Testing Laboratory 3785

FCC Radio Test Report

FCC ID	:	**XN6-SV210D0806**
Equipment	:	**2.1 Soundbar System**
Brand Name	:	**VIZIO**
Model Name	:	**SV210D-0806**
Applicant	:	**Zylux Acoustic Corporation 7F, 70, Rui Guang Road, Neihu District, Taipei 114, Taiwan**
Manufacturer	:	**Zylux Acoustic Corporation 7F, 70, Rui Guang Road, Neihu District, Taipei 114, Taiwan**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Mar. 08, 2024, and testing was started from Mar. 14, 2024 and completed on Mar. 19, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua 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. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR420503AD	01	Initial issue of report	Apr. 01, 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 Bandedge	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:
None

Reviewed by: Ben Tseng

Report Producer: Ann Hou

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)
1	1	WIESON	ARY196-4044-003-00	Omni directional	MHF 1	2.36

Note 1: The EUT has one antenna.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 (port 1) could transmit/receive.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From AC Adapter			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point
Type of EUT				
☒	Stand-alone			
☐	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.:	…		
☐	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.:	…		
☐	Other:			

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
BT-BR(1Mbps)	0.765	1.16	2.871m	1k
BT-EDR(2Mbps)	0.769	1.14	2.883m	1k
BT-EDR(3Mbps)	0.769	1.14	2.884m	1k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013

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

- KDB 558074 D01 v05r02
- KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-327-3456		**FAX:** 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Simon Cheng	21.1~21.4°C / 50~52%	18/Mar/2024
RF Conducted	TH07-HY	Yuna Lin	22.4~23.2°C / 49~54%	14/Mar/2024
Radiated	03CH02-HY	Vasari Huang	21.5~23.1°C / 49~51%	14/Mar/2024~19/Mar/2024
☐ Wen 33rd.St.	**ADD:** No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-318-0787		**FAX:** 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				

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**
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	FCC_Test_Tools_V2.25

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	10
2440MHz	10
2480MHz	10
BT-EDR(2Mbps)	-
2402MHz	10
2440MHz	10
2480MHz	10
BT-EDR(3Mbps)	-
2402MHz	10
2440MHz	10
2480MHz	10

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	CTX
1	Adapter mode

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 ☒ Non-adaptive frequency hopping systems (Non-AFH) ☐ adaptive frequency hopping systems (AFH)
Non-AFH Mode configuration was found to be the worst case and measured during the test.	

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		
1	Adapter mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT			V

2.3 Accessories

Accessories		
AC Power Cord	**Signal Line**	1.5 meter, Non-Shielded cable, without ferrite core
HDMI Cable	**Signal Line**	1.83 meter, Non-Shielded cable, without ferrite core

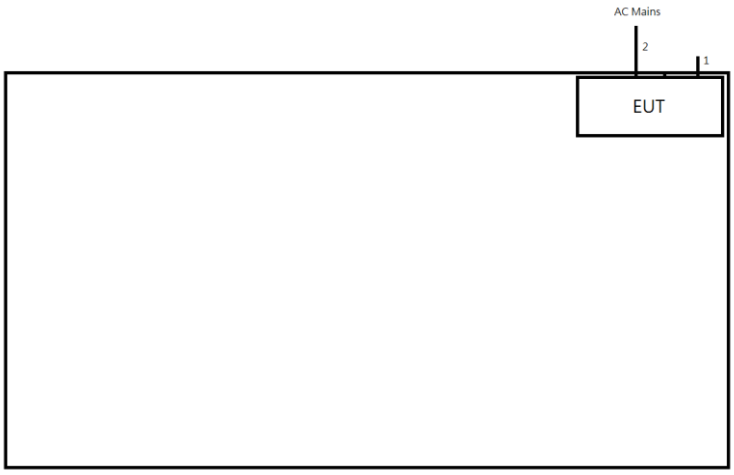
Reminder: Regarding to more detail and other information, please refer to user manual.

2.4 Support Equipment

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	Test Fixture	ZYLUX	-	-	Provided by Customer

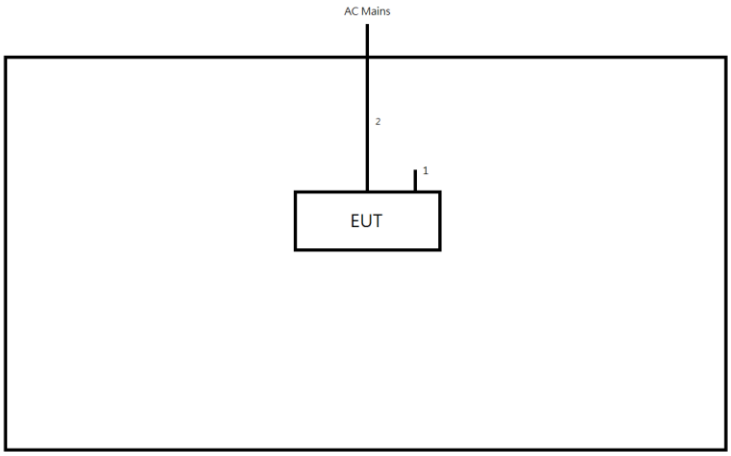
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length (m)
1	Fixture cable	No	0.05
2	AC Power Cord	No	1.5

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length (m)
1	Fixture cable	No	0.05
2	AC Power Cord	No	1.5

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

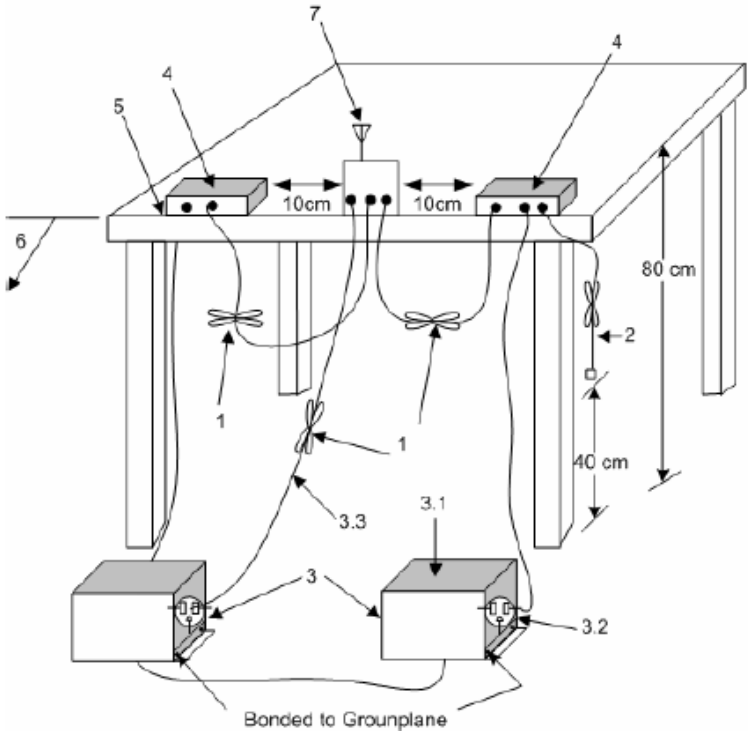
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) +LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 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 50Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
▪ 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).
N:Number of Hopping Frequencies; **ChS**: Hopping Channel Separation	

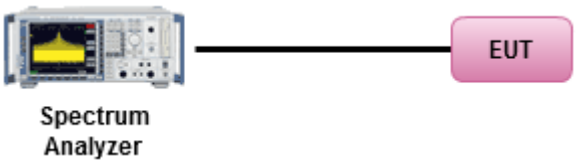
3.2.2 Measuring Instruments

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 6.9.2 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	
▪ 2400-2483.5 MHz Band:	
	▪ N ≥ 75; Power 30dBm; EIRP 36dBm
	▪ 75 >N ≥ 15; Power 21dBm; EIRP 27dBm
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	
▪ 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).
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

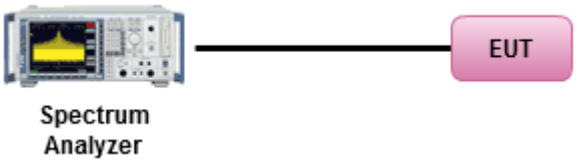
3.4.3 Measuring Instruments

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

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems	
▪ 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
N:Number of Hopping Frequencies	

3.5.2 Measuring Instruments

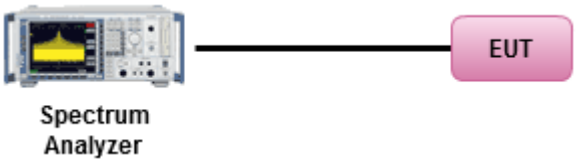
Refer a test equipment and calibration data table in this test report.

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 (dB)**
Peak output power procedure	20
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.	

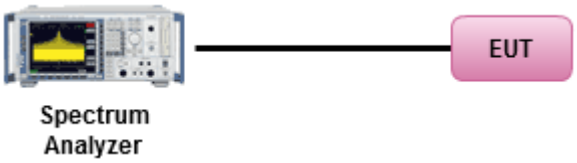
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.8 for unwanted emissions into non-restricted bands.

3.6.4 Test Setup

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

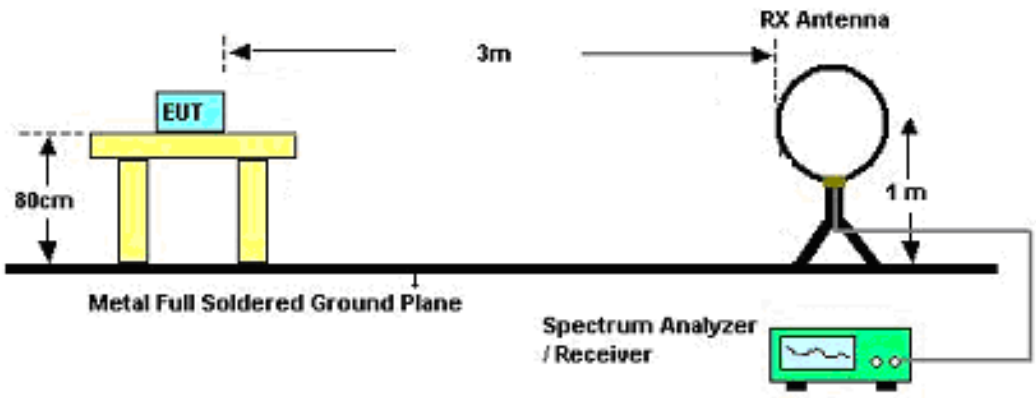
Test Method	
▪	The average emission levels shall be measured in [hopping duty factor].
▪	Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪	For the transmitter unwanted emissions shall 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.
▪	KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	▪ Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

3.7.4 Measurement Results Calculation

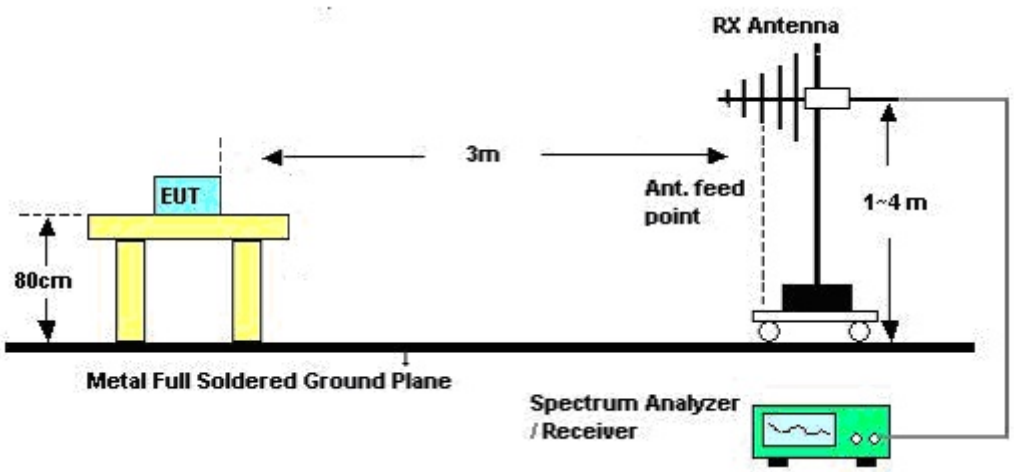
The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.7.5 Test Setup

