

FCC Radio Test Report

FCC ID : AL8-F60R
Equipment : True Wireless In-Ear Headphones
Brand Name : PLANTRONICS
Model Name : F60T
Applicant : Plantronics, Inc.
345 Encinal Street, Santa Cruz, CA 95060 USA
Manufacturer : Plantronics, Inc.
345 Encinal Street, Santa Cruz, CA 95060 USA
Standard : 47 CFR FCC Part 15.247

The product was received on May 30, 2022, and testing was started from Oct. 17, 2022 and completed on Oct. 25, 2022. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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



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PHOTOGRAPHS OF EUT V01



Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
-	15.207	AC Power-line Conducted Emissions	Not Required	Only employ battery power.
3.1	15.247(a)	20dB Bandwidth	PASS	-
3.1	15.247(a)	Carrier Frequency Separation	PASS	-
3.2	15.247(b)	Maximum Conducted Output Power	PASS	-
3.3	15.247(a)	Number of Hopping Frequencies and Hopping Bandedge	PASS	-
3.4	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and explanations:
None

Reviewed by: Ben Tseng
Report Producer: Debby Hung



1 General Description

1.1 Information

1.1.1 RF General Information

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

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

Note:

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Toongin	ANT-Earbuds	FPC Antenna	Touch Pad	-5.56

Note 1: The EUT has one antenna.

For BT function:

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

Ant. 1 could transmit/receive.

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From Battery
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint <input type="checkbox"/> Point-to-point
Type of EUT	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)
<input type="checkbox"/>	Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)
<input type="checkbox"/>	Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:

1.1.4 Table for Multiple Listing

There are two kinds of MFI chip which specification is the same.

SKU	Model Name	Description
1	MFI343S00176	The specification is the same but IC package design and layout location is different
2	MFI343S00177	

From the above models, SKU2 was selected as representative model for the test and its data was recorded in this report.

1.1.5 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-BR(1Mbps)	0.75	1.25	2.915m	1k
BT-EDR(2Mbps)	0.749	1.26	2.914m	1k
BT-EDR(3Mbps)	0.793	1.01	2.916m	1k

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

1.2 Testing Applied Standards

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

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

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

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
<input checked="" type="checkbox"/>	Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)		
		TEL: 886-3-327-3456	FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH06-HY	Jin	22.6~26.4°C / 51~57%	17/Oct/2022~25/Oct/2022
<input checked="" type="checkbox"/>	Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
		TEL: 886-3-318-0787	FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH09-HY	Daniel	23.7~24.12°C / 55~59%	18/Oct/2022~20/Oct/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
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%



2 Test Configuration of EUT




2.1 Test Channel Mode

Test Software Version	BlueTest3: 3.3.5
-----------------------	------------------

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	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 <input checked="" type="checkbox"/> Non-adaptive frequency hopping systems (Non-AFH) <input checked="" type="checkbox"/> adaptive frequency hopping systems (AFH)
Non-AFH Mode configuration was found to be the worst case and measured during the test.	

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	Battery mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

2.3 Accessories

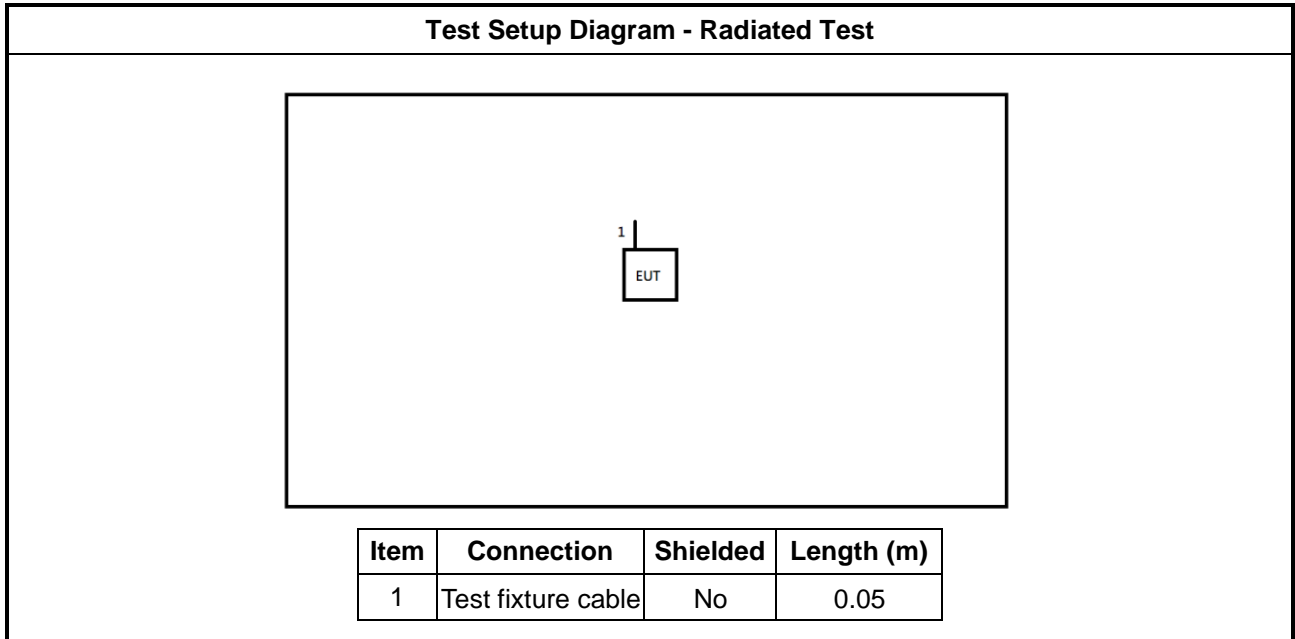
Accessories				
Battery	Brand Name	VDL	Model Name	ZJ1254H
	Power Rating	3.85 Vdc, 70 mAh	Type	Li-ion, Button cell
Wireless Charging case (Optional)	Brand Name	PLANTRONICS	Model Name	CBF60+
USB Cable (Type-C to A) (Optional)	Brand Name	LOT	Model Name	207488-09
	Signal Line	0.3 meter, D-shielded cable, w/o ferrite core		
USB Cable (Type-C to C) (Optional)	Brand Name	LOT	Model Name	207488-10
	Signal Line	0.3 meter, D-shielded cable, w/o ferrite core		
Audio Cable (Type-C to Audio) (Optional)	Brand Name	LOT	Model Name	219266-02
	Signal Line	0.77 meter, non-shielded, w/o ferrite core		
Bluetooth Dongle (Type-C) (Optional)	Brand Name	Poly	Model Name	BT700C
	Interface	USB Type-C		
Bluetooth Dongle (Type-A) (Optional)	Brand Name	Poly	Model Name	BT700
	Interface	USB Type-A		

