

FCC Radio Test Report

FCC ID : YL6-1438852R
Equipment : Wireless Module
Brand Name : ALARM.COM
Model Name : ADC-WM8852-A
Applicant : Alarm.com Incorporated
8281 Greensboro Drive, Suite 100, Tysons,
VA 22102 United States
Manufacturer : Alarm.com Incorporated
8281 Greensboro Drive, Suite 100, Tysons,
VA 22102 United States
Standard : 47 CFR FCC Part 15.247

The product was received on Feb. 06, 2025, and testing was started from Feb. 14, 2025 and completed on Feb. 25, 2025. 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 variant 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	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Information.....	5
1.2 Testing Applied Standards	8
1.3 Testing Location Information	8
1.4 Measurement Uncertainty	8
2 TEST CONFIGURATION OF EUT.....	9
2.1 Test Channel Mode	9
2.2 The Worst Case Measurement Configuration.....	10
2.3 Support Equipment.....	11
2.4 Test Setup Diagram	12
3 TRANSMITTER TEST RESULT	13
3.1 20dB Bandwidth and Carrier Frequency Separation.....	13
3.2 Maximum Conducted Output Power	14
3.3 Number of Hopping Frequencies and Hopping Bandedge	15
3.4 Time of Occupancy (Dwell Time)	16
3.5 Emissions in Non-restricted Frequency Bands	17
3.6 Emissions in Restricted Frequency Bands.....	18
3.7 Test Equipment and Calibration Data	21
APPENDIX A. TEST RESULTS OF 20DB BANDWIDTH AND CARRIER FREQUENCY SEPARATION	
APPENDIX B. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER	
APPENDIX C. TEST RESULTS OF NUMBER OF HOPPING FREQUENCIES AND HOPPING BANDEDGE	
APPENDIX D. TEST RESULTS OF TIME OF OCCUPANCY (DWELL TIME)	
APPENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	
APPENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS	
APPENDIX G. TEST RESULTS OF RADIATED EMISSION CO-LOCATION	
APPENDIX H. TEST PHOTOS	
PHOTOGRAPHS OF EUT V01	

[illegible]

Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
-	15.207	AC Power-line Conducted Emissions	Not Required	Refer to 1.1.5
3.1	15.247(a)	20dB Bandwidth	PASS	-
3.1	15.247(a)	Carrier Frequency Separation	PASS	-
3.2	15.247(b)	Maximum Conducted Output Power	PASS	-
3.3	15.247(a)	Number of Hopping Frequencies and Hopping Bandedge	PASS	-
3.4	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	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: Amber 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 $\pi/4$ -DQPSK (2Mbps) and 8DPSK (3Mbps).
- ♦ Bluetooth BR/EDR uses as a system using FHSS modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Source	Ant.	Brand	Model Name	Antenna Type	Connector	Support
1	1	PSA	WCBN3511L_PCA	Dipole	I-Pex	2.4G+5G
	2	PSA	WCBN3511L_PCA	Dipole	I-Pex	2.4G+5G+BT
2	3	INPAQ	RFFPA301205IMLB401	Dipole	I-Pex	2.4G+5G
	4	INPAQ	RFFPA301213IMLB401	Dipole	I-Pex	2.4G+5G
3	5	LYNwave	ALX18F-222A A4-00	Dipole	I-Pex	2.4G+5G
	6	LYNwave	ALX18F-222A A5-00	Dipole	I-Pex	2.4G+5G
4	7	LYNwave	ALX18F-222AA2-01	Dipole	I-Pex	2.4G+5G
	8	LYNwave	ALX18F-222AA3-01	Dipole	I-Pex	2.4G+5G
5	9	AWAN	ASF6P-100012	PIFA	I-Pex	2.4G+5G
	10	AWAN	ASF6P-100011	PIFA	I-Pex	2.4G+5G+BT
6	11	INPAQ	RFDPA1615SBLB818	PIFA	I-Pex	2.4G+5G
	12	INPAQ	RFDPA1615SBLB818	PIFA	I-Pex	2.4G+5G+BT

Source	Ant.	Port	Gain (dBi)		
			2.4G	5G	BT
1	1	1	5.3	5.71	-
	2	2	5.3	5.71	5.3
2	3	1	3.94	5.3	-
	4	2	3.78	4.28	-
3	5	1	4.9	5.4	-
	6	2	5.2	4.7	-
4	7	1	5.1	5.6	-
	8	2	3.5	5.5	-
5	9	1	3.3	5.7	-
	10	2	2.9	3.8	2.9
6	11	1	5.59	6.04	-
	12	2	5.59	6.04	5.59

Note 1: The EUT has twelve antennas.

Note 2: The EUT can be matched with the above antennas and Source 6 antennas were used to perform the worst configuration and result of that was recorded as the final test result.

For 2.4GHz function:

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

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

Ant. 3 (port 1) and Ant. 4 (port 2) could transmit/receive simultaneously.

Ant. 5 (port 1) and Ant. 6 (port 2) could transmit/receive simultaneously.

Ant. 7 (port 1) and Ant. 8 (port 2) could transmit/receive simultaneously.

Ant. 9 (port 1) and Ant. 10 (port 2) could transmit/receive simultaneously.

Ant. 11 (port 1) and Ant. 12 (port 2) could transmit/receive simultaneously.

For BT function:

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

Ant. 2 (port 2) can be used as transmitting/receiving.

Ant. 10 (port 2) can be used as transmitting/receiving.

Ant. 12 (port 2) can be used as transmitting/receiving.

For 5GHz function:

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

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

Ant. 3 (port 1) and Ant. 4 (port 2) could transmit/receive simultaneously.

Ant. 5 (port 1) and Ant. 6 (port 2) could transmit/receive simultaneously.

Ant. 7 (port 1) and Ant. 8 (port 2) could transmit/receive simultaneously.

Ant. 9 (port 1) and Ant. 10 (port 2) could transmit/receive simultaneously.

Ant. 11 (port 1) and Ant. 12 (port 2) could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From Test Fixture		
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)	1	0	30.001m	10Hz (DC>=0.98)
BT-EDR(2Mbps)	1	0	30.001m	10Hz (DC>=0.98)
BT-EDR(3Mbps)	1	0	30.001m	10Hz (DC>=0.98)

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

1.1.5 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR1D0419AD

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Add 4 antennas (Ant 9~12)	20dB Bandwidth Carrier Frequency Separation Maximum Conducted Output Power Number of Hopping Frequencies and Hopping Bandedge Time of Occupancy (Dwell Time) Emissions in Non-restricted Frequency Bands Emissions in Restricted Frequency Bands
2. Modified antennas brand and model name (Ant 7~8)	After evaluation, no RF test validations are required

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 (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)		
		TEL: 886-3-327-3456	FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
☒	Wenhua 3rd. (TAF: 3785)	ADD: No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)		
		TEL: 886-3-327-086887		
Test site Designation No. TW0036 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH06-HY	Johnny Yu	21.3~21.8°C / 52~55%	14/Feb/2025
Radiated	03CH26-HY	Andy Wang	19.7~20.5°C / 55~58%	21/Feb/2025~25/Feb/2025
Radiated (Co-location)	03CH26-HY	Ivan Chung	20.4~21.3°C / 59~62%	24/Feb/2025

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
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	Bluetooth RF Test Tool (RtBluetoothMP.dll Version 5.3.1.77)
Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	0x57
2440MHz	0x59
2480MHz	0x57
BT-EDR(2Mbps)	-
2402MHz	0x55
2440MHz	0x59
2480MHz	0x57
BT-EDR(3Mbps)	-
2402MHz	0x5b
2440MHz	0x5f
2480MHz	0x59

2.2 The Worst Case Measurement Configuration

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)

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

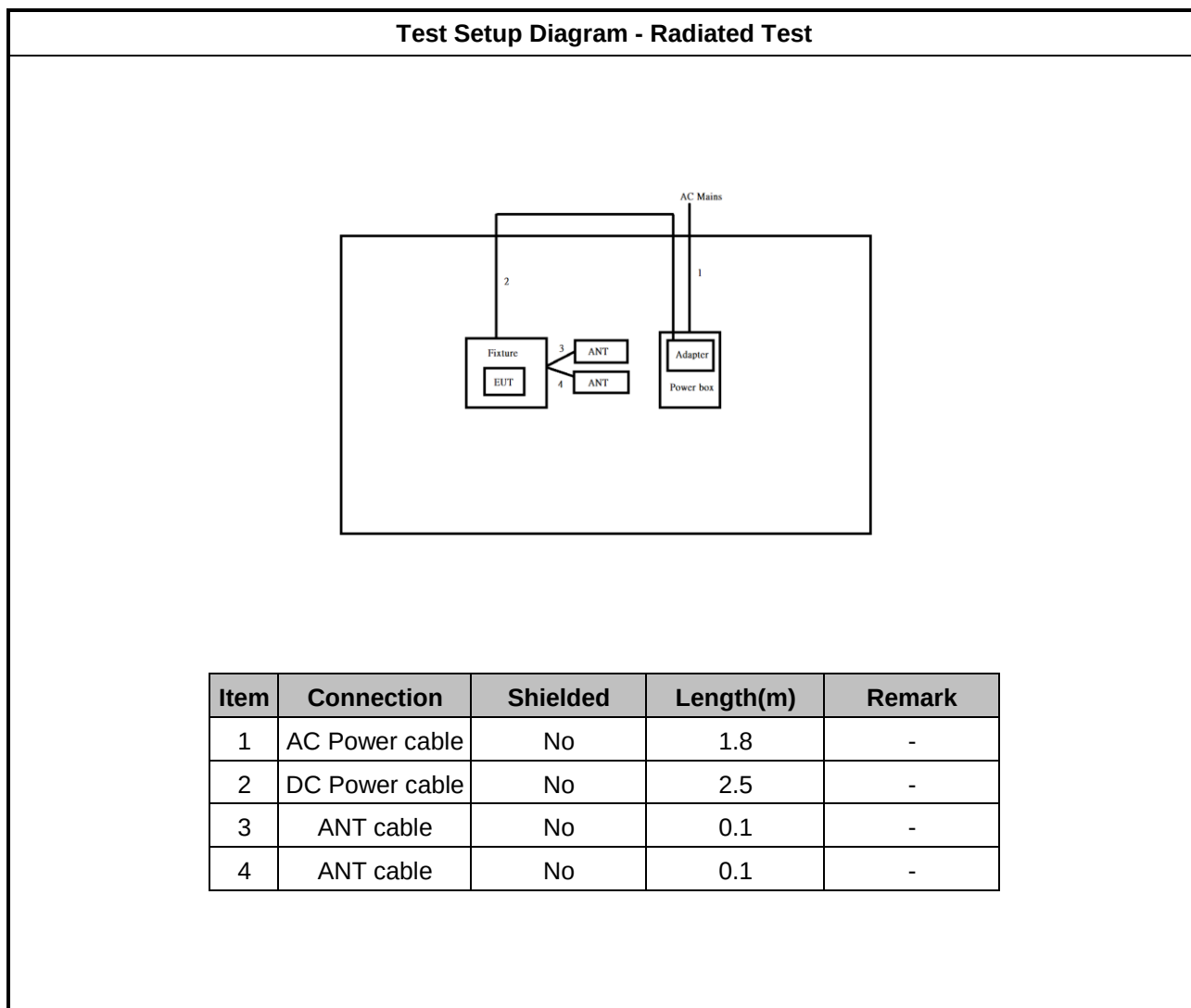
The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated measurement
Operating Mode	CTX
1	Bluetooth+WLAN 2.4GHz
2	Bluetooth+WLAN 5GHz
Refer to Sporton Test Report No.: FA1D0419-02 for Co-location RF Exposure Evaluation and Appendix H for Radiated Emission Co-location.	

2.3 Support Equipment

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Adapter for EUT	APD	WB-12G12FU	-	-
2	NB	Lenovo	TP0001A	-	-
3	Adapter for NB	Lenovo	42T5000	-	-

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Adapter for EUT	APD	WB-12G12FU	-	-
2	Antenna*2	inpaq	RFDPA1615SBLB 818	-	Provided by Customer
3	Fixture	-	-	-	Provided by Customer

2.4 Test Setup Diagram



3 Transmitter Test Result

3.1 20dB Bandwidth and Carrier Frequency Separation

3.1.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
2400-2483.5 MHz Band:	
	$N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	$75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

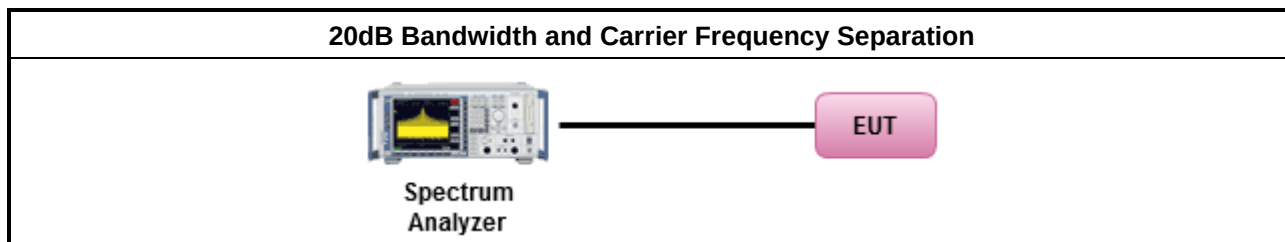
3.1.2 Measuring Instruments

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 6.9.2 for 20 dB bandwidth measurement.
Refer as ANSI C63.10-2013, clause 7.8.2 for carrier frequency separation measurement.