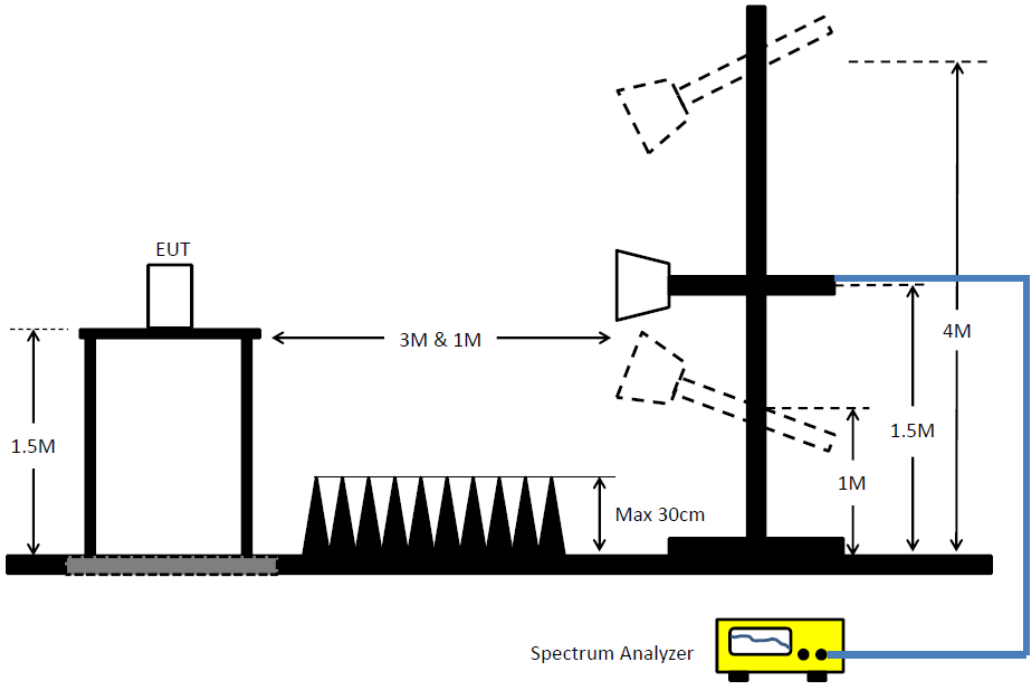
Emissions in Restricted Frequency Bands
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.7.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

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

3.7.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	16/May/2023	15/May/2024
Two-Line V-Network	R&S	ENV 216	101295	9kHz ~ 30MHz	05/Feb/2024	04/Feb/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	27/Feb/2024	26/Feb/2025
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	18/Oct/2023	17/Oct/2024
Software	Sporton	SENSE-EMI	V5.11.3	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	9kHz~40GHz	02/Feb/2024	01/Feb/2025
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	15/Dec/2023	14/Dec/2024
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	15/Dec/2023	14/Dec/2024
SENSE-15247_FS	Sporton	V5.11.17	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	29/Jul/2023	28/Jul/2024
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	28/Jul/2023	27/Jul/2024
EMI Test Receiver	R&S	ESR	102052	9kHz~3.6GHz	26/May/2023	25/May/2024
Signal Analyzer	R&S	FSP 40	100593	9kHz~40GHz	17/Mar/2023	16/Mar/2024
Signal Analyzer	R&S	FSV 40	100500	9kHz~40GHz	26/Oct/2023	25/Oct/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	23/Mar/2023	22/Mar/2024
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723/2	30MHz~1GHz	27/Aug/2023	26/Aug/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02268	1GHz~18GHz	23/Sep/2023	22/Sep/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	21/Aug/2023	20/Aug/2024
RF Cable	MVE	400LL+SN 200207	03CH02-cable-02	9kHz~30MHz	19/Dec/2023	18/Dec/2024
RF Cable	MVE	400LL+SN 200207	03CH02-cable-02	30MHz~1GHz	19/Dec/2023	18/Dec/2024
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX 104	03CH02-cable-01	1GHz~40GHz	15/Feb/2024	14/Feb/2025
Amplifier	Agilent	8447D	2944A11149	100kHz~1.3GHz	27/Jun/2023	26/Jun/2024
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~26.5GHz	24/Oct/2023	23/Oct/2024
Amplifier	EM	EM18G40GA	060874	18GHz ~40GHz	18/Aug/2023	17/Aug/2024
SENSE-15247_FS	Sporton	V5.11.17	N/A	N/A	N/A	N/A

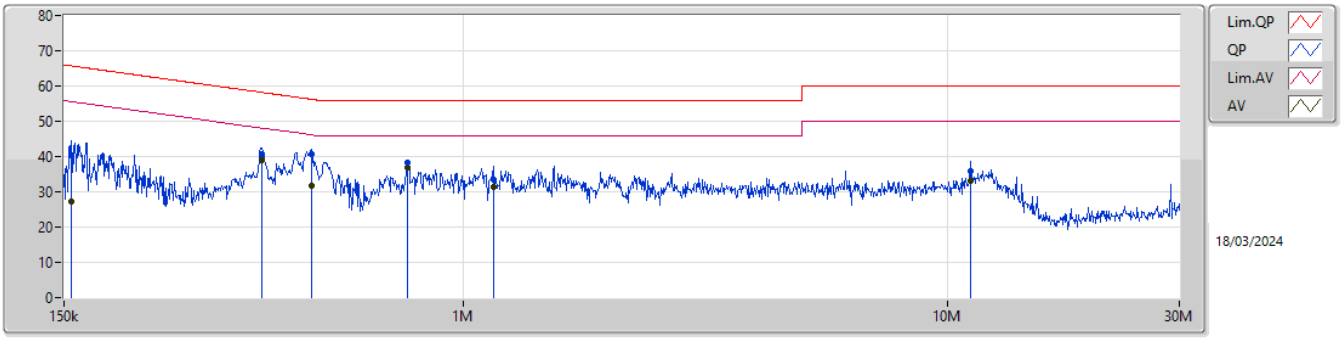
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	767.679k	36.98	46.00	-9.02	Line

Result

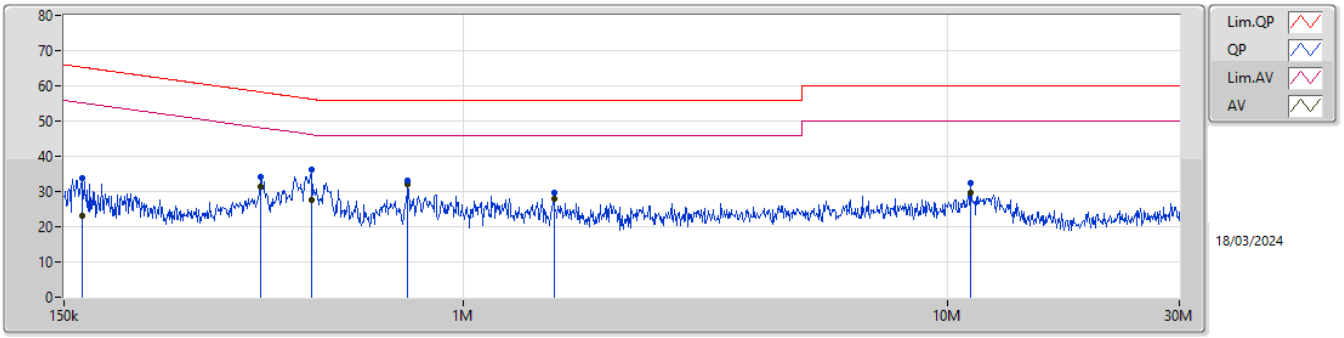
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	155.487k	40.42	65.69	-25.27	Line
Mode 1	Pass	AV	155.487k	27.25	55.69	-28.44	Line
Mode 1	Pass	QP	383.278k	40.84	58.20	-17.36	Line
Mode 1	Pass	AV	383.278k	38.80	48.20	-9.40	Line
Mode 1	Pass	QP	485.068k	40.67	56.25	-15.58	Line
Mode 1	Pass	AV	485.068k	31.81	46.25	-14.44	Line
Mode 1	Pass	QP	767.679k	38.11	56.00	-17.89	Line
Mode 1	Pass	AV	767.679k	36.98	46.00	-9.02	Line
Mode 1	Pass	QP	1.154M	33.52	56.00	-22.48	Line
Mode 1	Pass	AV	1.154M	31.31	46.00	-14.69	Line
Mode 1	Pass	QP	11.137M	35.99	60.00	-24.01	Line
Mode 1	Pass	AV	11.137M	33.23	50.00	-16.77	Line
Mode 1	Pass	QP	163.117k	33.90	65.31	-31.41	Neutral
Mode 1	Pass	AV	163.117k	22.98	55.31	-32.33	Neutral
Mode 1	Pass	QP	381.751k	34.23	58.24	-24.01	Neutral
Mode 1	Pass	AV	381.751k	31.30	48.24	-16.94	Neutral
Mode 1	Pass	QP	487.008k	36.31	56.21	-19.90	Neutral
Mode 1	Pass	AV	487.008k	27.58	46.21	-18.63	Neutral
Mode 1	Pass	QP	767.679k	33.18	56.00	-22.82	Neutral
Mode 1	Pass	AV	767.679k	32.13	46.00	-13.87	Neutral
Mode 1	Pass	QP	1.538M	29.64	56.00	-26.36	Neutral
Mode 1	Pass	AV	1.538M	27.88	46.00	-18.12	Neutral
Mode 1	Pass	QP	11.137M	32.38	60.00	-27.62	Neutral
Mode 1	Pass	AV	11.137M	29.52	50.00	-20.48	Neutral

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	155.487k	40.42	65.69	-25.27	19.43	Line	-	20.99	9.61	0.07	9.75
AV	155.487k	27.25	55.69	-28.44	19.43	Line	-	7.82	9.61	0.07	9.75
QP	383.278k	40.84	58.20	-17.36	19.49	Line	-	21.35	9.61	0.12	9.76
AV	383.278k	38.80	48.20	-9.40	19.49	Line	-	19.31	9.61	0.12	9.76
QP	485.068k	40.67	56.25	-15.58	19.49	Line	-	21.18	9.61	0.11	9.77
AV	485.068k	31.81	46.25	-14.44	19.49	Line	-	12.32	9.61	0.11	9.77
QP	767.679k	38.11	56.00	-17.89	19.50	Line	-	18.61	9.61	0.10	9.79
AV	767.679k	36.98	46.00	-9.02	19.50	Line	-	17.48	9.61	0.10	9.79
QP	1.154M	33.52	56.00	-22.48	19.50	Line	-	14.02	9.61	0.09	9.80
AV	1.154M	31.31	46.00	-14.69	19.50	Line	-	11.81	9.61	0.09	9.80
QP	11.137M	35.99	60.00	-24.01	19.51	Line	-	16.48	9.65	0.06	9.80
AV	11.137M	33.23	50.00	-16.77	19.51	Line	-	13.72	9.65	0.06	9.80

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	163.117k	33.90	65.31	-31.41	19.43	Neutral	-	14.47	9.62	0.07	9.74
AV	163.117k	22.98	55.31	-32.33	19.43	Neutral	-	3.55	9.62	0.07	9.74
QP	381.751k	34.23	58.24	-24.01	19.48	Neutral	-	14.75	9.61	0.12	9.75
AV	381.751k	31.30	48.24	-16.94	19.48	Neutral	-	11.82	9.61	0.12	9.75
QP	487.008k	36.31	56.21	-19.90	19.49	Neutral	-	16.82	9.61	0.11	9.77
AV	487.008k	27.58	46.21	-18.63	19.49	Neutral	-	8.09	9.61	0.11	9.77
QP	767.679k	33.18	56.00	-22.82	19.50	Neutral	-	13.68	9.61	0.10	9.79
AV	767.679k	32.13	46.00	-13.87	19.50	Neutral	-	12.63	9.61	0.10	9.79
QP	1.538M	29.64	56.00	-26.36	19.52	Neutral	-	10.12	9.62	0.10	9.80
AV	1.538M	27.88	46.00	-18.12	19.52	Neutral	-	8.36	9.62	0.10	9.80
QP	11.137M	32.38	60.00	-27.62	19.55	Neutral	-	12.83	9.69	0.06	9.80
AV	11.137M	29.52	50.00	-20.48	19.55	Neutral	-	9.97	9.69	0.06	9.80

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)	929.5k	889.702k	890KF1D	882.75k	879.551k
BT-EDR(2Mbps)	1.18M	1.169M	1M17G1D	1.161M	1.153M
BT-EDR(3Mbps)	1.345M	1.208M	1M21G1D	1.312M	1.195M

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

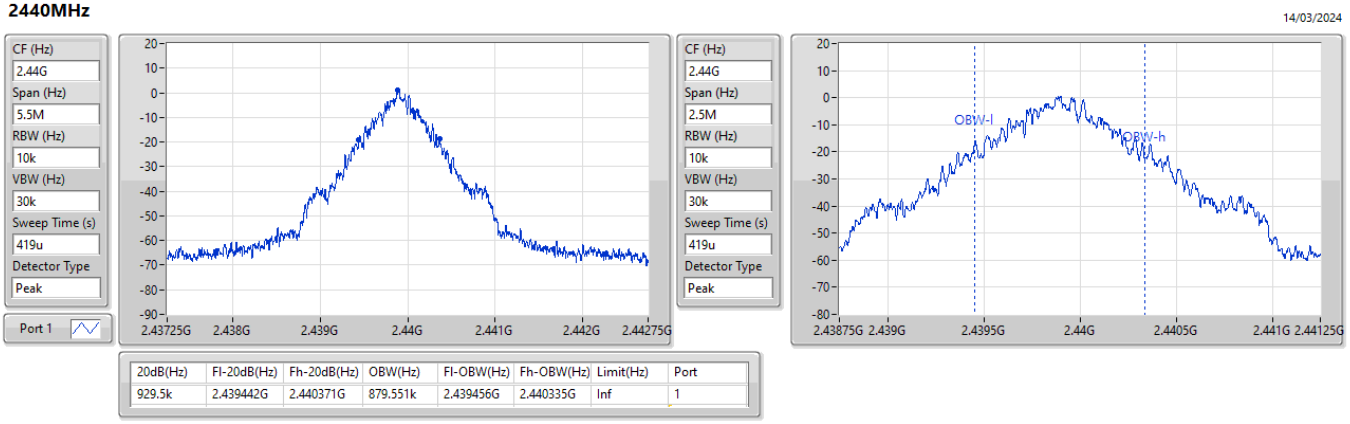
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	882.75k	889.702k
2440MHz	Pass	Inf	929.5k	879.551k
2480MHz	Pass	Inf	924k	879.794k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.18M	1.153M
2440MHz	Pass	Inf	1.161M	1.165M
2480MHz	Pass	Inf	1.172M	1.169M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.345M	1.195M
2440MHz	Pass	Inf	1.312M	1.202M
2480MHz	Pass	Inf	1.323M	1.208M