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

2.4 Support Equipment

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	HSTNN-I42C	-	-
2	Adapter for NB	HP	HSTNN-CA40	-	-

2.5 Test Setup Diagram



3 Transmitter Test Result

3.1 20dB Bandwidth and Carrier Frequency Separation

3.1.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
<ul style="list-style-type: none"> 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	<ul style="list-style-type: none"> $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

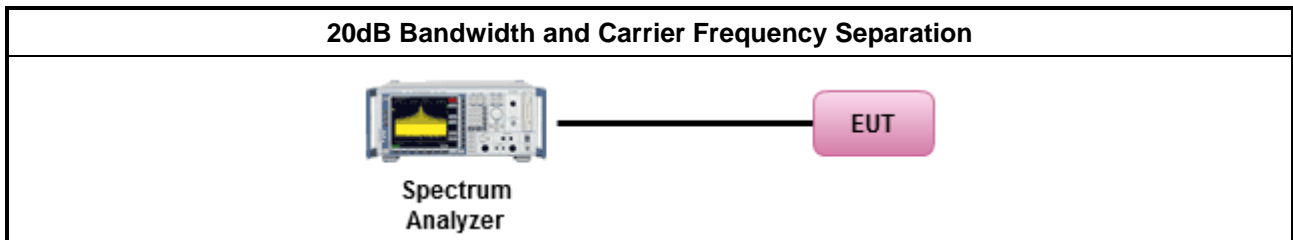
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 6.9.2 for 20 dB bandwidth measurement.
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 7.8.2 for carrier frequency separation measurement.

3.1.4 Test Setup



3.1.5 Test Result of 20dB Bandwidth

Refer as Appendix A

3.1.6 Test Result of Carrier Frequency Separation

Refer as Appendix A

3.2 Maximum Conducted Output Power

3.2.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
<ul style="list-style-type: none"> ▪ 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> ▪ $N \geq 75$; Power 30dBm; EIRP 36dBm
	<ul style="list-style-type: none"> ▪ $75 > N \geq 15$; Power 21dBm; EIRP 27dBm
N: Number of Hopping Frequencies	

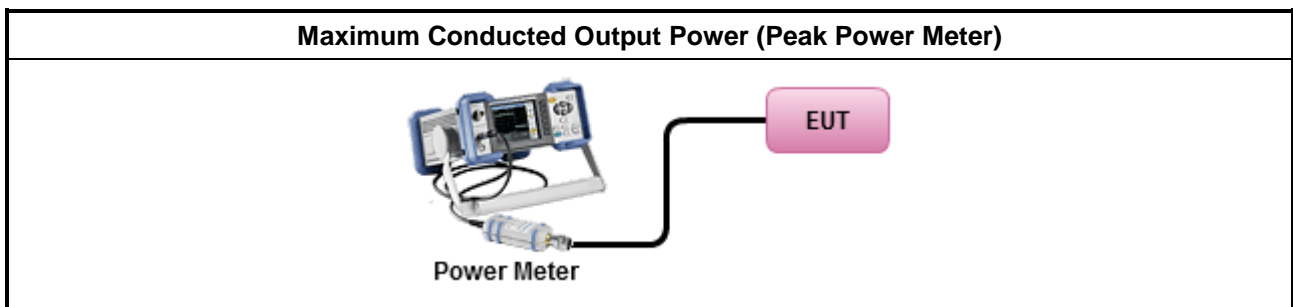
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10-2013, clause 7.8.5 for output power measurement.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

3.3 Number of Hopping Frequencies and Hopping Bandedge

3.3.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit	
<ul style="list-style-type: none"> 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	<ul style="list-style-type: none"> $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3,25 kHz).
N: Number of Hopping Frequencies; ChS : Hopping Channel Separation	

3.3.2 Hopping Bandedge Limit

Refer clause 3.5.1 and clause 3.6.1

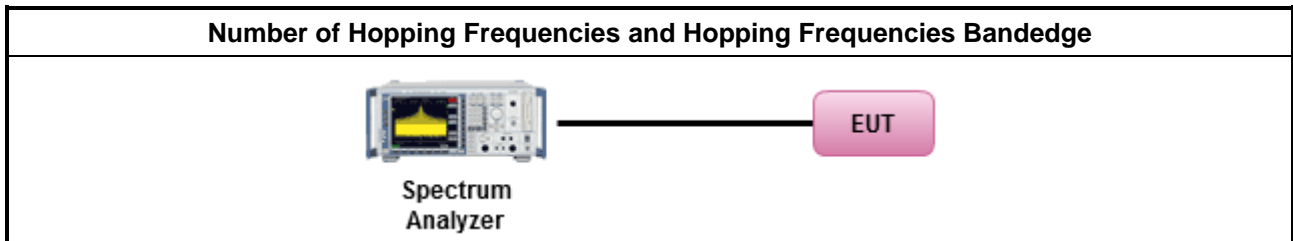
3.3.3 Measuring Instruments

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

3.3.4 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 7.8.3 for number of hopping frequencies measurement.
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 7.8.6 for hopping frequencies Bandedge measurement.