3.1.4 Test Setup



3.1.5 Test Result of 20dB Bandwidth

Refer as Appendix A

3.1.6 Test Result of Carrier Frequency Separation

Refer as Appendix A

3.2 Maximum Conducted Output Power

3.2.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
2400-2483.5 MHz Band:	
	$N \geq 75$; Power 30dBm; EIRP 36dBm
	$75 > N \geq 15$; Power 21dBm; EIRP 27dBm
N: Number of Hopping Frequencies	

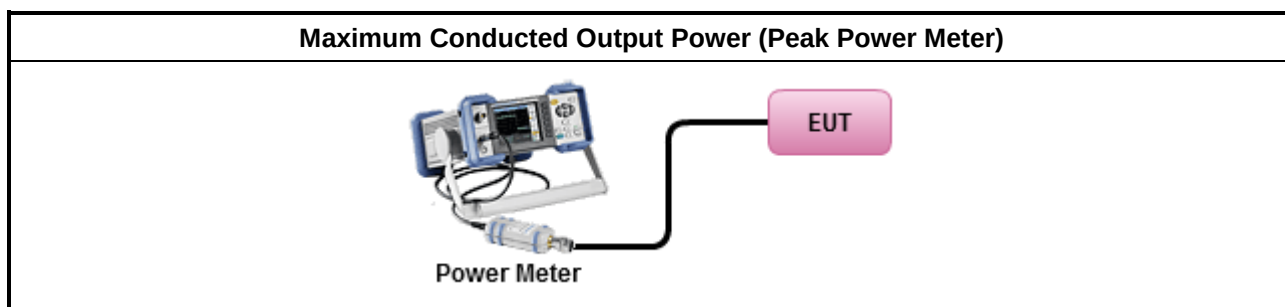
3.2.2 Measuring Instruments

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 7.8.5 for output power measurement.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

3.3 Number of Hopping Frequencies and Hopping Bandedge

3.3.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit	
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
N: Number of Hopping Frequencies; ChS : Hopping Channel Separation	

3.3.2 Hopping Bandedge Limit

Refer clause 3.5.1 and clause 3.6.1

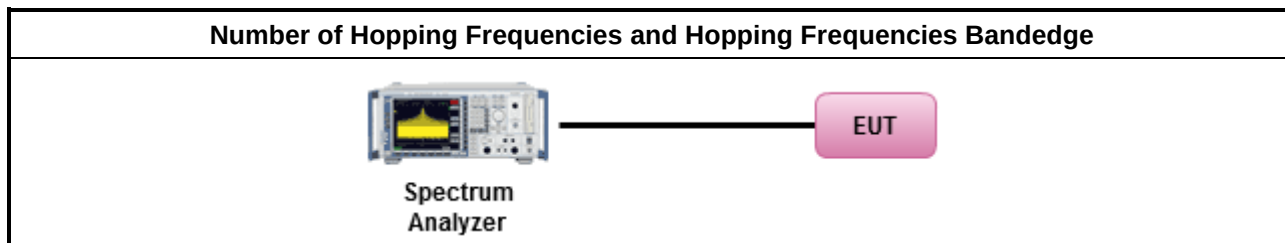
3.3.3 Measuring Instruments

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

3.3.4 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.

3.3.5 Test Setup



3.3.6 Test Result of Number of Hopping Frequencies

Refer as Appendix C

3.3.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix C

3.4 Time of Occupancy (Dwell Time)

3.4.1 Time of Occupancy (Dwell Time) Limit

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems	
2400-2483.5 MHz Band:	
	$N \geq 75$; 0.4s in $N \times 0.4$ period
	$75 > N \geq 15$; 0.4s in $N \times 0.4$ period
N: Number of Hopping Frequencies	

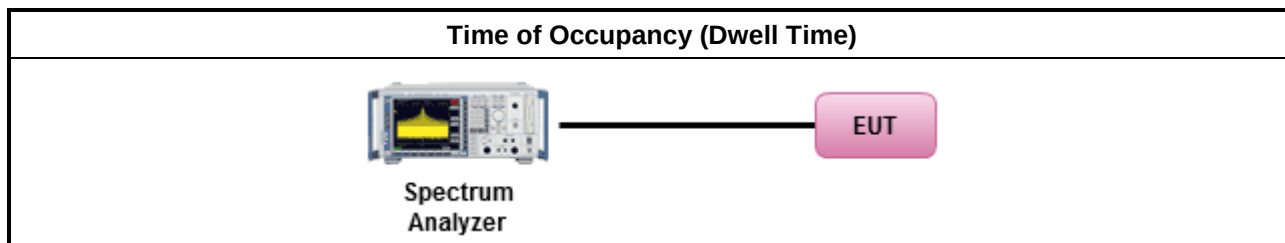
3.4.2 Measuring Instruments

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

3.4.3 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.

3.4.4 Test Setup



3.4.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 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.	

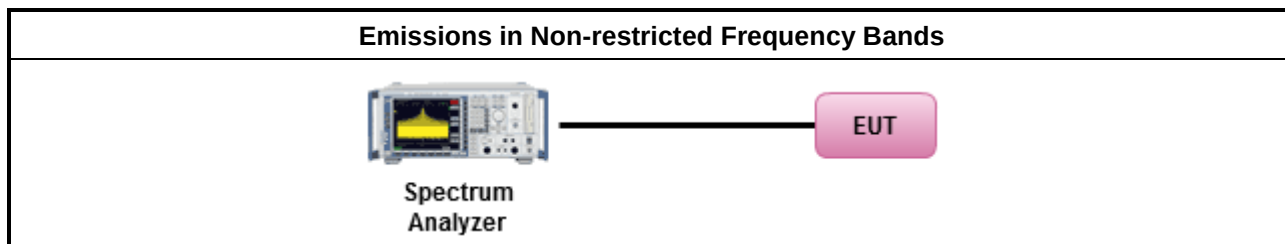
3.5.2 Measuring Instruments

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 7.8.8 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

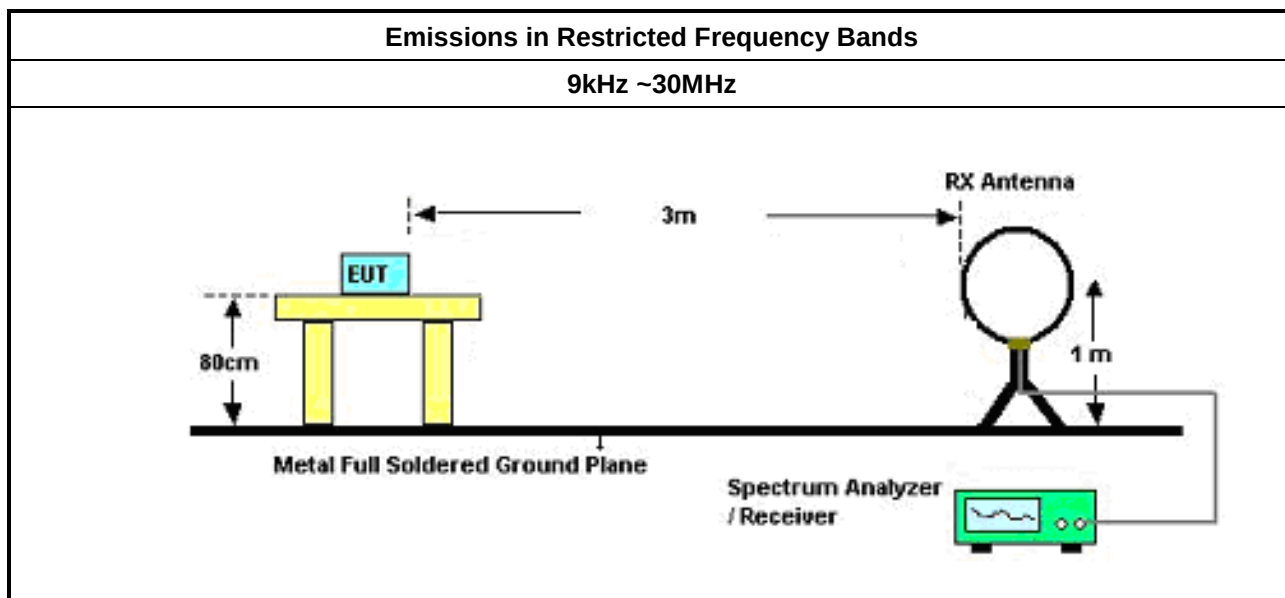
Test Method	
	The average emission levels shall be measured in [hopping duty factor].
	Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	For the transmitter unwanted emissions shall 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.

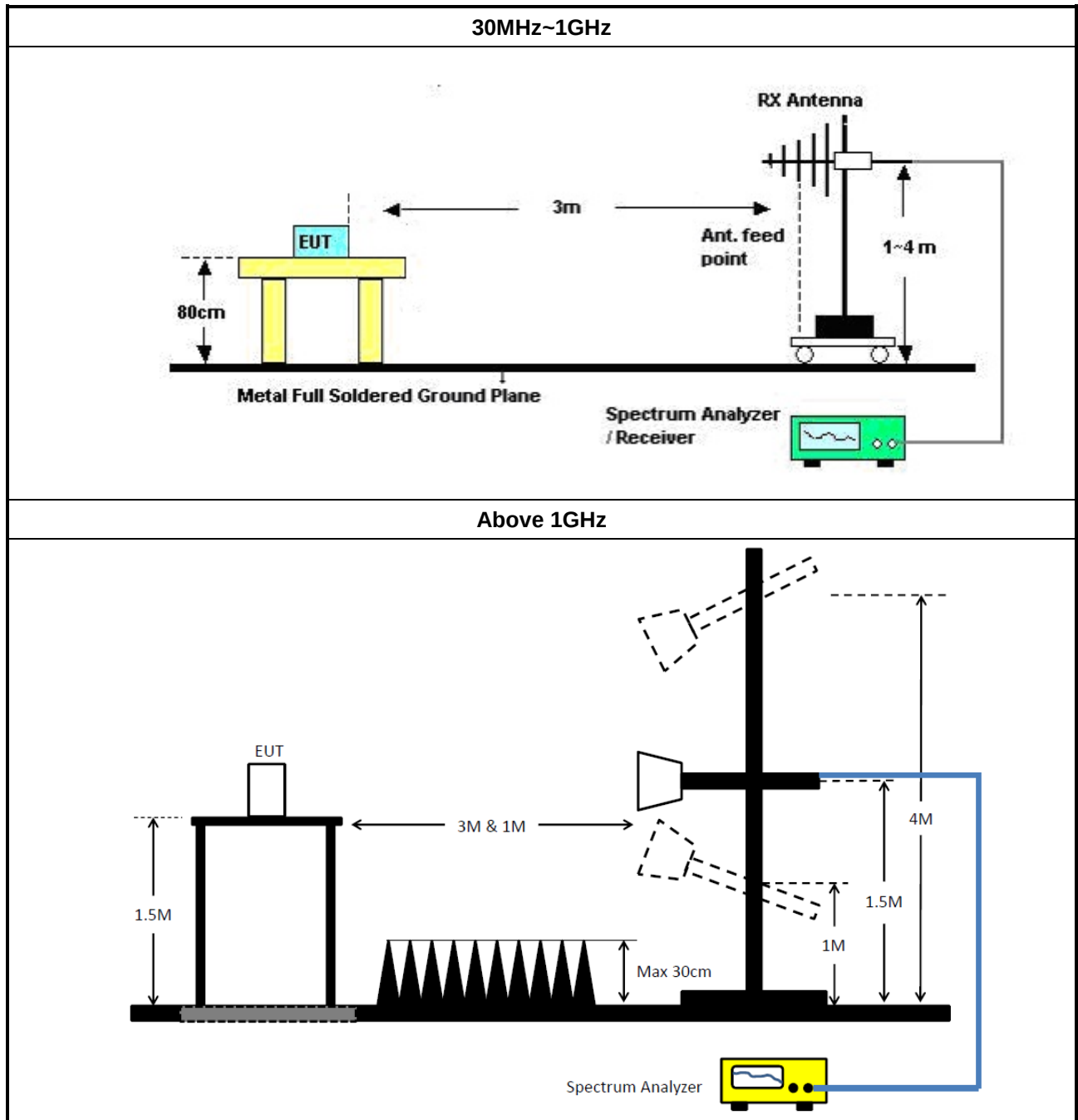
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.6.5 Test Setup





3.6.6 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.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

3.7 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101029	10Hz~40GHz	28/Oct/2024	27/Oct/2025
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	16/Oct/2024	15/Oct/2025
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	01/Apr/2024	31/Mar/2025
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	02/Apr/2024	01/Apr/2025
SENSE-15247_FS	Sporton	V5.11.23	N/A	N/A	N/A	N/A

Instrument for Radiated Test (03CH26-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH26-HY	30MHz~1GHz 3m	07/Aug/2024	06/Aug/2025
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH26-HY	1GHz~18GHz 3m	07/Aug/2024	06/Aug/2025
EMI Test Receiver	ROHDE & SCHWARZ	ESR	102318	9kHz~3.6GHz	06/Dec/2024	05/Dec/2025
Signal Analyzer	ROHDE & SCHWARZ	FSV3044	101411	10Hz~44GHz	09/Oct/2024	08/Oct/2025
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	19/Mar/2024	18/Mar/2025
Bilog Antenna & 6dB Attenuator	TESEQ & VGT	CBL 6111D & VFA 04002-06	63540/002	30MHz~1GHz	05/Jun/2024	04/Jun/2025
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02877	1GHz~18GHz	11/Jul/2024	10/Jul/2025
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	04/Oct/2024	03/Oct/2025
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB009	9kHz~1GHz	21/Oct/2024	20/Oct/2025
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB009	1GHz~40GHz	21/Oct/2024	20/Oct/2025
Preamplifier	SGH	PRAMP 903	20230515-2	30MHz~1GHz	24/May/2024	23/May/2025
Preamplifier	SGH	PRAMP 118-H	20230515-4	1GHz ~18GHz	24/May/2024	23/May/2025
Amplifier	EM	EM18G40G	060874	18GHz ~ 40GHz	15/Apr/2024	14/Apr/2025
SENSE-15247-FS	Sporton	V5.11.21	NA	NA	NA	NA

Instrument for Radiated Test (Co-location)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH26-HY	1GHz~18GHz 3m	07/Aug/2024	06/Aug/2025
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101411	10Hz~44GHz	09/Oct/2024	08/Oct/2025
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02877	1GHz~18GHz	11/Jul/2024	10/Jul/2025
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	01248	18GHz~40GHz	04/Oct/2024	03/Oct/2025
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB009	1GHz~40GHz	21/Oct/2024	20/Oct/2025
Preamplifier	SGH	PRAMP 118-H	20230515-4	1GHz ~18GHz	24/May/2024	23/May/2025
Amplifier	EM	EM18G40G	060874	18GHz ~ 40GHz	15/Apr/2024	14/Apr/2025
SENSE-EMI	Sporton	V5.11.8	NA	NA	NA	NA

**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)	926.75k	889.555k	890KF1D	921.25k	887.056k
BT-EDR(2Mbps)	1.375M	1.202M	1M20G1D	1.334M	1.186M
BT-EDR(3Mbps)	1.345M	1.217M	1M22G1D	1.331M	1.202M