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**

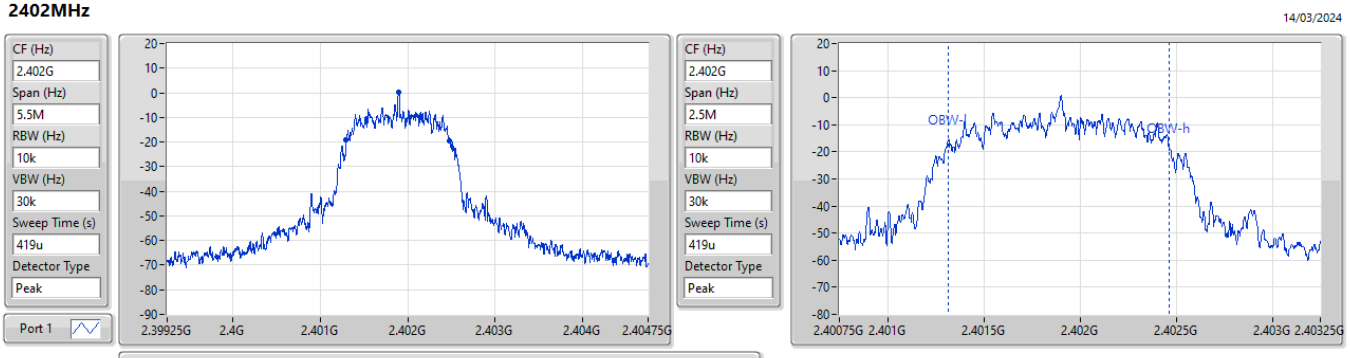
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
929.5k	2.439442G	2.440371G	879.551k	2.439456G	2.440335G	Inf	1

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

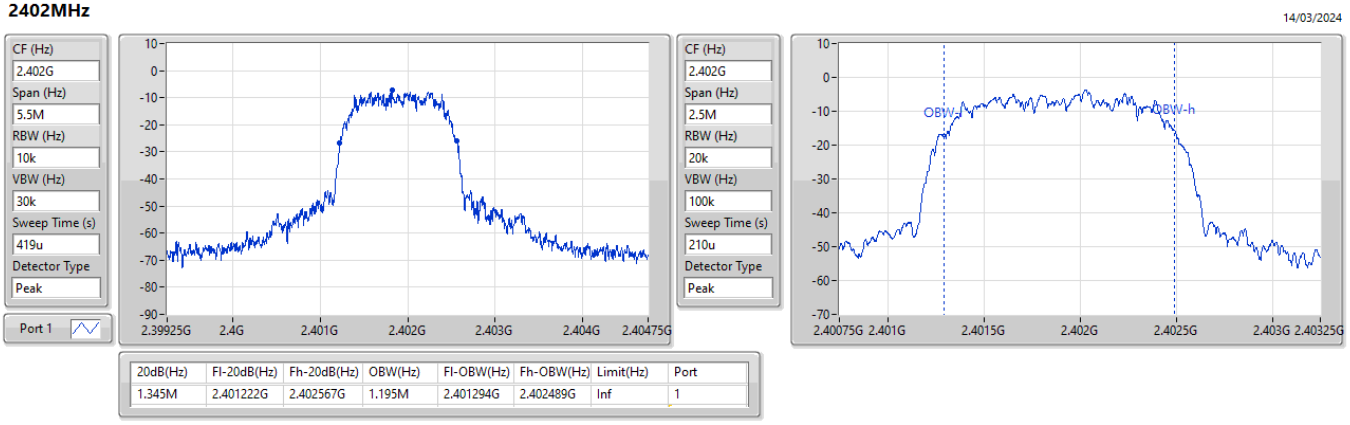
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.18M	2.401299G	2.402479G	1.153M	2.401314G	2.402467G	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
1.345M	2.401222G	2.402567G	1.195M	2.401294G	2.402489G	Inf	1

Summary

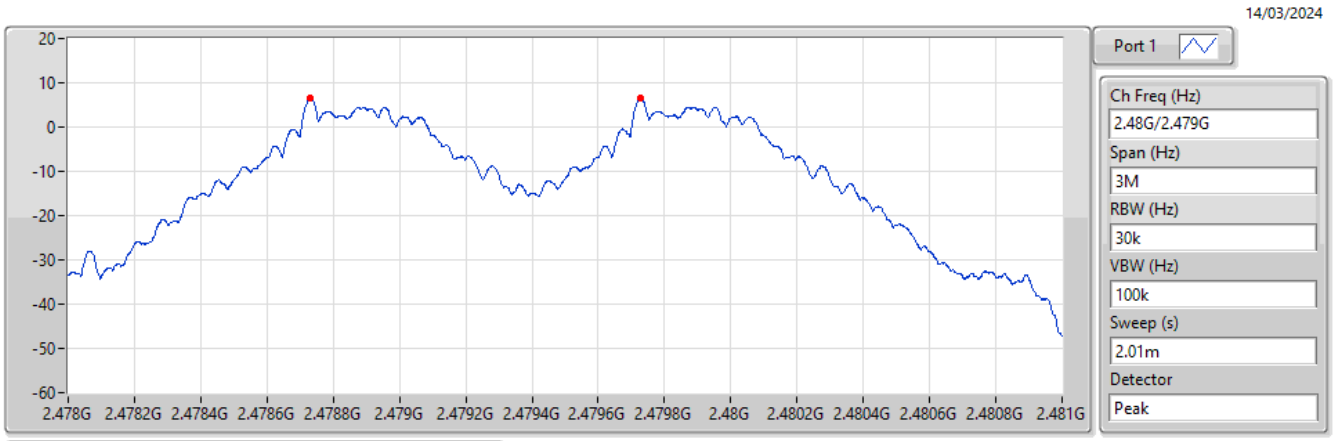
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.002M	996k
BT-EDR(2Mbps)	1.0005M	997.5k
BT-EDR(3Mbps)	1.002M	997.5k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.401731G	2.402733G	1.002M	587.9115k
2440MHz	Pass	2.439731G	2.440728G	997.5k	619.047k
2480MHz	Pass	2.478731G	2.479727G	996k	615.384k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401893G	2.402893G	1.0005M	785.88k
2440MHz	Pass	2.439894G	2.440892G	997.5k	773.226k
2480MHz	Pass	2.478893G	2.47989G	997.5k	780.552k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401731G	2.402733G	1.002M	783.882k
2440MHz	Pass	2.439732G	2.440731G	999k	789.21k
2480MHz	Pass	2.478729G	2.479727G	997.5k	787.878k

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

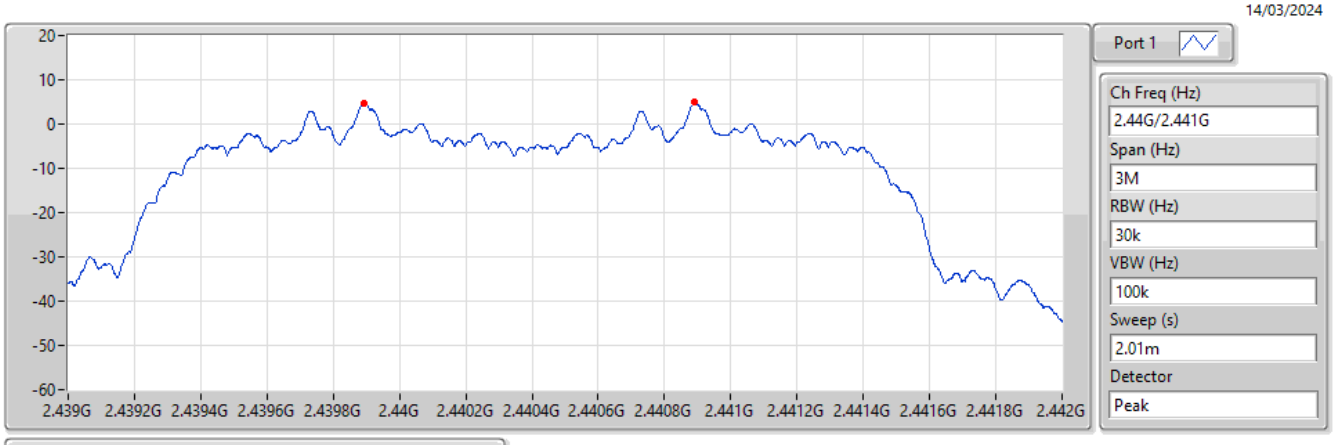
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478731G	2.479727G	996k	615.384k

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

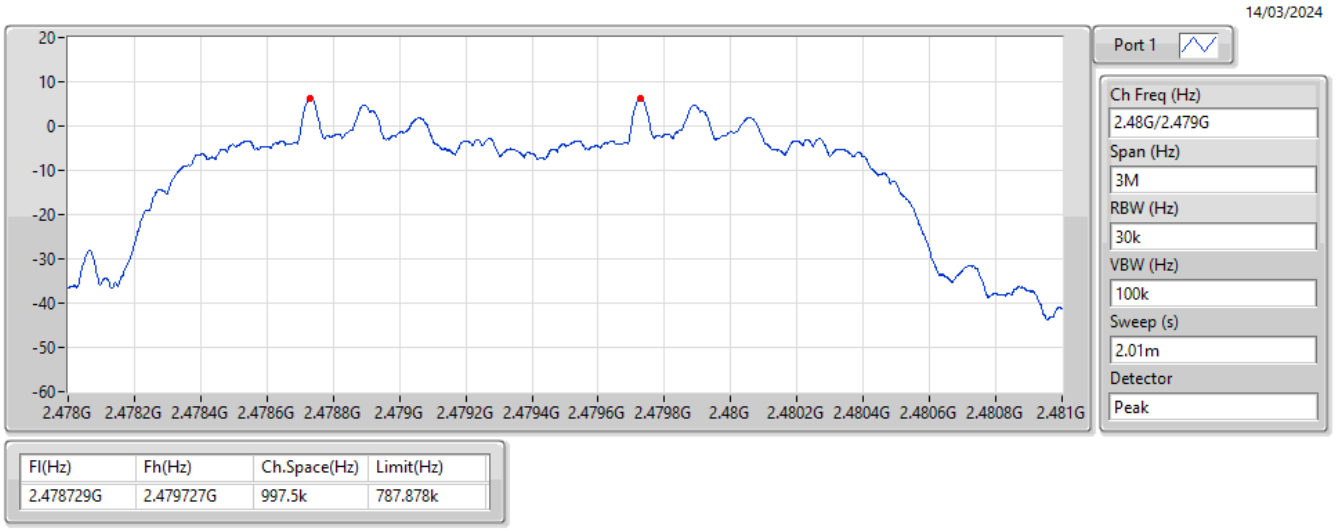
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.439894G	2.440892G	997.5k	773.226k

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

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478729G	2.479727G	997.5k	787.878k

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	8.22	0.00664
BT-EDR(2Mbps)	8.20	0.00661
BT-EDR(3Mbps)	8.48	0.00705

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.36	8.21	21.00
2440MHz	Pass	2.36	8.22	21.00
2480MHz	Pass	2.36	8.07	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.36	8.16	21.00
2440MHz	Pass	2.36	8.20	21.00
2480MHz	Pass	2.36	8.01	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.36	8.44	21.00
2440MHz	Pass	2.36	8.48	21.00
2480MHz	Pass	2.36	8.31	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)	7.74	0.00594
BT-EDR(2Mbps)	5.18	0.00330
BT-EDR(3Mbps)	5.21	0.00332

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.36	7.64	21.00
2440MHz	Pass	2.36	7.74	21.00
2480MHz	Pass	2.36	7.56	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.36	5.15	21.00
2440MHz	Pass	2.36	5.18	21.00
2480MHz	Pass	2.36	5.03	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.36	5.15	21.00
2440MHz	Pass	2.36	5.21	21.00
2480MHz	Pass	2.36	5.07	21.00

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

Summary

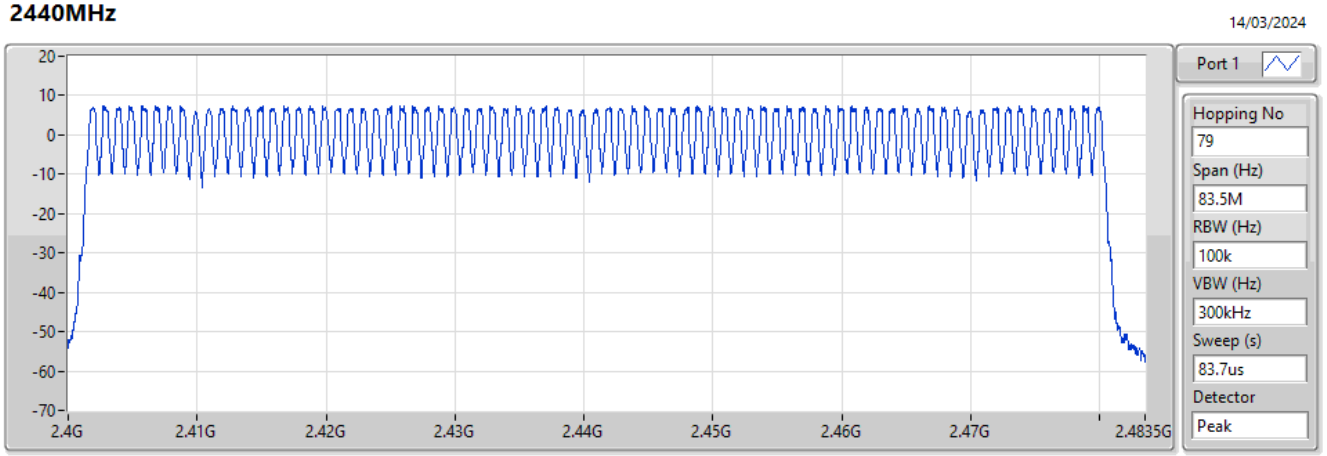
Mode 2.4-2.4835GHz	Max-Hop No -
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

