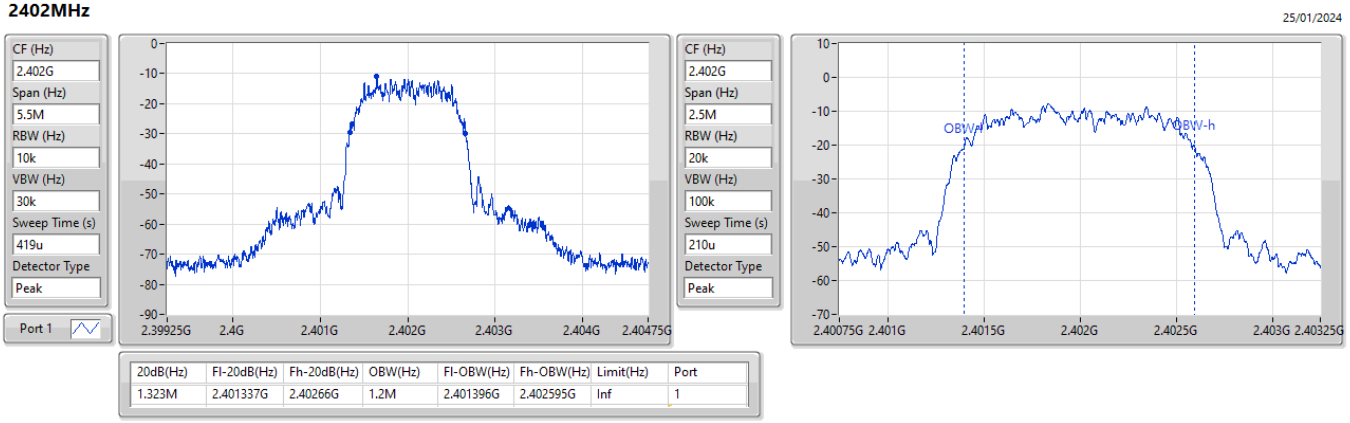
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
987.25k	2.4795G	2.480487G	852.845k	2.479569G	2.480422G	Inf	1

2.4-2.4835GHz_BT-EDR(2Mbps) **EBW-FS**

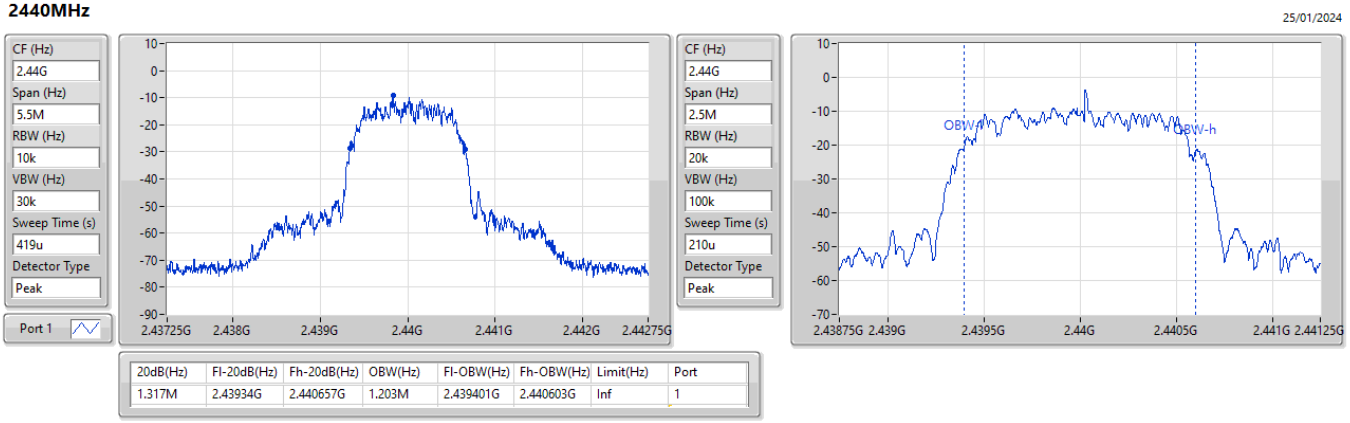
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.323M	2.401337G	2.40266G	1.2M	2.401396G	2.402595G	Inf	1

2.4-2.4835GHz_BT-EDR(2Mbps) **EBW-FS**

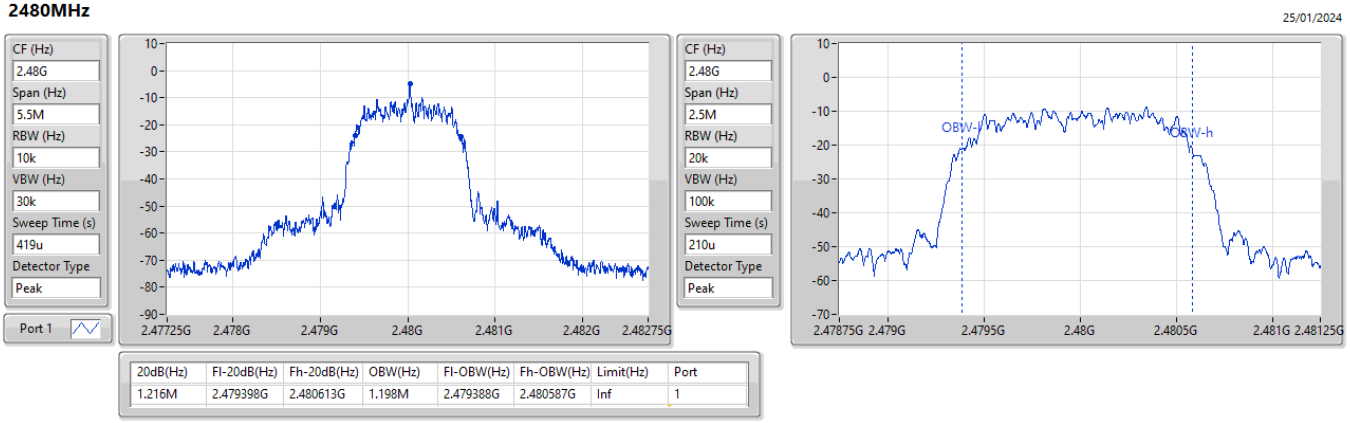
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.317M	2.43934G	2.440657G	1.203M	2.439401G	2.440603G	Inf	1

2.4-2.4835GHz_BT-EDR(2Mbps) **EBW-FS**

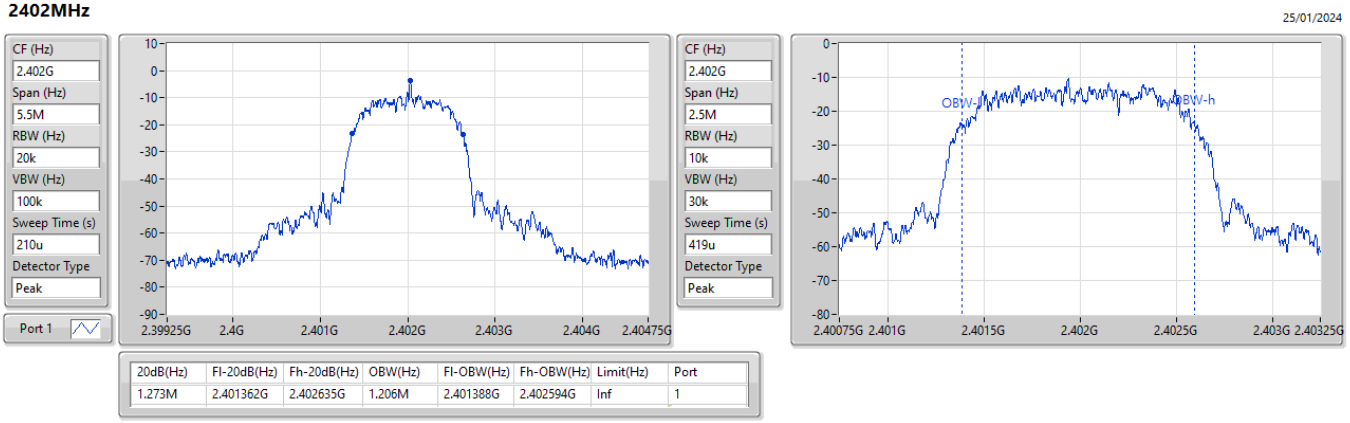
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.216M	2.479398G	2.480613G	1.198M	2.479388G	2.480587G	Inf	1

2.4-2.4835GHz_BT-EDR(3Mbps) **EBW-FS**

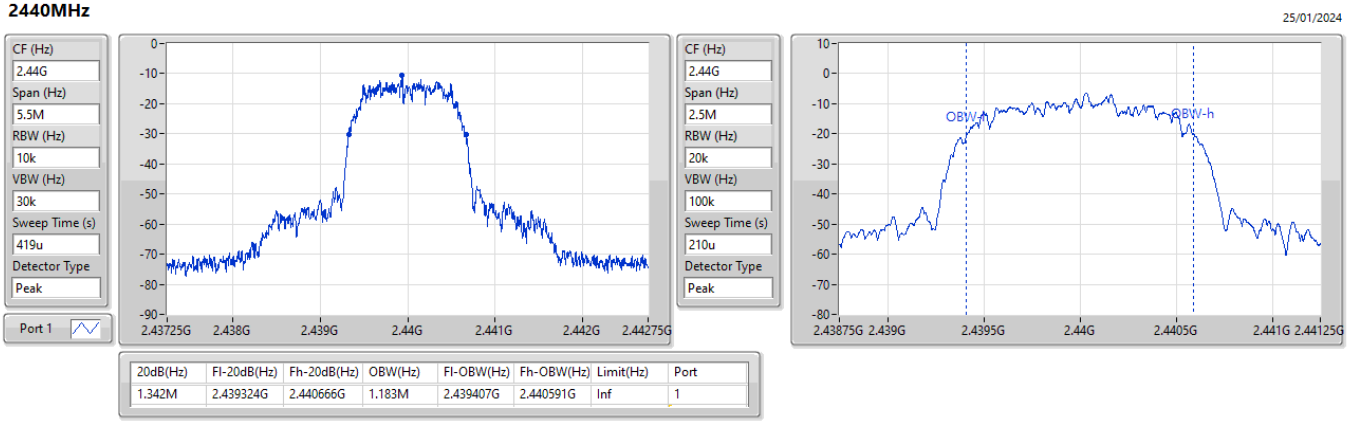
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.273M	2.401362G	2.402635G	1.206M	2.401388G	2.402594G	Inf	1

2.4-2.4835GHz_BT-EDR(3Mbps) **EBW-FS**

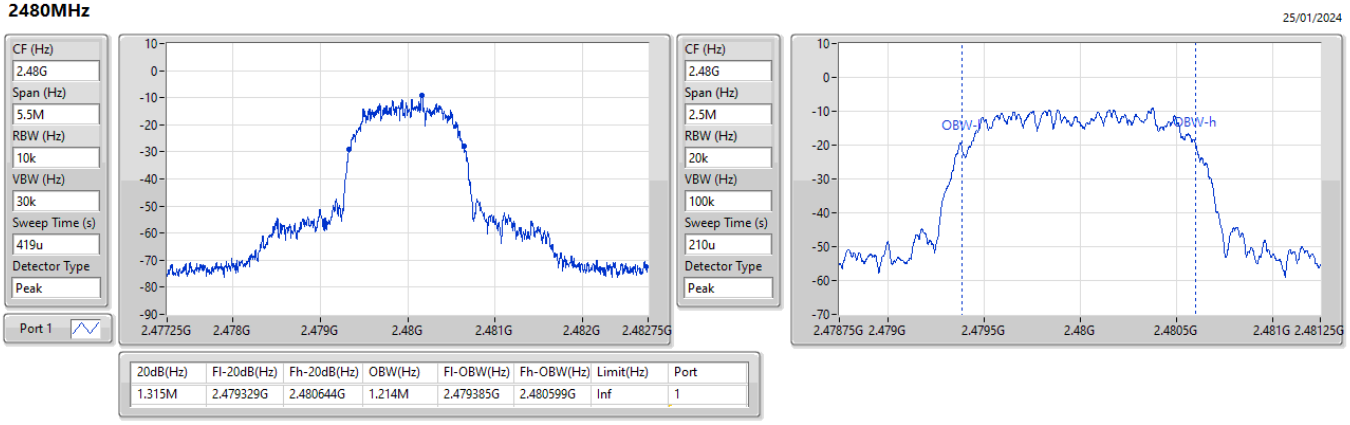
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.342M	2.439324G	2.440666G	1.183M	2.439407G	2.440591G	Inf	1

2.4-2.4835GHz_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
1.315M	2.479329G	2.480644G	1.214M	2.479385G	2.480599G	Inf	1

Summary

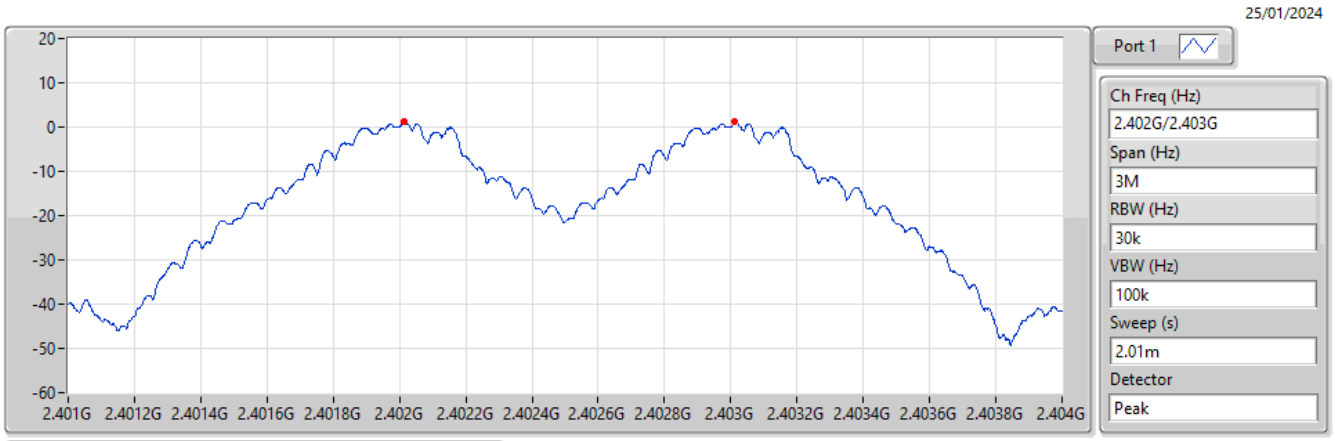
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.0005M	999k
BT-EDR(2Mbps)	1.002M	1.0005M
BT-EDR(3Mbps)	1.002M	999k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402013G	2.403013G	1.0005M	611.721k
2440MHz	Pass	2.440014G	2.441015G	1.0005M	547.6185k
2480MHz	Pass	2.479014G	2.480013G	999k	657.5085k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402013G	2.403015G	1.002M	881.118k
2440MHz	Pass	2.440013G	2.441013G	1.0005M	877.122k
2480MHz	Pass	2.479013G	2.480015G	1.002M	809.856k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402013G	2.403015G	1.002M	847.818k
2440MHz	Pass	2.440014G	2.441013G	999k	893.772k
2480MHz	Pass	2.479013G	2.480013G	1.0005M	875.79k

2.4-2.4835GHz_BT-BR(1Mbps) **Channel Separation-FS**

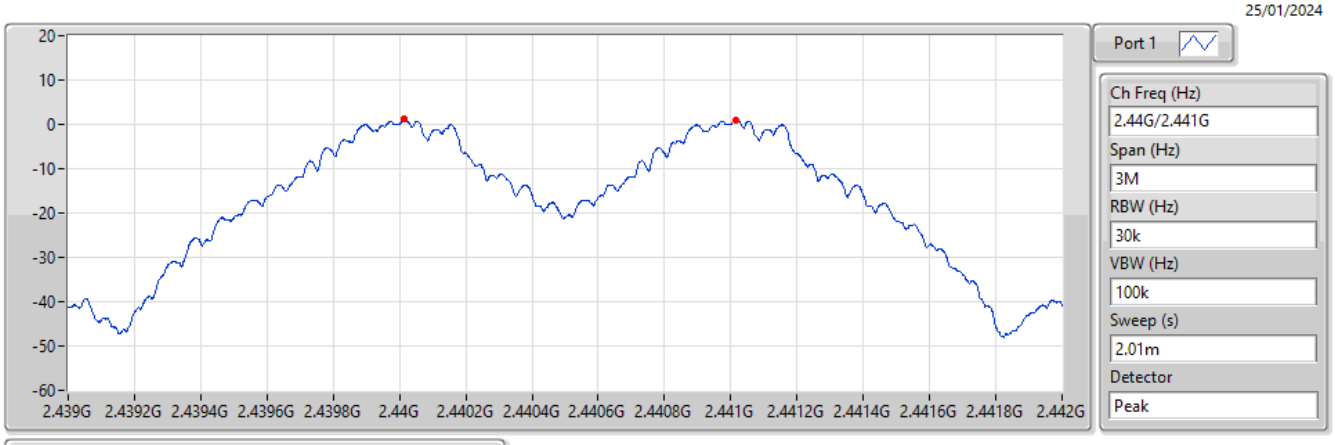
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402013G	2.403013G	1.0005M	611.721k

2.4-2.4835GHz_BT-BR(1Mbps) **Channel Separation-FS**

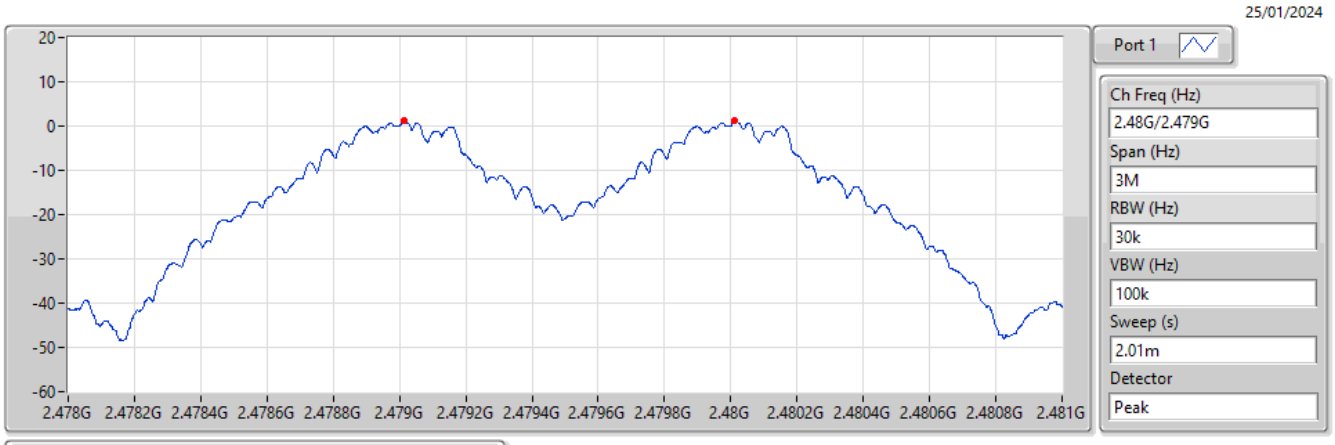
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440014G	2.441015G	1.0005M	547.6185k

2.4-2.4835GHz_BT-BR(1Mbps) **Channel Separation-FS**

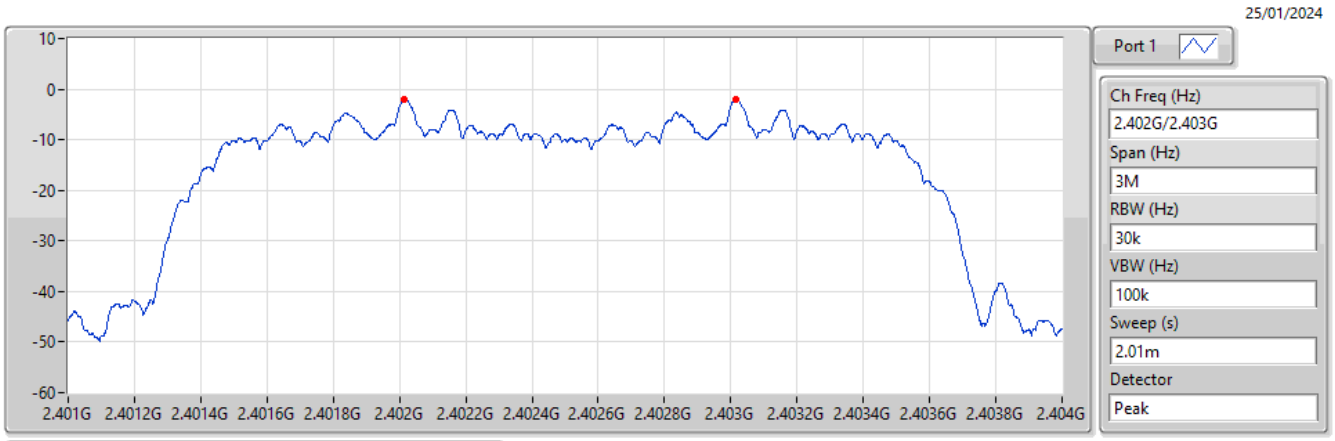
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479014G	2.480013G	999k	657.5085k

