Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	ZQ6-AP6275S
Equipment	:	Wi-Fi/Bluetooth Module
Brand Name	:	AMPAK Technology Inc.
Model Name	:	AP6275S
Applicant	:	AMPAK Technology Inc. 3F, No. 1, Jen Al Road, Hsinchu Industrial Park,Hsinchu City 30352 , Taiwan (R.O.C.)
Manufacturer	:	BILLIONTON SYSTEMS INC. No. 21, Sui-Lih Rd., Hsin-Chu City 300, Taiwan (R.O.C.)
Standard	:	47 CFR FCC Part 15.247

The product was received on Jun. 17, 2024, and testing was started from Jun. 24, 2024 and completed on Sep. 10, 2024. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Rex Liao

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

Table of Contents

History of this test report **4**

Summary of Test Result **5**

1 General Description **6**

1.1 Information 6
1.2 Applicable Standards 9
1.3 Testing Location Information 9
1.4 Measurement Uncertainty 9

2 Test Configuration of EUT **10**

2.1 Test Channel Mode 10
2.2 The Worst Case Measurement Configuration 10
2.3 EUT Operation during Test 11
2.4 Accessories 11
2.5 Support Equipment 12
2.6 Test Setup Diagram 13

3 Transmitter Test Result **16**

3.1 AC Power-line Conducted Emissions 16
3.2 20dB Bandwidth and Carrier Frequency Separation 18
3.3 Maximum Conducted Output Power 19
3.4 Number of Hopping Frequencies and Hopping Bandedge 20
3.5 Time of Occupancy (Dwell Time) 21
3.6 Emissions in Non-restricted Frequency Bands 22
3.7 Emissions in Restricted Frequency Bands 23

4 Test Equipment and Calibration Data **26**

Appendix A. Test Results of AC Power-line Conducted Emissions

Appendix B. Test Results of 20dB Bandwidth and Carrier Frequency Separation

Appendix C. Test Results of Maximum Conducted Output Power

Appendix D. Test Results of Number of Hopping Frequencies and Hopping Bandedge

Appendix E. Test Results of Time of Occupancy (Dwell Time)

Appendix F. Test Results of Emissions in Non-restricted Frequency Bands

Appendix G. Test Results of Emissions in Restricted Frequency Bands

Appendix H. Test Photos

Photographs of EUT v01

History of this test report

Report No.	Version	Description	Issued Date
FR412214AC	01	Initial issue of report	Sep. 19, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	20dB Bandwidth	PASS	-
3.2	15.247(a)	Carrier Frequency Separation	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(a)	Number of Hopping Frequencies and Hopping Band edge	PASS	-
3.5	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.6	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.7	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Conformity Assessment Condition:

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

Disclaimer:

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

Reviewed by: Sam Chen
Report Producer: Sophia Shiung

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.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	PULSE ELECTRONICS PTE LTD	TZ2412W	Dipole	Reversed-SMA	Note 1
2					

Note 1:

Ant.	Port			Gain (dBi)		
	WLAN 2.4GHz	WLAN 5GHz	Bluetooth	WLAN 2.4GHz	WLAN 5GHz	Bluetooth
1	1	1	1	3.68	4.65	3.68
2	2	2	-	3.68	4.65	-

Note 2: The above information was declared by manufacturer.
Note 3: Directional gain information

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

Ex.

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

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

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

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

Where ;

2.4G G1= 3.68 dBi ;G2= 3.68 dBi ;

5G UNII-1 G1 = 4.65 dBi; G2 = 4.65 dBi;
5G UNII-2A G1 = 4.65 dBi; G2 = 4.65 dBi;
5G UNII-2C G1 = 4.65 dBi; G2 = 4.65 dBi;
5G UNII-3 G1 = 4.65 dBi; G2 = 4.65 dBi;

2.4G DG = 6.69 dBi

5G UNII-1 DG = 7.66 dBi
5G UNII-2A DG = 7.66 dBi
5G UNII-2C DG = 7.66 dB
5G UNII-3 DG = 7.66 dBi

Note 4: **For 2.4GHz function:**
For IEEE 802.11 b/g/n/ax (2TX/2RX):
Port 1 and Port 2 can be used as transmitting/receiving antenna.
Port 1 and Port 2 could transmit/receive simultaneously.
For 5GHz function:
For IEEE 802.11 a/n/ac/ax (2TX/2RX):
Port 1 and Port 2 can be used as transmitting/receiving antenna.
Port 1 and Port 2 could transmit/receive simultaneously.
For Bluetooth function (1TX/1RX):
Only Port 1 can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
BT-BR(1Mbps)	0.784	1.06	2.888m	1k
BT-EDR(2Mbps)	0.752	1.24	2.891m	1k
BT-EDR(3Mbps)	0.765	1.16	2.893m	1k

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

1.1.4 EUT Operational Condition

EUT Power Type	From host system
Test Software Version	For Conducted: Terminal 3.6.2 For Radiated: BlueTool 1.9.7.4

1.2 Applicable Standards

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

- 47 CFR FCC Part 15.247

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

- FCC KDB 558074 D01 v05r02
- FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH03-CB	Owen Hsu	23.7~25.1 / 57~61	Jun. 25, 2024~ Jun. 28, 2024
Radiated < 1GHz	03CH01-CB	Gordon_Hung	21.6~22.7 / 56~59	Aug. 26, 2024~ Sep. 04, 2024
	03CH04-CB		22.7~23.8 / 56~59	
Radiated > 1GHz	03CH03-CB	Gordon_Hung	21.4~22.5 / 55~58	Jun. 24, 2024~ Jun. 25, 2024
AC Conduction	CO01-CB	Ryan Huang	22~23 / 61~63	Aug. 27, 2024~ Sep. 10, 2024

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.1 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.0 dB	Confidence levels of 95%
Conducted Emission	3.1 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.1 dB	Confidence levels of 95%
Bandwidth Measurement	2.1 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

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

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	EUT_Bluetooth
2	EUT_WLAN 2.4GHz
3	EUT_WLAN 5GHz
For operating, mode 1 is the worst case and it was recorded in this test report.	

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
	The EUT was performed at X axis, Y axis and Z axis positions with each function at Radiated measurement > 1GH, and the worst cases were found at Z axis for WLAN 2.4GHz and 5GHz, and Y axis for Bluetooth. Thus, the measurement will follow these same test configurations.
1	EUT in Y axis_Bluetooth
2	EUT in Z axis_WLAN 2.4GHz
3	EUT in Z axis_WLAN 5GHz
For operating, mode 1 is the worst case and it was recorded in this test report.	
Operating Mode > 1GHz	CTX
	The EUT was performed at X axis, Y axis and Z axis positions, and the worst case was found at Y axis. Thus, the measurement will follow this same test configuration.
1	EUT in Y axis

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link Mode:

During the test, the EUT operation to normal function.

2.4 Accessories

N/A

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A
B	BT Fixture	AMPAK Technology Inc.	UART_V06	N/A
C	Wireless Connectivity Tester	R&S	CMW270	N/A
D	Control NB	DELL	E6430	N/A
E	Earphone	SHYARO CHI	MIC-04	N/A
F	Mouse	HP	FM100	N/A

For Radiated < 1GHz:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	Lenovo	42T4430	N/A
B	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A
C	BT Connectivity Tester	Anritsu	MB8852B	N/A
D	BT Fixture	AMPAK Technology Inc.	UART_V06	N/A

For Radiated > 1GHz:

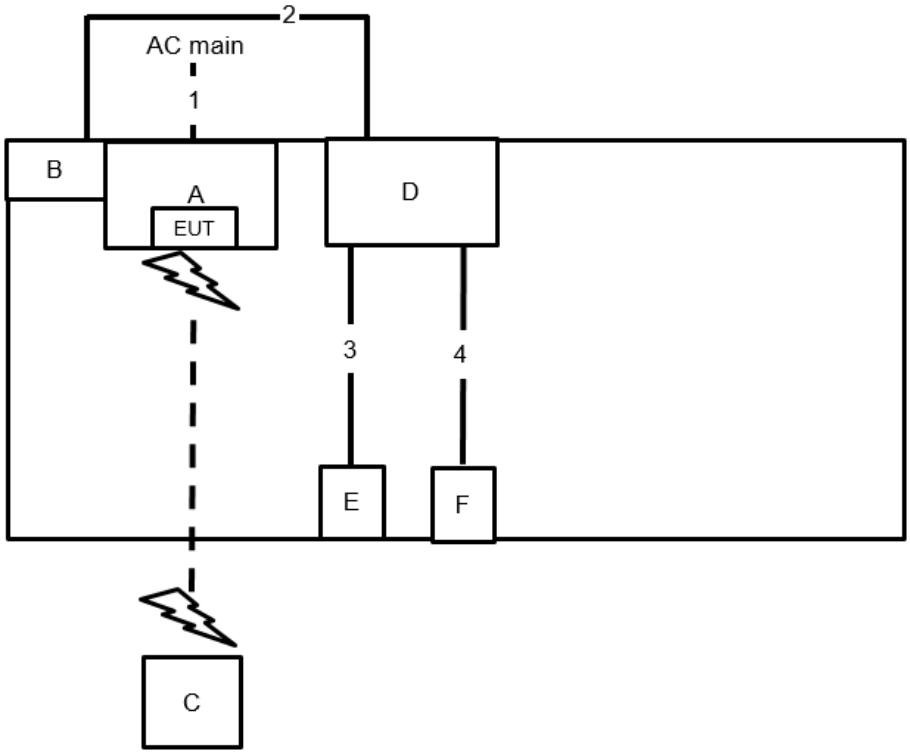
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	Lenovo	42T4430	N/A
B	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A
C	Earphone	e-Power	S90W	N/A
D	Mouse	Logitech	M-U0026	N/A
E	BT Connectivity Tester	Anritsu	MB8852B	N/A
F	BT Fixture	AMPAK Technology Inc.	UART_V06	N/A

For RF Conducted:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	PC	AMPAK Technology Inc.	H81-PLUS	N/A
B	EUT Fixture	AMPAK Technology Inc.	P6276S_EVB_V01	N/A
C	BT Fixture	AMPAK Technology Inc.	UART_V06	N/A
D	DC Power Supply	MOTECH	LPS-305	N/A

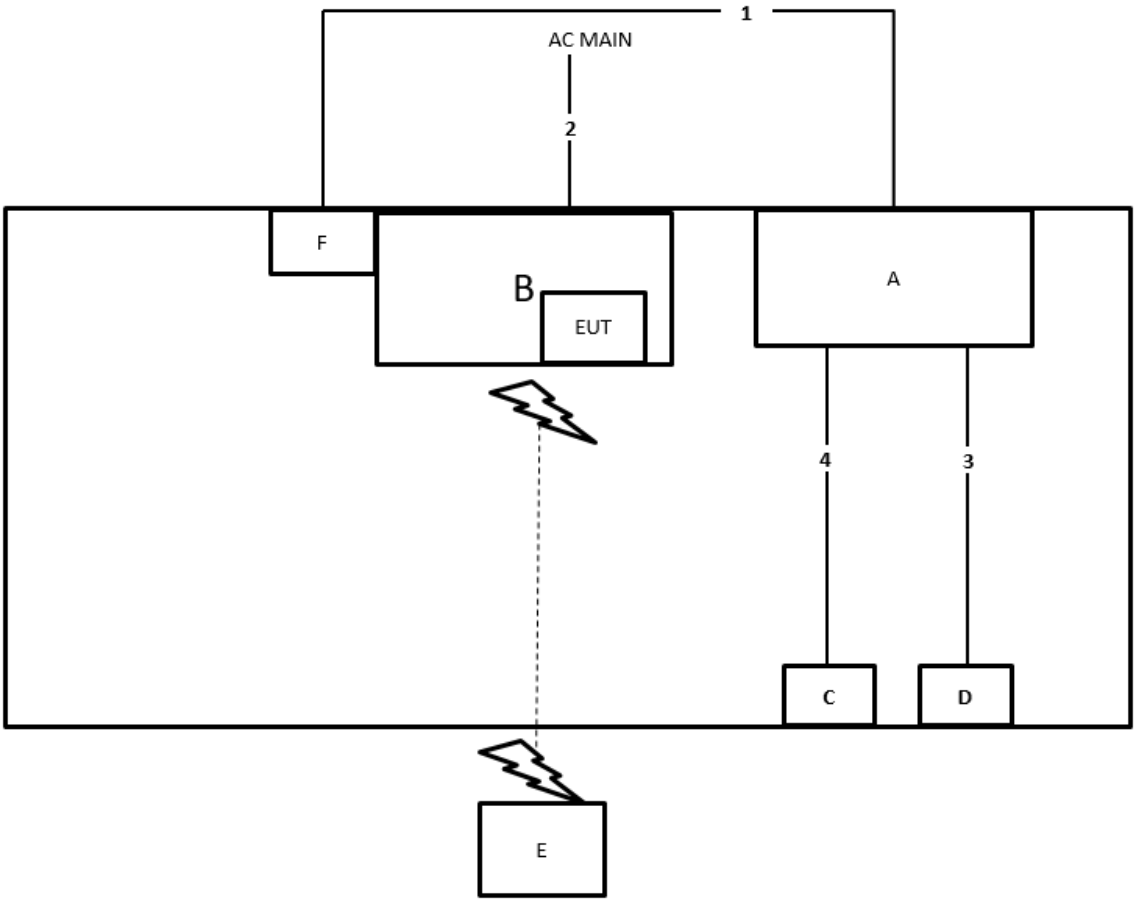
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



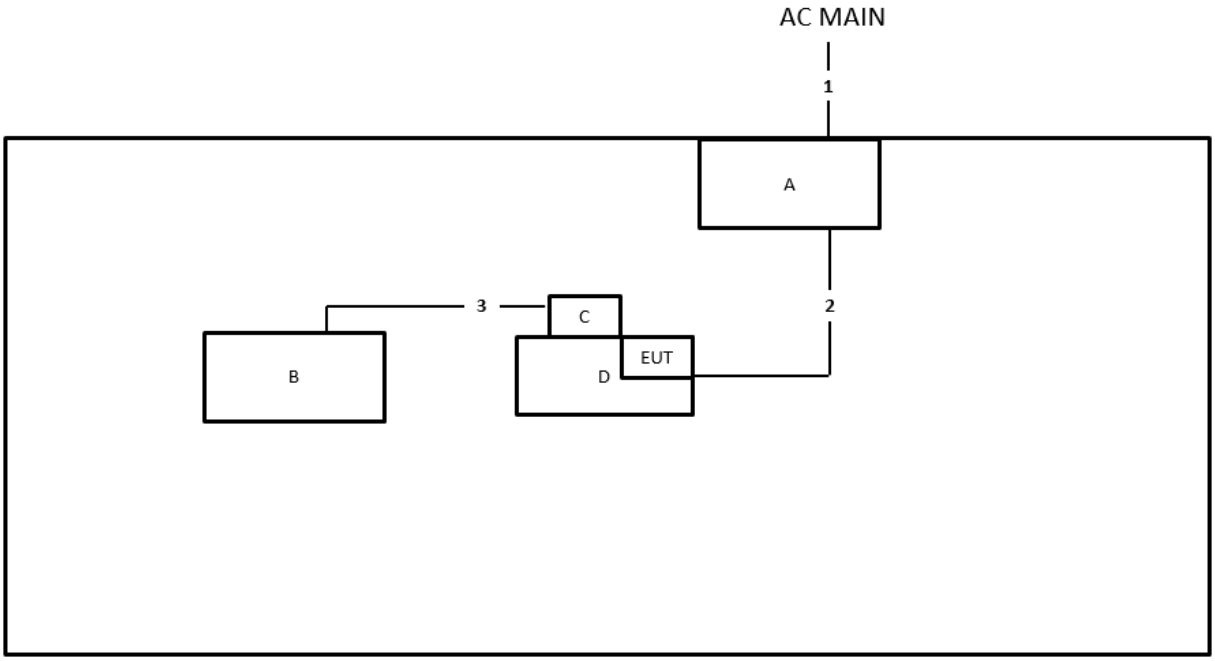
Item	Connection	Shielded	Length
1	Power cable	Yes	1m
2	Mini USB cable	Yes	1m
3	Audio cable	No	1.5m
4	USB cable	Yes	1.8m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Mini USB cable	Yes	1m
2	Power cable	No	1.5m
3	USB cable	Yes	1m
4	Audio cable	No	1.5m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1m
2	Crocodile clip cable*2	No	1m
3	USB to Mini cable	Yes	1.5m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

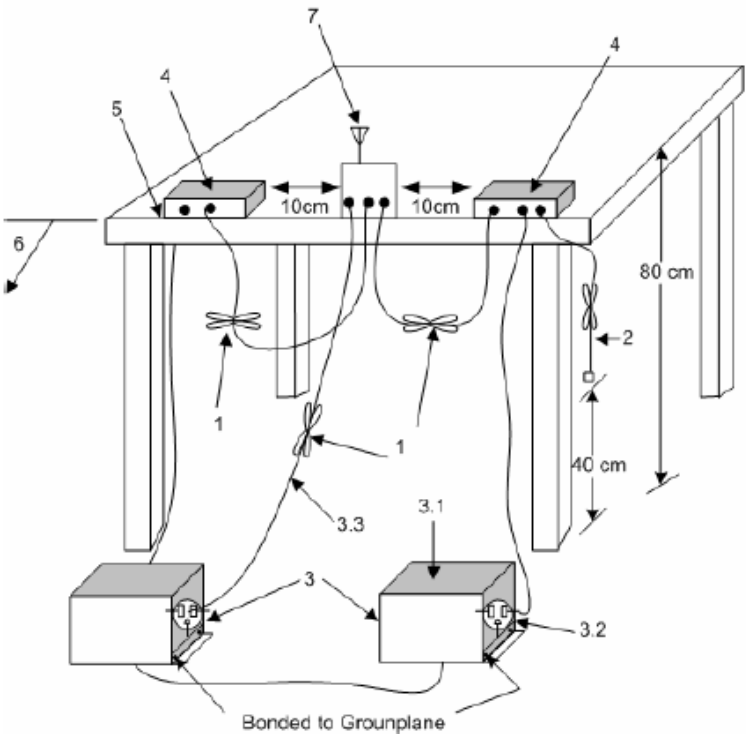
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

1.1.1. Measurement Results Calculation

The measured Level is calculated using:

a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level

b. Margin = -Limit + Level

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
▪ 902-928 MHz Band:	
	▪ N ≥50 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 250 kHz.
	▪ 50 >N≥25 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth>250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ N ≥75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz).
	▪ 75>N ≥ 15 and ChS ≥ MAX (20 dB bandwidth 2/3,25 kHz).
▪ 5725-5850 MHz Band:	
	▪ N ≥ 75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 1 MHz.
N:Number of Hopping Frequencies; **ChS**: Hopping Channel Separation	

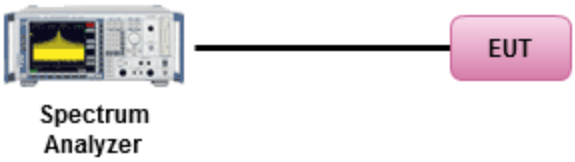
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 6.9.1 for 20 dB bandwidth measurement.
▪ Refer as ANSI C63.10-2013, clause 7.8.2 for carrier frequency separation measurement.

3.2.4 Test Setup

20dB Bandwidth and Carrier Frequency Separation


3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
▪ 902-928 MHz Band:	
	▪ N ≥50; Power 30dBm; EIRP 36dBm
	▪ 50 >N≥ 25; Power 23.98dBm; EIRP 29.98dBm
▪ 2400-2483.5 MHz Band:	
	▪ N ≥ 75; Power 30dBm; EIRP 36dBm
	▪ 75 >N ≥ 15; Power 21dBm; EIRP 27dBm
▪ 5725-5850 MHz Band:	
	▪ N ≥ 75; Power 30dBm; EIRP 36dBm
N:Number of Hopping Frequencies	

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.5 for output power measurement.

3.3.4 Test Setup

Maximum Conducted Output Power (Peak Power Meter)

3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Number of Hopping Frequencies and Hopping Bandedge

3.4.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit	
▪ 902-928 MHz Band:	
	▪ N ≥50 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 250 kHz.
	▪ 50 >N≥ 25 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth>250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ N ≥ 75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz).
	▪ 75 >N ≥ 15 and ChS ≥ MAX (20 dB bandwidth 2/3,25 kHz).
▪ 5725-5850 MHz Band:	
	▪ N ≥ 75 and ChS ≥ MAX (20 dB bandwidth, 25 kHz); 20 dB bandwidth≤ 1 MHz.
N:Number of Hopping Frequencies; **ChS** : Hopping Channel Separation	

3.4.2 Hopping Bandedge Limit

Refer clause 3.6.1 and clause 3.7.1

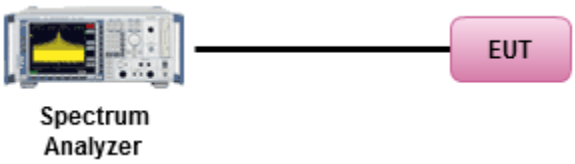
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

Test Method
▪ Refer as ANSI C63.10-2013, clause 7.8.3 for number of hopping frequencies measurement.
▪ Refer as ANSI C63.10-2013, clause 7.8.6 for hopping frequencies Bandedge measurement.

3.4.5 Test Setup

Number of Hopping Frequencies and Hopping Frequencies Bandedge


3.4.6 Test Result of Number of Hopping Frequencies

Refer as Appendix D

3.4.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix D

3.5 Time of Occupancy (Dwell Time)

3.5.1 Time of Occupancy (Dwell Time) Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
▪ 902-928 MHz Band:	
	▪ N ≥50; 0.4s in 20s period
	▪ 50 >N≥ 25; 0.4s in 10s period
▪ 2400-2483.5 MHz Band:	
	▪ N ≥ 75; 0.4s in N x 0.4 period
	▪ 75 >N ≥ 15; 0.4s in N x 0.4 period
▪ 5725-5850 MHz Band:	
	▪ N ≥ 75; 0.4s in 30s period
N:Number of Hopping Frequencies	

3.5.2 Measuring Instruments

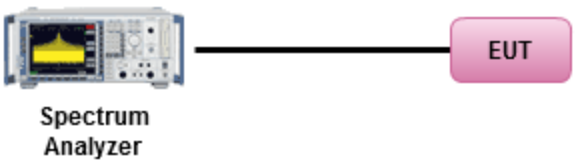
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
▪ Refer as ANSI C63.10-2013, clause 7.8.4 for dwell time measurement.	
▪ Bluetooth ACL packets can be 1, 3, or 5 time slots. Following as dwell time. Operate DH5 at maximum dwell time and maximum duty cycle.	
	▪ The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and maximum duty cycle. A maximum length packet has duration of 5 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is 5/1600 seconds, or 3.125ms.DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel.

3.5.4 Test Setup

Time of Occupancy (Dwell Time)



3.5.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix E

3.6 Emissions in Non-restricted Frequency Bands

3.6.1 Emissions in Non-restricted Frequency Bands Limit

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

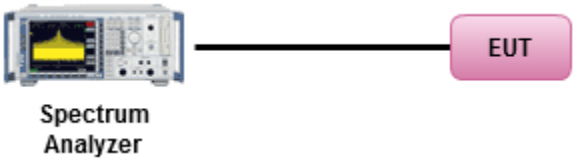
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.6.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix F

3.7 Emissions in Restricted Frequency Bands

3.7.1 Emissions in Restricted Frequency Bands Limit

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

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

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

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

3.7.2 Measuring Instruments

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

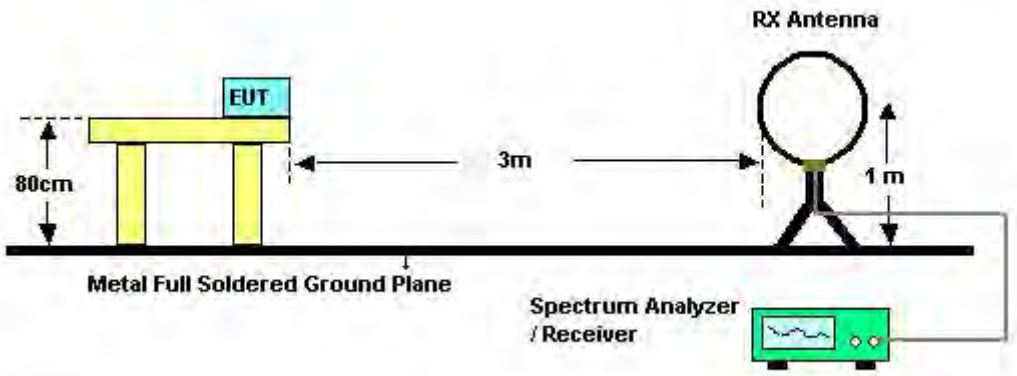
3.7.3 Test Procedures

Test Method	
▪ The average emission levels shall be measured in [hopping duty factor].	
▪ Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
▪ For the transmitter unwanted emissions shall be measured using following options below:	
	▪ Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.