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

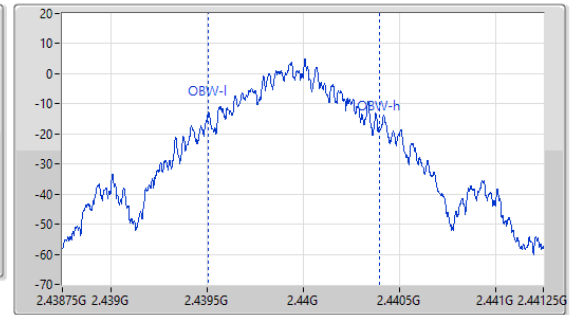
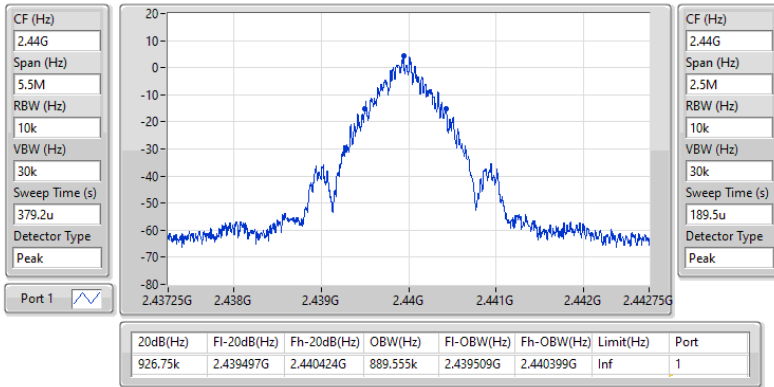
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	924k	887.056k
2440MHz	Pass	Inf	926.75k	889.555k
2480MHz	Pass	Inf	921.25k	887.056k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.375M	1.198M
2440MHz	Pass	Inf	1.334M	1.202M
2480MHz	Pass	Inf	1.334M	1.186M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.345M	1.217M
2440MHz	Pass	Inf	1.331M	1.216M
2480MHz	Pass	Inf	1.342M	1.202M

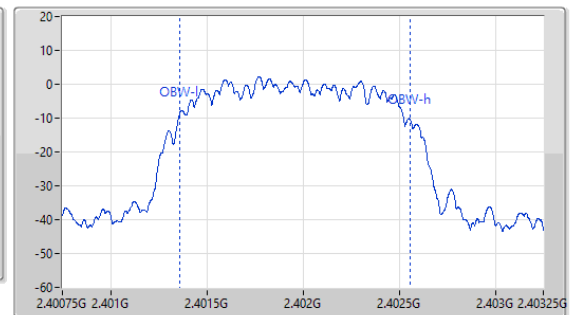
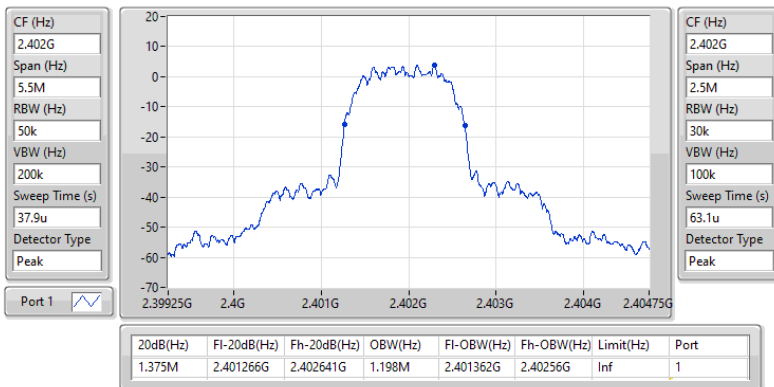
Port X-N dB = Port X 20dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-BR(1Mbps)
EBW-FS
2440MHz

14/02/2025


2.4-2.4835GHz_BT-EDR(2Mbps)
EBW-FS
2402MHz

14/02/2025

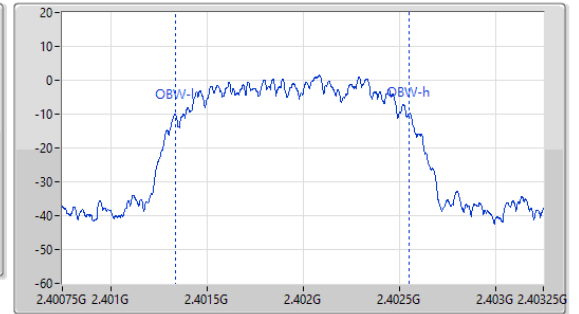
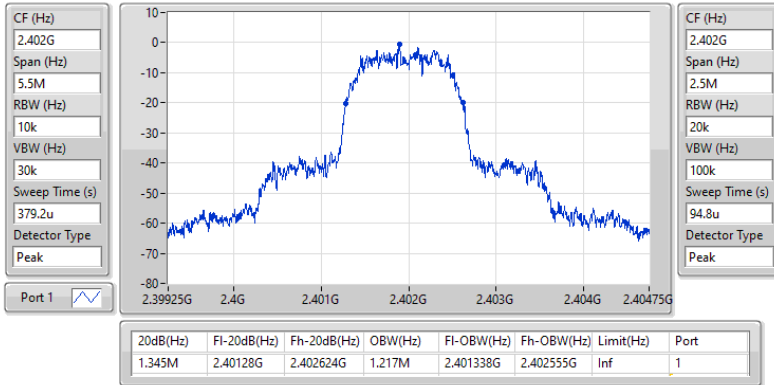


2.4-2.4835GHz_BT-EDR(3Mbps)

EBW-FS

2402MHz

14/02/2025





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)	1.1805M	1.0005M

Result

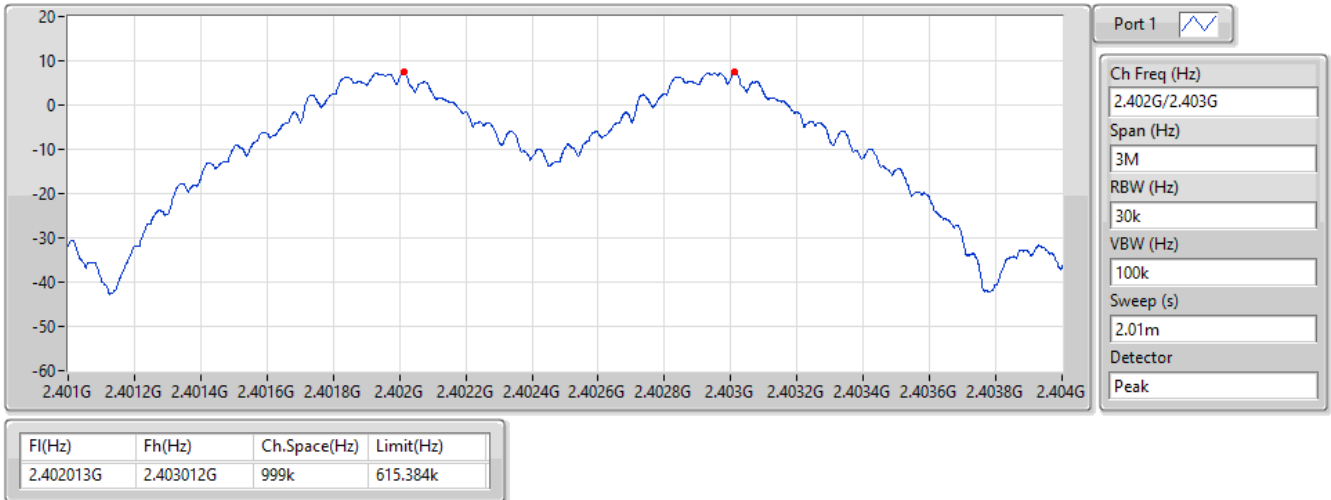
Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402013G	2.403012G	999k	615.384k
2440MHz	Pass	2.440011G	2.441012G	1.0005M	617.2155k
2480MHz	Pass	2.479011G	2.48001G	999k	613.5525k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401771G	2.402772G	1.0005M	915.75k
2440MHz	Pass	2.439771G	2.440772G	1.0005M	888.444k
2480MHz	Pass	2.478768G	2.47977G	1.002M	888.444k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401899G	2.402901G	1.002M	895.77k
2440MHz	Pass	2.44008G	2.441081G	1.0005M	886.446k
2480MHz	Pass	2.478899G	2.480079G	1.1805M	893.772k

2.4-2.4835GHz_BT-BR(1Mbps)

Channel Separation-FS

2.402G/2.403GHz

14/02/2025

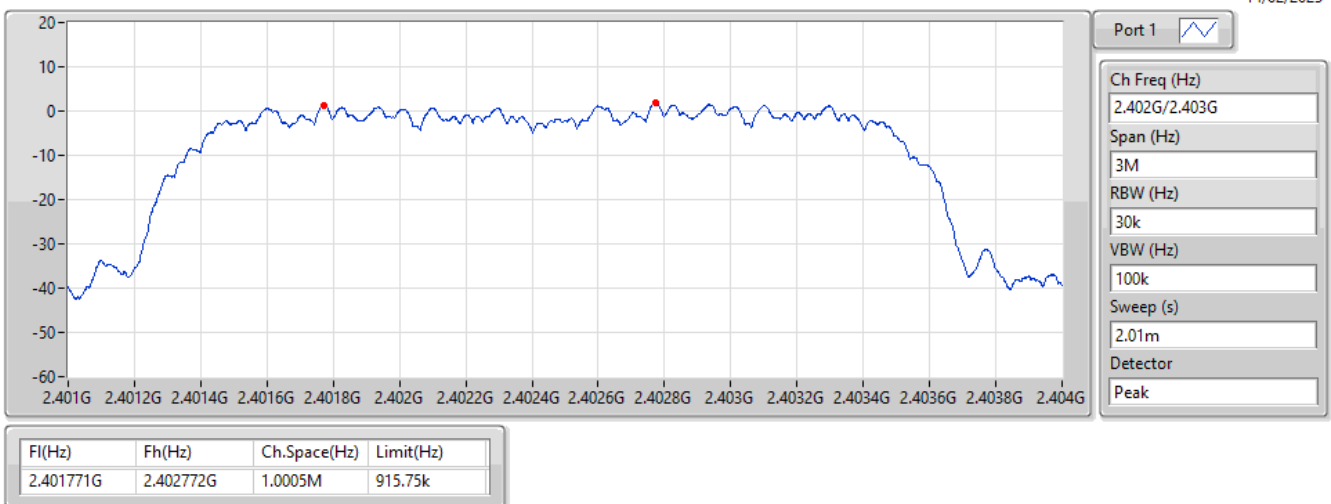


2.4-2.4835GHz_BT-EDR(2Mbps)

Channel Separation-FS

2.402G/2.403GHz

14/02/2025

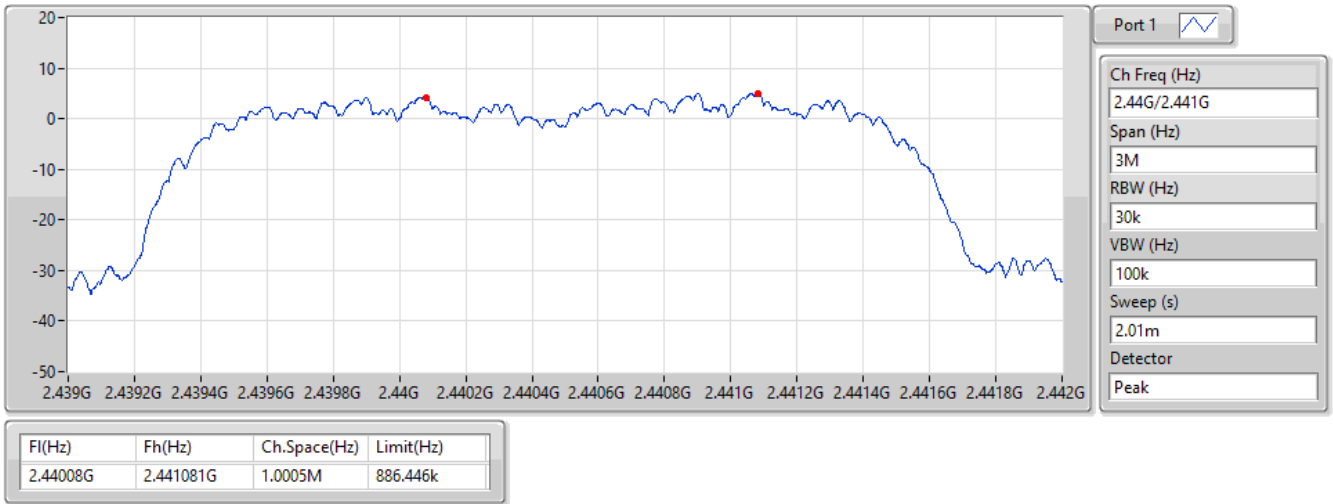


2.4-2.4835GHz_BT-EDR(3Mbps)

Channel Separation-FS

2.44G/2.441GHz

14/02/2025





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.44	0.01393
BT-EDR(2Mbps)	11.40	0.01380
BT-EDR(3Mbps)	12.99	0.01991

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	5.59	11.12	21.00
2440MHz	Pass	5.59	11.44	21.00
2480MHz	Pass	5.59	10.47	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	5.59	10.52	21.00
2440MHz	Pass	5.59	11.40	21.00
2480MHz	Pass	5.59	11.17	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	5.59	12.81	21.00
2440MHz	Pass	5.59	12.99	21.00
2480MHz	Pass	5.59	12.22	21.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.09	0.01285
BT-EDR(2Mbps)	8.92	0.00780
BT-EDR(3Mbps)	10.55	0.01135



Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	5.59	10.72	21.00
2440MHz	Pass	5.59	11.09	21.00
2480MHz	Pass	5.59	10.04	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	5.59	8.03	21.00
2440MHz	Pass	5.59	8.92	21.00
2480MHz	Pass	5.59	8.67	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	5.59	10.21	21.00
2440MHz	Pass	5.59	10.55	21.00
2480MHz	Pass	5.59	9.48	21.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.