2.4-2.4835GHz_BT-EDR(2Mbps) **Channel Separation-FS**

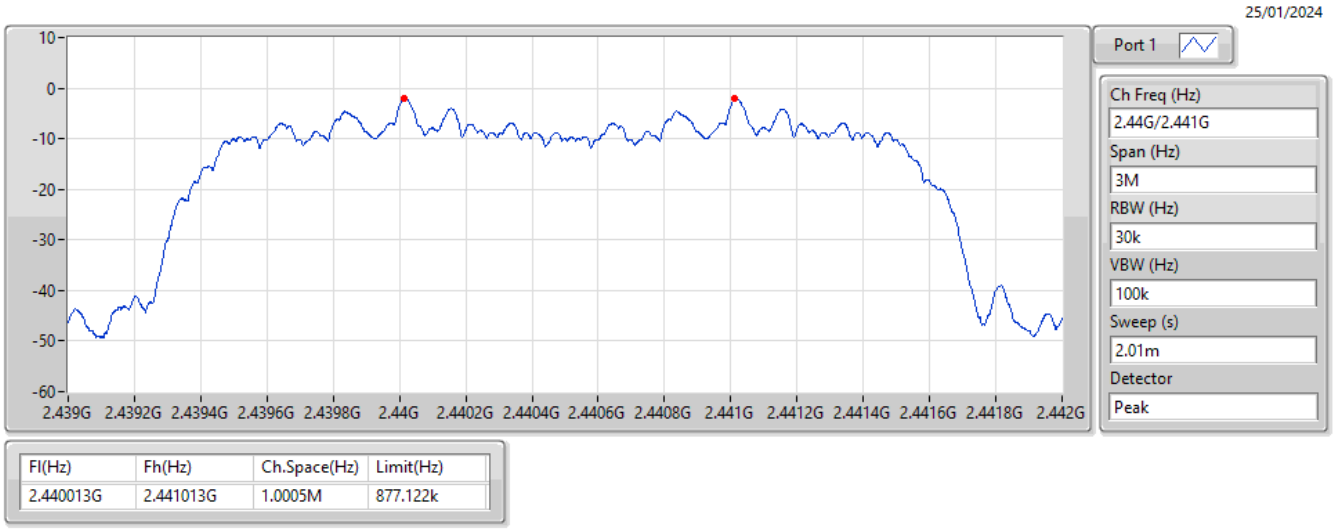
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402013G	2.403015G	1.002M	881.118k

2.4-2.4835GHz_BT-EDR(2Mbps) **Channel Separation-FS**

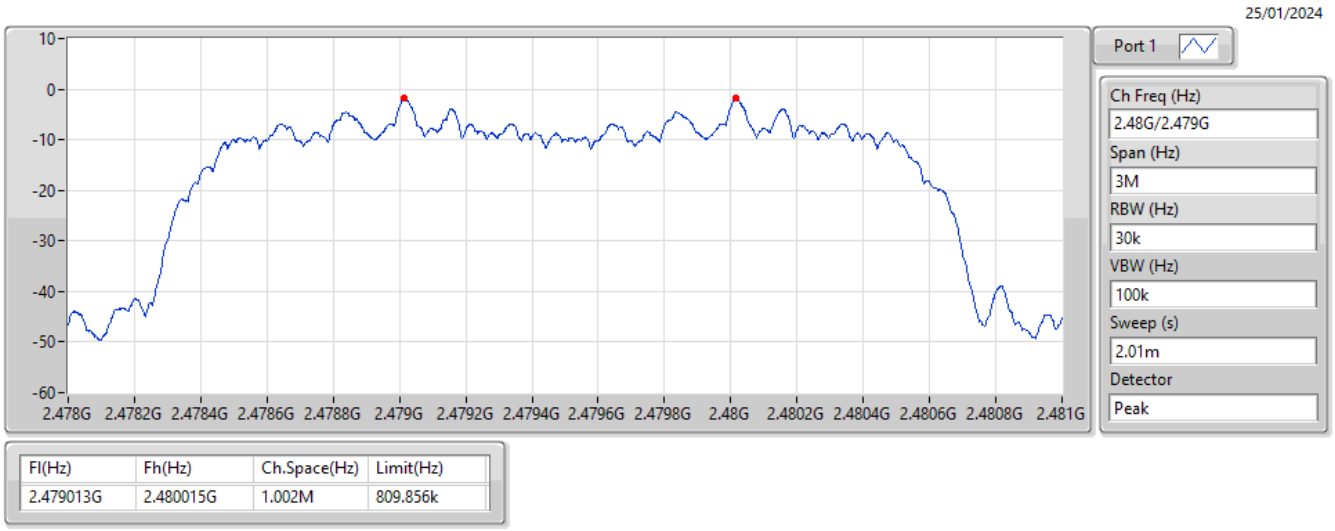
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440013G	2.441013G	1.0005M	877.122k

2.4-2.4835GHz_BT-EDR(2Mbps) **Channel Separation-FS**

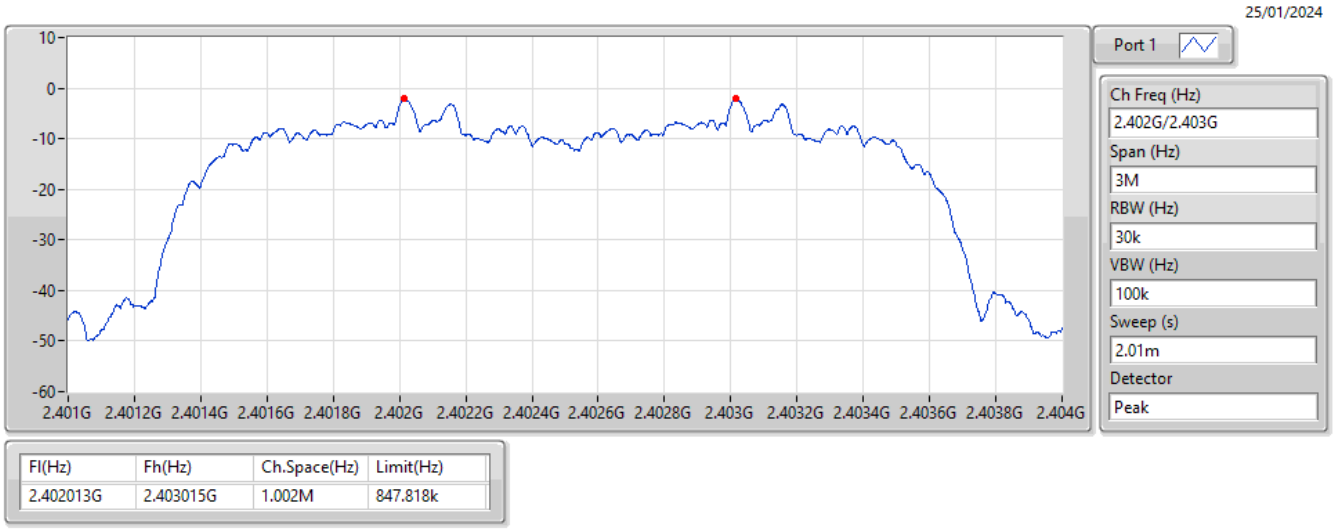
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479013G	2.480015G	1.002M	809.856k

2.4-2.4835GHz_BT-EDR(3Mbps) **Channel Separation-FS**

2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402013G	2.403015G	1.002M	847.818k

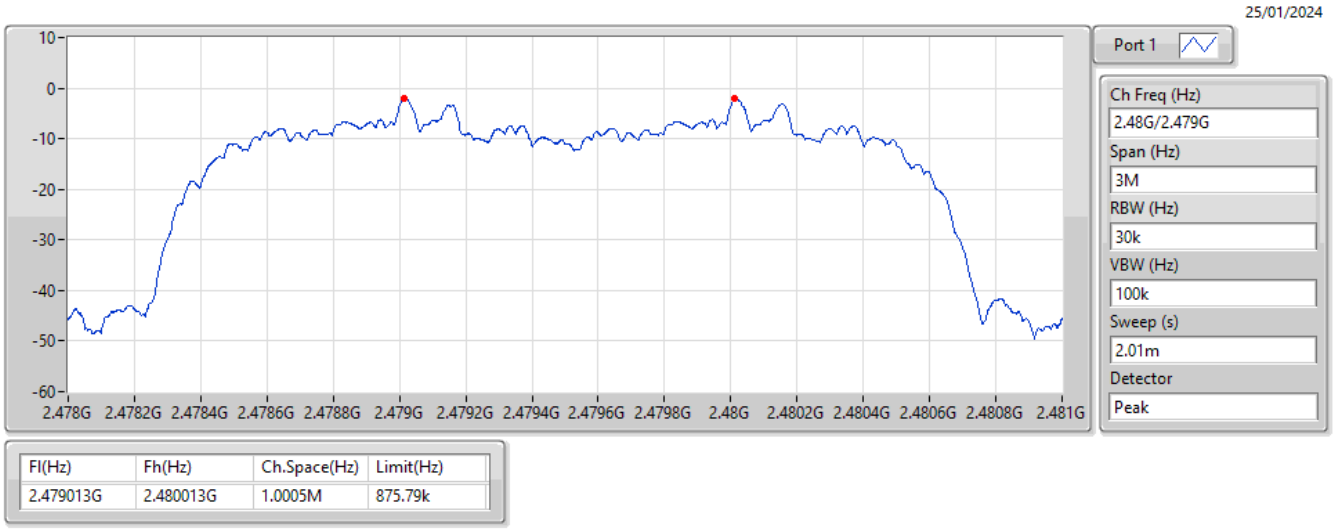
2.4-2.4835GHz_BT-EDR(3Mbps) **Channel Separation-FS**

2.44G/2.441GHz

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440014G	2.441013G	999k	893.772k

2.4-2.4835GHz_BT-EDR(3Mbps) **Channel Separation-FS**

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479013G	2.480013G	1.0005M	875.79k

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	3.67	0.00233
BT-EDR(2Mbps)	0.18	0.00104
BT-EDR(3Mbps)	0.20	0.00105

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.92	3.67	21.00
2440MHz	Pass	2.92	3.60	21.00
2480MHz	Pass	2.92	3.67	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.92	0.18	21.00
2440MHz	Pass	2.92	0.14	21.00
2480MHz	Pass	2.92	0.18	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.92	0.19	21.00
2440MHz	Pass	2.92	0.09	21.00
2480MHz	Pass	2.92	0.20	21.00

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

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	3.75	0.00237
BT-EDR(2Mbps)	2.57	0.00181
BT-EDR(3Mbps)	3.06	0.00202

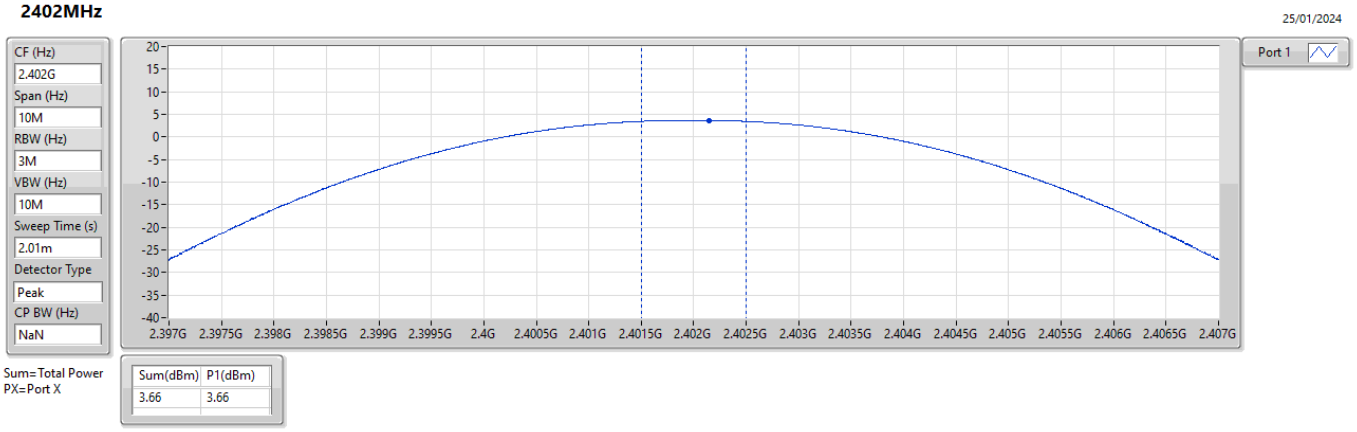
Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.92	3.69	21.00
2440MHz	Pass	2.92	3.71	21.00
2480MHz	Pass	2.92	3.75	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.92	2.44	21.00
2440MHz	Pass	2.92	2.51	21.00
2480MHz	Pass	2.92	2.57	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.92	2.93	21.00
2440MHz	Pass	2.92	2.96	21.00
2480MHz	Pass	2.92	3.06	21.00

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

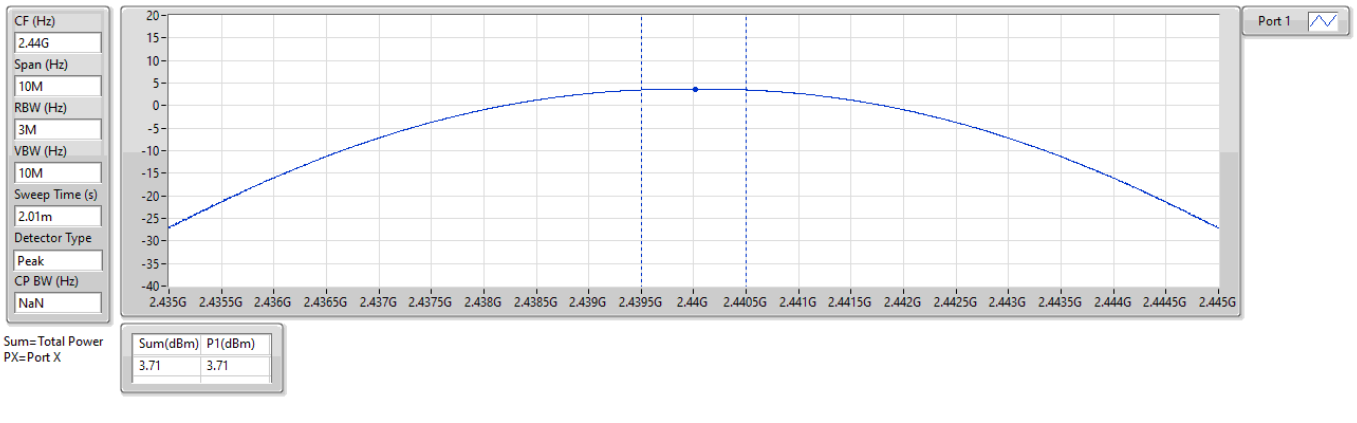
2.4-2.4835GHz_BT-BR(1Mbps) **PK Power-FS**

2402MHz



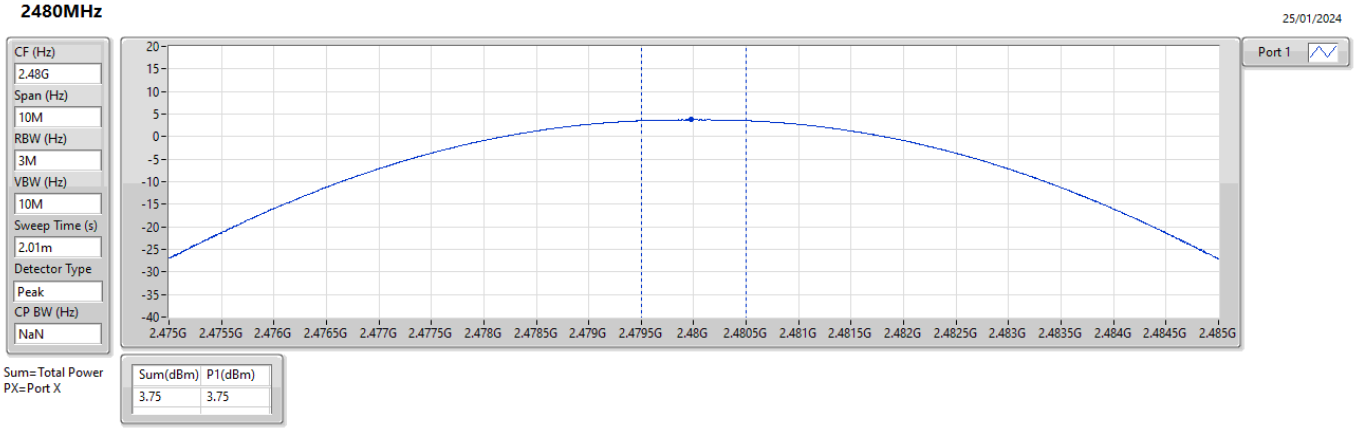
2.4-2.4835GHz_BT-BR(1Mbps) **PK Power-FS**

2440MHz



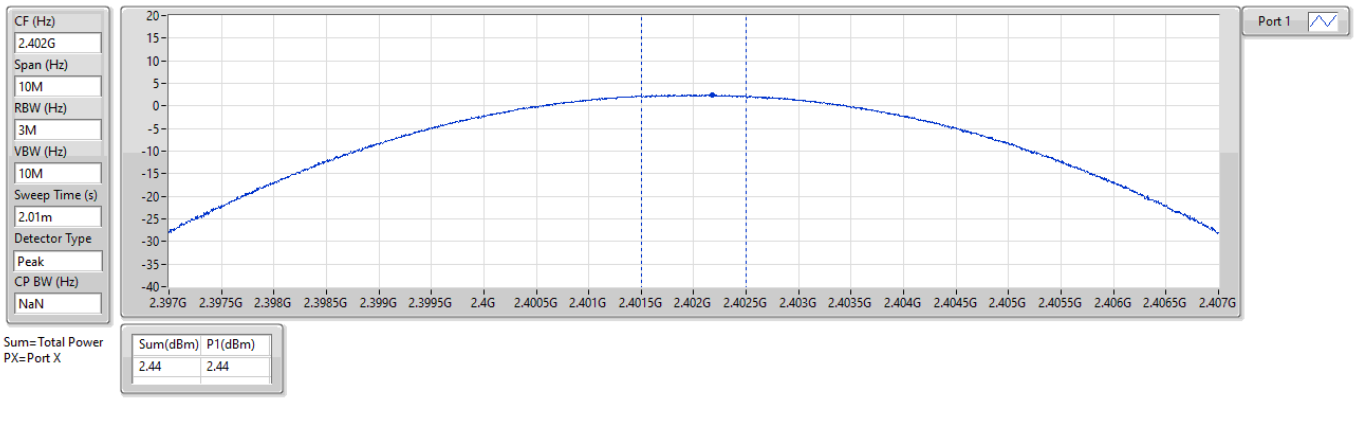
2.4-2.4835GHz_BT-BR(1Mbps) **PK Power-FS**

2480MHz



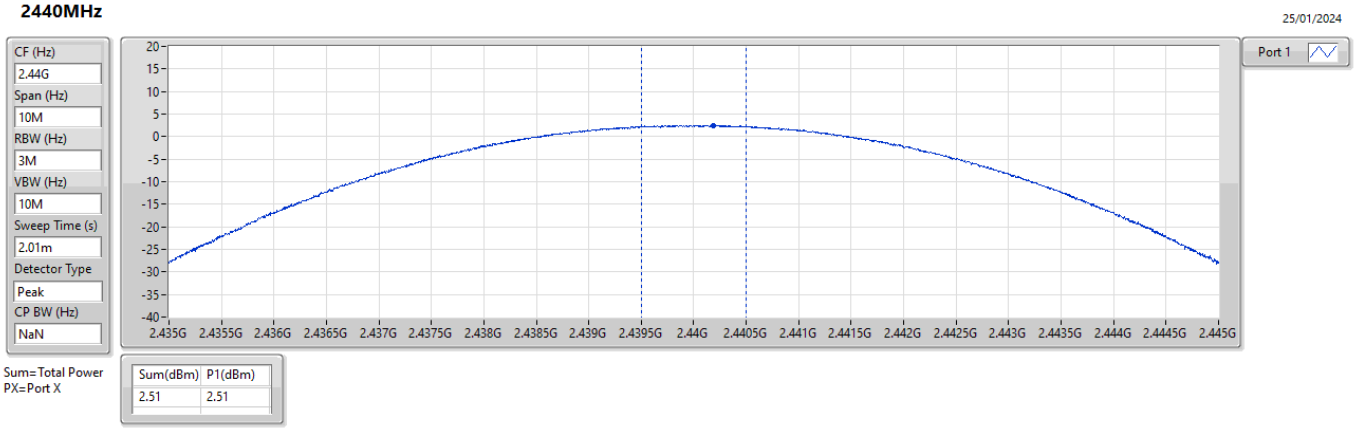
2.4-2.4835GHz_BT-EDR(2Mbps) **PK Power-FS**