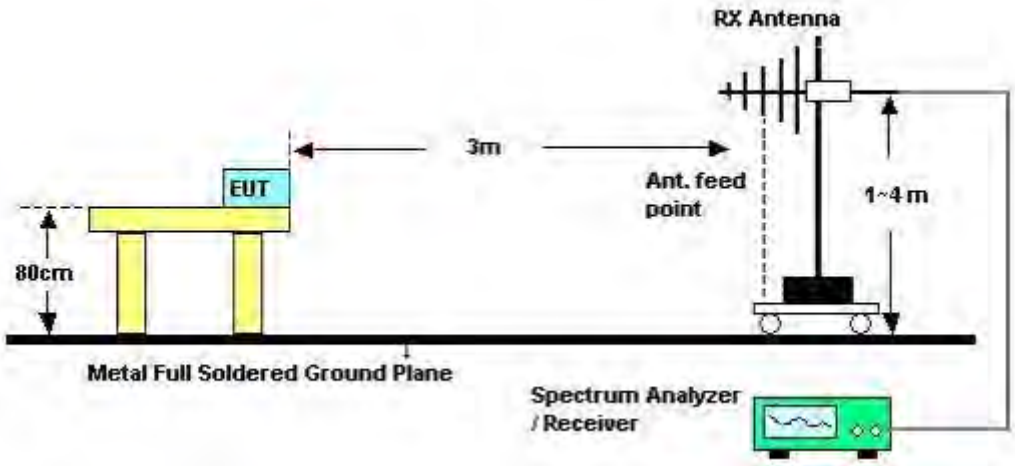
3.7.4 Test Setup

Emissions in Restricted Frequency Bands

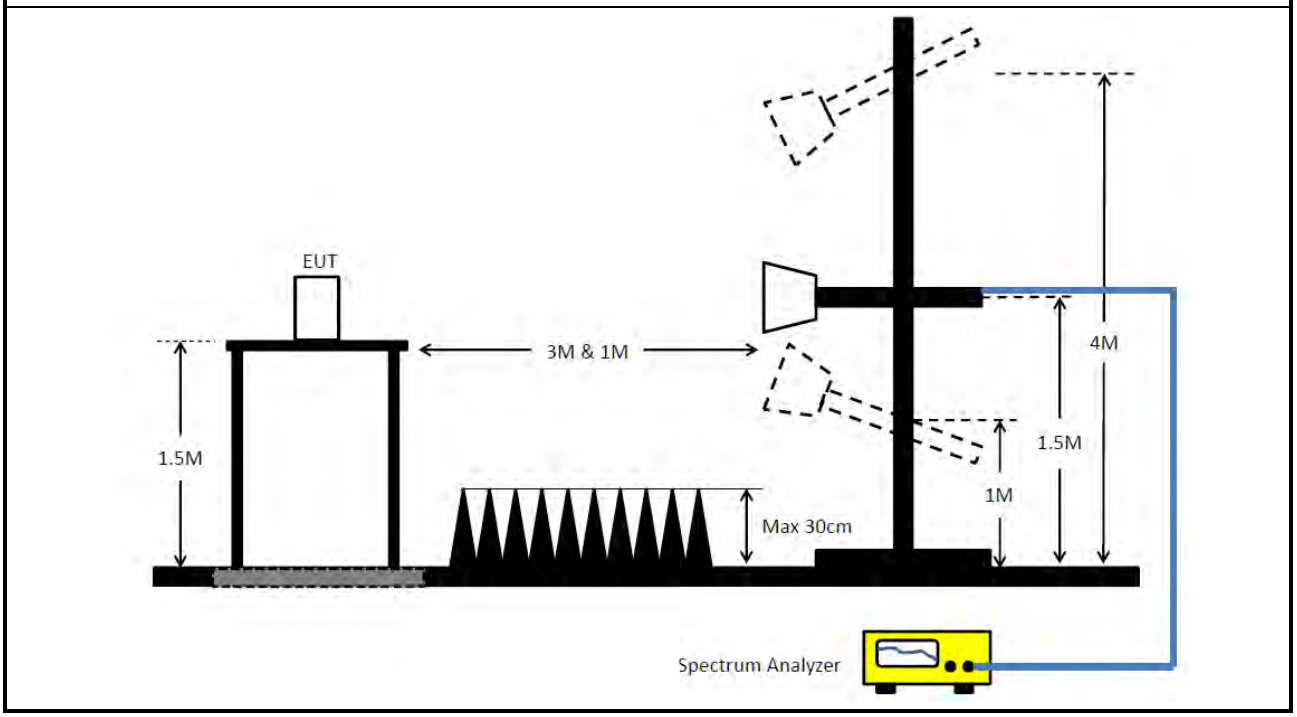
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.7.5 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.7.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.7.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 01, 2024	Feb. 28, 2025	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 19, 2024	Feb. 18, 2025	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 24, 2024	Apr. 23, 2025	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 08, 2024	Feb. 07, 2025	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	Oct. 17, 2023	Oct. 16, 2024	Conduction (CO01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11	150kHz-30MHz	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH01-CB	30MHz ~ 1GHz	Jan. 18, 2024	Jan. 17, 2025	Radiation (03CH01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Feb. 18, 2024	Feb. 17, 2025	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH0301	20230109-2	10M~1GHz	Jun. 22, 2024	Jun. 21, 2025	Radiation (03CH01-CB)
Signal Analyzer	R&S	FSV3044	101437	10kHz ~ 44GHz	Nov. 28, 2023	Nov. 27, 2024	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 20, 2023	Oct. 19, 2024	Radiation (03CH01-CB)
RF Cable-low	Woken	RG402	Low Cable-31+32	30MHz ~ 1GHz	Aug. 02, 2024	Aug. 01, 2025	Radiation (03CH01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.8	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30 MHz	Oct. 13, 2023	Oct. 12, 2024	Radiation (03CH04-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH04-CB	30MHz ~ 1GHz	Jul. 31, 2024	Jul. 30, 2025	Radiation (03CH04-CB)
BILOG ANTENNA with 6dB attenuator	Schaffner & EMCI	CBL6112B & N-6-06	22021&AT-N0607	30MHz ~ 1GHz	Oct. 07, 2023	Oct. 06, 2024	Radiation (03CH04-CB)
Pre-Amplifier	EMCI	EMC330N	980391	20MHz ~ 3GHz	May 22, 2024	May 21, 2025	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Mar. 19, 2024	Mar. 18, 2025	Radiation (03CH04-CB
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 20, 2023	Oct. 19, 2024	Radiation (03CH04-CB)
RF Cable-low	Woken	RG402	Low Cable-03+67	30MHz – 1GHz	Oct. 02, 2023	Oct. 01, 2024	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE-EMI	V5.11.8	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH04-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 03, 2024	May 02, 2025	Radiation (03CH03-CB)
Horn Antenna	ETS・Lindgren	3115	6821	750MHz~18GHz	Jan. 24, 2024	Jan. 23, 2025	Radiation (03CH03-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Sep. 04, 2023	Sep. 03, 2024	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jun. 30, 2023	Jun. 29, 2024	Radiation (03CH03-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 24, 2023	Nov. 23, 2024	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 12, 2023	Jun. 11, 2024	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 11, 2024	Jun. 10, 2025	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Feb. 29, 2024	Feb. 28, 2025	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Feb. 29, 2024	Feb. 28, 2025	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Jan. 11, 2024	Jan. 10, 2025	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE-15247 _FS	V5.11.18	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Dec. 22, 2023	Dec. 21, 2024	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 04, 2023	Sep. 03, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-11	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-12	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 02, 2023	Oct. 01, 2024	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 ~26.5 GHz	Oct. 03, 2023	Oct. 02, 2024	Conducted (TH03-CB)
Test Software	SPORTON	SENSE-15247 _FS	V5.11.18	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Conducted (TH03-CB)

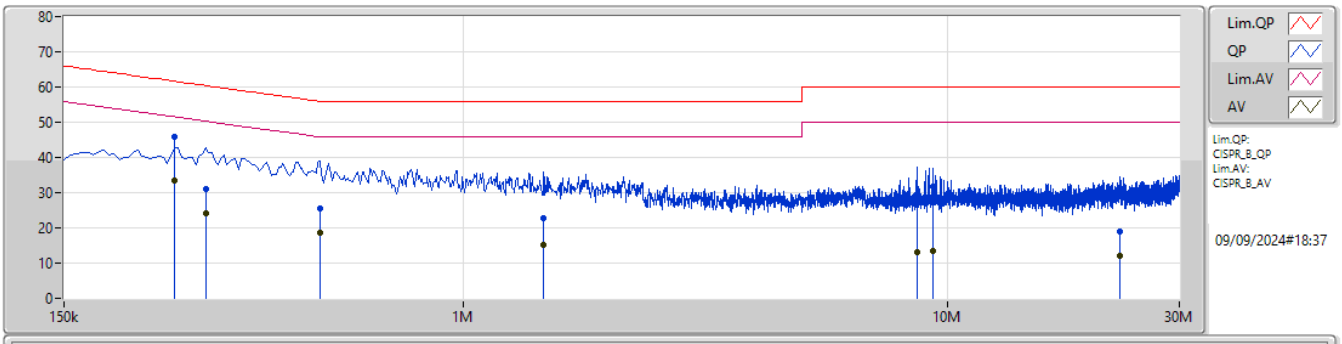
Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.

Summary

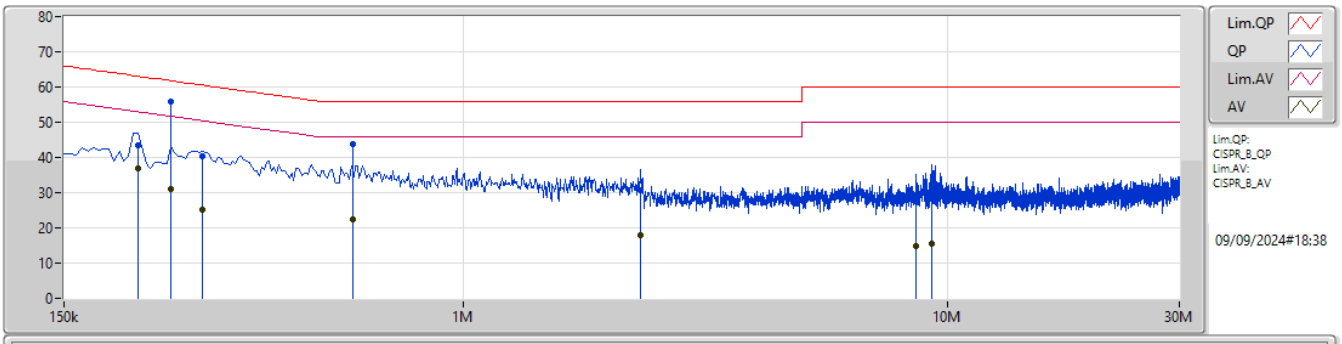
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	249k	55.72	61.79	-6.07	Neutral

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	253.5k	45.91	61.64	-15.73	9.92	Line	"Worst"	35.99	0.04	0.02	9.86
AV	253.5k	33.36	51.64	-18.28	9.92	Line	-	23.44	0.04	0.02	9.86
QP	294k	31.12	60.42	-29.30	9.94	Line	-	21.18	0.05	0.02	9.87
AV	294k	24.13	50.42	-26.29	9.94	Line	-	14.19	0.05	0.02	9.87
QP	505.5k	25.68	56.00	-30.32	9.98	Line	-	15.70	0.06	0.02	9.90
AV	505.5k	18.76	46.00	-27.24	9.98	Line	-	8.78	0.06	0.02	9.90
QP	1.464M	22.70	56.00	-33.30	10.02	Line	-	12.68	0.08	0.04	9.90
AV	1.464M	15.02	46.00	-30.98	10.02	Line	-	5.00	0.08	0.04	9.90
QP	8.637M	29.51	60.00	-30.49	10.26	Line	-	19.25	0.21	0.14	9.91
AV	8.637M	12.98	50.00	-37.02	10.26	Line	-	2.72	0.21	0.14	9.91
QP	9.33M	31.79	60.00	-28.21	10.27	Line	-	21.52	0.22	0.14	9.91
AV	9.33M	13.52	50.00	-36.48	10.27	Line	-	3.25	0.22	0.14	9.91
QP	22.637M	18.87	60.00	-41.13	10.60	Line	-	8.27	0.32	0.24	10.04
AV	22.637M	12.13	50.00	-37.87	10.60	Line	-	1.53	0.32	0.24	10.04

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	213k	43.30	63.09	-19.79	9.93	Neutral	-	33.37	0.06	0.02	9.85
AV	213k	36.81	53.09	-16.28	9.93	Neutral	-	26.88	0.06	0.02	9.85
QP	249k	55.72	61.79	-6.07	9.94	Neutral	"Worst"	45.78	0.06	0.02	9.86
AV	249k	31.09	51.79	-20.70	9.94	Neutral	-	21.15	0.06	0.02	9.86
QP	289.5k	40.25	60.53	-20.28	9.95	Neutral	-	30.30	0.06	0.02	9.87
AV	289.5k	25.28	50.53	-25.25	9.95	Neutral	-	15.33	0.06	0.02	9.87
QP	591k	43.83	56.00	-12.17	9.99	Neutral	-	33.84	0.07	0.02	9.90
AV	591k	22.44	46.00	-23.56	9.99	Neutral	-	12.45	0.07	0.02	9.90
QP	2.319M	30.67	56.00	-25.33	10.08	Neutral	-	20.59	0.11	0.08	9.89
AV	2.319M	18.07	46.00	-27.93	10.08	Neutral	-	7.99	0.11	0.08	9.89
QP	8.583M	27.87	60.00	-32.13	10.27	Neutral	-	17.60	0.22	0.14	9.91
AV	8.583M	14.70	50.00	-35.30	10.27	Neutral	-	4.43	0.22	0.14	9.91
QP	9.276M	31.78	60.00	-28.22	10.28	Neutral	-	21.50	0.23	0.14	9.91
AV	9.276M	15.54	50.00	-34.46	10.28	Neutral	-	5.26	0.23	0.14	9.91

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)	921.25k	874.774k	875KF1D	882.75k	856.654k
BT-EDR(3Mbps)	1.361M	1.222M	1M22G1D	1.312M	1.216M
BT-EDR(2Mbps)	1.317M	1.216M	1M22G1D	1.312M	1.21M

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

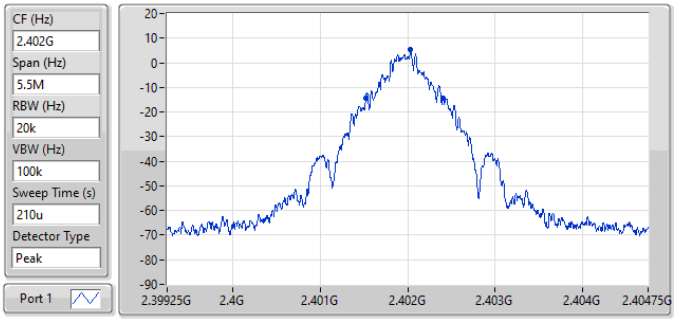
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	885.5k	856.654k
2440MHz	Pass	Inf	882.75k	872.713k
2480MHz	Pass	Inf	921.25k	874.774k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.315M	1.21M
2440MHz	Pass	Inf	1.312M	1.216M
2480MHz	Pass	Inf	1.317M	1.212M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.312M	1.22M
2440MHz	Pass	Inf	1.361M	1.222M
2480MHz	Pass	Inf	1.337M	1.216M

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

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

2402MHz

25/06/2024

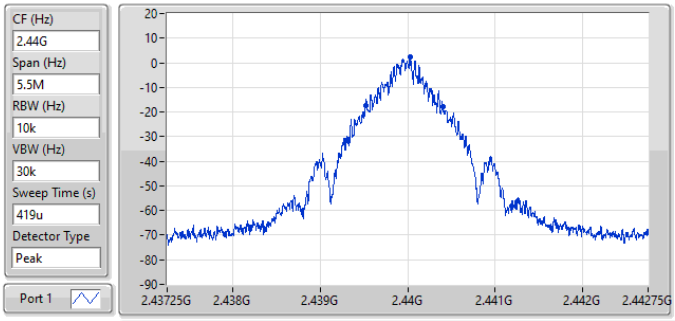


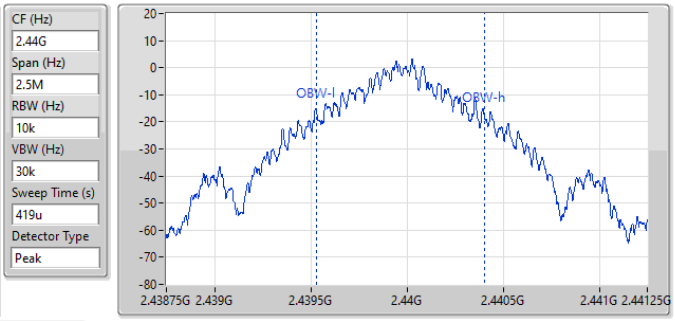
20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
885.5k	2.401522G	2.402407G	856.654k	2.401546G	2.402403G	Inf	1

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

2440MHz

25/06/2024



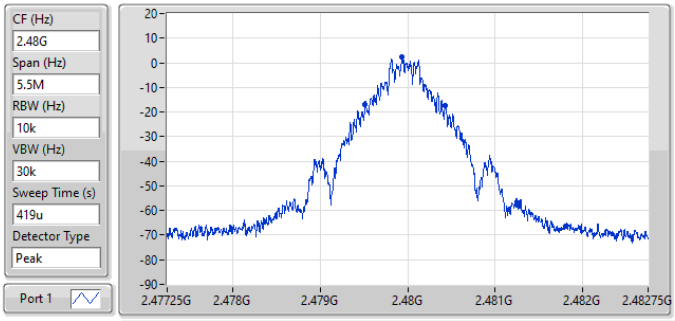


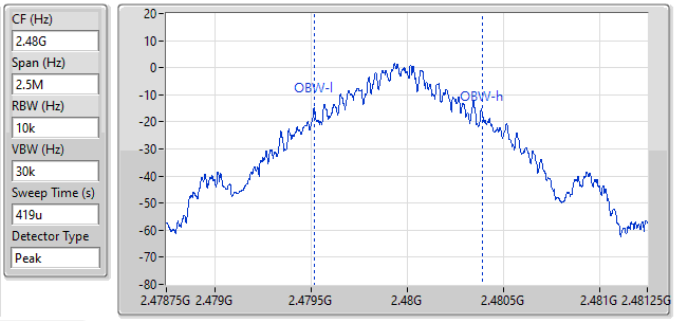
20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
882.75k	2.439519G	2.440402G	872.713k	2.439532G	2.440404G	Inf	1

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

2480MHz

25/06/2024



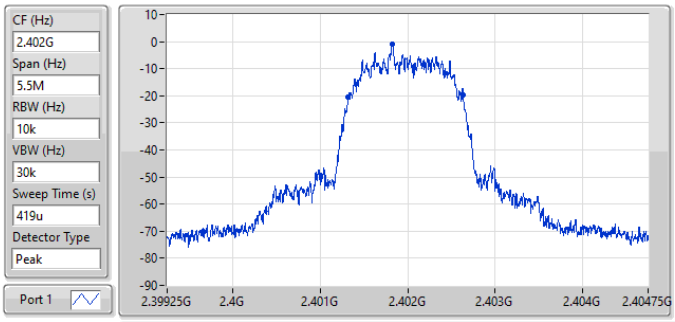


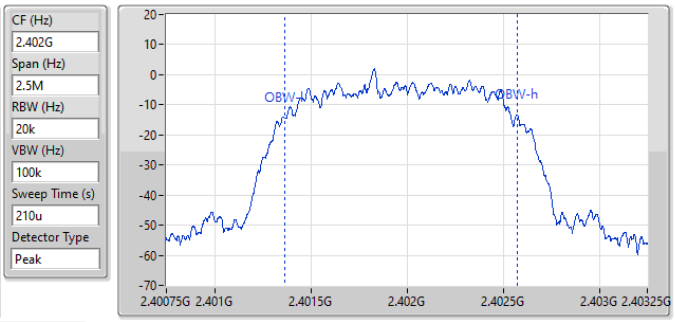
20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
921.25k	2.479513G	2.480435G	874.774k	2.47952G	2.480395G	Inf	1

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

2402MHz

25/06/2024

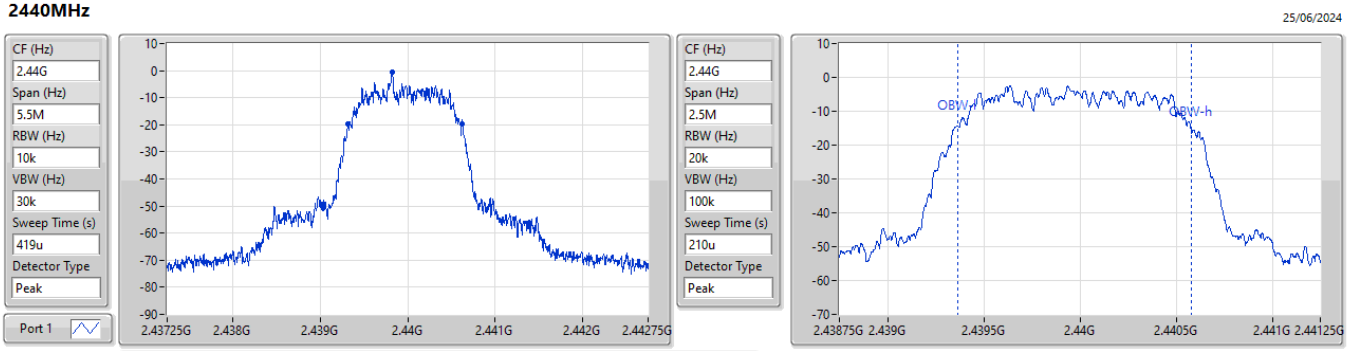




20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.315M	2.401321G	2.402635G	1.21M	2.401364G	2.402575G	Inf	1

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

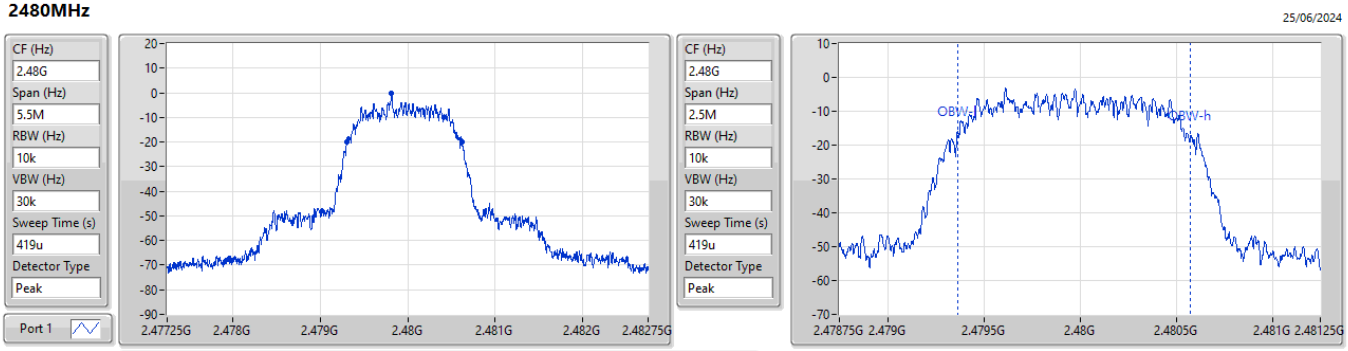
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.312M	2.439315G	2.440627G	1.216M	2.439366G	2.440582G	Inf	1

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

2480MHz

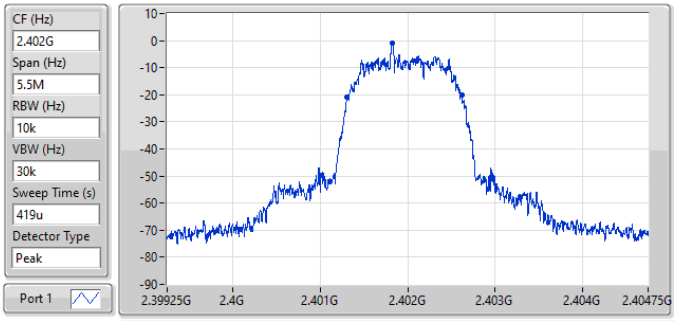


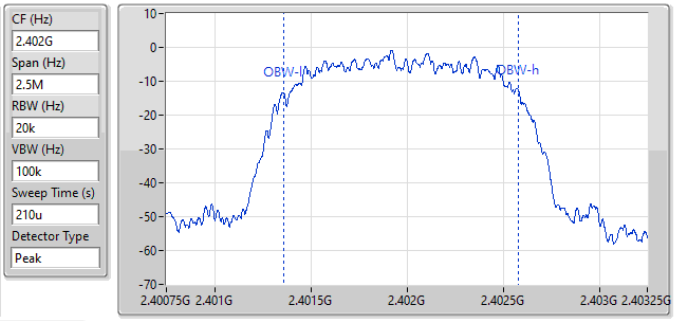
20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.317M	2.479304G	2.480622G	1.212M	2.479363G	2.480575G	Inf	1