Summary

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



Result

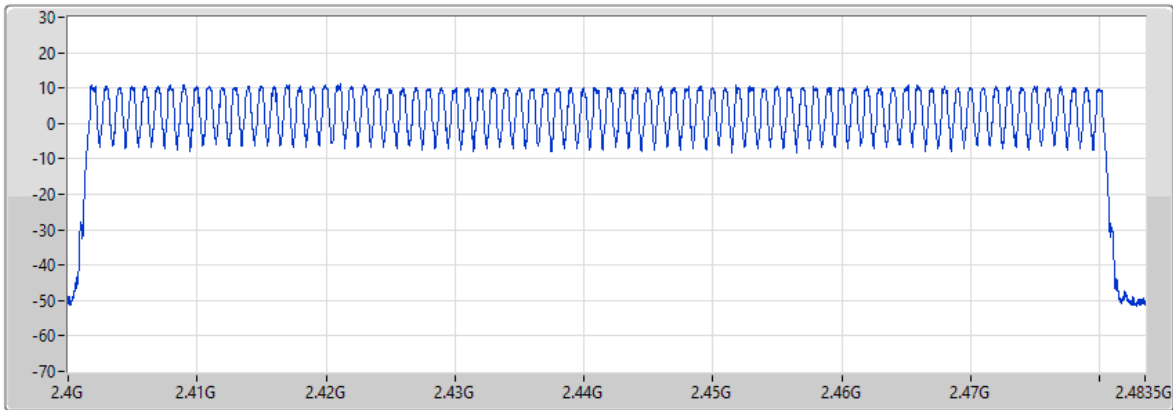
Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2440MHz	Pass	79	15

2.4-2.4835GHz_BT-BR(1Mbps)

Hopping-FS

2440MHz

14/02/2025



Port 1 

Hopping No
79

Span (Hz)
83.5M

RBW (Hz)
100k

VBW (Hz)
300kHz

Sweep (s)
8.01ms

Detector
Peak

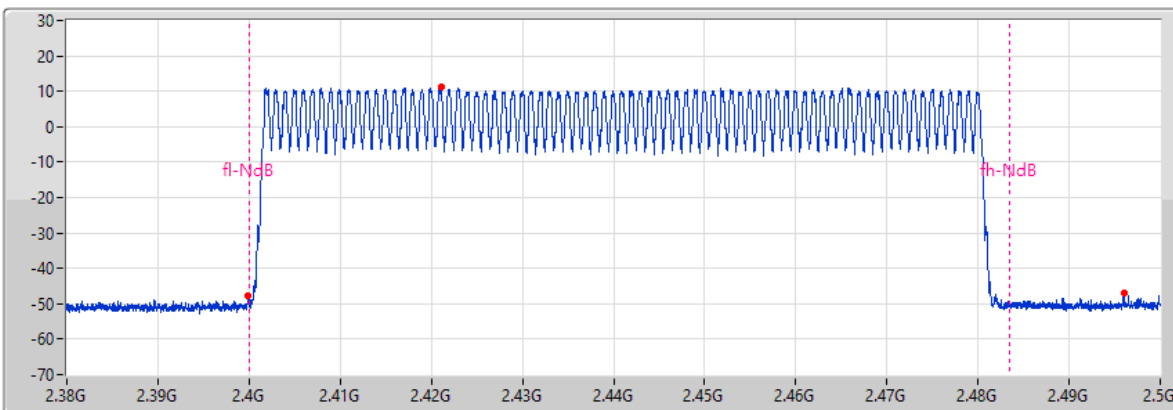
Hopping No	Limit
79	15

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

14/02/2025



Port 1 

Span (Hz)
120M

RBW (Hz)
100k

VBW (Hz)
300k

Sweep (s)
8.01m

Detector
Peak

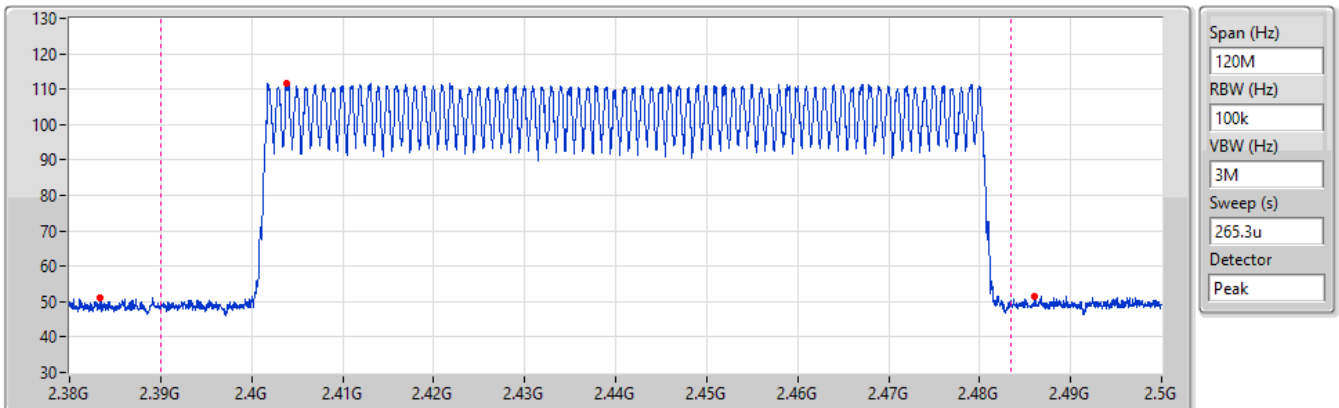
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-8.92	2.42113G	11.08	2.39986G	-47.75	2.495995G	-47.13

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

14/02/2025



Span (Hz)	120M
RBW (Hz)	100k
VBW (Hz)	3M
Sweep (s)	265.3u
Detector	Peak

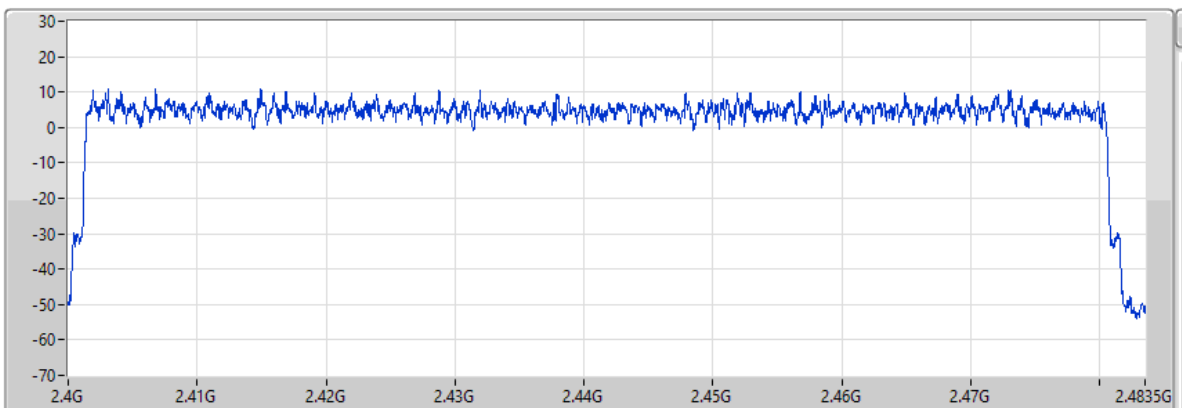
Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.40379G	111.74	2.38339G	51.11	21.01	2.486095G	51.41	21.31	74	54	3.125	-30.1

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

Hopping-FS

14/02/2025



Port 1	
Hopping No	79
Span (Hz)	83.5M
RBW (Hz)	100k
VBW (Hz)	300kHz
Sweep (s)	265.3us
Detector	Peak

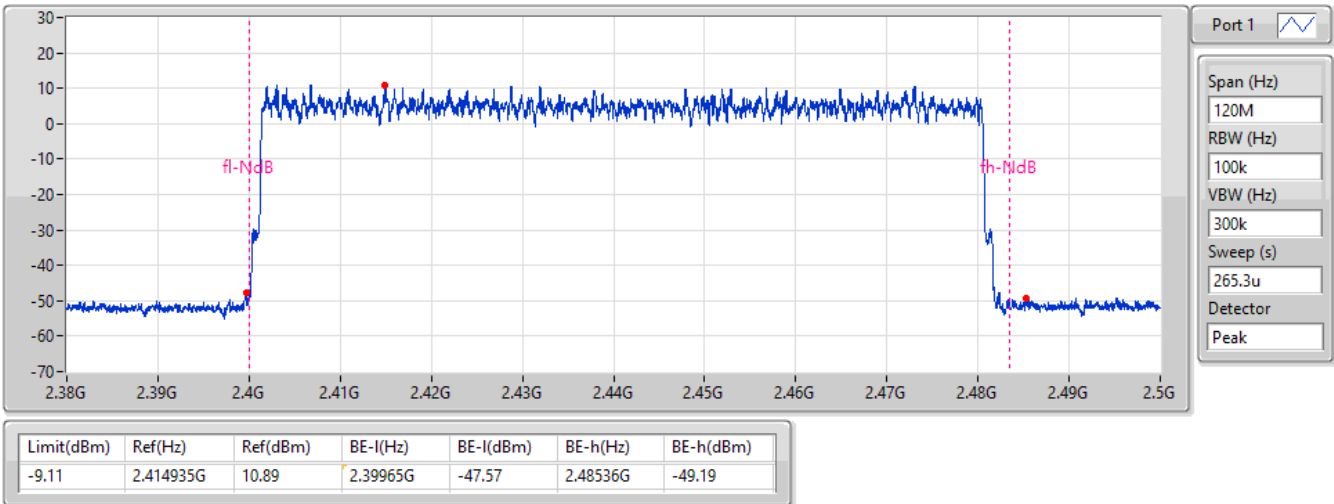
Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

14/02/2025

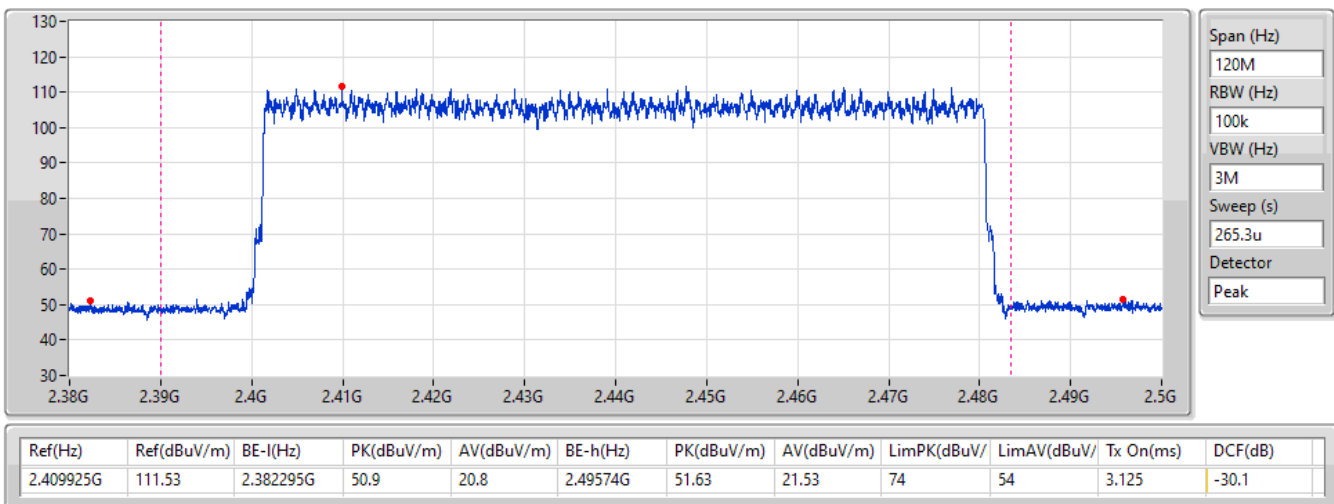


2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

14/02/2025

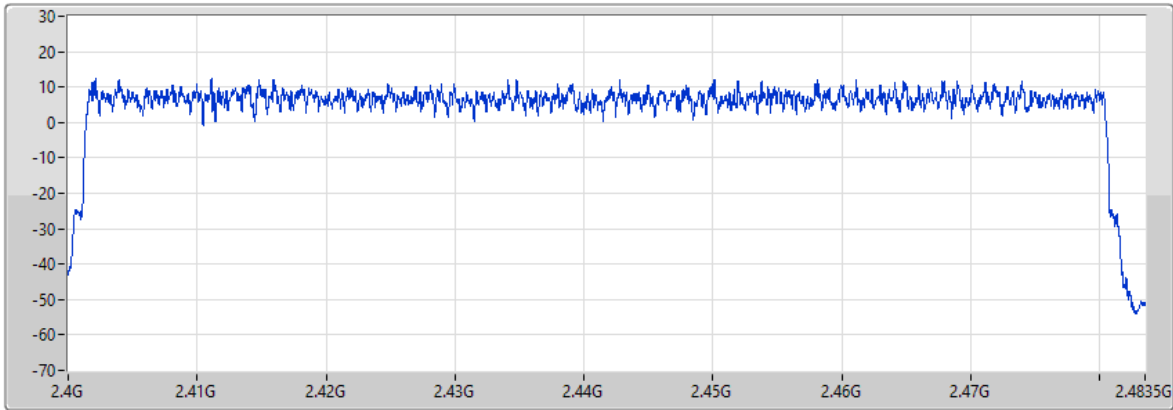


2.4-2.4835GHz_BT-EDR(3Mbps)

Hopping-FS

2440MHz

14/02/2025



Port 1 

Hopping No
79

Span (Hz)
83.5M

RBW (Hz)
100k

VBW (Hz)
300kHz

Sweep (s)
265.3us

Detector
Peak

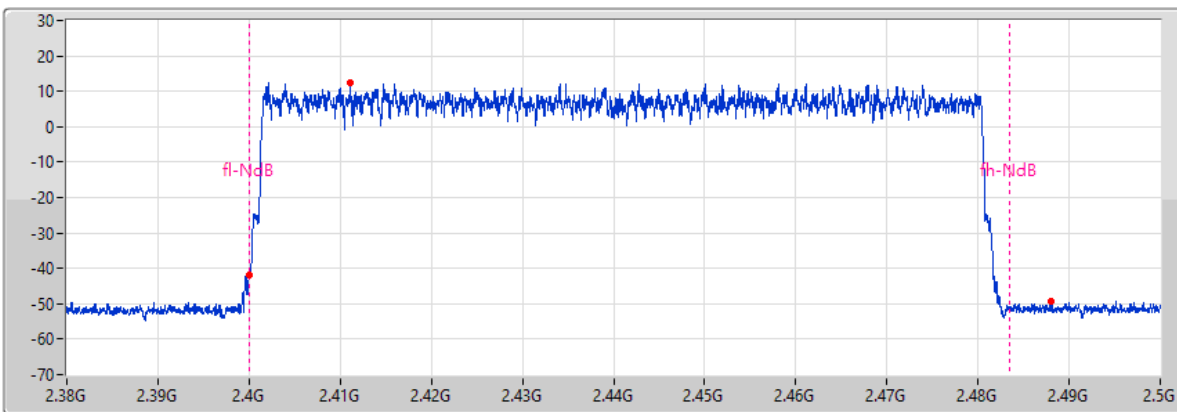
Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