2402MHz



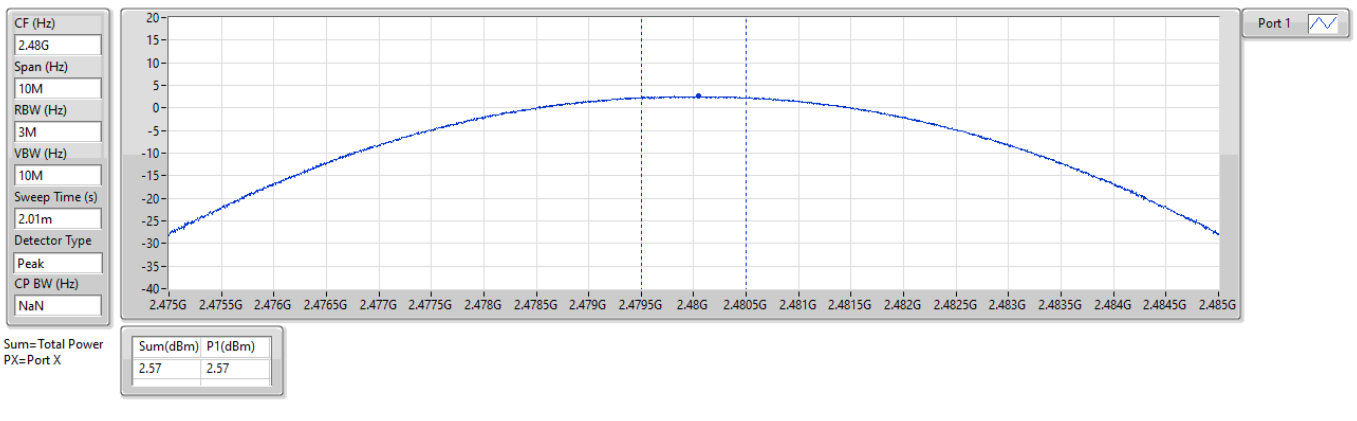
2.4-2.4835GHz_BT-EDR(2Mbps) **PK Power-FS**

2440MHz



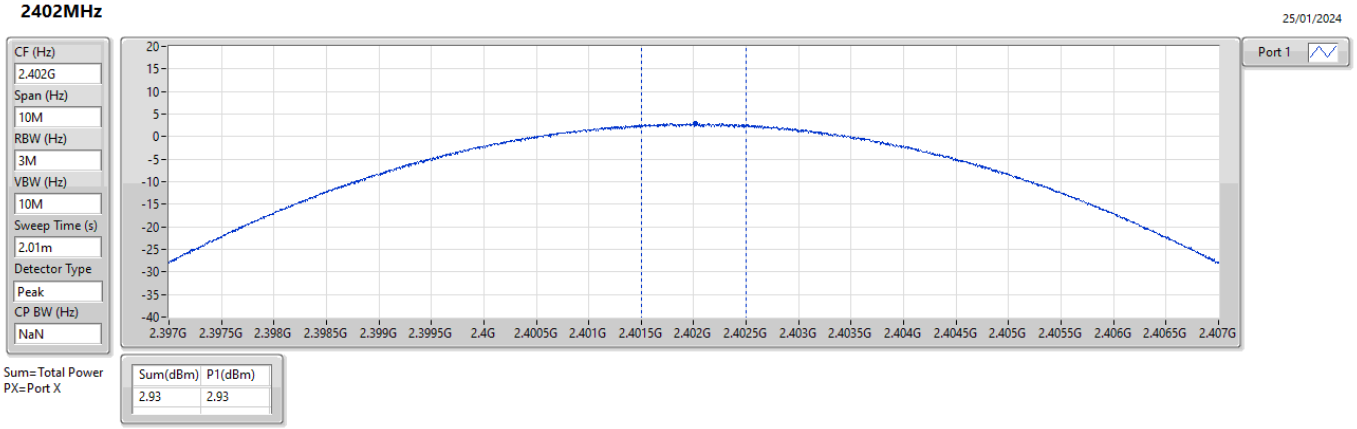
2.4-2.4835GHz_BT-EDR(2Mbps) **PK Power-FS**

2480MHz



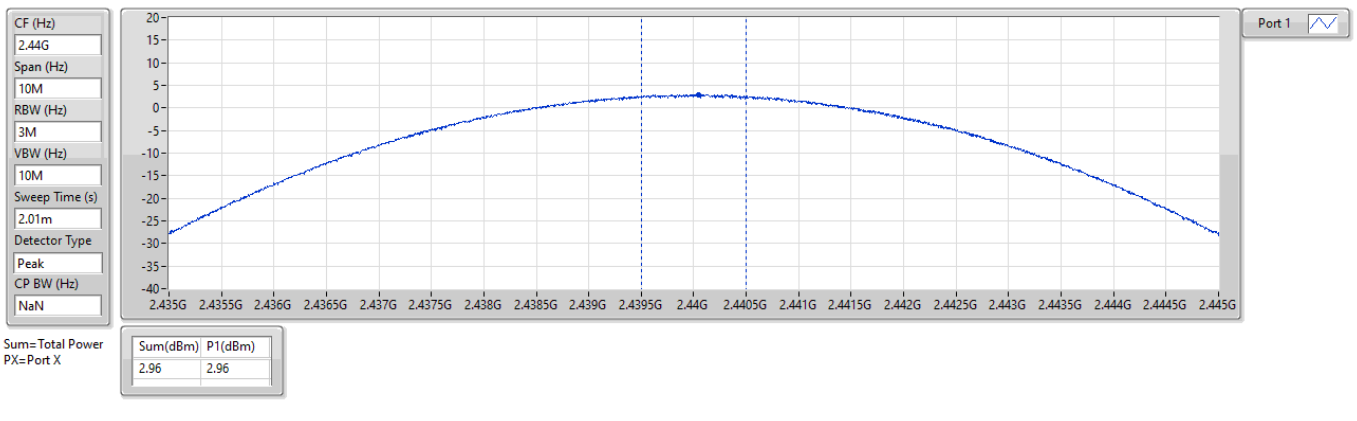
2.4-2.4835GHz_BT-EDR(3Mbps) **PK Power-FS**

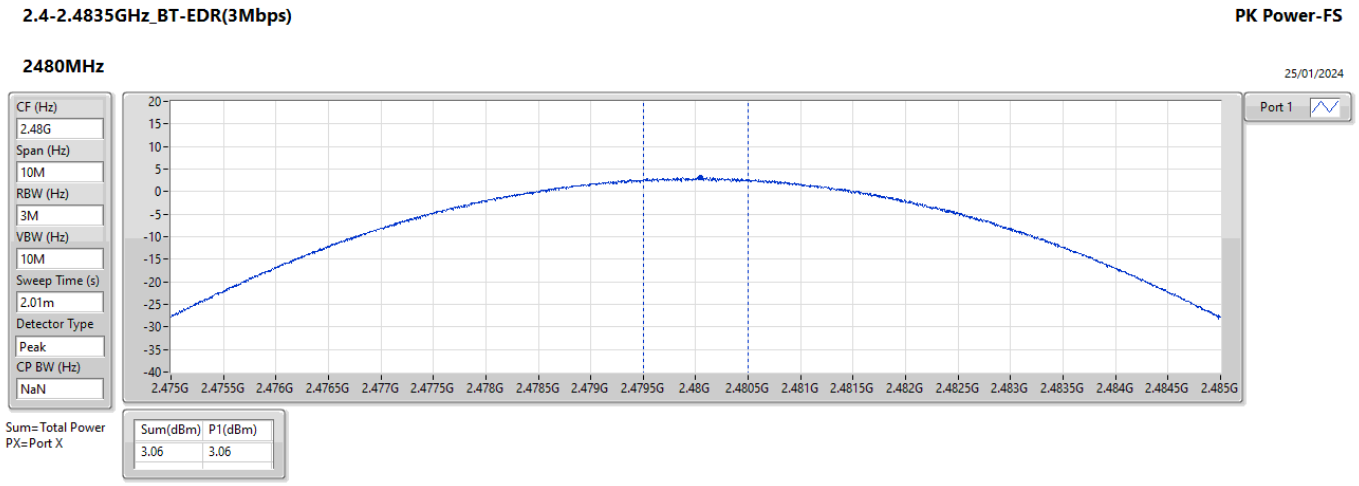
2402MHz



2.4-2.4835GHz_BT-EDR(3Mbps) **PK Power-FS**

2440MHz




2.4-2.4835GHz_BT-EDR(3Mbps)
PK Power-FS
2480MHz
25/01/2024
CF (Hz)
2.48G
Span (Hz)
10M
RBW (Hz)
3M
VBW (Hz)
10M
Sweep Time (s)
2.01m
Detector Type
Peak
CP BW (Hz)
NaN
Port 1
20
15
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
2.475G 2.4755G 2.476G 2.4765G 2.477G 2.4775G 2.478G 2.4785G 2.479G 2.4795G 2.48G 2.4805G 2.481G 2.4815G 2.482G 2.4825G 2.483G 2.4835G 2.484G 2.4845G 2.485G
Sum=Total Power
PX=Port X
Sum(dBm) P1(dBm)
3.06 3.06

Summary

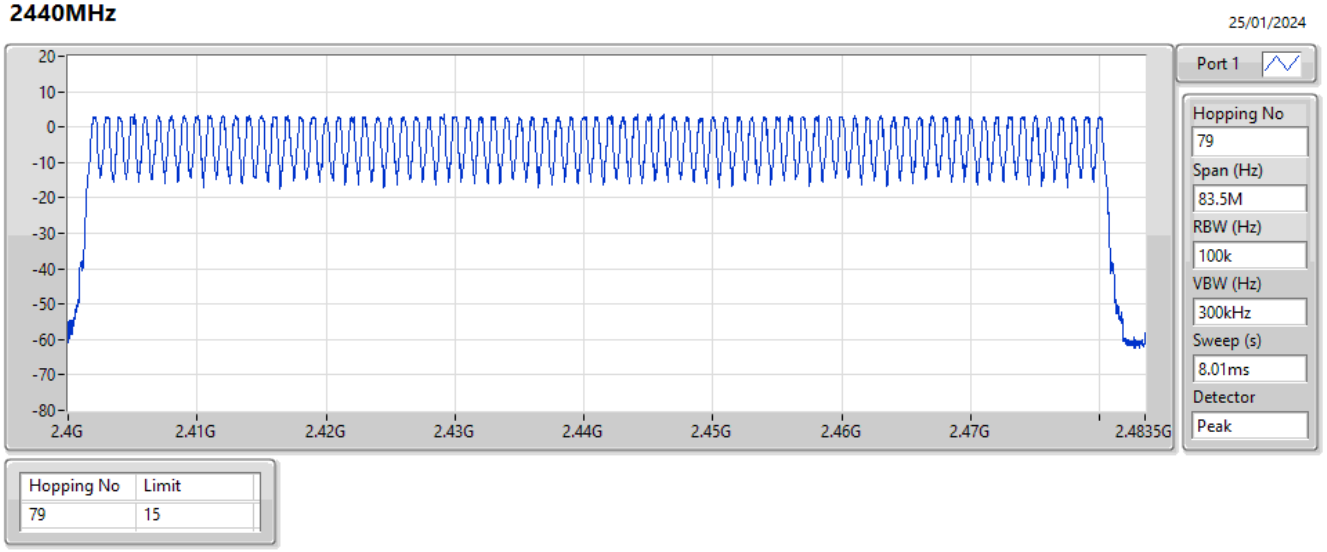
Mode 2.4-2.4835GHz	Max-Hop No -
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

Result

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

2.4-2.4835GHz_BT-BR(1Mbps) **Hopping-FS**

2440MHz

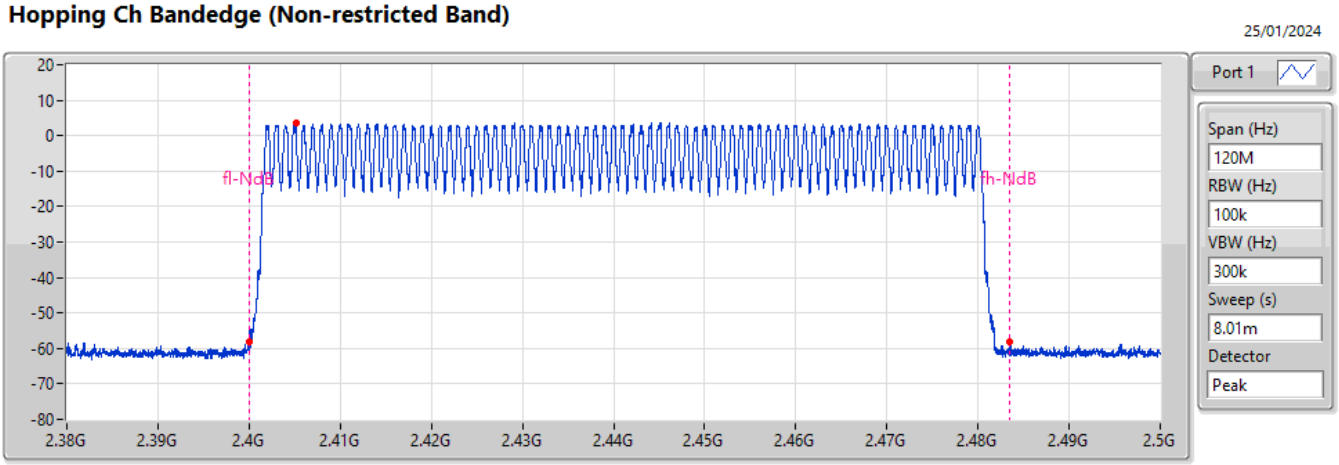


Hopping No	Limit
79	15

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

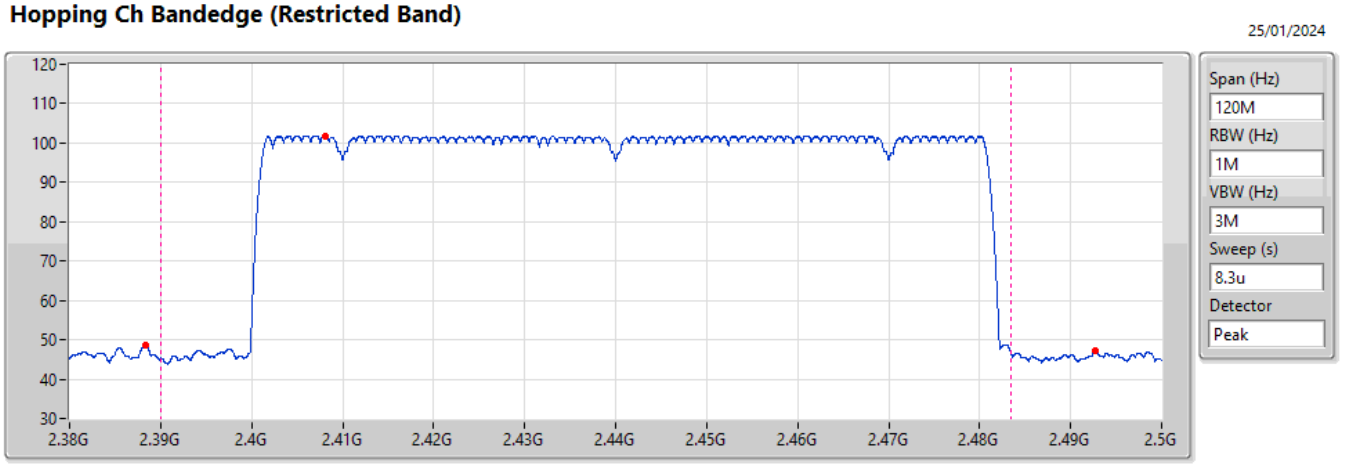


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-16.47	2.405155G	3.53	2.399995G	-58.22	2.483515G	-57.94

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

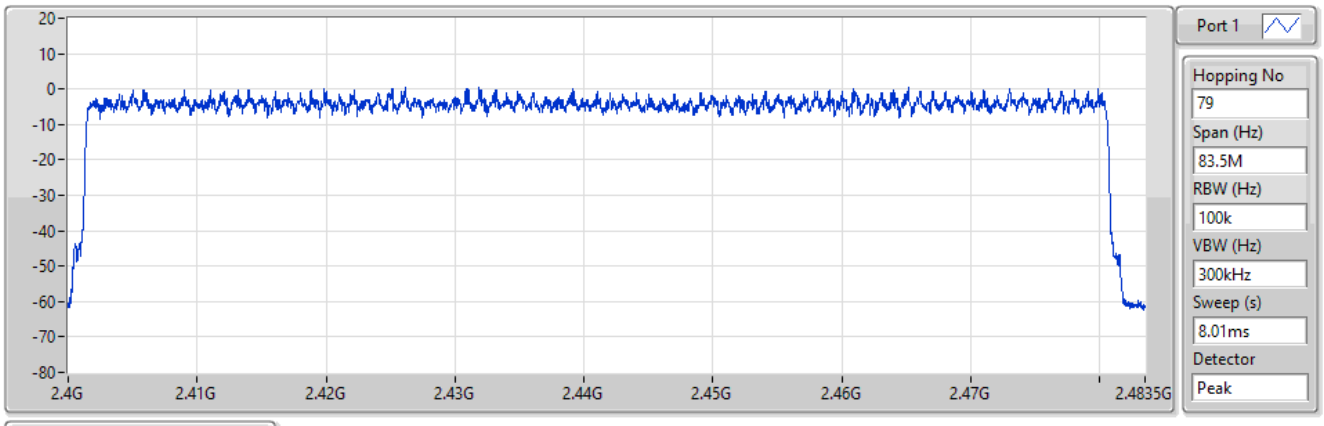
Hopping Ch Bandedge (Restricted Band)



Ref(Hz)	Ref(dBuV/m)	BE-I(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)
2.40814G	101.79	2.388295G	48.55	18.45	2.49265G	47.06	16.96	74	54	3.125	-30.1

2.4-2.4835GHz_BT-EDR(2Mbps) **Hopping-FS**

2440MHz

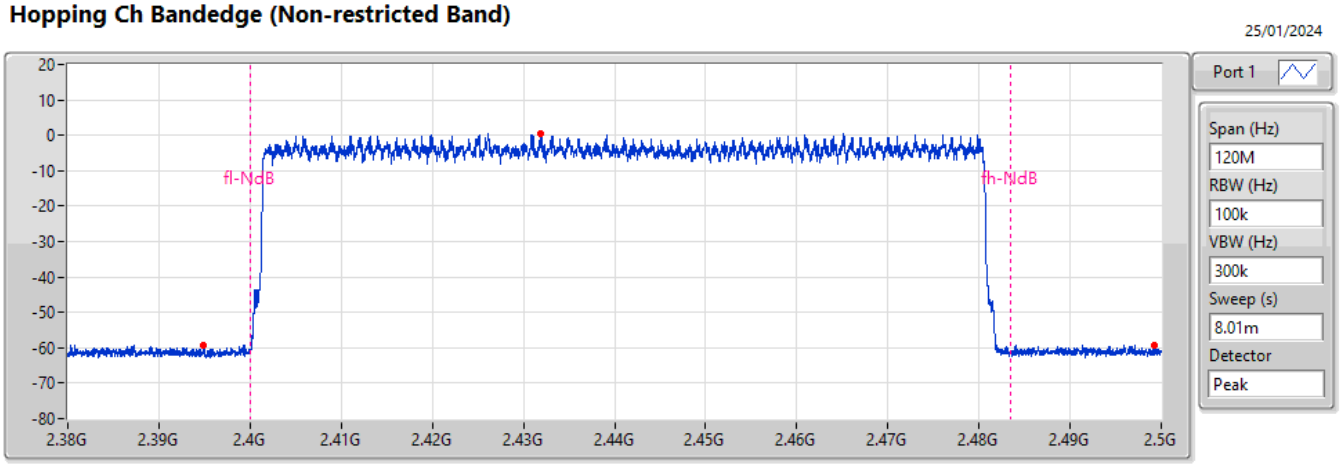


Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

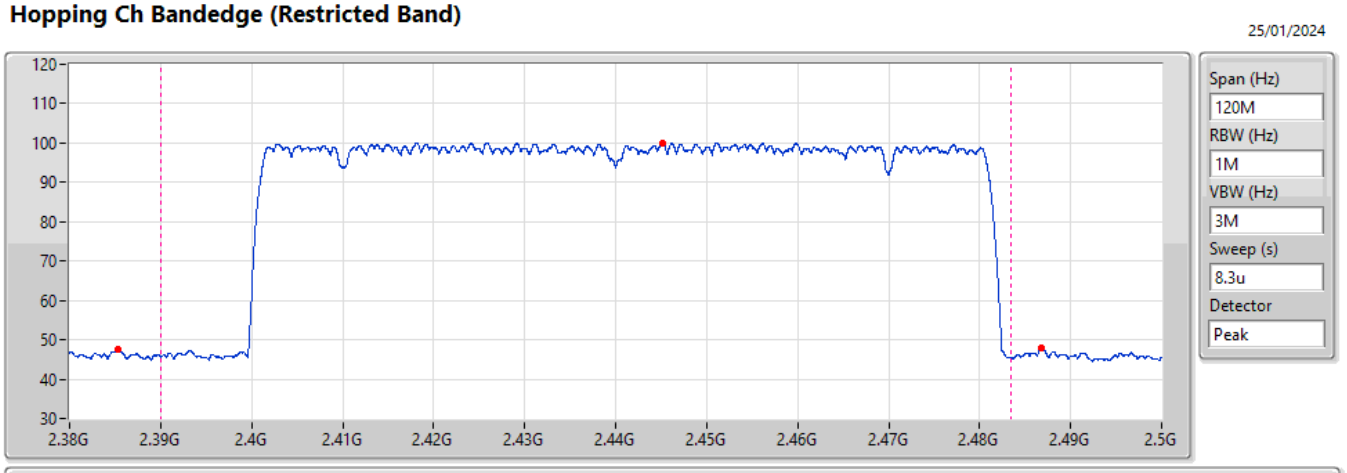


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-19.6	2.43184G	0.4	2.394925G	-59.31	2.499265G	-59.16

