Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	UDX-60072010
Equipment	:	SMART Camera
Brand Name	:	CISCO
Model Name	:	MV93X-HW, MV93-HW
Applicant	:	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134 USA
Manufacturer	:	Cisco Systems, Inc. 170 West Tasman Drive, San Jose, CA 95134 USA
Standard	:	47 CFR FCC Part 15.247

The product was received on Aug. 25, 2022, and testing was started from Sep. 08, 2022 and completed on Oct. 11, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Approved by: Sam Chen

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

Table of Contents

Appendix I. Test Photos

Photographs of EUT v01

History of this test report

Report No.	Version	Description	Issued Date
FR282322AB	01	Initial issue of report	Nov. 01, 2022

Summary of Test Result

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

Declaration of Conformity:

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

Comments and Explanations:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen
Report Producer: Vicky Huang

1 General Description

1.1 Information

1.1.1 RF General Information

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

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

Note:
- Bluetooth BR uses a GFSK (1Mbps).
- Bluetooth EDR uses a combination of π/4-DQPSK (2Mbps) and 8DPSK (3Mbps).
- Bluetooth BR/EDR uses as a system using FHSS modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	2.4GHz	5GHz	Bluetooth					
1	1	1	-	Sercomm	617211LR	PIFA Antenna	I-PEX	Note
2	2	2	1	Sercomm	617211LQ	PIFA Antenna	I-PEX	

Ant.	Antenna Gain (dBi)					
	WLAN 2.4GHz	WLAN 5GHz UNII 1	WLAN 5GHz UNII 2A	WLAN 5GHz UNII 2C	WLAN 5GHz UNII 3	Bluetooth
1	6.49	6.34	6.34	6.23	5.13	-
2	2.86	5.26	5.26	5.58	5.05	2.86

Note: The above information was declared by manufacturer.

For 2.4GHz function:

For IEEE 802.11b/g/n/VHT mode (1TX/1RX):

The EUT supports the antenna with TX/RX diversity function.

Both Port 1 and Port 2 can be used as transmitting/receiving antennas, but only one of them is used as transmitting/receiving antenna.

The Port 1 generated the worst case, so it was selected to test and record in the report.

For 5GHz function:

For IEEE **802.11a/n/ac mode (1TX/1RX)**

The EUT supports the antenna with TX/RX diversity function.

Both Port 1 and Port 2 can be used as transmitting/receiving antennas, but only one of them is used as transmitting/receiving antenna

The Port 1 generated the worst case, so it was selected to test and record in the report.

For Bluetooth function

For Bluetooth mode (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)	0.785	1.05	2.89m	1k
BT-EDR(2Mbps)	0.742	1.3	2.891m	1k
BT-EDR(3Mbps)	0.785	1.05	2.89m	1k

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

1.1.4 EUT Operational Condition

EUT Power Type	From PoE
Test Software Version	QRCT V4.0.72.1

1.1.5 Table for Multiple Listing

The EUT has two model names which are identical to each other in all aspects except for the following table

EUT	Model Name	Memory
1	MV93X-HW	1TB
2	MV93-HW	256GB

Note 1: From the above, EUT 1 has selected to execute all test items and EUT 2 has selected to execute the Emissions in Restricted Frequency Bands Below 1GHz tests.

Note 2: The above information was declared by manufacturer.

1.2 Applicable Standards

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

- 47 CFR FCC Part 15.247

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

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

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH02-CB	Jay Lo	23.9~24.2 / 58-65	Sep. 15, 2022
Radiated (below 1GHz)	03CH05-CB	Simmon Cheng	24.4-25.5 / 55-58	Sep. 15, 2022~ Sep. 29, 2022
Radiated (above 1GHz)	03CH05-CB	Simmon Cheng	24.4-25.5 / 55-58	Sep. 08, 2022~ Sep. 15, 2022
Radiated (co-location)	03CH05-CB	Simmon Cheng	24.4-25.5 / 55-58	Oct. 11, 2022
AC Conduction	CO01-CB	Elvin Yeh	23~24 / 56~57	Sep. 21, 2022

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.7 dB	Confidence levels of 95%
Conducted Emission	3.2 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.2 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	9
BT-EDR(2Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	9
BT-EDR(3Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	9

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 1+LAN mode-Day mode+Bluetooth+PoE 1
2	EUT 1+LAN mode-Night mode+Bluetooth+PoE 1
Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 ~ 6 will follow this same test mode.	
3	EUT 1+WLAN 2.4GHz mode-Day mode+Bluetooth+PoE 1
4	EUT 1+WLAN 2.4GHz mode-Day mode+Bluetooth+PoE 2
5	EUT 1+WLAN 5GHz mode-Day mode+Bluetooth+PoE 1
6	EUT 1+WLAN 5GHz mode-Day mode+Bluetooth+PoE 2
For operating mode 1 is the worst case and it was record in this test report.	

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT 1 at Z-axis +LAN mode-Day mode+Bluetooth+PoE 1
2	EUT 1 at Y-axis +LAN mode-Day mode+Bluetooth+PoE 1
3	EUT 1 at X-axis +LAN mode-Day mode+Bluetooth+PoE 1
Mode 1 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 will follow this same test mode.	
4	EUT 1 at Z-axis +LAN mode-Night mode +Bluetooth+PoE 1

Mode 4 has been evaluated to be the worst case among Mode 1~4, thus measurement for Mode 5 ~ 8 will follow this same test mode.	
5	EUT 1 at Z-axis +WLAN 2.4GHz mode-Night mode +Bluetooth+PoE 1
6	EUT 1 at Z-axis +WLAN 2.4GHz mode-Night mode +Bluetooth+PoE 2
7	EUT 1 at Z-axis +WLAN 5GHz mode-Night mode +Bluetooth+PoE 1
8	EUT 1 at Z-axis +WLAN 5GHz mode-Night mode +Bluetooth+PoE 2
Mode 4 has been evaluated to be the worst case among Mode 1~8, thus measurement for Mode 9 will follow this same test mode.	
9	EUT 2 at Z-axis +LAN mode-Night mode +Bluetooth+PoE 1
For operating mode 4 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position. The worst case was found at Y axis, so it was selected to perform test and its test result was written in the report.	
1	EUT 1 in Y axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Z axis. So the measurement will follow this same test configuration.	
1	EUT 1 in Z axis-WLAN 2.4GHz+Bluetooth
2	EUT 1 in Z axis-WLAN 5GHz+Bluetooth
For operating mode 2 is the worst case and it was record in this test report.	
Refer to Appendix H for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT 1-WLAN 2.4GHz+Bluetooth
2	EUT 1-WLAN 5GHz+Bluetooth
Refer to Sporton Test Report No.: FA282322 for Co-location RF Exposure Evaluation.	

Note: The PoE are for measurement only, would not be marketed.
PoEs information as below:

Support Unit	Brand Name	Model Name
PoE 1	PHIHONG	POEA33U-1ATE
PoE 2	Cisco	MA-PWR-MV-LV

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

Wall-mounted rack*4

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	1G LAN1 NB	DELL	E6430	N/A
B	PoE 1	PHIHONG	POEA33U-1ATE	N/A
C	iPhone 4	Apple	A1332	N/A
D	AP Router	ASUS	RP-N53	MSQ-RPN53

For Radiated (below 1GHz):

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	Lenovo	L440	N/A
B	WLAN AP	Netgear	R7500	PY314300288
C	Phone	SAMPO	HT-B 907WL	N/A
D	PoE 1	PHIHONG	POEA33U-1ATE	N/A

For Radiated (above 1GHz):

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	DELL	E4300	N/A
B	PoE 1	PHIHONG	POEA33U-1ATE	N/A

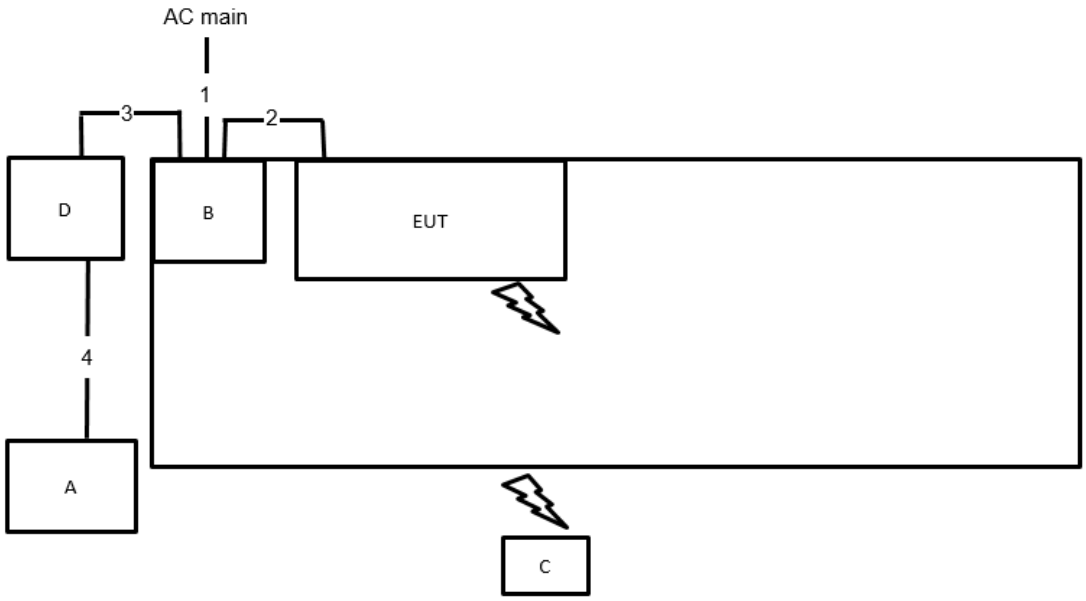
For RF Conducted:

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

B	PoE 1	PHIHONG	POEA33U-1ATE	N/A

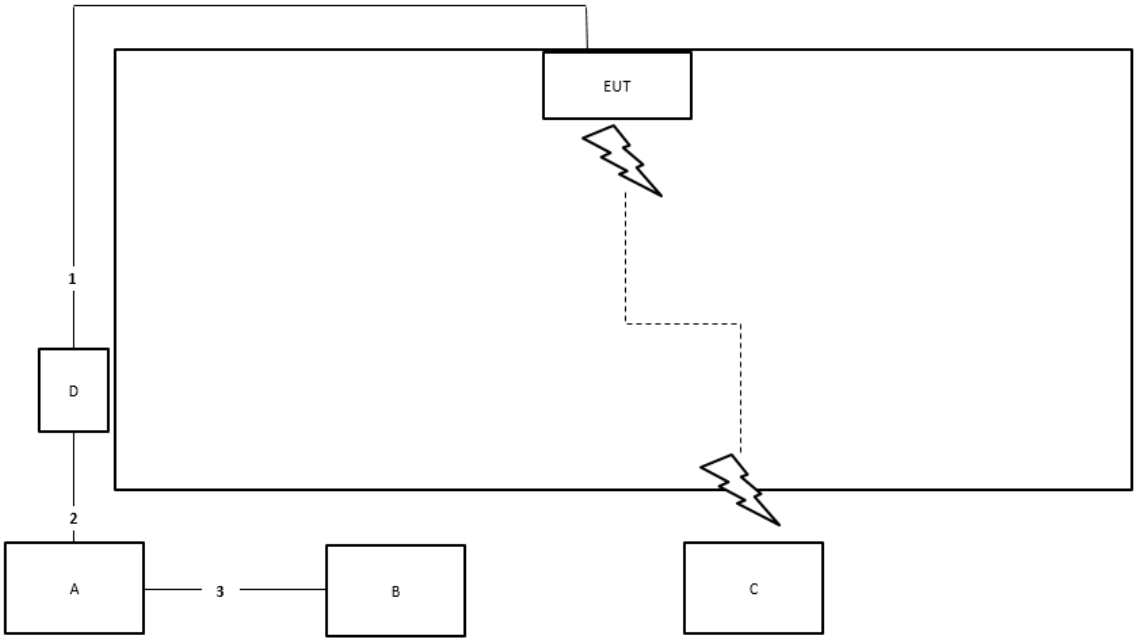
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



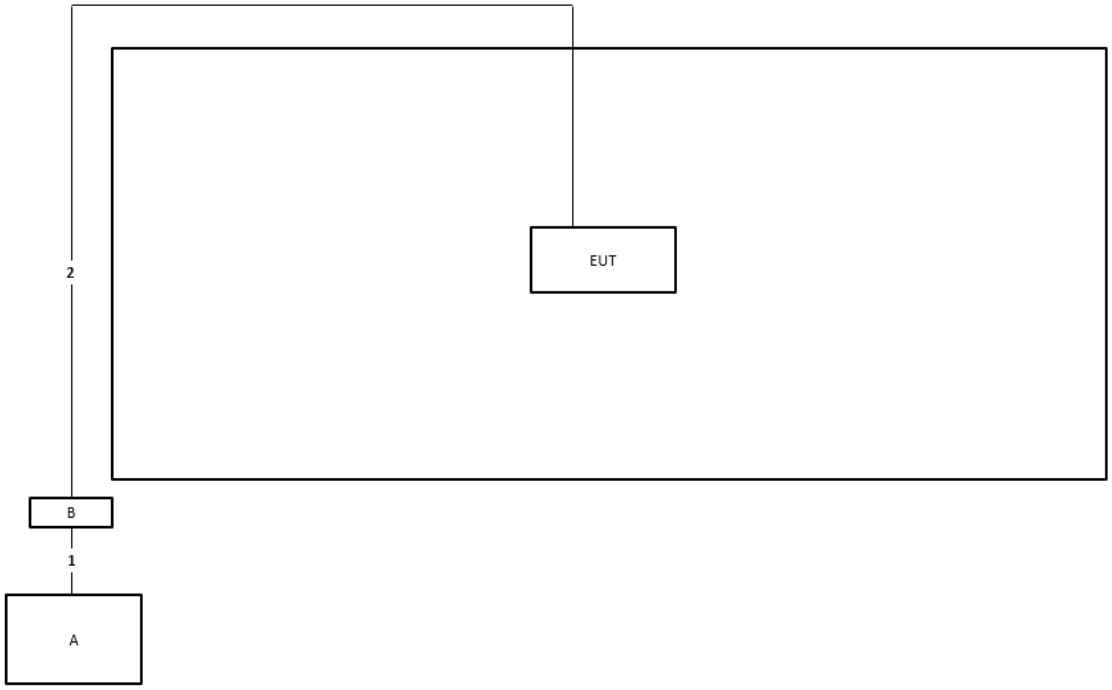
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	1.5m

Test Setup Diagram - Radiated Test < 1GHz



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

Test Setup Diagram - Radiated Test > 1GHz



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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

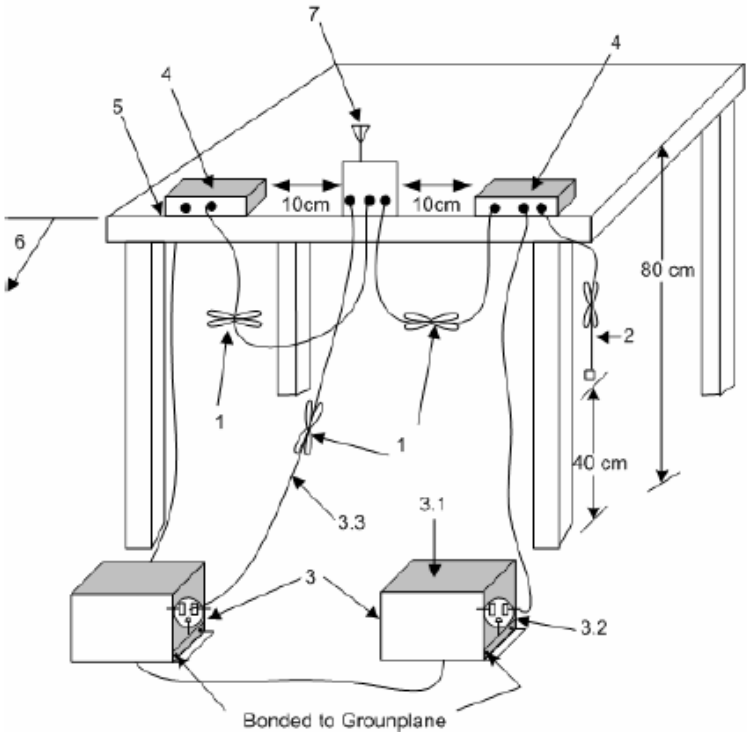
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



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

1.1.1. Measurement Results Calculation

The measured Level is calculated using:

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

b. Margin = -Limit + Level

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

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

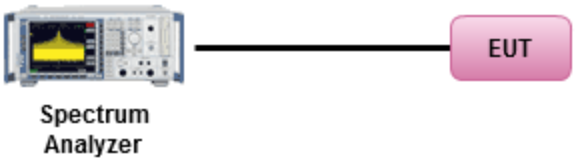
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup

20dB Bandwidth and Carrier Frequency Separation
 Spectrum Analyzer

3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup

Maximum Conducted Output Power (Peak Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Number of Hopping Frequencies and Hopping Bandedge

3.4.1 Number of Hopping Frequencies Limit

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

3.4.2 Hopping Bandedge Limit

Refer clause 3.6.1 and clause 3.7.1

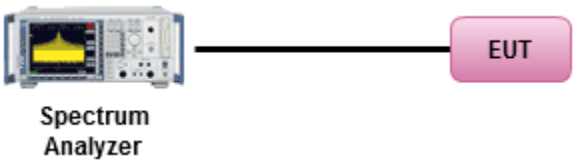
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

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

3.4.5 Test Setup

Number of Hopping Frequencies and Hopping Frequencies Bandedge


3.4.6 Test Result of Number of Hopping Frequencies

Refer as Appendix D

3.4.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix D

3.5 Time of Occupancy (Dwell Time)

3.5.1 Time of Occupancy (Dwell Time) Limit

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

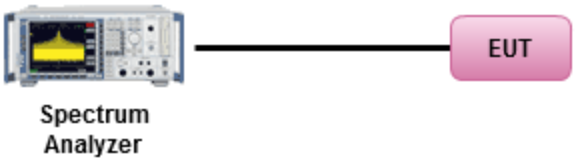
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup

Time of Occupancy (Dwell Time)


3.5.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix E

3.6 Emissions in Non-restricted Frequency Bands

3.6.1 Emissions in Non-restricted Frequency Bands Limit

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

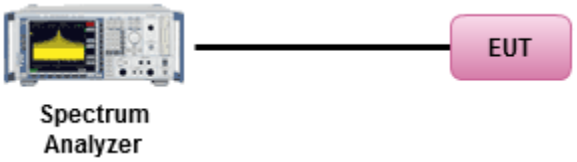
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.6.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix F

3.7 Emissions in Restricted Frequency Bands

3.7.1 Emissions in Restricted Frequency Bands Limit

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

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

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

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

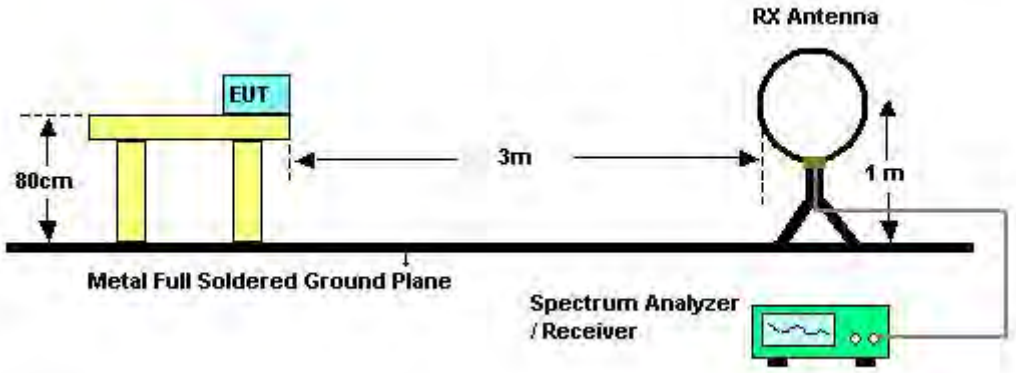
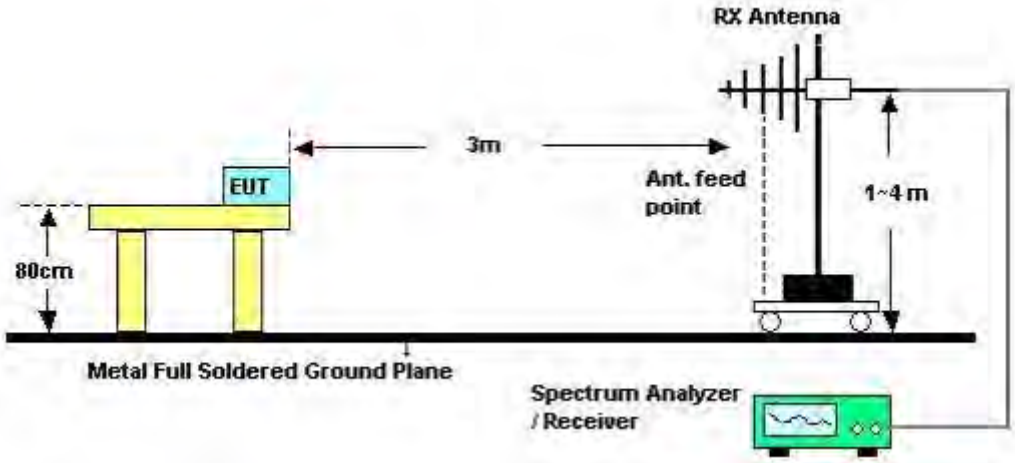
3.7.2 Measuring Instruments

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

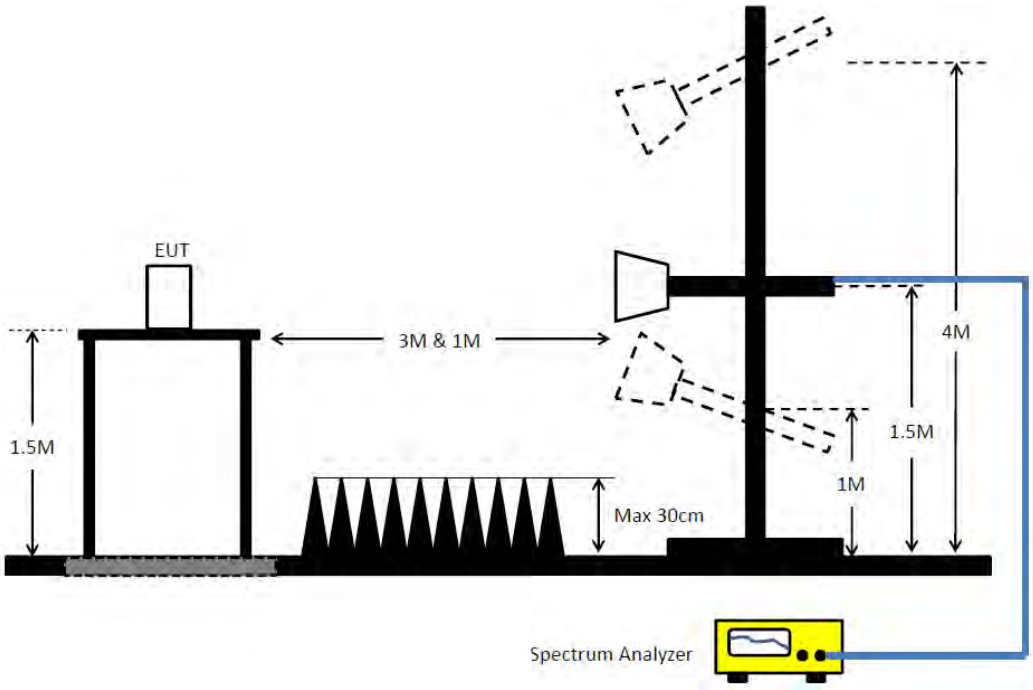
3.7.3 Test Procedures

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

3.7.4 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.7.5 Measurement Results Calculation

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

3.7.6 Emissions in Restricted Frequency Bands (Below 30MHz)

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

3.7.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 09, 2022	Feb. 08, 2023	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 12, 2022	Apr. 11, 2023	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 10, 2022	Feb. 09, 2023	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 18, 2022	May 17, 2023	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~1 GHz	Aug. 03, 2022	Aug. 02, 2023	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 07, 2021	Nov. 06, 2022	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	May 14, 2022	May 13, 2023	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 25, 2022	Mar. 24, 2023	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120 D	BBHA 9120 D-1291	1GHz~18GHz	Jun. 23, 2022	Jun. 22, 2023	Radiation (03CH05-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 26, 2022	Apr. 25, 2023	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630 SE	980287	1GHz – 26.5GHz	Jul. 01, 2022	Jun. 30, 2023	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35 -HG	1864479	18GHz ~ 40GHz	Jul. 20, 2022	Jul. 19, 2023	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Mar. 14, 2022	Mar. 13, 2023	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 17, 2022	Jun. 16, 2023	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH05-CB)

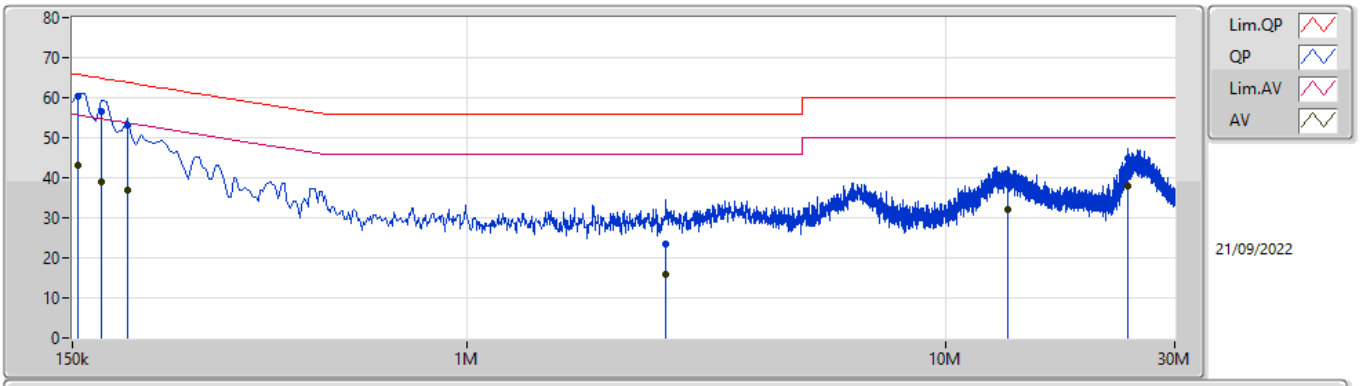
Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Aug. 15, 2022	Aug. 14, 2023	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~ 40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~ 40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
Switch	SPTCB	SP-SWI	SWI-02	1 GHz – 26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P1	1 GHz – 26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P2	1 GHz – 26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P3	1 GHz – 26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P4	1 GHz – 26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	SWI-02-P5	1 GHz – 26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