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

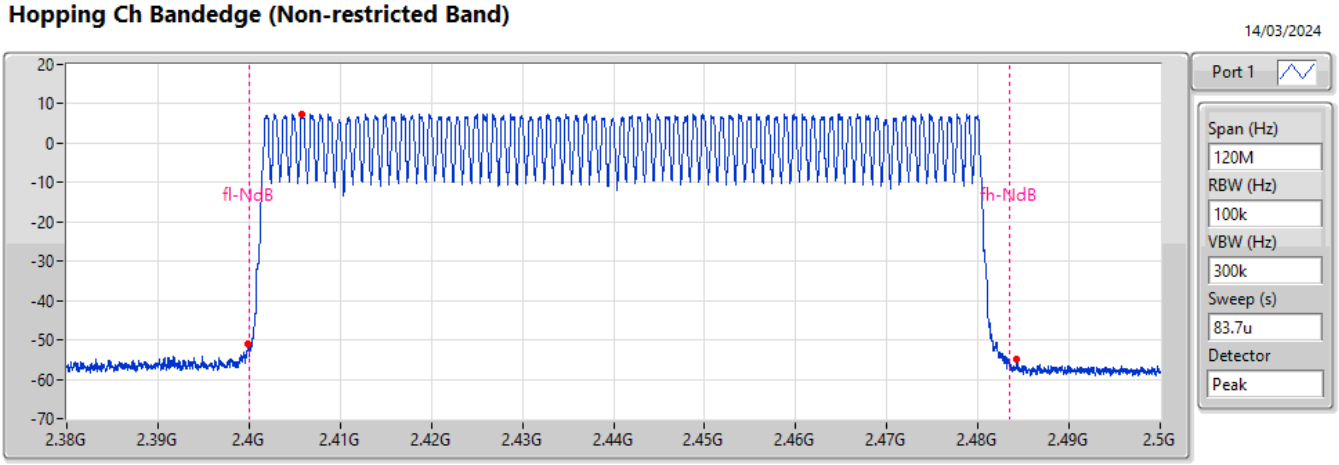


Hopping No	Limit
79	15

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

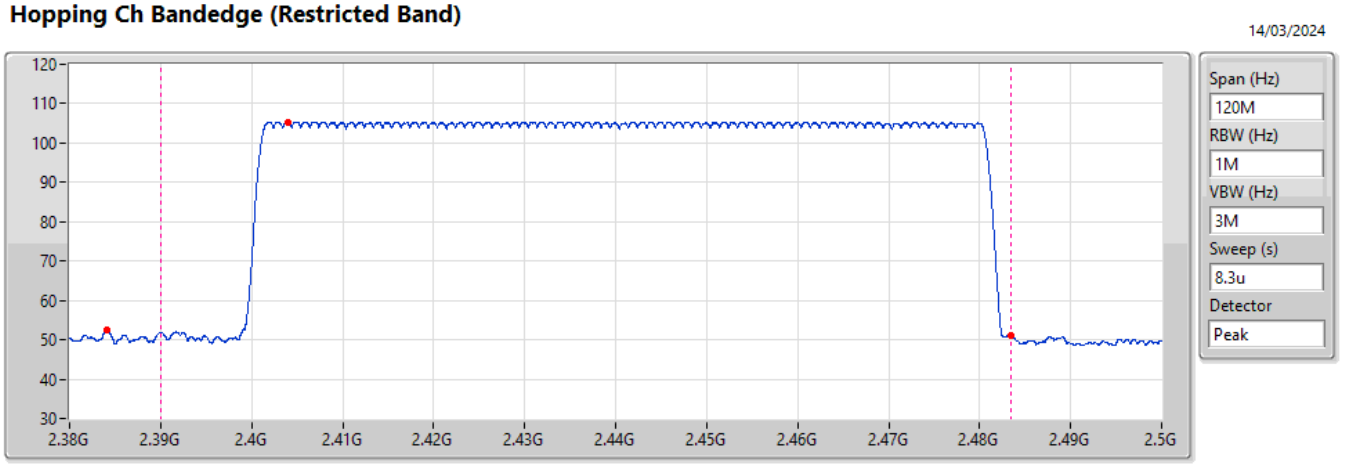


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.59	2.405725G	7.41	2.399905G	-51	2.484295G	-54.75

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

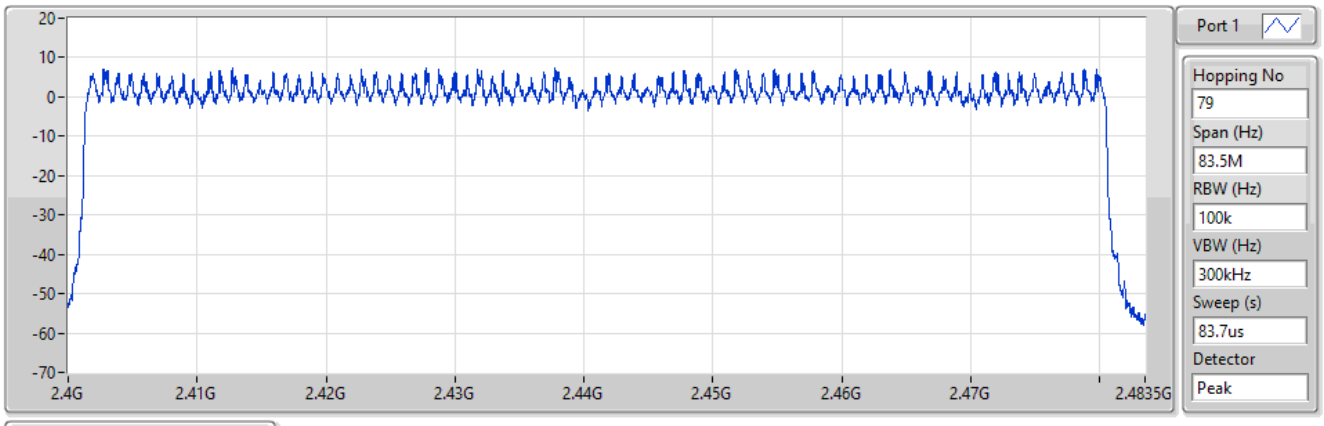
Hopping Ch Bandedge (Restricted Band)



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)
2.403955G	105.25	2.384095G	52.42	22.32	2.483515G	51.13	21.03	74	54	3.125	-30.1

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

2440MHz

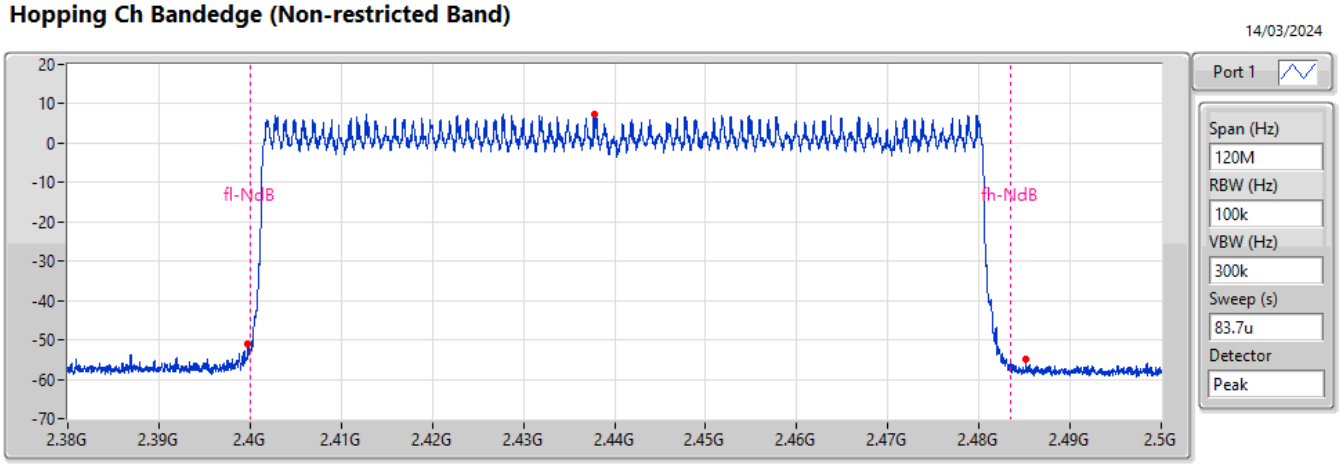


Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

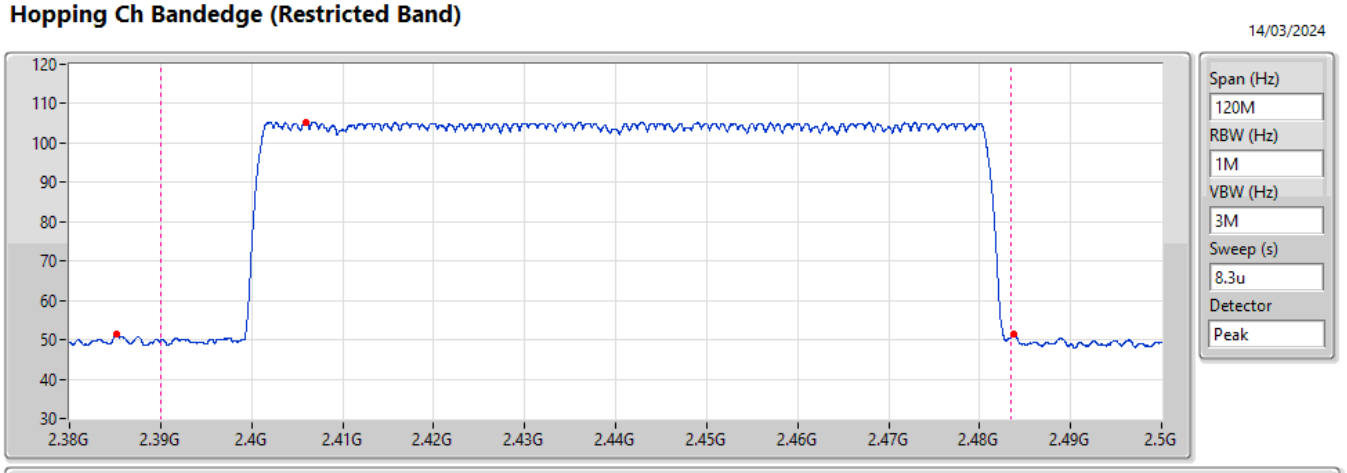


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.81	2.437735G	7.19	2.399785G	-51.05	2.485135G	-54.99

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

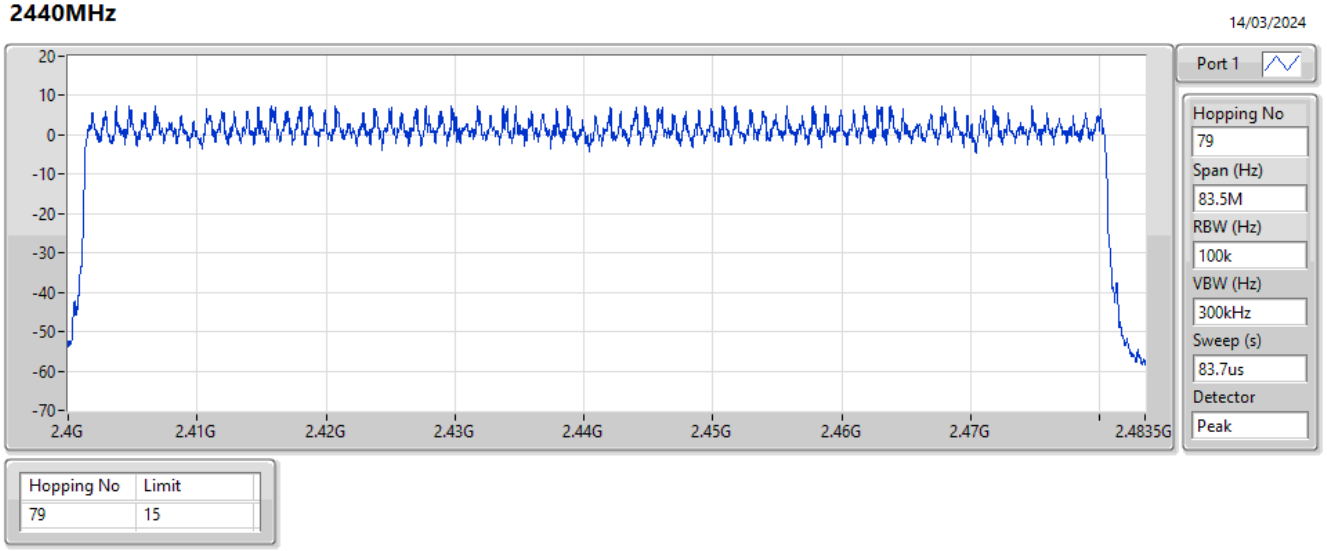
Hopping Ch Bandedge (Restricted Band)