3.3.5 Test Setup



3.3.6 Test Result of Number of Hopping Frequencies

Refer as Appendix C

3.3.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix C

3.4 Time of Occupancy (Dwell Time)

3.4.1 Time of Occupancy (Dwell Time) Limit

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems	
<ul style="list-style-type: none"> 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> $N \geq 75$; 0.4s in $N \times 0.4$ period
	<ul style="list-style-type: none"> $75 > N \geq 15$; 0.4s in $N \times 0.4$ period
N: Number of Hopping Frequencies	

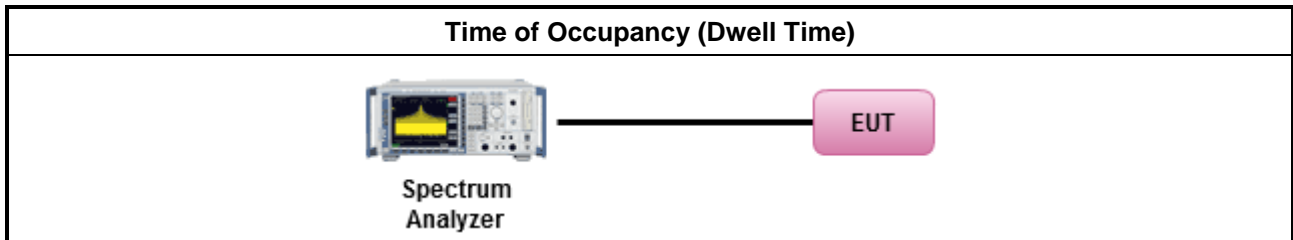
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 7.8.4 for dwell time measurement. 	
<ul style="list-style-type: none"> 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. 	
	<ul style="list-style-type: none"> The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and maximum duty cycle. A maximum length packet has duration of 5 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is $5/1600$ seconds, or 3.125ms. DH5 Packet permit maximum $1600 / 79 / 6 = 3.37$ hops per second in each channel.

3.4.4 Test Setup



3.4.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

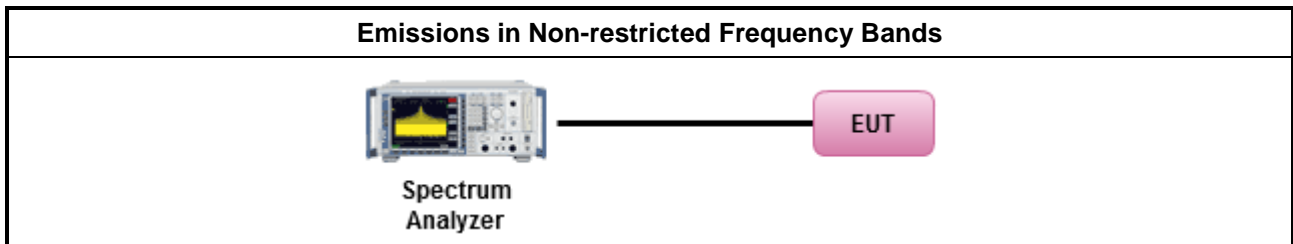
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 7.8.8 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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

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

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

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

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

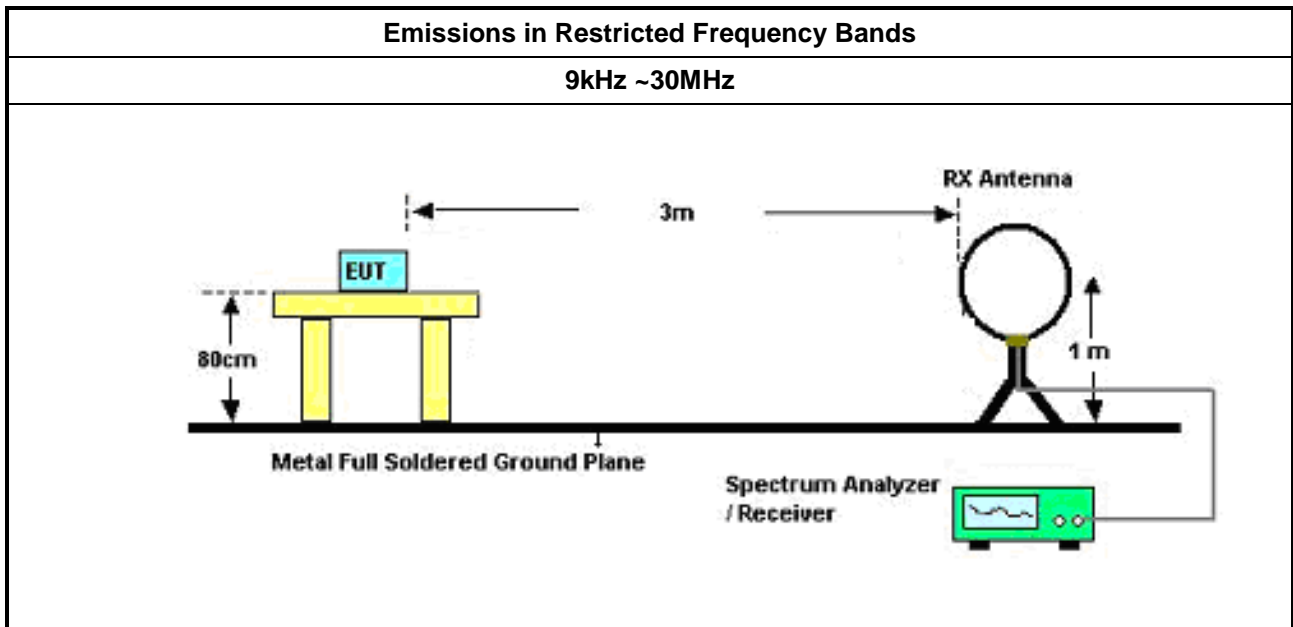
Test Method	
▪	The average emission levels shall be measured in [hopping duty factor].
▪	Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪	For the transmitter unwanted emissions shall be measured using following options below:
▪	Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
▪	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
▪	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.
▪	KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
▪	Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
▪	Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