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

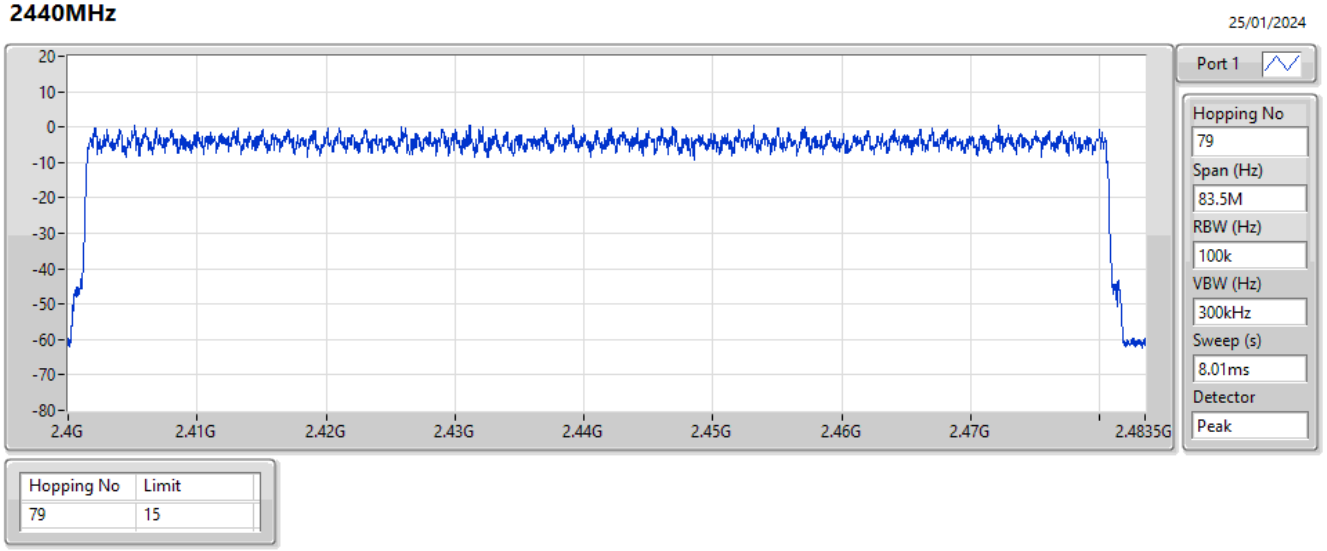
Hopping Ch Bandedge (Restricted Band)



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)
2.4451G	100.08	2.38525G	47.53	17.43	2.48683G	47.78	17.68	74	54	3.125	-30.1

2.4-2.4835GHz_BT-EDR(3Mbps) **Hopping-FS**

2440MHz

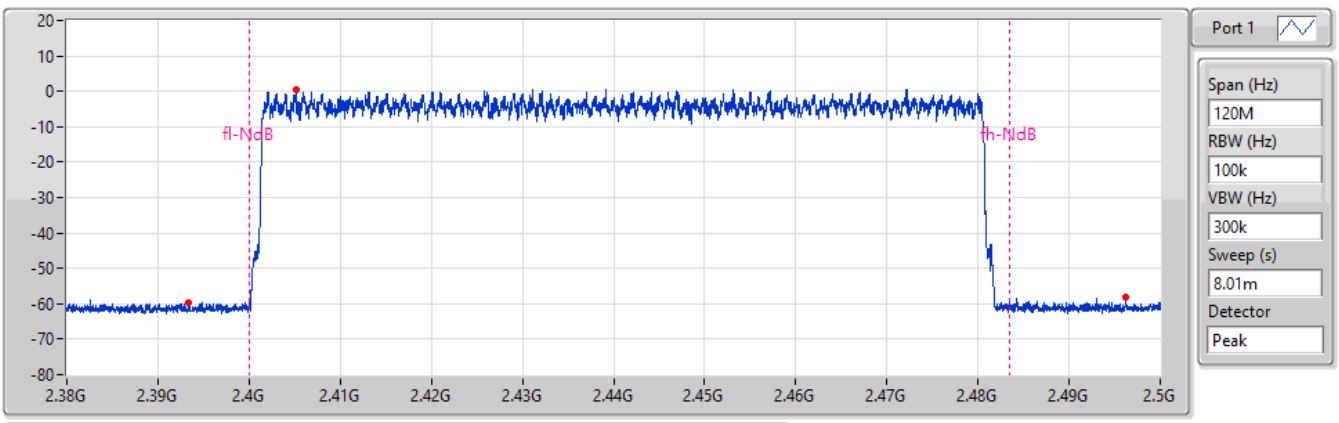


Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

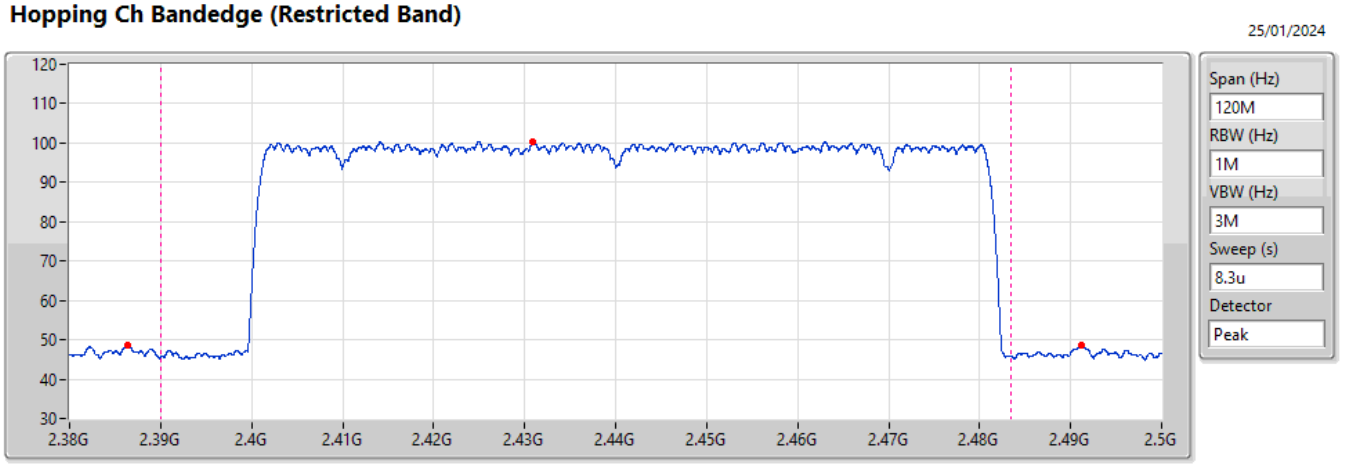


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-19.53	2.405155G	0.47	2.39335G	-59.73	2.496235G	-58.11

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)



Ref(Hz)	Ref(dBuV/m)	BE-I(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)
2.43094G	100.24	2.38639G	48.74	18.64	2.491165G	48.55	18.45	74	54	3.125	-30.1

Summary

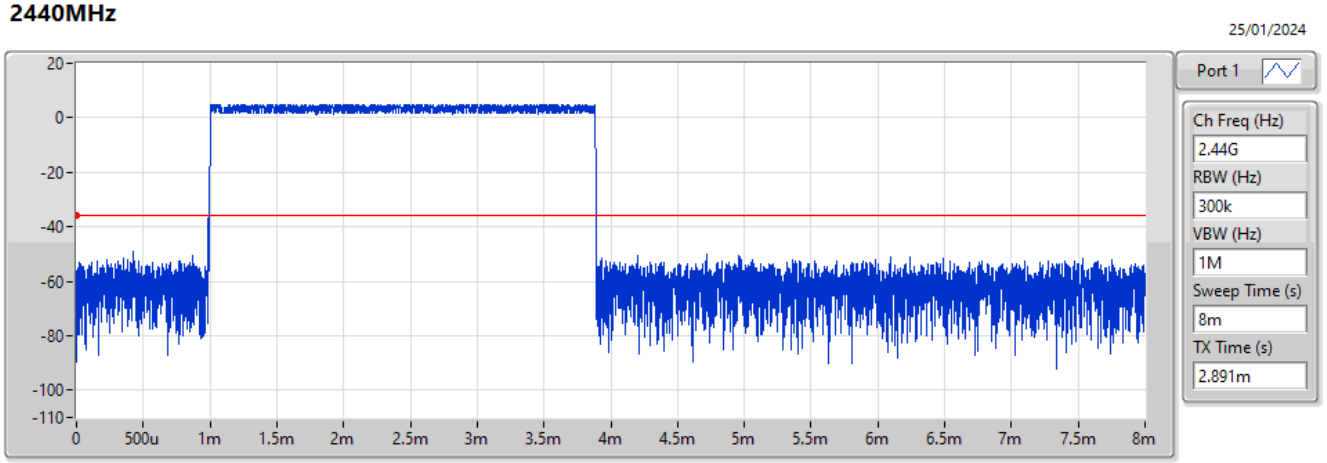
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.1806m_DH5
BT-EDR(2Mbps)	309.0867m_DH5
BT-EDR(3Mbps)	309.2466m_DH5

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.1806m_DH5	400m	2.891m
2440MHz	Pass	8	154.0903m_DH5-AFH	400m	2.891m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.0867m_DH5	400m	2.8995m
2440MHz	Pass	8	154.503375m_DH5-AFH	400m	2.89875m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.2466m_DH5	400m	2.901m
2440MHz	Pass	8	154.6233m_DH5-AFH	400m	2.901m

2.4-2.4835GHz_BT-BR(1Mbps) **Dwell-FS**

2440MHz

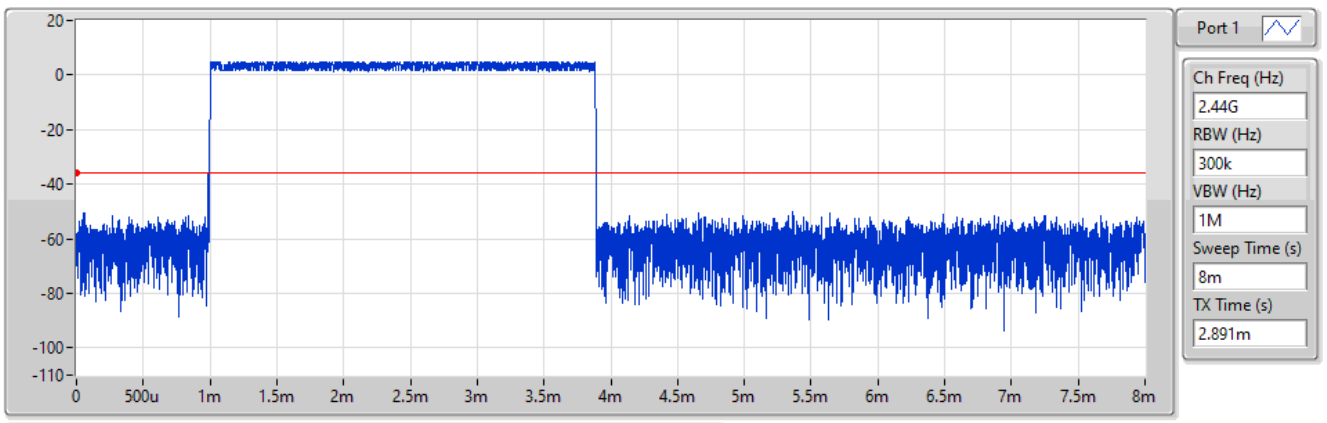


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.1806m_DH5	400m	2.891m

DH5

2.4-2.4835GHz_BT-BR(1Mbps) **Dwell-FS**

2440MHz



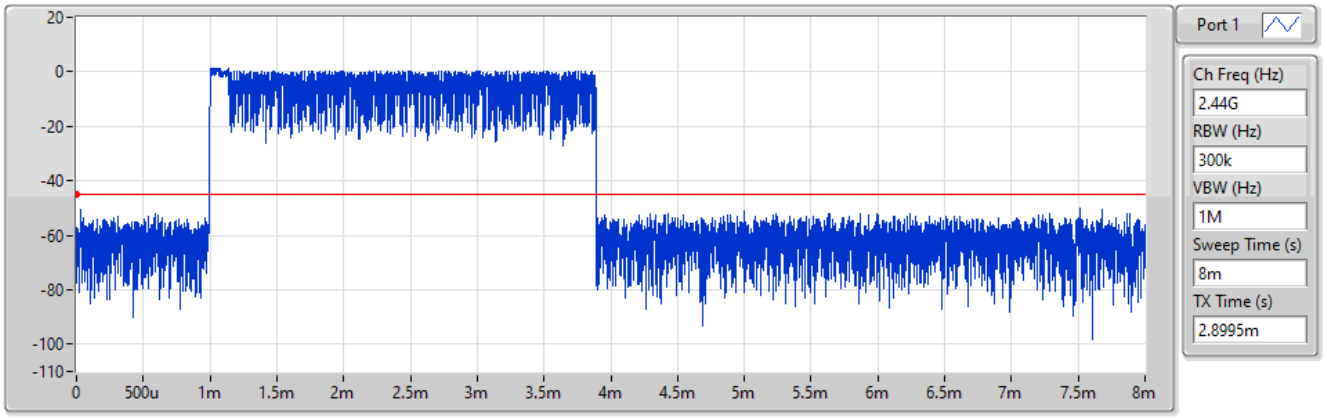
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.0903m_DH5-AFH	400m	2.891m

DH5-AFH

2.4-2.4835GHz_BT-EDR(2Mbps) **Dwell-FS**

2440MHz

25/01/2024



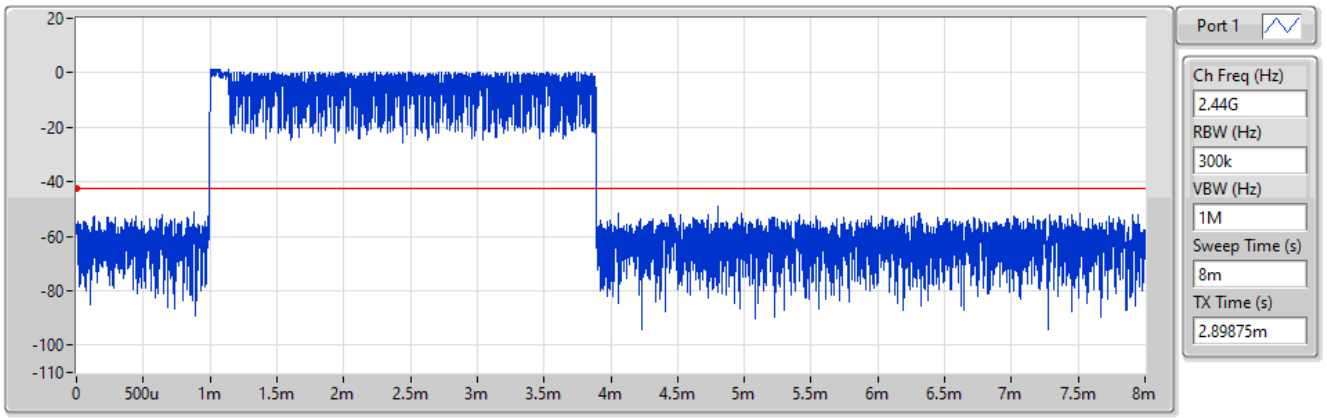
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	309.0867m_DH5	400m	2.8995m

DH5

2.4-2.4835GHz_BT-EDR(2Mbps) **Dwell-FS**

2440MHz

25/01/2024

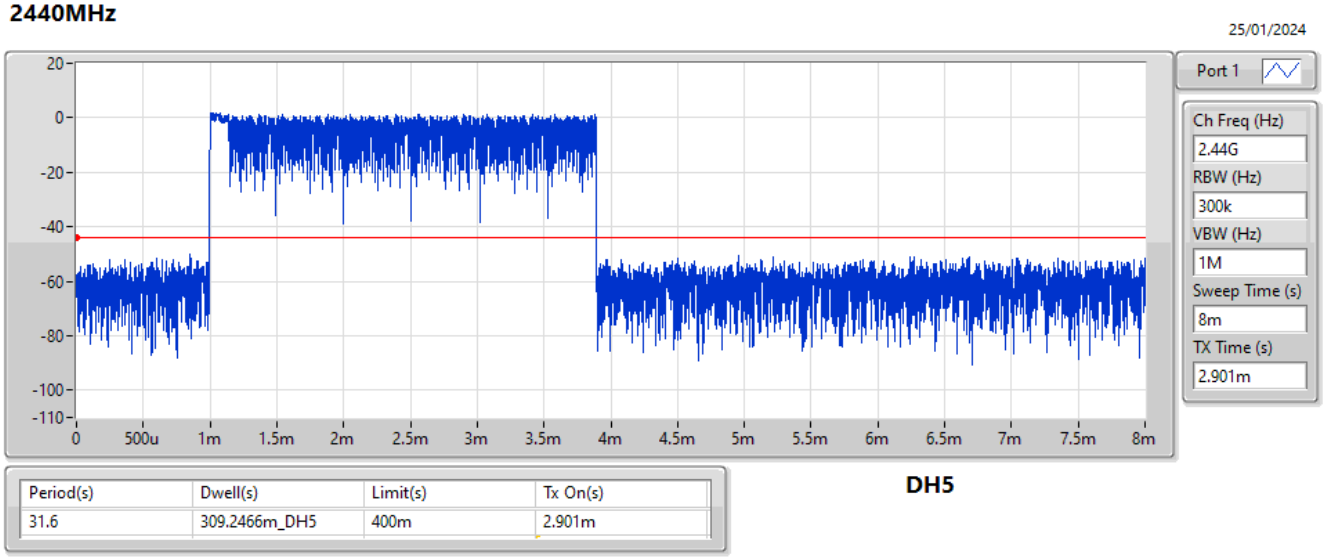


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.503375m_DH5-AFI	400m	2.89875m