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

Summary

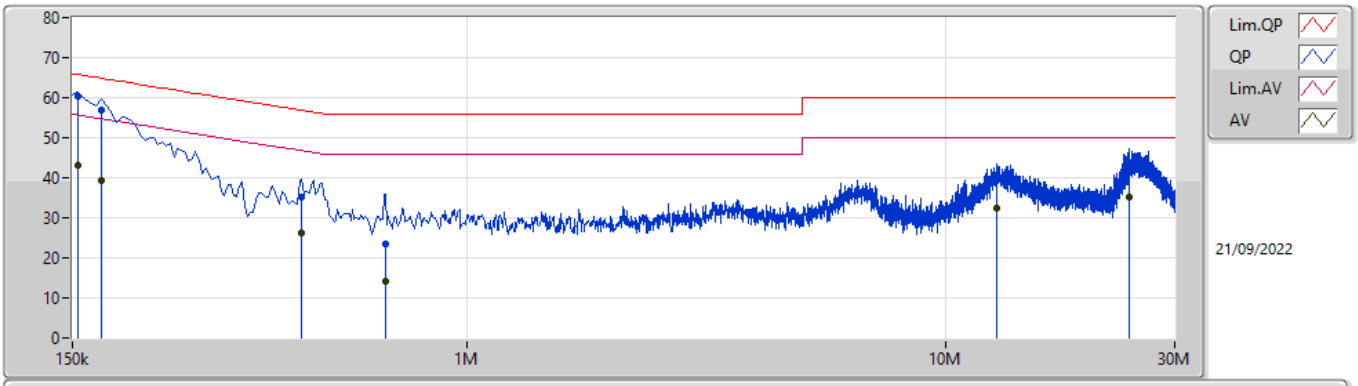
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	154.5k	60.27	65.75	-5.48	Line

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT			
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)			
QP	154.5k	60.27	65.75	-5.48	9.99	Line	"Worst"	50.28	0.06	0.04	9.89			
AV	154.5k	42.99	55.75	-12.76	9.99	Line	-	33.00	0.06	0.04	9.89			
QP	172.5k	56.59	64.83	-8.24	9.99	Line	-	46.60	0.06	0.04	9.89			
AV	172.5k	38.97	54.83	-15.86	9.99	Line	-	28.98	0.06	0.04	9.89			
QP	195k	52.99	63.82	-10.83	9.99	Line	-	43.00	0.06	0.04	9.89			
AV	195k	36.91	53.82	-16.91	9.99	Line	-	26.92	0.06	0.04	9.89			
QP	2.598M	23.39	56.00	-32.61	10.08	Line	-	13.31	0.10	0.09	9.89			
AV	2.598M	15.93	46.00	-30.07	10.08	Line	-	5.85	0.10	0.09	9.89			
QP	13.416M	38.55	60.00	-21.45	10.35	Line	-	28.20	0.25	0.17	9.93			
AV	13.416M	32.10	50.00	-17.90	10.35	Line	-	21.75	0.25	0.17	9.93			
QP	23.933M	44.68	60.00	-15.32	10.58	Line	-	34.10	0.34	0.27	9.97			
AV	23.933M	38.01	50.00	-11.99	10.58	Line	-	27.43	0.34	0.27	9.97			

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.5k	60.20	65.75	-5.55	10.00	Neutral	"Worst"	50.20	0.07	0.04	9.89
AV	154.5k	43.00	55.75	-12.75	10.00	Neutral	-	33.00	0.07	0.04	9.89
QP	172.5k	56.95	64.83	-7.88	10.00	Neutral	-	46.95	0.07	0.04	9.89
AV	172.5k	39.32	54.83	-15.51	10.00	Neutral	-	29.32	0.07	0.04	9.89
QP	451.5k	35.32	56.84	-21.52	10.02	Neutral	-	25.30	0.07	0.06	9.89
AV	451.5k	26.04	46.84	-20.80	10.02	Neutral	-	16.02	0.07	0.06	9.89
QP	676.5k	23.47	56.00	-32.53	10.02	Neutral	-	13.45	0.08	0.05	9.89
AV	676.5k	14.28	46.00	-31.72	10.02	Neutral	-	4.26	0.08	0.05	9.89
QP	12.795M	39.24	60.00	-20.76	10.36	Neutral	-	28.88	0.26	0.17	9.93
AV	12.795M	32.55	50.00	-17.45	10.36	Neutral	-	22.19	0.26	0.17	9.93
QP	24.176M	41.44	60.00	-18.56	10.54	Neutral	-	30.90	0.30	0.27	9.97
AV	24.176M	35.02	50.00	-14.98	10.54	Neutral	-	24.48	0.30	0.27	9.97

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-BR(1Mbps)	881.25k	852.076k	852KF1D	880k	848.331k
BT-EDR(2Mbps)	1.255M	1.2M	1M20G1D	1.254M	1.184M
BT-EDR(3Mbps)	1.258M	1.205M	1M21G1D	1.256M	1.193M

Max-N dB = Maximum 20dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 20dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

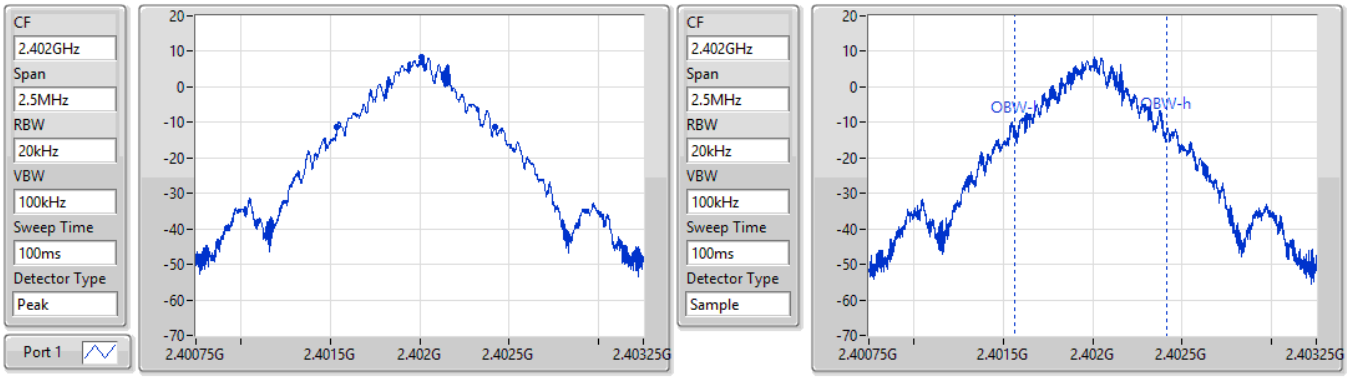
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	881.25k	848.331k
2440MHz	Pass	Inf	881.25k	852.076k
2480MHz	Pass	Inf	880k	850.525k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.255M	1.192M
2440MHz	Pass	Inf	1.255M	1.184M
2480MHz	Pass	Inf	1.254M	1.2M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.256M	1.201M
2440MHz	Pass	Inf	1.256M	1.193M
2480MHz	Pass	Inf	1.258M	1.205M

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

BT-BR(1Mbps) EBW-FS

2402MHz

15/09/2022

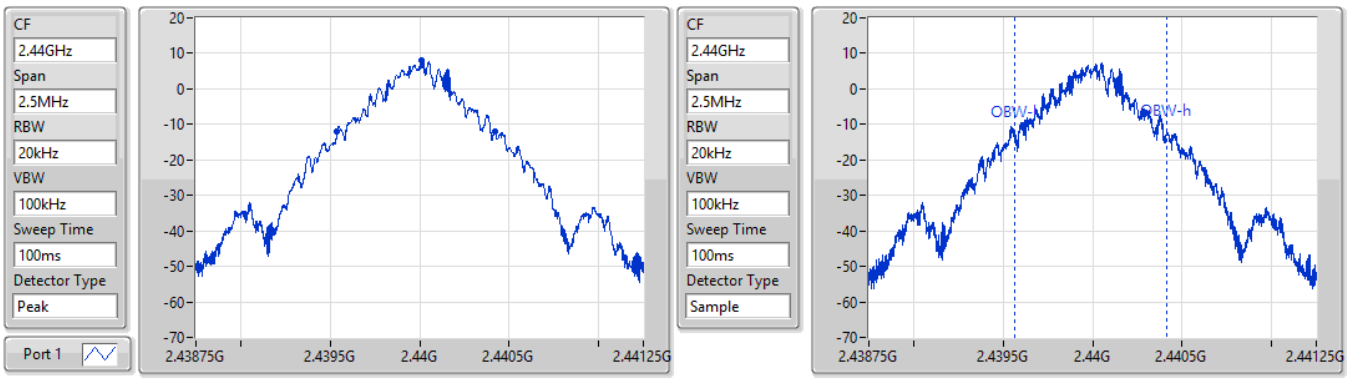


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
881.25k	2.401539G	2.40242G	848.331k	2.401566G	2.402414G	Inf	1

BT-BR(1Mbps) EBW-FS

2440MHz

15/09/2022

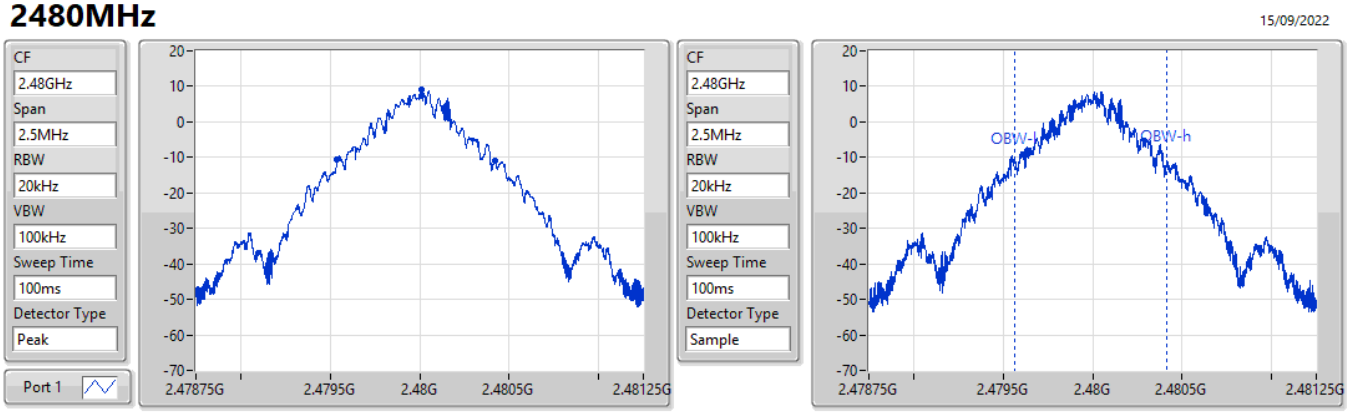


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
881.25k	2.439539G	2.44042G	852.076k	2.439564G	2.440416G	Inf	1

BT-BR(1Mbps)

EBW-FS

2480MHz

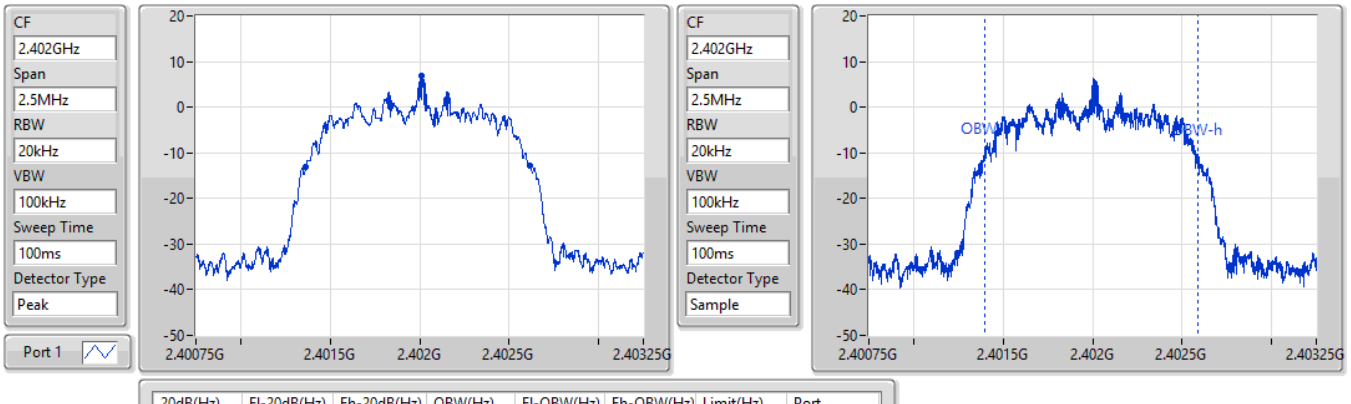


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
880k	2.47954G	2.48042G	850.525k	2.479564G	2.480415G	Inf	1

BT-EDR(2Mbps)

EBW-FS

2402MHz

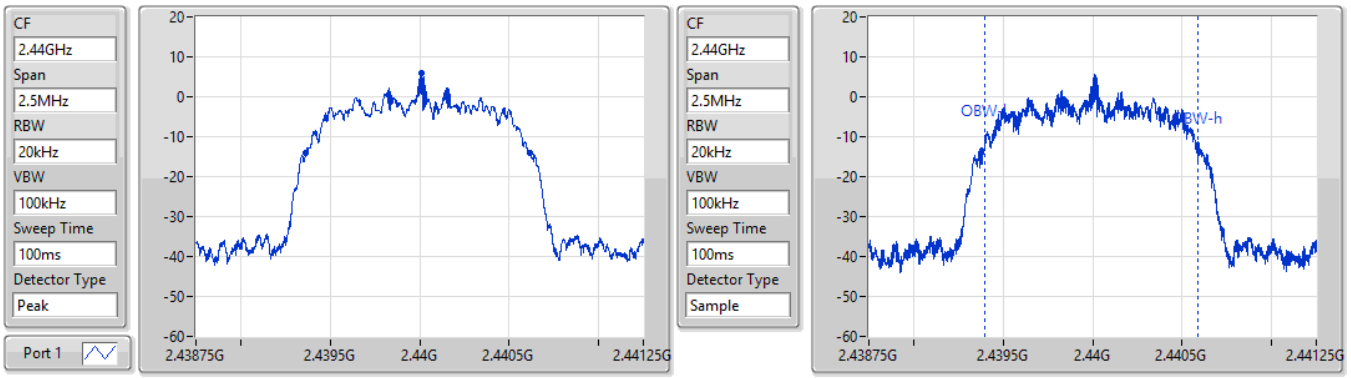


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.255M	2.401364G	2.402619G	1.192M	2.401397G	2.402589G	Inf	1

BT-EDR(2Mbps) EBW-FS

2440MHz

15/09/2022

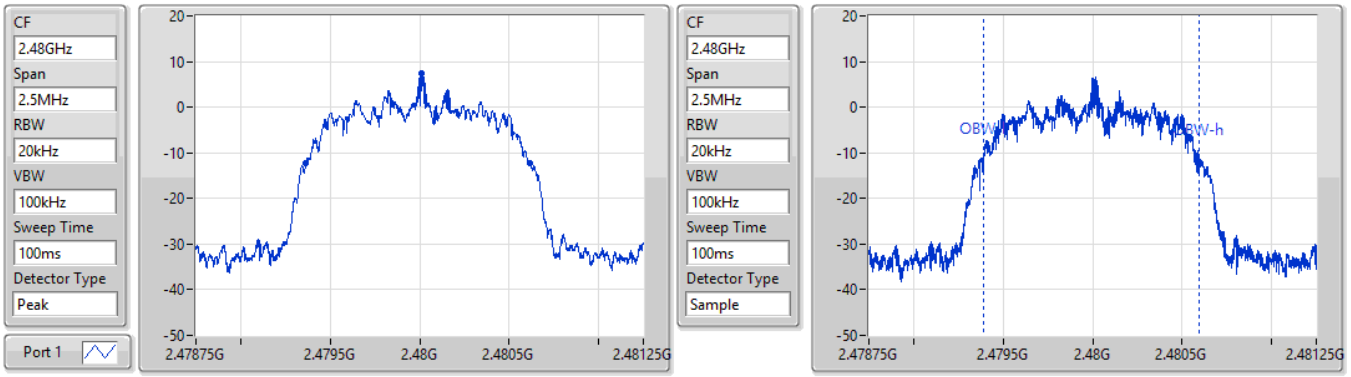


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.255M	2.439364G	2.440619G	1.184M	2.439401G	2.440585G	Inf	1

BT-EDR(2Mbps) EBW-FS

2480MHz

15/09/2022

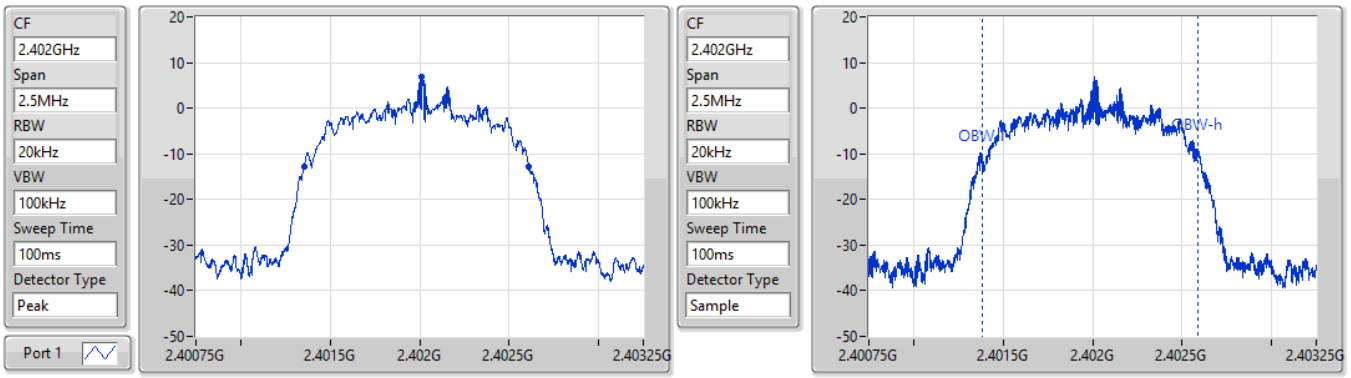


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.254M	2.479364G	2.480618G	1.2M	2.479394G	2.480593G	Inf	1

BT-EDR(3Mbps) EBW-FS

2402MHz

15/09/2022

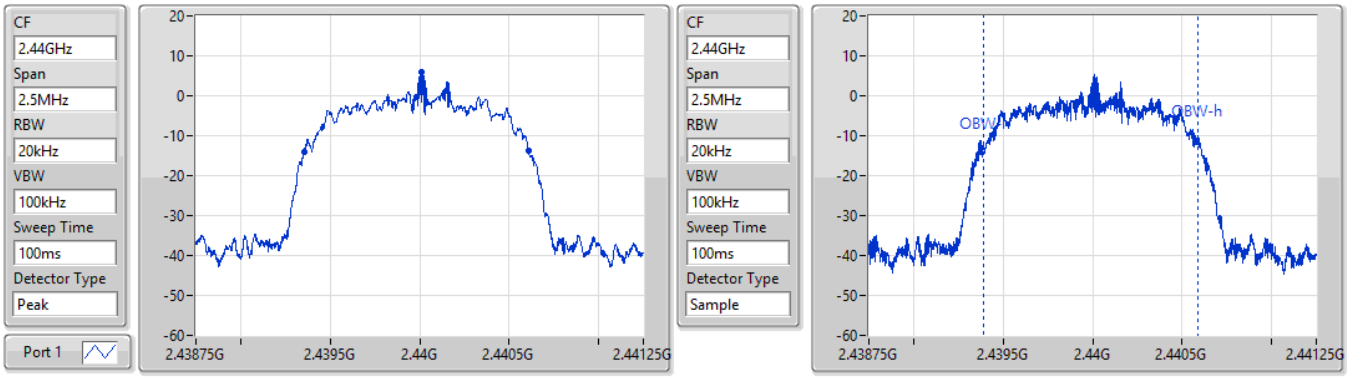


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.256M	2.401353G	2.402609G	1.201M	2.401387G	2.402588G	Inf	1

BT-EDR(3Mbps) EBW-FS

2440MHz

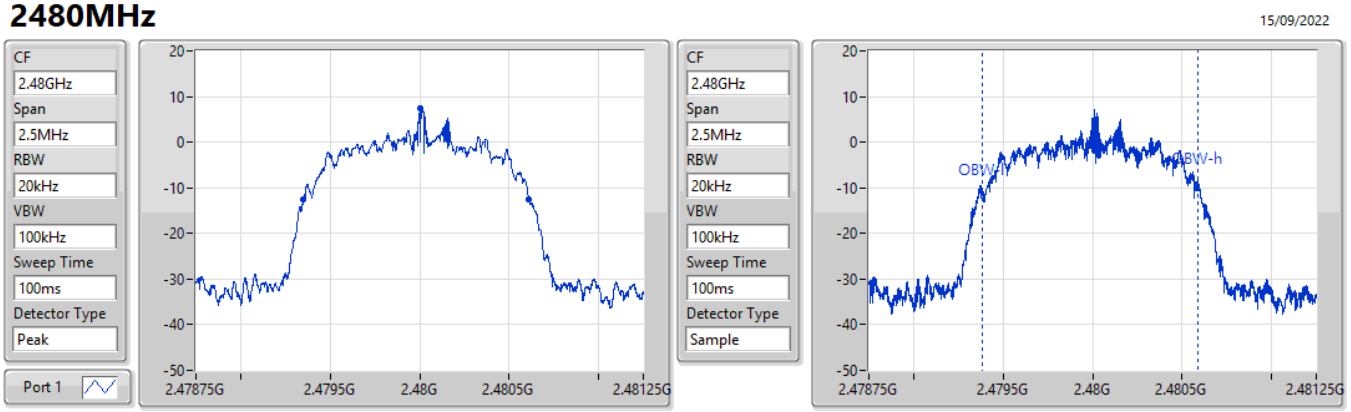
15/09/2022



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.256M	2.439353G	2.440609G	1.193M	2.439393G	2.440587G	Inf	1

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

2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.258M	2.479351G	2.480609G	1.205M	2.479384G	2.480589G	Inf	1

Summary

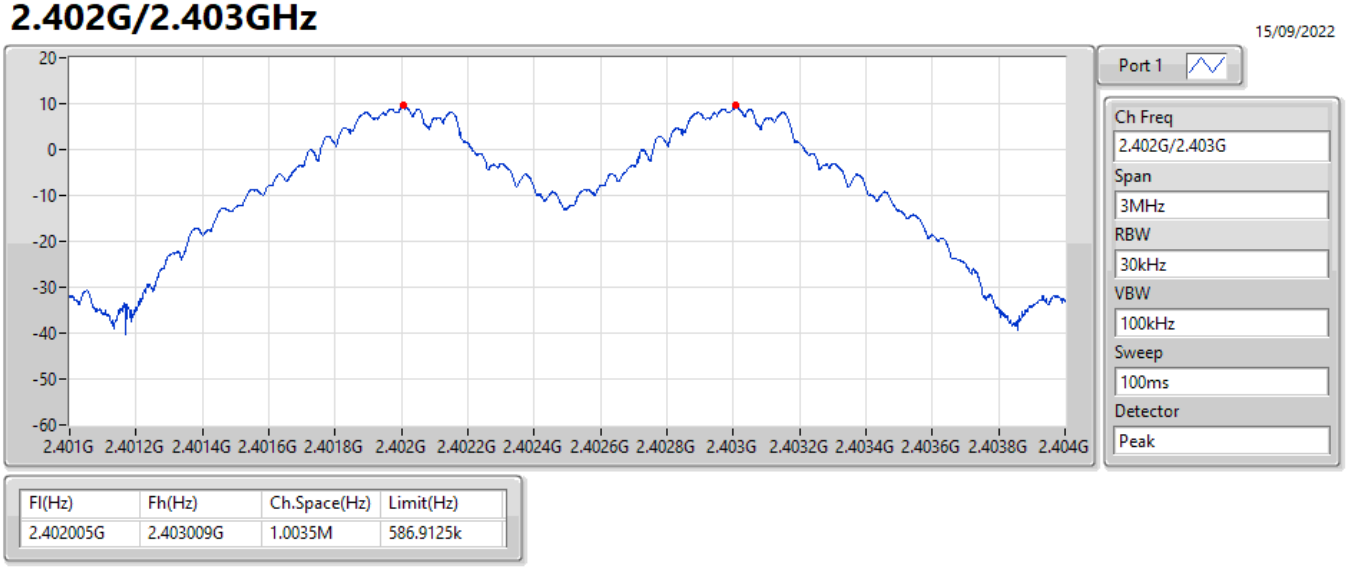
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.0035M	997.5k
BT-EDR(2Mbps)	1.002M	999k
BT-EDR(3Mbps)	1.0005M	999k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402005G	2.403009G	1.0035M	586.9125k
2440MHz	Pass	2.440008G	2.441009G	1.0005M	586.9125k
2480MHz	Pass	2.479008G	2.480006G	997.5k	586.08k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402008G	2.403007G	999k	835.83k
2440MHz	Pass	2.440007G	2.441007G	1.0005M	835.83k
2480MHz	Pass	2.479007G	2.480009G	1.002M	835.164k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402007G	2.403007G	1.0005M	836.496k
2440MHz	Pass	2.440008G	2.441009G	1.0005M	836.496k
2480MHz	Pass	2.479007G	2.480006G	999k	837.828k

BT-BR(1Mbps) Channel Separation-FS

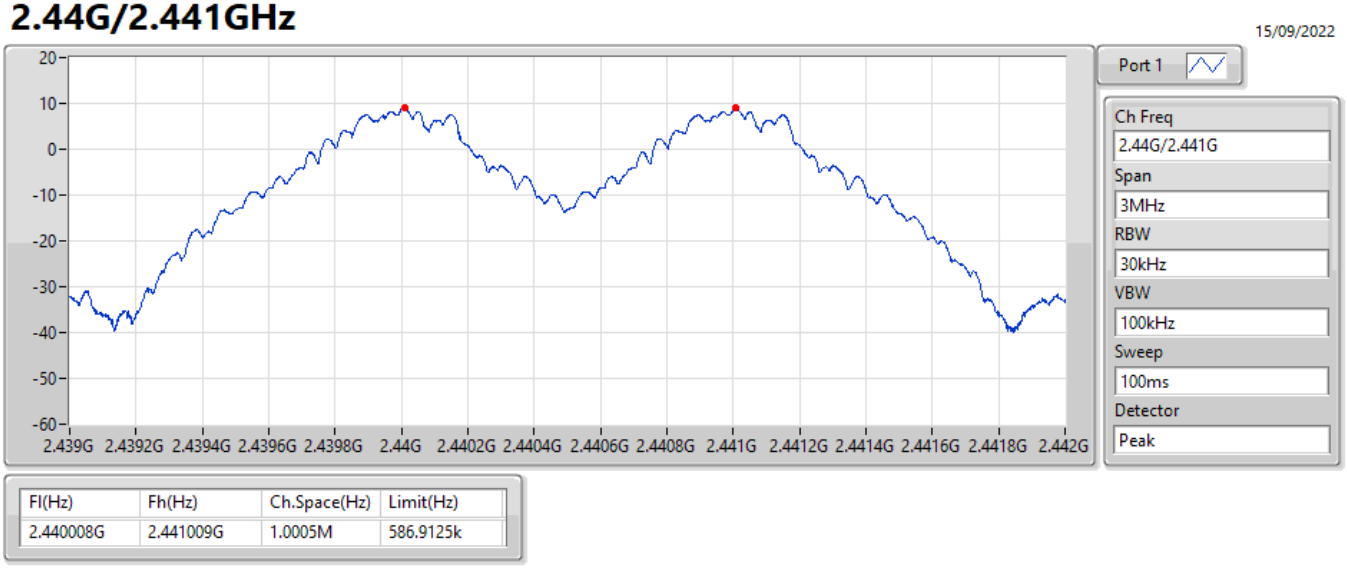
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402005G	2.403009G	1.0035M	586.9125k