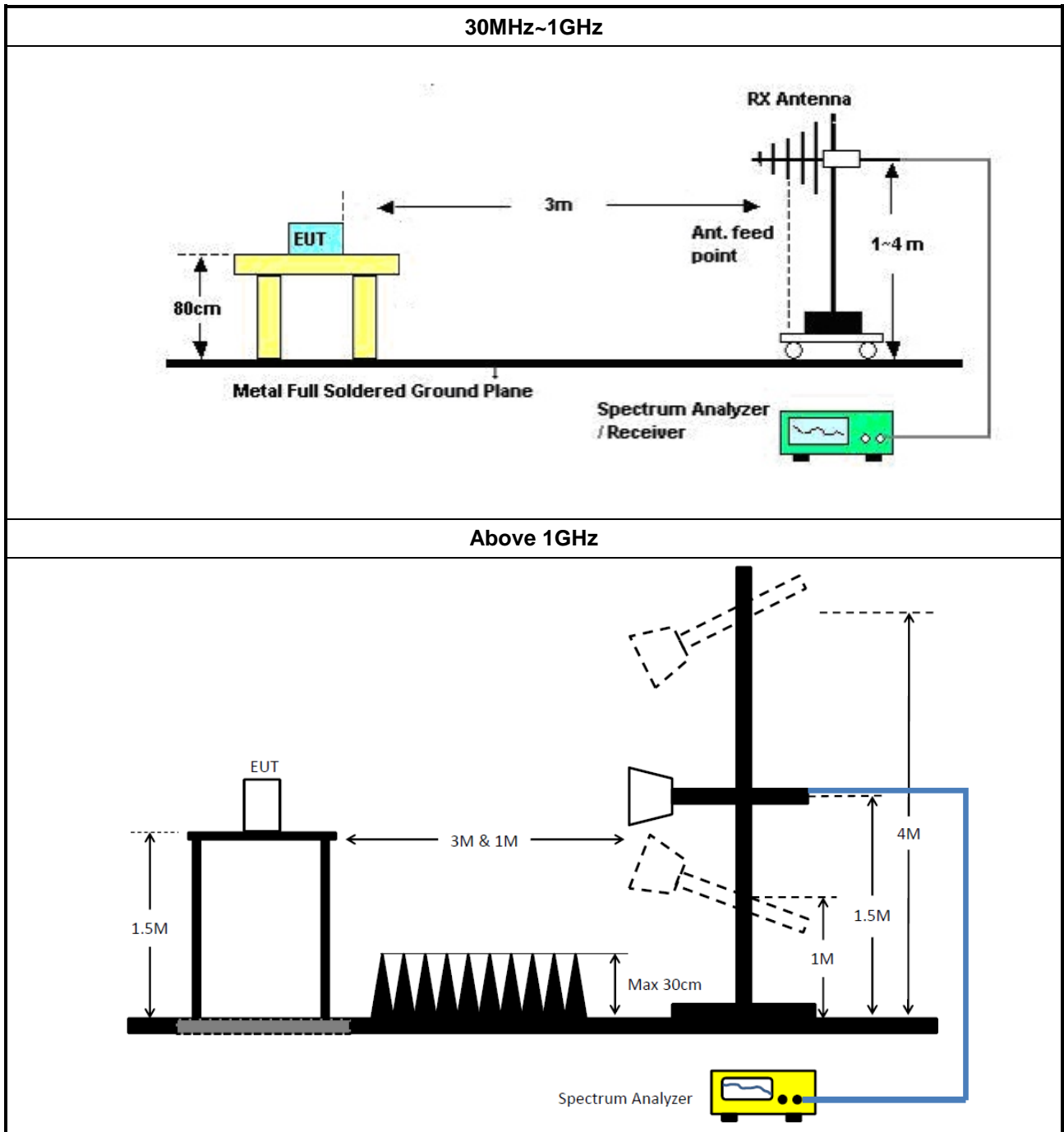
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.6.5 Test Setup





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

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

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	01/Apr/2022	31/Mar/2023
Signal Generator	Keysight	N5171B	MY53051240	9kHz~6GHz	24/Nov/2021	23/Nov/2022
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	25/Mar/2022	24/Mar/2023
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	25/Mar/2022	24/Mar/2023
SENSE-15247_FS	Sporton	V5.10.7.16	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz~1GHz 3m	25/Mar/2022	24/Mar/2023
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz~18GHz 3m	17/Mar/2022	16/Mar/2023
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz~44GHz	11/Aug/2022	10/Aug/2023
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	08/Apr/2022	07/Apr/2023
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz~26.5GHz	22/Jul/2022	21/Jul/2023
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D&MT J6102-05	35418 & 3	30MHz~1GHz	28/Aug/2022	27/Aug/2023
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz~18GHz	27/Dec/2021	26/Dec/2022
RF Cable-low	Jye Bao	RG142	CB031+324530/4	9kHz~30MHz	07/Feb/2022	06/Feb/2023
RF Cable-low	Jye Bao	RG142	03CH09-cable-01	30MHz~1GHz	17/Aug/2022	16/Aug/2023
RF CABLE 5m+3m+1m	HUBER+SUHNE R	SUCOFLEX104	03CH09-cable-02	1GHz~40GHz	17/Aug/2022	16/Aug/2023
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Prempplier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	08/Mar/2022	07/Mar/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	18/Mar/2022	17/Mar/2023
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	13/May/2022	12/May/2023
SENSE-15247_FS	Sporton	V5.10.7.14	N/A	N/A	N/A	N/A



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)	936.25k	877.875k	878KF1D	933.75k	869.66k
BT-EDR(2Mbps)	1.324M	1.194M	1M19G1D	1.321M	1.193M
BT-EDR(3Mbps)	1.283M	1.196M	1M20G1D	1.279M	1.196M