14/02/2025



Port 1 

Span (Hz)
120M

RBW (Hz)
100k

VBW (Hz)
300k

Sweep (s)
265.3u

Detector
Peak

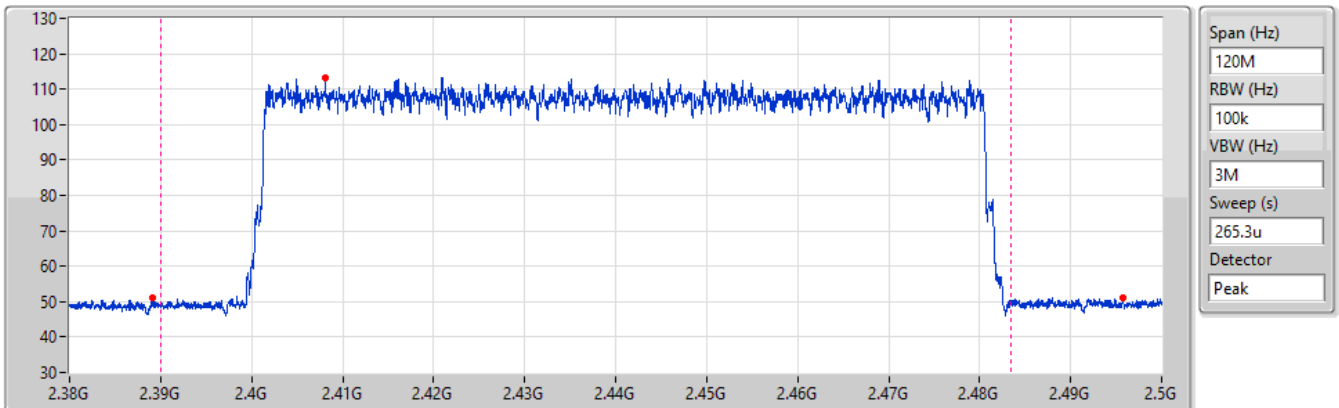
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-7.66	2.41111G	12.34	2.399995G	-41.97	2.48797G	-49.36

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

14/02/2025



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)
2.40811G	113.21	2.389045G	50.99	20.89	2.495725G	51.05	20.95	74	54	3.125	-30.1



Summary

2.4-2.4835GHz	-
BT-BR(1Mbps)	307.7009m_DH5
BT-EDR(2Mbps)	308.20725m_DH5
BT-EDR(3Mbps)	308.4471m_DH5

Result

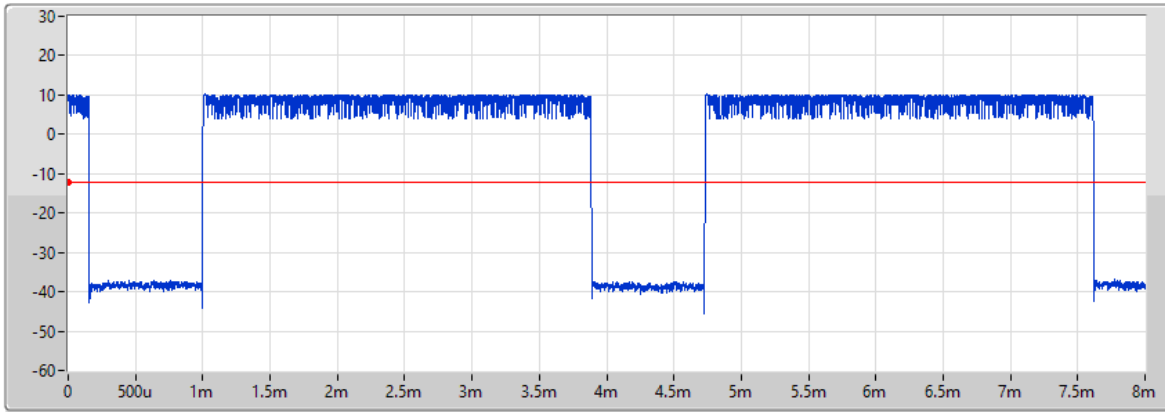
Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.7009m_DH5	400m	2.8865m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.20725m_DH5	400m	2.89125m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.4471m_DH5	400m	2.8935m

2.4-2.4835GHz_BT-BR(1Mbps)

Dwell-FS

2440MHz

14/02/2025



Port 1 

Ch Freq (Hz)
2.44G

RBW (Hz)
300k

VBW (Hz)
1M

Sweep Time (s)
8m

TX Time (s)
2.8865m

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.7009m_DH5	400m	2.8865m

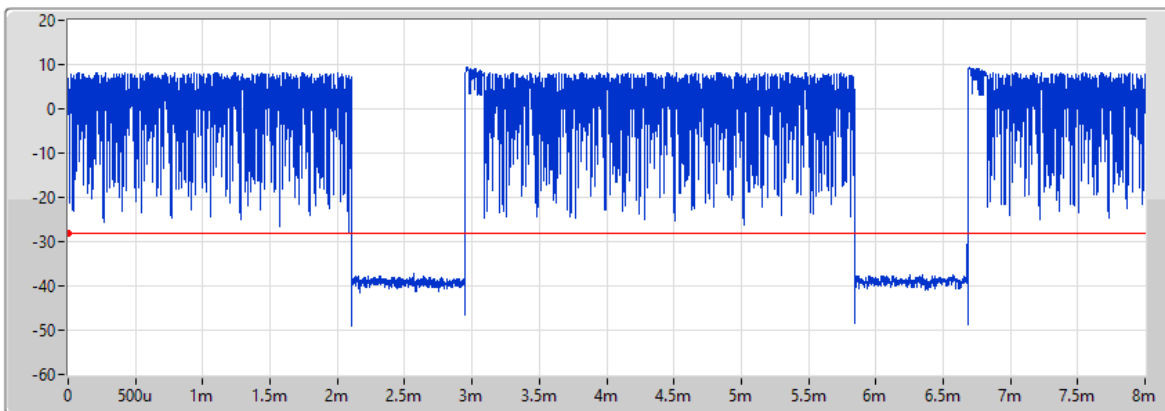
DH5

2.4-2.4835GHz_BT-EDR(2Mbps)

Dwell-FS

2440MHz

14/02/2025



Port 1 

Ch Freq (Hz)
2.44G

RBW (Hz)
300k

VBW (Hz)
1M

Sweep Time (s)
8m

TX Time (s)
2.89125m

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

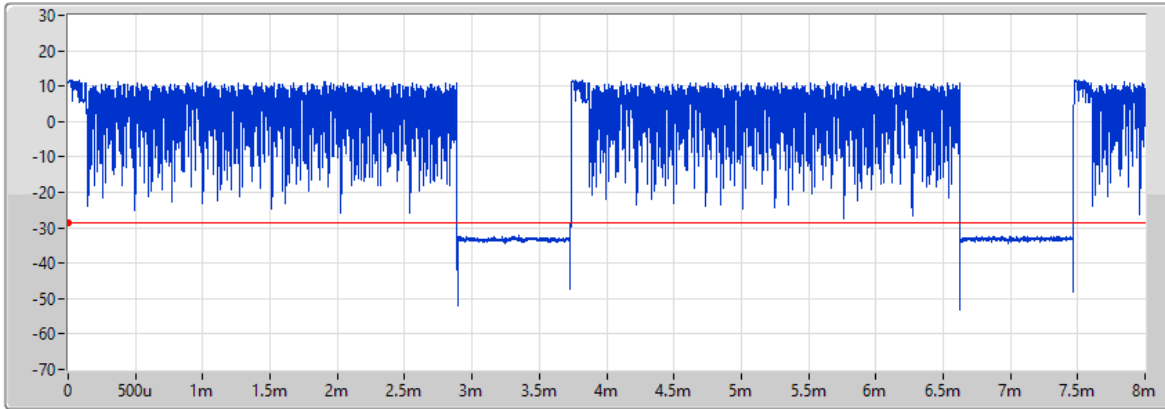
DH5

2.4-2.4835GHz_BT-EDR(3Mbps)

Dwell-FS

2440MHz

14/02/2025



Port 1 

Ch Freq (Hz)
2.44G

RBW (Hz)
300k

VBW (Hz)
1M

Sweep Time (s)
8m

TX Time (s)
2.8935m

DH5

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

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	2.40184G	9.66	-10.34	2.1309G	-56.94	2.39992G	-48.36	2.4G	-48.55	2.50226G	-54.72	17.61834G	-42.90	1
BT-EDR(2Mbps)	Pass	2.40184G	6.73	-13.27	2.30715G	-57.02	2.3996G	-46.81	2.4G	-47.19	2.50238G	-55.25	16.27136G	-42.42	1
BT-EDR(3Mbps)	Pass	2.40184G	8.09	-11.91	2.3095G	-56.08	2.39996G	-44.87	2.4G	-43.51	2.50254G	-55.48	23.27621G	-43.65	1

Result

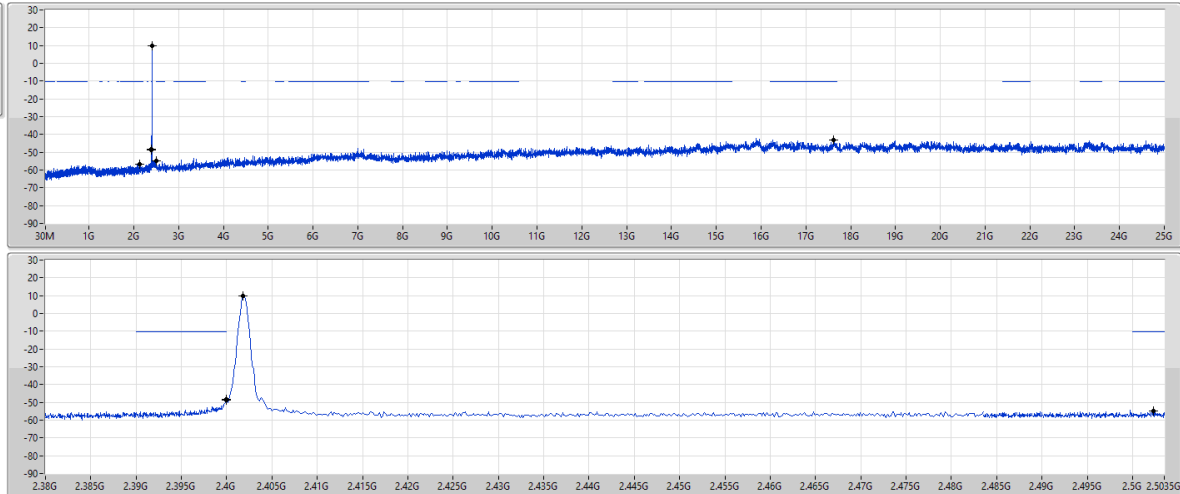
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	9.66	-10.34	2.1309G	-56.94	2.39992G	-48.36	2.4G	-48.55	2.50226G	-54.72	17.61834G	-42.90	1
2440MHz	Pass	2.43991G	10.23	-9.77	1.71378G	-56.56	2.39724G	-54.72	2.4G	-57.06	2.50242G	-55.65	23.23121G	-42.56	1
2480MHz	Pass	2.47999G	8.96	-11.04	1.94055G	-56.18	2.39936G	-55.39	2.4G	-57.58	2.50106G	-55.46	23.31839G	-42.51	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	6.73	-13.27	2.30715G	-57.02	2.3996G	-46.81	2.4G	-47.19	2.50238G	-55.25	16.27136G	-42.42	1
2440MHz	Pass	2.43991G	6.74	-13.26	2.1497G	-56.90	2.39096G	-55.18	2.4G	-57.99	2.50126G	-55.27	16.26573G	-42.97	1
2480MHz	Pass	2.47999G	6.20	-13.80	2.3048G	-56.62	2.39312G	-55.08	2.4G	-57.96	2.50202G	-55.05	23.27058G	-42.78	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	8.09	-11.91	2.3095G	-56.08	2.39996G	-44.87	2.4G	-43.51	2.50254G	-55.48	23.27621G	-43.65	1
2440MHz	Pass	2.43991G	8.52	-11.48	517.63M	-56.79	2.39896G	-54.57	2.4G	-57.28	2.50162G	-55.00	17.2612G	-43.41	1
2480MHz	Pass	2.48016G	7.26	-12.74	2.3048G	-56.15	2.39748G	-54.92	2.4G	-57.46	2.50118G	-55.37	23.25933G	-43.25	1

2.4-2.4835GHz_BT-BR(1Mbps)

CSEndB-FS

2402MHz

14/02/2025

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

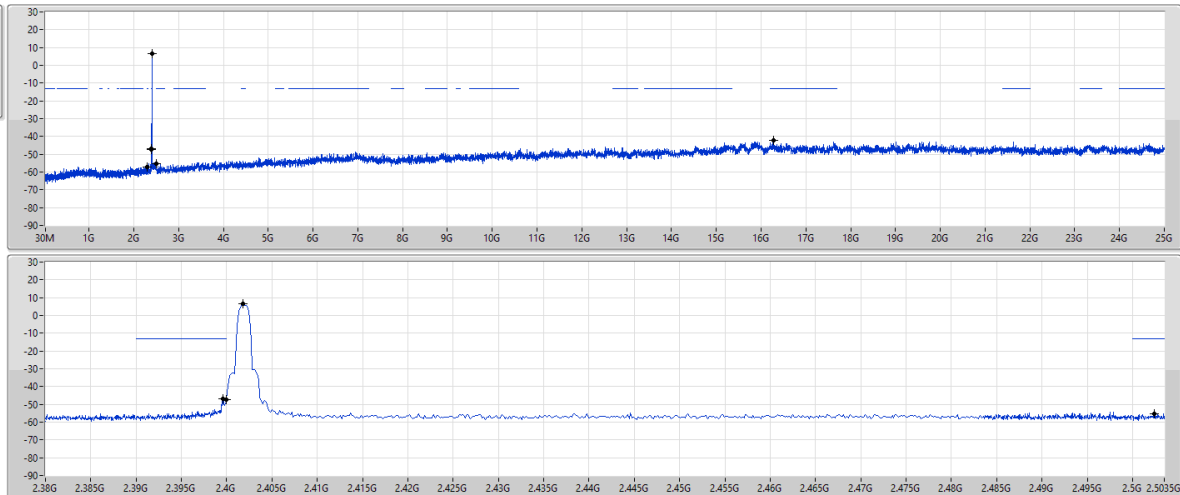
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40184G	9.66	-10.34	2.1309G	-56.94	2.39992G	-48.36	2.4G	-48.55	2.50226G	-54.72	17.61834G	-42.90	1

2.4-2.4835GHz_BT-EDR(2Mbps)