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)
2.40595G	105.24	2.3851G	51.29	21.19	2.48371G	51.55	21.45	74	54	3.125	-30.1

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

2440MHz

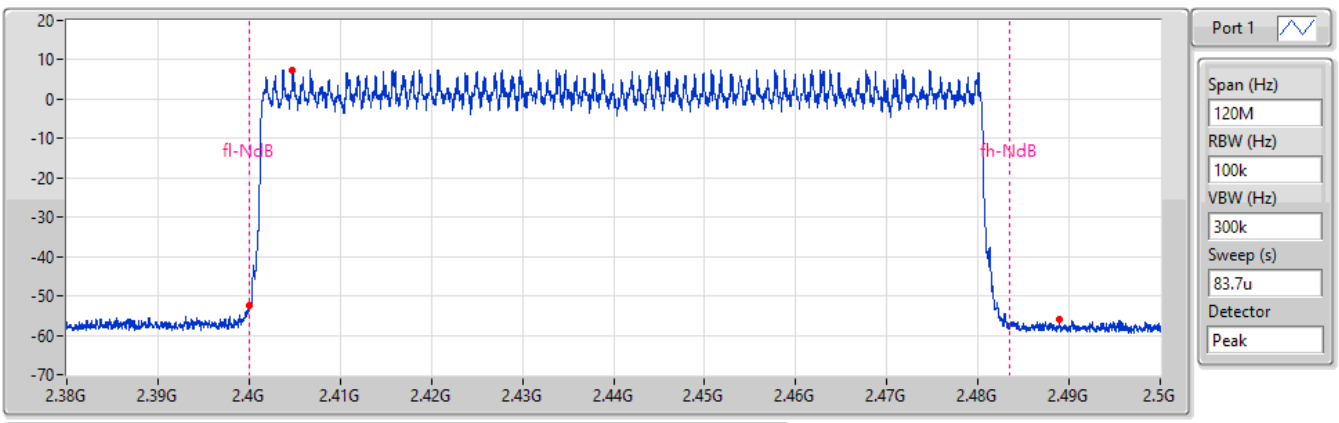


Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

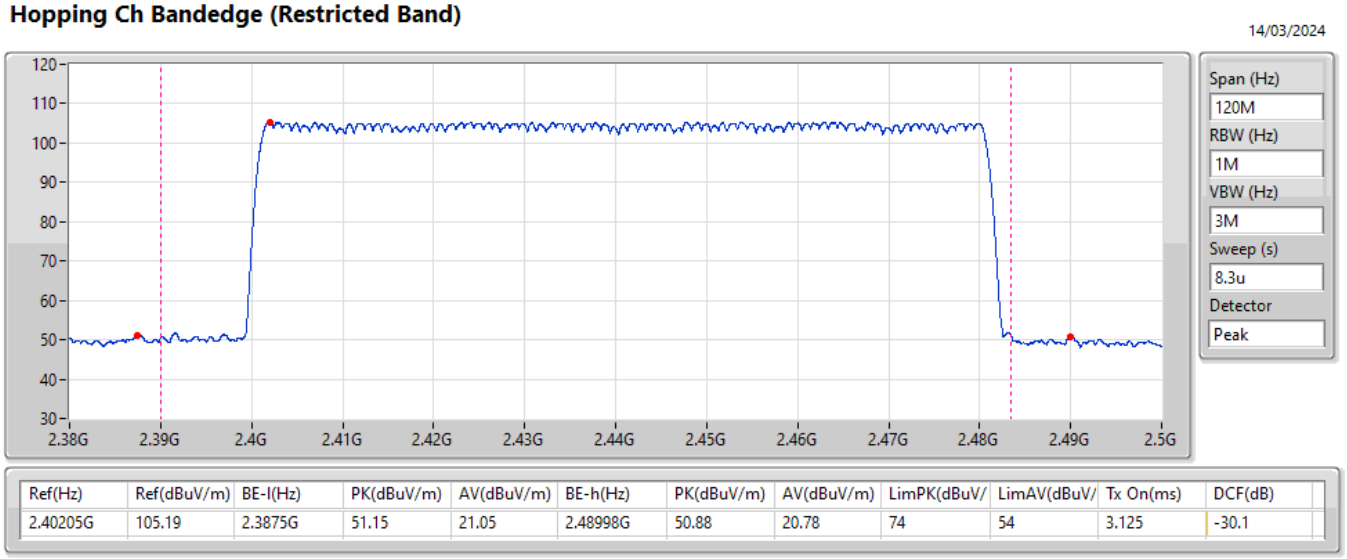


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.61	2.40472G	7.39	2.399995G	-52.29	2.4889G	-55.83

2.4-2.4835GHz_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)
2.40205G	105.19	2.3875G	51.15	21.05	2.48998G	50.88	20.78	74	54	3.125	-30.1

Summary

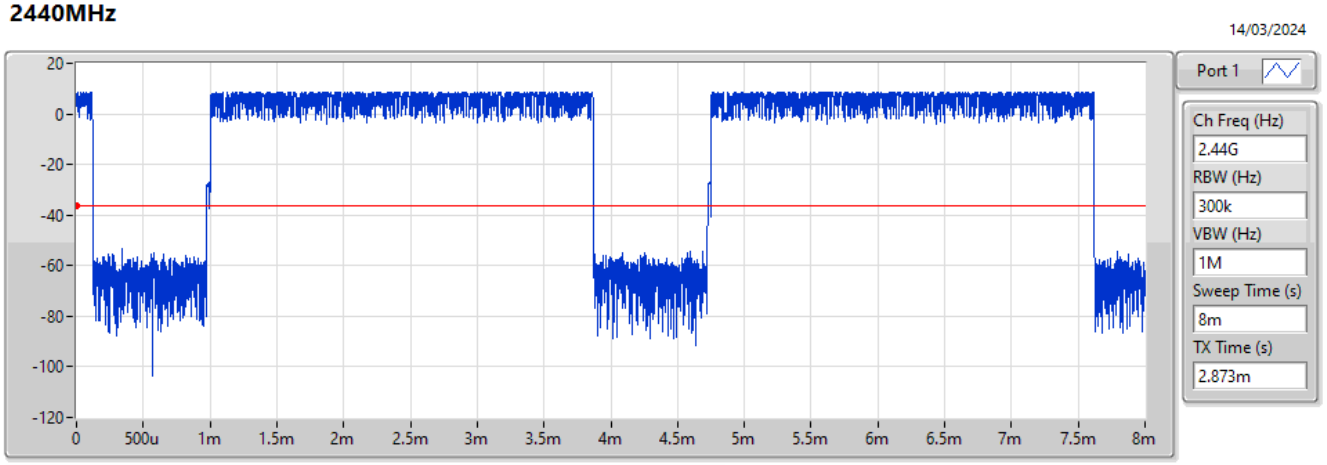
2.4-2.4835GHz	**-**
BT-BR(1Mbps)	306.2618m_DH5
BT-EDR(2Mbps)	310.17935m_DH5
BT-EDR(3Mbps)	310.1527m_DH5

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	306.2618m_DH5	400m	2.873m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	310.17935m_DH5	400m	2.90975m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	310.1527m_DH5	400m	2.9095m

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

2440MHz

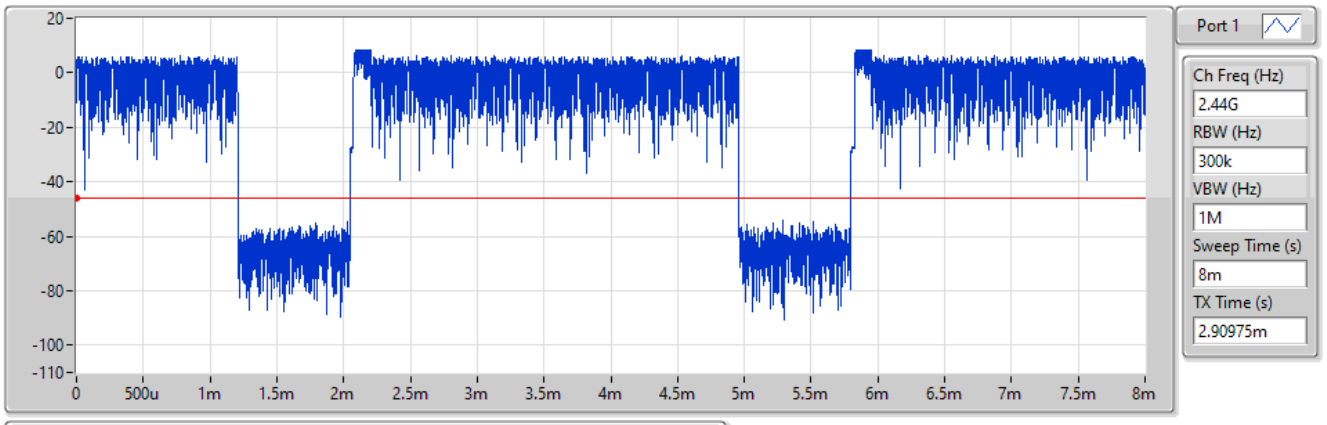


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	306.2618m_DH5	400m	2.873m

DH5

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

2440MHz

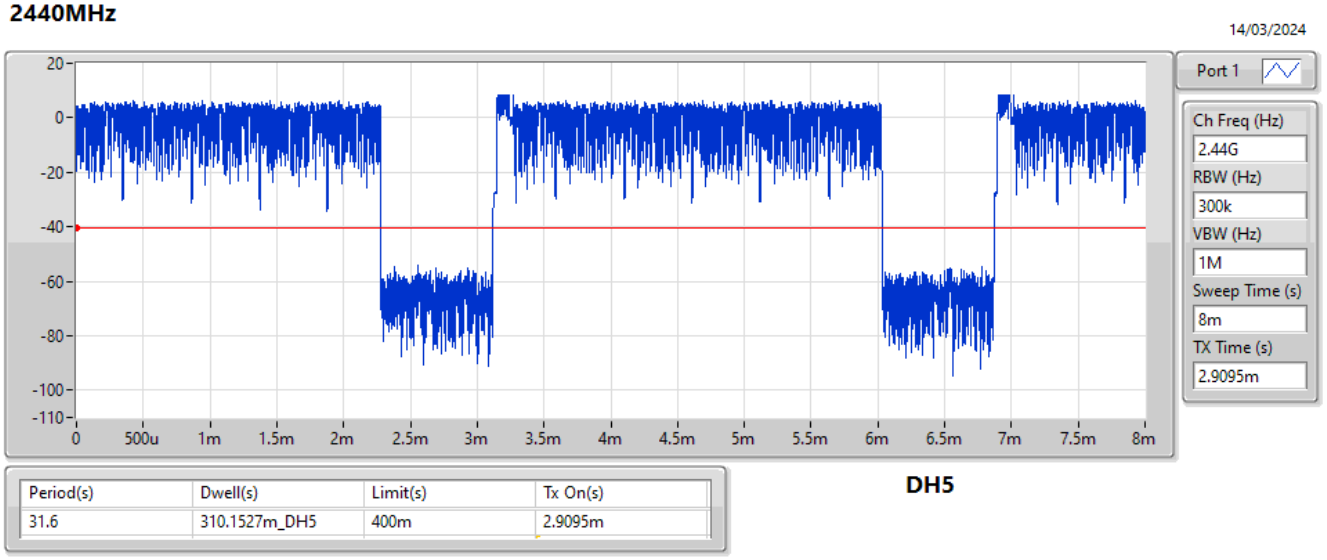


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	310.17935m_DH5	400m	2.90975m