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

2402MHz

25/06/2024



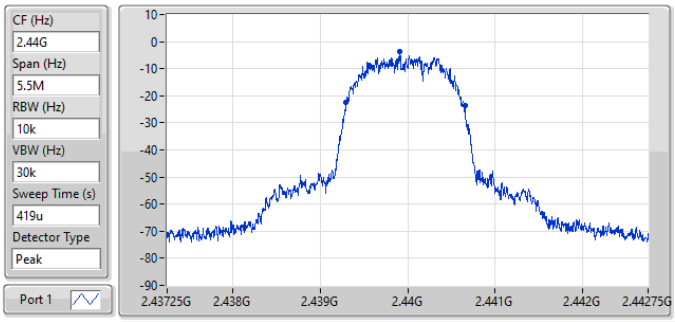


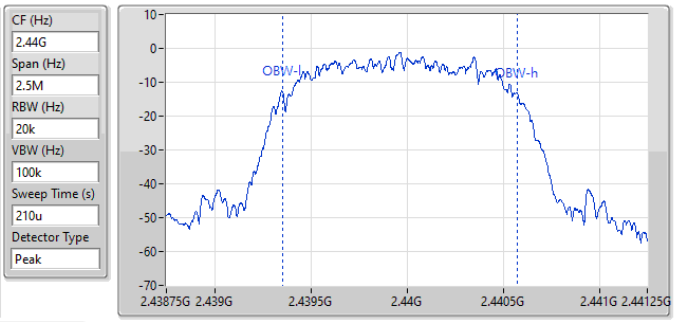
20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.312M	2.40131G	2.402622G	1.22M	2.401359G	2.40258G	Inf	1

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

2440MHz

25/06/2024



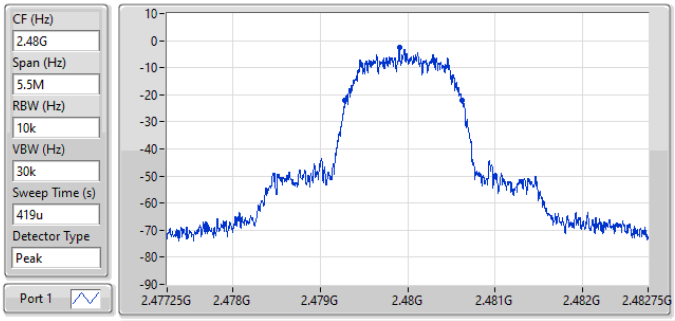


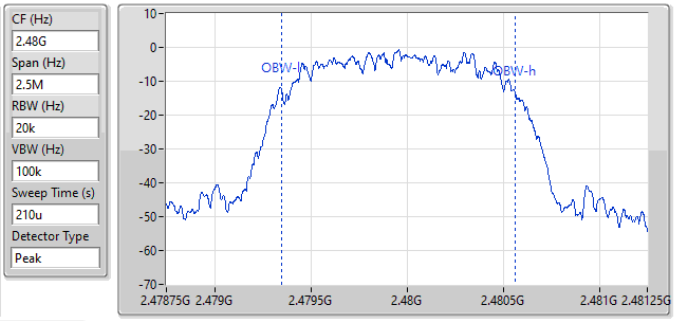
20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.361M	2.439293G	2.440655G	1.222M	2.439353G	2.440575G	Inf	1

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

2480MHz

25/06/2024





20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.337M	2.479285G	2.480622G	1.216M	2.479346G	2.480563G	Inf	1

Summary

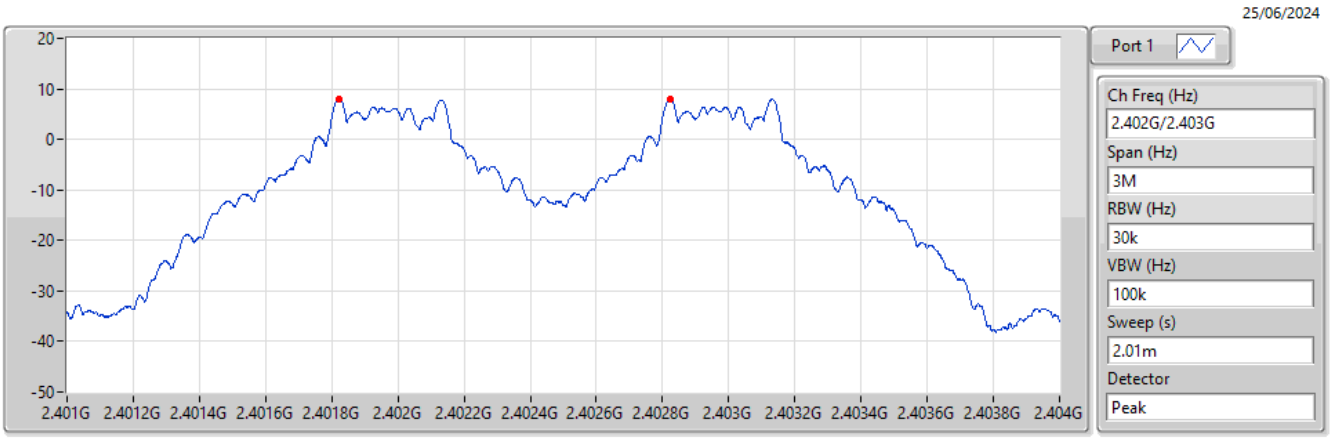
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.002M	999k
BT-EDR(3Mbps)	1.0005M	1.0005M
BT-EDR(2Mbps)	1.005M	999k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.401822G	2.402823G	1.0005M	589.743k
2440MHz	Pass	2.439813G	2.440815G	1.002M	587.9115k
2480MHz	Pass	2.478807G	2.479806G	999k	613.5525k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401822G	2.402821G	999k	875.79k
2440MHz	Pass	2.439815G	2.440814G	999k	873.792k
2480MHz	Pass	2.478803G	2.479808G	1.005M	877.122k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401822G	2.402823G	1.0005M	873.792k
2440MHz	Pass	2.439815G	2.440815G	1.0005M	906.426k
2480MHz	Pass	2.478807G	2.479808G	1.0005M	890.442k

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

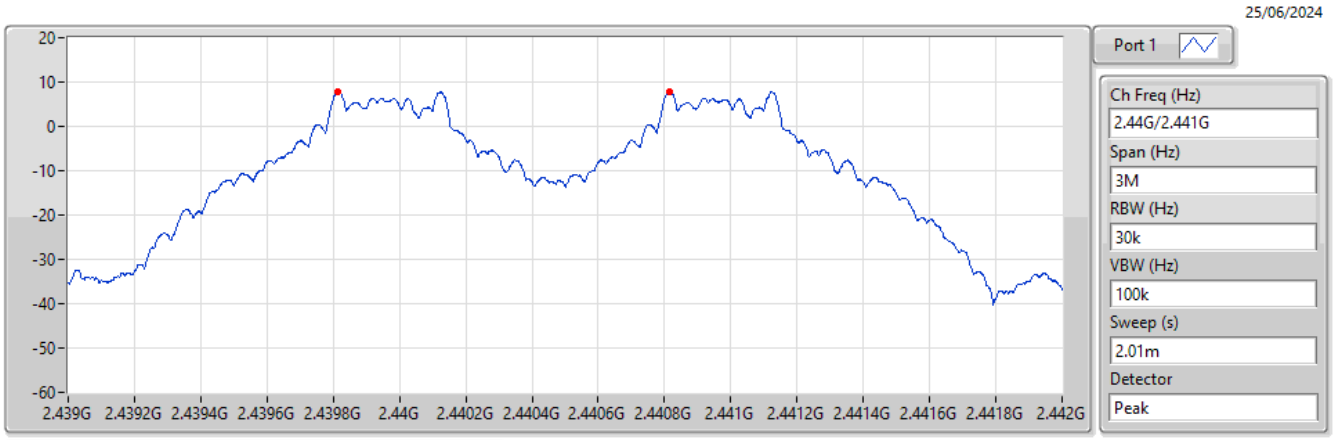
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.401822G	2.402823G	1.0005M	589.743k

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

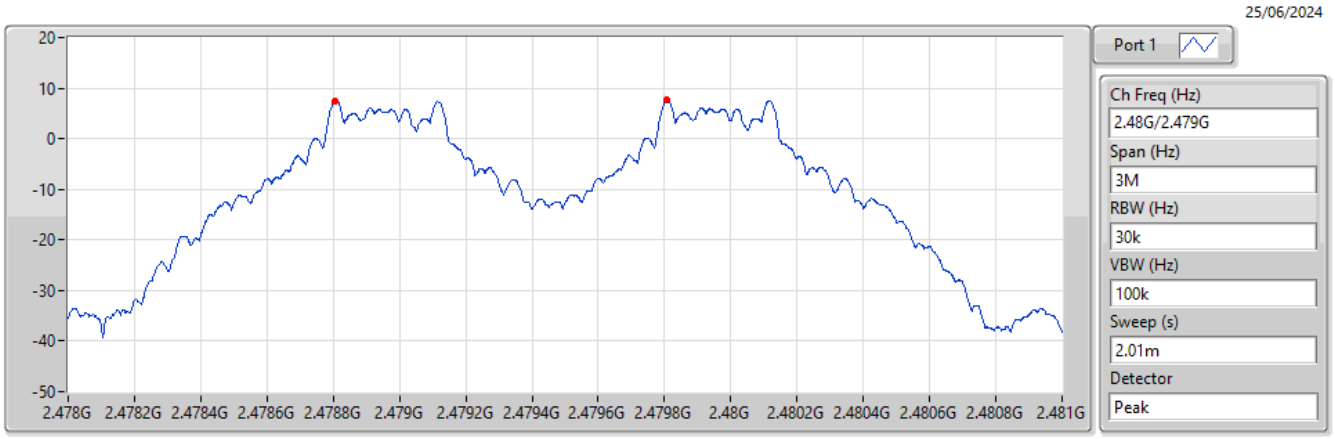
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.439813G	2.440815G	1.002M	587.9115k

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

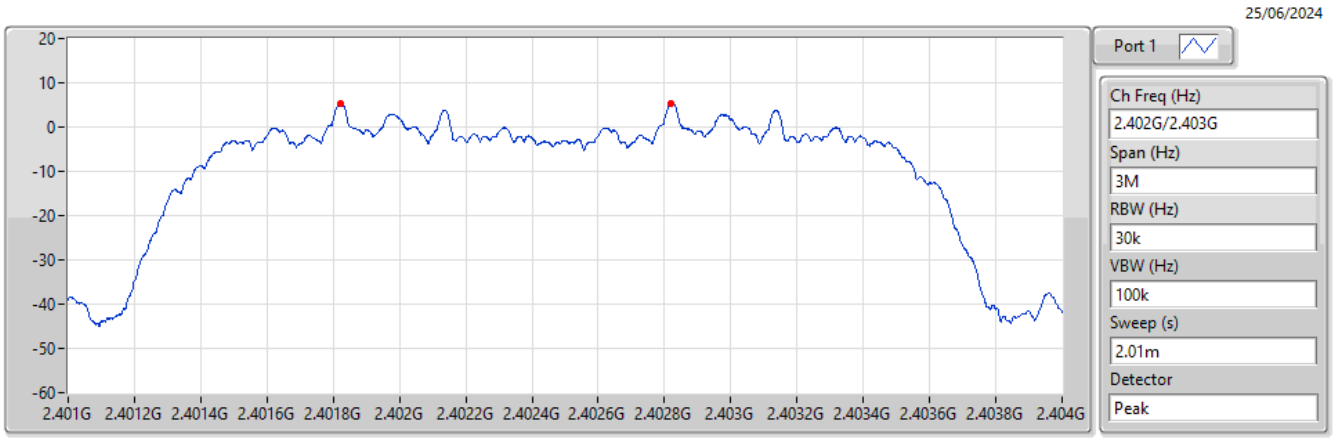
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478807G	2.479806G	999k	613.5525k

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

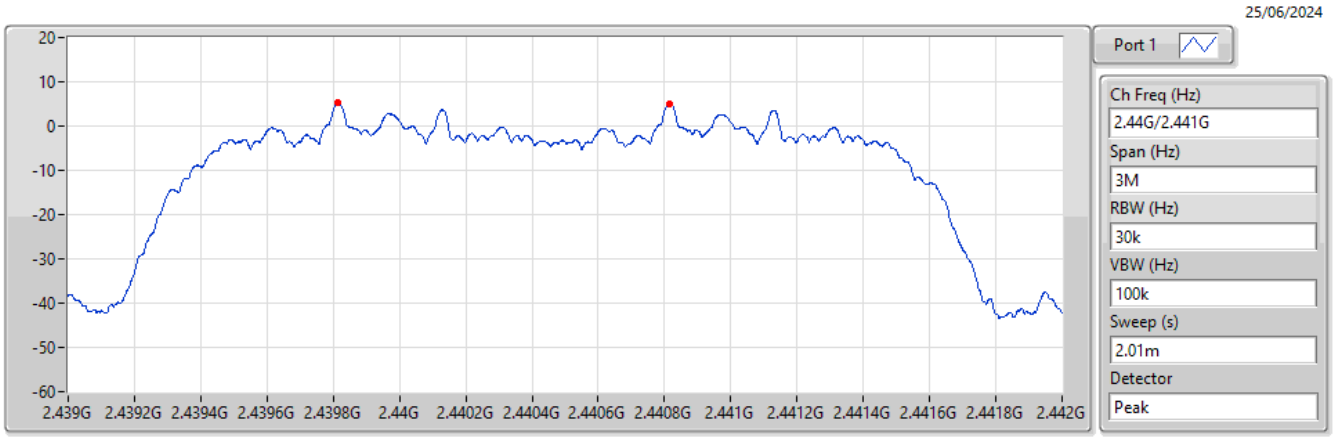
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.401822G	2.402821G	999k	875.79k

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

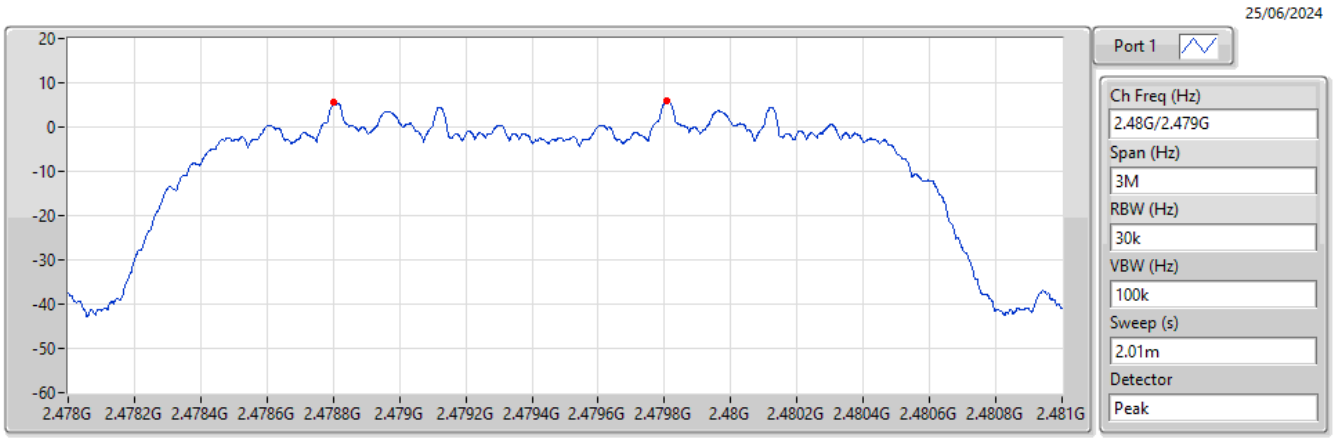
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.439815G	2.440814G	999k	873.792k

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

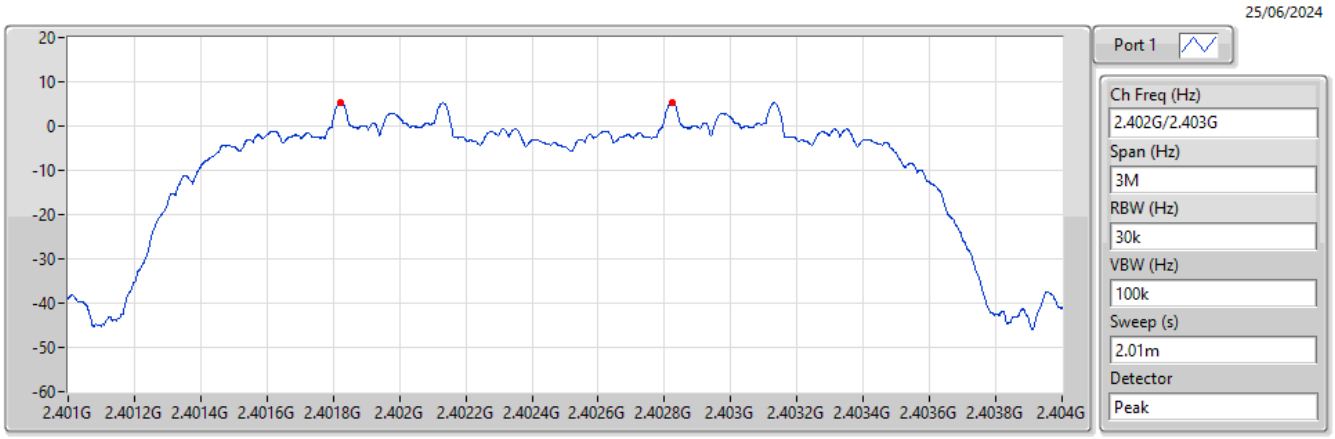
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478803G	2.479808G	1.005M	877.122k

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

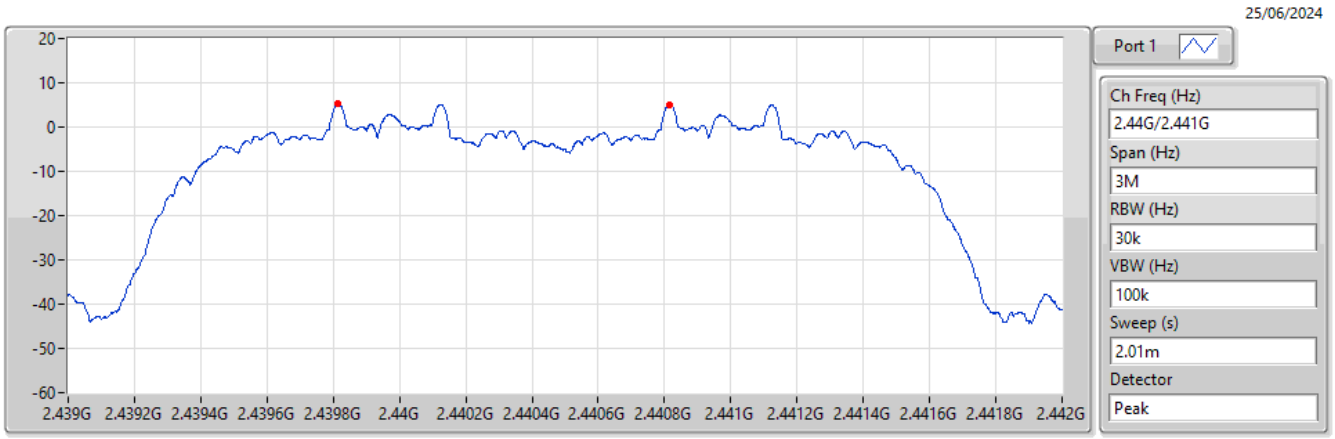
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.401822G	2.402823G	1.0005M	873.792k

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

2.44G/2.441GHz

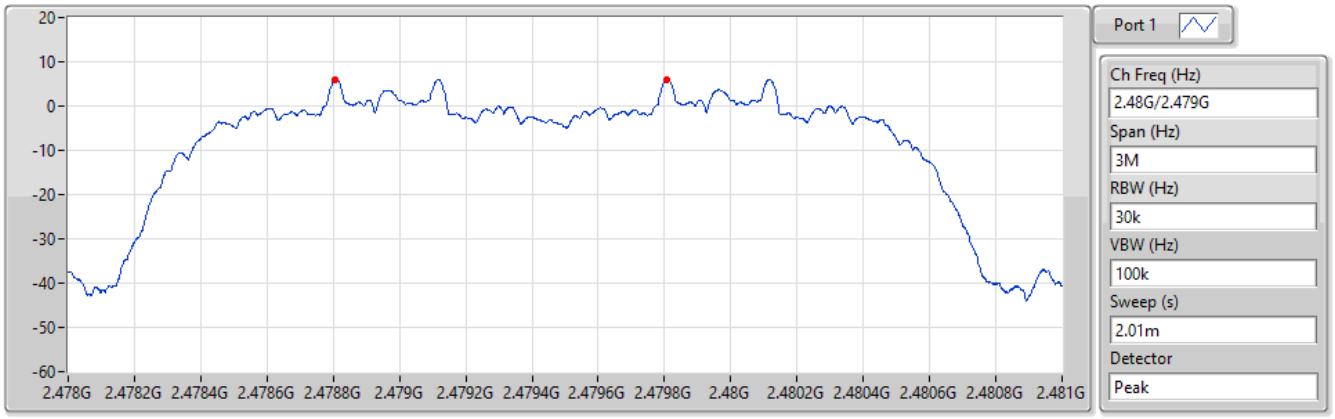


Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.439815G	2.440815G	1.0005M	906.426k

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

2.48G/2.479GHz

25/06/2024



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478807G	2.479808G	1.0005M	890.442k

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	9.10	0.00813
BT-EDR(3Mbps)	7.23	0.00528
BT-EDR(2Mbps)	7.46	0.00557

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	3.68	9.10	21.00
2440MHz	Pass	3.68	9.05	21.00
2480MHz	Pass	3.68	8.78	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	3.68	6.80	21.00
2440MHz	Pass	3.68	6.64	21.00
2480MHz	Pass	3.68	7.46	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	3.68	6.76	21.00
2440MHz	Pass	3.68	6.67	21.00
2480MHz	Pass	3.68	7.23	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)	9.65	0.00923
BT-EDR(3Mbps)	10.23	0.01054
BT-EDR(2Mbps)	9.76	0.00946

Result

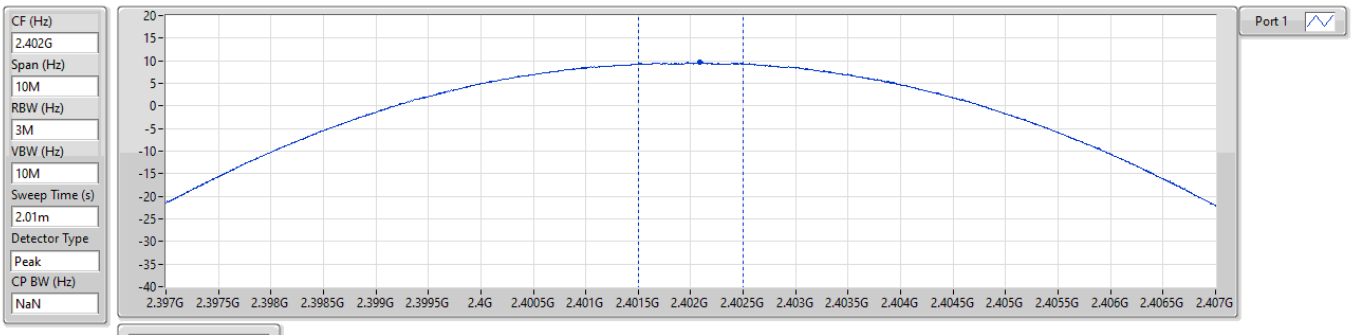
Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	3.68	9.65	21.00
2440MHz	Pass	3.68	9.34	21.00
2480MHz	Pass	3.68	9.01	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	3.68	9.20	21.00
2440MHz	Pass	3.68	8.99	21.00
2480MHz	Pass	3.68	9.76	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	3.68	9.69	21.00
2440MHz	Pass	3.68	9.50	21.00
2480MHz	Pass	3.68	10.23	21.00