BT-BR(1Mbps) Channel Separation-FS

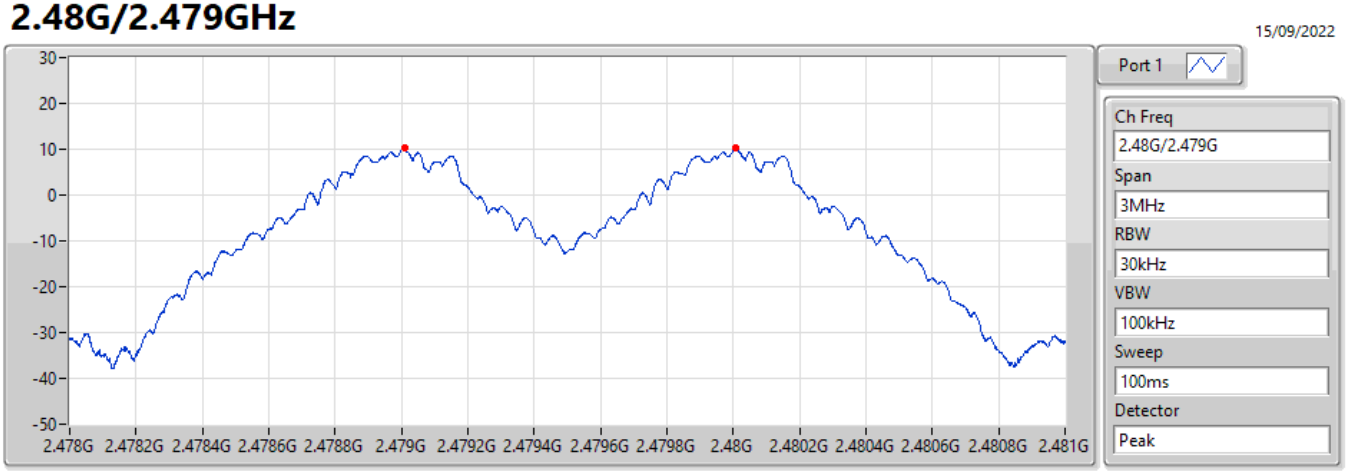
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440008G	2.441009G	1.0005M	586.9125k

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

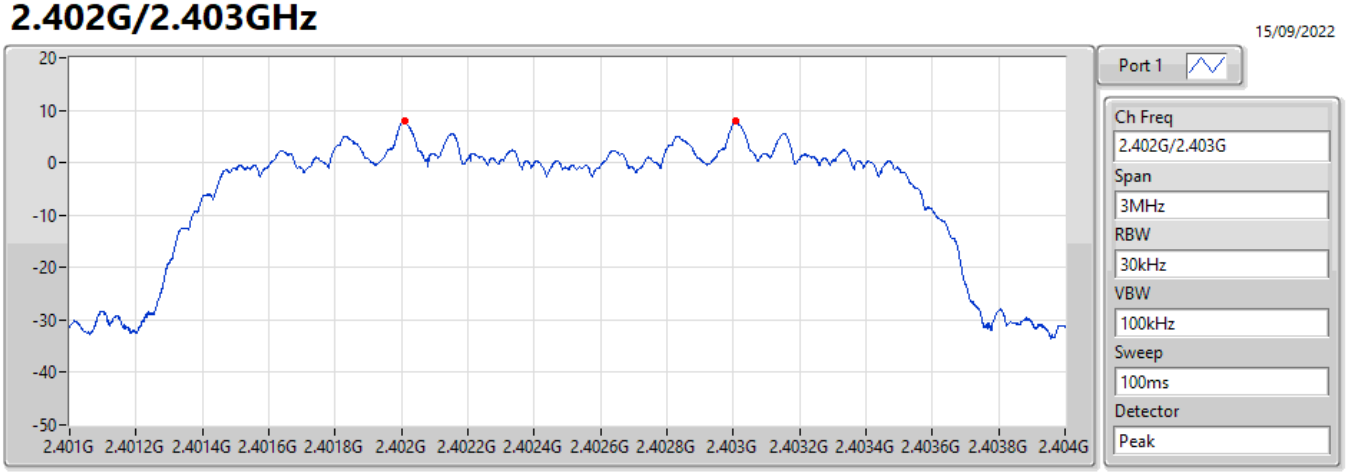
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479008G	2.480006G	997.5k	586.08k

BT-EDR(2Mbps) **Channel Separation-FS**

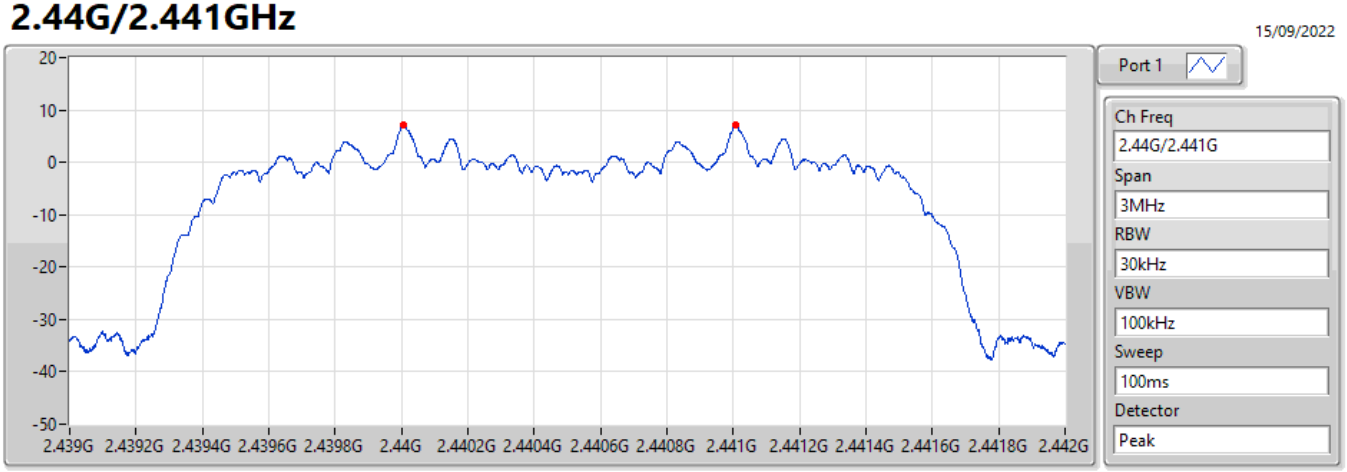
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402008G	2.403007G	999k	835.83k

BT-EDR(2Mbps) Channel Separation-FS

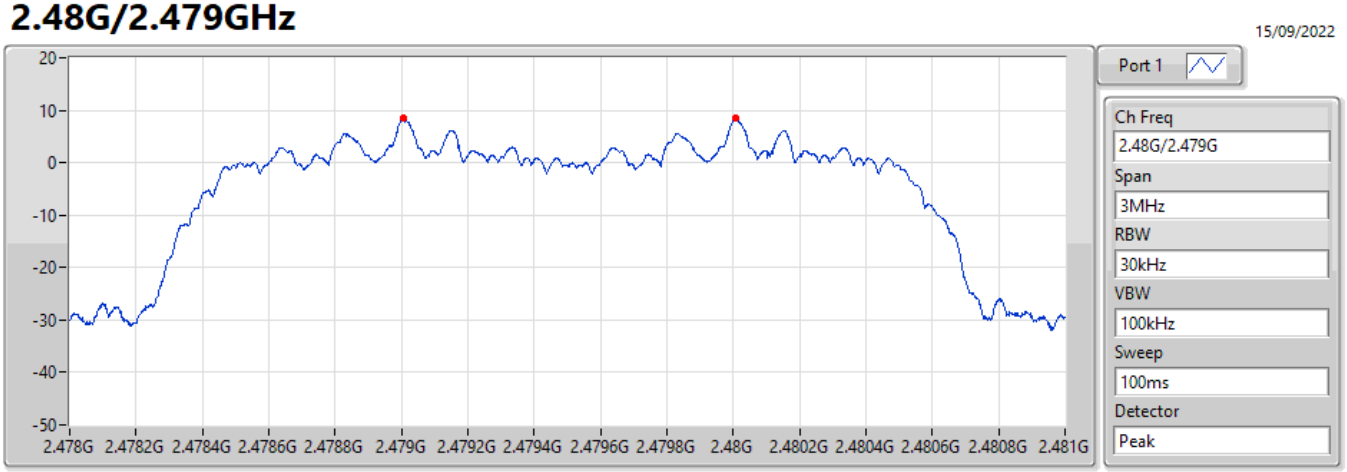
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440007G	2.441007G	1.0005M	835.83k

BT-EDR(2Mbps) Channel Separation-FS

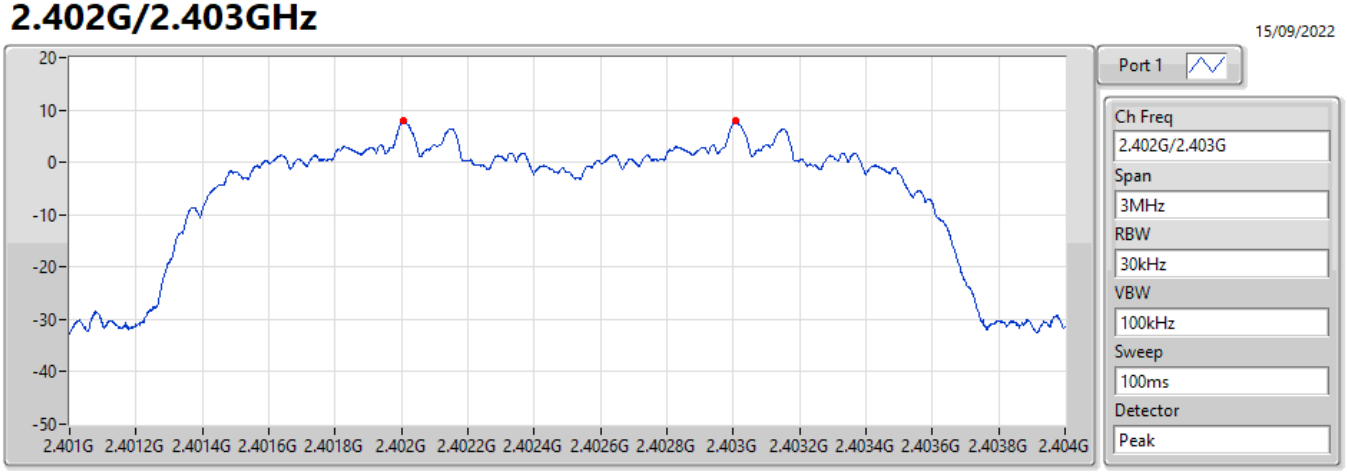
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479007G	2.480009G	1.002M	835.164k

BT-EDR(3Mbps) Channel Separation-FS

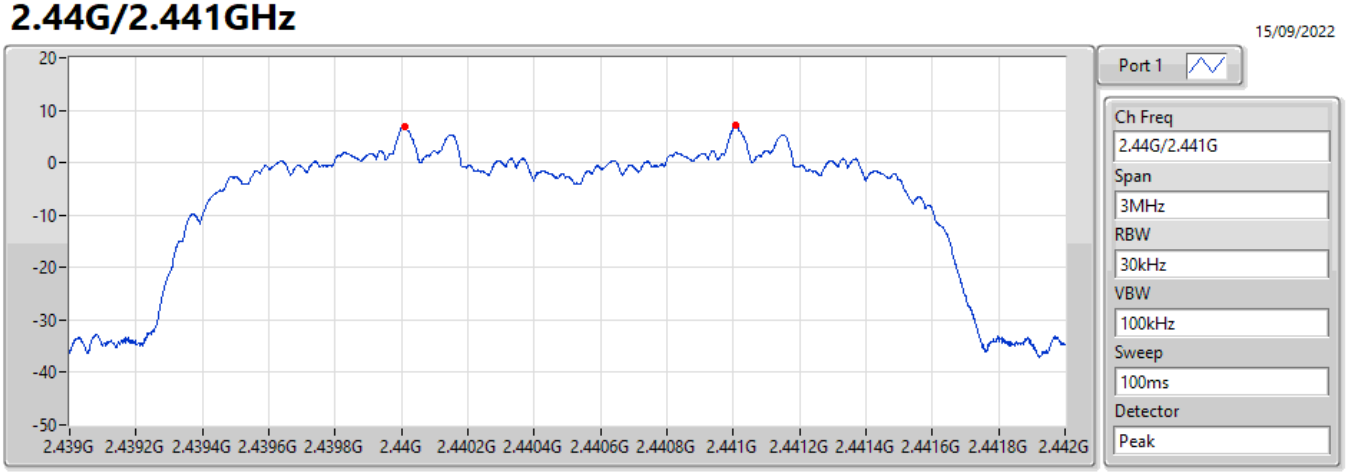
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402007G	2.403007G	1.0005M	836.496k

BT-EDR(3Mbps) Channel Separation-FS

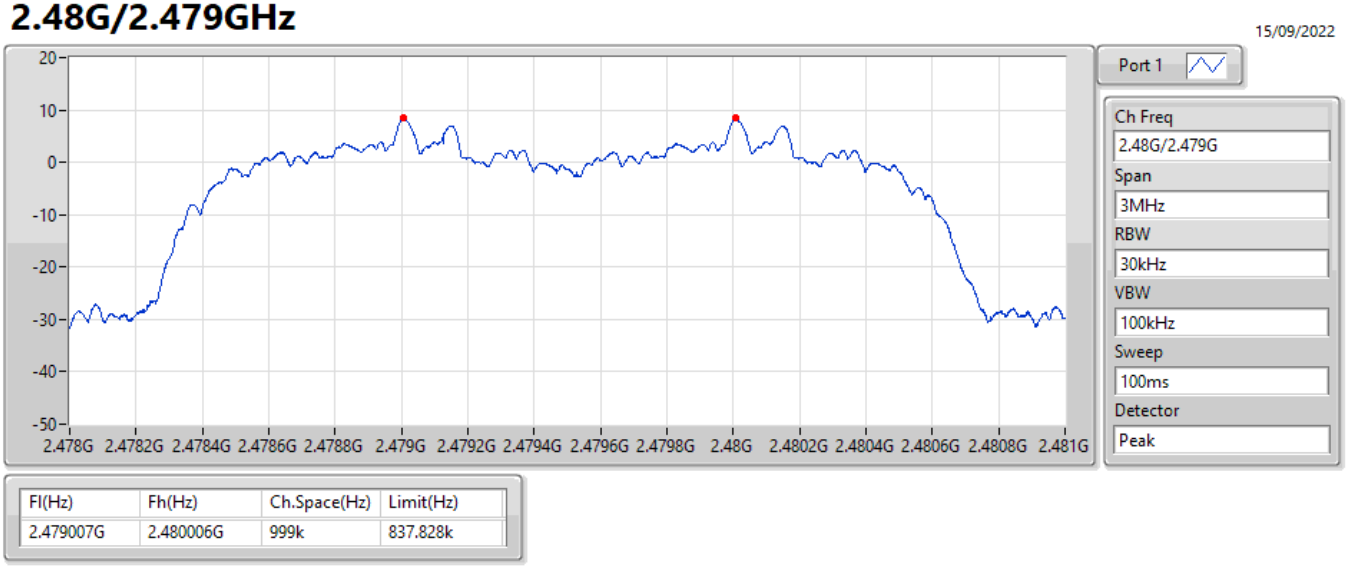
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440008G	2.441009G	1.0005M	836.496k

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

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479007G	2.480006G	999k	837.828k

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	12.15	0.01641
BT-EDR(2Mbps)	9.95	0.00989
BT-EDR(3Mbps)	9.87	0.00971

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.86	11.71	21.00
2440MHz	Pass	2.86	10.96	21.00
2480MHz	Pass	2.86	12.15	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.86	9.52	21.00
2440MHz	Pass	2.86	8.31	21.00
2480MHz	Pass	2.86	9.95	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.86	9.50	21.00
2440MHz	Pass	2.86	8.31	21.00
2480MHz	Pass	2.86	9.87	21.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	12.17	0.01648
BT-EDR(2Mbps)	11.78	0.01507
BT-EDR(3Mbps)	11.95	0.01567

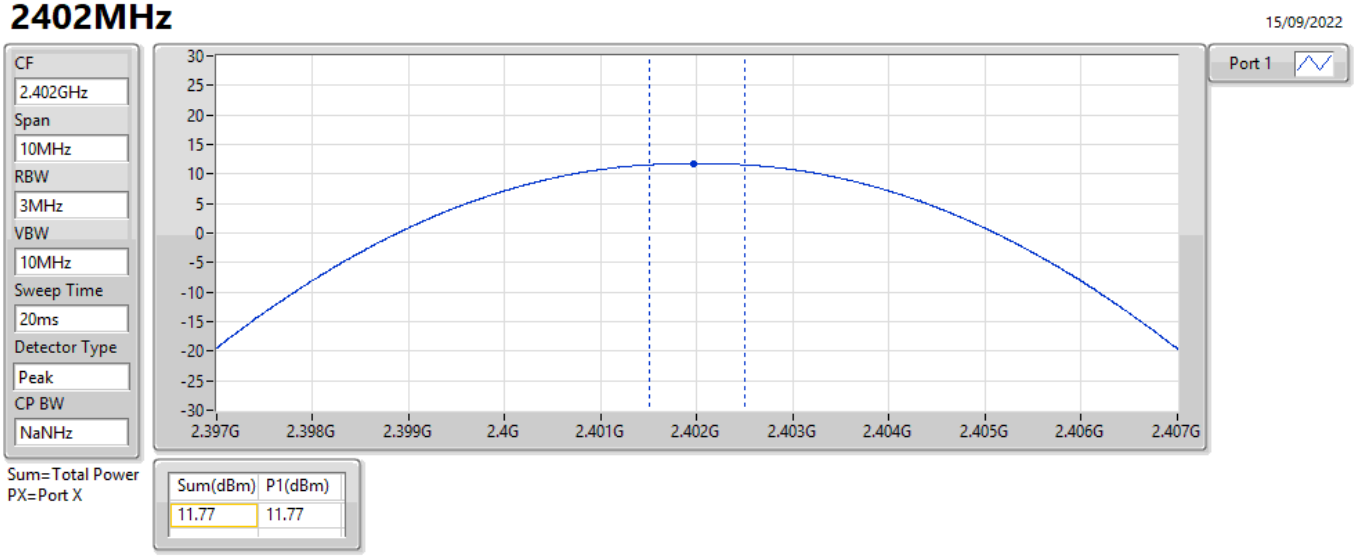
Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.86	11.77	21.00
2440MHz	Pass	2.86	11.12	21.00
2480MHz	Pass	2.86	12.17	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.86	11.35	21.00
2440MHz	Pass	2.86	10.56	21.00
2480MHz	Pass	2.86	11.78	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.86	11.54	21.00
2440MHz	Pass	2.86	10.88	21.00
2480MHz	Pass	2.86	11.95	21.00