DH5

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

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	310.1527m_DH5	400m	2.9095m

DH5

Summary

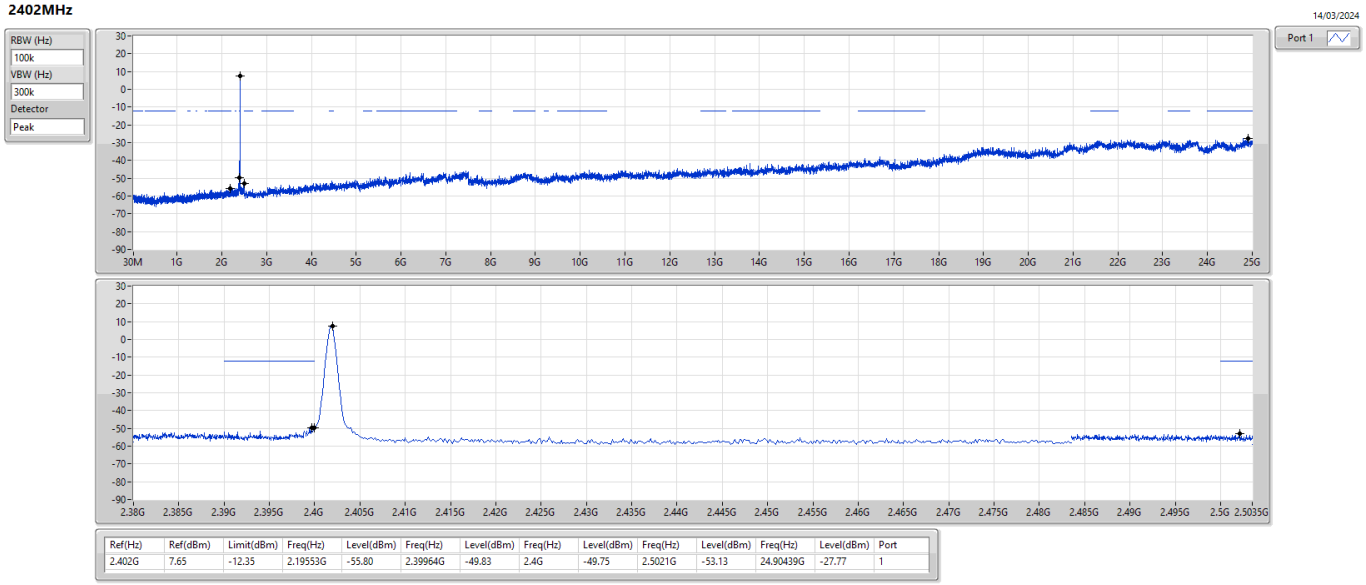
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.402G	7.65	-12.35	2.19553G	-55.80	2.39964G	-49.83	2.4G	-49.75	2.5021G	-53.13	24.90439G	-27.77	1
BT-EDR(2Mbps)	Pass	2.402G	7.17	-12.83	2.0087G	-56.11	2.39972G	-50.62	2.4G	-50.07	2.5001G	-53.63	24.84252G	-27.72	1
BT-EDR(3Mbps)	Pass	2.40167G	7.18	-12.82	2.18848G	-55.23	2.4G	-50.18	2.4G	-50.86	2.5031G	-53.99	21.51023G	-28.18	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	7.65	-12.35	2.19553G	-55.80	2.39964G	-49.83	2.4G	-49.75	2.5021G	-53.13	24.90439G	-27.77	1
2440MHz	Pass	2.43975G	7.75	-12.25	2.14735G	-54.97	2.39428G	-52.54	2.4G	-57.68	2.5007G	-53.42	24.94095G	-28.19	1
2480MHz	Pass	2.47983G	7.60	-12.40	2.18025G	-55.65	2.39244G	-52.37	2.4G	-58.24	2.50346G	-53.49	24.93813G	-26.83	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	7.17	-12.83	2.0087G	-56.11	2.39972G	-50.62	2.4G	-50.07	2.5001G	-53.63	24.84252G	-27.72	1
2440MHz	Pass	2.43991G	6.67	-13.33	2.10975G	-55.76	2.39764G	-53.24	2.4G	-57.93	2.50074G	-53.01	21.76332G	-27.34	1
2480MHz	Pass	2.48016G	6.61	-13.39	2.06275G	-55.91	2.39156G	-53.69	2.4G	-57.95	2.50322G	-53.27	24.9072G	-26.84	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40167G	7.18	-12.82	2.18848G	-55.23	2.4G	-50.18	2.4G	-50.86	2.5031G	-53.99	21.51023G	-28.18	1
2440MHz	Pass	2.44008G	7.60	-12.40	2.1309G	-56.54	2.3918G	-52.42	2.4G	-56.84	2.50126G	-53.61	24.9775G	-27.88	1
2480MHz	Pass	2.47999G	6.77	-13.23	2.18965G	-55.44	2.39936G	-53.38	2.4G	-57.62	2.50062G	-53.29	24.89877G	-27.85	1

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

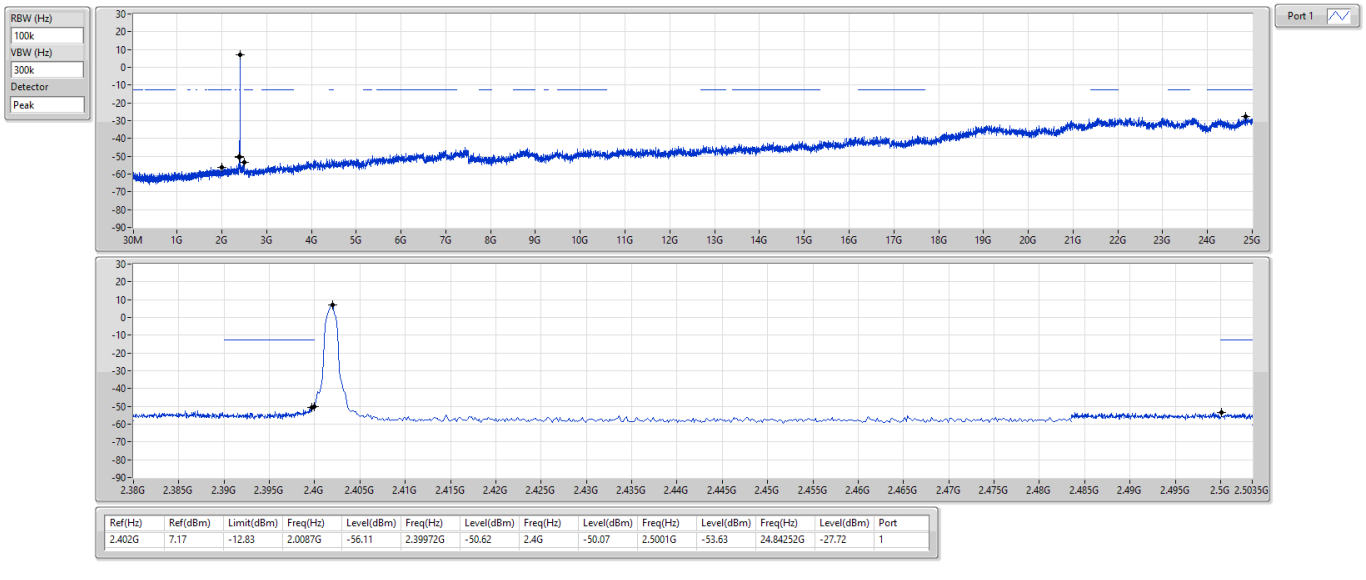
2402MHz



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	7.65	-12.35	2.19553G	-55.80	2.39964G	-49.83	2.4G	-49.75	2.5021G	-53.13	24.90439G	-27.77	1

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

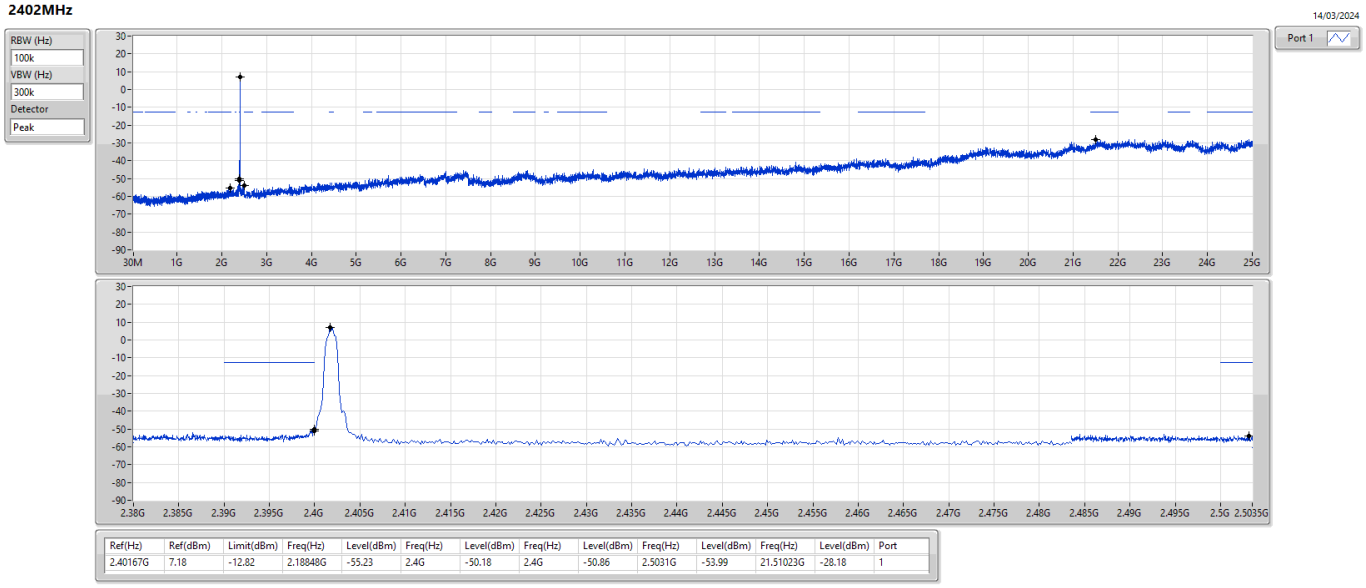
2402MHz



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	7.17	-12.83	2.0087G	-56.11	2.39972G	-50.62	2.4G	-50.07	2.5001G	-53.63	24.84252G	-27.72	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
2.40167G	7.18	-12.82	2.18848G	-55.23	2.4G	-50.18	2.4G	-50.86	2.5031G	-53.99	21.51023G	-28.18	1

Summary

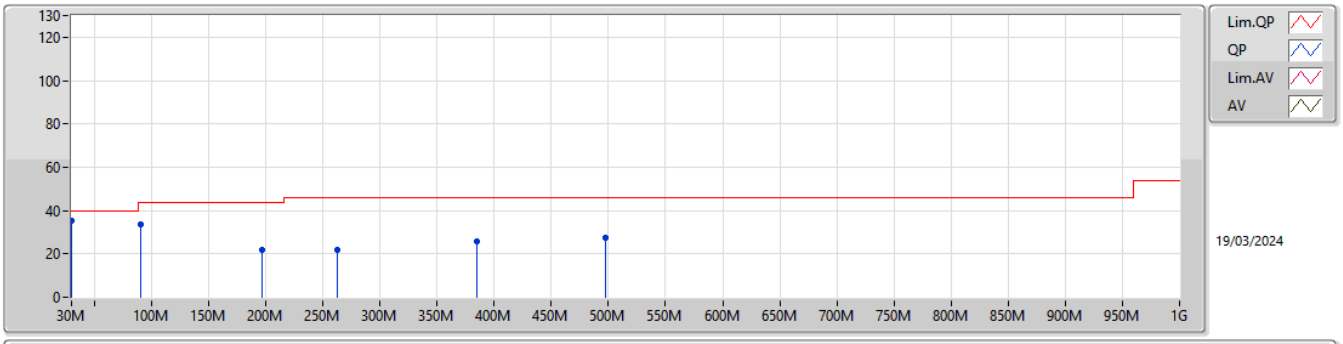
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-EDR(3Mbps)	Pass	PK	90.14M	38.93	43.50	-4.57	3	Horizontal	0	3.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-
2480MHz	Pass	PK	30M	35.11	40.00	-4.89	3	Vertical	360	3.00
2480MHz	Pass	PK	90.14M	33.53	43.50	-9.97	3	Vertical	360	3.00
2480MHz	Pass	PK	196.84M	21.91	43.50	-21.59	3	Vertical	360	3.00
2480MHz	Pass	PK	262.8M	21.85	46.00	-24.15	3	Vertical	360	3.00
2480MHz	Pass	PK	385.02M	25.86	46.00	-20.14	3	Vertical	360	3.00
2480MHz	Pass	PK	497.54M	27.52	46.00	-18.48	3	Vertical	360	3.00
2480MHz	Pass	PK	45.52M	32.83	40.00	-7.17	3	Horizontal	0	3.00
2480MHz	Pass	PK	90.14M	38.93	43.50	-4.57	3	Horizontal	0	3.00
2480MHz	Pass	PK	224M	26.39	46.00	-19.61	3	Horizontal	0	3.00
2480MHz	Pass	PK	383.08M	34.36	46.00	-11.64	3	Horizontal	0	3.00
2480MHz	Pass	PK	478.14M	27.09	46.00	-18.91	3	Horizontal	0	3.00
2480MHz	Pass	PK	559.62M	27.54	46.00	-18.46	3	Horizontal	0	3.00

2.4-2.4835GHz_BT-EDR(3Mbps)

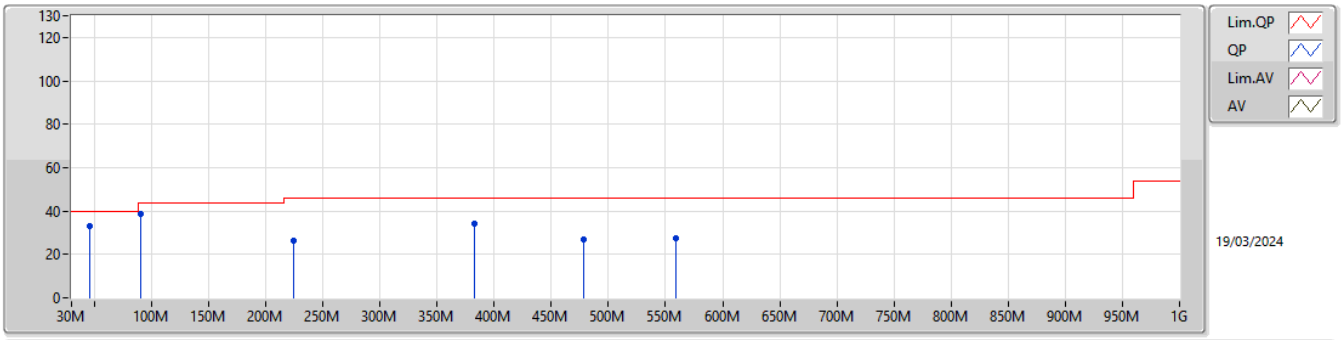
2480MHz_Switching Power Supply



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	30M	35.11	40.00	-4.89	-3.19	3	Vertical	360	3.00	38.30	22.98	1.23	27.40
PK	90.14M	33.53	43.50	-9.97	-11.81	3	Vertical	360	3.00	45.34	14.14	1.88	27.83
PK	196.84M	21.91	43.50	-21.59	-10.19	3	Vertical	360	3.00	32.10	14.40	2.90	27.49
PK	262.8M	21.85	46.00	-24.15	-5.14	3	Vertical	360	3.00	26.99	18.76	3.34	27.24
PK	385.02M	25.86	46.00	-20.14	-3.41	3	Vertical	360	3.00	29.27	20.29	4.12	27.82
PK	497.54M	27.52	46.00	-18.48	-0.96	3	Vertical	360	3.00	28.48	22.58	4.87	28.41