CSEndB-FS

2402MHz

14/02/2025

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

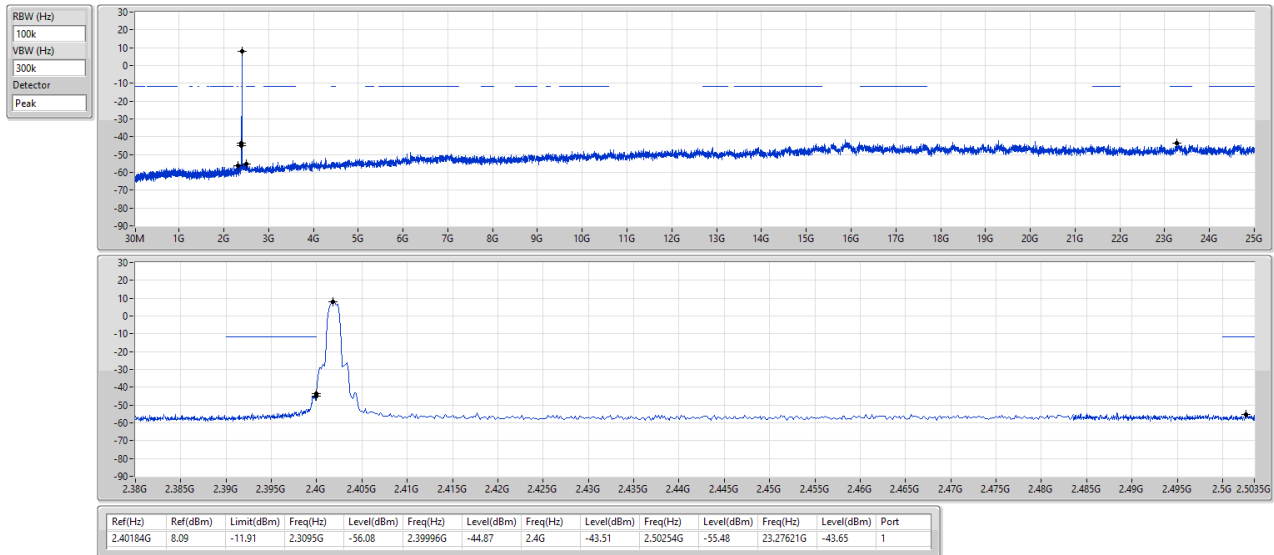
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40184G	6.73	-13.27	2.30715G	-57.02	2.3996G	-46.81	2.4G	-47.19	2.50238G	-55.25	16.27136G	-42.42	1

2.4-2.4835GHz_BT-EDR(3Mbps)

CSEndB-FS

2402MHz

14/02/2025





Summary

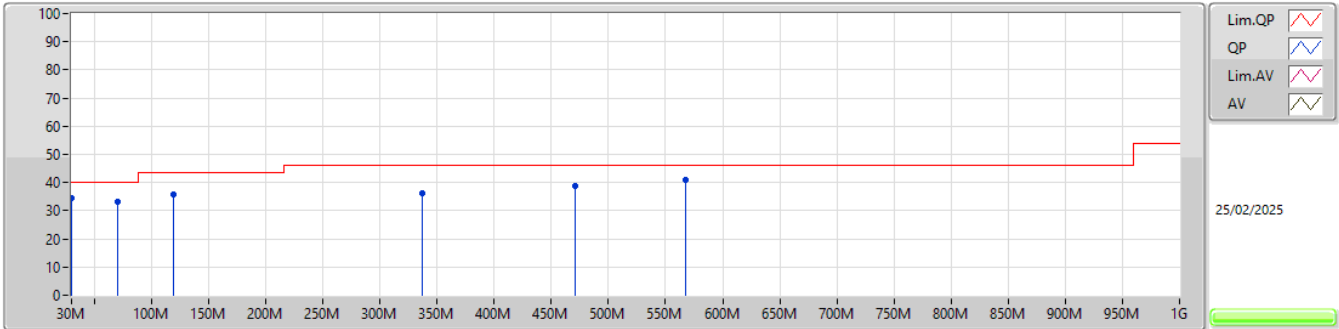
Mode	Result	Type	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	567.38M	40.93	46.00	-5.07	3	Vertical	360	1.00

Result

Mode	Result	Type	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	30M	34.60	40.00	-5.40	3	Vertical	360	1.00
2440MHz	Pass	PK	70.74M	33.09	40.00	-6.91	3	Vertical	360	1.00
2440MHz	Pass	PK	119.24M	35.71	43.50	-7.79	3	Vertical	360	1.00
2440MHz	Pass	PK	336.52M	36.18	46.00	-9.82	3	Vertical	360	1.00
2440MHz	Pass	PK	470.38M	38.76	46.00	-7.24	3	Vertical	360	1.00
2440MHz	Pass	PK	567.38M	40.93	46.00	-5.07	3	Vertical	360	1.00
2440MHz	Pass	PK	35.82M	31.59	40.00	-8.41	3	Horizontal	0	1.00
2440MHz	Pass	PK	123.12M	37.39	43.50	-6.11	3	Horizontal	0	1.00
2440MHz	Pass	PK	216M	35.86	46.00	-10.14	3	Horizontal	0	1.00
2440MHz	Pass	PK	371.44M	39.10	46.00	-6.90	3	Horizontal	0	1.00
2440MHz	Pass	PK	470.38M	38.42	46.00	-7.58	3	Horizontal	0	1.00
2440MHz	Pass	PK	637.22M	38.82	46.00	-7.18	3	Horizontal	0	1.00

2.4-2.4835GHz_BT-BR(1Mbps)

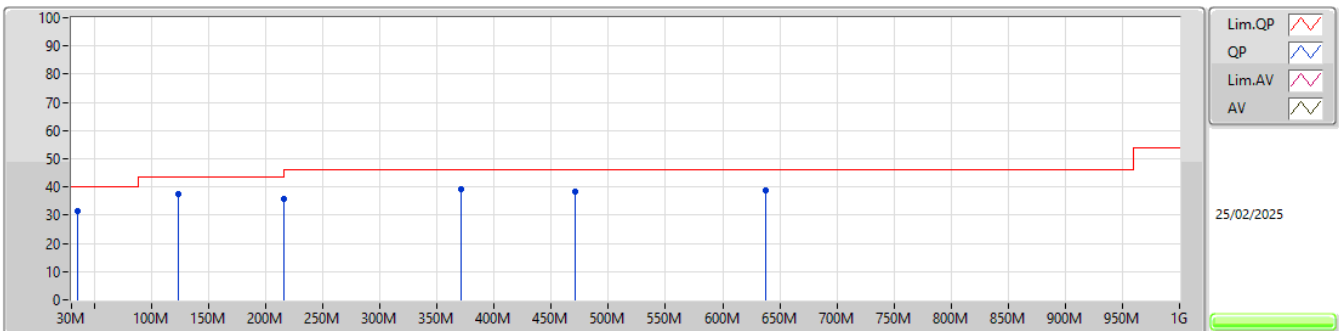
2440MHz_Fixture



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	34.60	40.00	-5.40	-18.87	3	Vertical	360	1.00	53.47	24.67	0.78	44.32
PK	70.74M	33.09	40.00	-6.91	-31.29	3	Vertical	360	1.00	64.38	12.44	0.99	44.72
PK	119.24M	35.71	43.50	-7.79	-25.80	3	Vertical	360	1.00	61.51	17.54	1.28	44.62
PK	336.52M	36.18	46.00	-9.82	-21.85	3	Vertical	360	1.00	58.03	20.25	2.15	44.25
PK	470.38M	38.76	46.00	-7.24	-17.87	3	Vertical	360	1.00	56.63	23.63	2.50	44.00
PK	567.38M	40.93	46.00	-5.07	-14.62	3	Vertical	360	1.00	55.55	26.60	2.73	43.95

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_Fixture



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	35.82M	31.59	40.00	-8.41	-21.80	3	Horizontal	0	1.00	53.39	21.83	0.80	44.43
PK	123.12M	37.39	43.50	-6.11	-25.62	3	Horizontal	0	1.00	63.01	17.71	1.29	44.62
PK	216M	35.86	46.00	-10.14	-27.41	3	Horizontal	0	1.00	63.27	15.42	1.68	44.51
PK	371.44M	39.10	46.00	-6.90	-20.90	3	Horizontal	0	1.00	60.00	21.04	2.23	44.17
PK	470.38M	38.42	46.00	-7.58	-17.87	3	Horizontal	0	1.00	56.29	23.63	2.50	44.00
PK	637.22M	38.82	46.00	-7.18	-14.36	3	Horizontal	0	1.00	53.18	26.71	2.87	43.94



Summary

Mode	Result	Type	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	2.494G	59.44	74.00	-14.56	3	Vertical	295	1.85
BT-EDR(3Mbps)	Pass	PK	2.4924G	59.45	74.00	-14.55	3	Horizontal	352	1.69

Result

Mode	Result	Type	Freq	Level	Limit	Margin	Dist	Condition	Azimuth	Height
			(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(m)		(°)	(m)
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.367G	36.00	54.00	-18.00	3	Vertical	234	1.93
2402MHz	Pass	AV	2.4018G	81.18	Inf	-Inf	3	Vertical	234	1.93
2402MHz	Pass	PK	2.367G	58.50	74.00	-15.50	3	Vertical	234	1.93
2402MHz	Pass	PK	2.4018G	103.68	Inf	-Inf	3	Vertical	234	1.93
2402MHz	Pass	AV	2.3874G	35.98	54.00	-18.02	3	Horizontal	352	1.50
2402MHz	Pass	AV	2.4018G	83.31	Inf	-Inf	3	Horizontal	352	1.50
2402MHz	Pass	PK	2.3874G	58.48	74.00	-15.52	3	Horizontal	352	1.50
2402MHz	Pass	PK	2.4018G	105.81	Inf	-Inf	3	Horizontal	352	1.50
2402MHz	Pass	AV	4.80429G	24.91	54.00	-29.09	3	Vertical	257	2.07
2402MHz	Pass	PK	4.80429G	47.41	74.00	-26.59	3	Vertical	257	2.07
2402MHz	Pass	AV	4.80415G	26.24	54.00	-27.76	3	Horizontal	37	1.50
2402MHz	Pass	PK	4.80415G	48.74	74.00	-25.26	3	Horizontal	37	1.50
2440MHz	Pass	AV	2.3704G	35.26	54.00	-18.74	3	Vertical	295	1.85
2440MHz	Pass	AV	2.44G	79.98	Inf	-Inf	3	Vertical	295	1.85
2440MHz	Pass	AV	2.494G	36.94	54.00	-17.06	3	Vertical	295	1.85
2440MHz	Pass	PK	2.3704G	57.76	74.00	-16.24	3	Vertical	295	1.85
2440MHz	Pass	PK	2.44G	102.48	Inf	-Inf	3	Vertical	295	1.85
2440MHz	Pass	PK	2.494G	59.44	74.00	-14.56	3	Vertical	295	1.85
2440MHz	Pass	AV	2.3692G	35.58	54.00	-18.42	3	Horizontal	352	1.50
2440MHz	Pass	AV	2.44G	84.03	Inf	-Inf	3	Horizontal	352	1.50
2440MHz	Pass	AV	2.4908G	36.24	54.00	-17.76	3	Horizontal	352	1.50
2440MHz	Pass	PK	2.3692G	58.08	74.00	-15.92	3	Horizontal	352	1.50
2440MHz	Pass	PK	2.44G	106.53	Inf	-Inf	3	Horizontal	352	1.50
2440MHz	Pass	PK	2.4908G	58.74	74.00	-15.26	3	Horizontal	352	1.50
2440MHz	Pass	AV	4.8806G	26.98	54.00	-27.02	3	Vertical	288	2.93
2440MHz	Pass	PK	4.8806G	49.48	74.00	-24.52	3	Vertical	288	2.93
2440MHz	Pass	AV	4.88G	26.60	54.00	-27.40	3	Horizontal	196	2.09
2440MHz	Pass	PK	4.88G	49.10	74.00	-24.90	3	Horizontal	196	2.09
2480MHz	Pass	AV	2.4798G	83.88	Inf	-Inf	3	Vertical	239	2.95
2480MHz	Pass	AV	2.4946G	36.84	54.00	-17.16	3	Vertical	239	2.95
2480MHz	Pass	PK	2.4798G	106.38	Inf	-Inf	3	Vertical	239	2.95
2480MHz	Pass	PK	2.4946G	59.34	74.00	-14.66	3	Vertical	239	2.95
2480MHz	Pass	AV	2.4798G	85.17	Inf	-Inf	3	Horizontal	360	2.52
2480MHz	Pass	AV	2.4946G	36.54	54.00	-17.46	3	Horizontal	360	2.52
2480MHz	Pass	PK	2.4798G	107.67	Inf	-Inf	3	Horizontal	360	2.52
2480MHz	Pass	PK	2.4946G	59.04	74.00	-14.96	3	Horizontal	360	2.52
2480MHz	Pass	AV	4.95976G	26.56	54.00	-27.44	3	Vertical	247	2.06
2480MHz	Pass	PK	4.95976G	49.06	74.00	-24.94	3	Vertical	247	2.06
2480MHz	Pass	AV	4.95977G	27.66	54.00	-26.34	3	Horizontal	196	2.06
2480MHz	Pass	PK	4.95977G	50.16	74.00	-23.84	3	Horizontal	196	2.06
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.376G	35.44	54.00	-18.56	3	Vertical	233	1.93
2402MHz	Pass	AV	2.402G	82.26	Inf	-Inf	3	Vertical	233	1.93
2402MHz	Pass	PK	2.376G	57.94	74.00	-16.06	3	Vertical	233	1.93
2402MHz	Pass	PK	2.402G	104.76	Inf	-Inf	3	Vertical	233	1.93
2402MHz	Pass	AV	2.3628G	35.57	54.00	-18.43	3	Horizontal	352	1.50
2402MHz	Pass	AV	2.402G	84.24	Inf	-Inf	3	Horizontal	352	1.50
2402MHz	Pass	PK	2.3628G	58.07	74.00	-15.93	3	Horizontal	352	1.50
2402MHz	Pass	PK	2.402G	106.74	Inf	-Inf	3	Horizontal	352	1.50
2402MHz	Pass	AV	4.80395G	25.64	54.00	-28.36	3	Vertical	244	2.39
2402MHz	Pass	PK	4.80395G	48.14	74.00	-25.86	3	Vertical	244	2.39
2402MHz	Pass	AV	4.80413G	25.67	54.00	-28.33	3	Horizontal	37	1.50
2402MHz	Pass	PK	4.80413G	48.17	74.00	-25.83	3	Horizontal	37	1.50
2440MHz	Pass	AV	2.384G	35.40	54.00	-18.60	3	Vertical	294	1.84
2440MHz	Pass	AV	2.44G	81.38	Inf	-Inf	3	Vertical	294	1.84
2440MHz	Pass	AV	2.494G	36.77	54.00	-17.23	3	Vertical	294	1.84
2440MHz	Pass	PK	2.384G	57.90	74.00	-16.10	3	Vertical	294	1.84
2440MHz	Pass	PK	2.44G	103.88	Inf	-Inf	3	Vertical	294	1.84
2440MHz	Pass	PK	2.494G	59.27	74.00	-14.73	3	Vertical	294	1.84
2440MHz	Pass	AV	2.3888G	35.74	54.00	-18.26	3	Horizontal	352	1.50