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

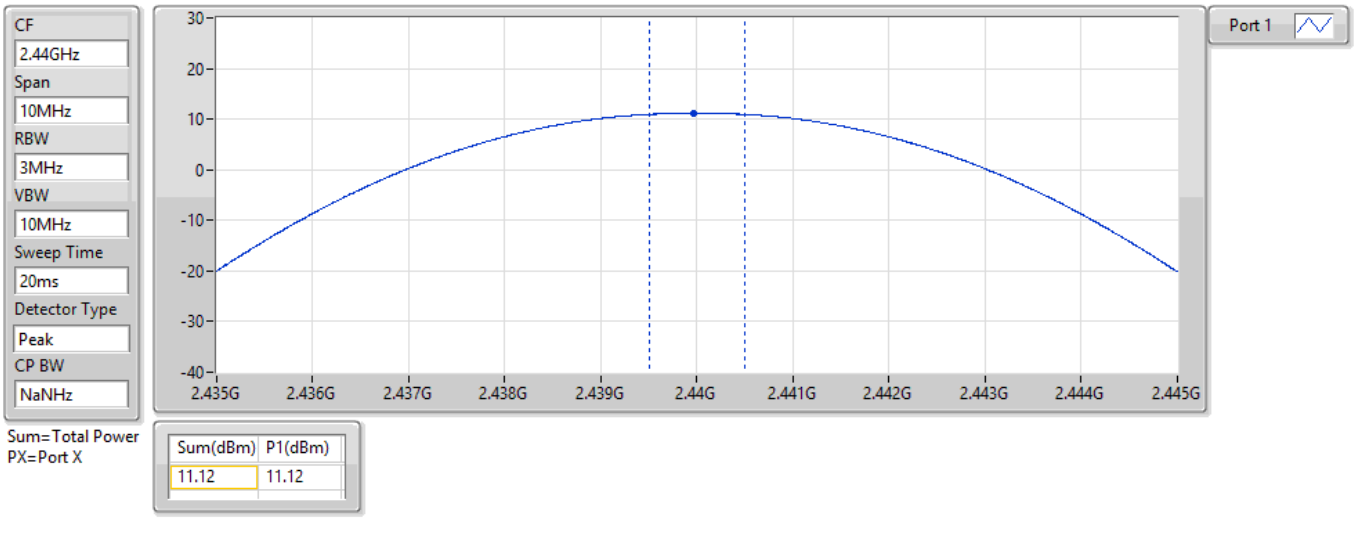
BT-BR(1Mbps) PK Power-FS

2402MHz



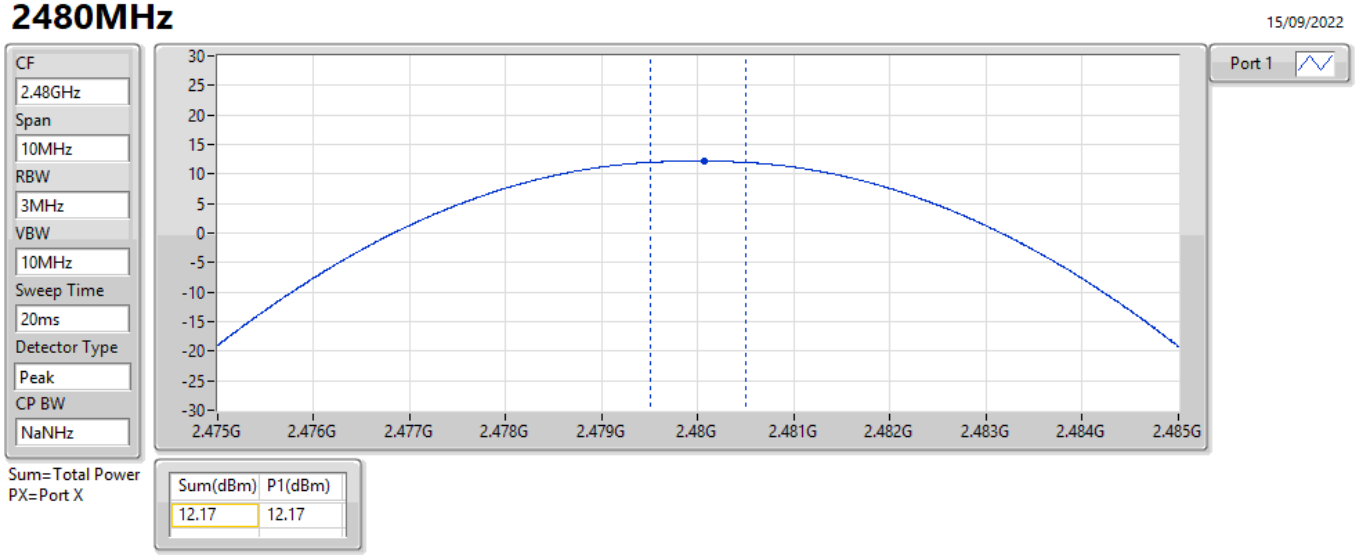
BT-BR(1Mbps) PK Power-FS

2440MHz



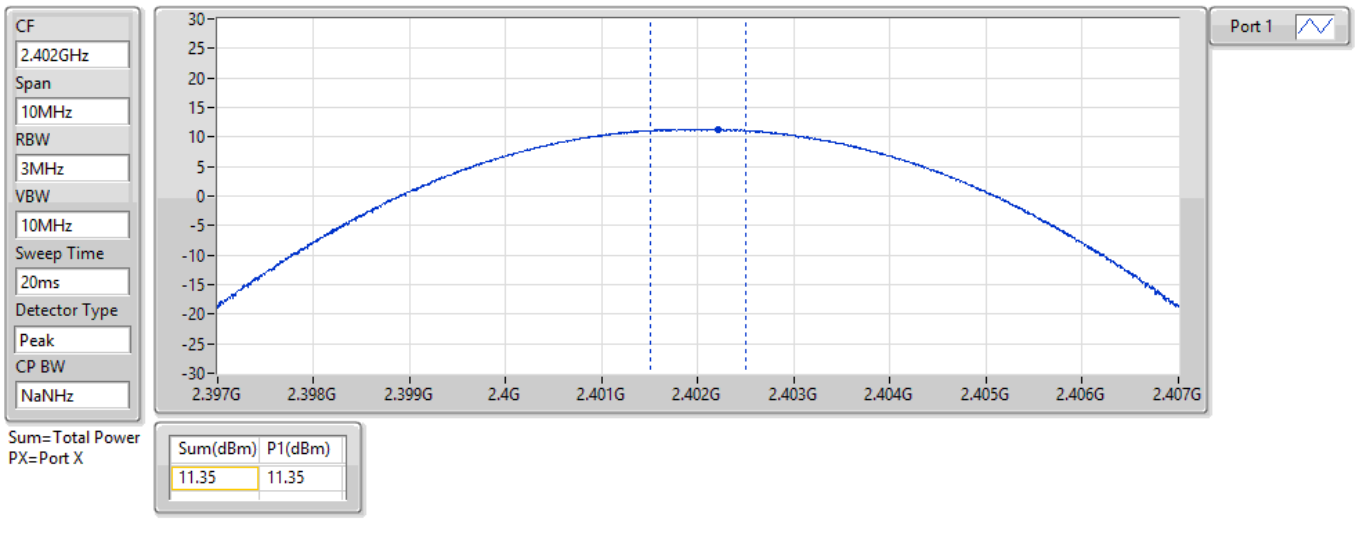
BT-BR(1Mbps) PK Power-FS

2480MHz



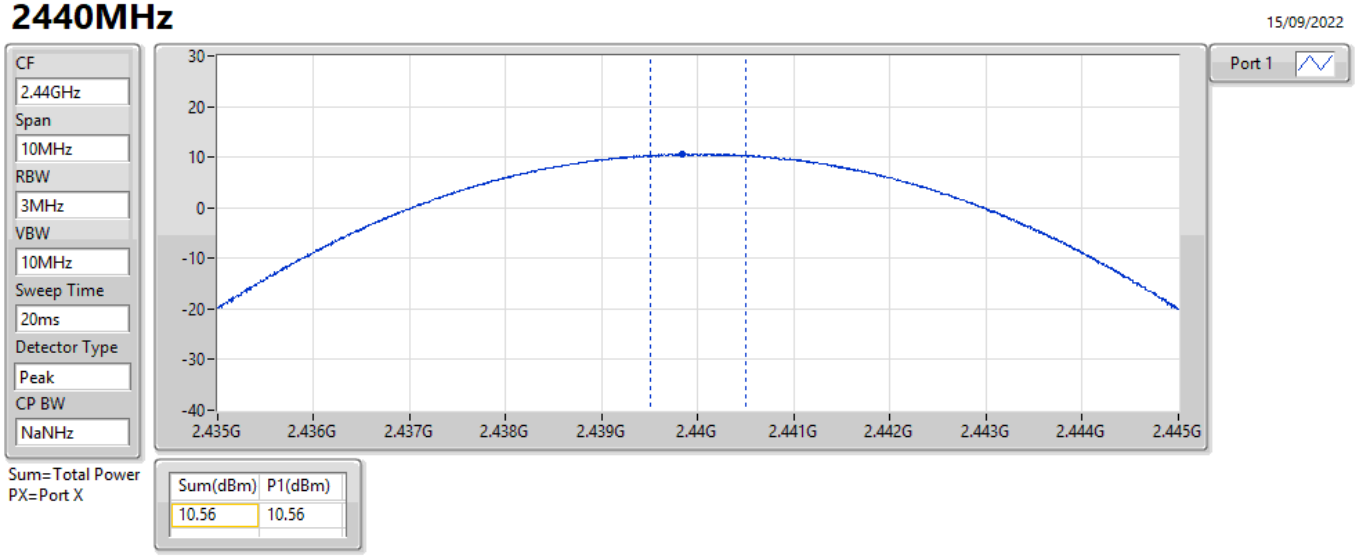
BT-EDR(2Mbps) PK Power-FS

2402MHz



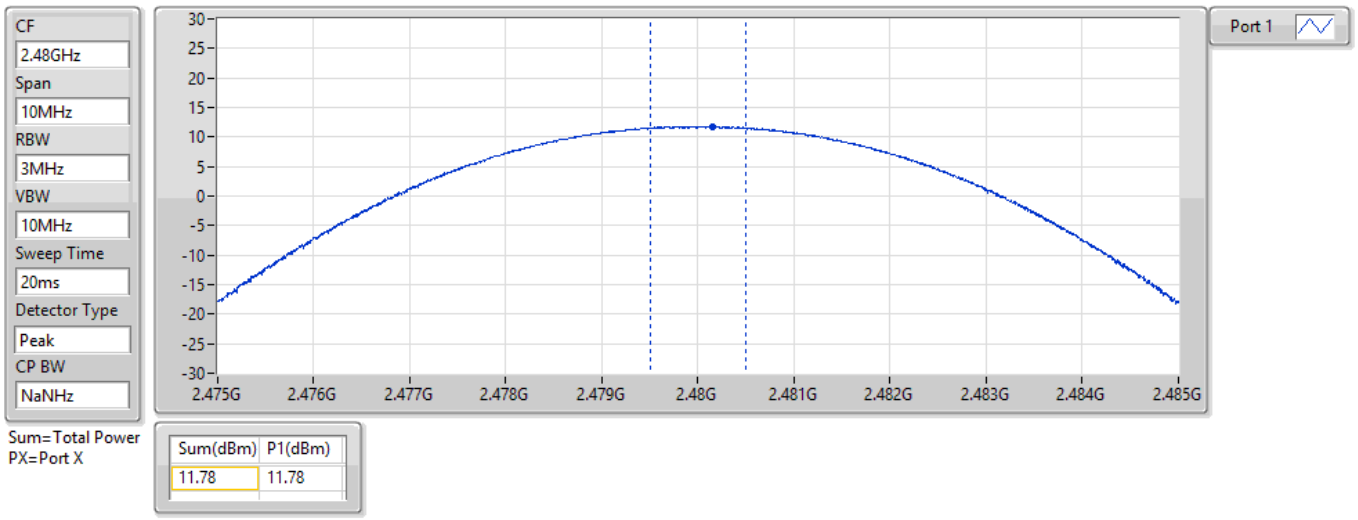
BT-EDR(2Mbps) PK Power-FS

2440MHz



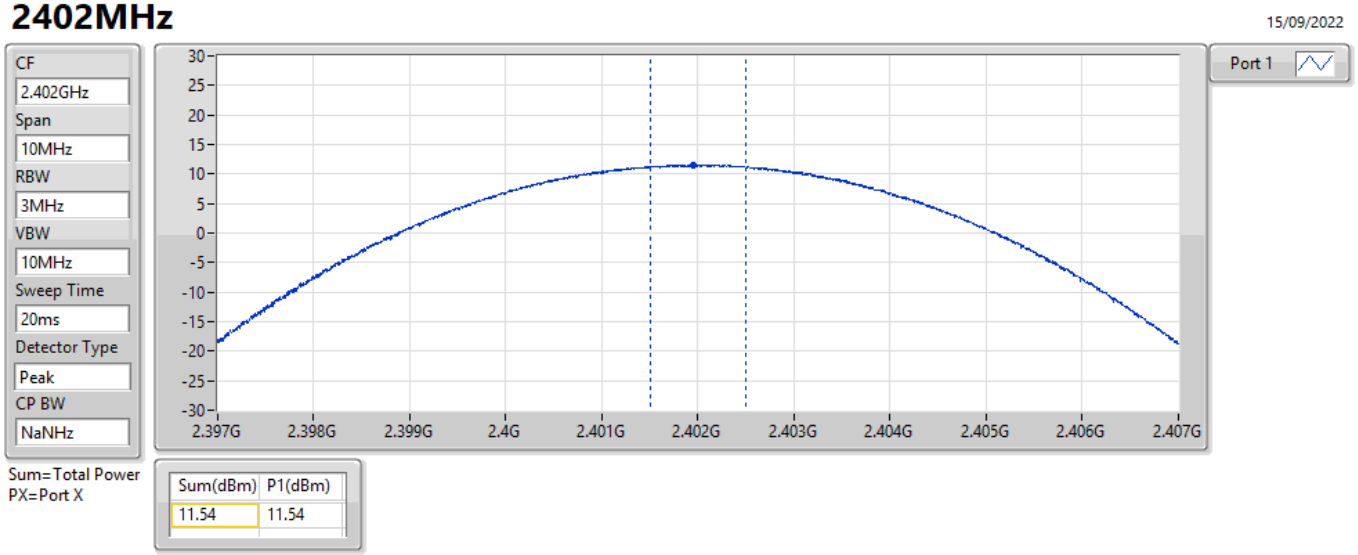
BT-EDR(2Mbps) PK Power-FS

2480MHz



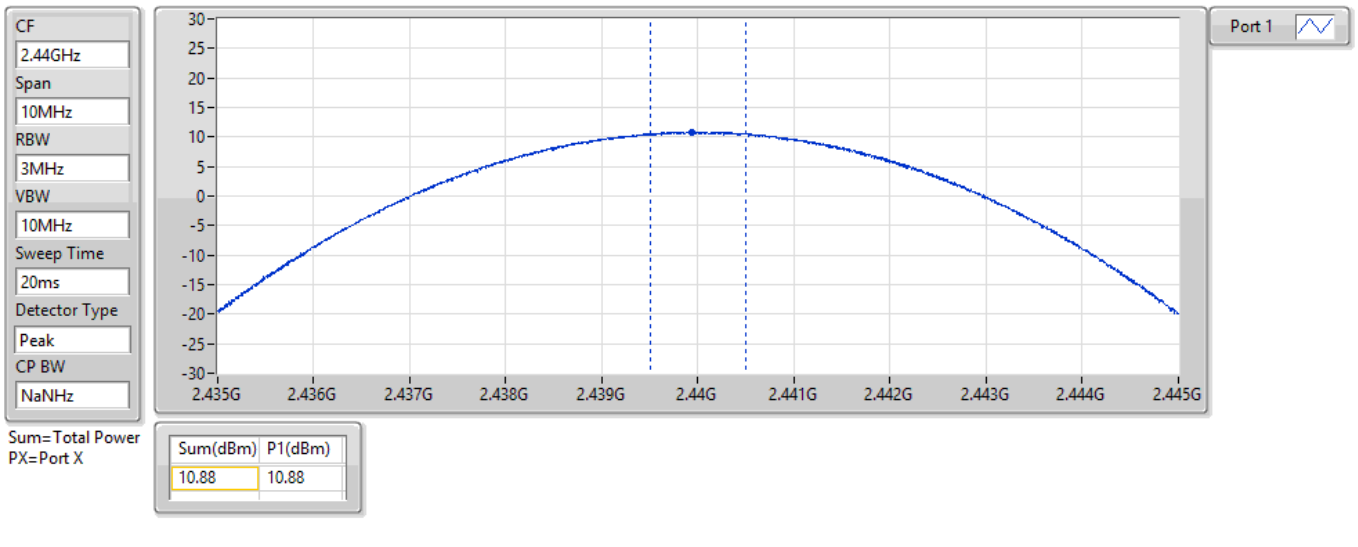
BT-EDR(3Mbps) PK Power-FS

2402MHz



BT-EDR(3Mbps) PK Power-FS

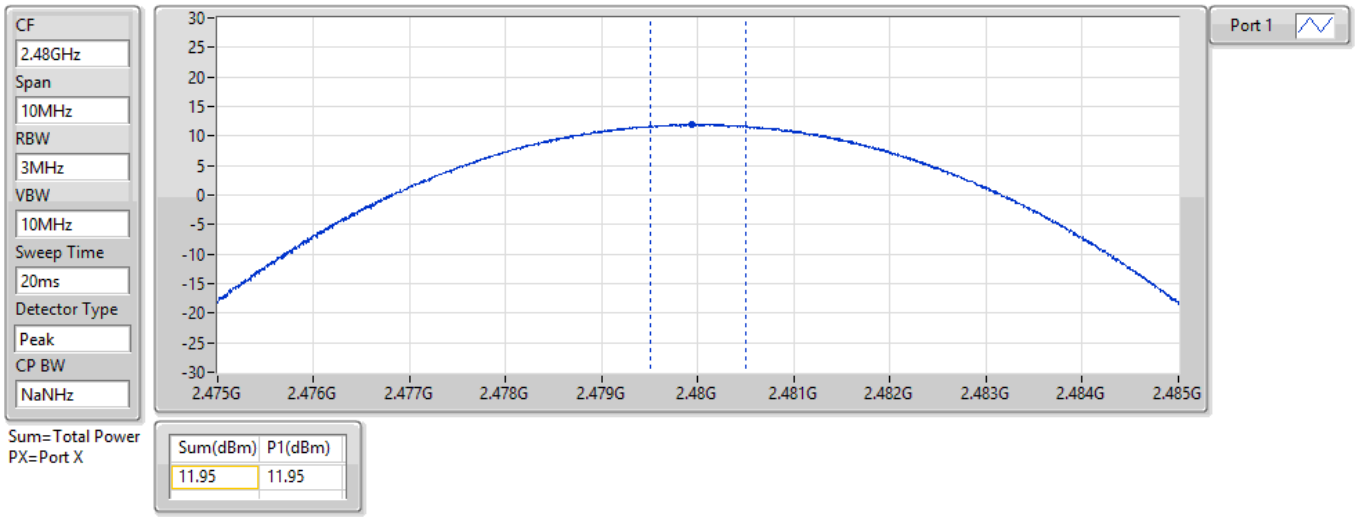
2440MHz



BT-EDR(3Mbps) **PK Power-FS**

2480MHz

15/09/2022



Summary

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

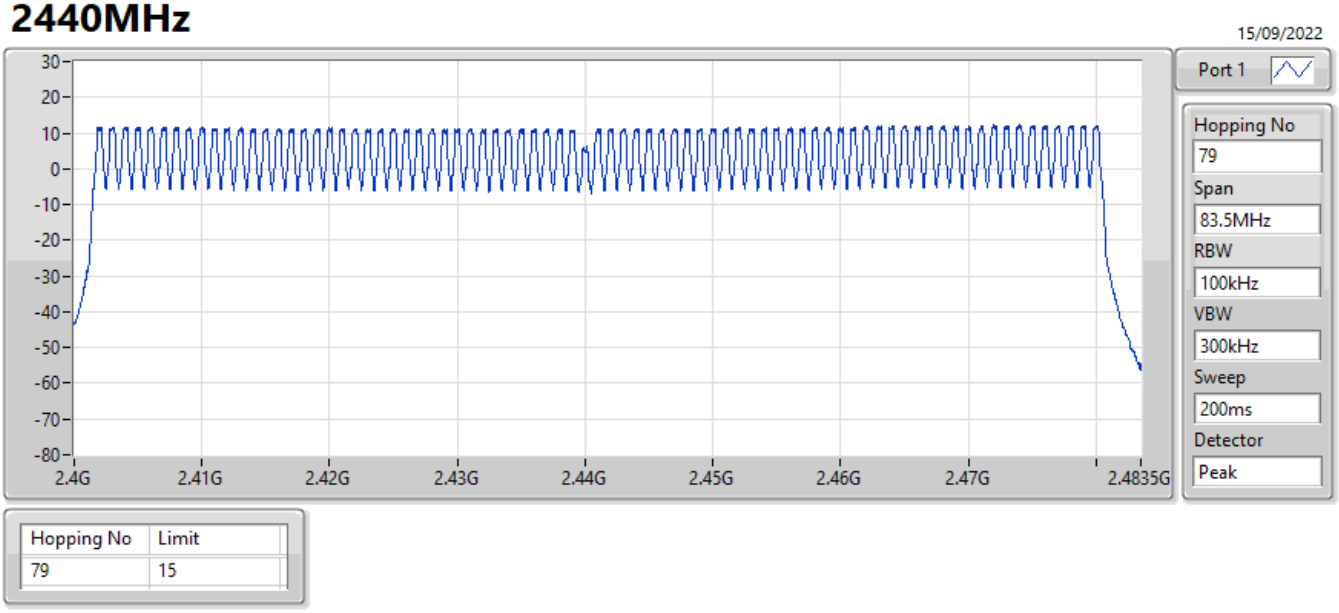
Result

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

BT-BR(1Mbps)

2440MHz

Hopping-FS

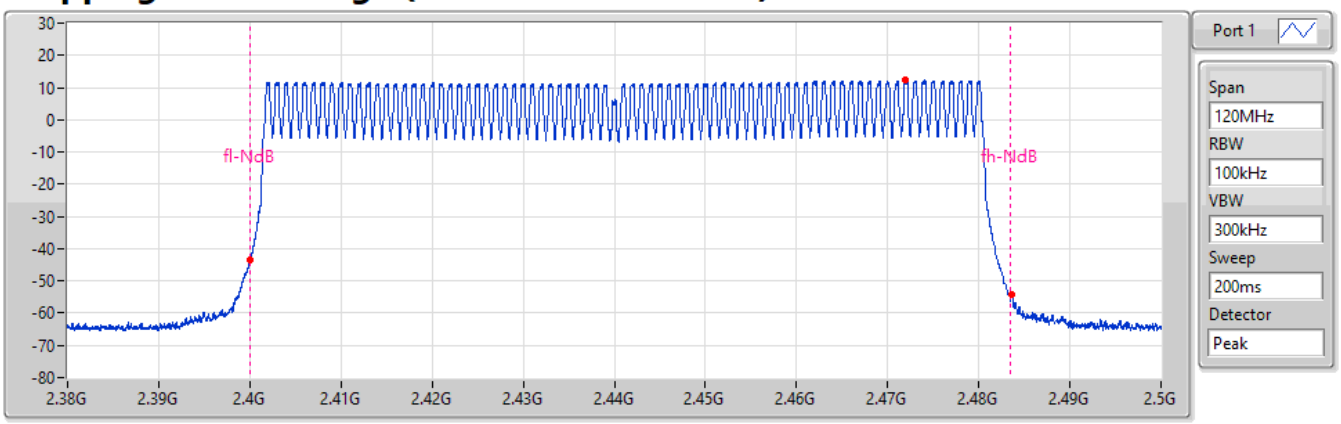


Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

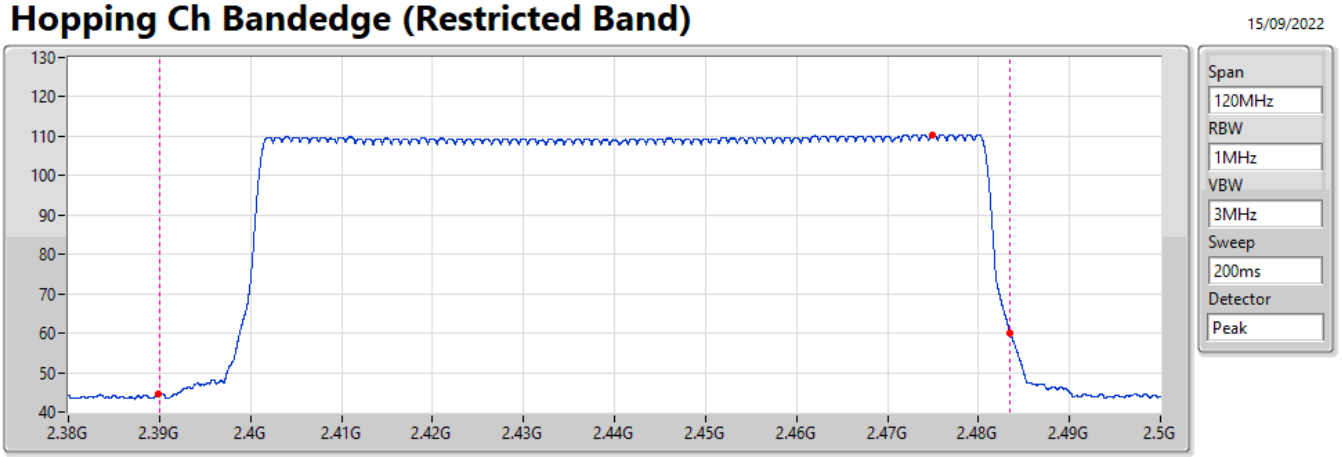


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-7.79	2.471995G	12.21	2.39998G	-43.31	2.483605G	-54.35

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

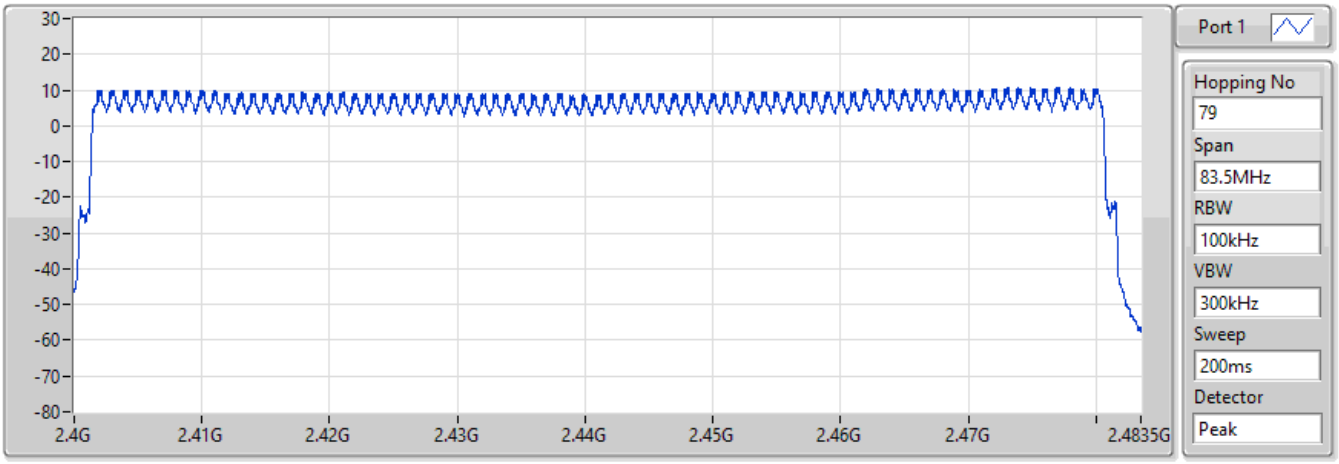


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.47498G	110.25	2.38984G	44.59	14.49	2.483515G	60.18	30.08	74	54	3.125	-30.1

BT-EDR(2Mbps)

Hopping-FS

2440MHz

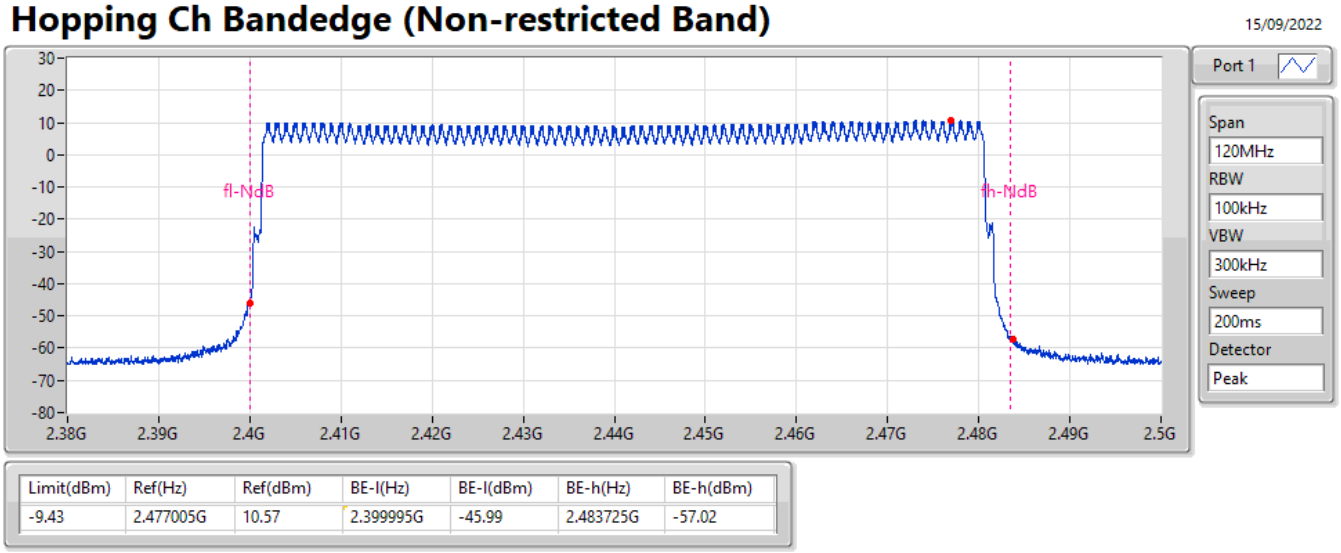


Hopping No	Limit
79	15

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

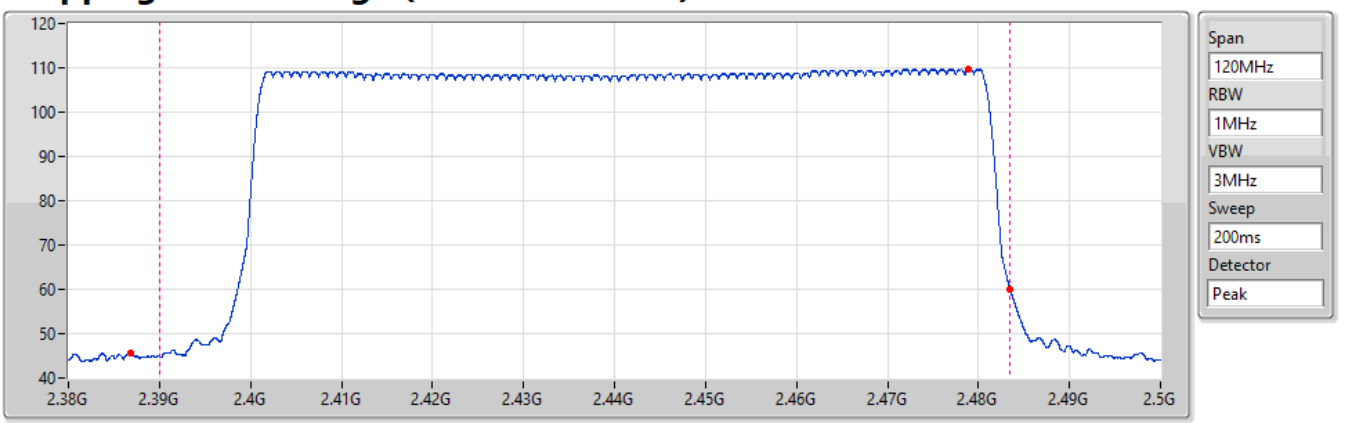


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-9.43	2.477005G	10.57	2.399995G	-45.99	2.483725G	-57.02

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

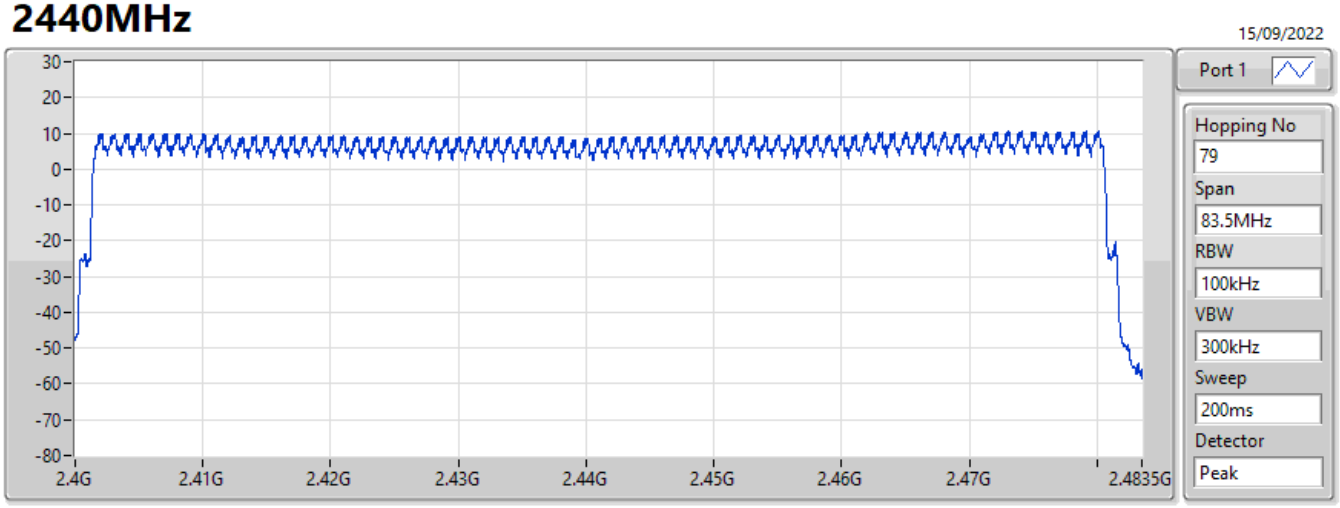


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.478835G	109.65	2.38678G	45.63	15.53	2.483515G	59.88	29.78	74	54	3.125	-30.1

BT-EDR(3Mbps)