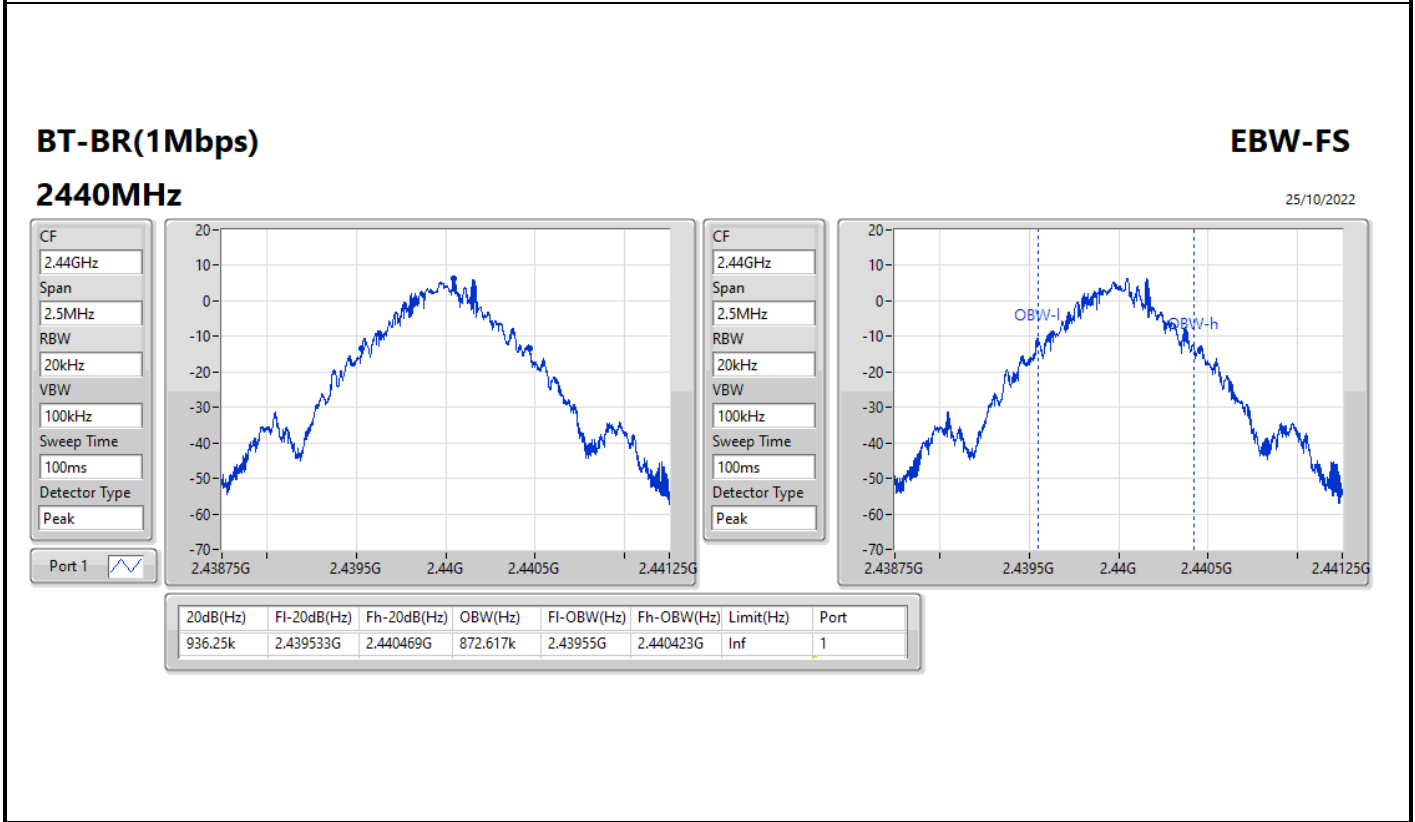
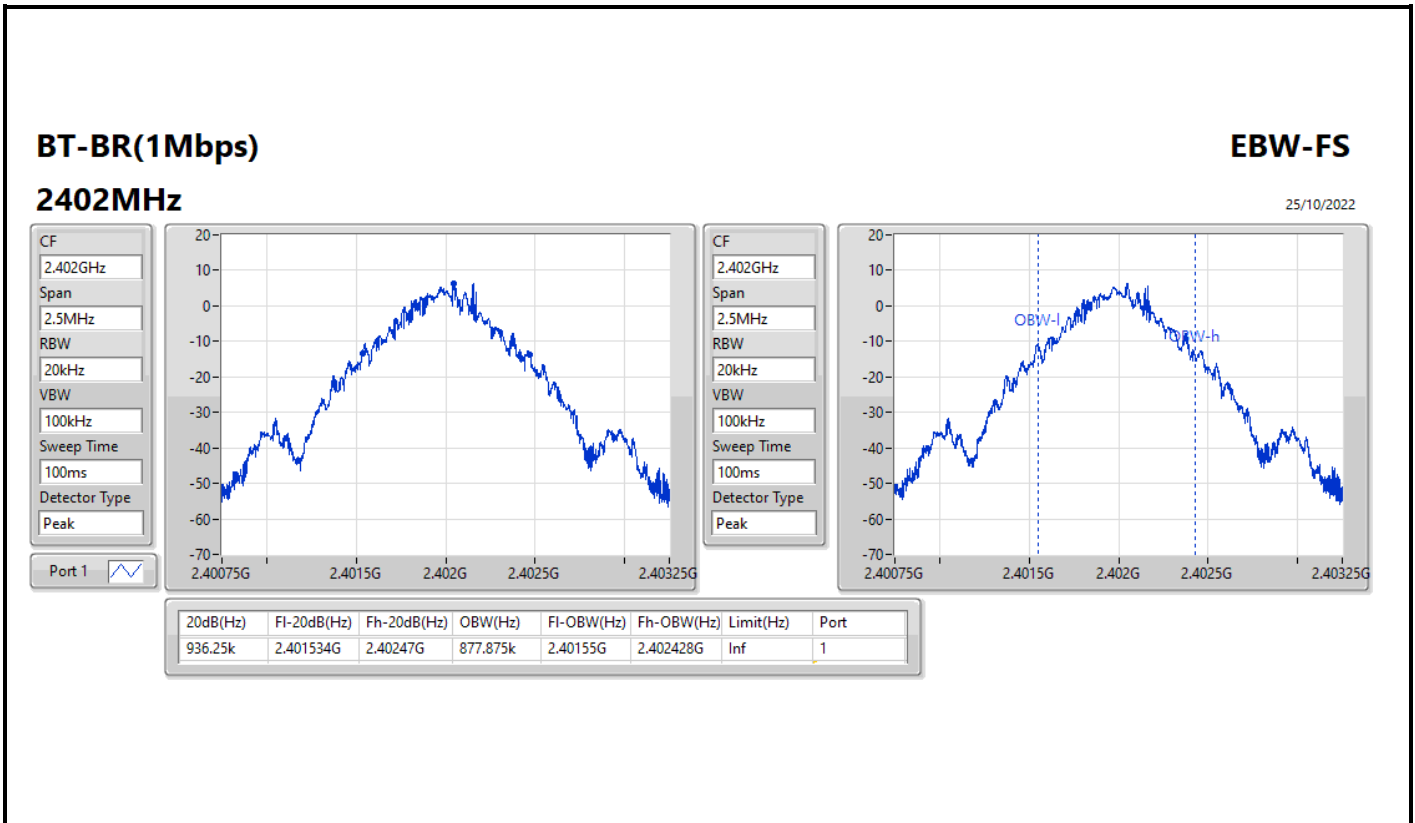
Max-N dB = Maximum 20dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 20dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