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

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

2402MHz

25/06/2024



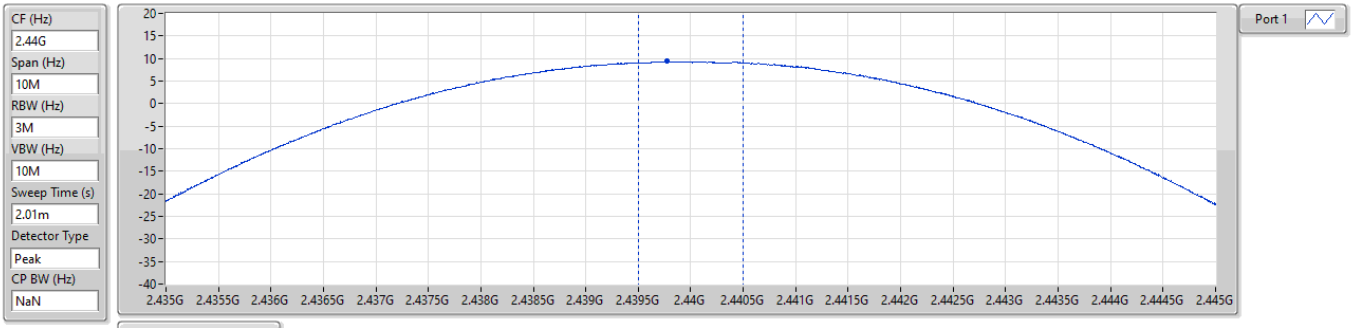
Sum=Total Power
PX=Port X

Sum(dBm)	P1(dBm)
9.65	9.65

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

2440MHz

25/06/2024



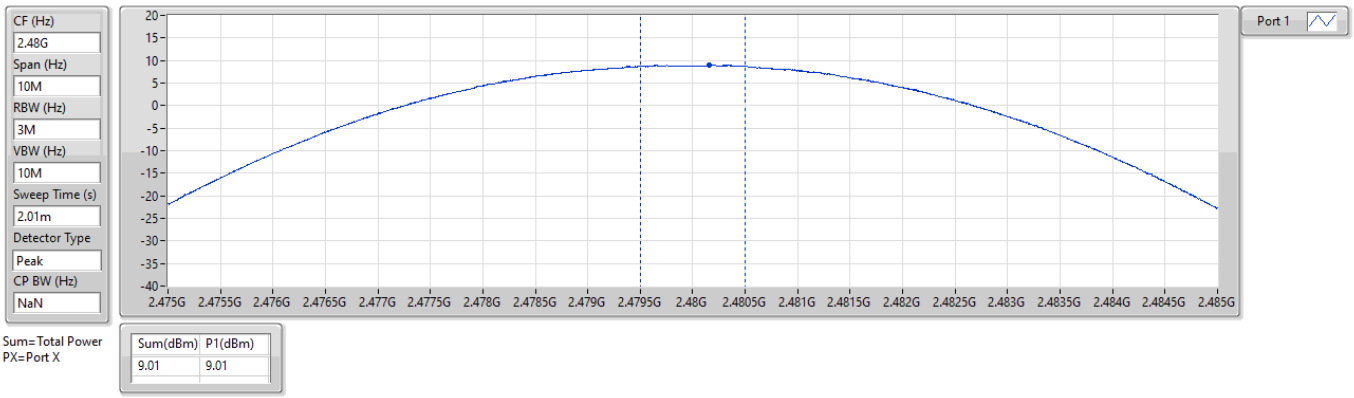
Sum=Total Power
PX=Port X

Sum(dBm)	P1(dBm)
9.34	9.34

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

2480MHz

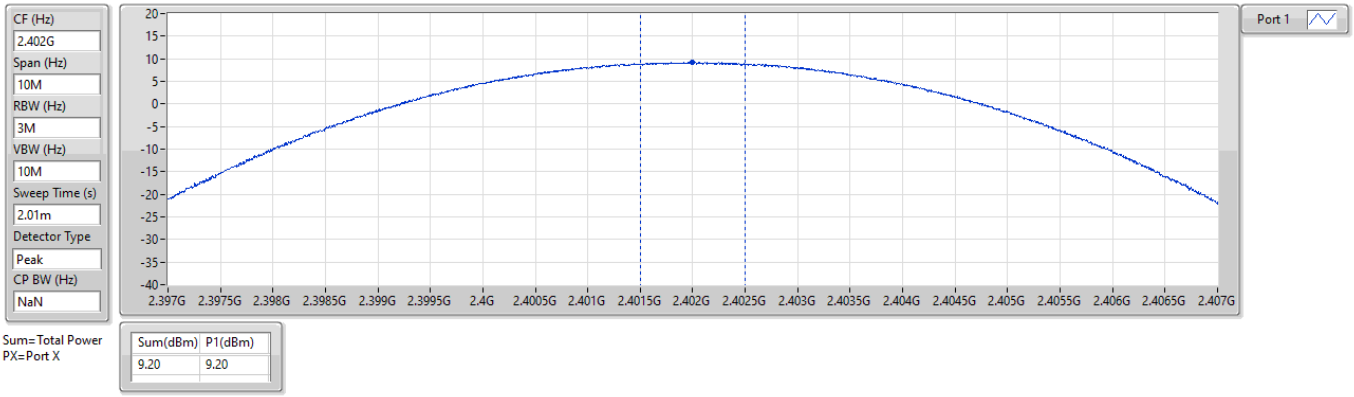
25/06/2024



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

2402MHz

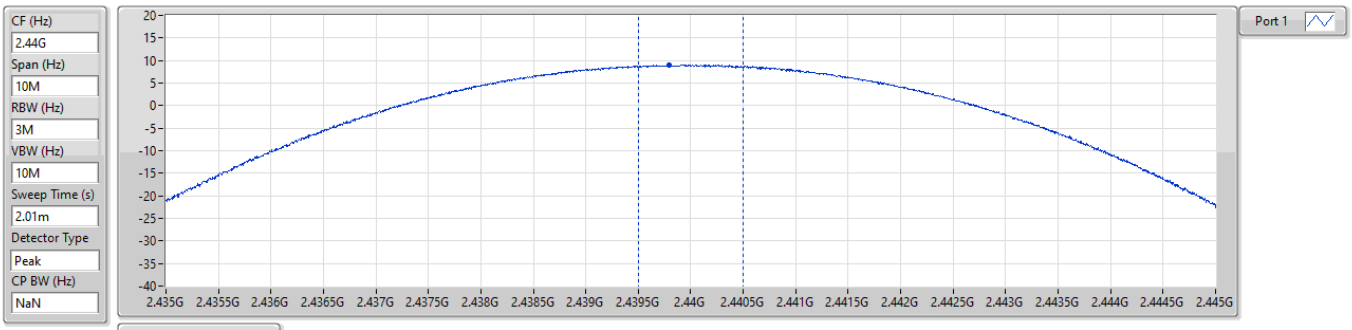
25/06/2024



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

2440MHz

25/06/2024



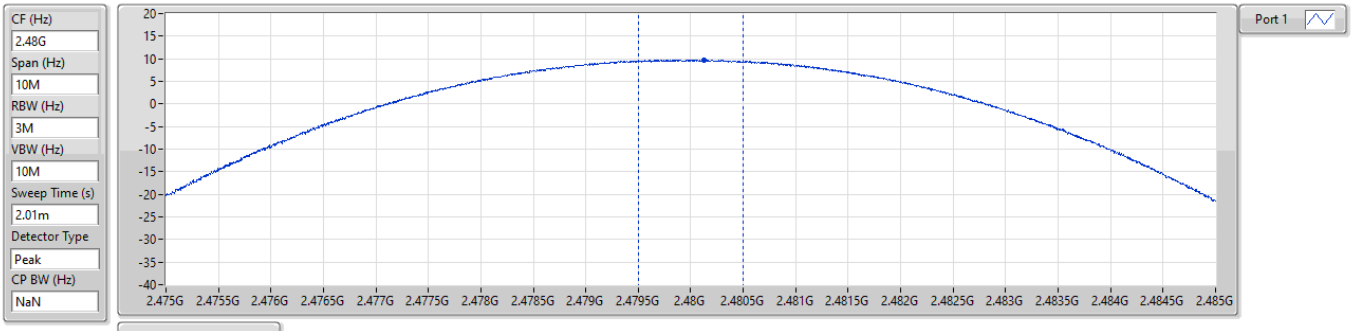
Sum=Total Power
PX=Port X

Sum(dBm)	P1(dBm)
8.99	8.99

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

2480MHz

25/06/2024



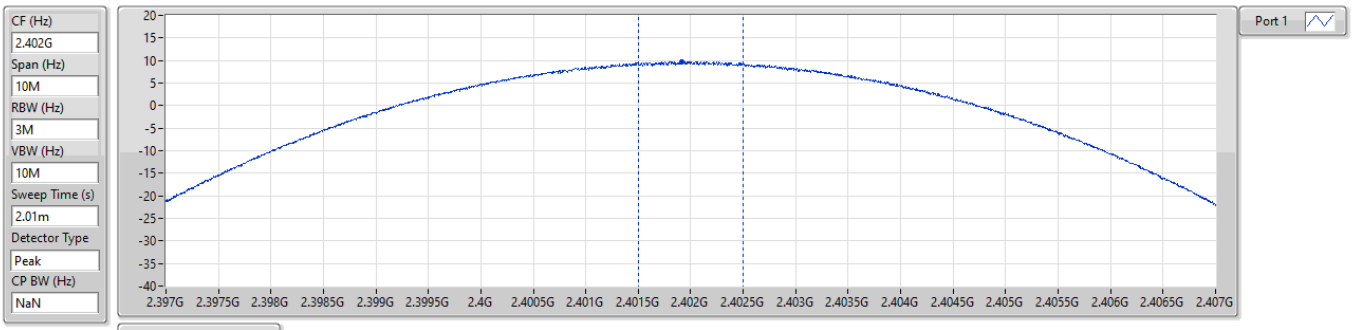
Sum=Total Power
PX=Port X

Sum(dBm)	P1(dBm)
9.76	9.76

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

2402MHz

25/06/2024



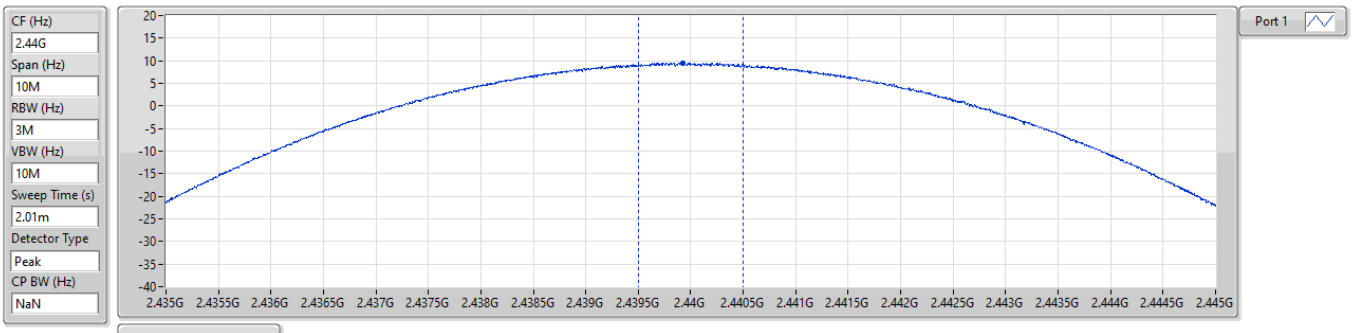
Sum=Total Power
PX=Port X

Sum(dBm)	P1(dBm)
9.69	9.69

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

2440MHz

25/06/2024



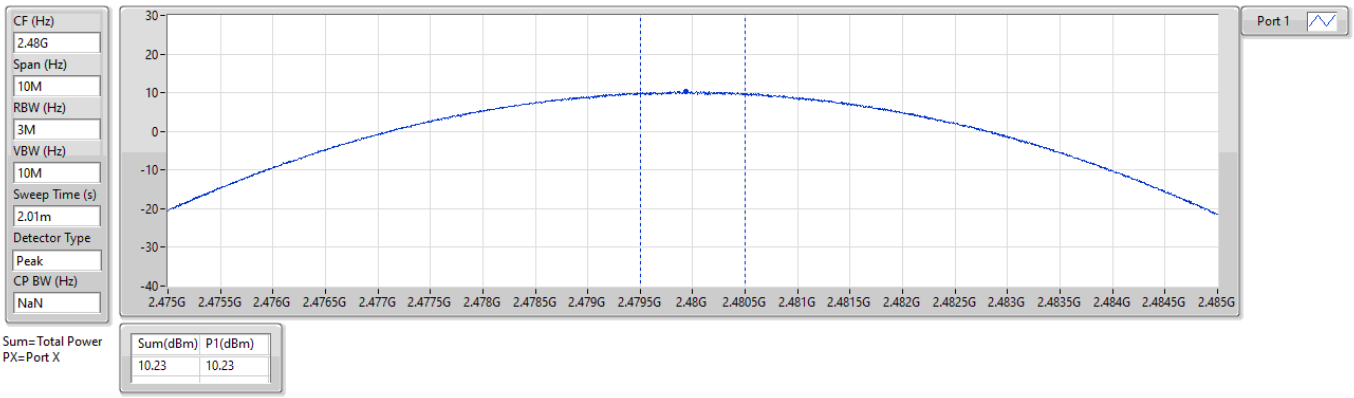
Sum=Total Power
PX=Port X

Sum(dBm)	P1(dBm)
9.50	9.50

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

2480MHz

25/06/2024



Sum=Total Power
PX=Port X

Sum(dBm)	P1(dBm)
10.23	10.23

Summary

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

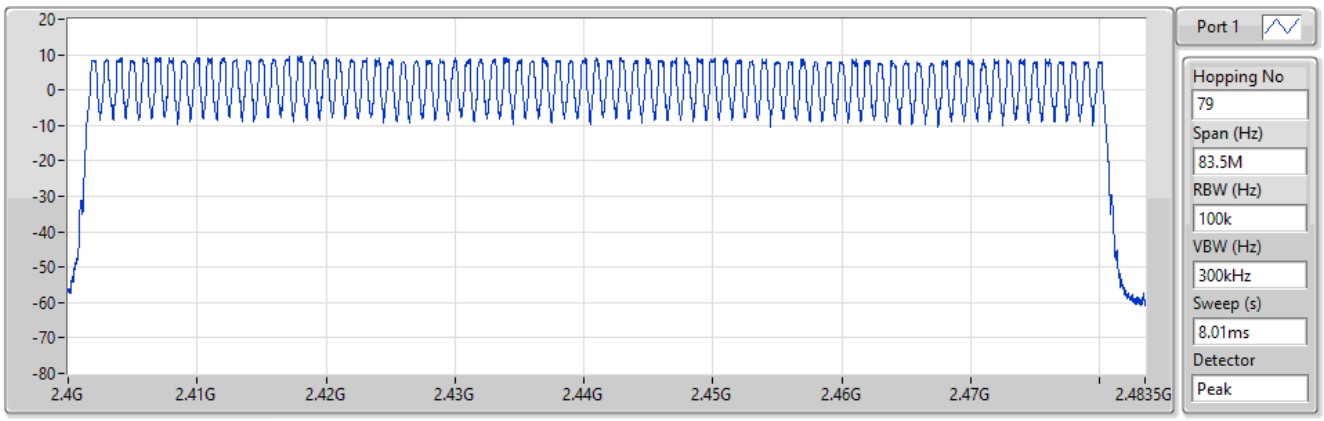
Result

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

25/06/2024



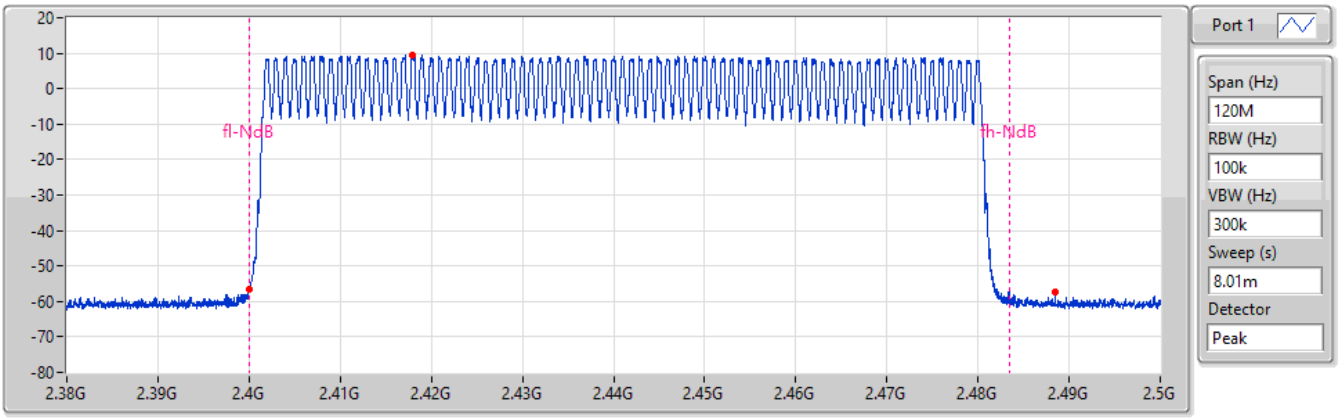
Hopping No	Limit
79	15

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

25/06/2024



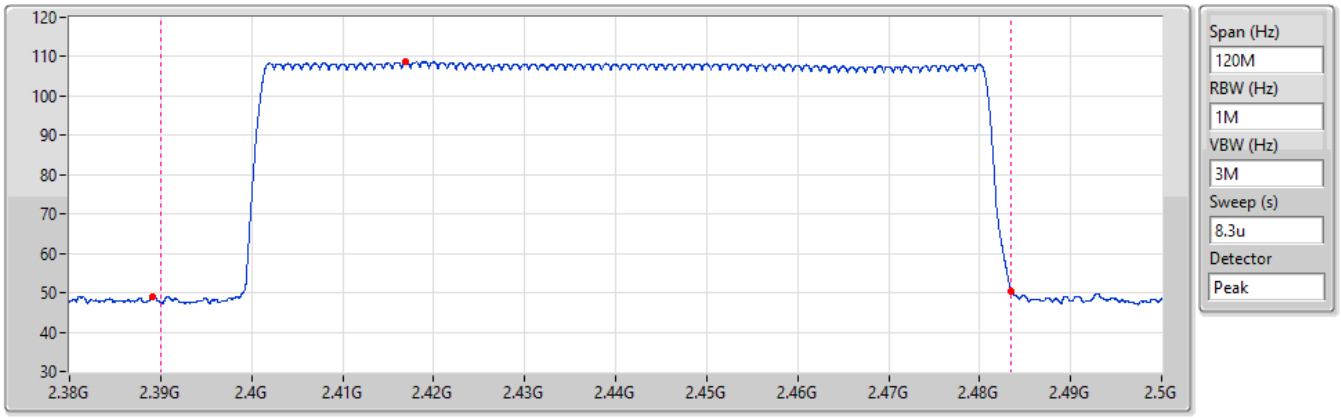
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-10.47	2.41798G	9.53	2.399965G	-56.55	2.48848G	-57.43

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

25/06/2024

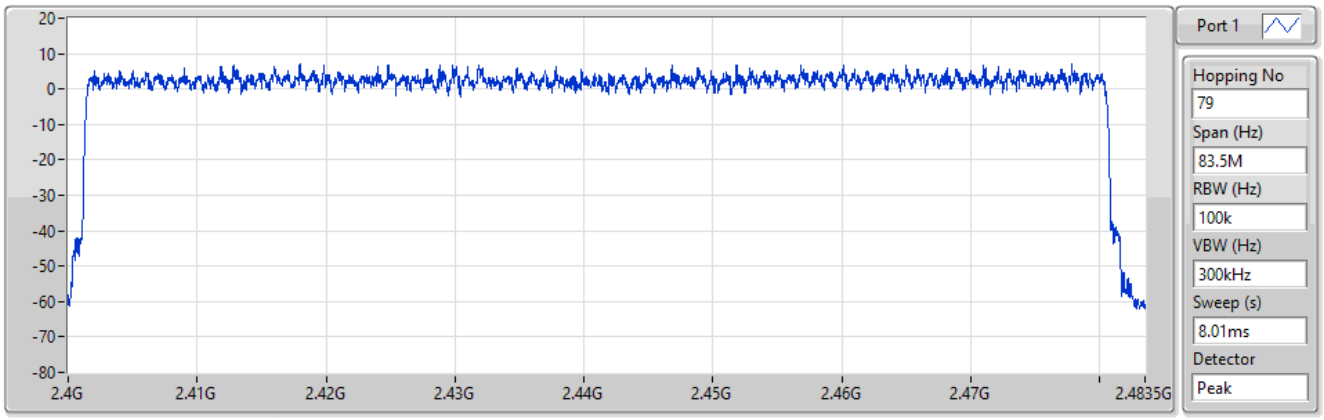


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.416945G	108.69	2.38918G	48.98	18.88	2.483515G	50.33	20.23	74	54	3.125	-30.1

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

2440MHz

25/06/2024

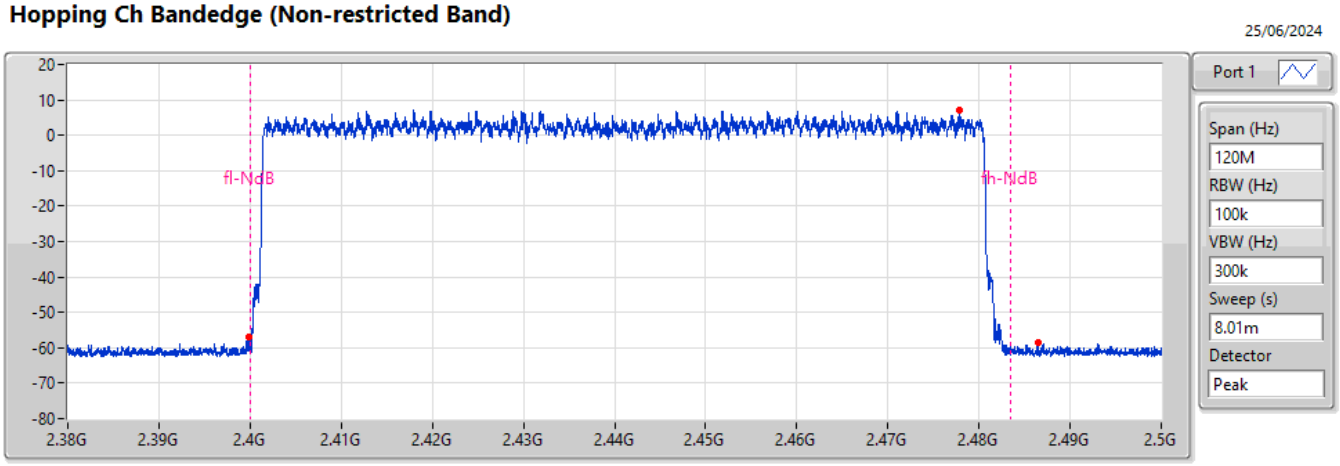


Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

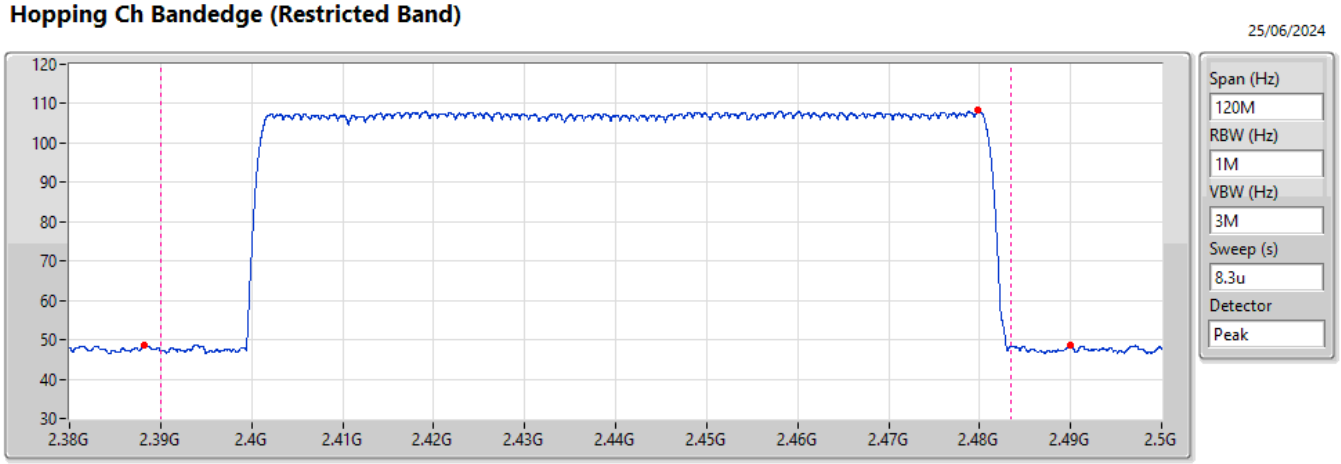


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.89	2.477815G	7.11	2.399905G	-57.04	2.486425G	-58.66

2.4-2.4835GHz_BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

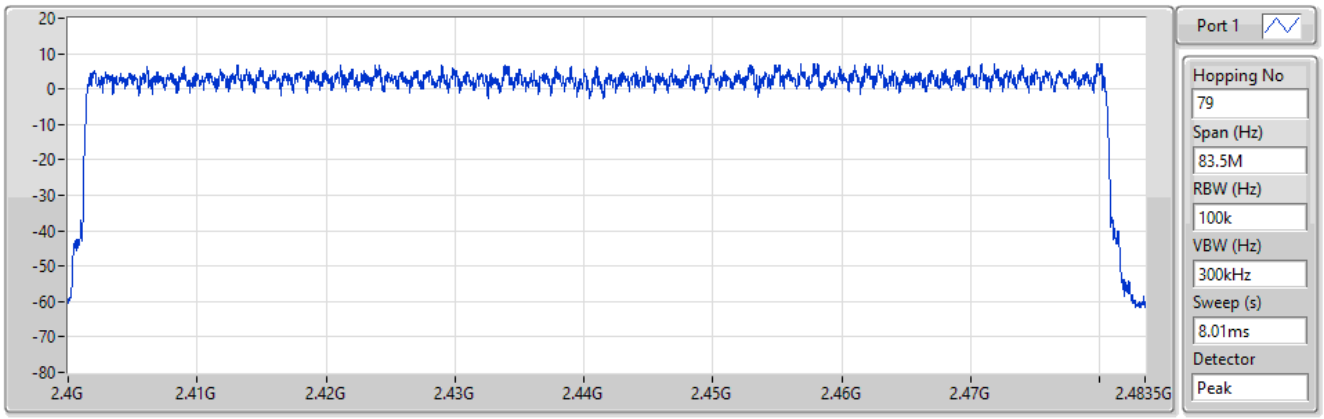


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.479825G	108.23	2.388205G	48.52	18.42	2.489905G	48.8	18.7	74	54	3.125	-30.1