DH5-AFH

2.4-2.4835GHz_BT-EDR(3Mbps) **Dwell-FS**

2440MHz

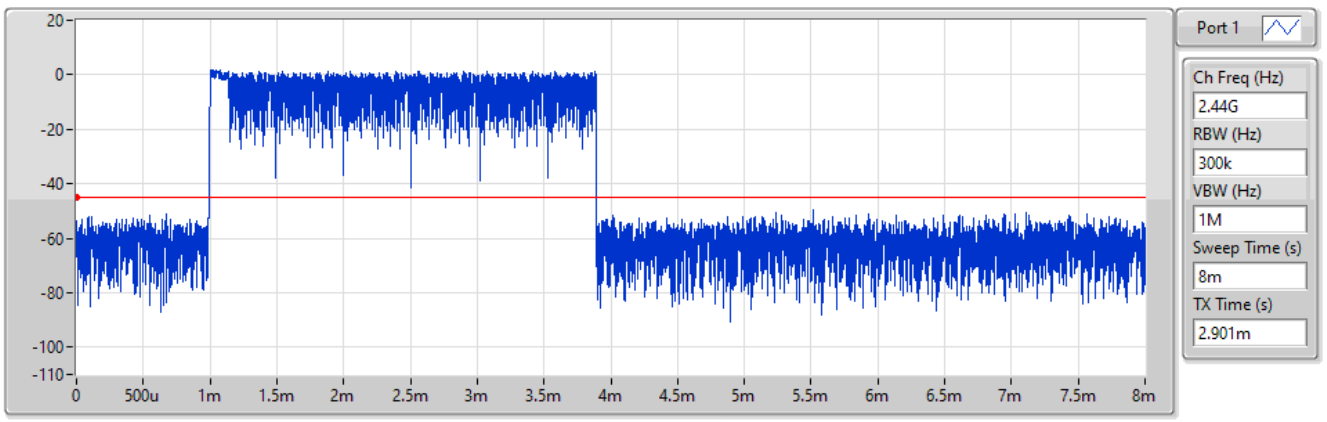


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	309.2466m_DH5	400m	2.901m

DH5

2.4-2.4835GHz_BT-EDR(3Mbps) **Dwell-FS**

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.6233m_DH5-AFH	400m	2.901m

DH5-AFH

Summary

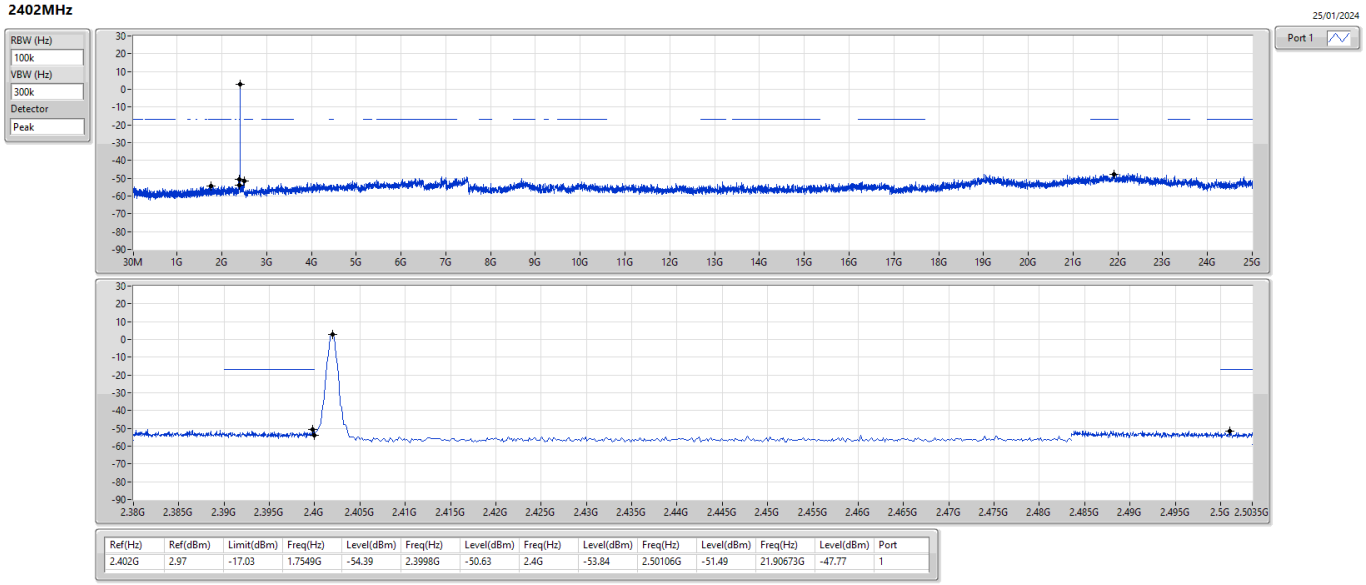
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.402G	2.97	-17.03	1.7549G	-54.39	2.3998G	-50.63	2.4G	-53.84	2.50106G	-51.49	21.90673G	-47.77	1
BT-EDR(2Mbps)	Pass	2.402G	-0.48	-20.48	1.7737G	-54.29	2.39004G	-50.81	2.4G	-53.79	2.50342G	-52.24	21.72957G	-47.55	1
BT-EDR(3Mbps)	Pass	2.402G	-0.56	-20.56	1.82893G	-54.23	2.3946G	-50.39	2.4G	-56.18	2.50086G	-50.98	21.71832G	-47.29	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	2.97	-17.03	1.7549G	-54.39	2.3998G	-50.63	2.4G	-53.84	2.50106G	-51.49	21.90673G	-47.77	1
2440MHz	Pass	2.44008G	3.33	-16.67	1.7596G	-54.28	2.3904G	-50.66	2.4G	-56.74	2.50262G	-51.18	21.72114G	-47.37	1
2480MHz	Pass	2.47999G	3.10	-16.90	2.004G	-53.77	2.39044G	-51.01	2.4G	-56.83	2.50002G	-52.08	21.72114G	-47.27	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	-0.48	-20.48	1.7737G	-54.29	2.39004G	-50.81	2.4G	-53.79	2.50342G	-52.24	21.72957G	-47.55	1
2440MHz	Pass	2.43975G	0.09	-19.91	51.15M	-53.89	2.39644G	-51.38	2.4G	-56.51	2.5009G	-51.72	21.77175G	-46.87	1
2480MHz	Pass	2.47999G	-0.29	-20.29	2.11563G	-54.39	2.3952G	-51.29	2.4G	-57.02	2.5005G	-51.18	21.93204G	-46.93	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	-0.56	-20.56	1.82893G	-54.23	2.3946G	-50.39	2.4G	-56.18	2.50086G	-50.98	21.71832G	-47.29	1
2440MHz	Pass	2.44008G	-0.04	-20.04	287.33M	-52.99	2.39872G	-51.49	2.4G	-55.66	2.50162G	-51.24	21.58616G	-47.30	1
2480MHz	Pass	2.48016G	-0.25	-20.25	1.7737G	-54.03	2.39044G	-51.57	2.4G	-57.16	2.50026G	-52.53	21.72957G	-46.51	1

2.4-2.4835GHz_BT-BR(1Mbps) CSENdB-FS

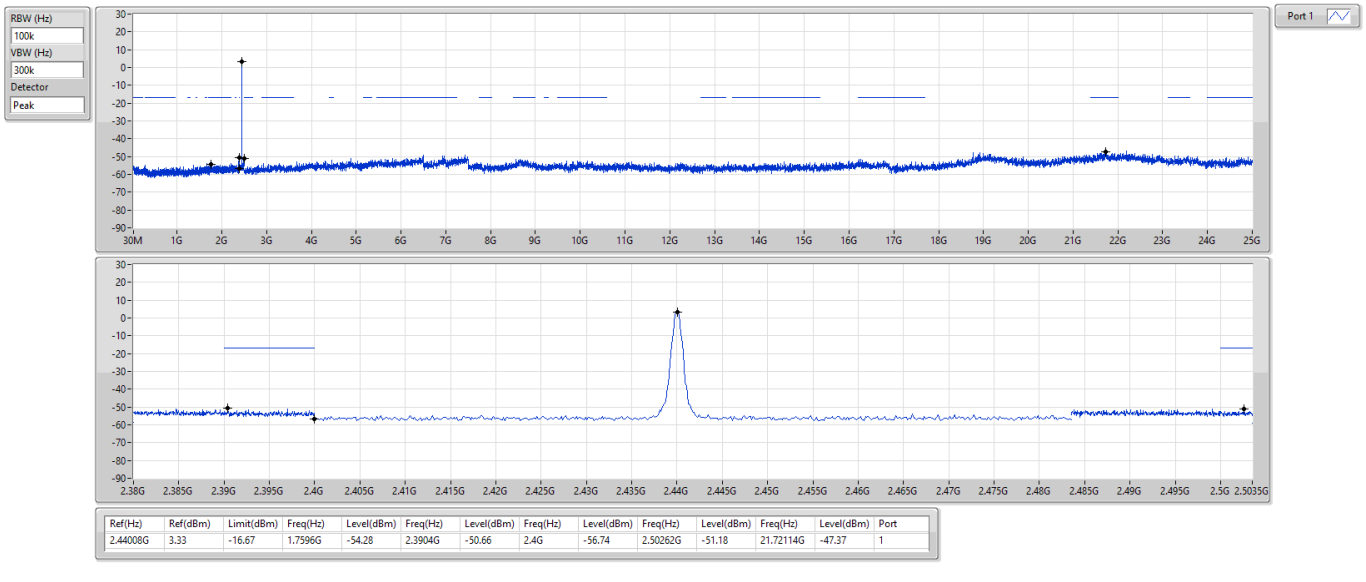
2402MHz



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	2.97	-17.03	1.7549G	-54.39	2.3998G	-50.63	2.4G	-53.84	2.50106G	-51.49	21.90673G	-47.77	1

2.4-2.4835GHz_BT-BR(1Mbps) CSENdB-FS

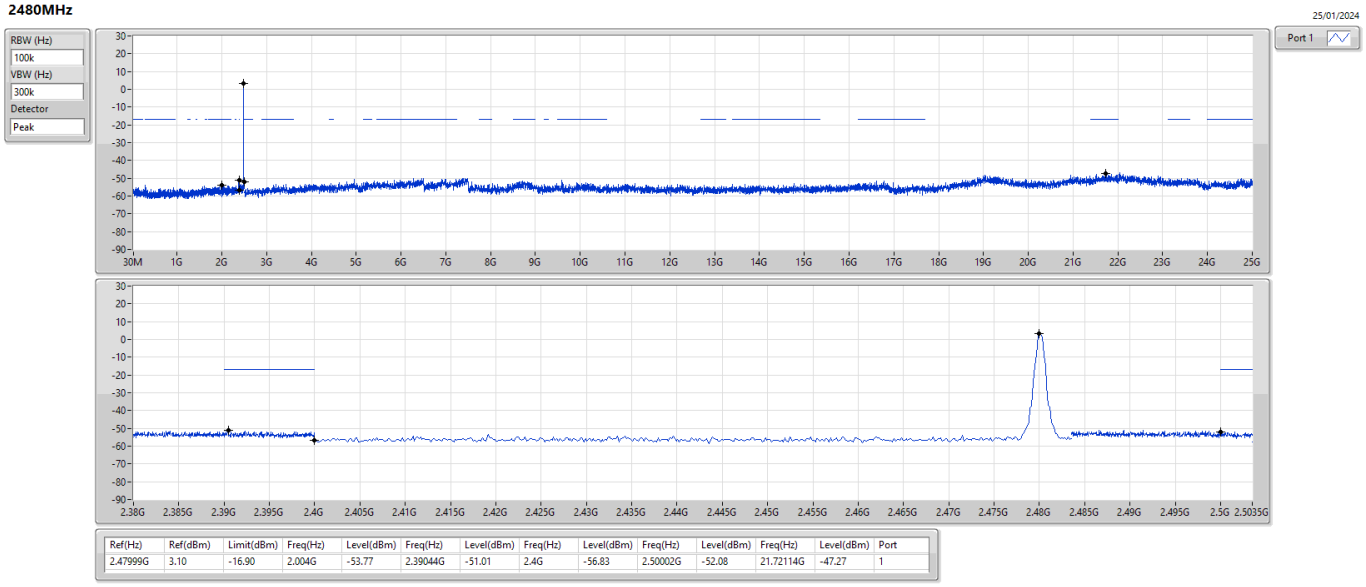
2440MHz



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
2.44008G	3.33	-16.67	1.7596G	-54.28	2.3904G	-50.66	2.4G	-56.74	2.50262G	-51.18	21.72114G	-47.37	1

2.4-2.4835GHz_BT-BR(1Mbps) **CSENdB-FS**

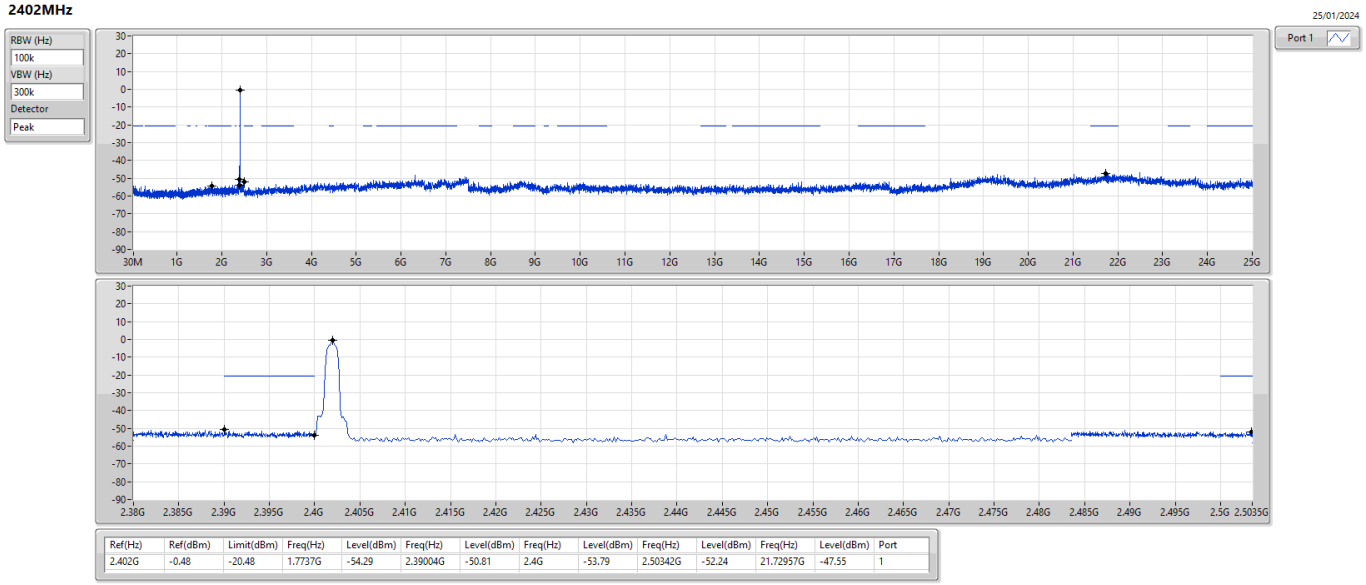
2480MHz



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
2.47999G	3.10	-16.90	2.004G	-53.77	2.39044G	-51.01	2.4G	-56.83	2.50002G	-52.08	21.72114G	-47.27	1

2.4-2.4835GHz_BT-EDR(2Mbps) **CSENdB-FS**

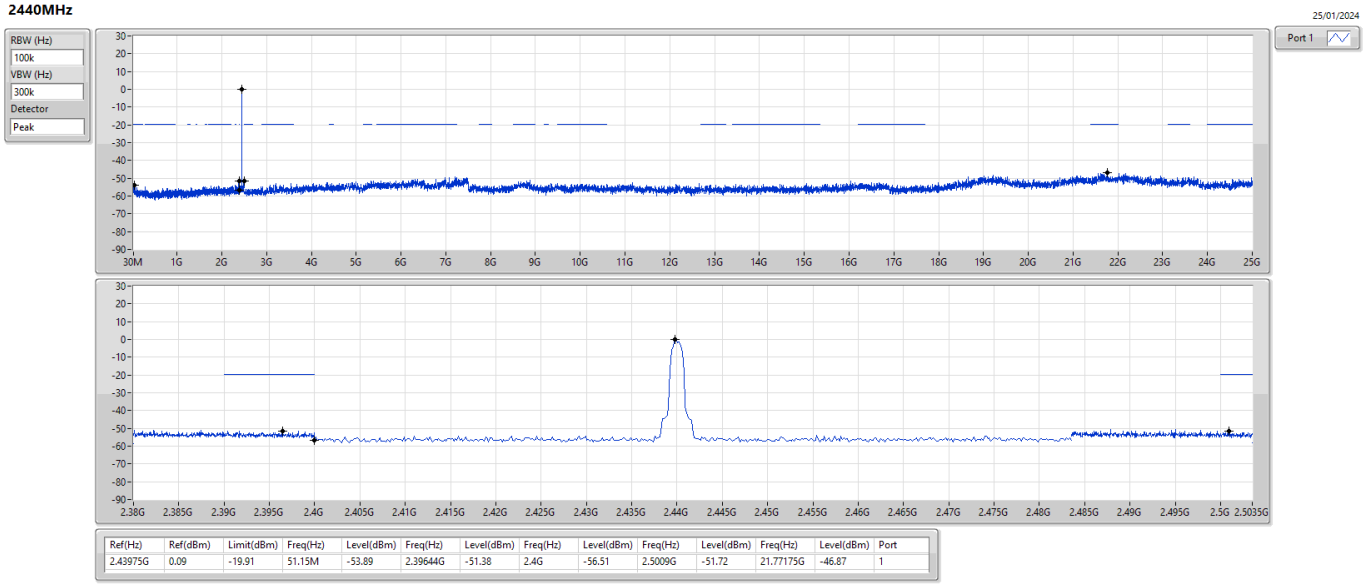
2402MHz



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
2.402G	-0.48	-20.48	1.7737G	-54.29	2.39004G	-50.81	2.4G	-53.79	2.50342G	-52.24	21.72957G	-47.55	1

2.4-2.4835GHz_BT-EDR(2Mbps) CSENdB-FS

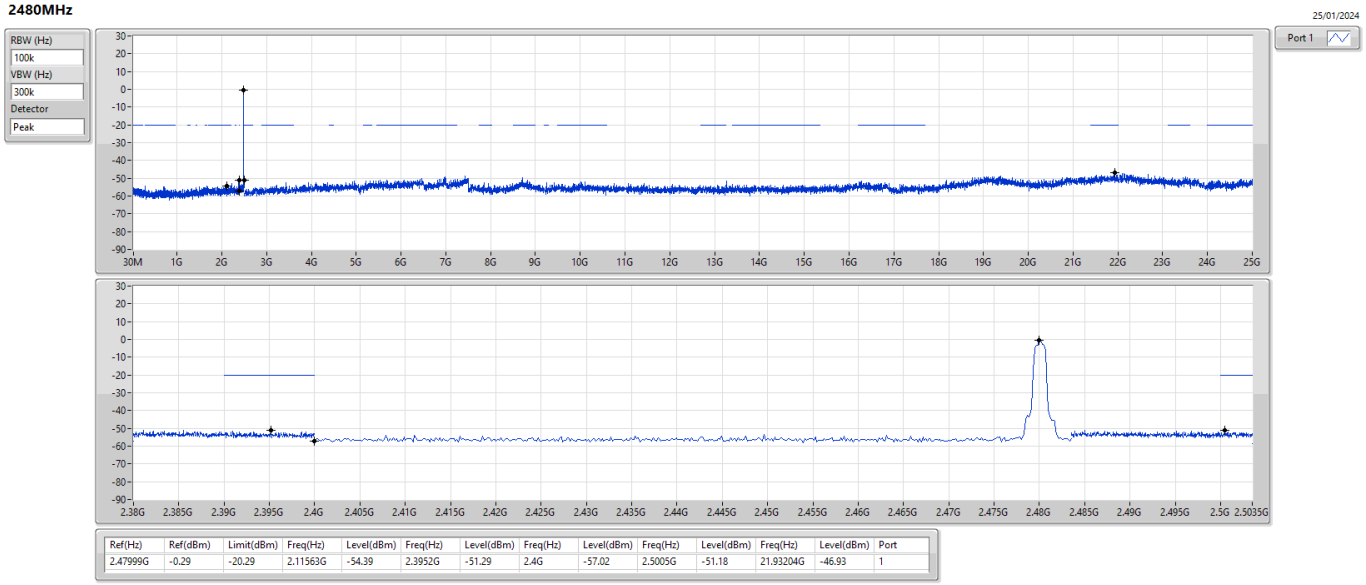
2440MHz



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
2.43975G	0.09	-19.91	51.15M	-53.89	2.39644G	-51.38	2.4G	-56.51	2.5009G	-51.72	21.77175G	-46.87	1

2.4-2.4835GHz_BT-EDR(2Mbps) CSENdB-FS

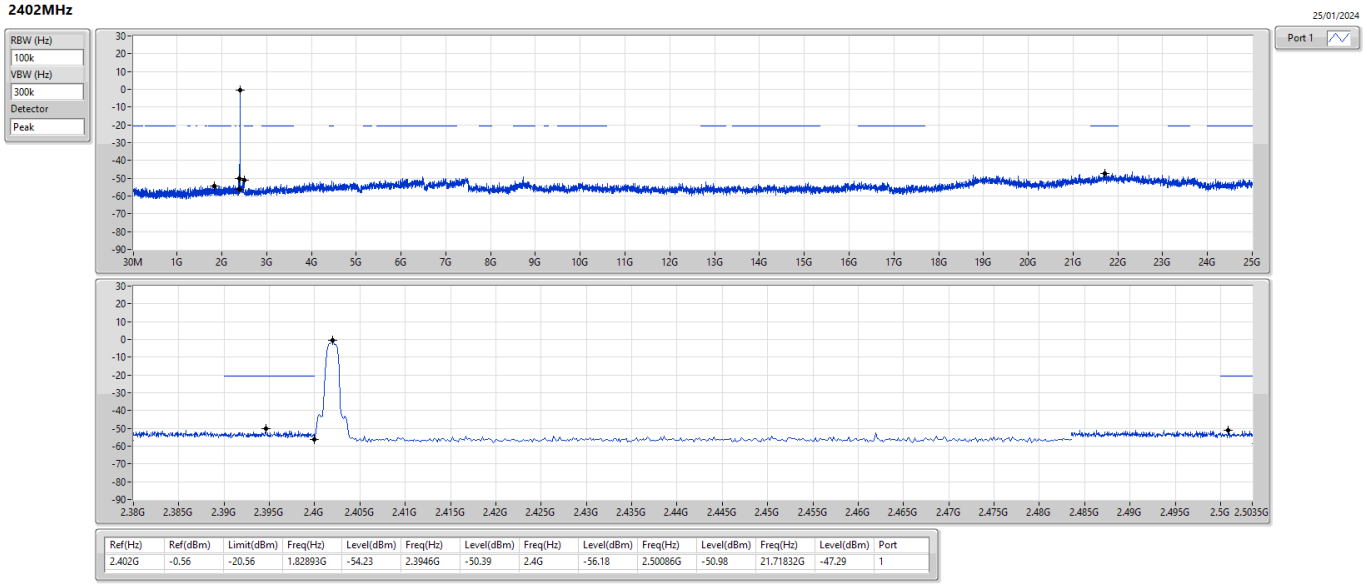
2480MHz



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
2.47999G	-0.29	-20.29	2.11563G	-54.39	2.3952G	-51.29	2.4G	-57.02	2.5005G	-51.18	21.93204G	-46.93	1