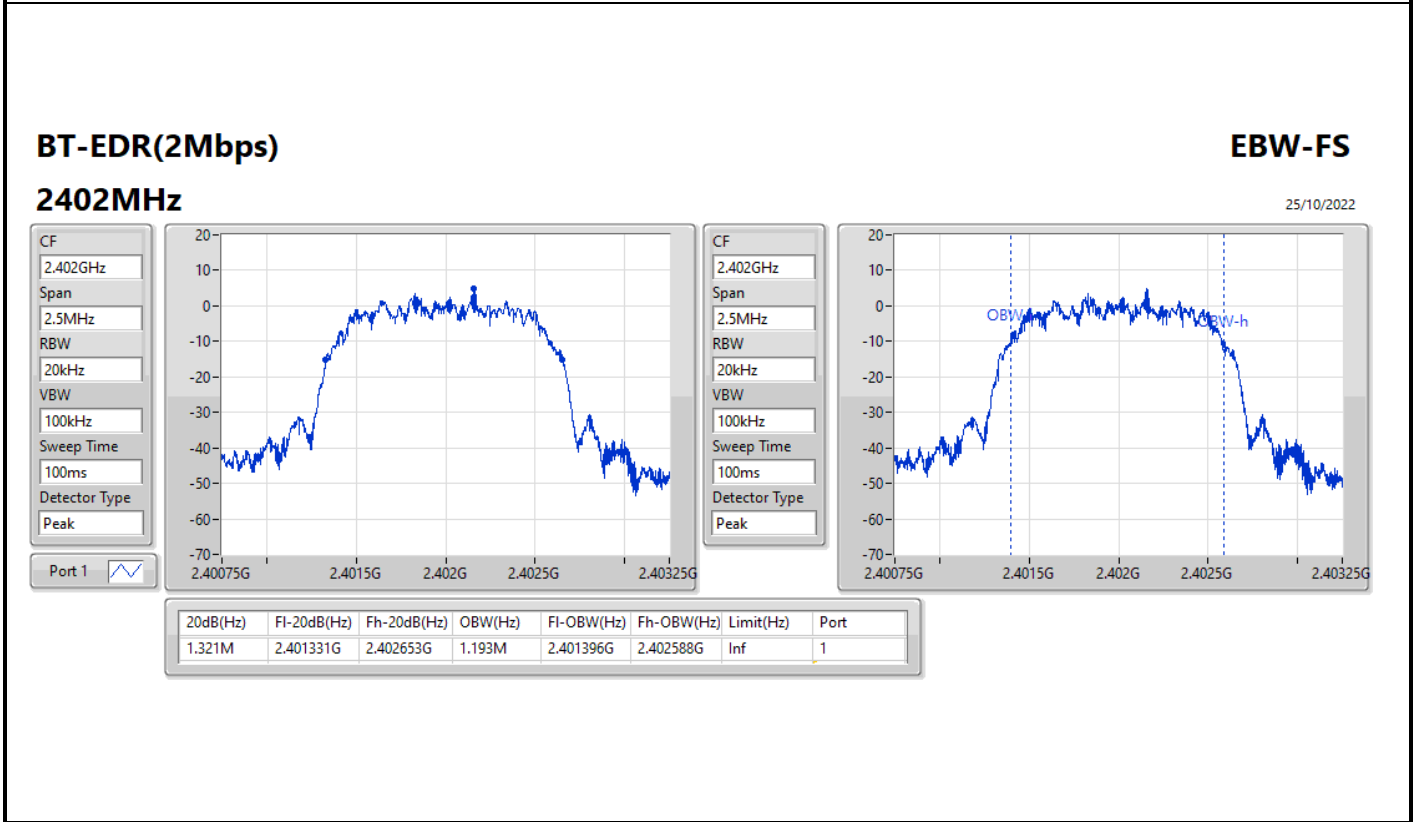
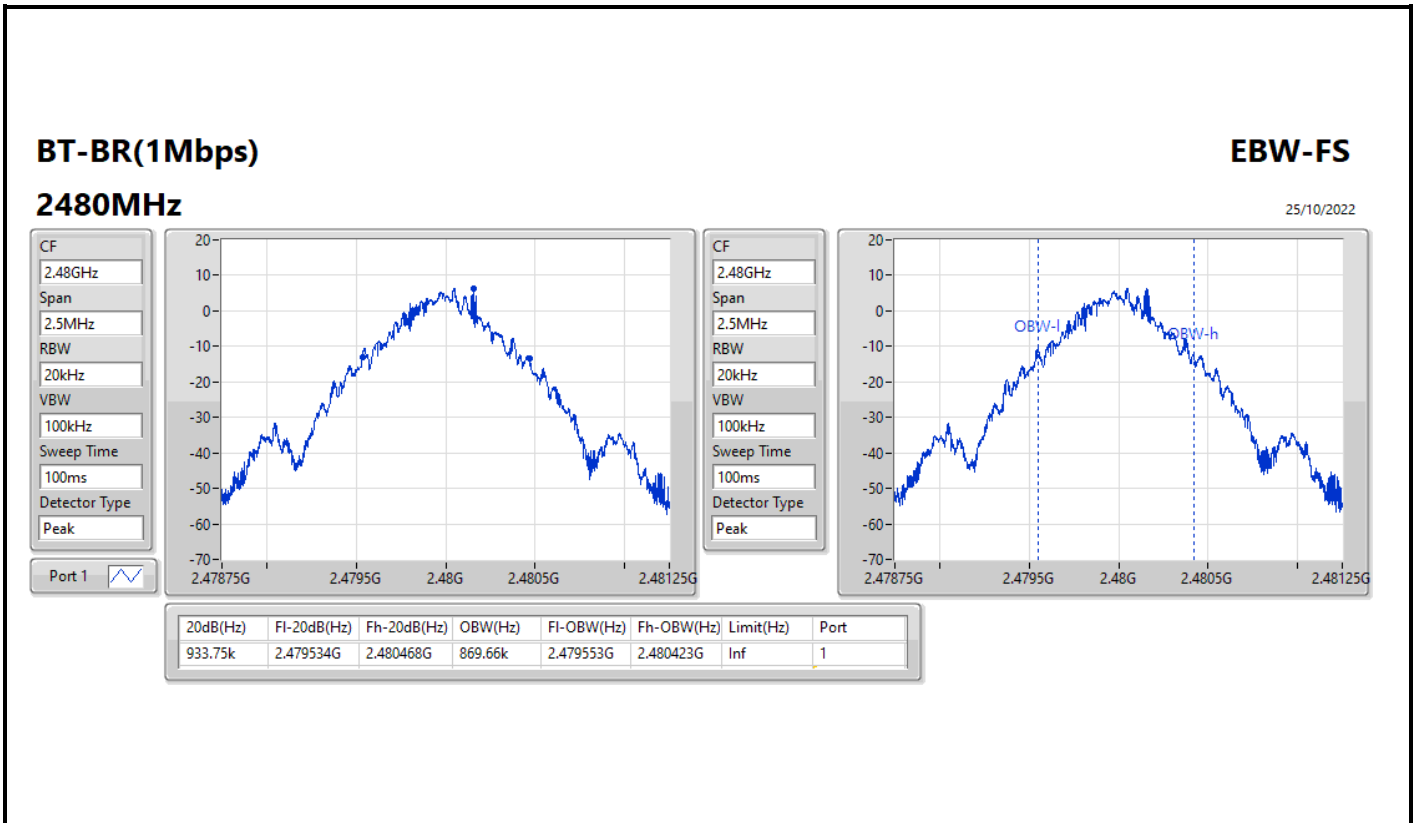