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

2440MHz

25/06/2024



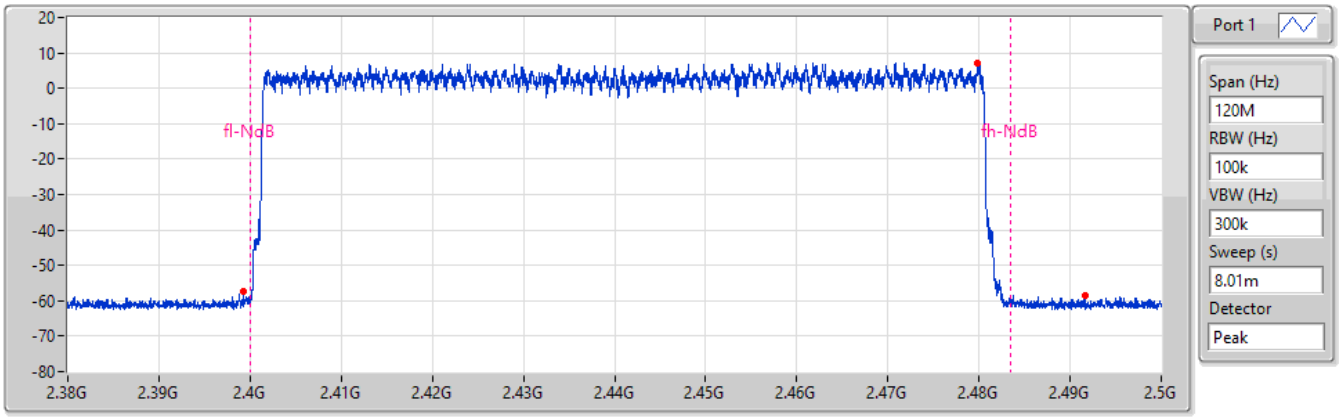
Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

25/06/2024



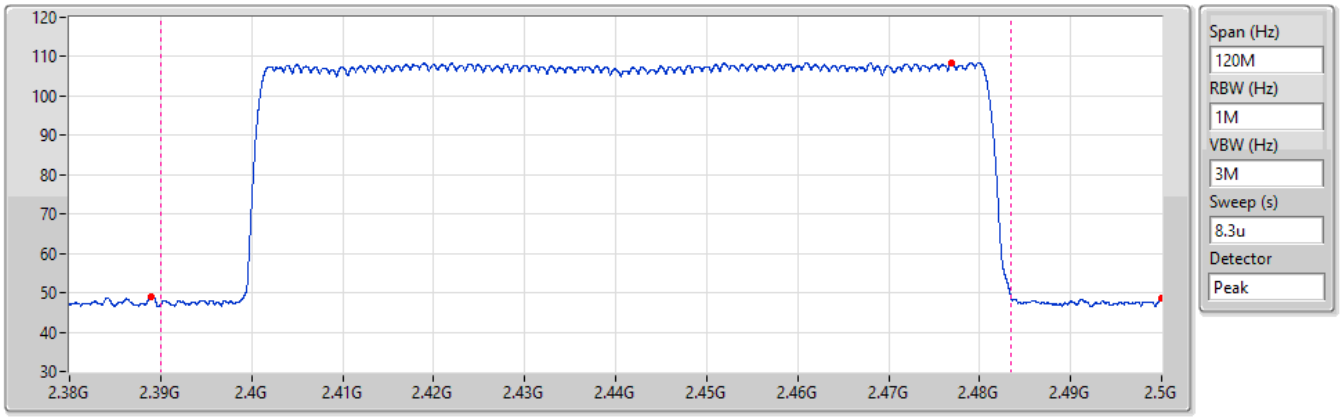
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.77	2.479825G	7.23	2.39923G	-57.41	2.4916G	-58.43

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

25/06/2024



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)
2.47696G	108.51	2.38903G	49.11	19.01	2.49997G	48.5	18.4	74	54	3.125	-30.1

Summary

2.4-2.4835GHz	-
BT-BR(1Mbps)	308.10065m_DH5
BT-EDR(3Mbps)	308.90015m_DH5
BT-EDR(2Mbps)	308.68695m_DH5

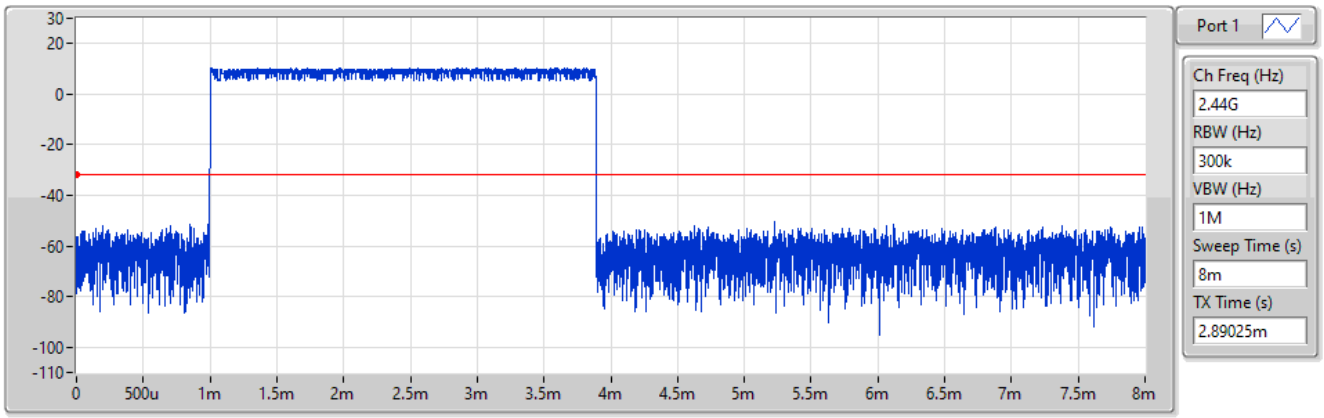
Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.10065m_DH5	400m	2.89025m
2440MHz	Pass	8	154.050325m_DH5-AFH	400m	2.89025m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.68695m_DH5	400m	2.89575m
2440MHz	Pass	8	154.343475m_DH5-AFH	400m	2.89575m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.90015m_DH5	400m	2.89775m
2440MHz	Pass	8	154.450075m_DH5-AFH	400m	2.89775m

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

2440MHz

25/06/2024



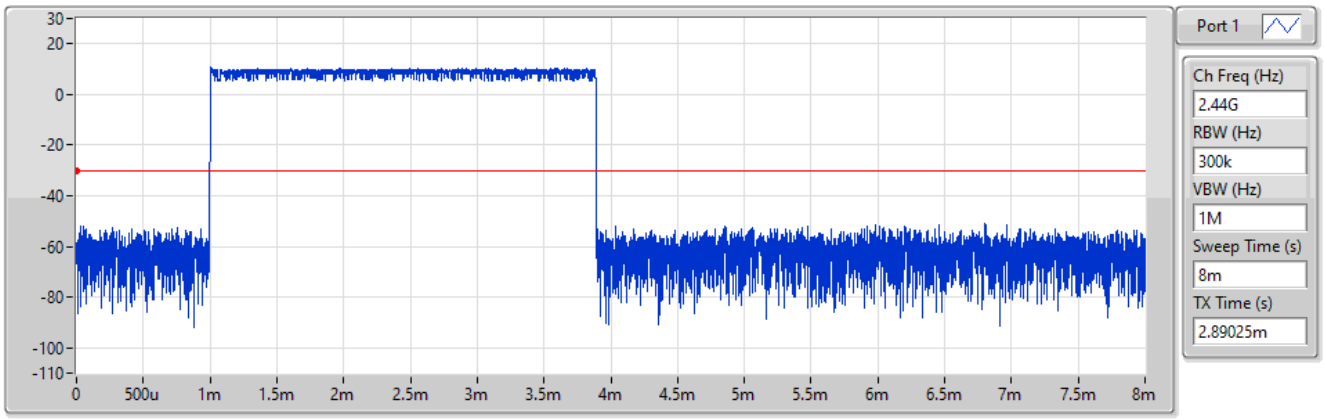
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.10065m_DH5	400m	2.89025m

DH5

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

2440MHz

25/06/2024



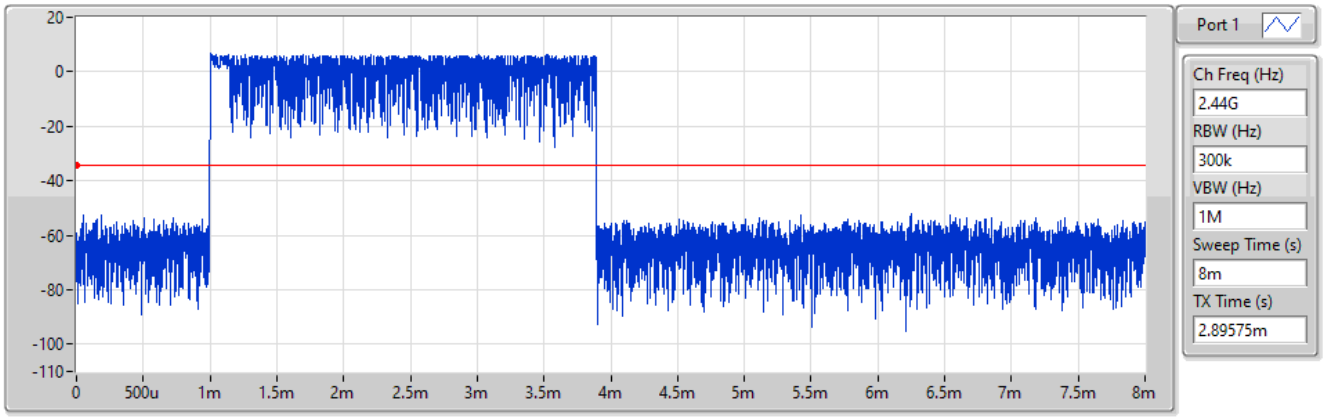
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.050325m_DH5-AFI	400m	2.89025m

DH5-AFH

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

2440MHz

25/06/2024



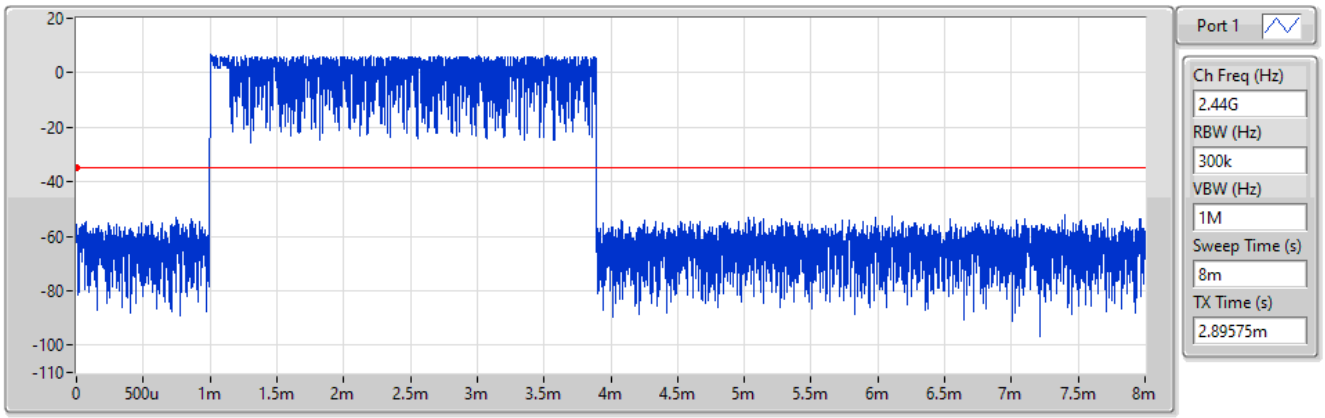
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.68695m_DH5	400m	2.89575m

DH5

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

2440MHz

25/06/2024



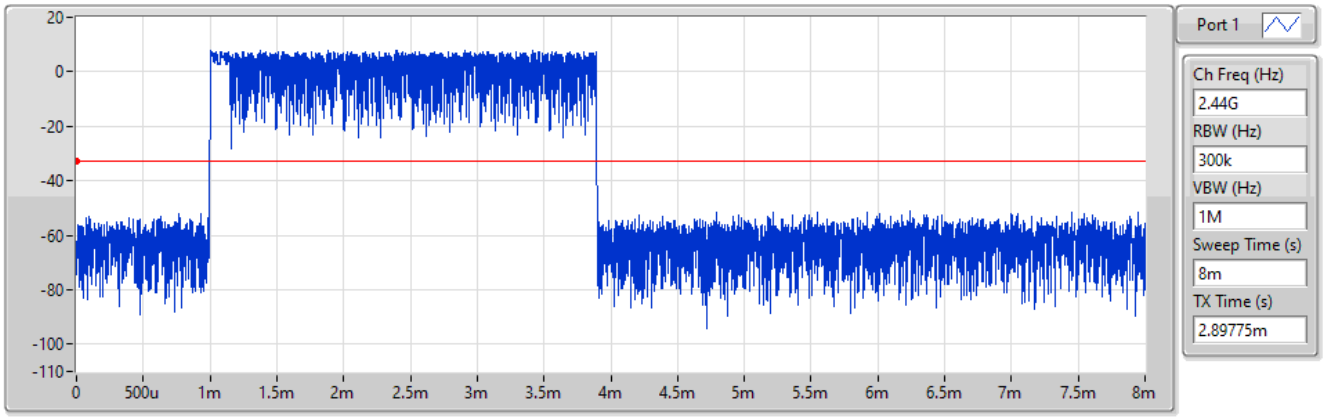
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.343475m_DH5-AFI	400m	2.89575m

DH5-AFH

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

2440MHz

25/06/2024



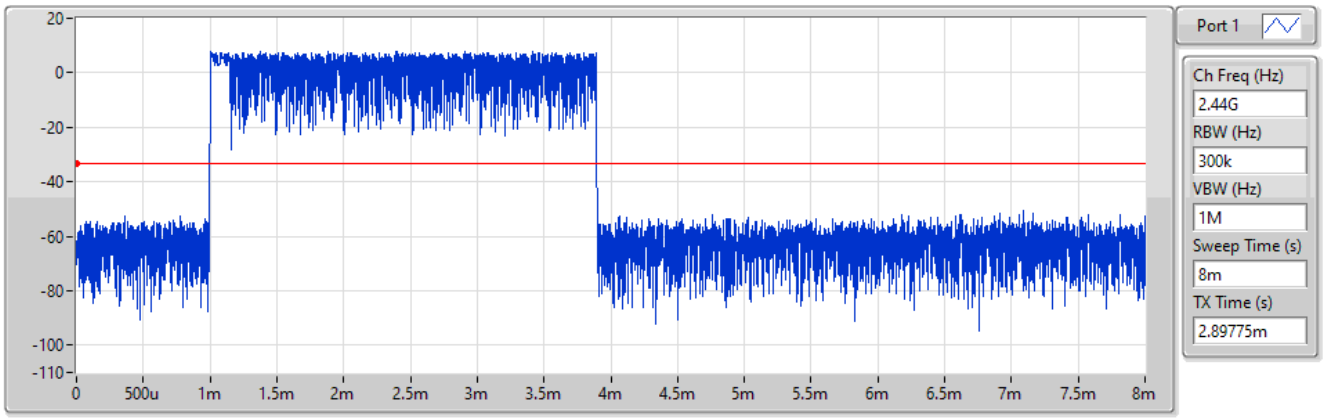
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.90015m_DH5	400m	2.89775m

DH5

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

2440MHz

25/06/2024



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.450075m_DH5-AFI	400m	2.89775m

DH5-AFH

Summary

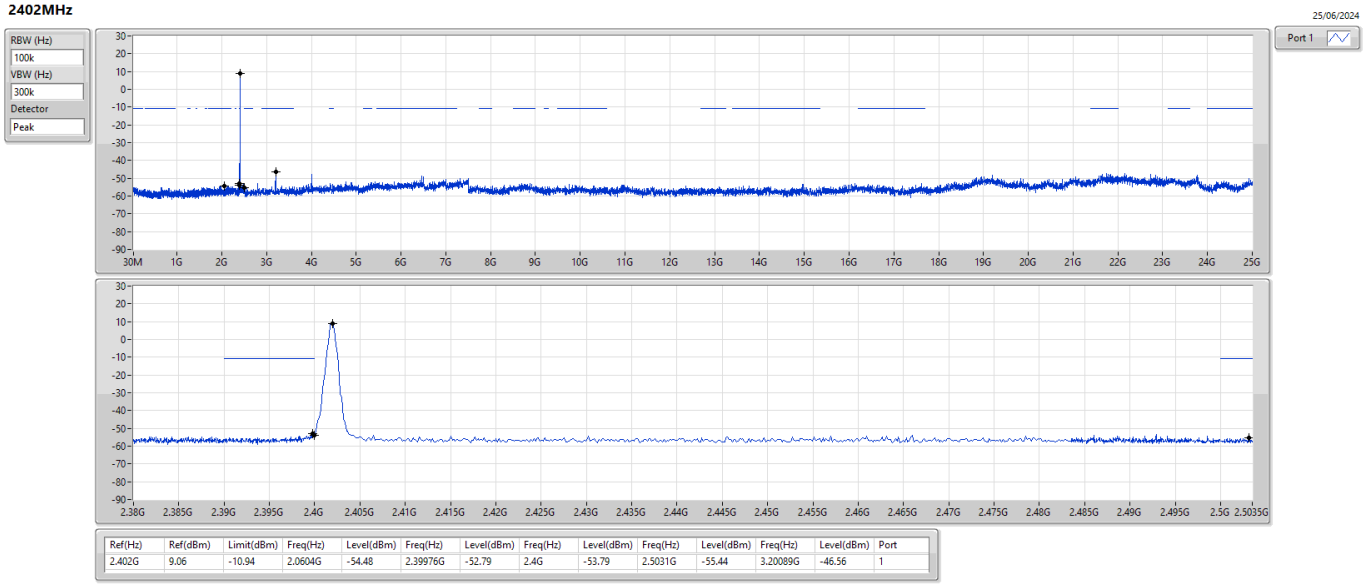
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.402G	9.06	-10.94	2.0604G	-54.48	2.39976G	-52.79	2.4G	-53.79	2.5031G	-55.44	3.20089G	-46.56	1
BT-EDR(3Mbps)	Pass	2.402G	5.78	-14.22	2.1027G	-53.26	2.3988G	-53.83	2.4G	-53.08	2.50142G	-55.50	3.20089G	-45.84	1
BT-EDR(2Mbps)	Pass	2.43991G	5.89	-14.11	1.8865G	-53.52	2.3914G	-54.04	2.4G	-55.99	2.50018G	-54.65	21.81112G	-47.43	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	9.06	-10.94	2.0604G	-54.48	2.39976G	-52.79	2.4G	-53.79	2.5031G	-55.44	3.20089G	-46.56	1
2440MHz	Pass	2.44008G	8.40	-11.60	1.90883G	-54.29	2.39312G	-54.76	2.4G	-56.09	2.50106G	-55.59	3.25151G	-47.49	1
2480MHz	Pass	2.48016G	8.17	-11.83	72.3M	-53.87	2.39412G	-55.13	2.4G	-57.03	2.50286G	-55.00	21.6902G	-47.41	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	6.31	-13.69	236.8M	-54.31	2.39992G	-53.30	2.4G	-54.97	2.50302G	-54.08	3.20089G	-46.87	1
2440MHz	Pass	2.43991G	5.89	-14.11	1.8865G	-53.52	2.3914G	-54.04	2.4G	-55.99	2.50018G	-54.65	21.81112G	-47.43	1
2480MHz	Pass	2.47999G	7.10	-12.90	1.98168G	-54.73	2.39636G	-54.90	2.4G	-57.42	2.50278G	-54.98	21.77738G	-47.81	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	5.78	-14.22	2.1027G	-53.26	2.3988G	-53.83	2.4G	-53.08	2.50142G	-55.50	3.20089G	-45.84	1
2440MHz	Pass	2.43991G	4.92	-15.08	2.07803G	-54.13	2.396G	-55.22	2.4G	-57.01	2.50042G	-55.37	3.25151G	-47.98	1
2480MHz	Pass	2.48016G	7.16	-12.84	1.8771G	-54.22	2.39028G	-55.00	2.4G	-56.74	2.50274G	-55.50	21.58616G	-47.34	1

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

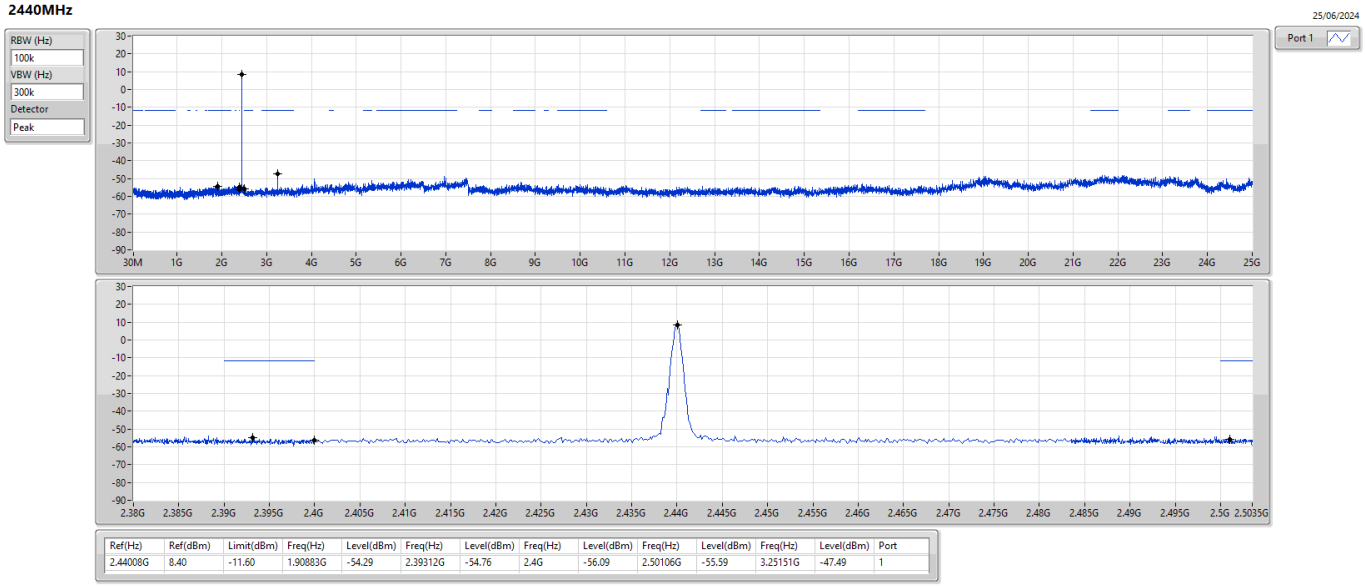
2402MHz



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	9.06	-10.94	2.0604G	-54.48	2.39976G	-52.79	2.4G	-53.79	2.5031G	-55.44	3.20089G	-46.56	1

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

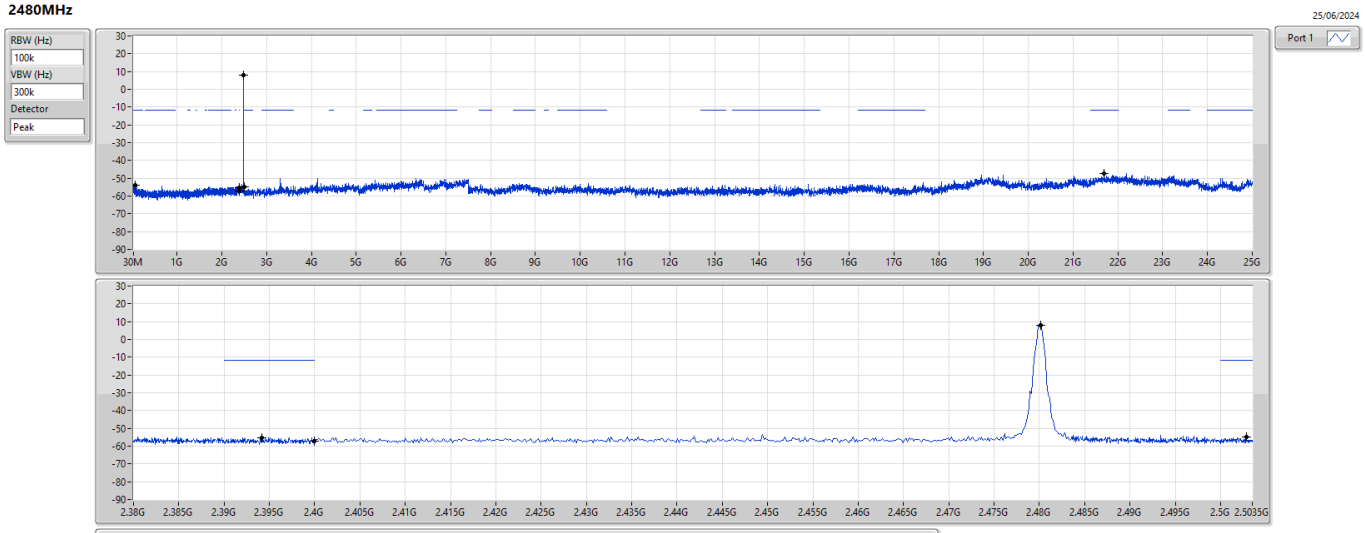
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44008G	8.40	-11.60	1.90883G	-54.29	2.39312G	-54.76	2.4G	-56.09	2.50106G	-55.59	3.25151G	-47.49	1