2.4-2.4835GHz_BT-EDR(3Mbps) CSENdB-FS

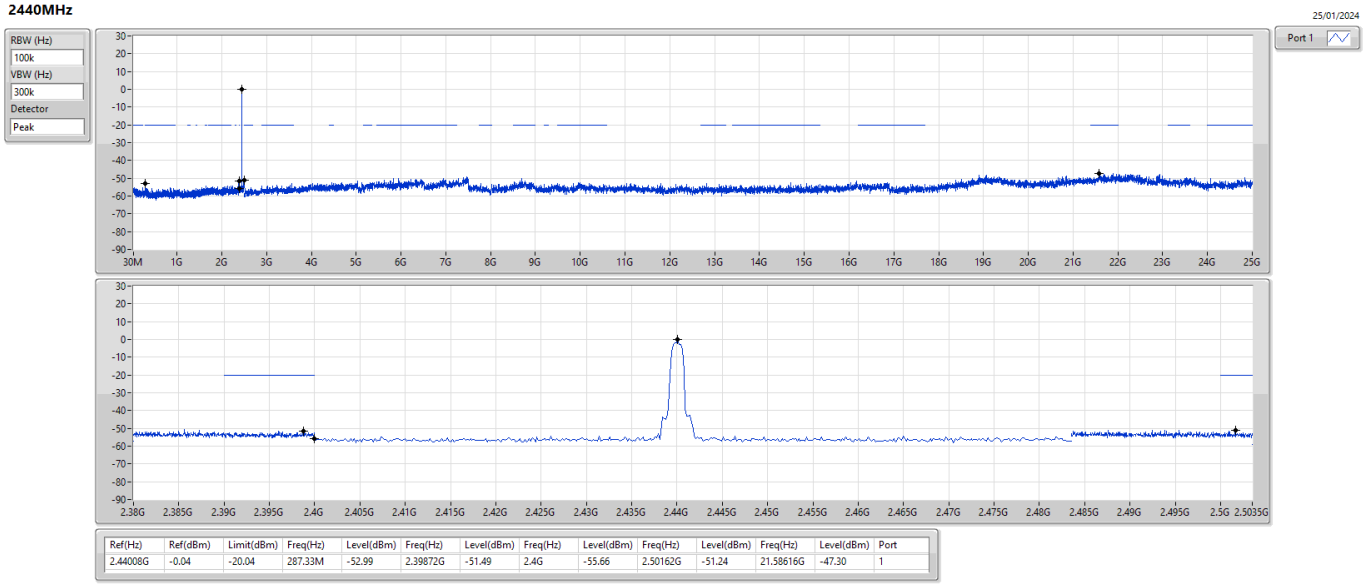
2402MHz



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
2.402G	-0.56	-20.56	1.82893G	-54.23	2.3946G	-50.39	2.4G	-56.18	2.50086G	-50.98	21.71832G	-47.29	1

2.4-2.4835GHz_BT-EDR(3Mbps) CSENdB-FS

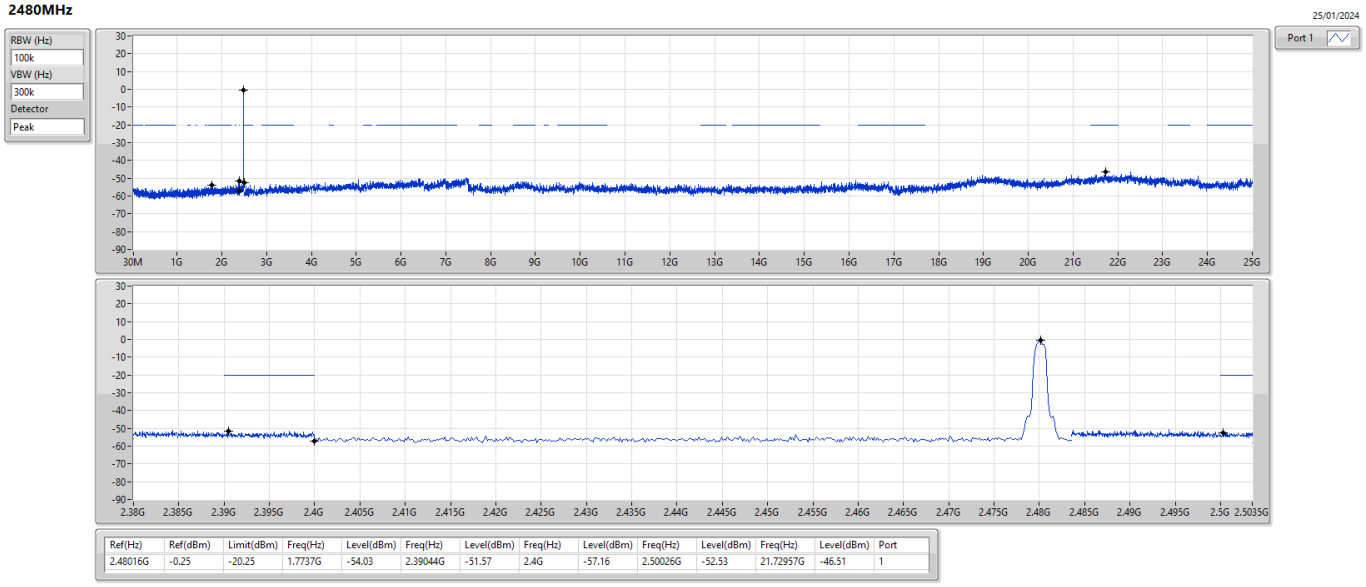
2440MHz



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
2.44008G	-0.04	-20.04	287.33M	-52.99	2.39872G	-51.49	2.4G	-55.66	2.50162G	-51.24	21.58616G	-47.30	1

2.4-2.4835GHz_BT-EDR(3Mbps) CSENdB-FS

2480MHz

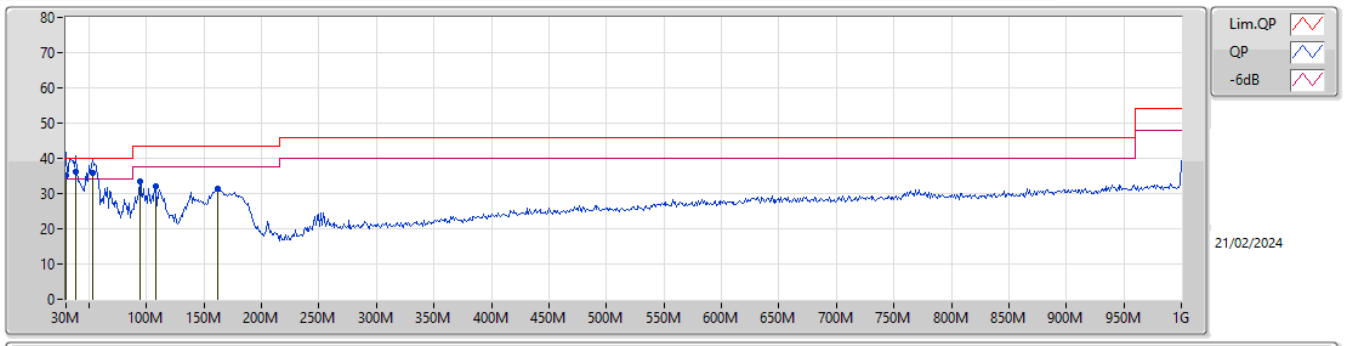


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48016G	-0.25	-20.25	1.7737G	-54.03	2.39044G	-51.57	2.4G	-57.16	2.50026G	-52.53	21.72957G	-46.51	1

Summary

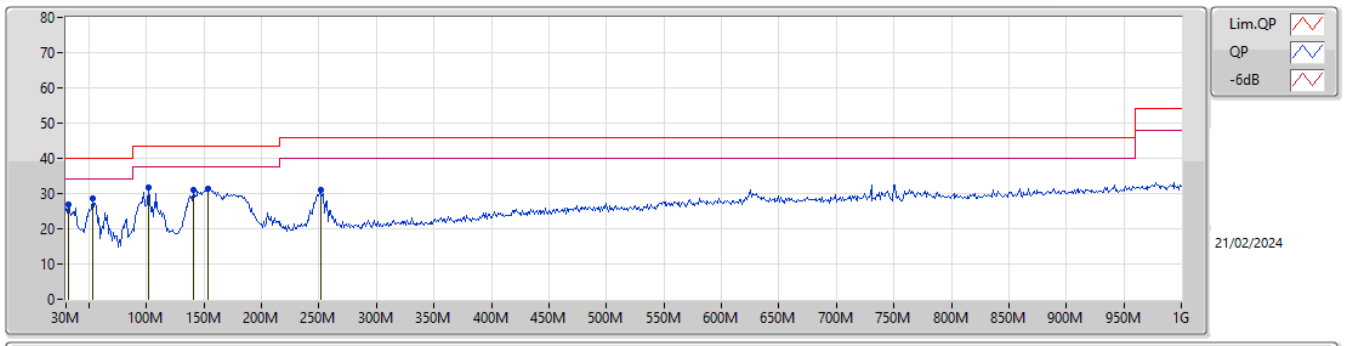
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 4	Pass	QP	38.73M	36.12	40.00	-3.88	Vertical

Mode 4



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	30M	35.14	40.00	-4.86	-6.67	3	Vertical	2	1.00	-	41.81	24.11	0.76	31.54
QP	38.73M	36.12	40.00	-3.88	-11.17	3	Vertical	231	1.00	"Worst"	47.29	19.45	1.14	31.76
QP	53.28M	35.75	40.00	-4.25	-17.43	3	Vertical	161	1.00	-	53.18	13.14	1.31	31.88
PK	94.02M	33.39	43.50	-10.11	-14.47	3	Vertical	34	1.25	-	47.86	15.82	1.71	32.00
PK	108.57M	32.21	43.50	-11.29	-12.40	3	Vertical	360	1.00	-	44.61	17.73	1.83	31.96
PK	161.92M	31.51	43.50	-11.99	-13.93	3	Vertical	169	1.00	-	45.44	15.89	2.23	32.05

Mode 4



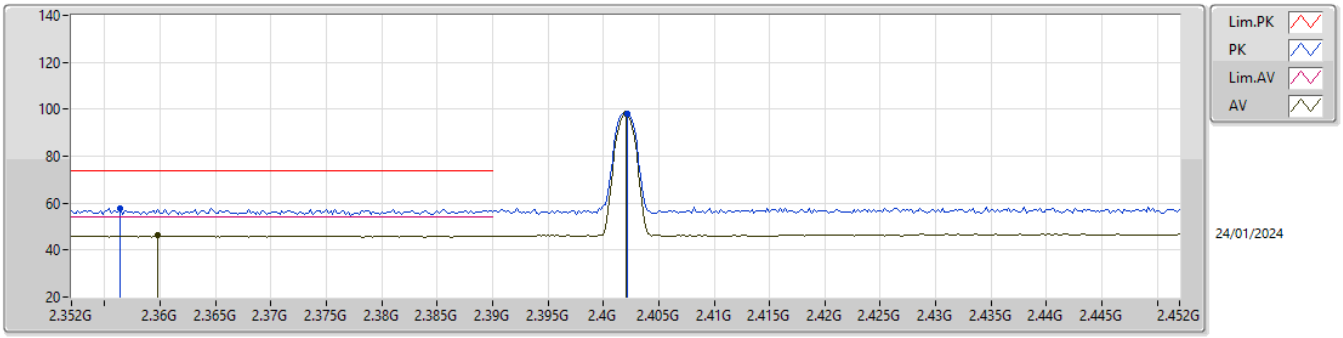
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	31.94M	26.73	40.00	-13.27	-7.54	3	Horizontal	331	1.00	-	34.27	23.16	0.89	31.59
PK	53.28M	28.79	40.00	-11.21	-17.43	3	Horizontal	68	3.00	"Worst"	46.22	13.14	1.31	31.88
PK	101.78M	31.79	43.50	-11.71	-13.16	3	Horizontal	51	3.00	-	44.95	17.01	1.77	31.94
PK	140.58M	30.93	43.50	-12.57	-12.81	3	Horizontal	240	2.00	-	43.74	17.09	2.07	31.97
PK	153.19M	31.51	43.50	-11.99	-13.56	3	Horizontal	257	2.00	-	45.07	16.29	2.17	32.02
PK	251.16M	31.16	46.00	-14.84	-10.82	3	Horizontal	88	1.00	-	41.98	18.38	2.84	32.04

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	2.4852G	47.43	54.00	-6.57	3	Vertical	327	2.09	-

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz_TX

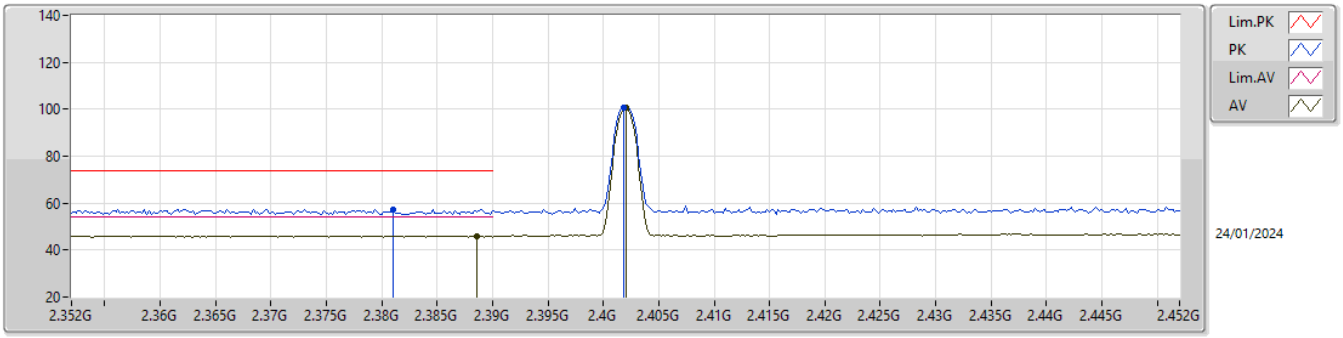


EUT Y_1TX
Setting Default
05-H-G-4

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	2.3564G	57.94	74.00	-16.06	26.02	3	Vertical	339	2.70	-	27.26	4.66	-
AV	2.3598G	46.35	54.00	-7.65	14.38	3	Vertical	339	2.70	-	27.30	4.67	-
PK	2.4022G	98.32	Inf	-Inf	66.11	3	Vertical	339	2.70	-	27.50	4.71	-
AV	2.402G	97.89	Inf	-Inf	65.68	3	Vertical	339	2.70	-	27.50	4.71	-

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz_TX

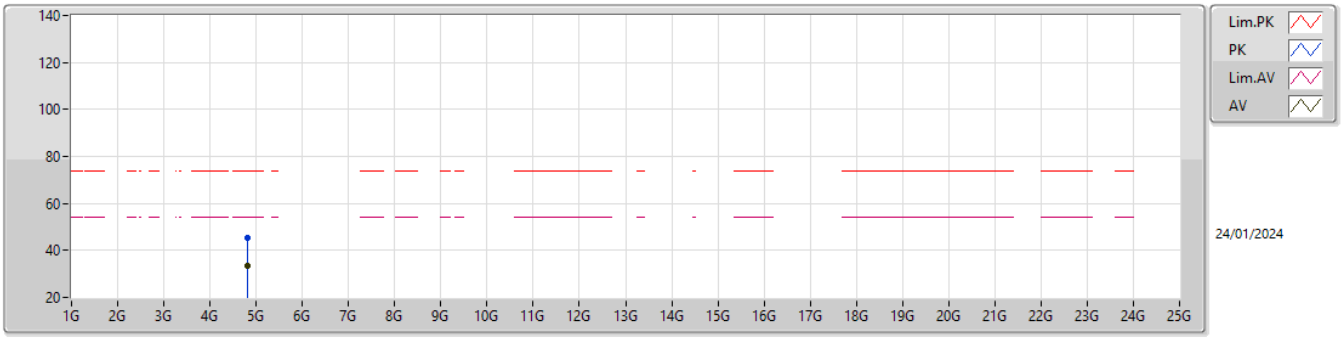


EUT Y_1TX
Setting Default
05-H-G-4

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	2.381G	57.43	74.00	-16.57	25.43	3	Horizontal	48	2.00	-	27.31	4.69	-
AV	2.3886G	46.10	54.00	-7.90	14.01	3	Horizontal	48	2.00	-	27.39	4.70	-
PK	2.4018G	100.89	Inf	-Inf	68.68	3	Horizontal	48	2.00	-	27.50	4.71	-
AV	2.402G	100.47	Inf	-Inf	68.26	3	Horizontal	48	2.00	-	27.50	4.71	-

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz_TX

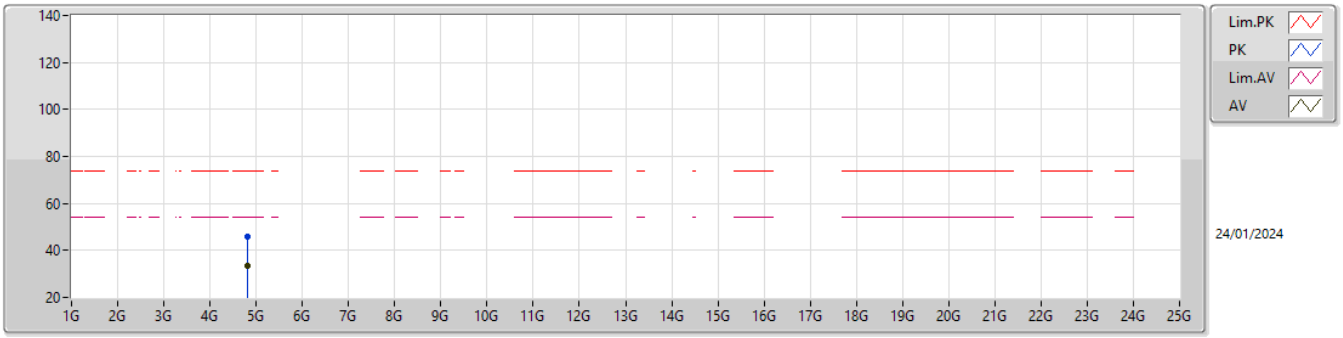


EUT Y_1TX
Setting Default
05-H-G-4

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	4.80034G	45.40	74.00	-28.60	41.47	3	Vertical	133	1.77	-	32.40	7.14	35.61
AV	4.80316G	33.56	54.00	-20.44	29.61	3	Vertical	133	1.77	-	32.42	7.14	35.61

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz_TX

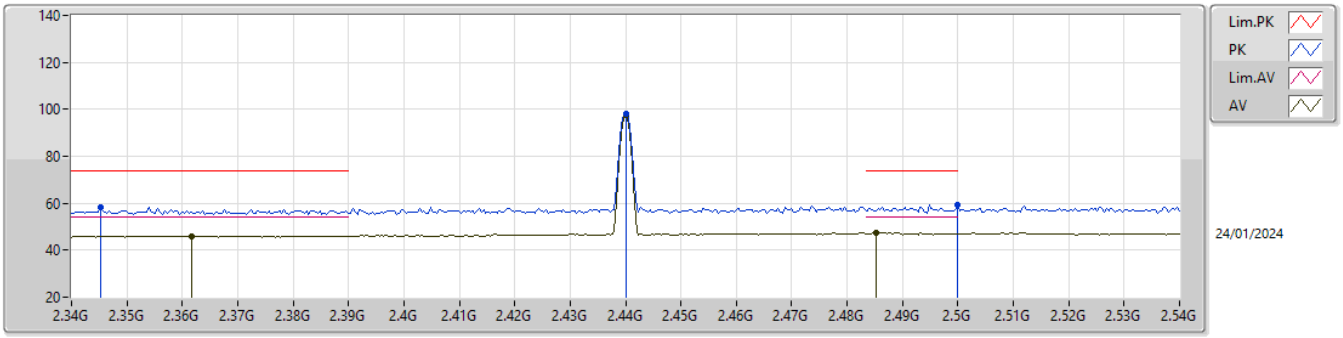


EUT Y_1TX
Setting Default
05-H-G-4

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	4.80784G	46.08	74.00	-27.92	42.10	3	Horizontal	81	2.35	-	32.45	7.14	35.61
AV	4.80166G	33.55	54.00	-20.45	29.61	3	Horizontal	81	2.35	-	32.41	7.14	35.61