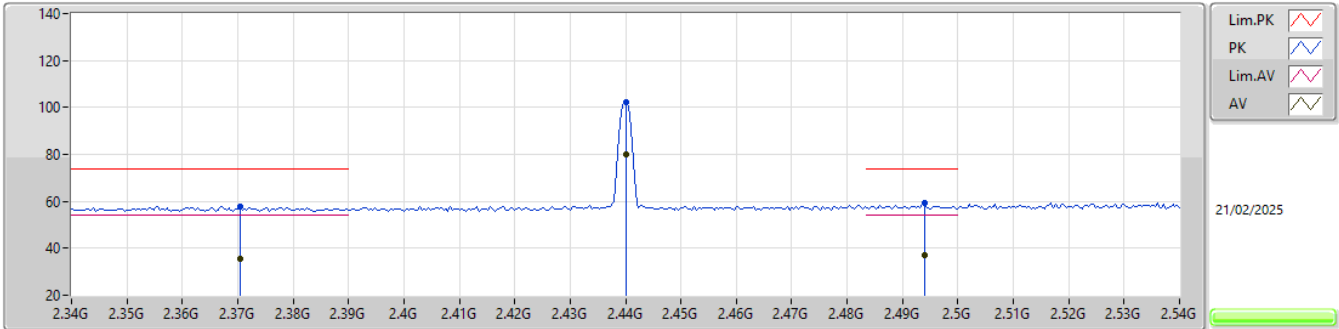
RSE TX above 1GHz

Appendix G.2

2440MHz	Pass	AV	2.44G	85.48	Inf	-Inf	3	Horizontal	352	1.50
2440MHz	Pass	AV	2.4908G	36.36	54.00	-17.64	3	Horizontal	352	1.50
2440MHz	Pass	PK	2.3888G	58.24	74.00	-15.76	3	Horizontal	352	1.50
2440MHz	Pass	PK	2.44G	107.98	Inf	-Inf	3	Horizontal	352	1.50
2440MHz	Pass	PK	2.4908G	58.86	74.00	-15.14	3	Horizontal	352	1.50
2440MHz	Pass	AV	4.88024G	26.91	54.00	-27.09	3	Vertical	295	2.93
2440MHz	Pass	PK	4.88024G	49.41	74.00	-24.59	3	Vertical	295	2.93
2440MHz	Pass	AV	4.87955G	26.43	54.00	-27.57	3	Horizontal	43	1.03
2440MHz	Pass	PK	4.87955G	48.93	74.00	-25.07	3	Horizontal	43	1.03
2480MHz	Pass	AV	2.48G	83.39	Inf	-Inf	3	Vertical	240	2.95
2480MHz	Pass	AV	2.4968G	36.63	54.00	-17.37	3	Vertical	240	2.95
2480MHz	Pass	PK	2.48G	105.89	Inf	-Inf	3	Vertical	240	2.95
2480MHz	Pass	PK	2.4968G	59.13	74.00	-14.87	3	Vertical	240	2.95
2480MHz	Pass	AV	2.48G	83.83	Inf	-Inf	3	Horizontal	352	1.69
2480MHz	Pass	AV	2.4924G	36.95	54.00	-17.05	3	Horizontal	352	1.69
2480MHz	Pass	PK	2.48G	106.33	Inf	-Inf	3	Horizontal	352	1.69
2480MHz	Pass	PK	2.4924G	59.45	74.00	-14.55	3	Horizontal	352	1.69
2480MHz	Pass	AV	4.96055G	26.47	54.00	-27.53	3	Vertical	293	2.92
2480MHz	Pass	PK	4.96055G	48.97	74.00	-25.03	3	Vertical	293	2.92
2480MHz	Pass	AV	4.9604G	26.00	54.00	-28.00	3	Horizontal	46	1.49
2480MHz	Pass	PK	4.9604G	48.50	74.00	-25.50	3	Horizontal	46	1.49

2.4-2.4835GHz_BT-BR(1Mbps)

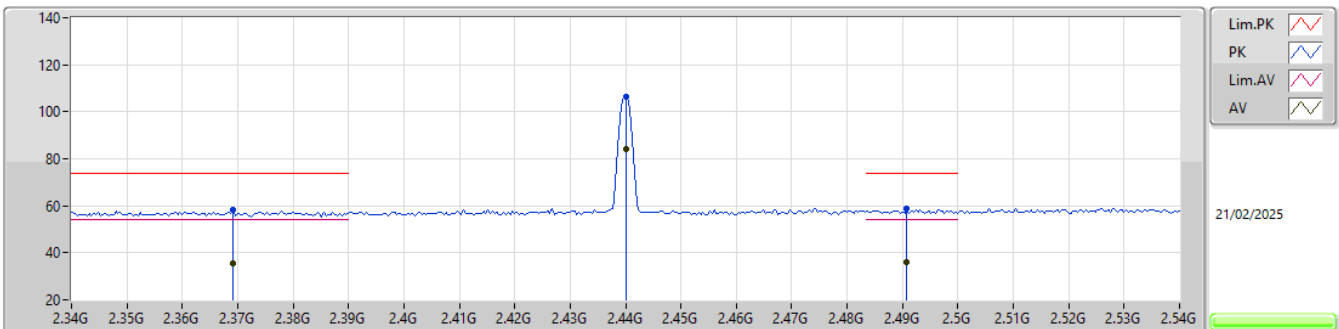
2440MHz_TX



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	2.3704G	35.26	54.00	-18.74	32.55	3	Vertical	295	1.85	2.71	27.30	5.25	-				
AV	2.44G	79.98	Inf	-Inf	33.05	3	Vertical	295	1.85	46.93	27.70	5.35	-				
AV	2.494G	36.94	54.00	-17.06	33.35	3	Vertical	295	1.85	3.59	27.90	5.45	-				
PK	2.3704G	57.76	74.00	-16.24	32.55	3	Vertical	295	1.85	25.21	27.30	5.25	-				
PK	2.44G	102.48	Inf	-Inf	33.05	3	Vertical	295	1.85	69.43	27.70	5.35	-				
PK	2.494G	59.44	74.00	-14.56	33.35	3	Vertical	295	1.85	26.09	27.90	5.45	-				

2.4-2.4835GHz_BT-BR(1Mbps)

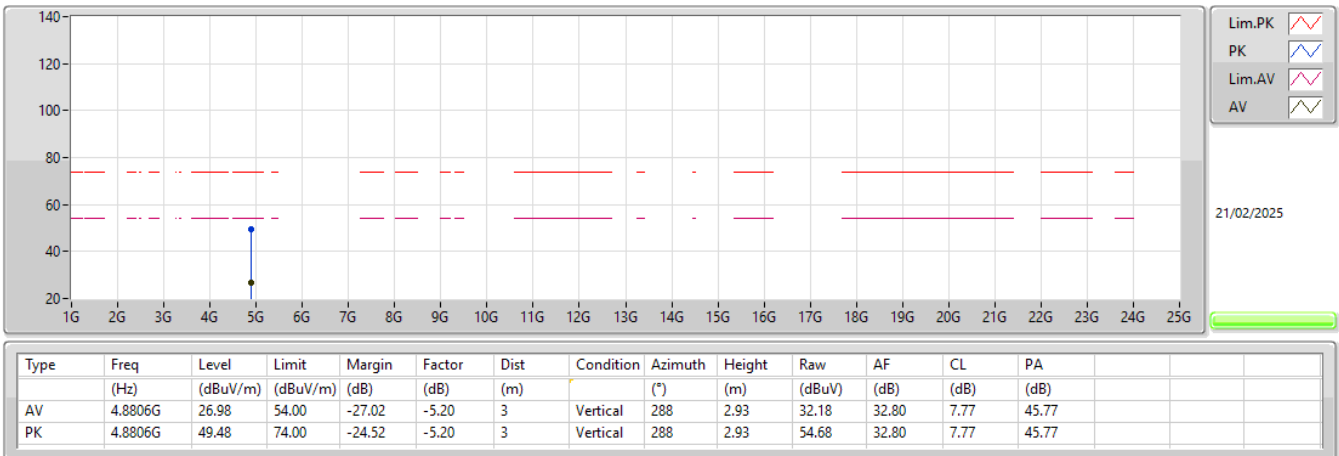
2440MHz_TX



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	2.3692G	35.58	54.00	-18.42	32.56	3	Horizontal	352	1.50	3.02	27.31	5.25	-				
AV	2.44G	84.03	Inf	-Inf	33.05	3	Horizontal	352	1.50	50.98	27.70	5.35	-				
AV	2.4908G	36.24	54.00	-17.76	33.35	3	Horizontal	352	1.50	2.89	27.90	5.45	-				
PK	2.3692G	58.08	74.00	-15.92	32.56	3	Horizontal	352	1.50	25.52	27.31	5.25	-				
PK	2.44G	106.53	Inf	-Inf	33.05	3	Horizontal	352	1.50	73.48	27.70	5.35	-				
PK	2.4908G	58.74	74.00	-15.26	33.35	3	Horizontal	352	1.50	25.39	27.90	5.45	-				

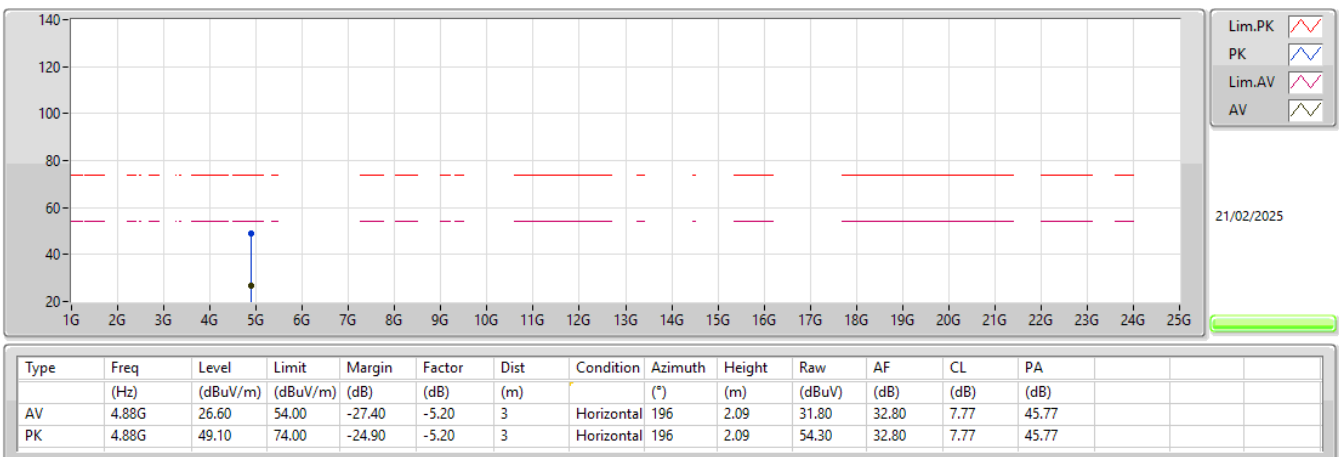
2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX



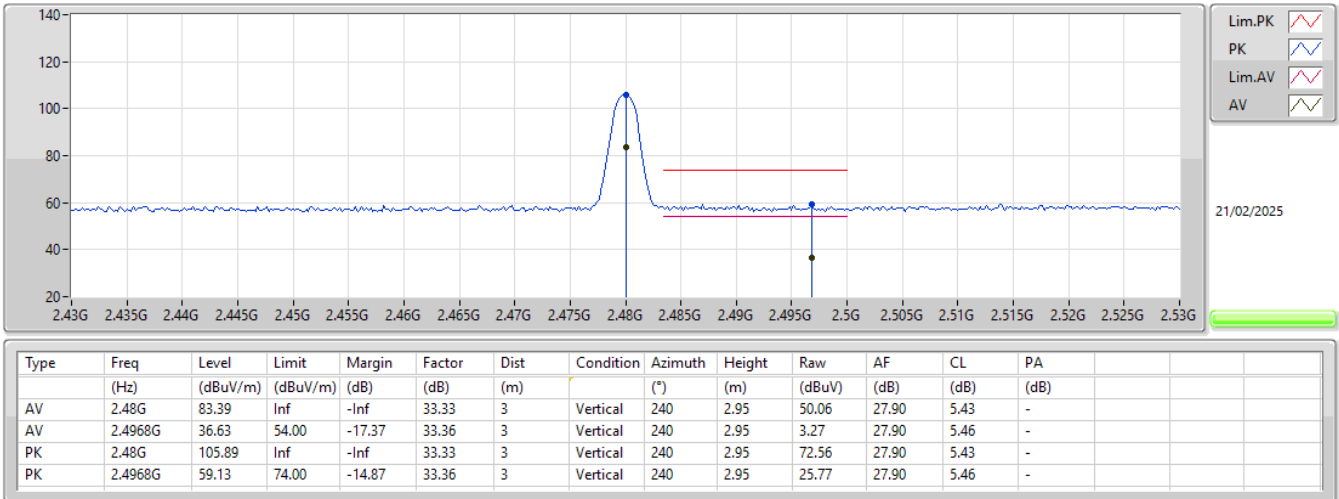
2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX



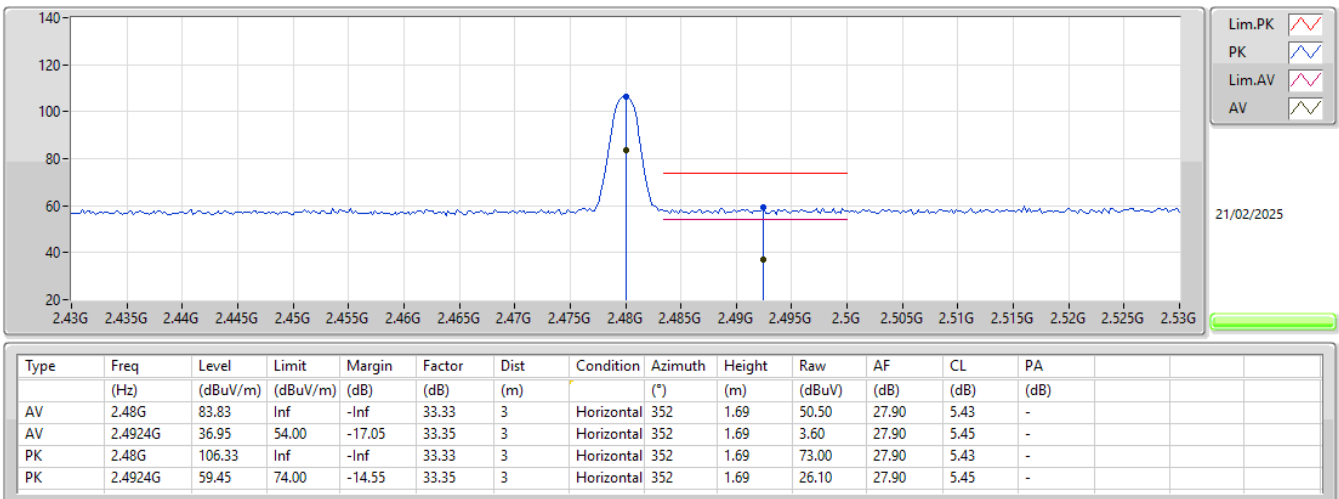
2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX



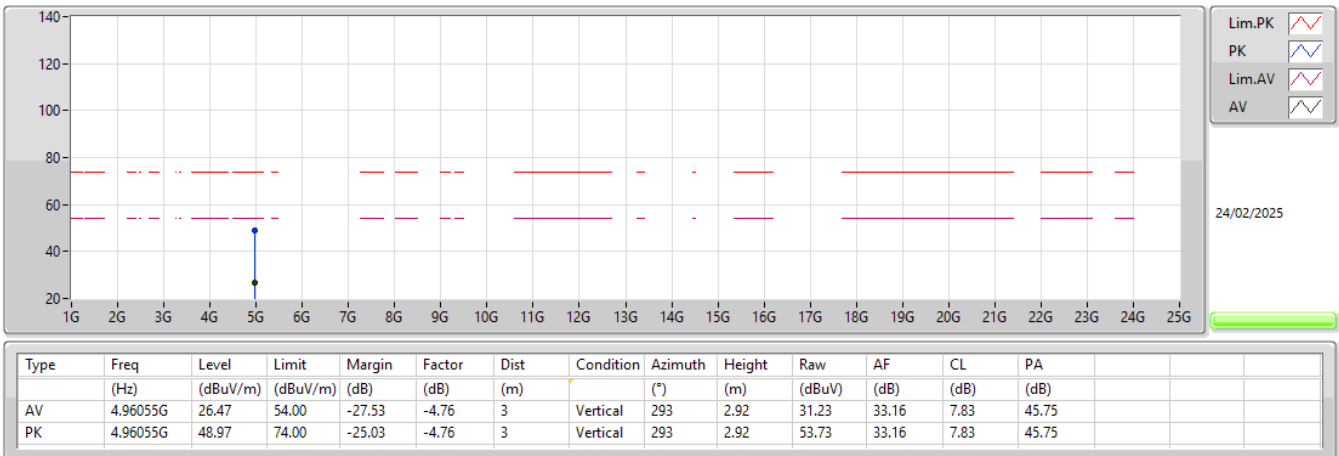
2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX



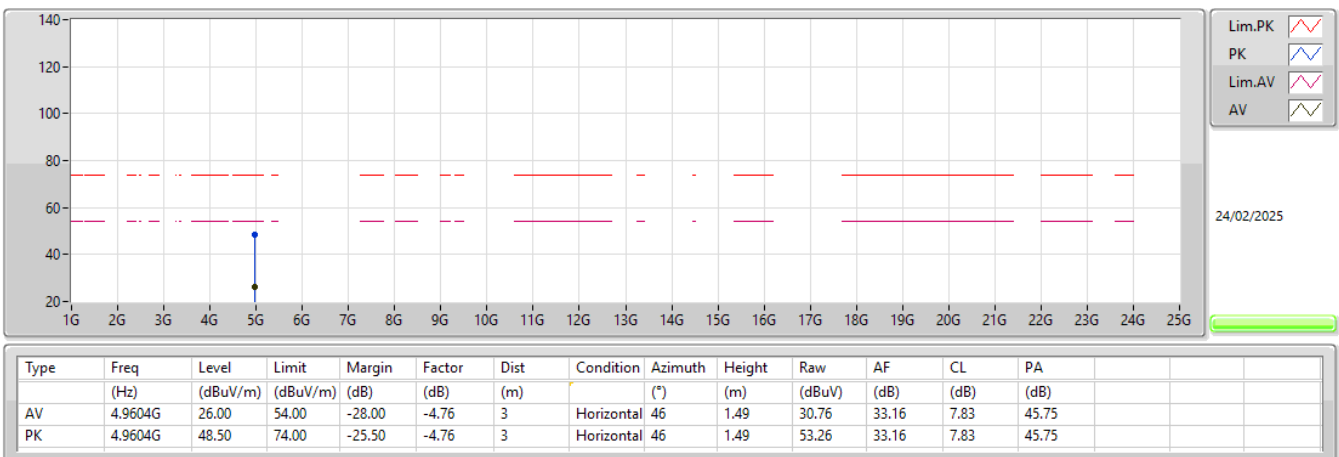
2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX



2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX





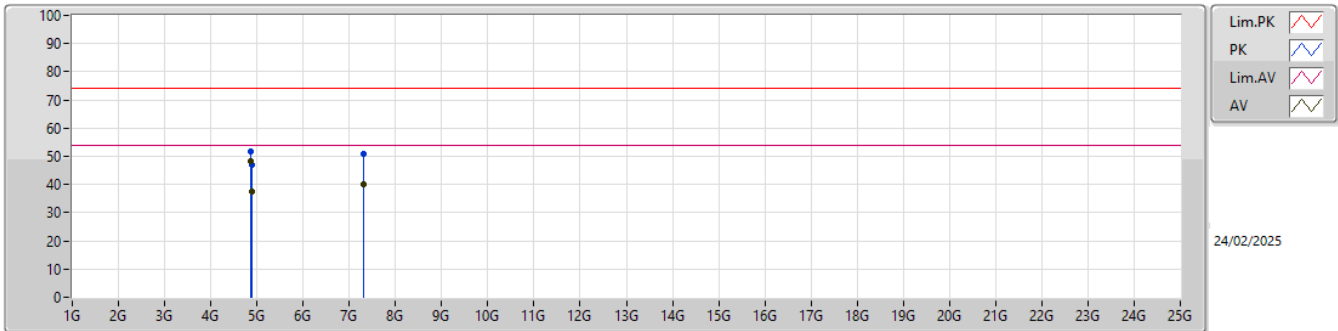
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.87385G	49.06	54.00	-4.94	Horizontal
Mode 2	Pass	AV	11.4888G	52.29	54.00	-1.71	Vertical

Result

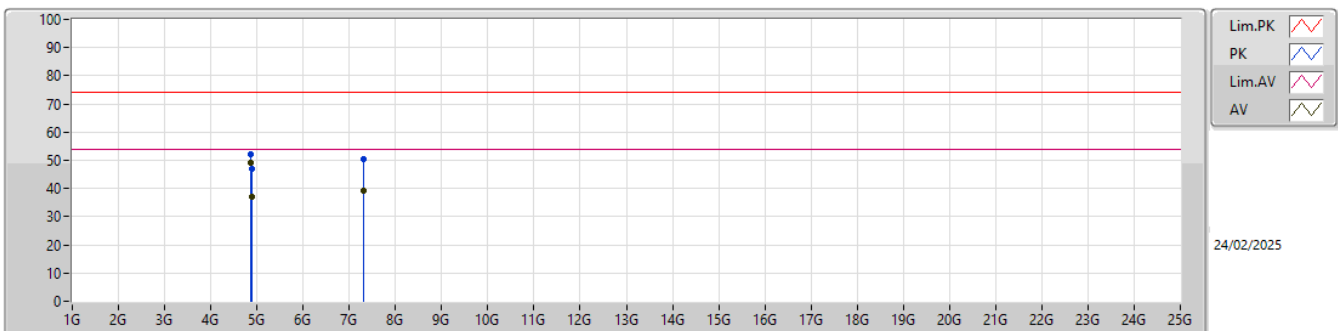
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	4.87386G	48.35	54.00	-5.65	3	Vertical	119	2.69	-
Mode 1	Pass	AV	4.8798G	37.31	54.00	-16.69	3	Vertical	306	1.76	-
Mode 1	Pass	AV	7.32056G	39.90	54.00	-14.10	3	Vertical	316	1.43	-
Mode 1	Pass	PK	4.87386G	51.55	74.00	-22.45	3	Vertical	119	2.69	-
Mode 1	Pass	PK	4.88007G	46.77	74.00	-27.23	3	Vertical	306	1.76	-
Mode 1	Pass	PK	7.3024G	50.91	74.00	-23.09	3	Vertical	316	1.43	-
Mode 1	Pass	AV	4.87385G	49.06	54.00	-4.94	3	Horizontal	127	1.89	-
Mode 1	Pass	AV	4.88G	37.07	54.00	-16.93	3	Horizontal	343	1.50	-
Mode 1	Pass	AV	7.31972G	39.15	54.00	-14.85	3	Horizontal	322	1.41	-
Mode 1	Pass	PK	4.87389G	52.18	74.00	-21.82	3	Horizontal	127	1.89	-
Mode 1	Pass	PK	4.87928G	47.01	74.00	-26.99	3	Horizontal	343	1.50	-
Mode 1	Pass	PK	7.31022G	50.37	74.00	-23.63	3	Horizontal	322	1.41	-
Mode 2	Pass	AV	4.87963G	35.16	54.00	-18.84	3	Vertical	306	1.72	-
Mode 2	Pass	AV	11.4888G	52.29	54.00	-1.71	3	Vertical	317	1.46	-
Mode 2	Pass	AV	17.23628G	48.75	68.20	-19.45	3	Vertical	195	2.78	-
Mode 2	Pass	PK	4.87969G	45.80	74.00	-28.20	3	Vertical	306	1.72	-
Mode 2	Pass	PK	11.49044G	64.24	74.00	-9.76	3	Vertical	317	1.46	-
Mode 2	Pass	PK	17.2278G	61.15	68.20	-7.05	3	Vertical	195	2.78	-
Mode 2	Pass	AV	4.87988G	36.40	54.00	-17.60	3	Horizontal	54	1.00	-
Mode 2	Pass	AV	11.49074G	47.49	54.00	-6.51	3	Horizontal	327	1.39	-
Mode 2	Pass	AV	17.24318G	44.05	68.20	-24.15	3	Horizontal	172	1.50	-
Mode 2	Pass	PK	4.87933G	46.00	74.00	-28.00	3	Horizontal	54	1.00	-
Mode 2	Pass	PK	11.48704G	58.66	74.00	-15.34	3	Horizontal	327	1.39	-
Mode 2	Pass	PK	17.24382G	55.21	68.20	-12.99	3	Horizontal	172	1.50	-

Radiated Emissions above 1GHz_Mode 1



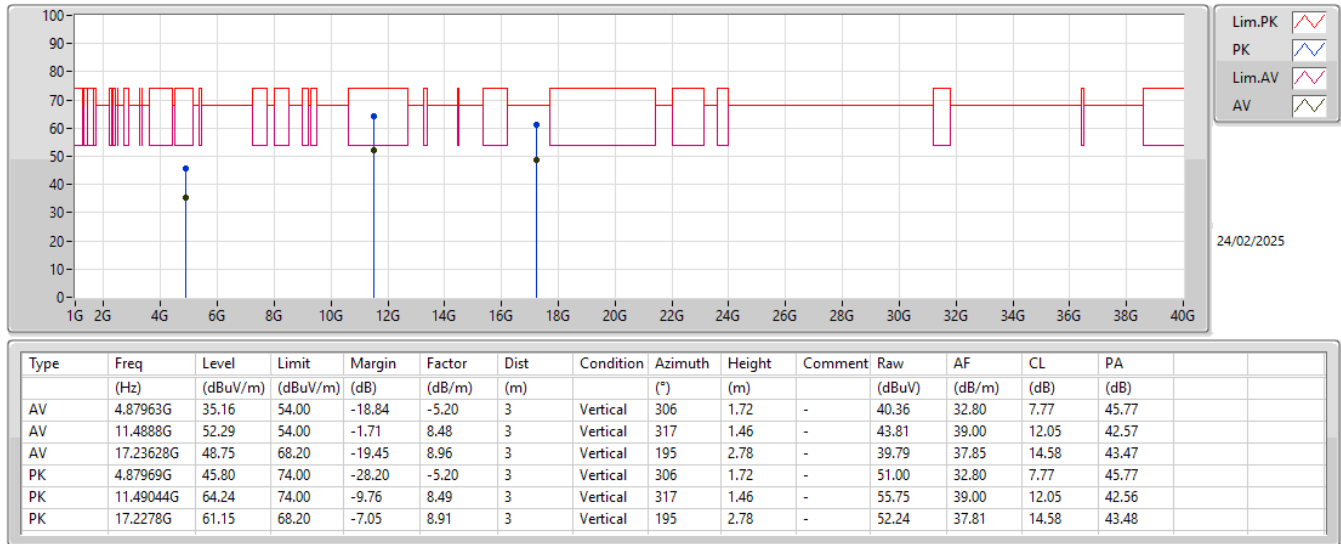
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)
AV	4.87386G	48.35	54.00	-5.65	-5.20	3	Vertical	119	2.69	-	53.55	32.80	7.77	45.77
AV	4.8798G	37.31	54.00	-16.69	-5.20	3	Vertical	306	1.76	-	42.51	32.80	7.77	45.77
AV	7.32056G	39.90	54.00	-14.10	1.25	3	Vertical	316	1.43	-	38.65	37.06	9.46	45.27
PK	4.87386G	51.55	74.00	-22.45	-5.20	3	Vertical	119	2.69	-	56.75	32.80	7.77	45.77
PK	4.88007G	46.77	74.00	-27.23	-5.20	3	Vertical	306	1.76	-	51.97	32.80	7.77	45.77
PK	7.3024G	50.91	74.00	-23.09	1.27	3	Vertical	316	1.43	-	49.64	37.10	9.46	45.29

Radiated Emissions above 1GHz_Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)
AV	4.87385G	49.06	54.00	-4.94	-5.20	3	Horizontal	127	1.89	-	54.26	32.80	7.77	45.77
AV	4.88G	37.07	54.00	-16.93	-5.20	3	Horizontal	343	1.50	-	42.27	32.80	7.77	45.77
AV	7.31972G	39.15	54.00	-14.85	1.25	3	Horizontal	322	1.41	-	37.90	37.06	9.46	45.27
PK	4.87389G	52.18	74.00	-21.82	-5.20	3	Horizontal	127	1.89	-	57.38	32.80	7.77	45.77
PK	4.87928G	47.01	74.00	-26.99	-5.20	3	Horizontal	343	1.50	-	52.21	32.80	7.77	45.77
PK	7.31022G	50.37	74.00	-23.63	1.26	3	Horizontal	322	1.41	-	49.11	37.08	9.46	45.28

Radiated Emissions above 1GHz_Mode 2



Radiated Emissions above 1GHz_Mode 2