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

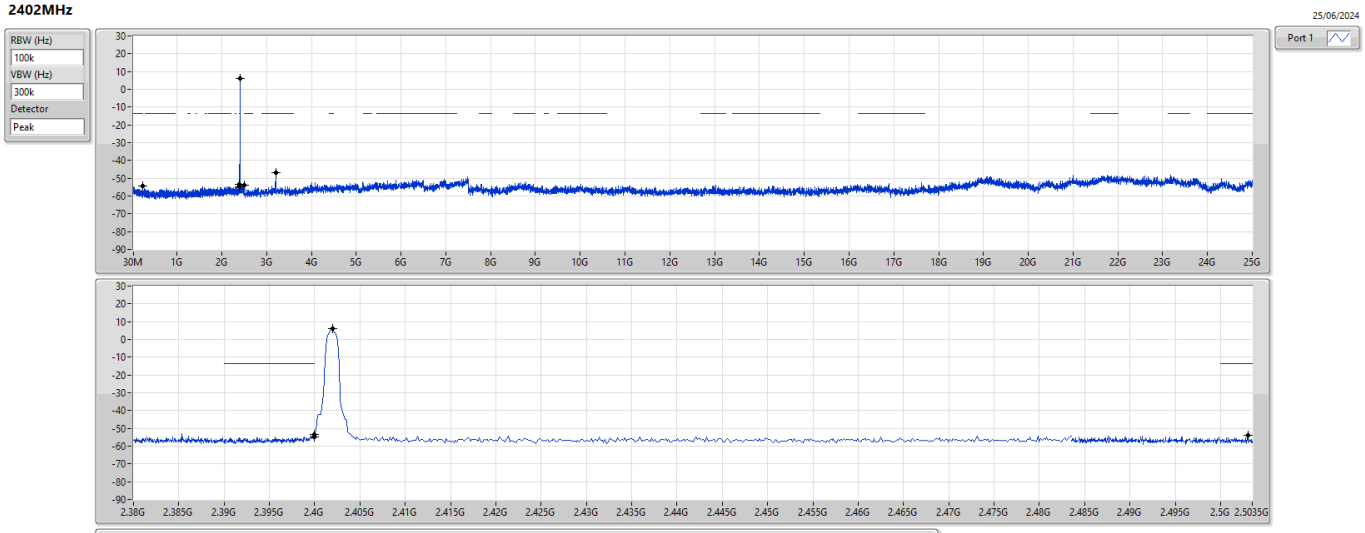
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48016G	8.17	-11.83	72.3M	-53.87	2.39412G	-55.13	2.4G	-57.03	2.50286G	-55.00	21.6902G	-47.41	1

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

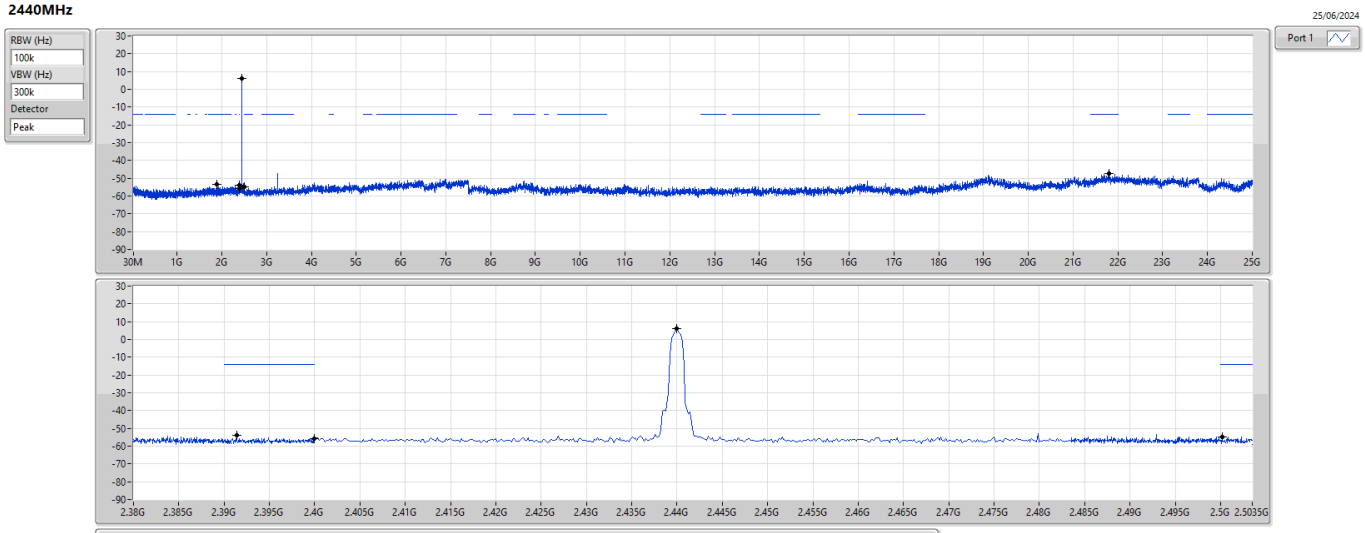
2402MHz



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	6.31	-13.69	236.8M	-54.31	2.39992G	-53.30	2.4G	-54.97	2.50302G	-54.08	3.20089G	-46.87	1

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

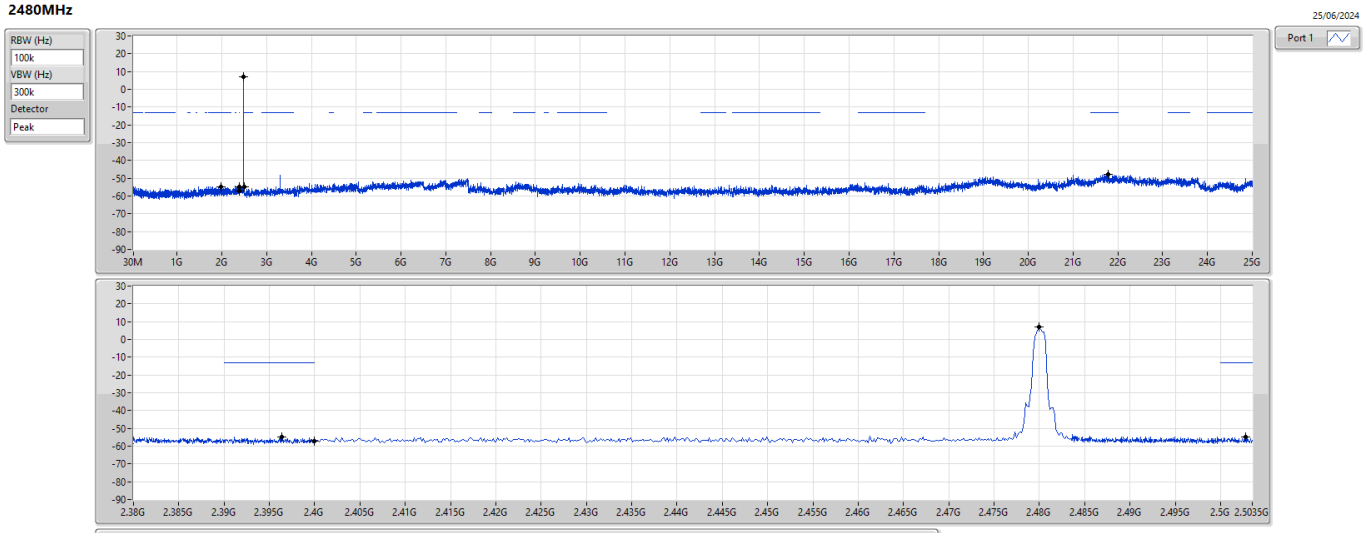
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	5.89	-14.11	1.8865G	-53.52	2.3914G	-54.04	2.4G	-55.99	2.50018G	-54.65	21.81112G	-47.43	1

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

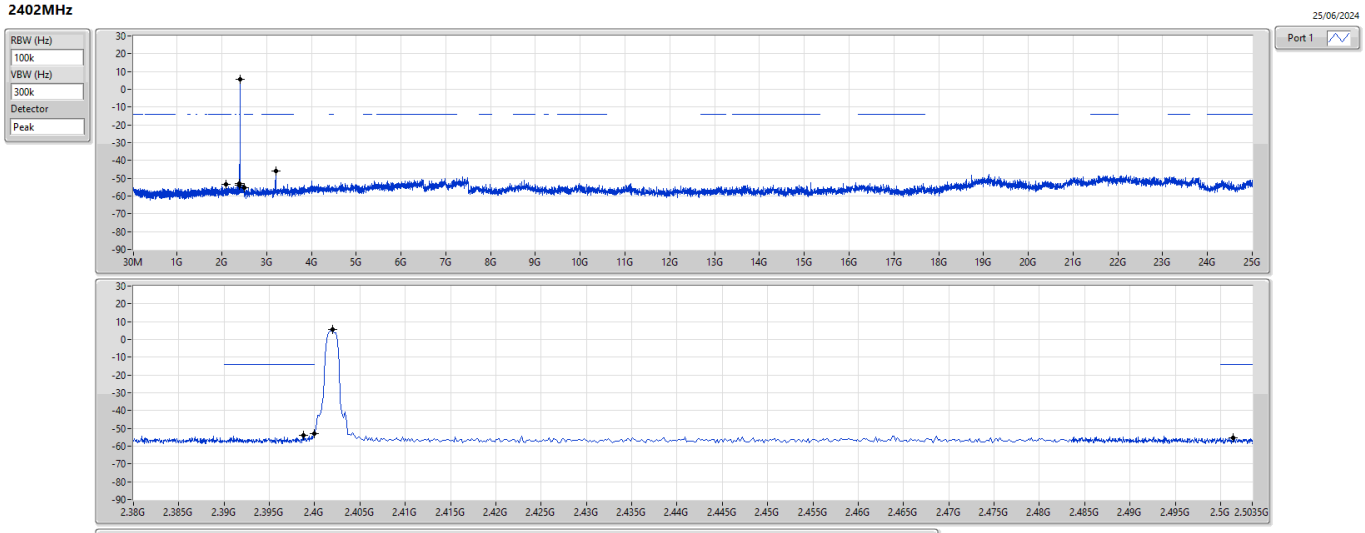
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47999G	7.10	-12.90	1.98168G	-54.73	2.39636G	-54.90	2.4G	-57.42	2.50278G	-54.98	21.77738G	-47.81	1

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

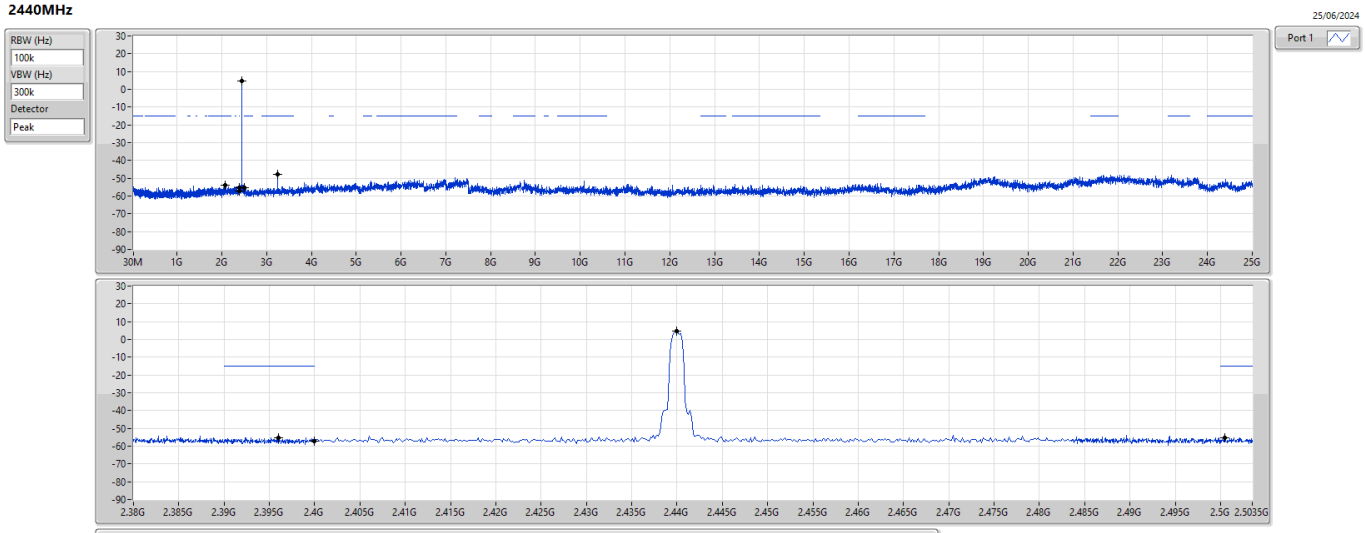
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.402G	5.78	-14.22	2.1027G	-53.26	2.3988G	-53.83	2.4G	-53.08	2.50142G	-55.50	3.20089G	-45.84	1

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

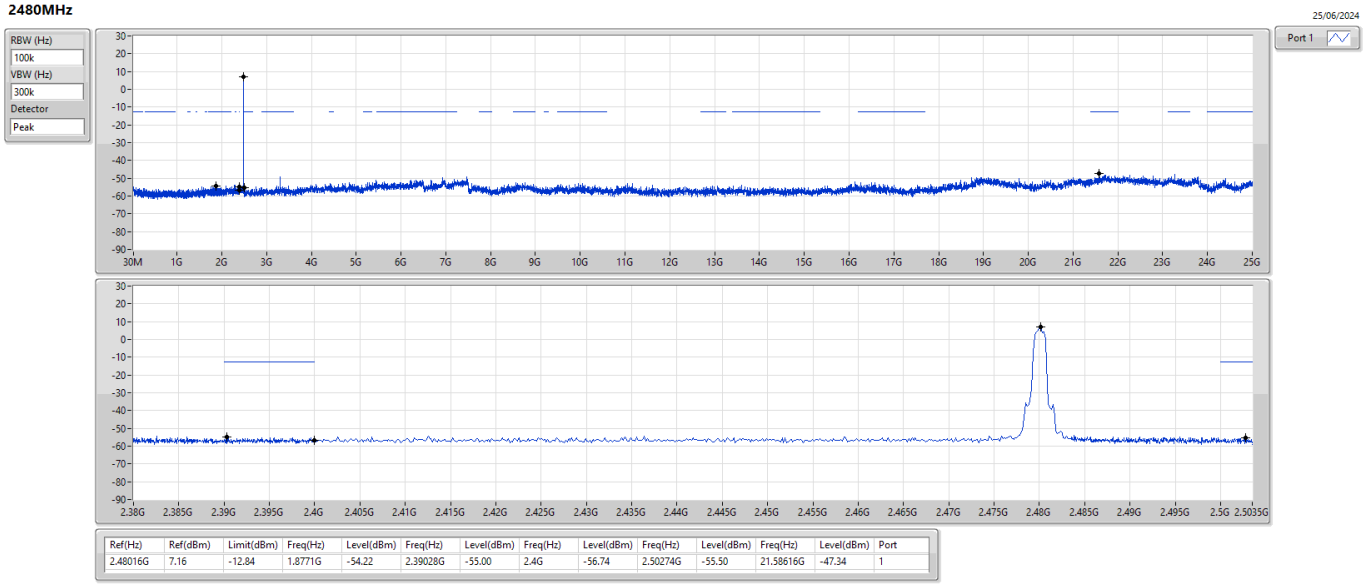
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43991G	4.92	-15.08	2.07803G	-54.13	2.396G	-55.22	2.4G	-57.01	2.50042G	-55.37	3.25151G	-47.98	1

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

2480MHz

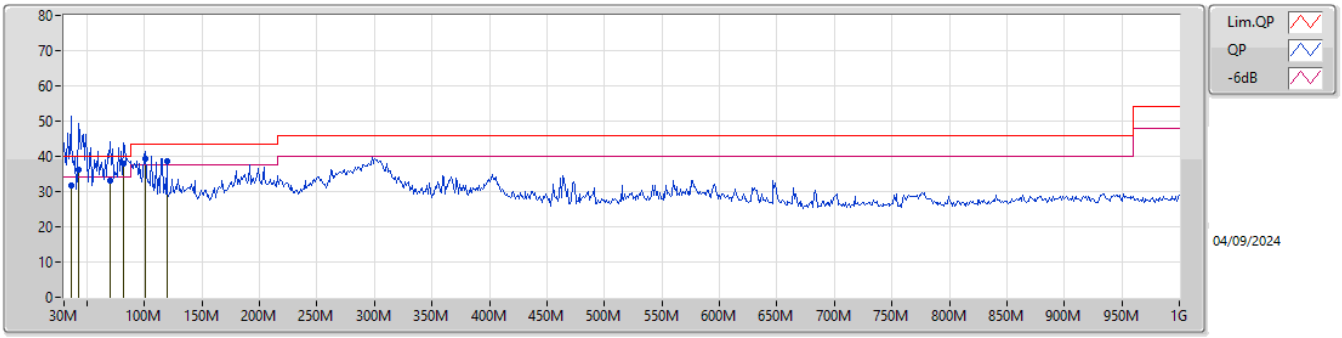


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48016G	7.16	-12.84	1.8771G	-54.22	2.39028G	-55.00	2.4G	-56.74	2.50274G	-55.50	21.58616G	-47.34	1

Summary

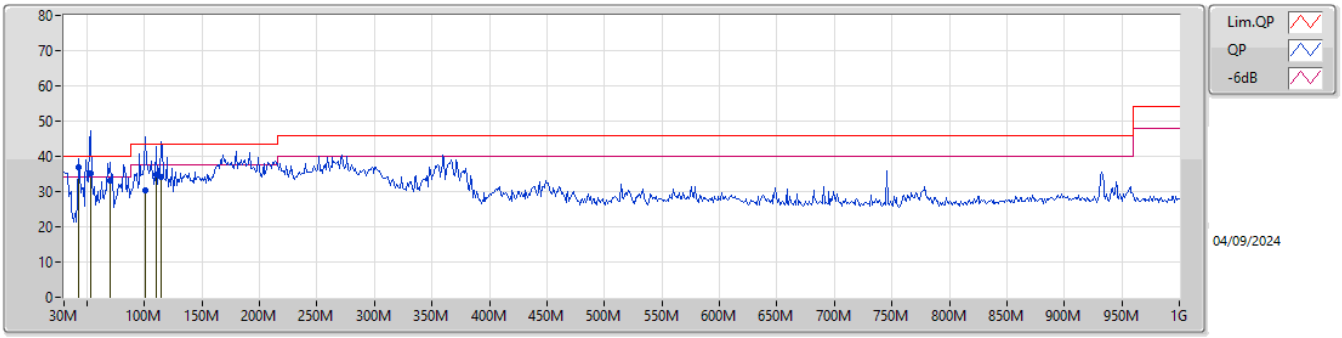
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	81.41M	37.80	40.00	-2.20	Vertical

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
QP	35.82M	31.77	40.00	-8.23	-9.49	3	Vertical	346	1.50	-	41.26	20.79	0.37	30.65
QP	42.61M	36.20	40.00	-3.80	-13.05	3	Vertical	103	2.00	-	49.25	17.18	0.43	30.66
QP	69.77M	33.01	40.00	-6.99	-17.64	3	Vertical	281	2.00	-	50.65	12.45	0.65	30.74
QP	81.41M	37.80	40.00	-2.20	-16.95	3	Vertical	212	1.50	"Worst"	54.75	13.37	0.74	31.06
QP	100.81M	39.33	43.50	-4.17	-12.64	3	Vertical	238	1.50	-	51.97	17.23	0.82	30.69
PK	119.24M	38.45	43.50	-5.05	-11.61	3	Vertical	131	1.00	-	50.06	18.48	0.94	31.03

Mode 1



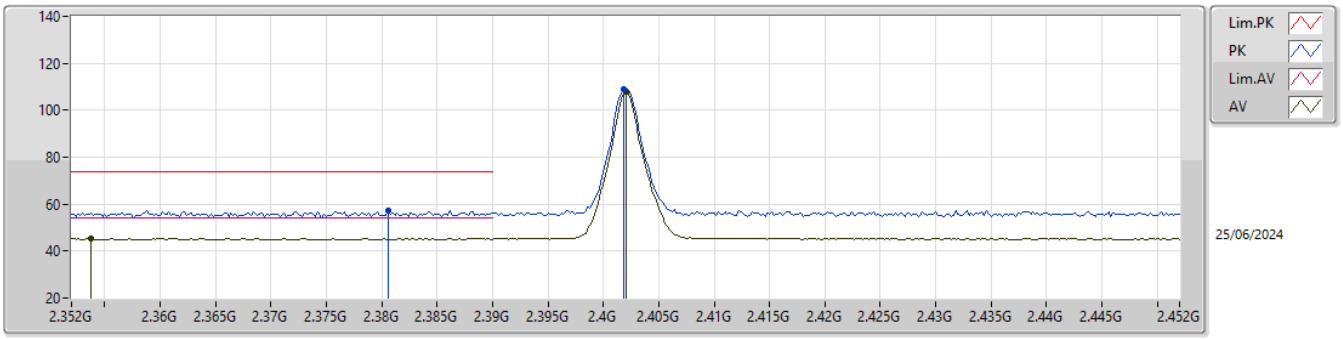
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
QP	42.61M	36.74	40.00	-3.26	-13.05	3	Horizontal	320	2.00	"Worst"	49.79	17.18	0.43	30.66
QP	53.28M	35.22	40.00	-4.78	-17.39	3	Horizontal	185	1.50	-	52.61	13.14	0.55	31.08
QP	69.77M	33.22	40.00	-6.78	-17.64	3	Horizontal	352	2.00	-	50.86	12.45	0.65	30.74
QP	100.81M	30.34	43.50	-13.16	-12.64	3	Horizontal	251	2.00	-	42.98	17.23	0.82	30.69
QP	110.51M	34.86	43.50	-8.64	-11.88	3	Horizontal	267	3.00	-	46.74	18.11	0.88	30.87
QP	114.39M	34.06	43.50	-9.44	-11.73	3	Horizontal	261	3.00	-	45.79	18.30	0.91	30.94

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	AV	2.4835G	53.31	54.00	-0.69	3	Vertical	267	1.92	-

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz_TX

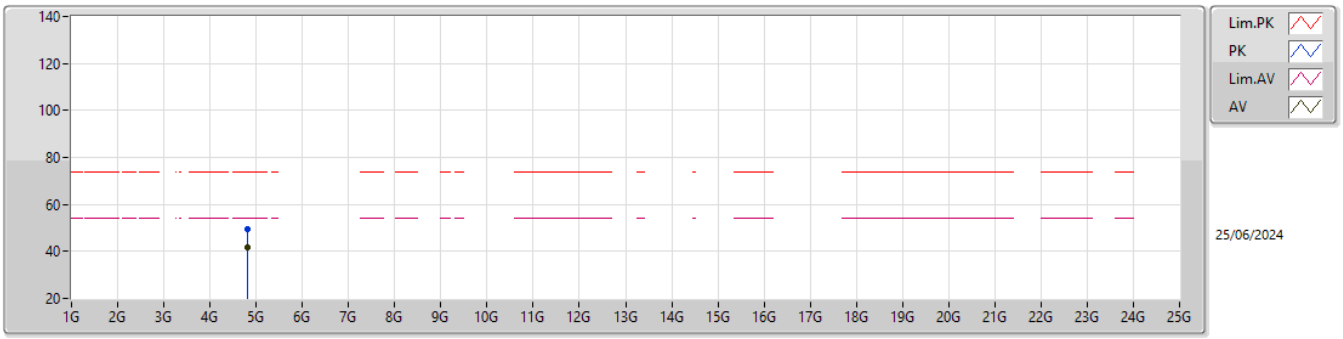


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3806G	57.20	74.00	-16.80	24.63	3	Vertical	266	2.03	-	28.21	4.36	-
AV	2.3538G	45.29	54.00	-8.71	12.82	3	Vertical	266	2.03	-	28.14	4.33	-
PK	2.4018G	108.76	Inf	-Inf	76.08	3	Vertical	266	2.03	-	28.30	4.38	-
AV	2.402G	107.75	Inf	-Inf	75.07	3	Vertical	266	2.03	-	28.30	4.38	-