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX

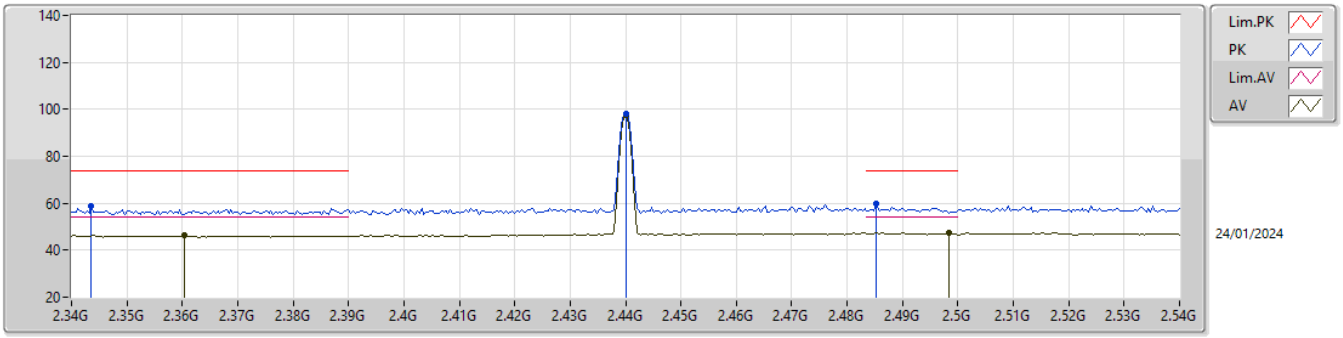


EUT Y_1TX
Setting Default
05-H-G-4

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	2.3452G	58.36	74.00	-15.64	26.51	3	Vertical	327	2.09	-	27.20	4.65	-
AV	2.3616G	46.09	54.00	-7.91	14.12	3	Vertical	327	2.09	-	27.30	4.67	-
PK	2.44G	97.92	Inf	-Inf	65.46	3	Vertical	327	2.09	-	27.70	4.76	-
AV	2.44G	97.49	Inf	-Inf	65.03	3	Vertical	327	2.09	-	27.70	4.76	-
PK	2.5G	59.26	74.00	-14.74	26.53	3	Vertical	327	2.09	-	27.90	4.83	-
AV	2.4852G	47.43	54.00	-6.57	14.71	3	Vertical	327	2.09	-	27.90	4.82	-

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX

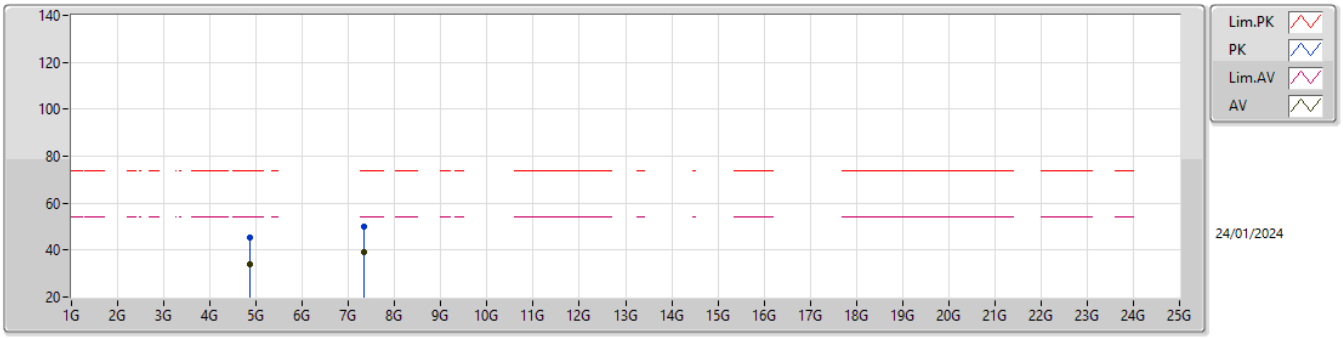


EUT Y_1TX
Setting Default
05-H-G-4

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	2.3436G	58.55	74.00	-15.45	26.70	3	Horizontal	49	2.24	-	27.20	4.65	-
AV	2.3604G	46.34	54.00	-7.66	14.37	3	Horizontal	49	2.24	-	27.30	4.67	-
PK	2.44G	97.98	Inf	-Inf	65.52	3	Horizontal	49	2.24	-	27.70	4.76	-
AV	2.44G	97.55	Inf	-Inf	65.09	3	Horizontal	49	2.24	-	27.70	4.76	-
PK	2.4852G	59.74	74.00	-14.26	27.02	3	Horizontal	49	2.24	-	27.90	4.82	-
AV	2.4984G	47.39	54.00	-6.61	14.66	3	Horizontal	49	2.24	-	27.90	4.83	-

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX

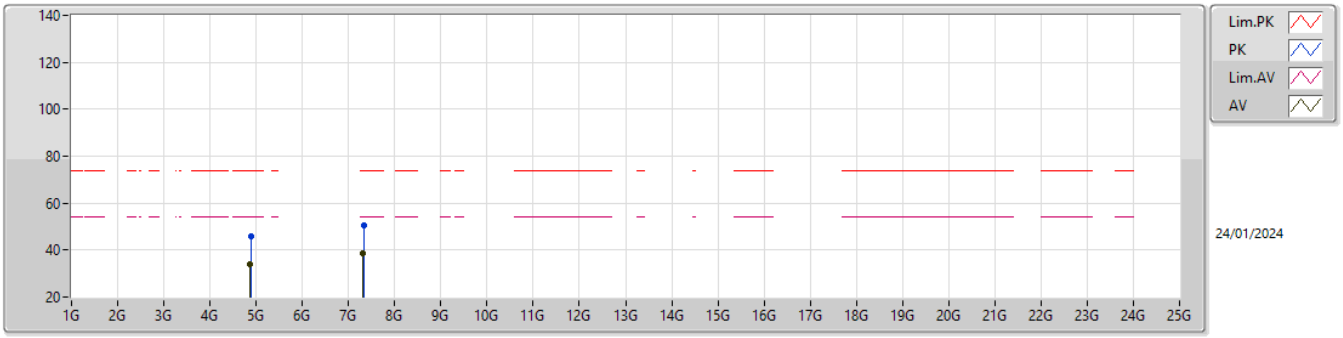


EUT Y_1TX
Setting Default
05-H-G-4

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	4.87692G	45.53	74.00	-28.47	41.23	3	Vertical	246	2.33	-	32.70	7.19	35.59
AV	4.87606G	33.90	54.00	-20.10	29.60	3	Vertical	246	2.33	-	32.70	7.19	35.59
PK	7.3232G	50.23	74.00	-23.77	39.56	3	Vertical	289	1.54	-	36.81	8.61	34.75
AV	7.32618G	38.94	54.00	-15.06	28.28	3	Vertical	289	1.54	-	36.80	8.61	34.75

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX

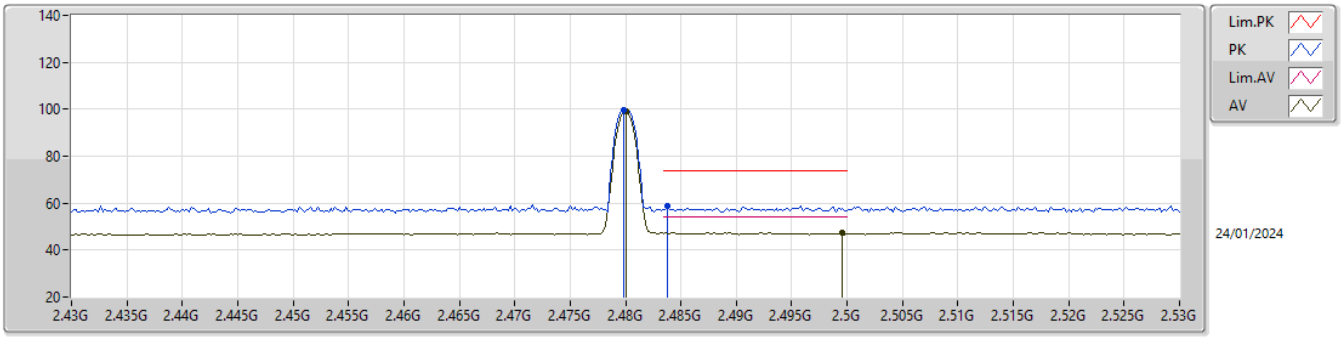


EUT Y_1TX
Setting Default
05-H-G-4

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	4.879776G	45.89	74.00	-28.11	41.59	3	Horizontal	310	2.89	-	32.70	7.19	35.59
AV	4.87508G	34.07	54.00	-19.93	29.77	3	Horizontal	310	2.89	-	32.70	7.19	35.59
PK	7.3225G	50.36	74.00	-23.64	39.69	3	Horizontal	262	1.41	-	36.81	8.61	34.75
AV	7.315G	38.82	54.00	-15.18	28.14	3	Horizontal	262	1.41	-	36.84	8.61	34.77

2.4-2.4835GHz_BT-BR(1Mbps)

2480MHz_TX

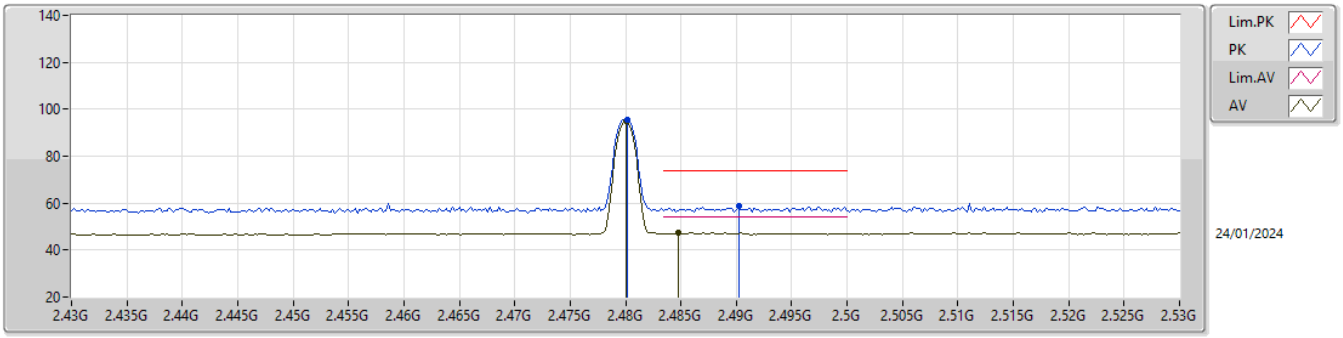


EUT Y_1TX
Setting Default
05-H-G-4

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	99.65	Inf	-Inf	66.94	3	Vertical	329	1.18	-	27.90	4.81	-
AV	2.48G	99.23	Inf	-Inf	66.52	3	Vertical	329	1.18	-	27.90	4.81	-
PK	2.4838G	58.58	74.00	-15.42	25.87	3	Vertical	329	1.18	-	27.90	4.81	-
AV	2.4996G	47.38	54.00	-6.62	14.65	3	Vertical	329	1.18	-	27.90	4.83	-

2.4-2.4835GHz_BT-BR(1Mbps)

2480MHz_TX

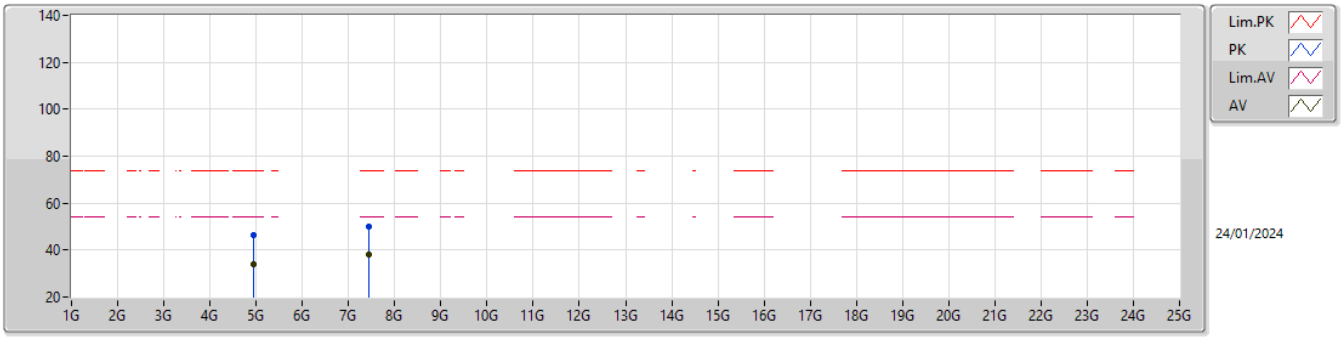


EUT Y_1TX
Setting Default
05-H-G-4

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	2.4802G	95.40	Inf	-Inf	62.69	3	Horizontal	298	1.42	-	27.90	4.81	-
AV	2.48G	94.93	Inf	-Inf	62.22	3	Horizontal	298	1.42	-	27.90	4.81	-
PK	2.4902G	58.57	74.00	-15.43	25.85	3	Horizontal	298	1.42	-	27.90	4.82	-
AV	2.4848G	47.18	54.00	-6.82	14.46	3	Horizontal	298	1.42	-	27.90	4.82	-

2.4-2.4835GHz_BT-BR(1Mbps)

2480MHz_TX

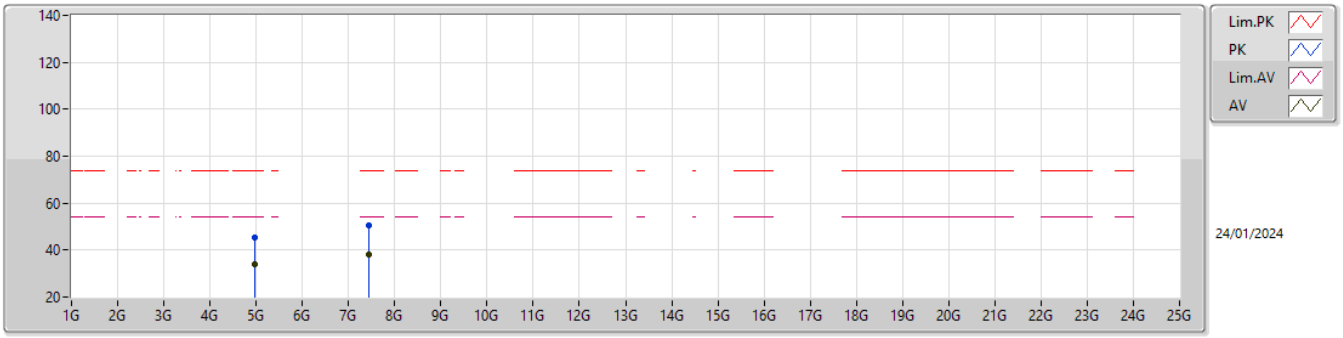


EUT Y_1TX
Setting Default
05-H-G-4

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	4.94956G	46.43	74.00	-27.57	41.87	3	Vertical	65	1.88	-	32.90	7.23	35.57
AV	4.95404G	34.06	54.00	-19.94	29.49	3	Vertical	65	1.88	-	32.91	7.23	35.57
PK	7.44702G	50.08	74.00	-23.92	39.37	3	Vertical	135	2.25	-	36.51	8.73	34.53
AV	7.44536G	38.20	54.00	-15.80	27.50	3	Vertical	135	2.25	-	36.51	8.72	34.53

2.4-2.4835GHz_BT-BR(1Mbps)

2480MHz_TX

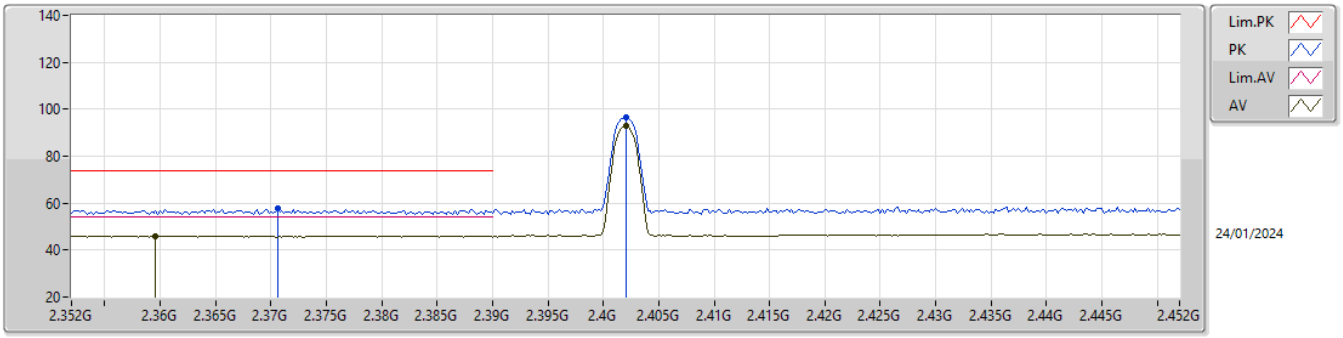


EUT Y_1TX
Setting Default
05-H-G-4

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	4.9643G	45.15	74.00	-28.85	40.55	3	Horizontal	180	2.06	-	32.93	7.24	35.57
AV	4.96058G	33.77	54.00	-20.23	29.18	3	Horizontal	180	2.06	-	32.92	7.24	35.57
PK	7.44102G	50.70	74.00	-23.30	40.00	3	Horizontal	42	2.19	-	36.52	8.72	34.54
AV	7.4427G	38.09	54.00	-15.91	27.39	3	Horizontal	42	2.19	-	36.51	8.72	34.53

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz_TX

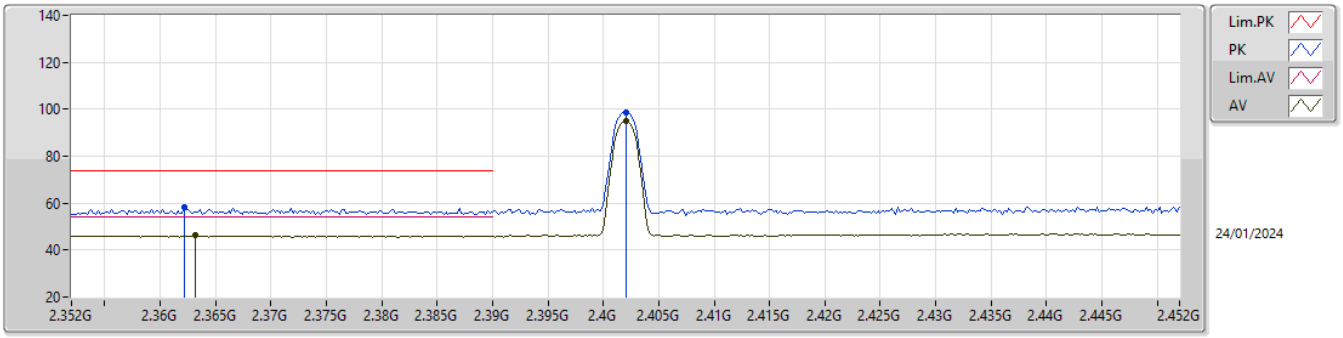


EUT Y_1TX
Setting Default
05-H-G-4

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	2.3706G	57.73	74.00	-16.27	25.75	3	Vertical	338	2.70	-	27.30	4.68	-
AV	2.3596G	46.10	54.00	-7.90	14.13	3	Vertical	338	2.70	-	27.30	4.67	-
PK	2.402G	96.43	Inf	-Inf	64.22	3	Vertical	338	2.70	-	27.50	4.71	-
AV	2.402G	92.69	Inf	-Inf	60.48	3	Vertical	338	2.70	-	27.50	4.71	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz_TX