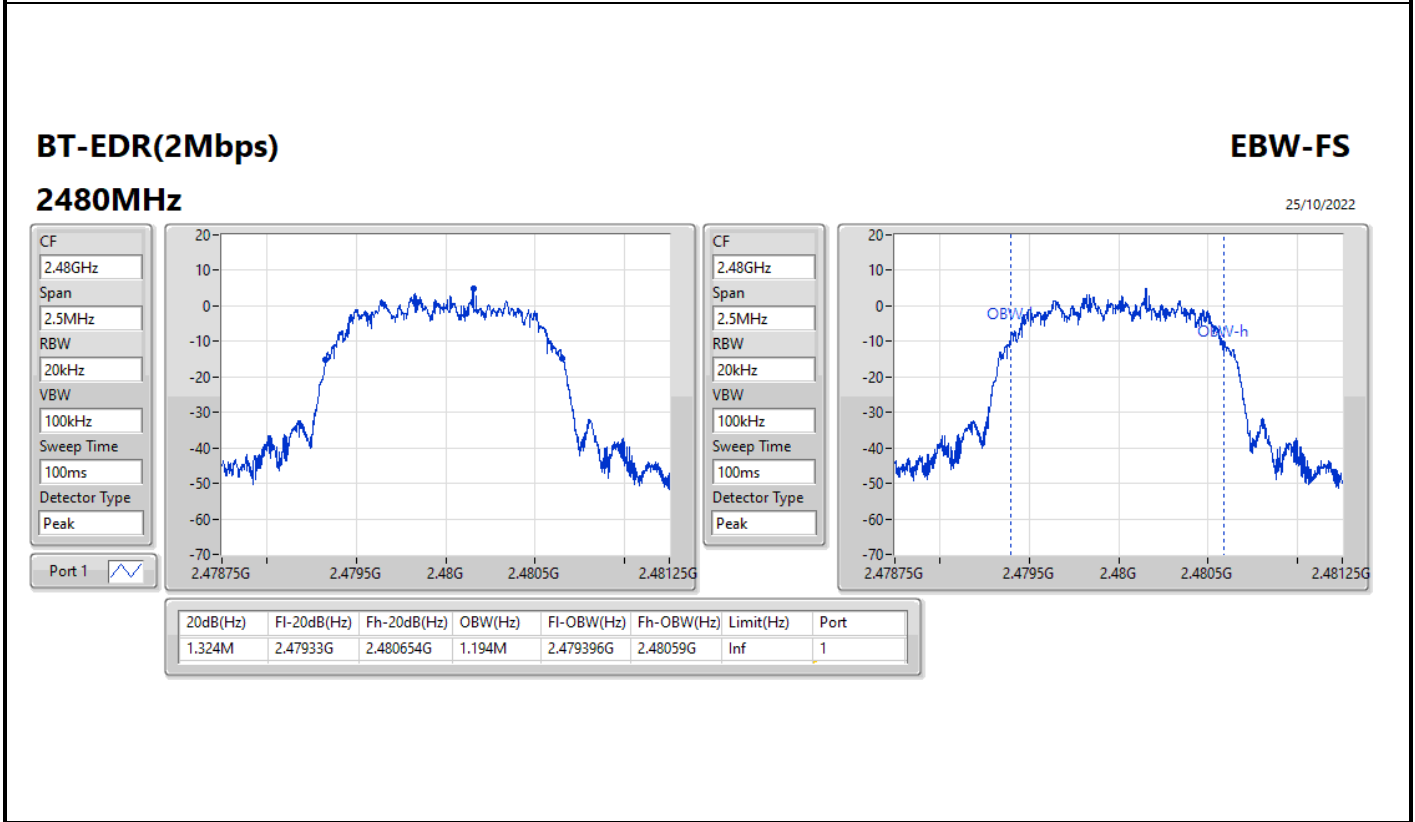
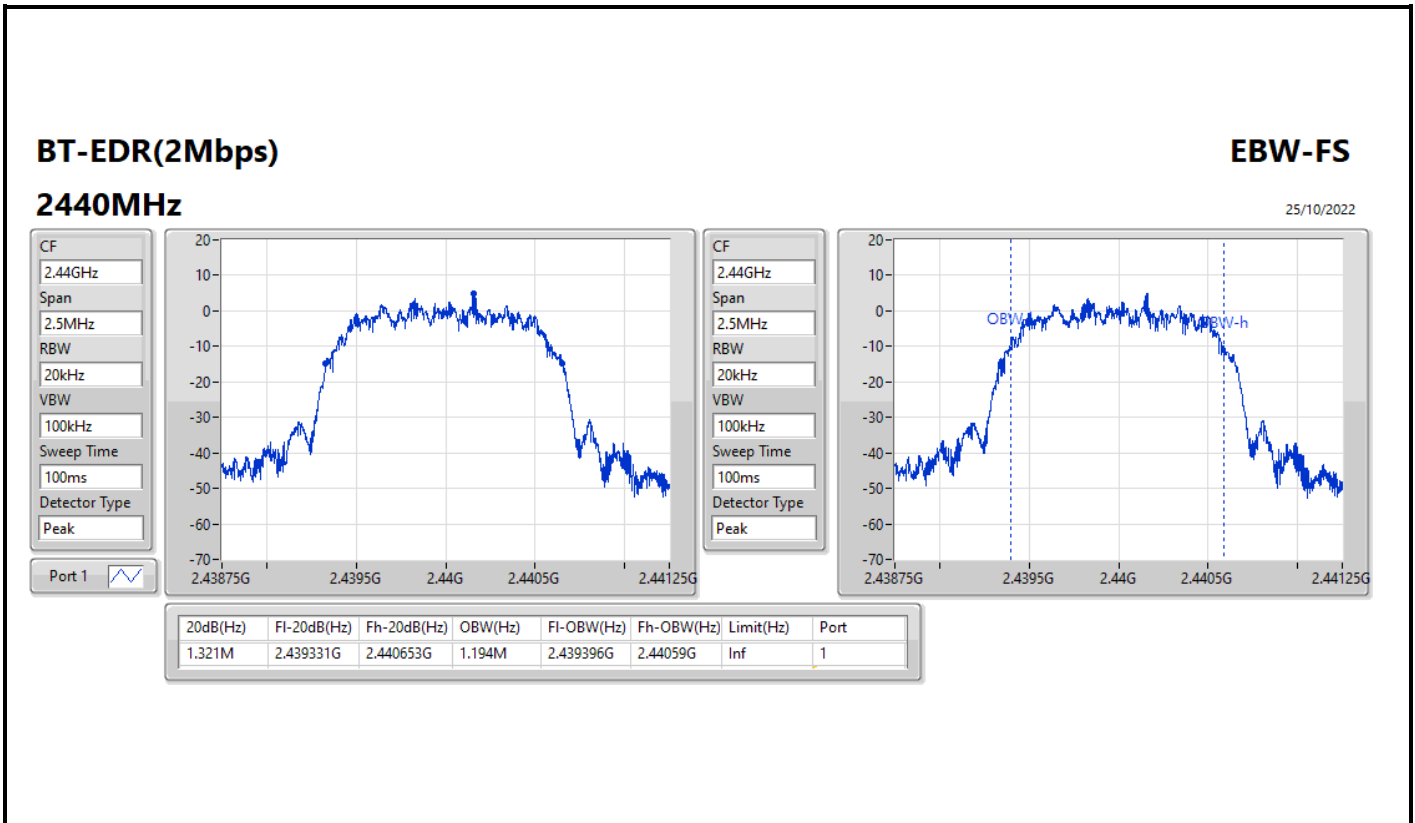
Result