Hopping-FS

2440MHz

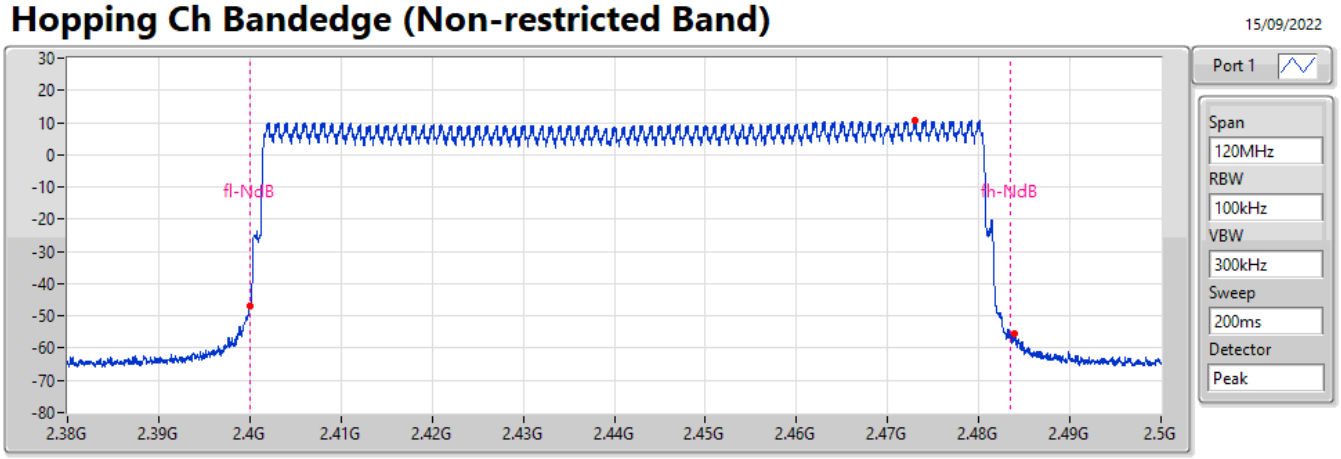


Hopping No	Limit
79	15

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

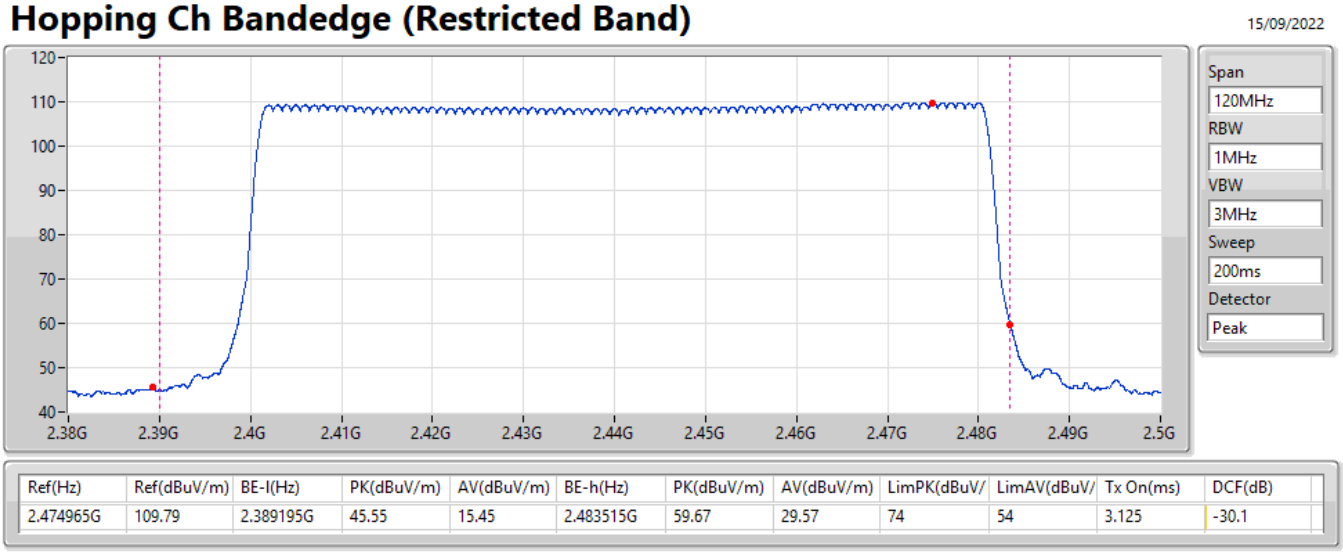


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-9.48	2.473G	10.52	2.399995G	-47.08	2.483965G	-55.43

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)



Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.474965G	109.79	2.389195G	45.55	15.45	2.483515G	59.67	29.57	74	54	3.125	-30.1

Summary

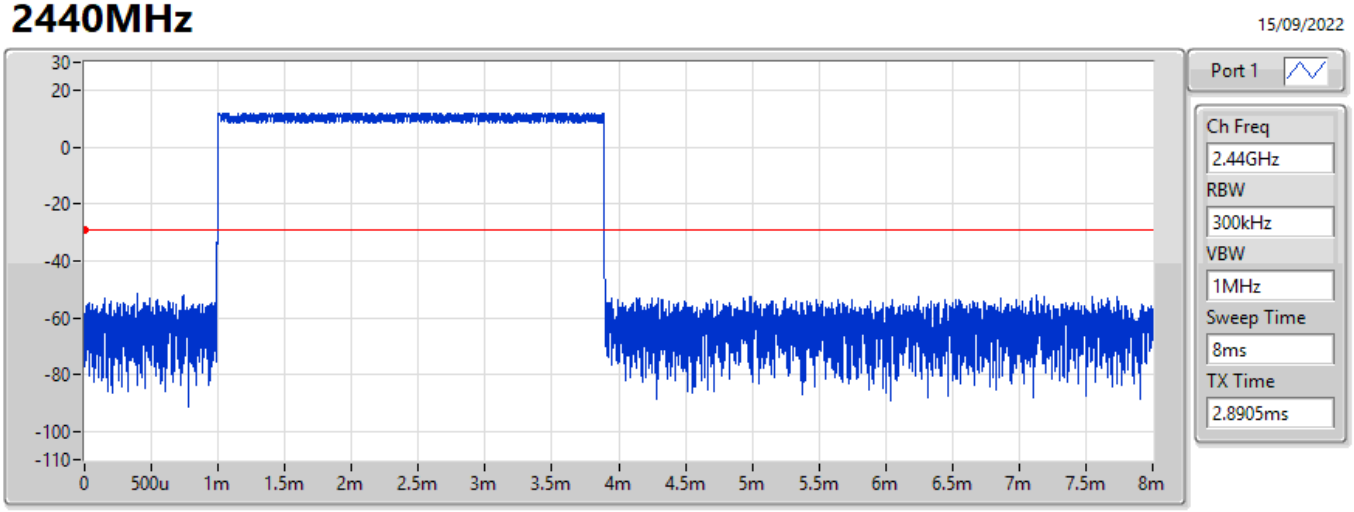
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.1273m_DH5
BT-EDR(2Mbps)	308.9268m_DH5
BT-EDR(3Mbps)	309.16665m_DH5

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.1273m_DH5	400m	2.8905m
2440MHz	Pass	8	154.076975m_DH5-AFH	400m	2.89075m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.9268m_DH5	400m	2.898m
2440MHz	Pass	8	154.43675m_DH5-AFH	400m	2.8975m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.16665m_DH5	400m	2.90025m
2440MHz	Pass	8	154.57m_DH5-AFH	400m	2.9m

BT-BR(1Mbps) Dwell-FS

2440MHz

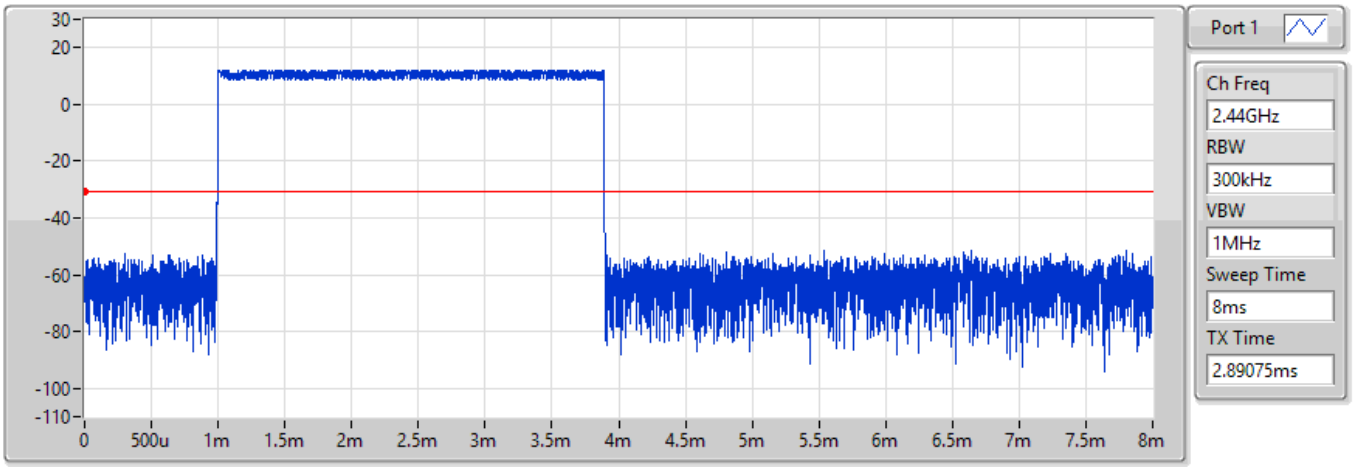


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.1273m_DH5	400m	2.8905m

DH5

BT-BR(1Mbps) Dwell-FS

2440MHz

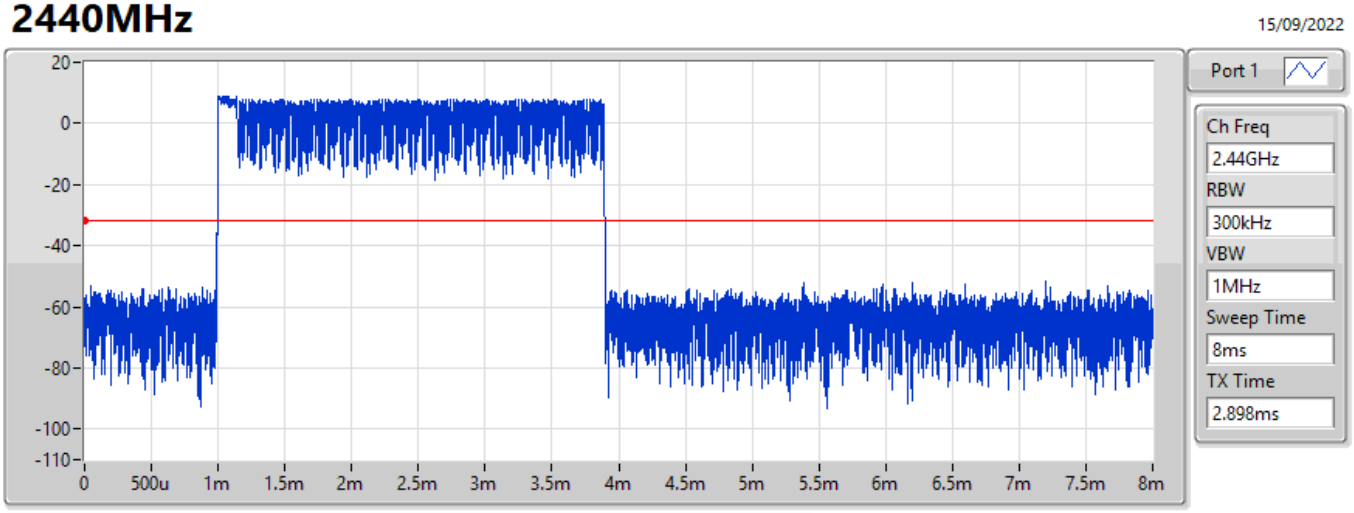


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.076975m_DH5-AFI	400m	2.89075m

DH5-AFH

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

2440MHz

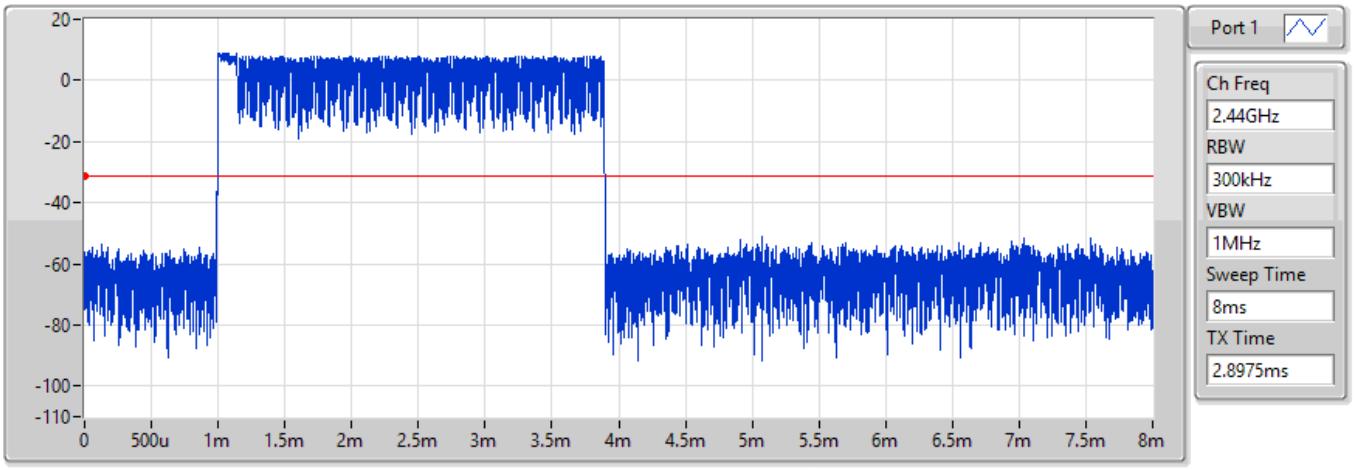


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.9268m_DH5	400m	2.898m

DH5

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

2440MHz



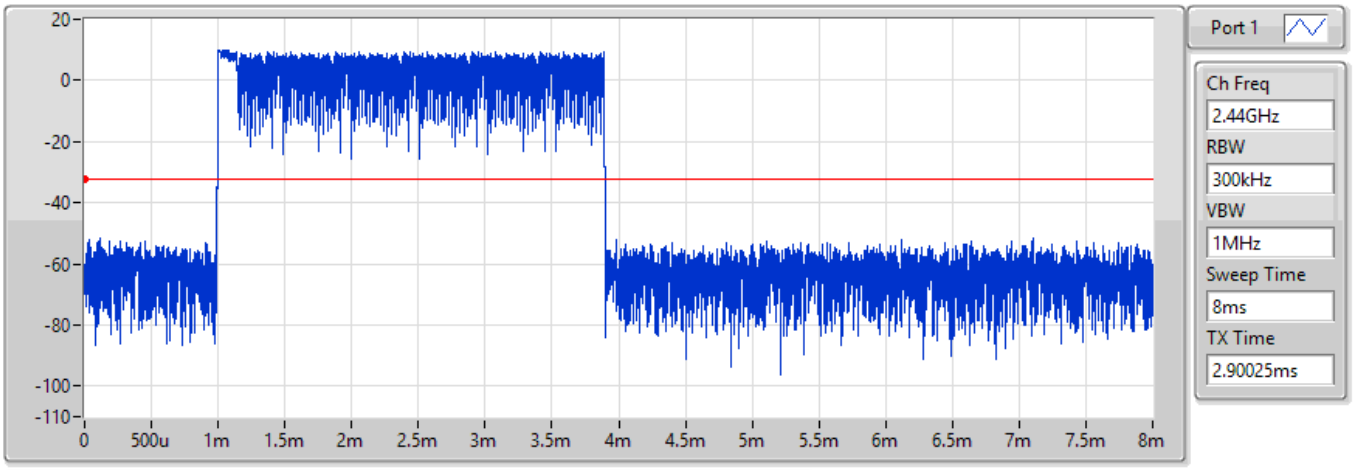
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.43675m_DH5-AFH	400m	2.8975m

DH5-AFH

BT-EDR(3Mbps) Dwell-FS

2440MHz

15/09/2022



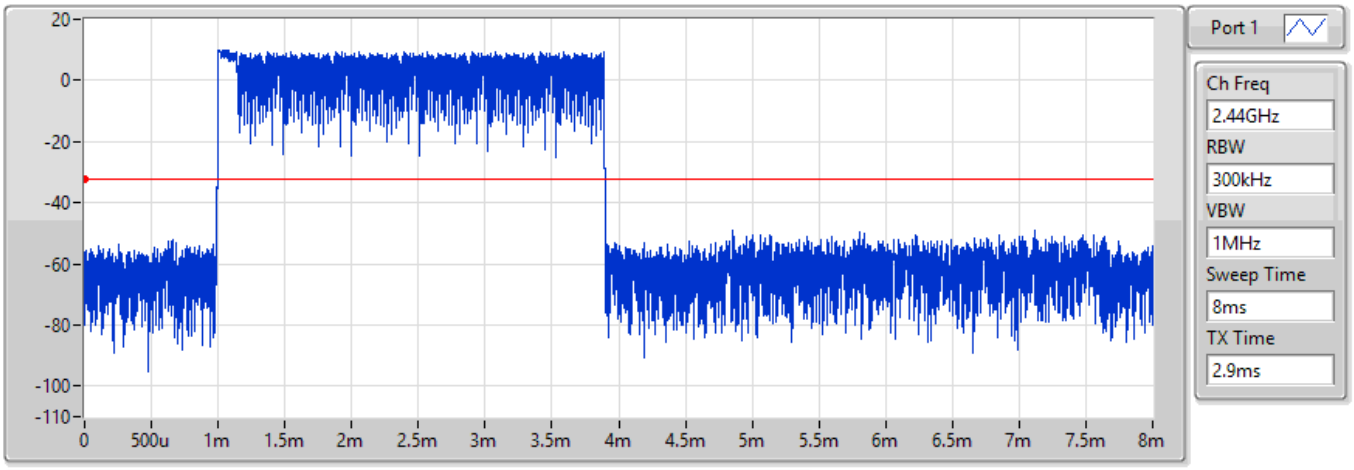
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	309.16665m_DH5	400m	2.90025m

DH5

BT-EDR(3Mbps) Dwell-FS

2440MHz

15/09/2022



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.57m_DH5-AFH	400m	2.9m

DH5-AFH

Summary

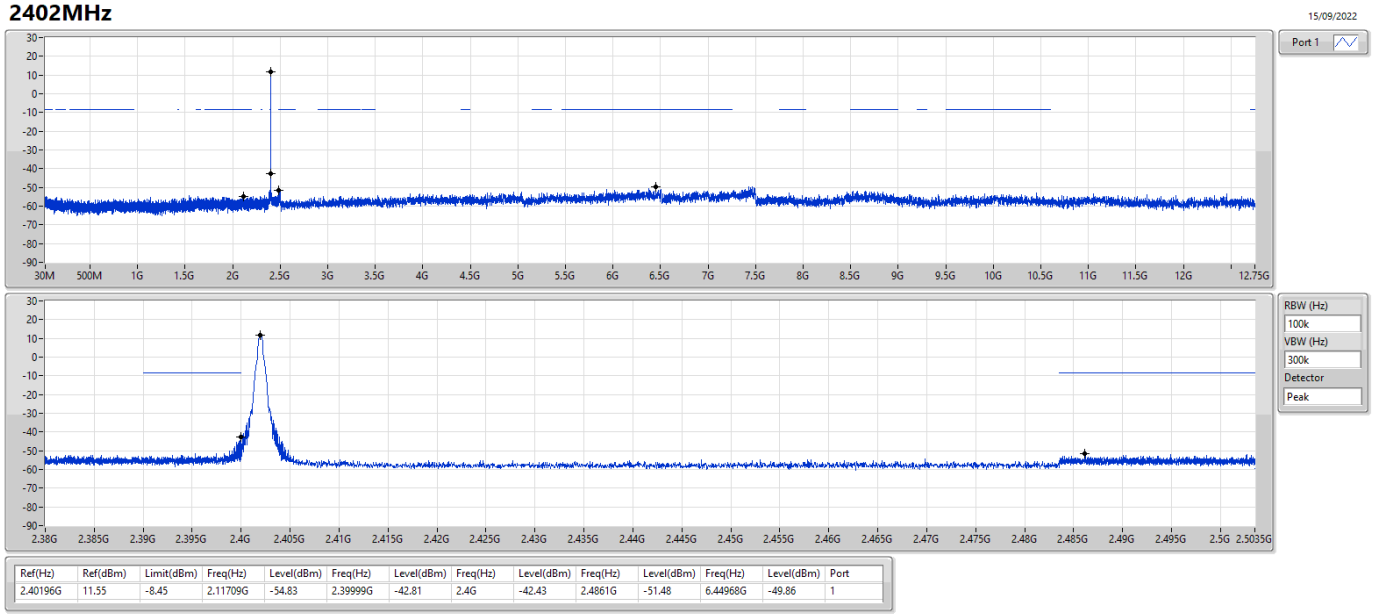
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.40196G	11.55	-8.45	2.11709G	-54.83	2.39999G	-42.81	2.4G	-42.43	2.4861G	-51.48	6.44968G	-49.86	1
BT-EDR(2Mbps)	Pass	2.40213G	9.81	-10.19	1.86711G	-54.05	2.39992G	-45.03	2.4G	-47.77	2.4961G	-51.88	21.78862G	-48.71	1
BT-EDR(3Mbps)	Pass	2.40196G	9.74	-10.26	2.10916G	-54.27	2.39988G	-45.11	2.4G	-45.47	2.49469G	-51.58	21.96016G	-48.19	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	2.40196G	11.55	-8.45	2.11709G	-54.83	2.39999G	-42.81	2.4G	-42.43	2.4861G	-51.48	6.44968G	-49.86	1
2440MHz	Pass	2.44016G	10.92	-9.08	1.95524G	-53.79	2.39404G	-52.25	2.4835G	-57.72	2.49932G	-51.41	21.48211G	-48.62	1
2480MHz	Pass	2.47999G	12.01	-7.99	1.87681G	-53.65	2.39805G	-51.77	2.4835G	-54.32	2.48475G	-49.97	21.95172G	-48.42	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40213G	9.81	-10.19	1.86711G	-54.05	2.39992G	-45.03	2.4G	-47.77	2.4961G	-51.88	21.78862G	-48.71	1
2440MHz	Pass	2.43983G	8.77	-11.23	2.17819G	-53.78	2.39507G	-51.89	2.4G	-55.75	2.50333G	-51.63	21.65646G	-48.63	1
2480MHz	Pass	2.48003G	10.40	-9.60	66.72M	-53.41	2.39926G	-52.01	2.4835G	-53.95	2.49329G	-51.33	21.99391G	-48.27	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40196G	9.74	-10.26	2.10916G	-54.27	2.39988G	-45.11	2.4G	-45.47	2.49469G	-51.58	21.96016G	-48.19	1
2440MHz	Pass	2.44012G	8.46	-11.54	1.85595G	-54.45	2.3991G	-52.09	2.4G	-56.96	2.48652G	-51.57	21.81675G	-49.00	1
2480MHz	Pass	2.48016G	10.36	-9.64	1.72406G	-54.88	2.39958G	-52.12	2.4835G	-54.79	2.4835G	-51.66	21.65083G	-48.39	1

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

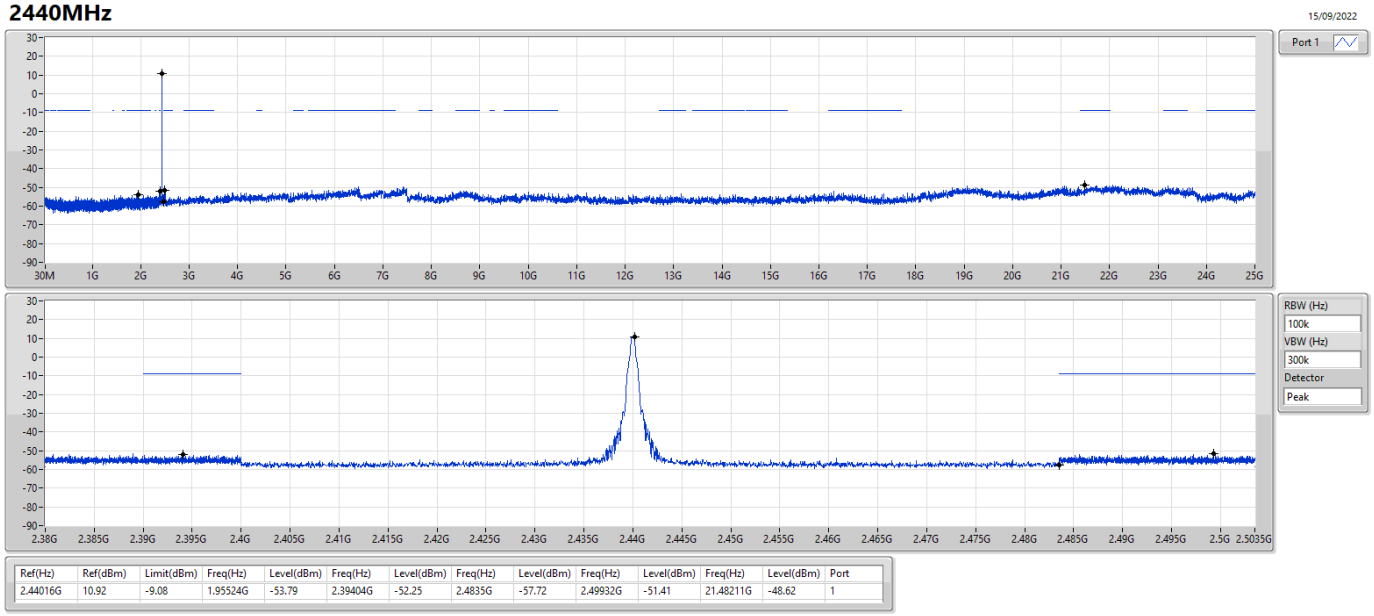
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40196G	11.55	-8.45	2.11709G	-54.83	2.39999G	-42.81	2.4G	-42.43	2.4861G	-51.48	6.44968G	-49.86	1