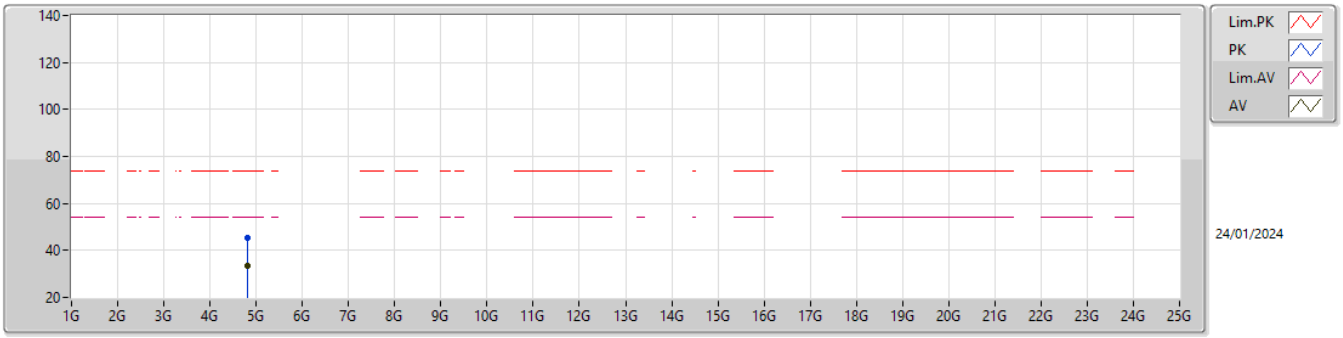


EUT Y_1TX
Setting Default
05-H-G-4

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	2.3622G	58.28	74.00	-15.72	26.31	3	Horizontal	44	1.80	-	27.30	4.67	-
AV	2.3632G	46.33	54.00	-7.67	14.36	3	Horizontal	44	1.80	-	27.30	4.67	-
PK	2.402G	98.69	Inf	-Inf	66.48	3	Horizontal	44	1.80	-	27.50	4.71	-
AV	2.402G	94.98	Inf	-Inf	62.77	3	Horizontal	44	1.80	-	27.50	4.71	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz_TX

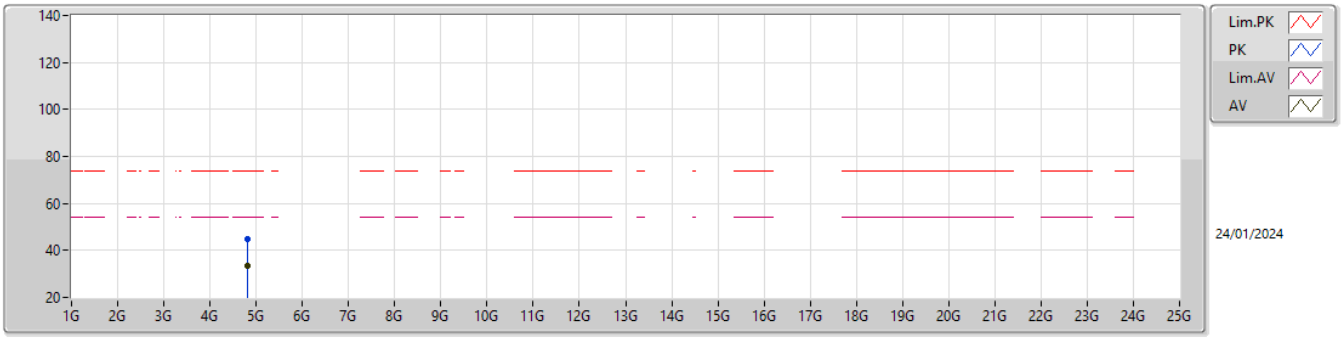


EUT Y_1TX
Setting Default
05-H-G-4

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	4.811556G	45.44	74.00	-28.56	41.43	3	Vertical	282	2.00	-	32.47	7.15	35.61
AV	4.81108G	33.53	54.00	-20.47	29.52	3	Vertical	282	2.00	-	32.47	7.15	35.61

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz_TX

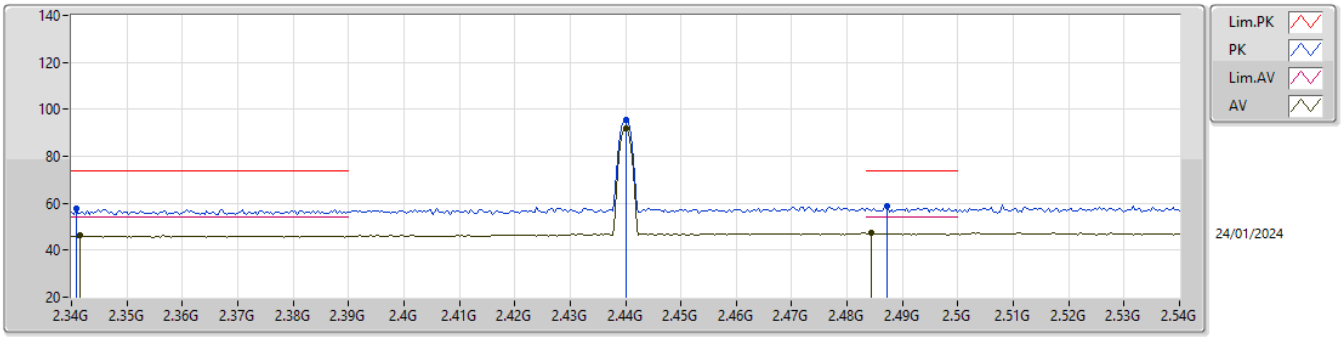


EUT Y_1TX
Setting Default
05-H-G-4

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	4.8124G	45.00	74.00	-29.00	40.99	3	Horizontal	310	1.43	-	32.47	7.15	35.61
AV	4.81288G	33.59	54.00	-20.41	29.57	3	Horizontal	310	1.43	-	32.48	7.15	35.61

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz_TX

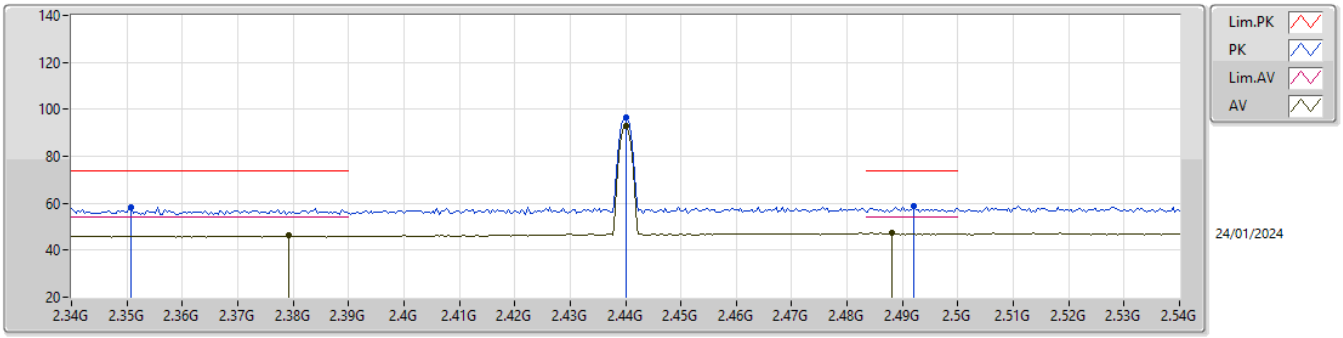


EUT Y_1TX
Setting Default
05-H-G-4

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	2.3408G	57.61	74.00	-16.39	25.76	3	Vertical	330	1.80	-	27.20	4.65	-
AV	2.3416G	46.31	54.00	-7.69	14.46	3	Vertical	330	1.80	-	27.20	4.65	-
PK	2.44G	95.60	Inf	-Inf	63.14	3	Vertical	330	1.80	-	27.70	4.76	-
AV	2.44G	91.83	Inf	-Inf	59.37	3	Vertical	330	1.80	-	27.70	4.76	-
PK	2.4872G	58.58	74.00	-15.42	25.86	3	Vertical	330	1.80	-	27.90	4.82	-
AV	2.4844G	47.18	54.00	-6.82	14.46	3	Vertical	330	1.80	-	27.90	4.82	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz_TX

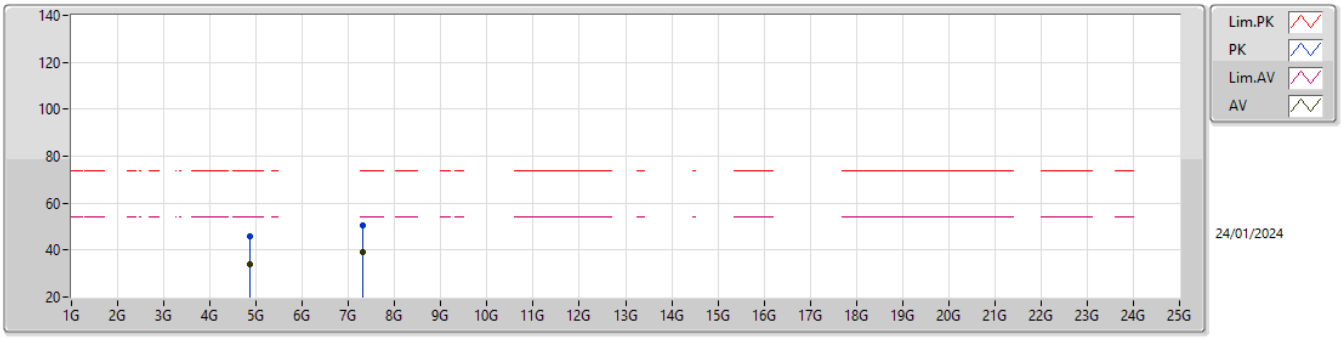


EUT Y_1TX
Setting Default
05-H-G-4

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	2.3508G	58.17	74.00	-15.83	26.30	3	Horizontal	45	2.38	-	27.21	4.66	-
AV	2.3792G	46.27	54.00	-7.73	14.28	3	Horizontal	45	2.38	-	27.30	4.69	-
PK	2.44G	96.44	Inf	-Inf	63.98	3	Horizontal	45	2.38	-	27.70	4.76	-
AV	2.44G	92.68	Inf	-Inf	60.22	3	Horizontal	45	2.38	-	27.70	4.76	-
PK	2.492G	58.84	74.00	-15.16	26.11	3	Horizontal	45	2.38	-	27.90	4.83	-
AV	2.488G	47.42	54.00	-6.58	14.70	3	Horizontal	45	2.38	-	27.90	4.82	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz_TX

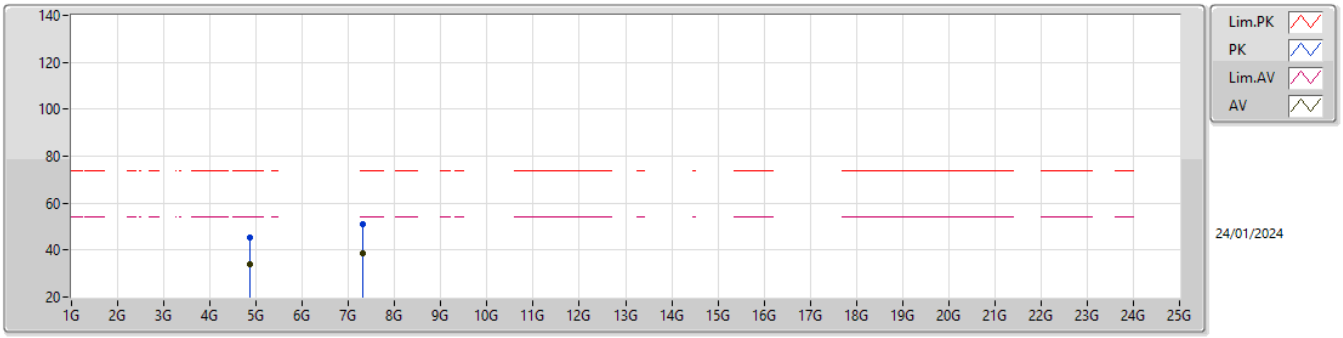


EUT Y_1TX
Setting Default
05-H-G-4

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	4.8659G	45.73	74.00	-28.27	41.44	3	Vertical	169	1.86	-	32.70	7.18	35.59
AV	4.86626G	33.90	54.00	-20.10	29.61	3	Vertical	169	1.86	-	32.70	7.18	35.59
PK	7.30788G	50.30	74.00	-23.70	39.61	3	Vertical	10	1.31	-	36.87	8.60	34.78
AV	7.31148G	38.95	54.00	-15.05	28.27	3	Vertical	10	1.31	-	36.85	8.60	34.77

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz_TX

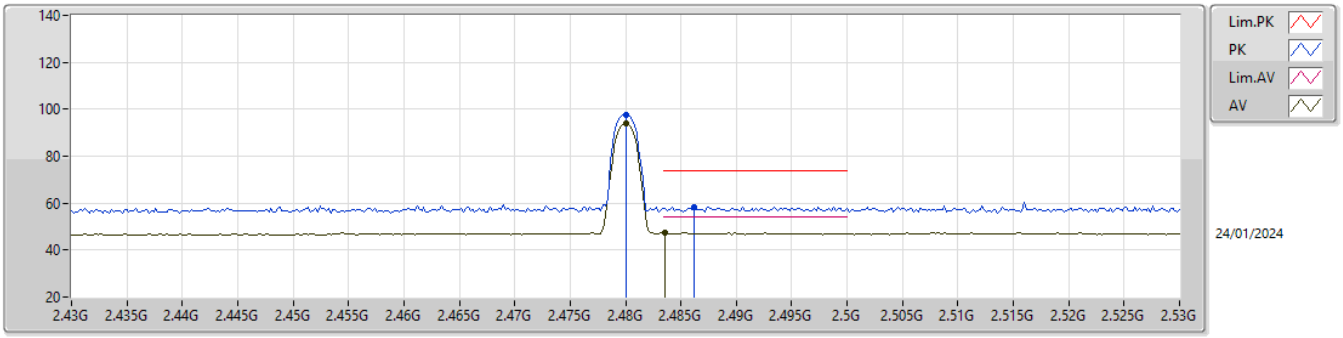


EUT Y_1TX
Setting Default
05-H-G-4

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	4.86698G	45.52	74.00	-28.48	41.23	3	Horizontal	241	2.58	-	32.70	7.18	35.59
AV	4.871G	33.92	54.00	-20.08	29.63	3	Horizontal	241	2.58	-	32.70	7.18	35.59
PK	7.30656G	50.90	74.00	-23.10	40.21	3	Horizontal	109	2.34	-	36.87	8.60	34.78
AV	7.31034G	38.84	54.00	-15.16	28.16	3	Horizontal	109	2.34	-	36.86	8.60	34.78

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX

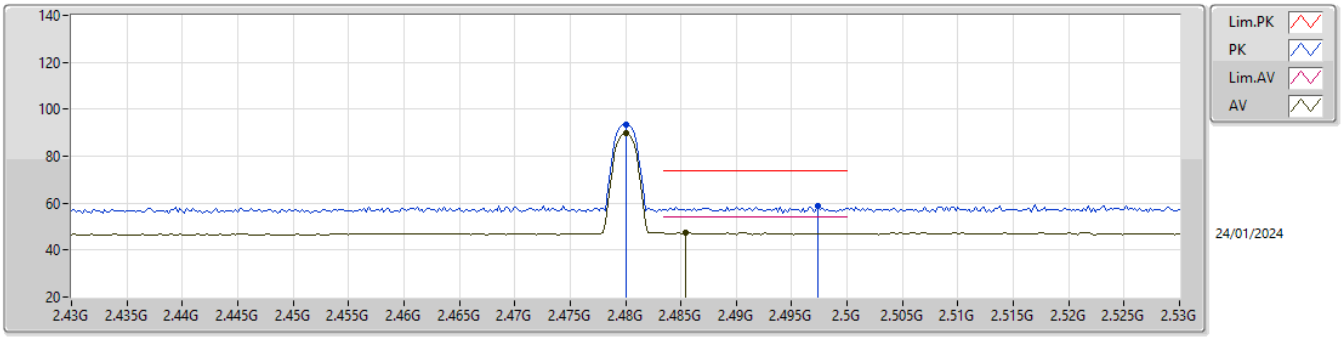


EUT Y_1TX
Setting Default
05-H-G-4

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	97.65	Inf	-Inf	64.94	3	Vertical	326	1.16	-	27.90	4.81	-
AV	2.48G	93.91	Inf	-Inf	61.20	3	Vertical	326	1.16	-	27.90	4.81	-
PK	2.4862G	58.45	74.00	-15.55	25.73	3	Vertical	326	1.16	-	27.90	4.82	-
AV	2.4836G	47.42	54.00	-6.58	14.71	3	Vertical	326	1.16	-	27.90	4.81	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX

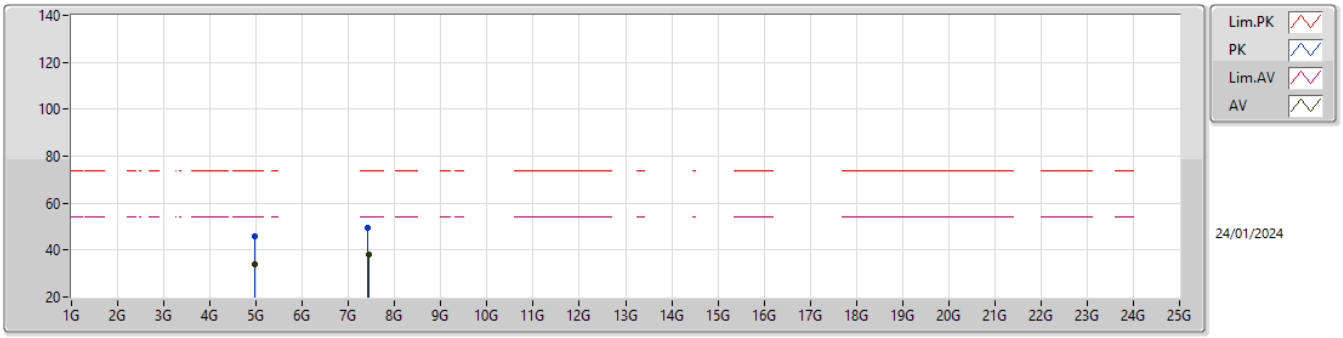


EUT Y_1TX
Setting Default
05-H-G-4

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	93.64	Inf	-Inf	60.93	3	Horizontal	299	1.41	-	27.90	4.81	-
AV	2.48G	89.89	Inf	-Inf	57.18	3	Horizontal	299	1.41	-	27.90	4.81	-
PK	2.4974G	58.55	74.00	-15.45	25.82	3	Horizontal	299	1.41	-	27.90	4.83	-
AV	2.4854G	47.43	54.00	-6.57	14.71	3	Horizontal	299	1.41	-	27.90	4.82	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX

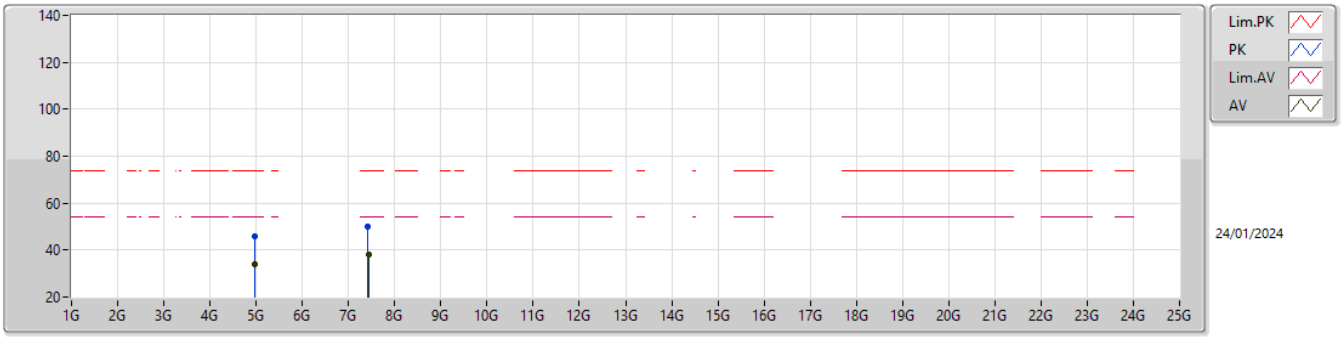


EUT Y_1TX
Setting Default
05-H-G-4

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	4.95904G	46.11	74.00	-27.89	41.52	3	Vertical	42	2.38	-	32.92	7.24	35.57
AV	4.96458G	34.07	54.00	-19.93	29.47	3	Vertical	42	2.38	-	32.93	7.24	35.57
PK	7.42584G	49.69	74.00	-24.31	39.01	3	Vertical	254	1.03	-	36.55	8.69	34.56
AV	7.43118G	38.18	54.00	-15.82	27.50	3	Vertical	254	1.03	-	36.54	8.70	34.56

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX



EUT Y_1TX
Setting Default
05-H-G-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	4.96378G	45.88	74.00	-28.12	41.28	3	Horizontal	186	2.18	-	32.93	7.24	35.57
AV	4.9641G	34.19	54.00	-19.81	29.59	3	Horizontal	186	2.18	-	32.93	7.24	35.57
PK	7.42638G	49.90	74.00	-24.10	39.22	3	Horizontal	89	1.89	-	36.55	8.69	34.56
AV	7.42842G	38.31	54.00	-15.69	27.64	3	Horizontal	89	1.89	-	36.54	8.69	34.56