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz_TX

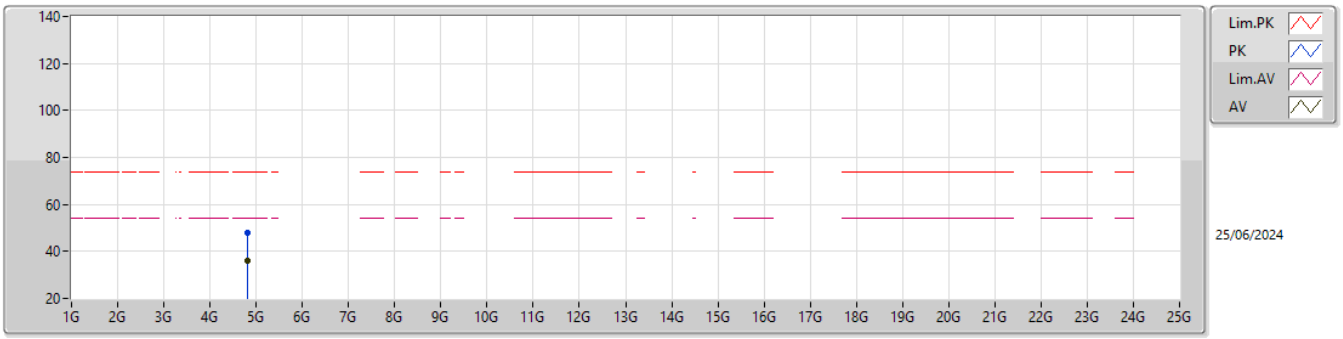


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.8037G	49.35	74.00	-24.65	44.55	3	Vertical	304	1.80	-	33.21	6.27	34.68
AV	4.804G	41.78	54.00	-12.22	36.98	3	Vertical	304	1.80	-	33.21	6.27	34.68

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz_TX

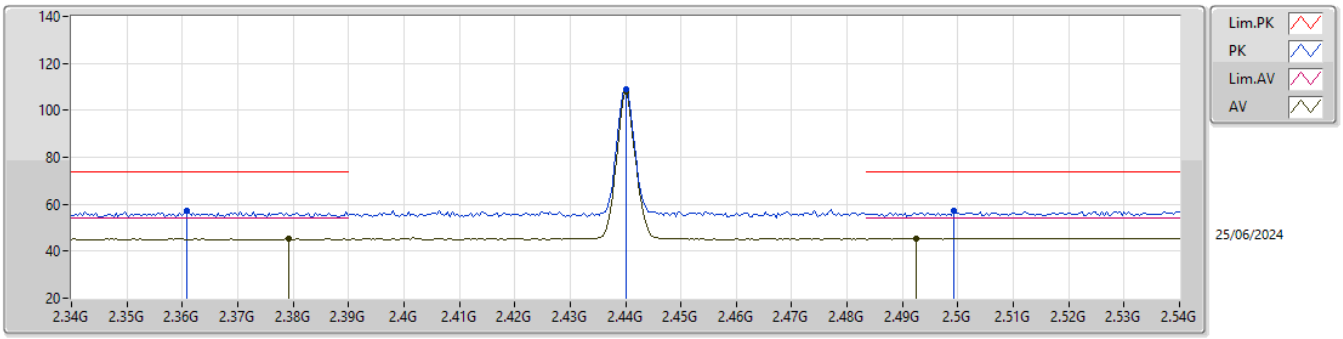


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80418G	48.13	74.00	-25.87	43.33	3	Horizontal	334	1.80	-	33.21	6.27	34.68
AV	4.80382G	35.78	54.00	-18.22	30.98	3	Horizontal	334	1.80	-	33.21	6.27	34.68

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX

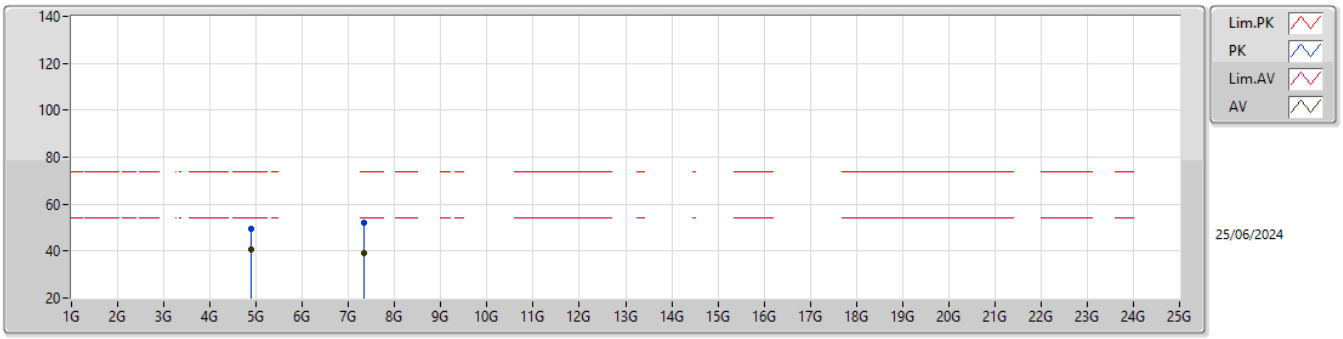


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3608G	56.99	74.00	-17.01	24.45	3	Vertical	261	1.68	-	28.20	4.34	-
AV	2.3792G	45.34	54.00	-8.66	12.78	3	Vertical	261	1.68	-	28.20	4.36	-
PK	2.44G	108.98	Inf	-Inf	76.27	3	Vertical	261	1.68	-	28.30	4.41	-
AV	2.44G	107.94	Inf	-Inf	75.23	3	Vertical	261	1.68	-	28.30	4.41	-
PK	2.4992G	57.16	74.00	-16.84	24.32	3	Vertical	261	1.68	-	28.40	4.44	-
AV	2.4924G	45.43	54.00	-8.57	12.59	3	Vertical	261	1.68	-	28.40	4.44	-

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX

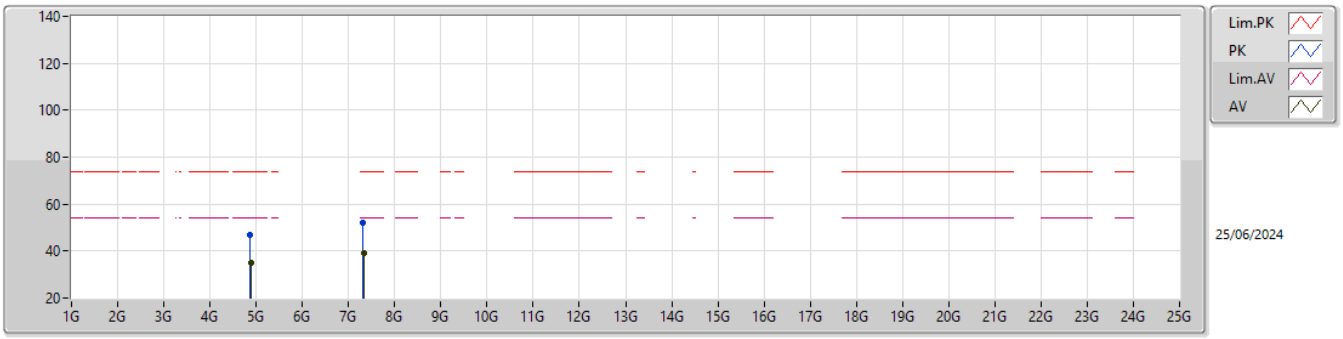


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88042G	49.62	74.00	-24.38	44.63	3	Vertical	316	1.80	-	33.36	6.37	34.74
AV	4.87994G	40.74	54.00	-13.26	35.75	3	Vertical	316	1.80	-	33.36	6.37	34.74
PK	7.3251G	52.08	74.00	-21.92	42.17	3	Vertical	76	1.78	-	36.80	8.48	35.37
AV	7.33116G	39.24	54.00	-14.76	29.31	3	Vertical	76	1.78	-	36.82	8.48	35.37

2.4-2.4835GHz_BT-BR(1Mbps)

2440MHz_TX

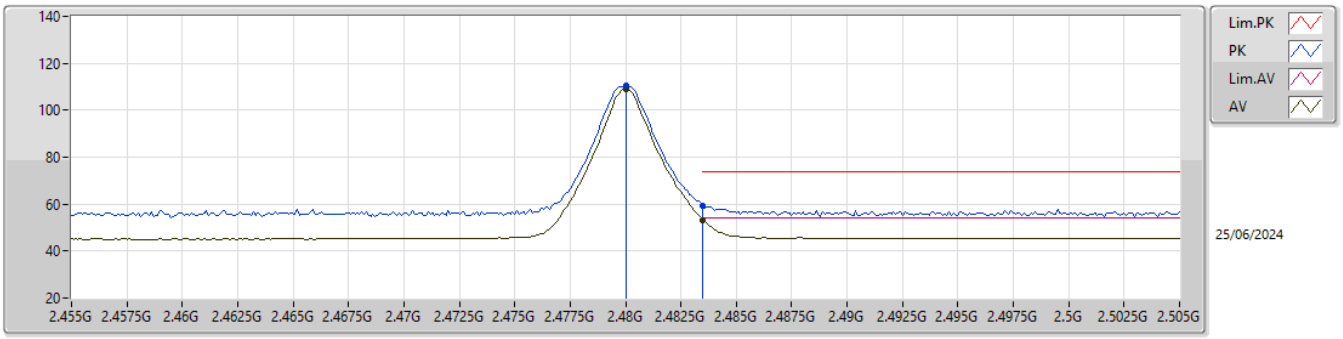


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87112G	46.78	74.00	-27.22	41.81	3	Horizontal	316	1.80	-	33.34	6.36	34.73
AV	4.88G	34.85	54.00	-19.15	29.86	3	Horizontal	316	1.80	-	33.36	6.37	34.74
PK	7.3098G	52.04	74.00	-21.96	42.20	3	Horizontal	230	1.21	-	36.74	8.48	35.38
AV	7.33458G	39.22	54.00	-14.78	29.27	3	Horizontal	230	1.21	-	36.84	8.48	35.37

2.4-2.4835GHz_BT-BR(1Mbps)

2480MHz_TX

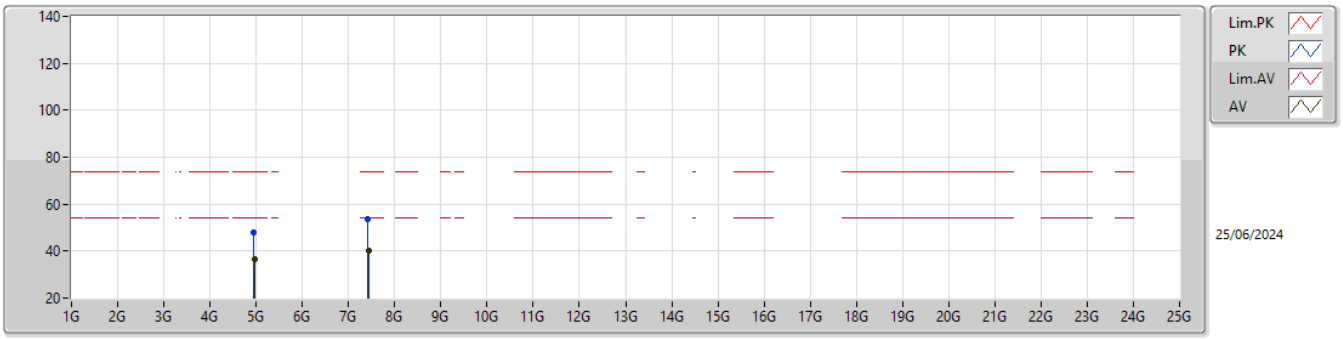


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	110.28	Inf	-Inf	77.55	3	Vertical	267	1.92	-	28.30	4.43	-
AV	2.48G	109.14	Inf	-Inf	76.41	3	Vertical	267	1.92	-	28.30	4.43	-
PK	2.4835G	59.30	74.00	-14.70	26.53	3	Vertical	267	1.92	-	28.34	4.43	-
AV	2.4835G	53.31	54.00	-0.69	20.54	3	Vertical	267	1.92	-	28.34	4.43	-

2.4-2.4835GHz_BT-BR(1Mbps)

2480MHz_TX

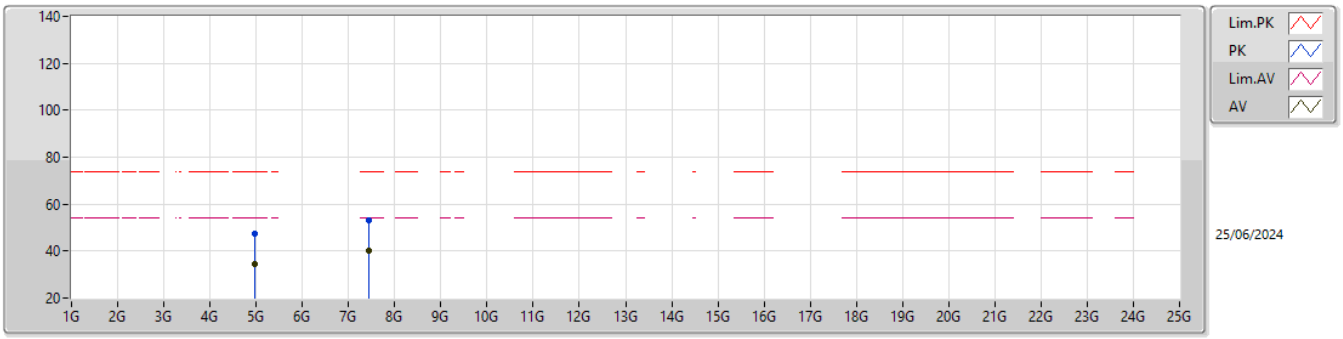


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9537G	48.10	74.00	-25.90	42.81	3	Vertical	322	1.72	-	33.60	6.48	34.79
AV	4.95988G	36.56	54.00	-17.44	31.28	3	Vertical	322	1.72	-	33.60	6.48	34.80
PK	7.42668G	53.39	74.00	-20.61	43.33	3	Vertical	-0	1.80	-	36.85	8.52	35.31
AV	7.43646G	40.26	54.00	-13.74	30.21	3	Vertical	-0	1.80	-	36.83	8.53	35.31

2.4-2.4835GHz_BT-BR(1Mbps)

2480MHz_TX

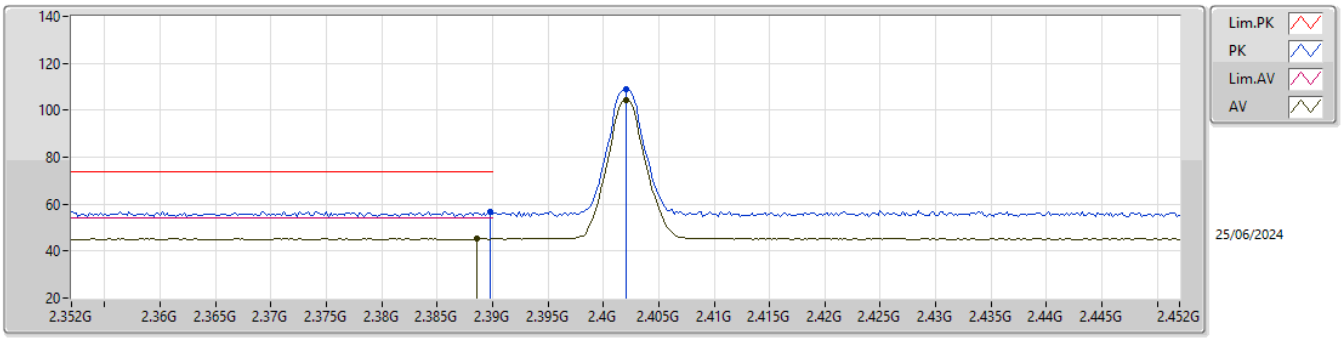


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9729G	47.37	74.00	-26.63	42.08	3	Horizontal	358	1.62	-	33.60	6.50	34.81
AV	4.96336G	34.40	54.00	-19.60	29.11	3	Horizontal	358	1.62	-	33.60	6.49	34.80
PK	7.4409G	52.96	74.00	-21.04	42.91	3	Horizontal	299	1.60	-	36.82	8.53	35.30
AV	7.42818G	40.24	54.00	-13.76	30.19	3	Horizontal	299	1.60	-	36.84	8.52	35.31

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz_TX

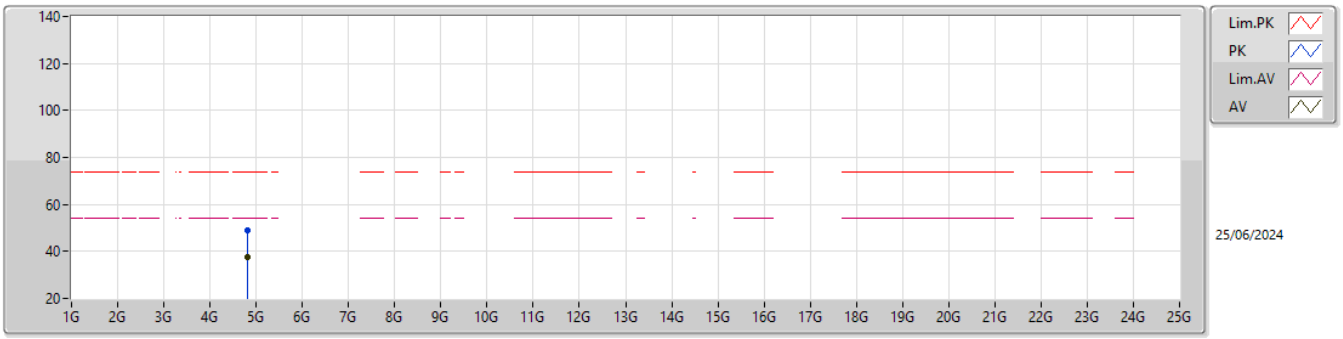


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3898G	56.92	74.00	-17.08	24.25	3	Vertical	293	2.28	-	28.30	4.37	-
AV	2.3886G	45.31	54.00	-8.69	12.65	3	Vertical	293	2.28	-	28.29	4.37	-
PK	2.402G	108.85	Inf	-Inf	76.17	3	Vertical	293	2.28	-	28.30	4.38	-
AV	2.402G	104.54	Inf	-Inf	71.86	3	Vertical	293	2.28	-	28.30	4.38	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz_TX

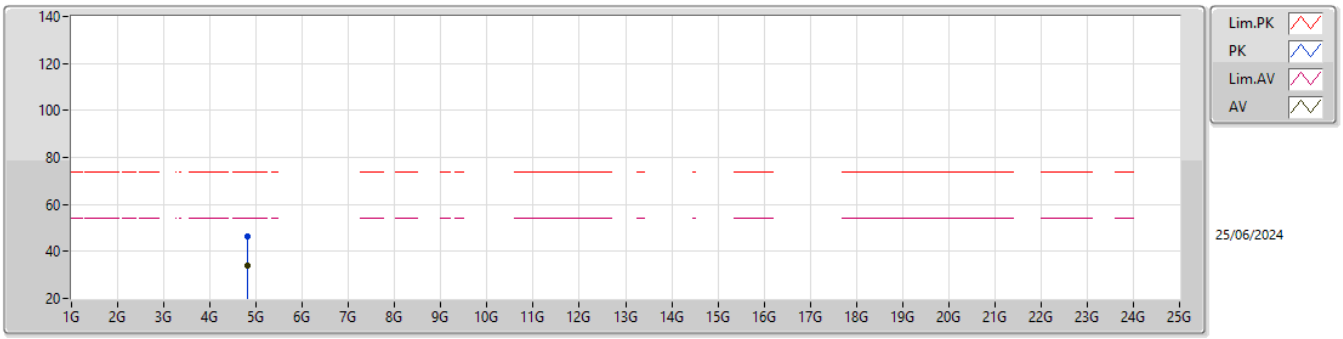


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.804G	48.78	74.00	-25.22	43.98	3	Vertical	306	1.80	-	33.21	6.27	34.68
AV	4.80412G	37.50	54.00	-16.50	32.70	3	Vertical	306	1.80	-	33.21	6.27	34.68

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz_TX

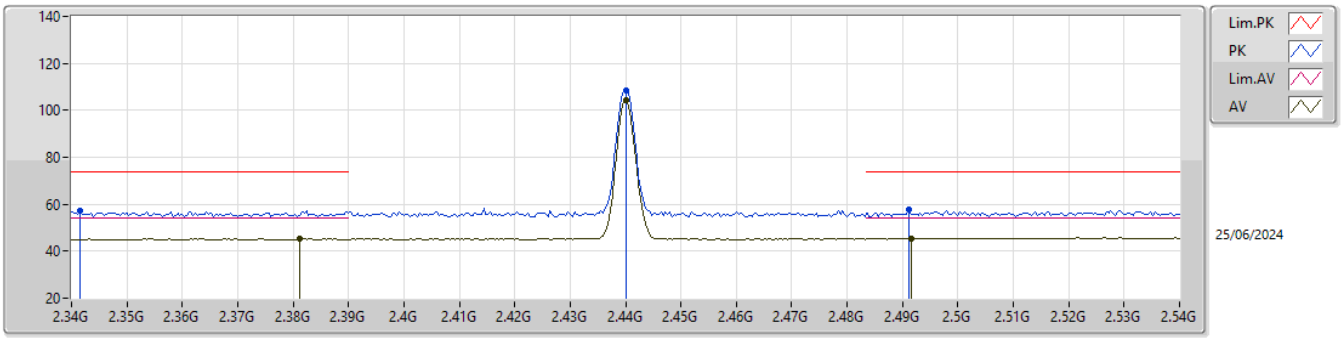


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80766G	46.42	74.00	-27.58	41.61	3	Horizontal	315	1.80	-	33.22	6.27	34.68
AV	4.80388G	33.97	54.00	-20.03	29.17	3	Horizontal	315	1.80	-	33.21	6.27	34.68

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz_TX

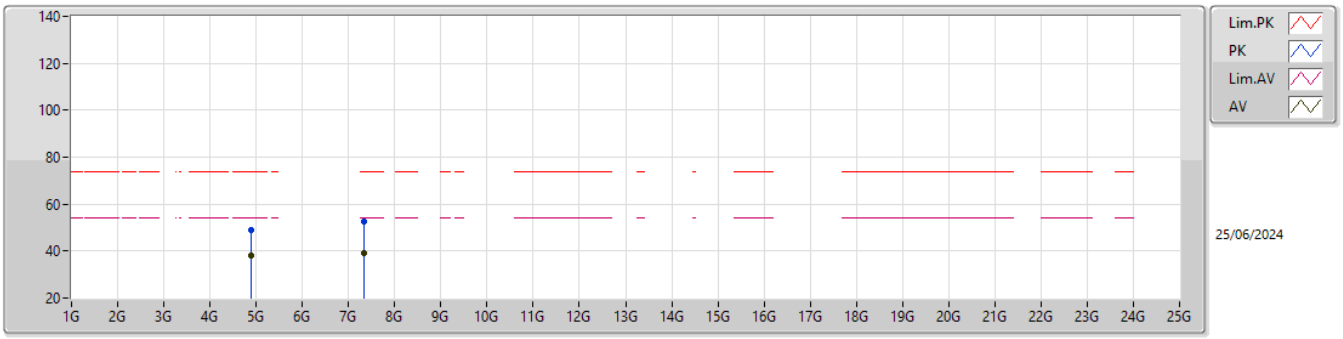


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3416G	57.06	74.00	-16.94	24.64	3	Vertical	262	1.87	-	28.10	4.32	-
AV	2.3812G	45.22	54.00	-8.78	12.65	3	Vertical	262	1.87	-	28.21	4.36	-
PK	2.44G	108.54	Inf	-Inf	75.83	3	Vertical	262	1.87	-	28.30	4.41	-
AV	2.44G	104.36	Inf	-Inf	71.65	3	Vertical	262	1.87	-	28.30	4.41	-
PK	2.4912G	57.58	74.00	-16.42	24.74	3	Vertical	262	1.87	-	28.40	4.44	-
AV	2.4916G	45.54	54.00	-8.46	12.70	3	Vertical	262	1.87	-	28.40	4.44	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz_TX

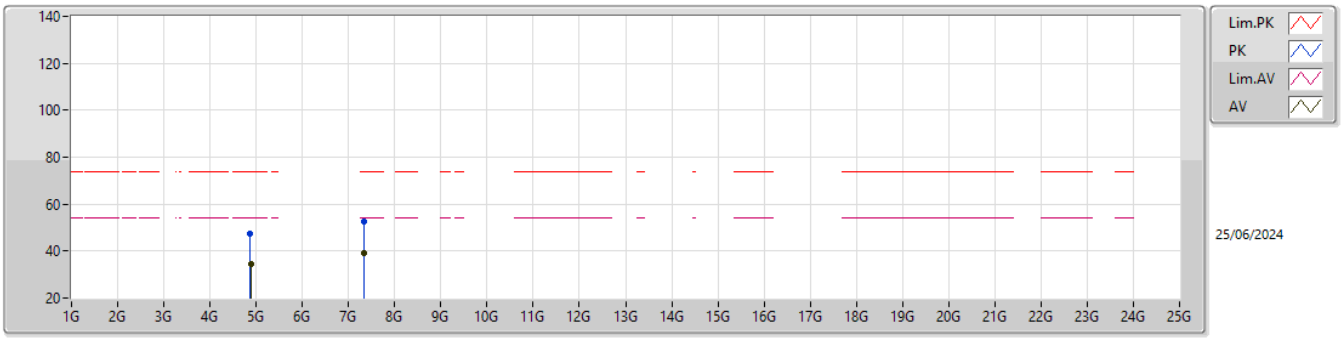


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88024G	49.00	74.00	-25.00	44.01	3	Vertical	316	1.80	-	33.36	6.37	34.74
AV	4.87982G	38.15	54.00	-15.85	33.16	3	Vertical	316	1.80	-	33.36	6.37	34.74
PK	7.32732G	52.45	74.00	-21.55	42.53	3	Vertical	352	1.91	-	36.81	8.48	35.37
AV	7.32852G	39.23	54.00	-14.77	29.31	3	Vertical	352	1.91	-	36.81	8.48	35.37