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

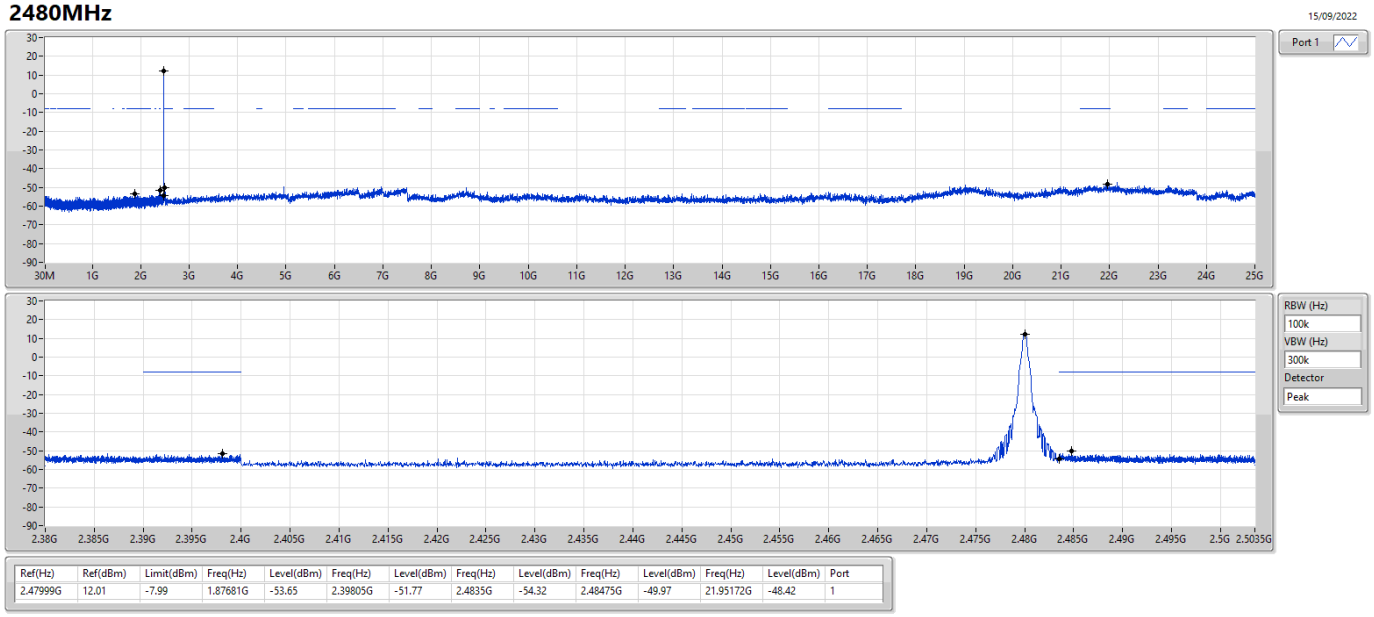
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44016G	10.92	-9.08	1.95524G	-53.79	2.39404G	-52.25	2.4835G	-57.72	2.49932G	-51.41	21.48211G	-48.62	1

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

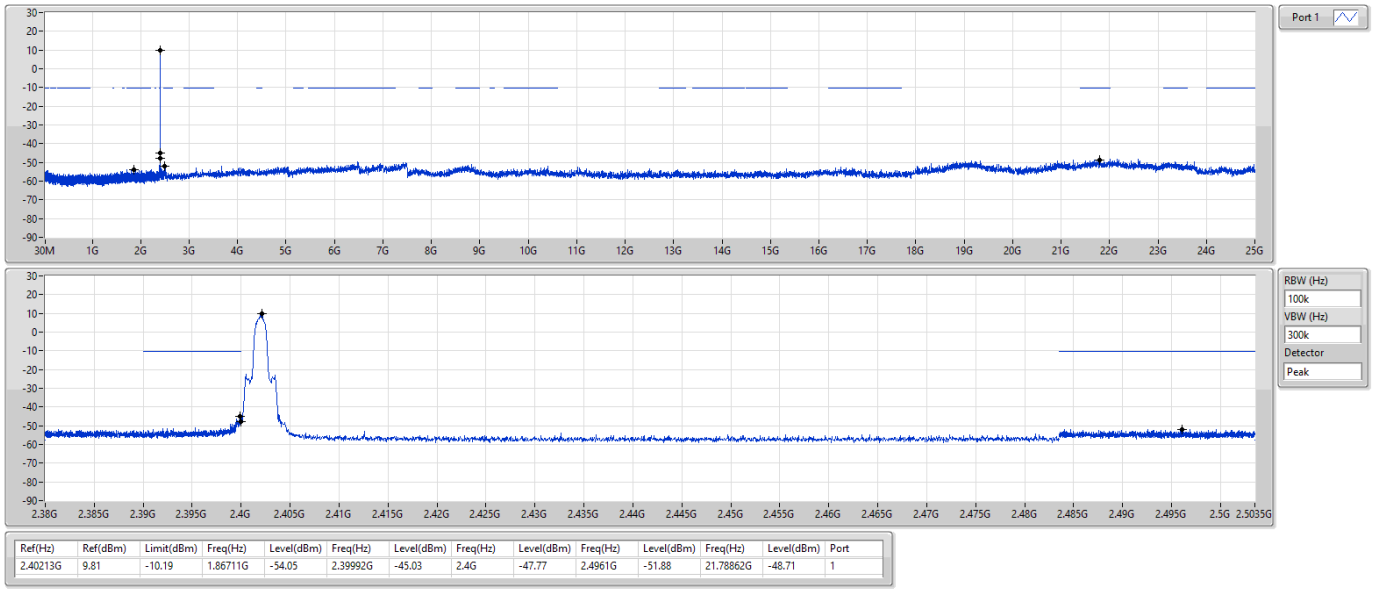
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47999G	12.01	-7.99	1.87681G	-53.65	2.39805G	-51.77	2.4835G	-54.32	2.48475G	-49.97	21.95172G	-48.42	1

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

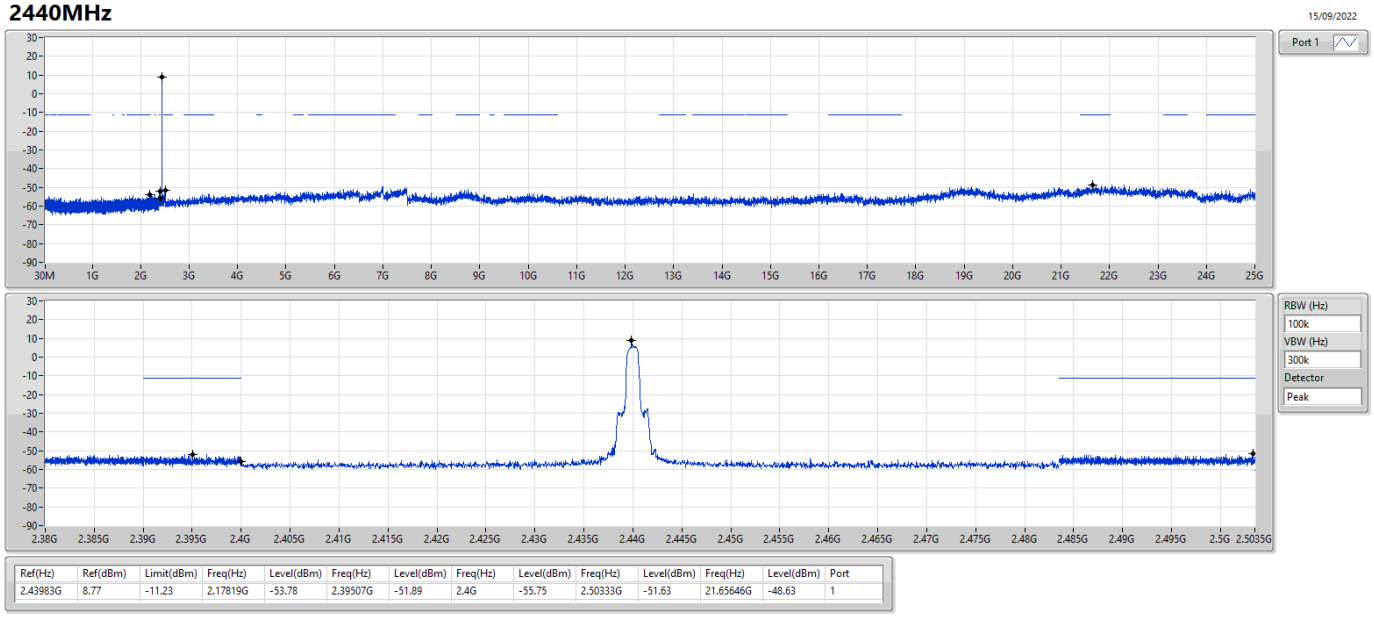
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40213G	9.81	-10.19	1.86711G	-54.05	2.39992G	-45.03	2.4G	-47.77	2.4961G	-51.88	21.78862G	-48.71	1

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

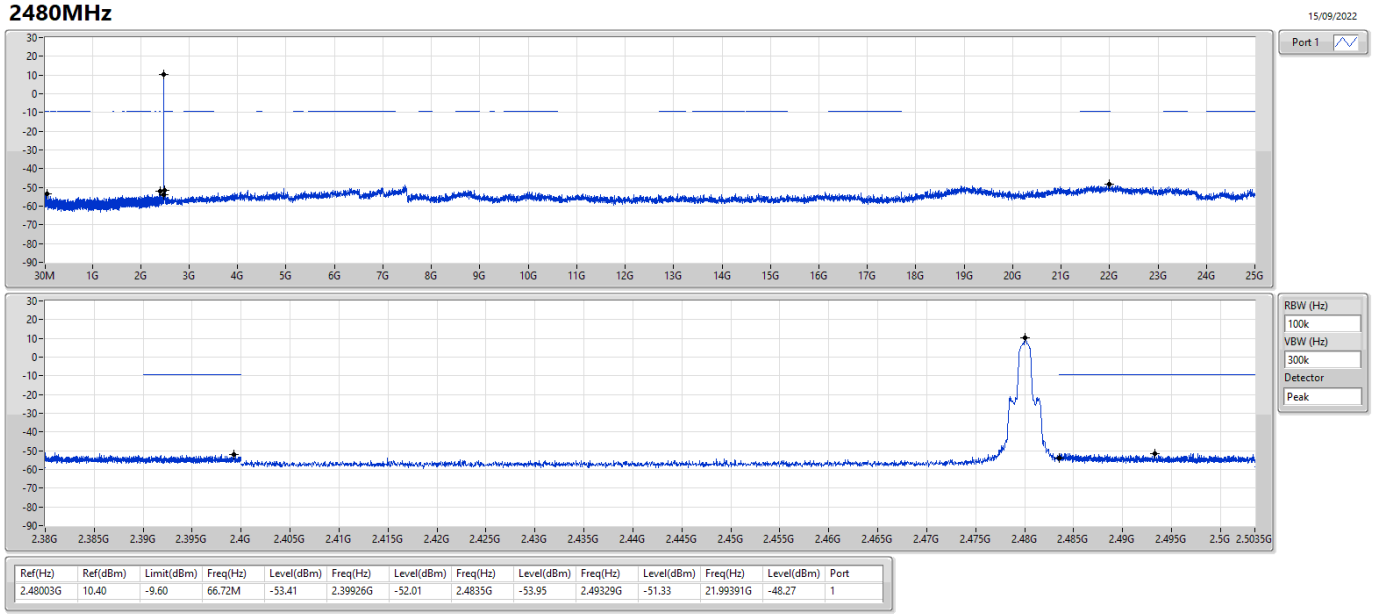
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	8.77	-11.23	2.17819G	-53.78	2.39507G	-51.89	2.4G	-55.75	2.50333G	-51.63	21.65646G	-48.63	1

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

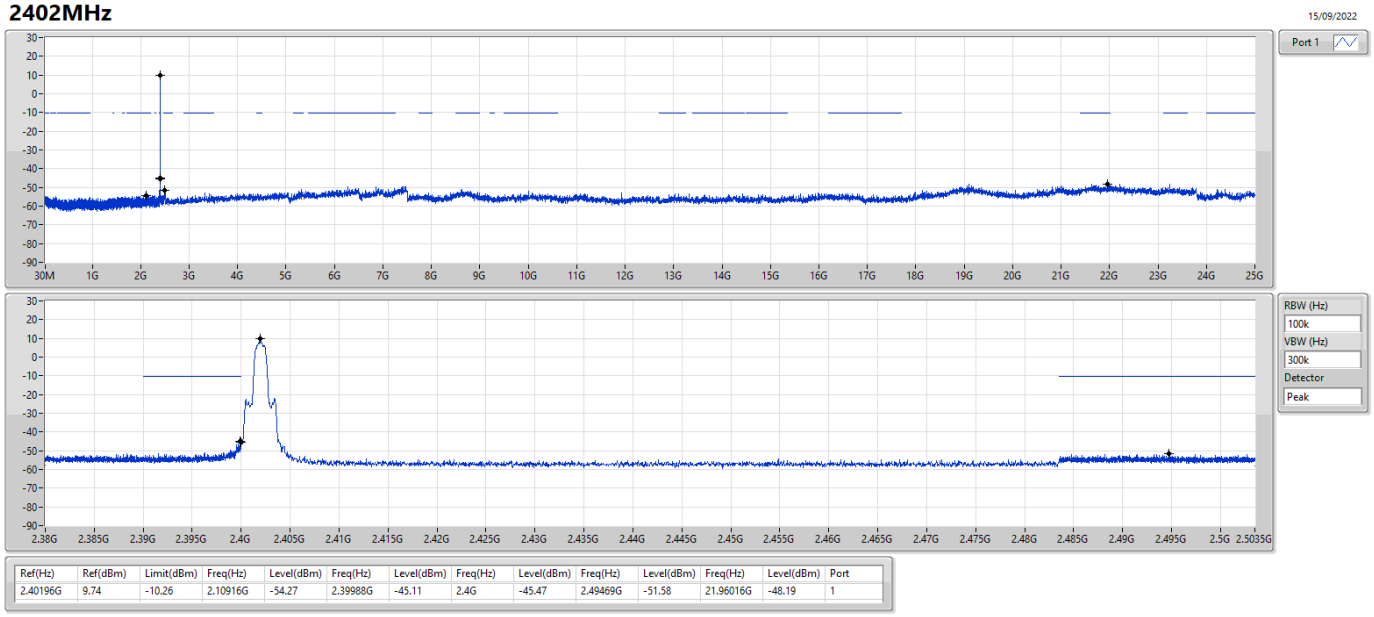
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48003G	10.40	-9.60	66.72M	-53.41	2.39926G	-52.01	2.4835G	-53.95	2.49329G	-51.33	21.99391G	-48.27	1

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

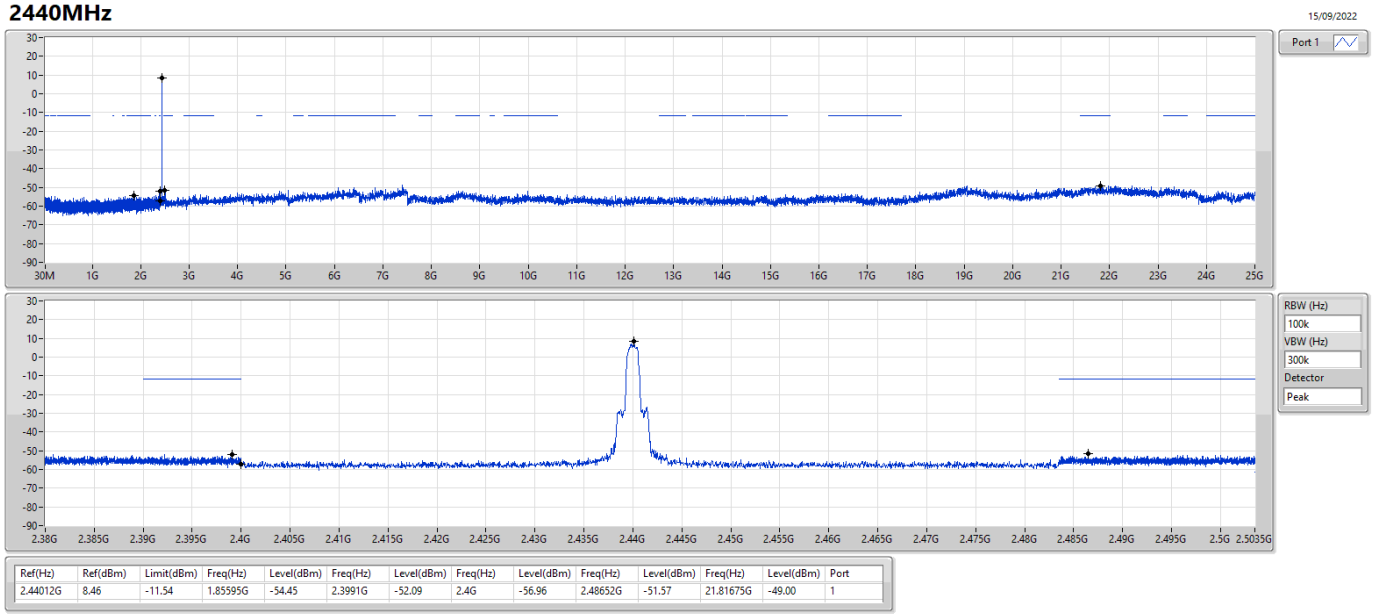
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40196G	9.74	-10.26	2.10916G	-54.27	2.39988G	-45.11	2.4G	-45.47	2.49469G	-51.58	21.96016G	-48.19	1

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

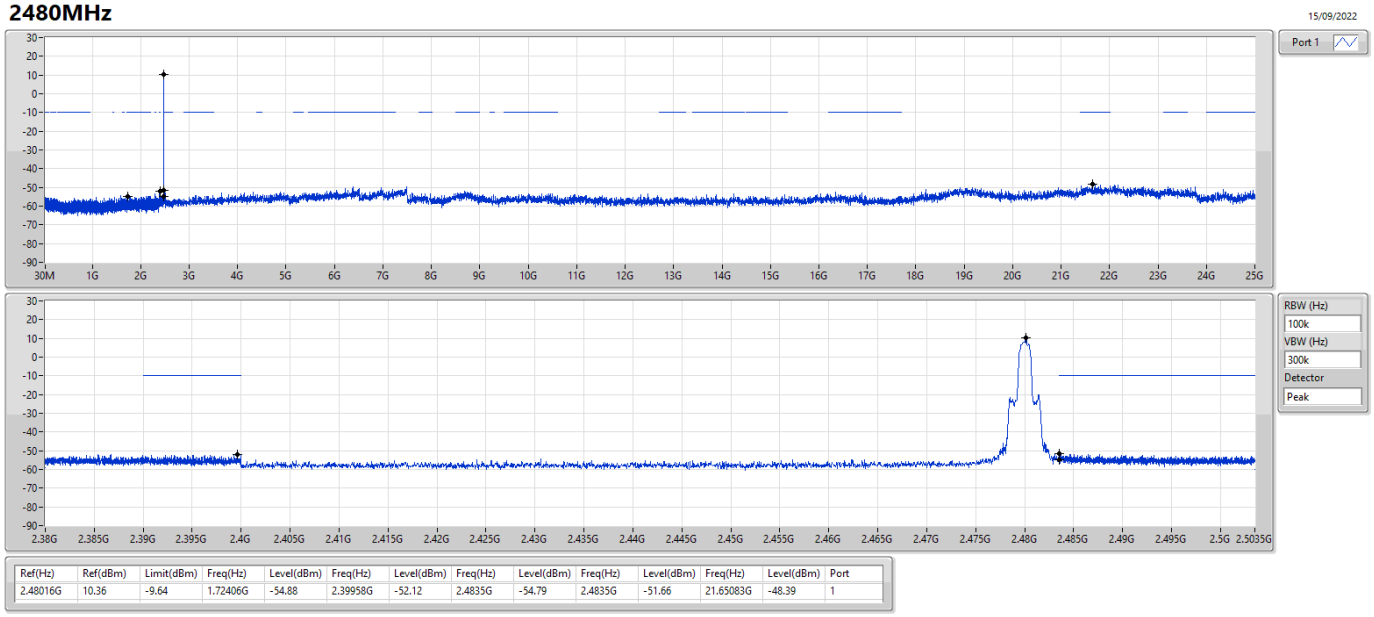
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44012G	8.46	-11.54	1.85595G	-54.45	2.3991G	-52.09	2.4G	-56.96	2.48652G	-51.57	21.81675G	-49.00	1

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

2480MHz

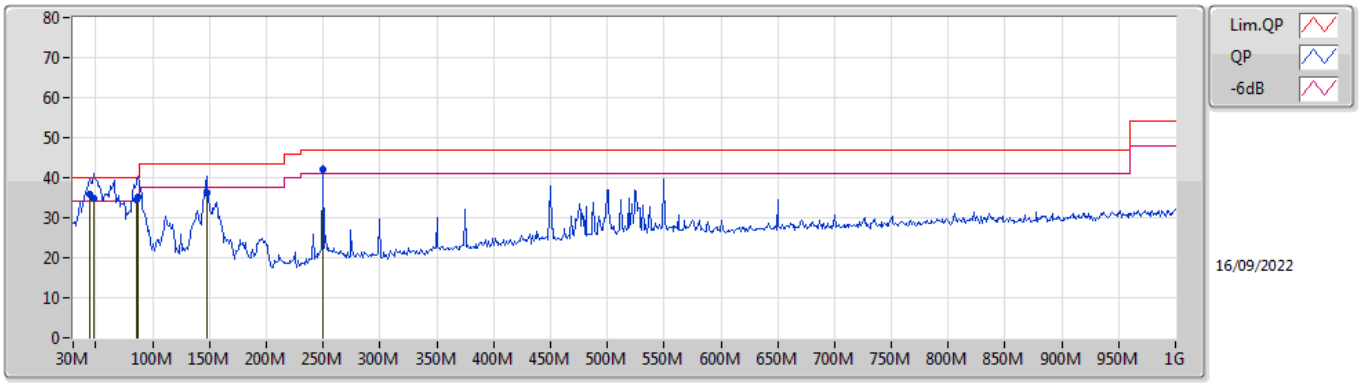


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48016G	10.36	-9.64	1.72406G	-54.88	2.39958G	-52.12	2.4835G	-54.79	2.4835G	-51.66	21.65083G	-48.39	1

Summary

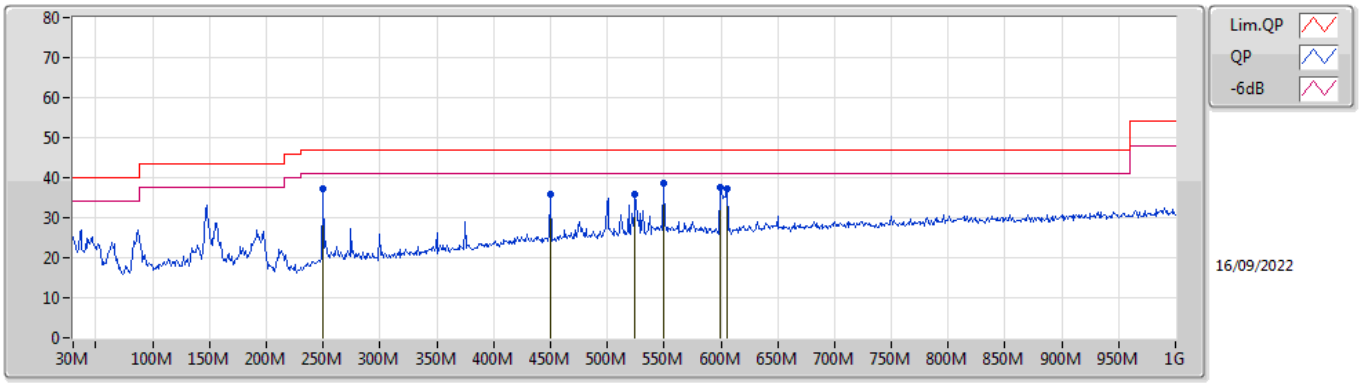
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 4	Pass	QP	250.19M	41.99	46.00	-4.01	Vertical

Mode 4



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
QP	44.55M	35.94	40.00	-4.06	-14.61	3	Vertical	45	1.00	"Worst"	50.55	16.22	0.99	31.82
QP	48.43M	34.70	40.00	-5.30	-16.19	3	Vertical	5	1.00	-	50.89	14.59	1.07	31.85
QP	86.26M	34.63	40.00	-5.37	-16.63	3	Vertical	176	1.50	-	51.26	13.89	1.43	31.95
QP	87.23M	35.17	40.00	-4.83	-16.49	3	Vertical	106	1.00	-	51.66	14.02	1.44	31.95
QP	147.37M	36.20	43.50	-7.30	-13.77	3	Vertical	2	1.00	-	49.97	16.37	1.87	32.01
QP	250.19M	41.99	47.00	-5.01	-11.28	3	Vertical	143	1.00	-	53.27	18.22	2.50	32.00

Mode 4



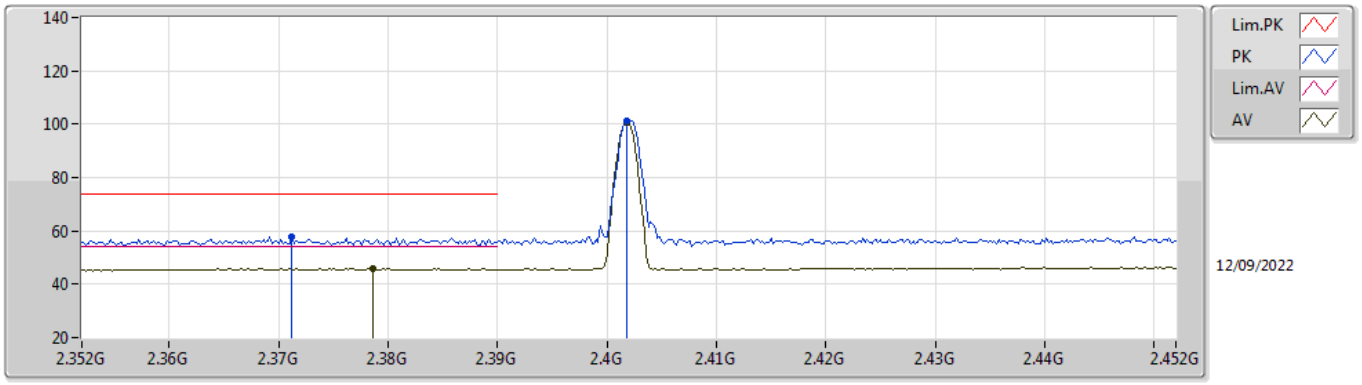
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	250.19M	37.07	47.00	-9.93	-11.28	3	Horizontal	257	2.00	-	48.35	18.22	2.50	32.00
PK	450.01M	35.97	47.00	-11.03	-6.19	3	Horizontal	48	3.00	-	42.16	22.57	3.50	32.26
PK	524.7M	35.92	47.00	-11.08	-5.50	3	Horizontal	277	2.00	-	41.42	23.19	3.70	32.39
PK	549.92M	38.70	47.00	-8.30	-4.10	3	Horizontal	286	2.00	"Worst"	42.80	24.48	3.80	32.38
PK	599.39M	37.49	47.00	-9.51	-4.27	3	Horizontal	231	1.50	-	41.76	24.24	4.00	32.51
PK	605.21M	37.32	47.00	-9.68	-4.28	3	Horizontal	231	1.50	-	41.60	24.21	4.02	32.51

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-EDR(3Mbps)	Pass	AV	4.95988G	49.29	54.00	-4.71	3	Horizontal	56	1.80	-

BT-BR(1Mbps)