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_Switching Power Supply



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	45.52M	32.83	40.00	-7.17	-9.59	3	Horizontal	0	3.00	42.42	15.64	1.47	26.70
PK	90.14M	38.93	43.50	-4.57	-11.81	3	Horizontal	0	3.00	50.74	14.14	1.88	27.83
PK	224M	26.39	46.00	-19.61	-9.62	3	Horizontal	0	3.00	36.01	14.66	3.08	27.36
PK	383.08M	34.36	46.00	-11.64	-3.49	3	Horizontal	0	3.00	37.85	20.22	4.10	27.81
PK	478.14M	27.09	46.00	-18.91	-1.08	3	Horizontal	0	3.00	28.17	22.55	4.75	28.38
PK	559.62M	27.54	46.00	-18.46	0.61	3	Horizontal	0	3.00	26.93	24.01	5.26	28.66

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	2.49G	61.63	74.00	-12.37	3	Vertical	178	1.56
BT-EDR(3Mbps)	Pass	PK	2.4924G	60.56	74.00	-13.44	3	Horizontal	133	3.00

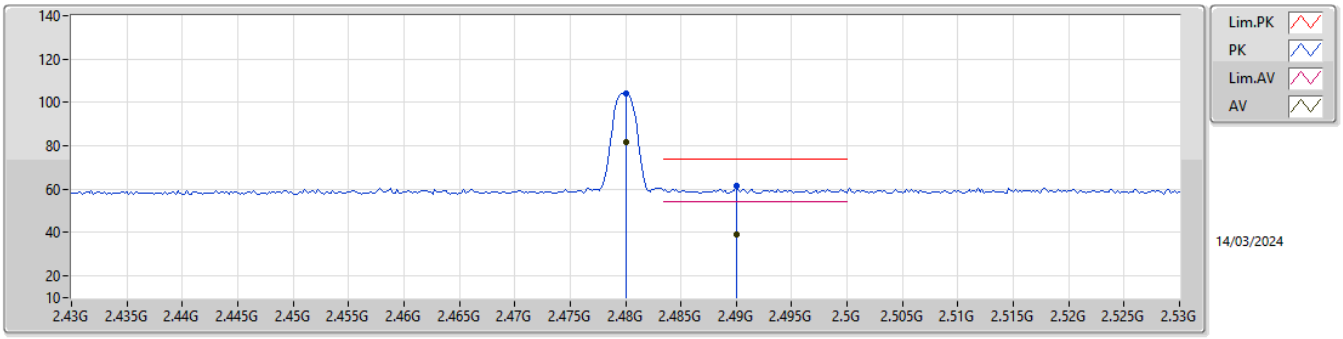
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3522G	37.41	54.00	-16.59	3	Vertical	180	1.26
2402MHz	Pass	AV	2.402G	79.93	Inf	-Inf	3	Vertical	180	1.26
2402MHz	Pass	PK	2.3522G	59.91	74.00	-14.09	3	Vertical	180	1.26
2402MHz	Pass	PK	2.402G	102.43	Inf	-Inf	3	Vertical	180	1.26
2402MHz	Pass	AV	2.3584G	37.50	54.00	-16.50	3	Horizontal	152	2.08
2402MHz	Pass	AV	2.402G	79.06	Inf	-Inf	3	Horizontal	152	2.08
2402MHz	Pass	PK	2.3584G	60.00	74.00	-14.00	3	Horizontal	152	2.08
2402MHz	Pass	PK	2.402G	101.56	Inf	-Inf	3	Horizontal	152	2.08
2402MHz	Pass	AV	4.80392G	22.49	54.00	-31.51	3	Vertical	214	3.00
2402MHz	Pass	PK	4.80392G	44.99	74.00	-29.01	3	Vertical	214	3.00
2402MHz	Pass	AV	4.80348G	22.24	54.00	-31.76	3	Horizontal	126	1.05
2402MHz	Pass	PK	4.80348G	44.74	74.00	-29.26	3	Horizontal	126	1.05
2440MHz	Pass	AV	2.356G	36.90	54.00	-17.10	3	Vertical	182	1.24
2440MHz	Pass	AV	2.44G	79.80	Inf	-Inf	3	Vertical	182	1.24
2440MHz	Pass	AV	2.4992G	37.29	54.00	-16.71	3	Vertical	182	1.24
2440MHz	Pass	PK	2.356G	59.40	74.00	-14.60	3	Vertical	182	1.24
2440MHz	Pass	PK	2.44G	102.30	Inf	-Inf	3	Vertical	182	1.24
2440MHz	Pass	PK	2.4992G	59.79	74.00	-14.21	3	Vertical	182	1.24
2440MHz	Pass	AV	2.3836G	36.71	54.00	-17.29	3	Horizontal	144	1.49
2440MHz	Pass	AV	2.44G	77.74	Inf	-Inf	3	Horizontal	144	1.49
2440MHz	Pass	AV	2.4968G	38.46	54.00	-15.54	3	Horizontal	144	1.49
2440MHz	Pass	PK	2.3836G	59.21	74.00	-14.79	3	Horizontal	144	1.49
2440MHz	Pass	PK	2.44G	100.24	Inf	-Inf	3	Horizontal	144	1.49
2440MHz	Pass	PK	2.4968G	60.96	74.00	-13.04	3	Horizontal	144	1.49
2440MHz	Pass	AV	4.8798G	21.74	54.00	-32.26	3	Vertical	113	1.46
2440MHz	Pass	PK	4.8798G	44.24	74.00	-29.76	3	Vertical	113	1.46
2440MHz	Pass	AV	4.88026G	21.56	54.00	-32.44	3	Horizontal	172	1.19
2440MHz	Pass	PK	4.88026G	44.06	74.00	-29.94	3	Horizontal	172	1.19
2480MHz	Pass	AV	2.48G	81.67	Inf	-Inf	3	Vertical	178	1.56
2480MHz	Pass	AV	2.49G	39.13	54.00	-14.87	3	Vertical	178	1.56
2480MHz	Pass	PK	2.48G	104.17	Inf	-Inf	3	Vertical	178	1.56
2480MHz	Pass	PK	2.49G	61.63	74.00	-12.37	3	Vertical	178	1.56
2480MHz	Pass	AV	2.4798G	79.64	Inf	-Inf	3	Horizontal	152	1.88
2480MHz	Pass	AV	2.4946G	37.56	54.00	-16.44	3	Horizontal	152	1.88
2480MHz	Pass	PK	2.4798G	102.14	Inf	-Inf	3	Horizontal	152	1.88
2480MHz	Pass	PK	2.4946G	60.06	74.00	-13.94	3	Horizontal	152	1.88
2480MHz	Pass	AV	4.96014G	21.43	54.00	-32.57	3	Vertical	215	2.47
2480MHz	Pass	PK	4.96014G	43.93	74.00	-30.07	3	Vertical	215	2.47
2480MHz	Pass	AV	4.95995G	20.89	54.00	-33.11	3	Horizontal	172	1.42
2480MHz	Pass	PK	4.95995G	43.39	74.00	-30.61	3	Horizontal	172	1.42
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3536G	37.02	54.00	-16.98	3	Vertical	178	1.26
2402MHz	Pass	AV	2.402G	79.49	Inf	-Inf	3	Vertical	178	1.26
2402MHz	Pass	PK	2.3536G	59.52	74.00	-14.48	3	Vertical	178	1.26
2402MHz	Pass	PK	2.402G	101.99	Inf	-Inf	3	Vertical	178	1.26
2402MHz	Pass	AV	2.3614G	37.37	54.00	-16.63	3	Horizontal	133	1.84
2402MHz	Pass	AV	2.4018G	80.07	Inf	-Inf	3	Horizontal	133	1.84
2402MHz	Pass	PK	2.3614G	59.87	74.00	-14.13	3	Horizontal	133	1.84
2402MHz	Pass	PK	2.4018G	102.57	Inf	-Inf	3	Horizontal	133	1.84
2402MHz	Pass	AV	4.80408G	21.79	54.00	-32.21	3	Vertical	119	1.39
2402MHz	Pass	PK	4.80408G	44.29	74.00	-29.71	3	Vertical	119	1.39
2402MHz	Pass	AV	4.80359G	20.73	54.00	-33.27	3	Horizontal	204	2.30
2402MHz	Pass	PK	4.80359G	43.23	74.00	-30.77	3	Horizontal	204	2.30
2440MHz	Pass	AV	2.384G	36.88	54.00	-17.12	3	Vertical	172	1.83
2440MHz	Pass	AV	2.44G	80.51	Inf	-Inf	3	Vertical	172	1.83
2440MHz	Pass	AV	2.4964G	37.43	54.00	-16.57	3	Vertical	172	1.83
2440MHz	Pass	PK	2.384G	59.38	74.00	-14.62	3	Vertical	172	1.83
2440MHz	Pass	PK	2.44G	103.01	Inf	-Inf	3	Vertical	172	1.83
2440MHz	Pass	PK	2.4964G	59.93	74.00	-14.07	3	Vertical	172	1.83
2440MHz	Pass	AV	2.3572G	36.86	54.00	-17.14	3	Horizontal	128	2.01

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2440MHz	Pass	AV	2.4396G	79.54	Inf	-Inf	3	Horizontal	128	2.01
2440MHz	Pass	AV	2.4964G	37.49	54.00	-16.51	3	Horizontal	128	2.01
2440MHz	Pass	PK	2.3572G	59.36	74.00	-14.64	3	Horizontal	128	2.01
2440MHz	Pass	PK	2.4396G	102.04	Inf	-Inf	3	Horizontal	128	2.01
2440MHz	Pass	PK	2.4964G	59.99	74.00	-14.01	3	Horizontal	128	2.01
2440MHz	Pass	AV	4.88015G	21.75	54.00	-32.25	3	Vertical	126	2.41
2440MHz	Pass	PK	4.88015G	44.25	74.00	-29.75	3	Vertical	126	2.41
2440MHz	Pass	AV	4.8794G	21.68	54.00	-32.32	3	Horizontal	170	2.57
2440MHz	Pass	PK	4.8794G	44.18	74.00	-29.82	3	Horizontal	170	2.57
2480MHz	Pass	AV	2.48G	80.61	Inf	-Inf	3	Vertical	169	1.69
2480MHz	Pass	AV	2.4874G	37.92	54.00	-16.08	3	Vertical	169	1.69
2480MHz	Pass	PK	2.48G	103.11	Inf	-Inf	3	Vertical	169	1.69
2480MHz	Pass	PK	2.4874G	60.42	74.00	-13.58	3	Vertical	169	1.69
2480MHz	Pass	AV	2.4798G	79.05	Inf	-Inf	3	Horizontal	133	3.00
2480MHz	Pass	AV	2.4924G	38.06	54.00	-15.94	3	Horizontal	133	3.00
2480MHz	Pass	PK	2.4798G	101.55	Inf	-Inf	3	Horizontal	133	3.00
2480MHz	Pass	PK	2.4924G	60.56	74.00	-13.44	3	Horizontal	133	3.00
2480MHz	Pass	AV	4.95955G	20.37	54.00	-33.63	3	Vertical	87	1.50
2480MHz	Pass	PK	4.95955G	42.87	74.00	-31.13	3	Vertical	87	1.50
2480MHz	Pass	AV	4.96016G	20.59	54.00	-33.41	3	Horizontal	182	1.43
2480MHz	Pass	PK	4.96016G	43.09	74.00	-30.91	3	Horizontal	182	1.43

2.4-2.4835GHz_BT-BR(1Mbps)