2.4-2.4835GHz_BT-EDR(3Mbps)

2440MHz_TX

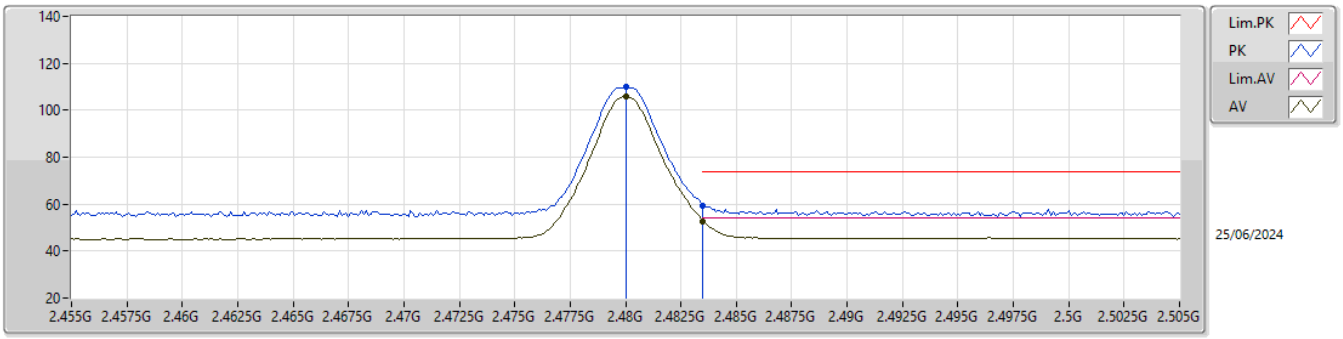


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87184G	47.18	74.00	-26.82	42.21	3	Horizontal	342	1.16	-	33.34	6.36	34.73
AV	4.87988G	34.57	54.00	-19.43	29.58	3	Horizontal	342	1.16	-	33.36	6.37	34.74
PK	7.32264G	52.39	74.00	-21.61	42.49	3	Horizontal	47	2.77	-	36.79	8.48	35.37
AV	7.33104G	39.19	54.00	-14.81	29.26	3	Horizontal	47	2.77	-	36.82	8.48	35.37

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX

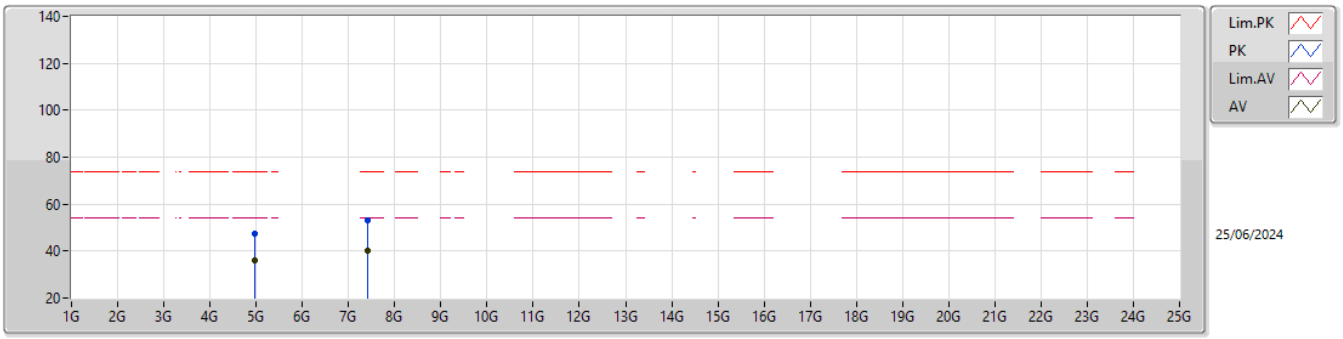


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	109.79	Inf	-Inf	77.06	3	Vertical	265	1.93	-	28.30	4.43	-
AV	2.48G	105.72	Inf	-Inf	72.99	3	Vertical	265	1.93	-	28.30	4.43	-
PK	2.4835G	59.20	74.00	-14.80	26.43	3	Vertical	265	1.93	-	28.34	4.43	-
AV	2.4835G	52.82	54.00	-1.18	20.05	3	Vertical	265	1.93	-	28.34	4.43	-

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX

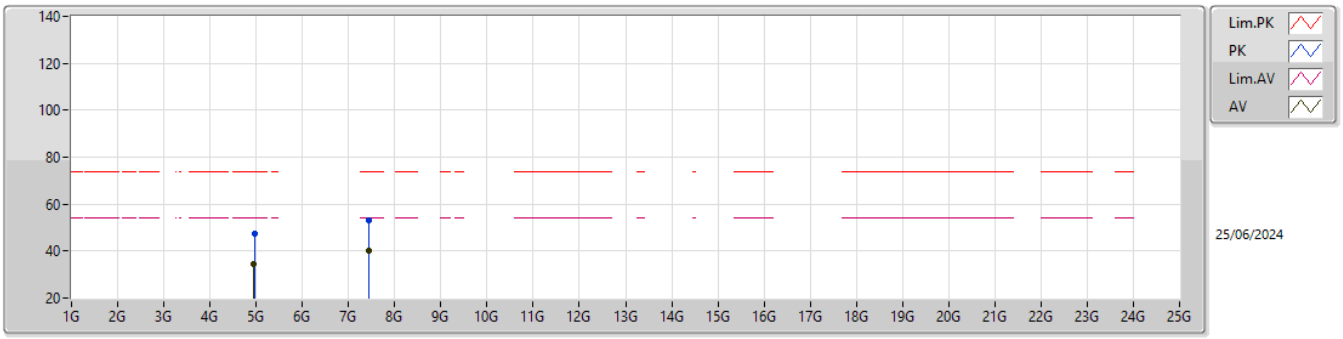


EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9604G	47.37	74.00	-26.63	42.09	3	Vertical	314	1.73	-	33.60	6.48	34.80
AV	4.96G	35.99	54.00	-18.01	30.71	3	Vertical	314	1.73	-	33.60	6.48	34.80
PK	7.4228G	53.36	74.00	-20.64	43.30	3	Vertical	236	1.80	-	36.85	8.52	35.31
AV	7.4265G	40.14	54.00	-13.86	30.08	3	Vertical	236	1.80	-	36.85	8.52	35.31

2.4-2.4835GHz_BT-EDR(3Mbps)

2480MHz_TX



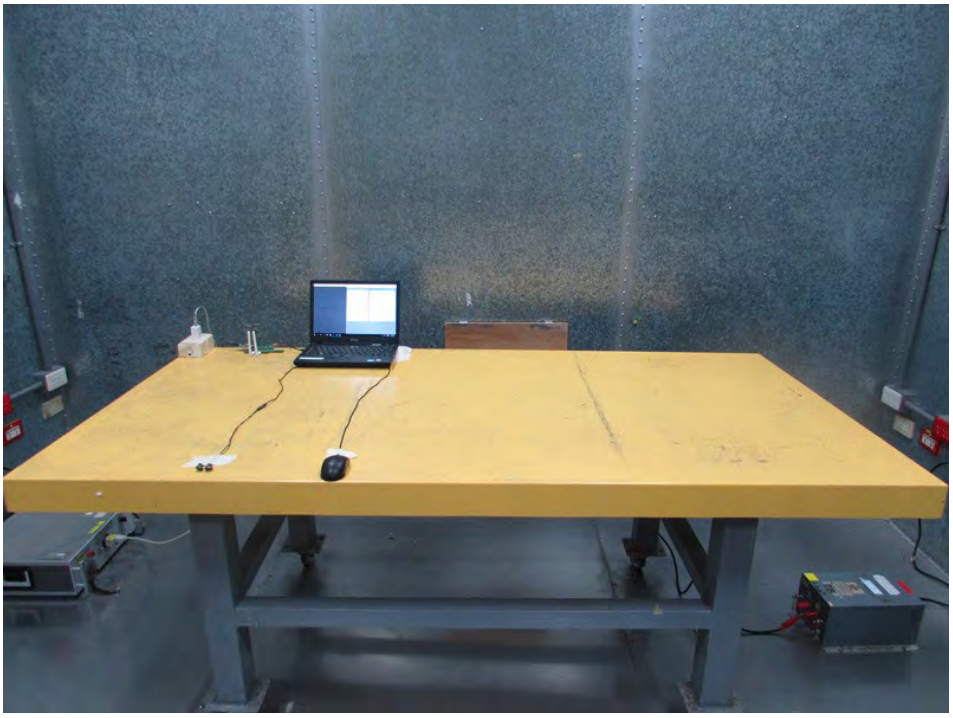
EUT Y_1TX
Setting 0
03-C-E-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9568G	47.29	74.00	-26.71	42.01	3	Horizontal	219	1.80	-	33.60	6.48	34.80
AV	4.9454G	34.36	54.00	-19.64	29.11	3	Horizontal	219	1.80	-	33.58	6.46	34.79
PK	7.4518G	53.18	74.00	-20.82	43.14	3	Horizontal	338	1.34	-	36.80	8.54	35.30
AV	7.4337G	40.23	54.00	-13.77	30.18	3	Horizontal	338	1.34	-	36.83	8.53	35.31

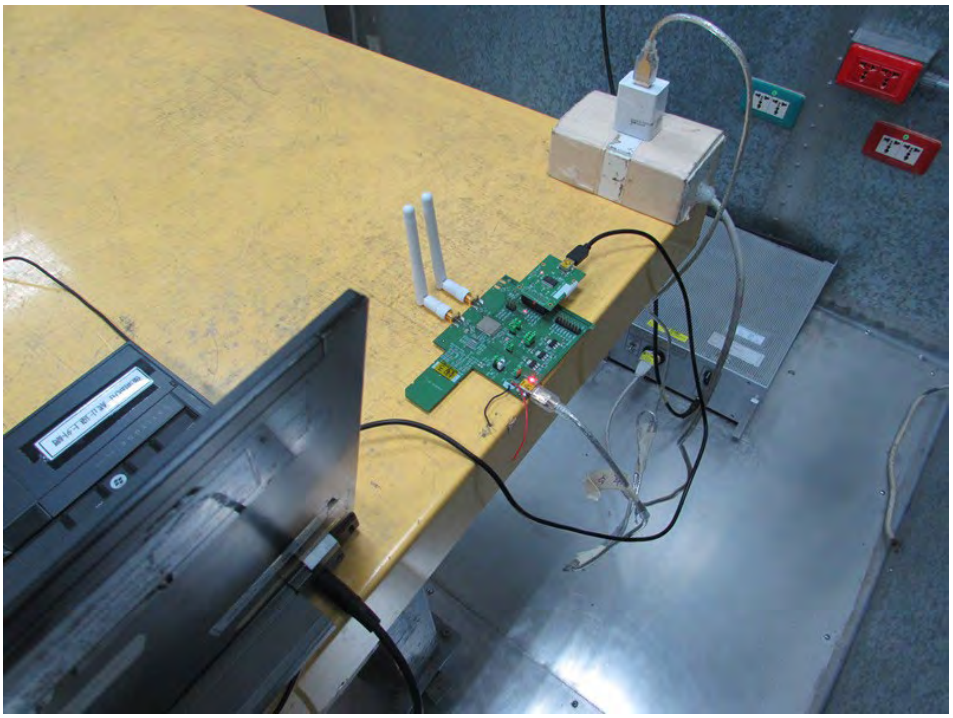
1. Photographs of Conducted Emissions Test Configuration

Test mode: Mode 1

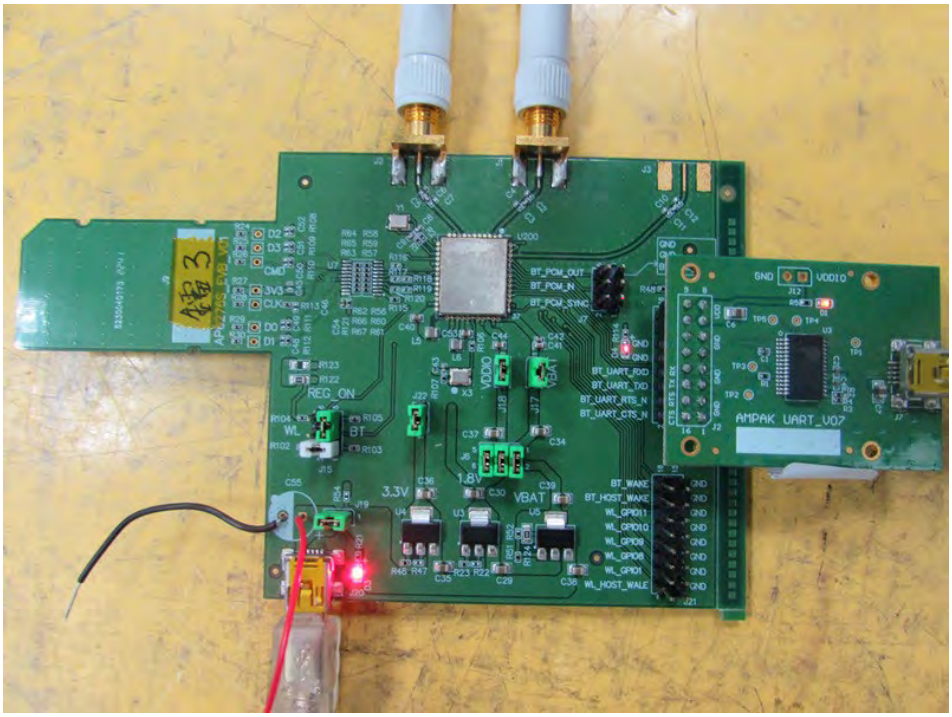
FRONT VIEW



REAR VIEW



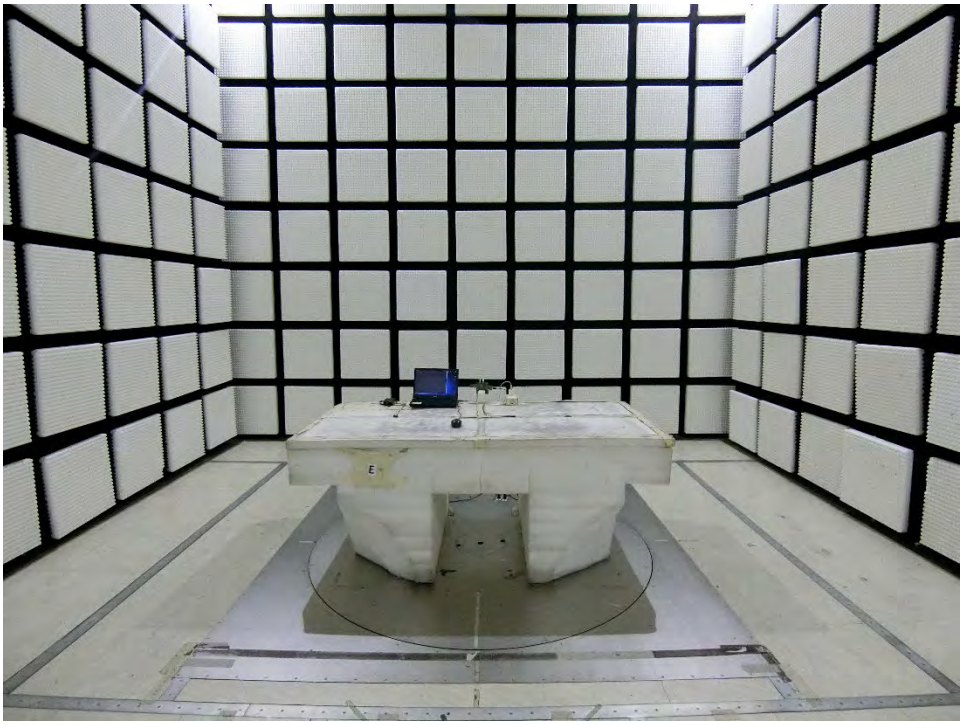
CLOSE-UP VIEW



2. Photographs of Radiated Emissions Test Configuration

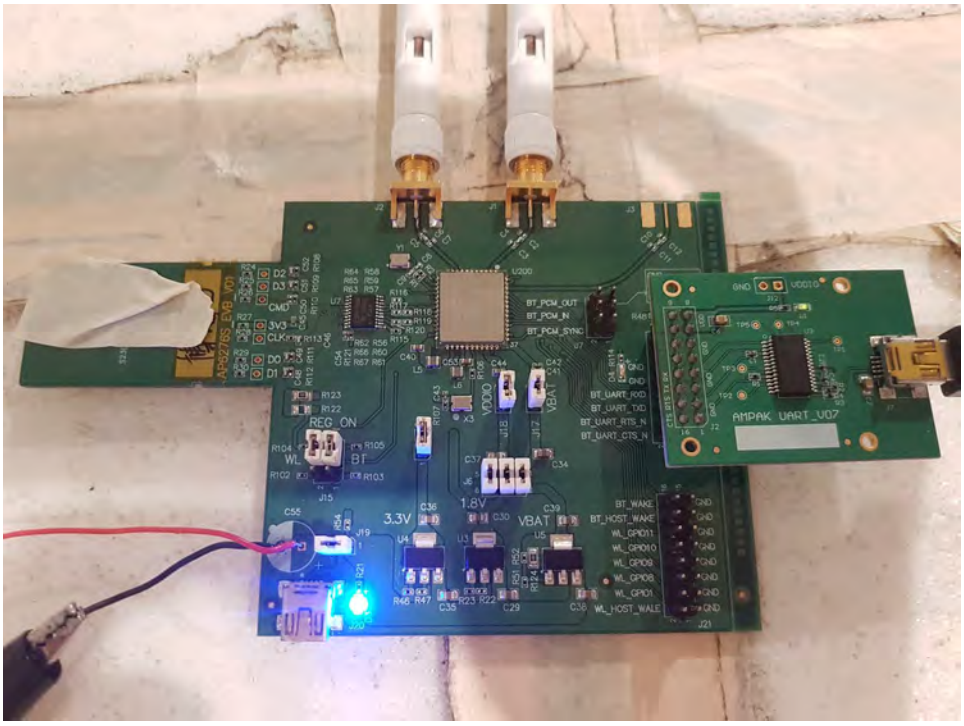
Test Configuration: 30MHz~1GHz / Test mode: Mode 1

FRONT VIEW



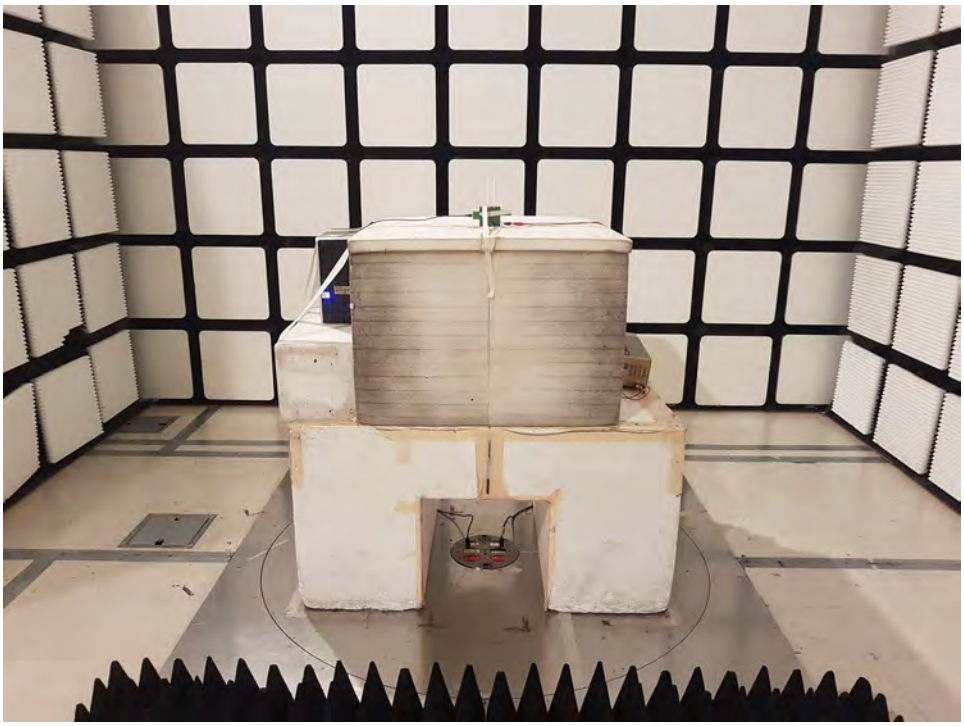
REAR VIEW

CLOSE-UP VIEW

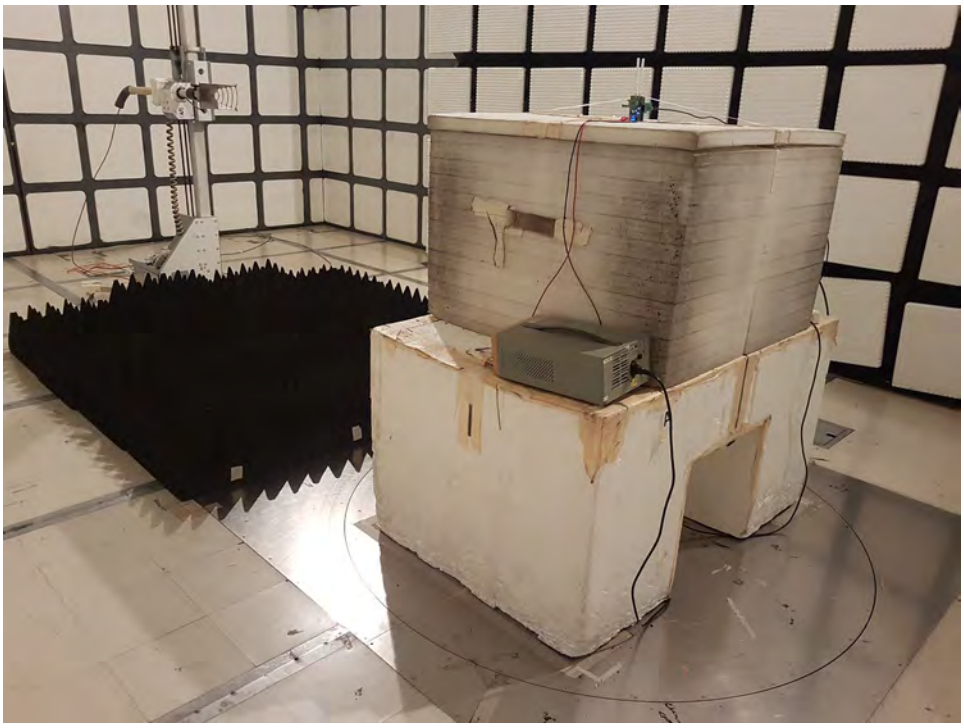


Test Configuration: Above 1GHz

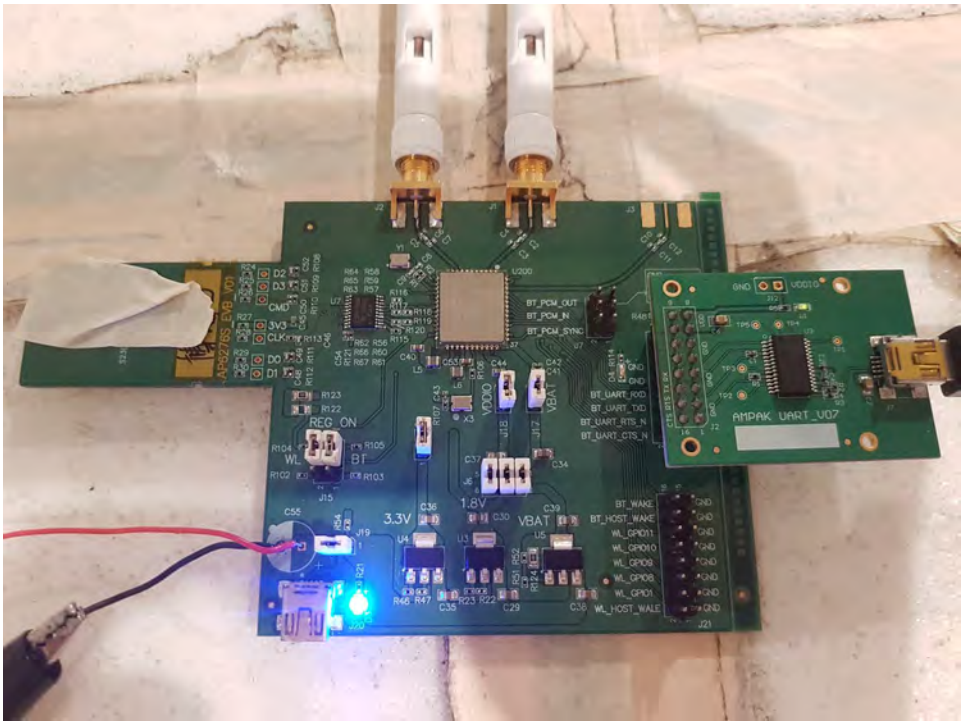
FRONT VIEW



REAR VIEW



CLOSE-UP VIEW



———THE END———