2402MHz_TX

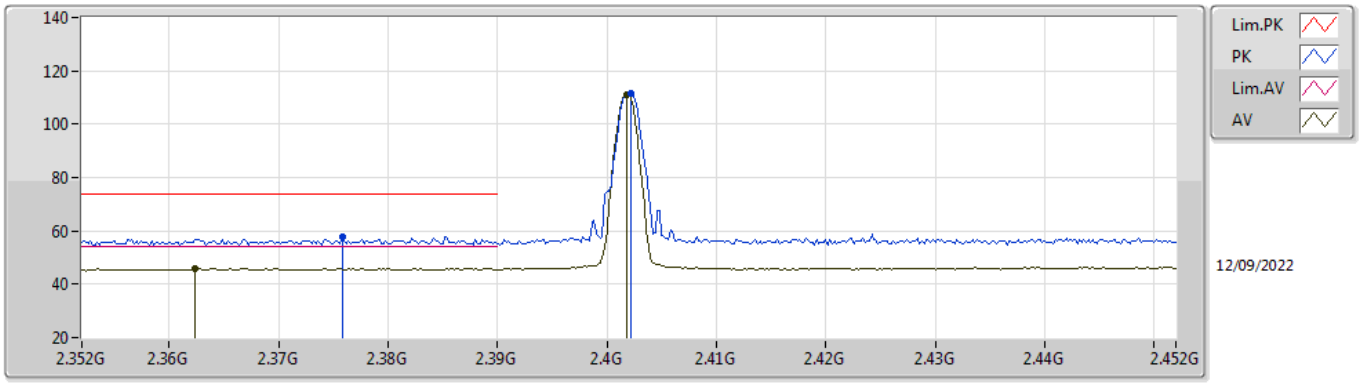


EUT Y_1TX
Setting 9
05-M-S-8

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	2.3712G	57.86	74.00	-16.14	27.40	3	Vertical	24	1.10	-	27.17	3.29	-
AV	2.3786G	45.96	54.00	-8.04	15.44	3	Vertical	24	1.10	-	27.23	3.29	-
PK	2.4018G	101.05	Inf	-Inf	70.34	3	Vertical	24	1.10	-	27.41	3.30	-
AV	2.4018G	100.66	Inf	-Inf	69.95	3	Vertical	24	1.10	-	27.41	3.30	-

BT-BR(1Mbps)

2402MHz_TX

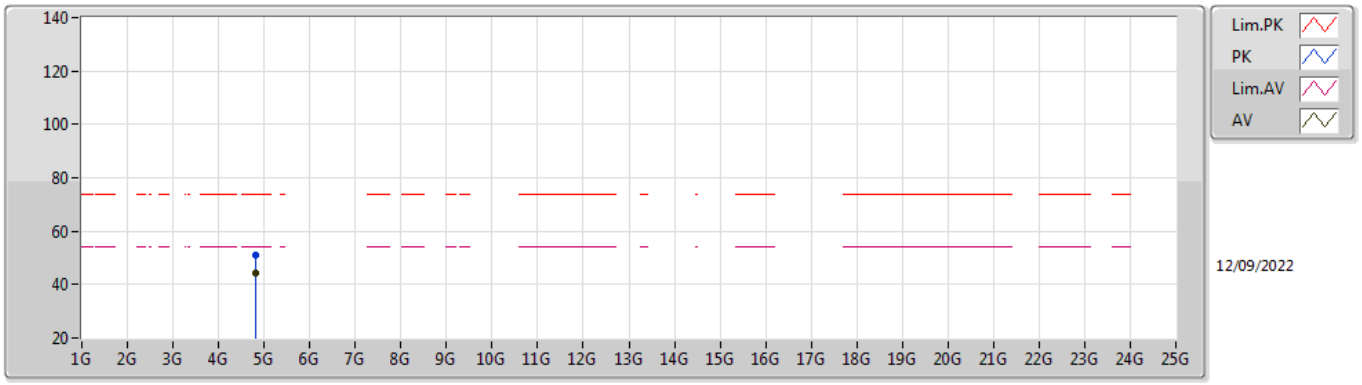


EUT Y_1TX
Setting 9
05-M-S-8

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	2.3758G	57.77	74.00	-16.23	27.27	3	Horizontal	4	2.31	-	27.21	3.29	-
AV	2.3624G	45.85	54.00	-8.15	15.47	3	Horizontal	4	2.31	-	27.10	3.28	-
PK	2.4022G	111.65	Inf	-Inf	80.94	3	Horizontal	4	2.31	-	27.41	3.30	-
AV	2.4018G	111.28	Inf	-Inf	80.57	3	Horizontal	4	2.31	-	27.41	3.30	-

BT-BR(1Mbps)

2402MHz_TX

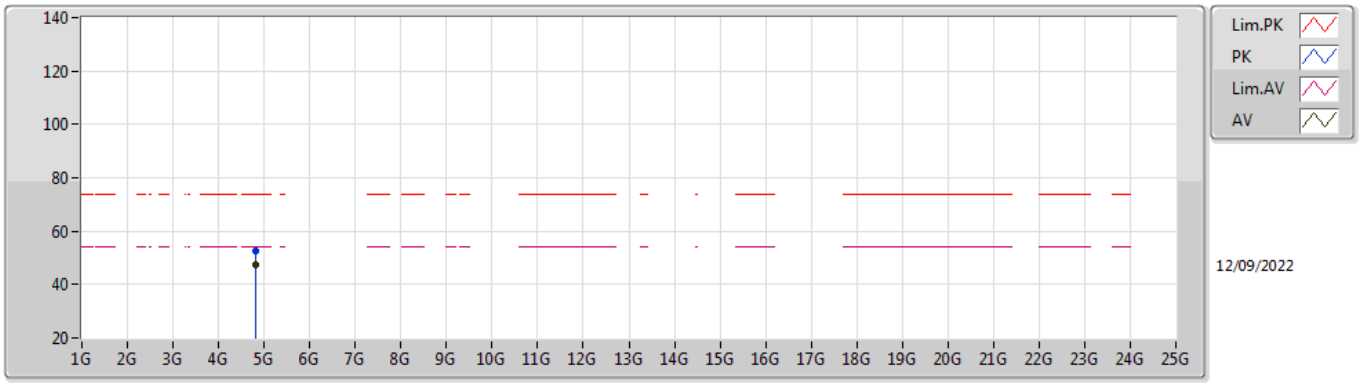


EUT Y_1TX
Setting 9
05-M-S-8

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	4.80448G	51.29	74.00	-22.71	46.19	3	Vertical	46	1.00	-	32.42	6.50	33.82
AV	4.80382G	44.40	54.00	-9.60	39.30	3	Vertical	46	1.00	-	32.42	6.50	33.82

BT-BR(1Mbps)

2402MHz_TX

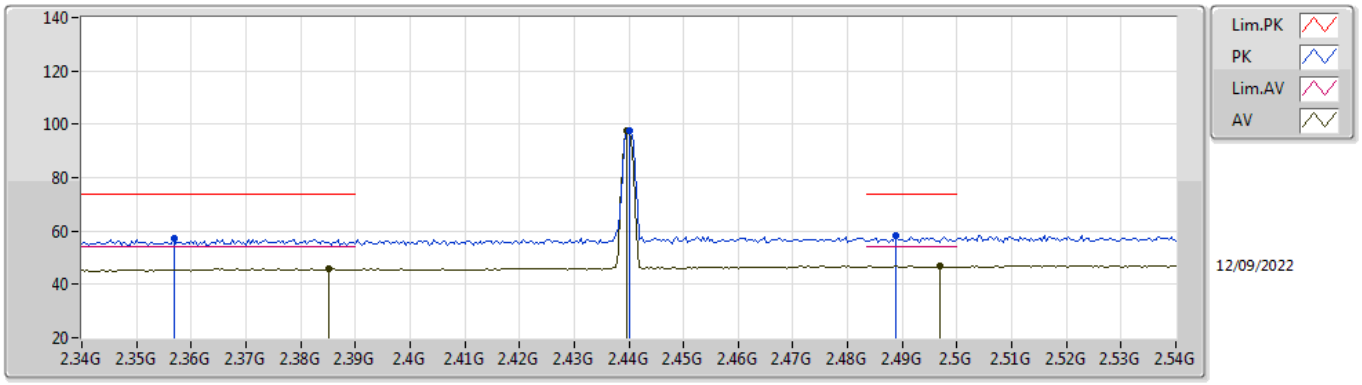


EUT Y_1TX
Setting 9
05-M-S-8

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	4.80428G	52.73	74.00	-21.27	47.63	3	Horizontal	48	2.02	-	32.42	6.50	33.82
AV	4.80379G	47.28	54.00	-6.72	42.18	3	Horizontal	48	2.02	-	32.42	6.50	33.82

BT-BR(1Mbps)

2440MHz_TX

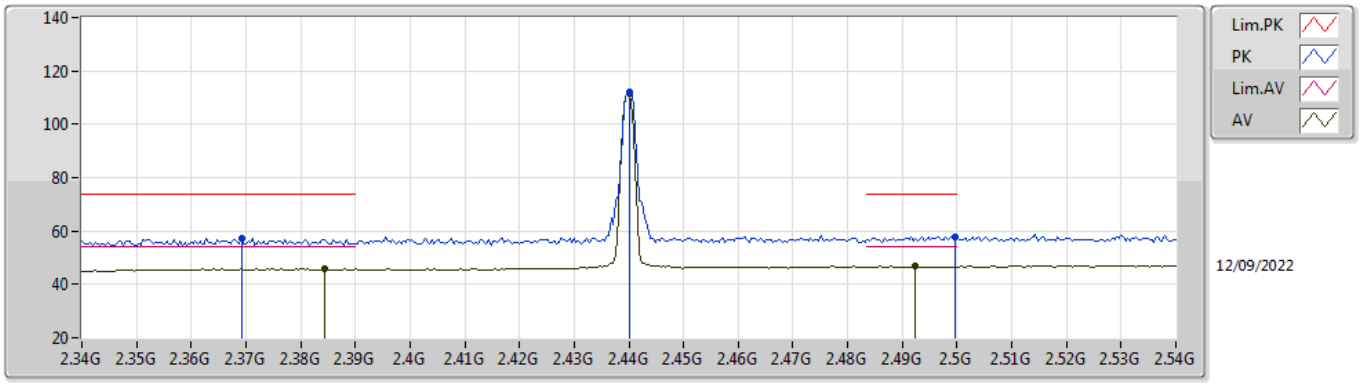


EUT Y_1TX
Setting 9
05-M-S-8

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	2.3568G	57.47	74.00	-16.53	27.14	3	Vertical	31	1.00	-	27.05	3.28	-
AV	2.3852G	45.75	54.00	-8.25	15.18	3	Vertical	31	1.00	-	27.28	3.29	-
PK	2.44G	97.80	Inf	-Inf	66.82	3	Vertical	31	1.00	-	27.64	3.34	-
AV	2.4396G	97.38	Inf	-Inf	66.40	3	Vertical	31	1.00	-	27.64	3.34	-
PK	2.4888G	58.08	74.00	-15.92	26.76	3	Vertical	31	1.00	-	27.93	3.39	-
AV	2.4968G	46.84	54.00	-7.16	15.46	3	Vertical	31	1.00	-	27.98	3.40	-

BT-BR(1Mbps)

2440MHz_TX

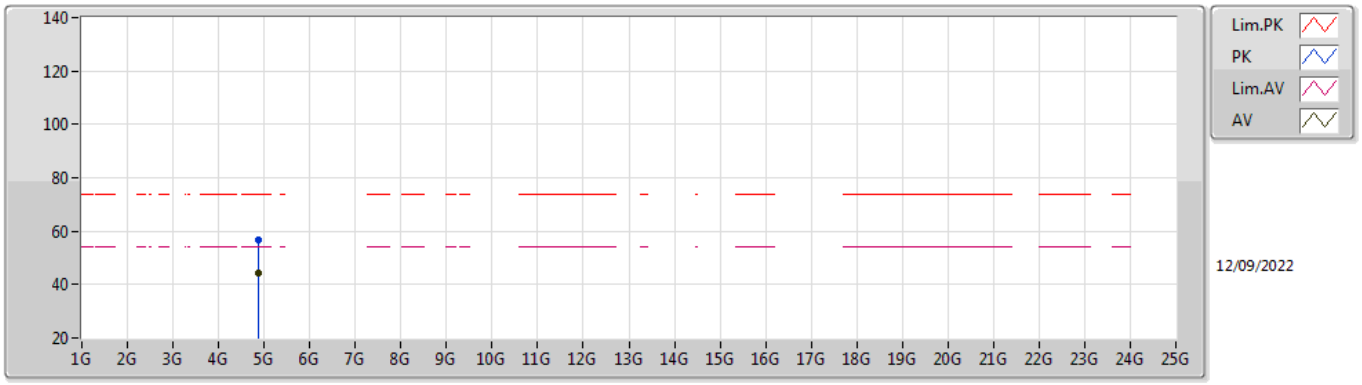


EUT Y_1TX
Setting 9
05-M-S-8

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	2.3692G	57.46	74.00	-16.54	27.03	3	Horizontal	5	2.26	-	27.15	3.28	-
AV	2.3844G	45.75	54.00	-8.25	15.18	3	Horizontal	5	2.26	-	27.28	3.29	-
PK	2.44G	111.98	Inf	-Inf	81.00	3	Horizontal	5	2.26	-	27.64	3.34	-
AV	2.44G	111.60	Inf	-Inf	80.62	3	Horizontal	5	2.26	-	27.64	3.34	-
PK	2.4996G	57.88	74.00	-16.12	26.48	3	Horizontal	5	2.26	-	28.00	3.40	-
AV	2.4924G	46.80	54.00	-7.20	15.46	3	Horizontal	5	2.26	-	27.95	3.39	-

BT-BR(1Mbps)

2440MHz_TX

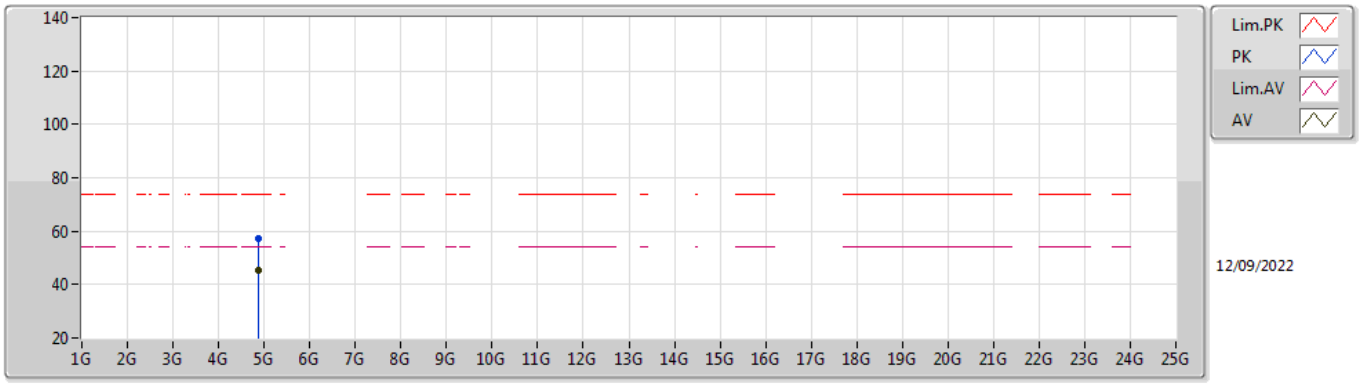


EUT Y_1TX
Setting 9
05-M-S-8

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	4.88316G	56.64	74.00	-17.36	51.27	3	Vertical	85	2.66	-	32.67	6.54	33.84
AV	4.87724G	44.19	54.00	-9.81	38.84	3	Vertical	85	2.66	-	32.65	6.54	33.84

BT-BR(1Mbps)

2440MHz_TX

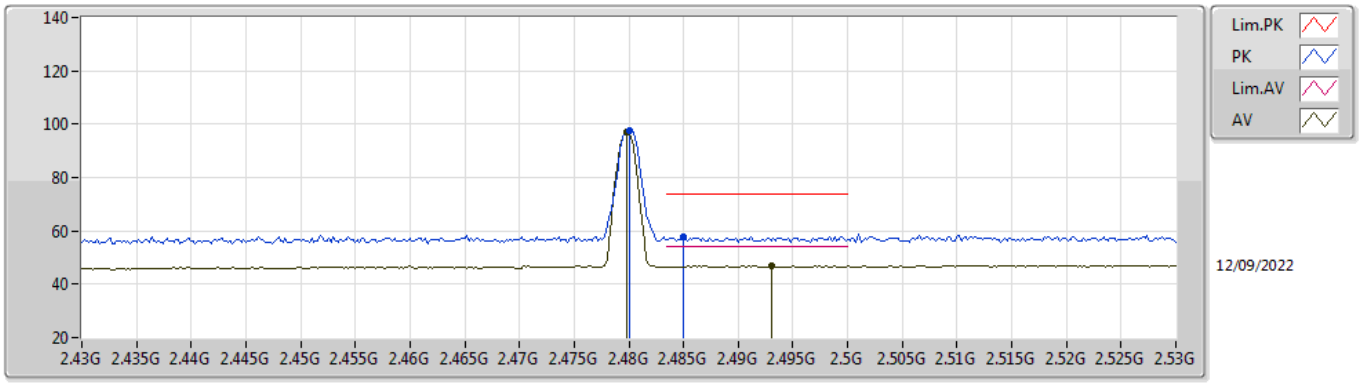


EUT Y_1TX
Setting 9
05-M-S-8

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	4.87736G	57.41	74.00	-16.59	52.06	3	Horizontal	68	1.34	-	32.65	6.54	33.84
AV	4.88212G	45.27	54.00	-8.73	39.91	3	Horizontal	68	1.34	-	32.66	6.54	33.84

BT-BR(1Mbps)

2480MHz_TX

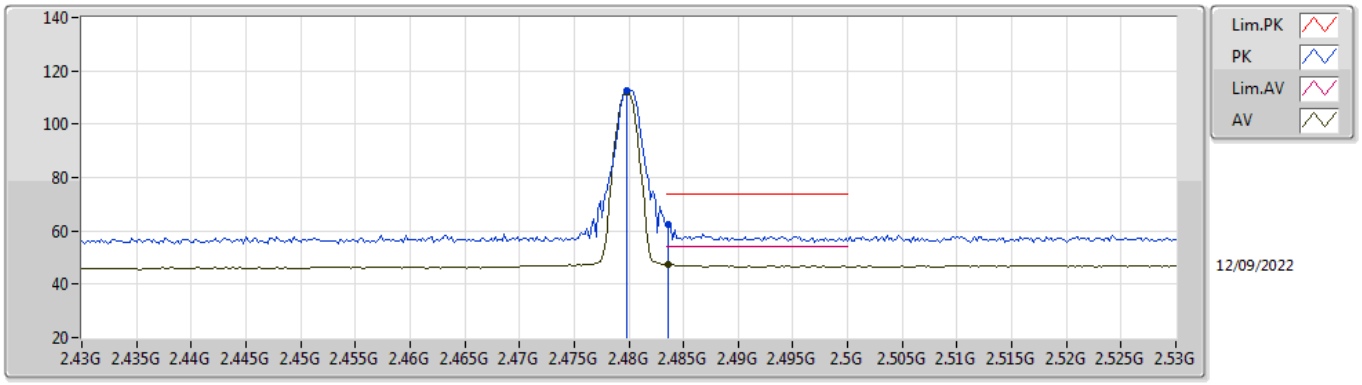


EUT Y_1TX
Setting 9
05-M-S-8

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	97.40	Inf	-Inf	66.14	3	Vertical	24	3.00	-	27.88	3.38	-
AV	2.4798G	96.99	Inf	-Inf	65.73	3	Vertical	24	3.00	-	27.88	3.38	-
PK	2.485G	57.93	74.00	-16.07	26.63	3	Vertical	24	3.00	-	27.91	3.39	-
AV	2.493G	47.06	54.00	-6.94	15.71	3	Vertical	24	3.00	-	27.96	3.39	-

BT-BR(1Mbps)

2480MHz_TX

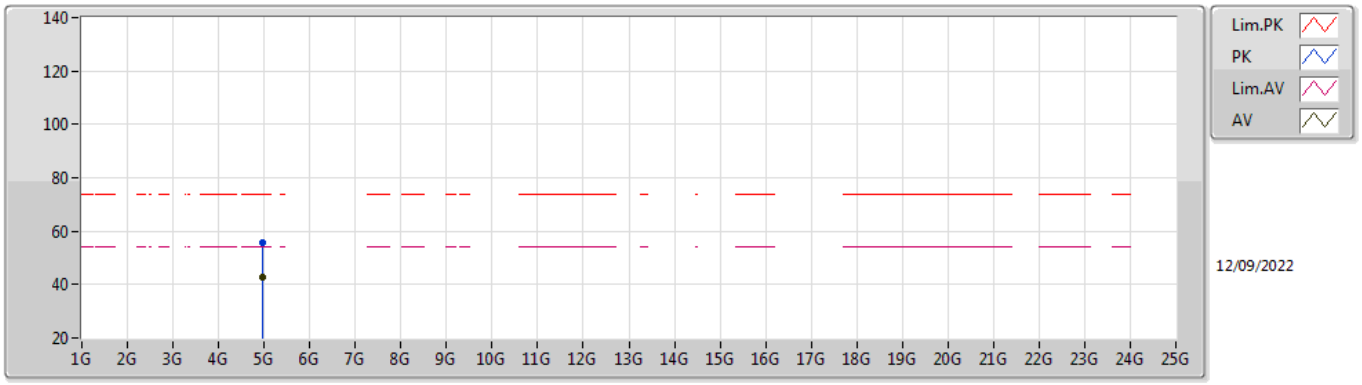


EUT Y_1TX
Setting 9
05-M-S-8

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4798G	112.49	Inf	-Inf	81.23	3	Horizontal	5	2.45	-	27.88	3.38	-
AV	2.4798G	112.11	Inf	-Inf	80.85	3	Horizontal	5	2.45	-	27.88	3.38	-
PK	2.4836G	62.64	74.00	-11.36	31.36	3	Horizontal	5	2.45	-	27.90	3.38	-
AV	2.4836G	47.47	54.00	-6.53	16.19	3	Horizontal	5	2.45	-	27.90	3.38	-

BT-BR(1Mbps)

2480MHz_TX

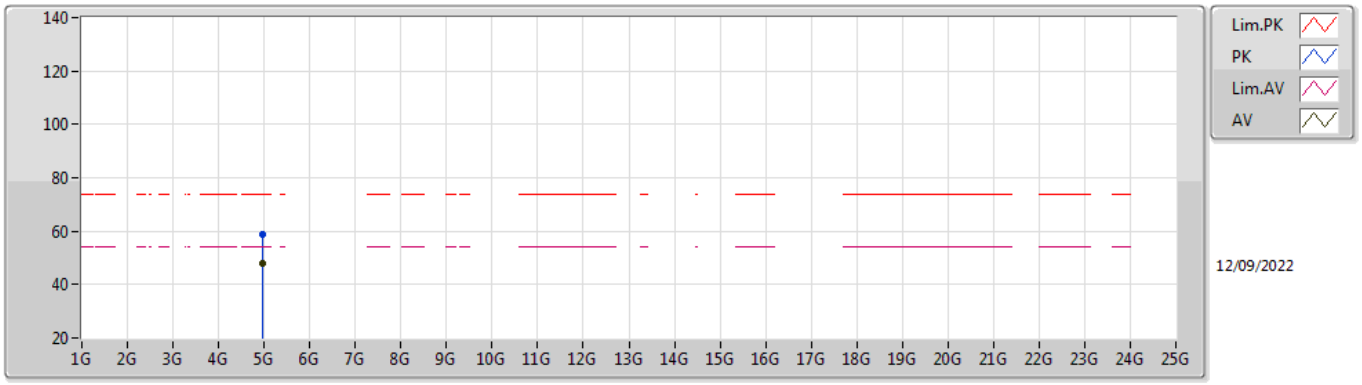


EUT Y_1TX
Setting 9
05-M-S-8

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	4.96152G	55.44	74.00	-18.56	49.80	3	Vertical	279	1.17	-	32.92	6.58	33.86
AV	4.96454G	42.80	54.00	-11.20	37.15	3	Vertical	279	1.17	-	32.93	6.58	33.86

BT-BR(1Mbps)

2480MHz_TX

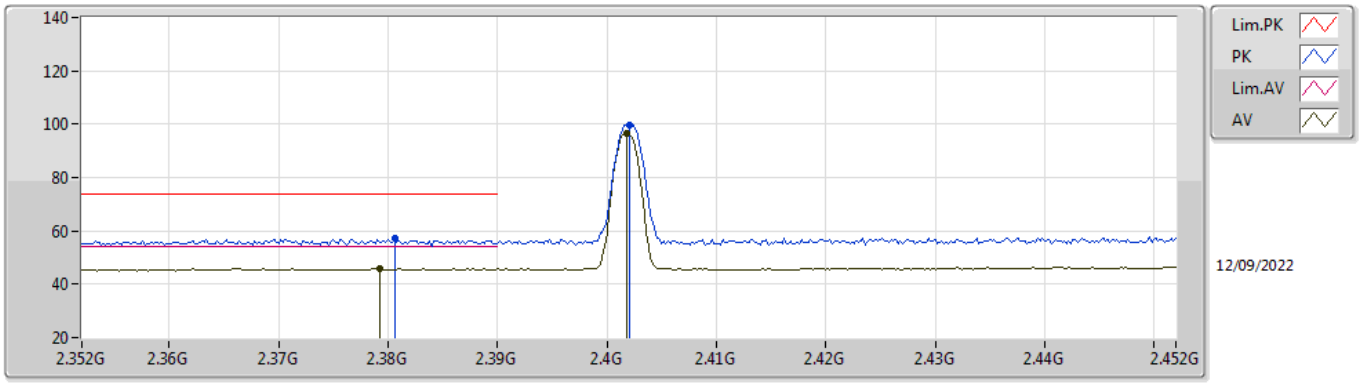


EUT Y_1TX
Setting 9
05-M-S-8

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	4.95592G	59.00	74.00	-15.00	53.37	3	Horizontal	144	2.03	-	32.91	6.58	33.86
AV	4.96334G	47.93	54.00	-6.07	42.28	3	Horizontal	144	2.03	-	32.93	6.58	33.86

BT-EDR(3Mbps)

2402MHz_TX

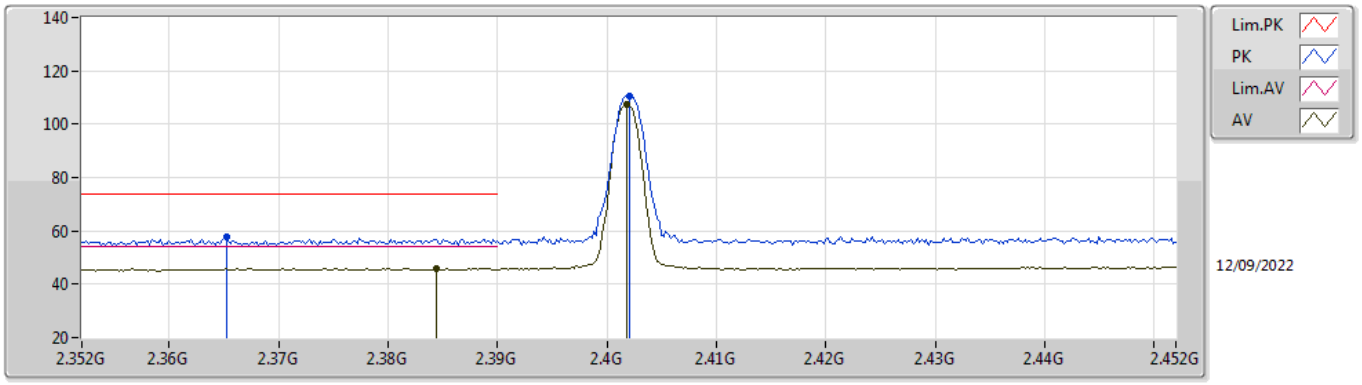


EUT Y_1TX
Setting 9
05-M-S-8

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	57.35	74.00	-16.65	26.82	3	Vertical	26	1.09	-	27.24	3.29	-
AV	2.3792G	45.96	54.00	-8.04	15.44	3	Vertical	26	1.09	-	27.23	3.29	-
PK	2.402G	99.88	Inf	-Inf	69.17	3	Vertical	26	1.09	-	27.41	3.30	-
AV	2.4018G	96.70	Inf	-Inf	65.99	3	Vertical	26	1.09	-	27.41	3.30	-