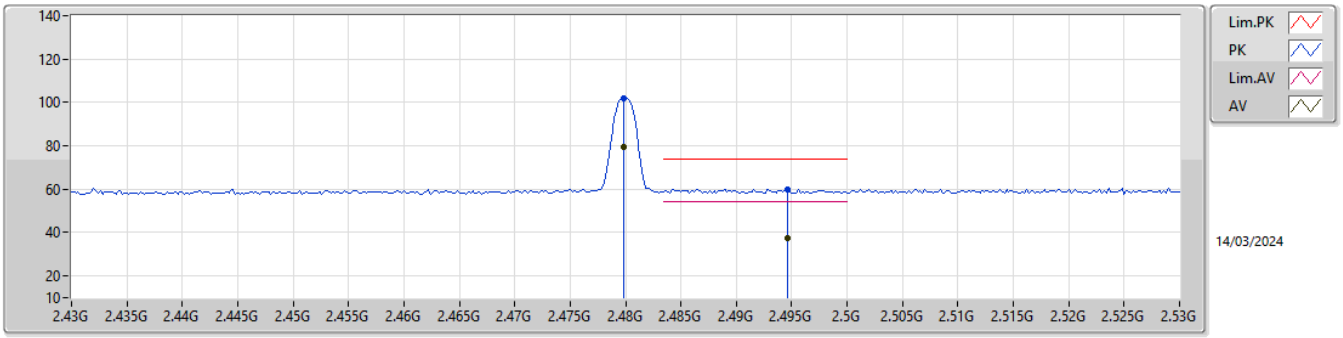
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	81.67	Inf	-Inf	32.13	3	Vertical	178	1.56	49.54	27.50	4.63	-
AV	2.49G	39.13	54.00	-14.87	32.24	3	Vertical	178	1.56	6.89	27.60	4.64	-
PK	2.48G	104.17	Inf	-Inf	32.13	3	Vertical	178	1.56	72.04	27.50	4.63	-
PK	2.49G	61.63	74.00	-12.37	32.24	3	Vertical	178	1.56	29.39	27.60	4.64	-

2.4-2.4835GHz_BT-BR(1Mbps)

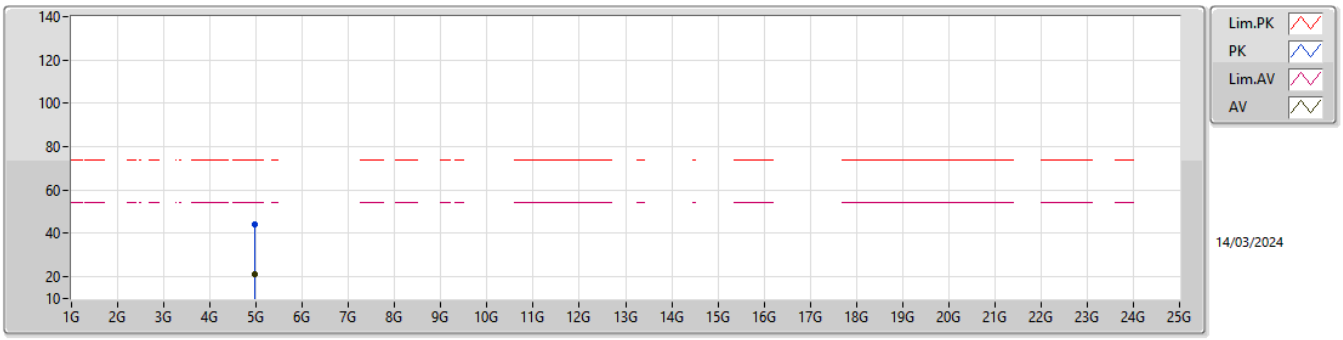
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.4798G	79.64	Inf	-Inf	32.13	3	Horizontal	152	1.88	47.51	27.50	4.63	-
AV	2.4946G	37.56	54.00	-16.44	32.25	3	Horizontal	152	1.88	5.31	27.60	4.65	-
PK	2.4798G	102.14	Inf	-Inf	32.13	3	Horizontal	152	1.88	70.01	27.50	4.63	-
PK	2.4946G	60.06	74.00	-13.94	32.25	3	Horizontal	152	1.88	27.81	27.60	4.65	-

2.4-2.4835GHz_BT-BR(1Mbps)

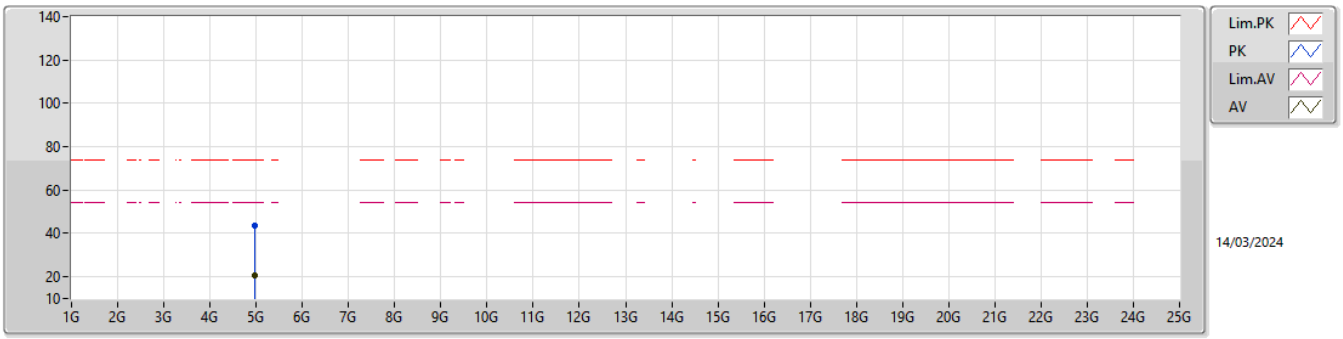
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.96014G	21.43	54.00	-32.57	4.84	3	Vertical	215	2.47	16.59	32.94	6.68	34.78
PK	4.96014G	43.93	74.00	-30.07	4.84	3	Vertical	215	2.47	39.09	32.94	6.68	34.78

2.4-2.4835GHz_BT-BR(1Mbps)

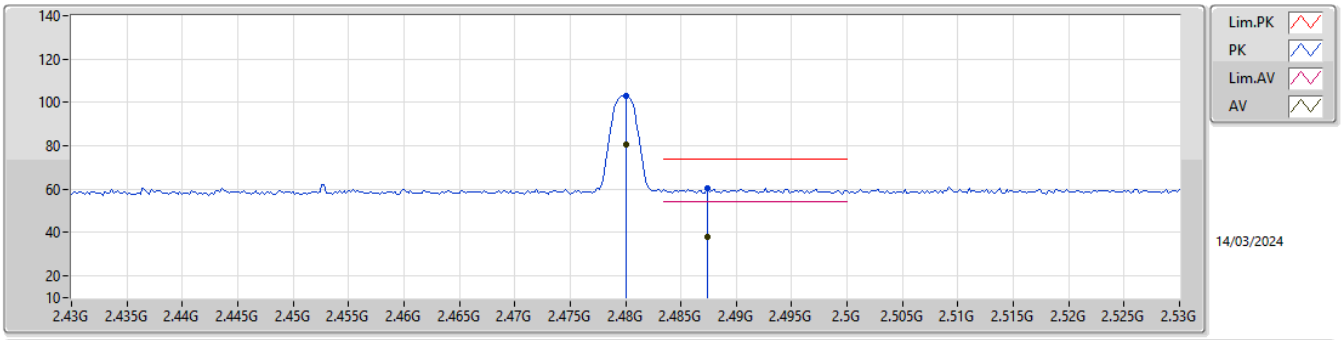
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95995G	20.89	54.00	-33.11	4.84	3	Horizontal	172	1.42	16.05	32.94	6.68	34.78
PK	4.95995G	43.39	74.00	-30.61	4.84	3	Horizontal	172	1.42	38.55	32.94	6.68	34.78

2.4-2.4835GHz_BT-EDR(3Mbps)

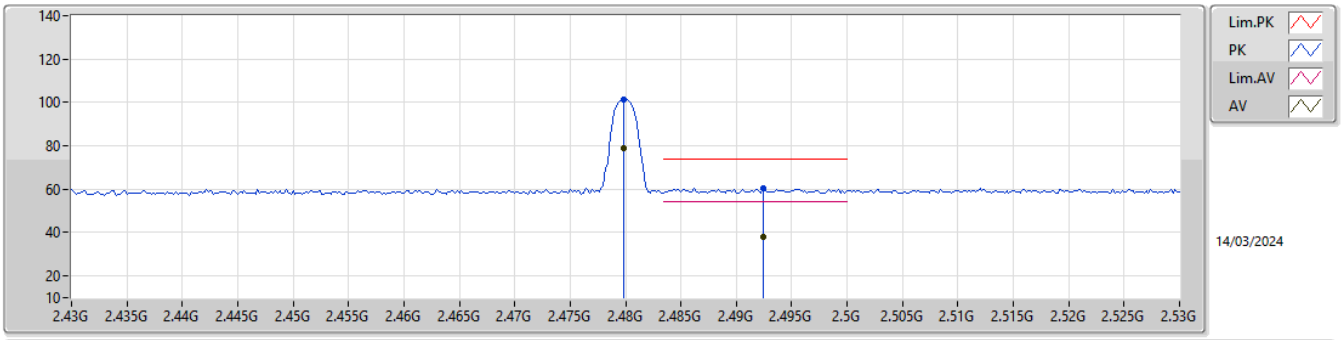
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	80.61	Inf	-Inf	32.13	3	Vertical	169	1.69	48.48	27.50	4.63	-
AV	2.4874G	37.92	54.00	-16.08	32.21	3	Vertical	169	1.69	5.71	27.57	4.64	-
PK	2.48G	103.11	Inf	-Inf	32.13	3	Vertical	169	1.69	70.98	27.50	4.63	-
PK	2.4874G	60.42	74.00	-13.58	32.21	3	Vertical	169	1.69	28.21	27.57	4.64	-

2.4-2.4835GHz_BT-EDR(3Mbps)

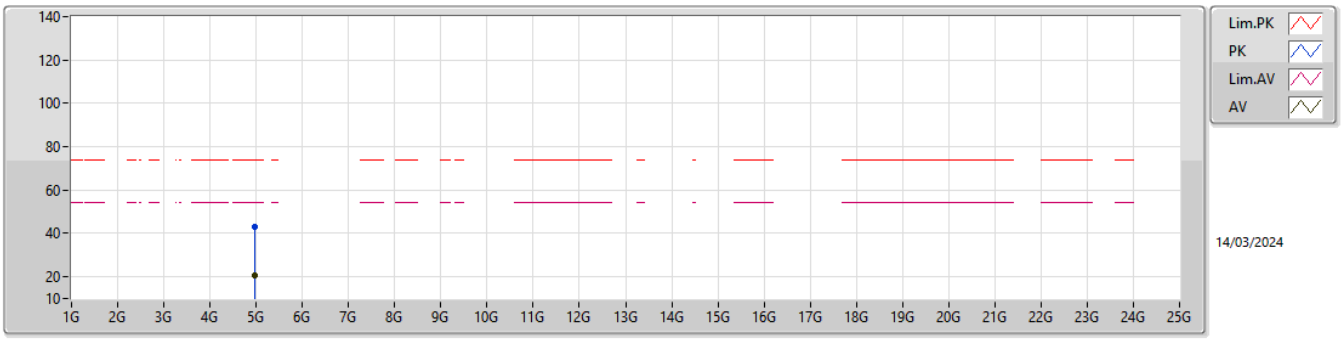
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.4798G	79.05	Inf	-Inf	32.13	3	Horizontal	133	3.00	46.92	27.50	4.63	-
AV	2.4924G	38.06	54.00	-15.94	32.25	3	Horizontal	133	3.00	5.81	27.60	4.65	-
PK	2.4798G	101.55	Inf	-Inf	32.13	3	Horizontal	133	3.00	69.42	27.50	4.63	-
PK	2.4924G	60.56	74.00	-13.44	32.25	3	Horizontal	133	3.00	28.31	27.60	4.65	-

2.4-2.4835GHz_BT-EDR(3Mbps)

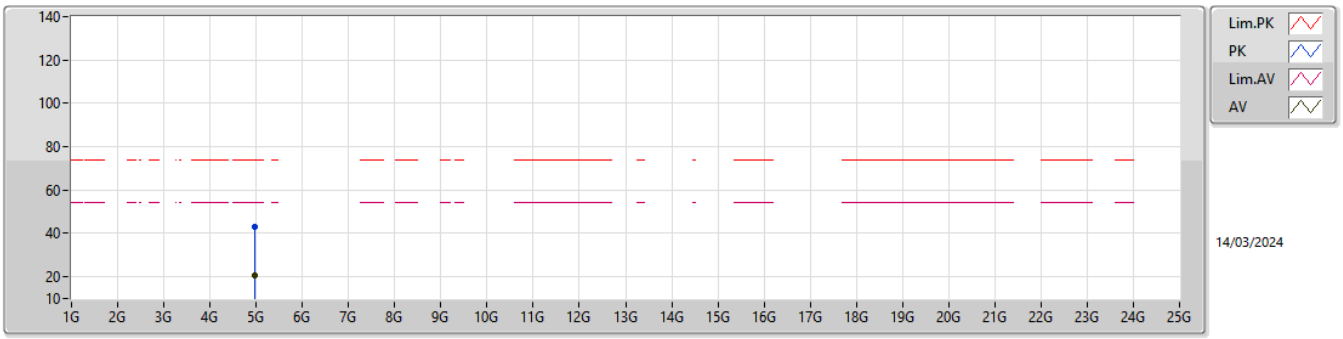
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95955G	20.37	54.00	-33.63	4.84	3	Vertical	87	1.50	15.53	32.94	6.68	34.78
PK	4.95955G	42.87	74.00	-31.13	4.84	3	Vertical	87	1.50	38.03	32.94	6.68	34.78

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.96016G	20.59	54.00	-33.41	4.84	3	Horizontal	182	1.43	15.75	32.94	6.68	34.78
PK	4.96016G	43.09	74.00	-30.91	4.84	3	Horizontal	182	1.43	38.25	32.94	6.68	34.78