BT-EDR(3Mbps)

2402MHz_TX

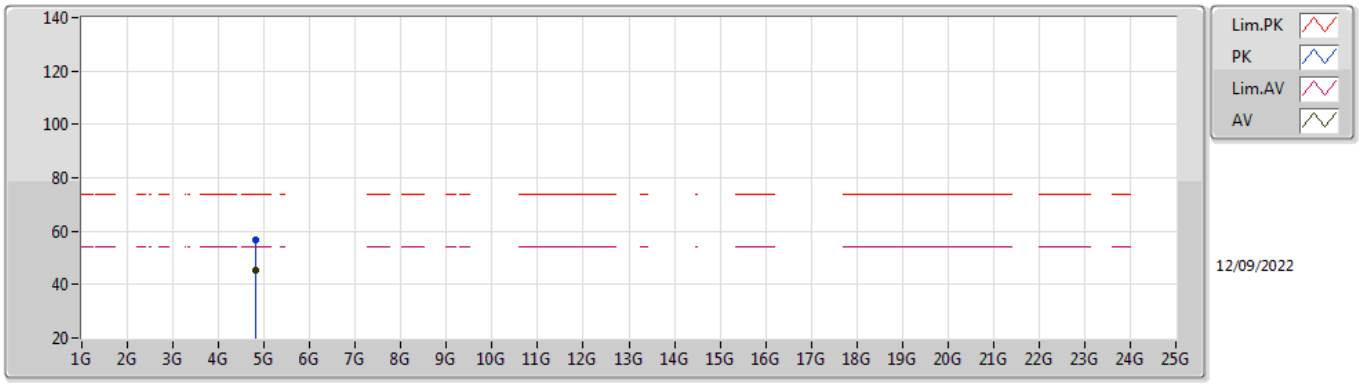


EUT Y_1TX
Setting 9
05-M-S-8

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	2.3652G	57.63	74.00	-16.37	27.23	3	Horizontal	4	2.31	-	27.12	3.28	-
AV	2.3844G	46.00	54.00	-8.00	15.43	3	Horizontal	4	2.31	-	27.28	3.29	-
PK	2.402G	110.48	Inf	-Inf	79.77	3	Horizontal	4	2.31	-	27.41	3.30	-
AV	2.4018G	107.30	Inf	-Inf	76.59	3	Horizontal	4	2.31	-	27.41	3.30	-

BT-EDR(3Mbps)

2402MHz_TX

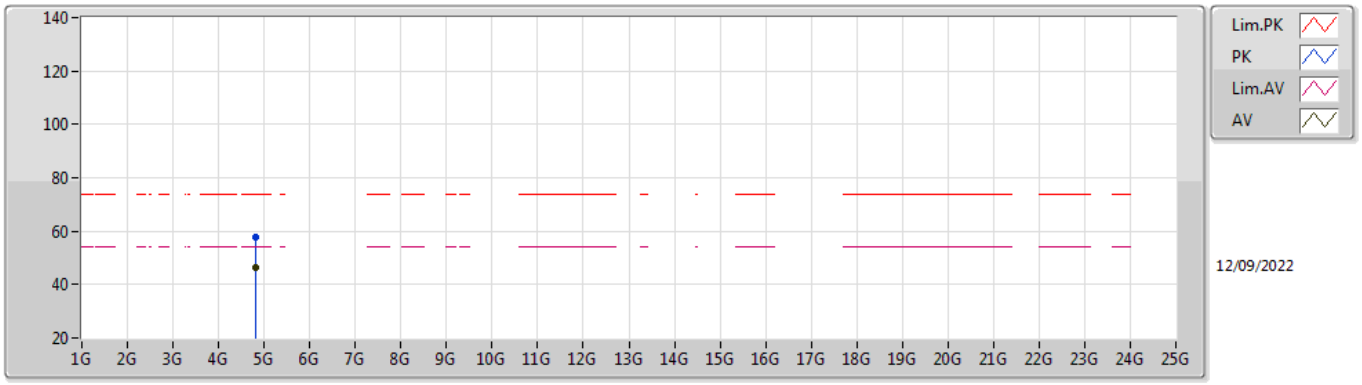


EUT Y_1TX
Setting 9
05-M-S-8

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	4.80644G	56.83	74.00	-17.17	51.72	3	Vertical	94	1.57	-	32.43	6.50	33.82
AV	4.80078G	45.34	54.00	-8.66	40.26	3	Vertical	94	1.57	-	32.40	6.50	33.82

BT-EDR(3Mbps)

2402MHz_TX

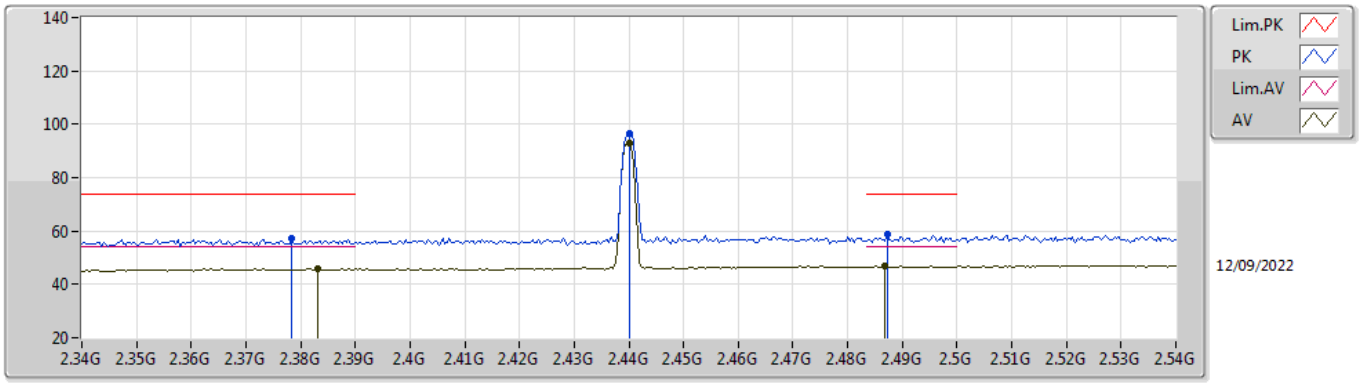


EUT Y_1TX
Setting 9
05-M-S-8

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	4.80538G	57.95	74.00	-16.05	52.85	3	Horizontal	13	1.81	-	32.42	6.50	33.82
AV	4.80022G	46.15	54.00	-7.85	41.07	3	Horizontal	13	1.81	-	32.40	6.50	33.82

BT-EDR(3Mbps)

2440MHz_TX

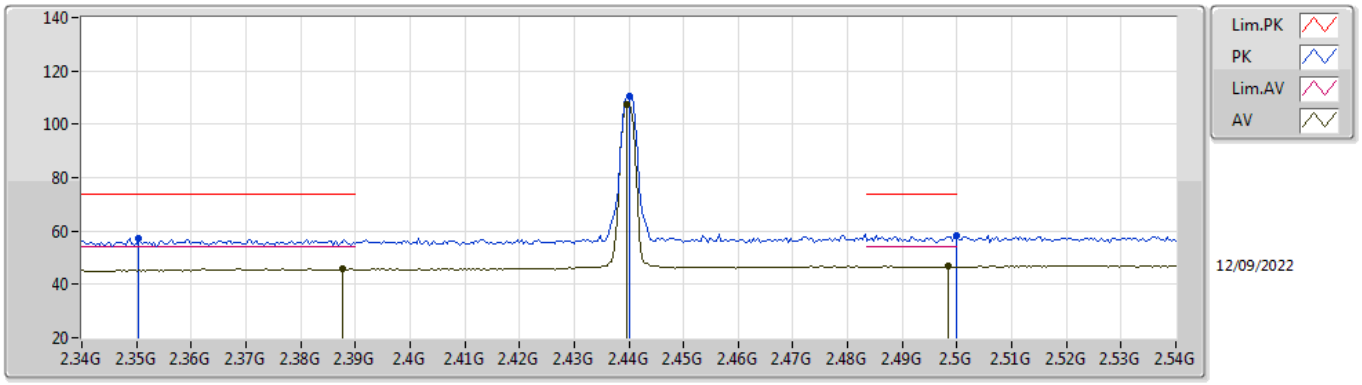


EUT Y_1TX
Setting 9
05-M-S-8

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	2.3784G	57.21	74.00	-16.79	26.69	3	Vertical	29	1.00	-	27.23	3.29	-
AV	2.3832G	45.75	54.00	-8.25	15.19	3	Vertical	29	1.00	-	27.27	3.29	-
PK	2.44G	96.51	Inf	-Inf	65.53	3	Vertical	29	1.00	-	27.64	3.34	-
AV	2.44G	93.11	Inf	-Inf	62.13	3	Vertical	29	1.00	-	27.64	3.34	-
PK	2.4872G	58.72	74.00	-15.28	27.41	3	Vertical	29	1.00	-	27.92	3.39	-
AV	2.4868G	47.03	54.00	-6.97	15.72	3	Vertical	29	1.00	-	27.92	3.39	-

BT-EDR(3Mbps)

2440MHz_TX

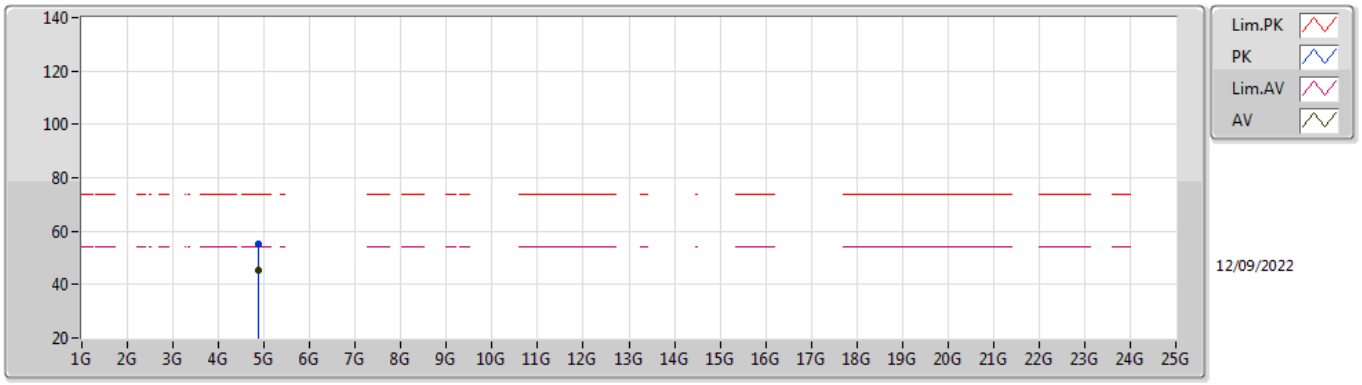


EUT Y_1TX
Setting 9
05-M-S-8

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	2.3504G	57.15	74.00	-16.85	26.87	3	Horizontal	6	2.26	-	27.00	3.28	-
AV	2.3876G	45.75	54.00	-8.25	15.16	3	Horizontal	6	2.26	-	27.30	3.29	-
PK	2.44G	110.66	Inf	-Inf	79.68	3	Horizontal	6	2.26	-	27.64	3.34	-
AV	2.4396G	107.31	Inf	-Inf	76.33	3	Horizontal	6	2.26	-	27.64	3.34	-
PK	2.5G	58.41	74.00	-15.59	27.01	3	Horizontal	6	2.26	-	28.00	3.40	-
AV	2.4984G	46.85	54.00	-7.15	15.46	3	Horizontal	6	2.26	-	27.99	3.40	-

BT-EDR(3Mbps)

2440MHz_TX

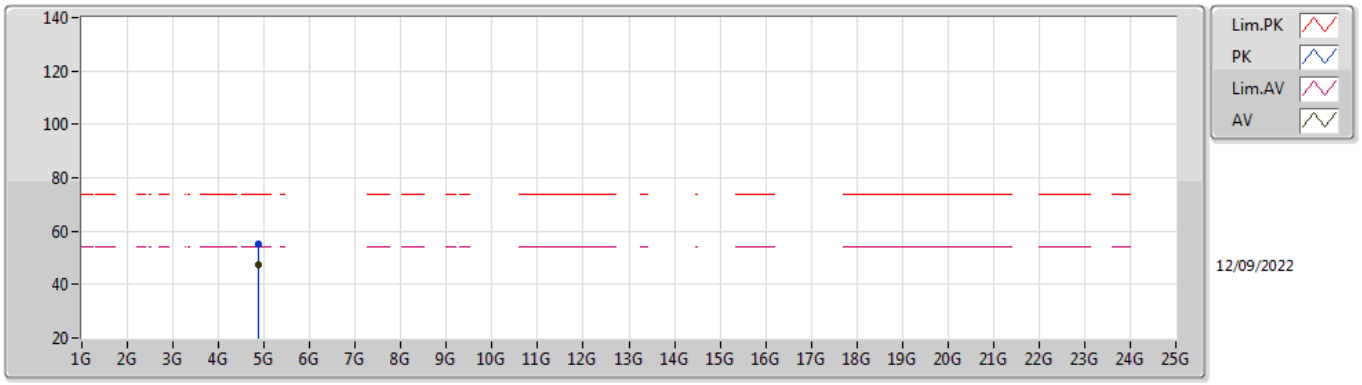


EUT Y_1TX
Setting 9
05-M-S-8

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	4.87968G	55.13	74.00	-18.87	49.77	3	Vertical	327	1.52	-	32.66	6.54	33.84
AV	4.88296G	45.27	54.00	-8.73	39.90	3	Vertical	327	1.52	-	32.67	6.54	33.84

BT-EDR(3Mbps)

2440MHz_TX

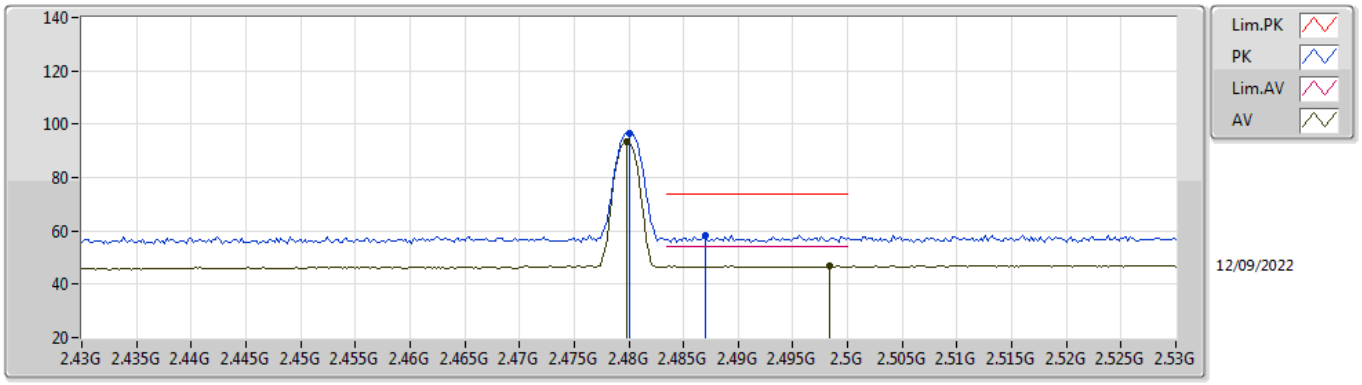


EUT Y_1TX
Setting 9
05-M-S-8

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	4.87566G	55.08	74.00	-18.92	49.73	3	Horizontal	173	1.59	-	32.65	6.54	33.84
AV	4.88058G	47.23	54.00	-6.77	41.87	3	Horizontal	173	1.59	-	32.66	6.54	33.84

BT-EDR(3Mbps)

2480MHz_TX

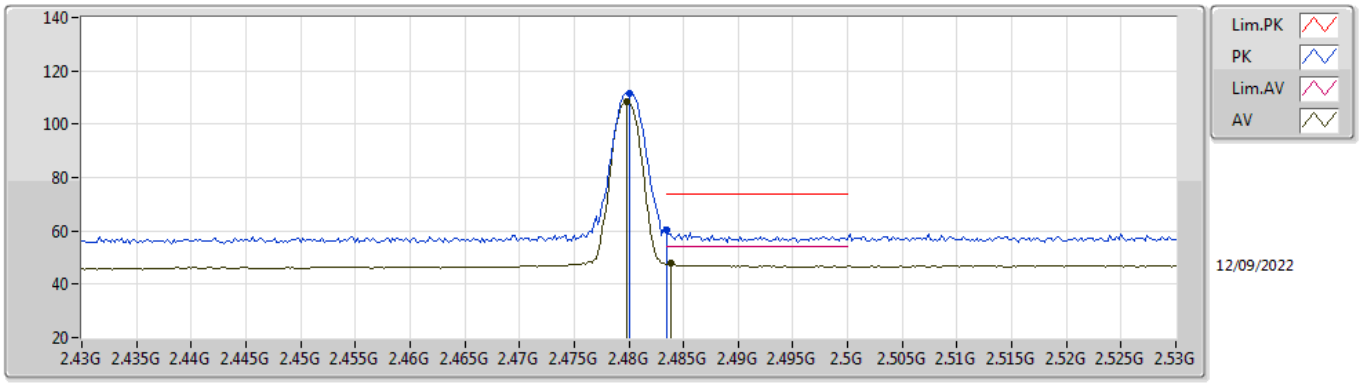


EUT Y_1TX
Setting 9
05-M-S-8

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	96.43	Inf	-Inf	65.17	3	Vertical	24	3.00	-	27.88	3.38	-
AV	2.4798G	93.29	Inf	-Inf	62.03	3	Vertical	24	3.00	-	27.88	3.38	-
PK	2.487G	58.40	74.00	-15.60	27.09	3	Vertical	24	3.00	-	27.92	3.39	-
AV	2.4984G	47.09	54.00	-6.91	15.70	3	Vertical	24	3.00	-	27.99	3.40	-

BT-EDR(3Mbps)

2480MHz_TX

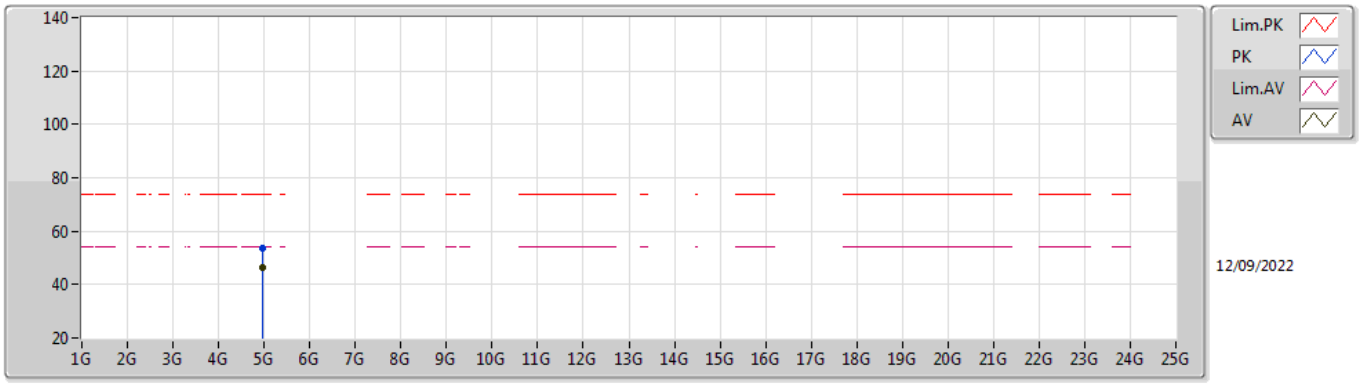


EUT Y_1TX
Setting 9
05-M-S-8

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	111.39	Inf	-Inf	80.13	3	Horizontal	6	2.45	-	27.88	3.38	-
AV	2.4798G	108.30	Inf	-Inf	77.04	3	Horizontal	6	2.45	-	27.88	3.38	-
PK	2.4835G	60.44	74.00	-13.56	29.16	3	Horizontal	6	2.45	-	27.90	3.38	-
AV	2.4838G	47.69	54.00	-6.31	16.41	3	Horizontal	6	2.45	-	27.90	3.38	-

BT-EDR(3Mbps)

2480MHz_TX

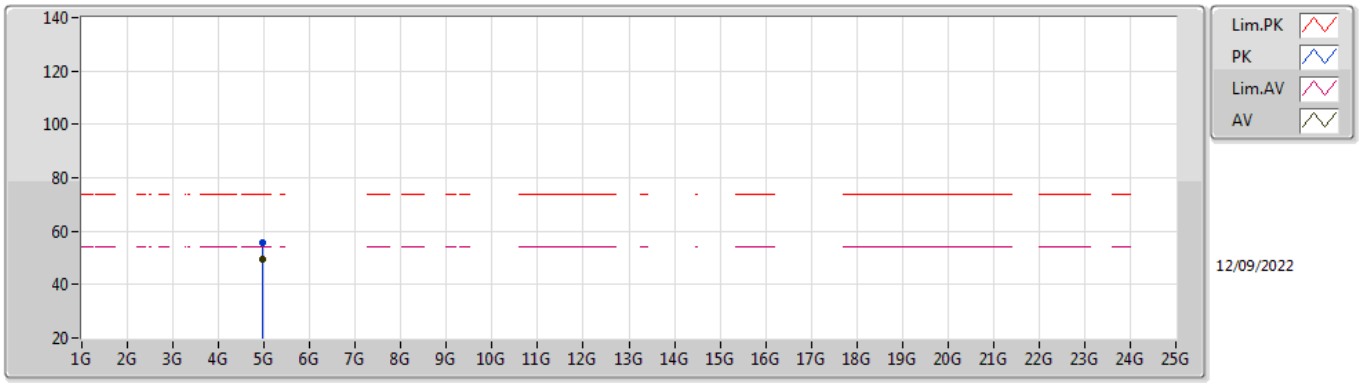


EUT Y_1TX
Setting 9
05-M-S-8

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	4.95944G	53.72	74.00	-20.28	48.08	3	Vertical	329	1.85	-	32.92	6.58	33.86
AV	4.95983G	46.24	54.00	-7.76	40.60	3	Vertical	329	1.85	-	32.92	6.58	33.86

BT-EDR(3Mbps)

2480MHz_TX



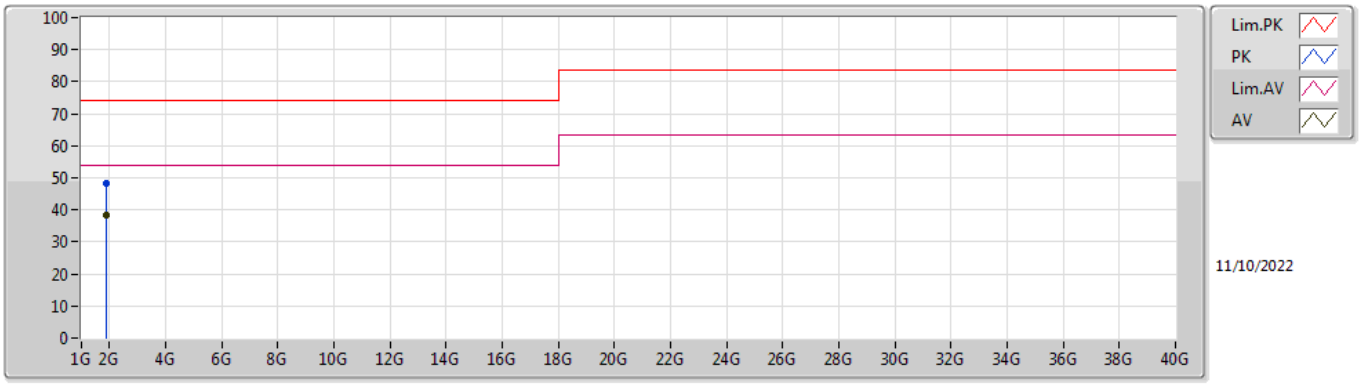
EUT Y_1TX
Setting 9
05-M-S-8

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	55.85	74.00	-18.15	50.21	3	Horizontal	56	1.80	-	32.92	6.58	33.86
AV	4.95988G	49.29	54.00	-4.71	43.65	3	Horizontal	56	1.80	-	32.92	6.58	33.86

Summary

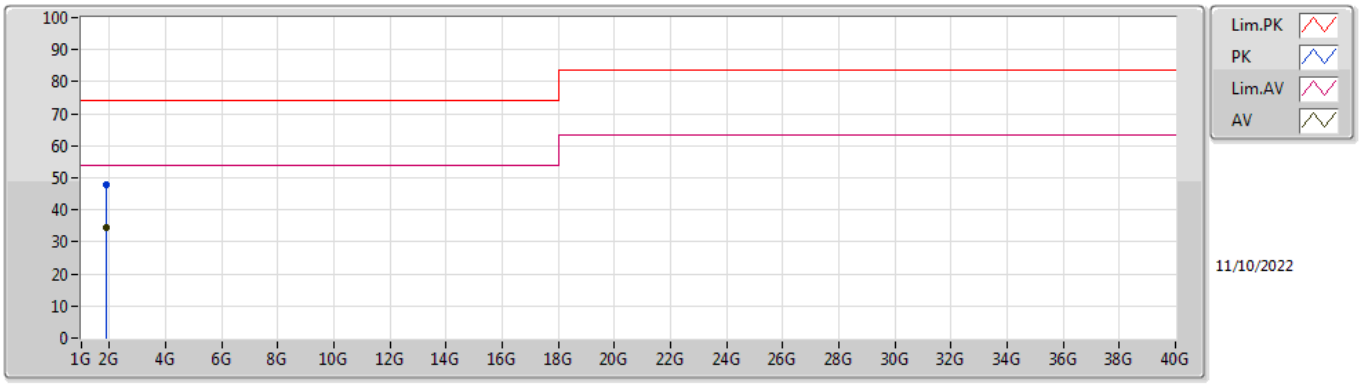
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 2	Pass	AV	1.90085G	38.22	54.00	-15.78	Vertical

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	1.90143G	48.35	74.00	-25.65	-6.99	3	Vertical	218	1.57	-	55.34	25.51	3.90	36.40
AV	1.90085G	38.22	54.00	-15.78	-6.99	3	Vertical	218	1.57	"Worst"	45.21	25.51	3.90	36.40

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	1.90135G	47.68	74.00	-26.32	-6.99	3	Horizontal	176	1.66	-	54.67	25.51	3.90	36.40
AV	1.90183G	34.66	54.00	-19.34	-6.98	3	Horizontal	176	1.66	"Worst"	41.64	25.52	3.90	36.40