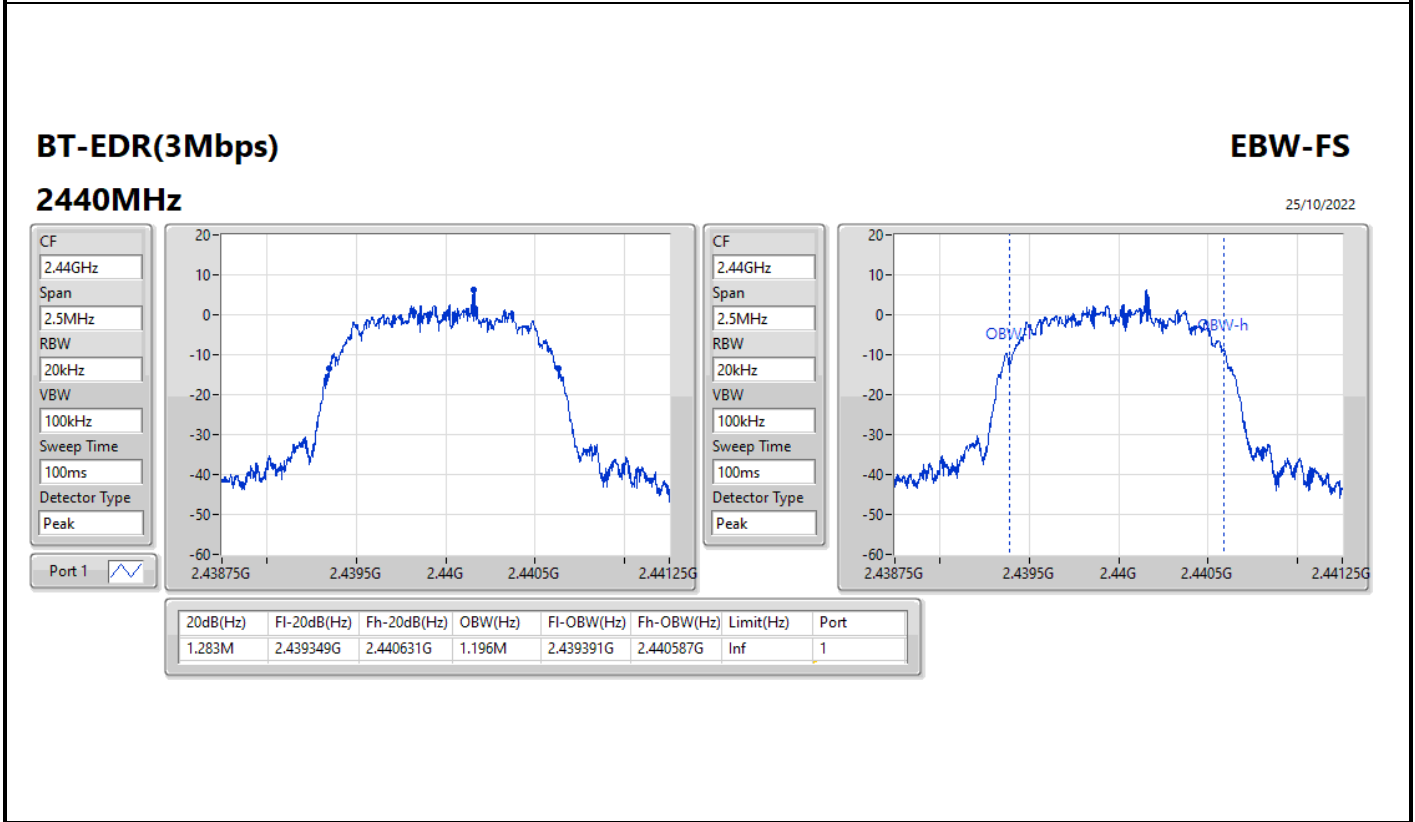
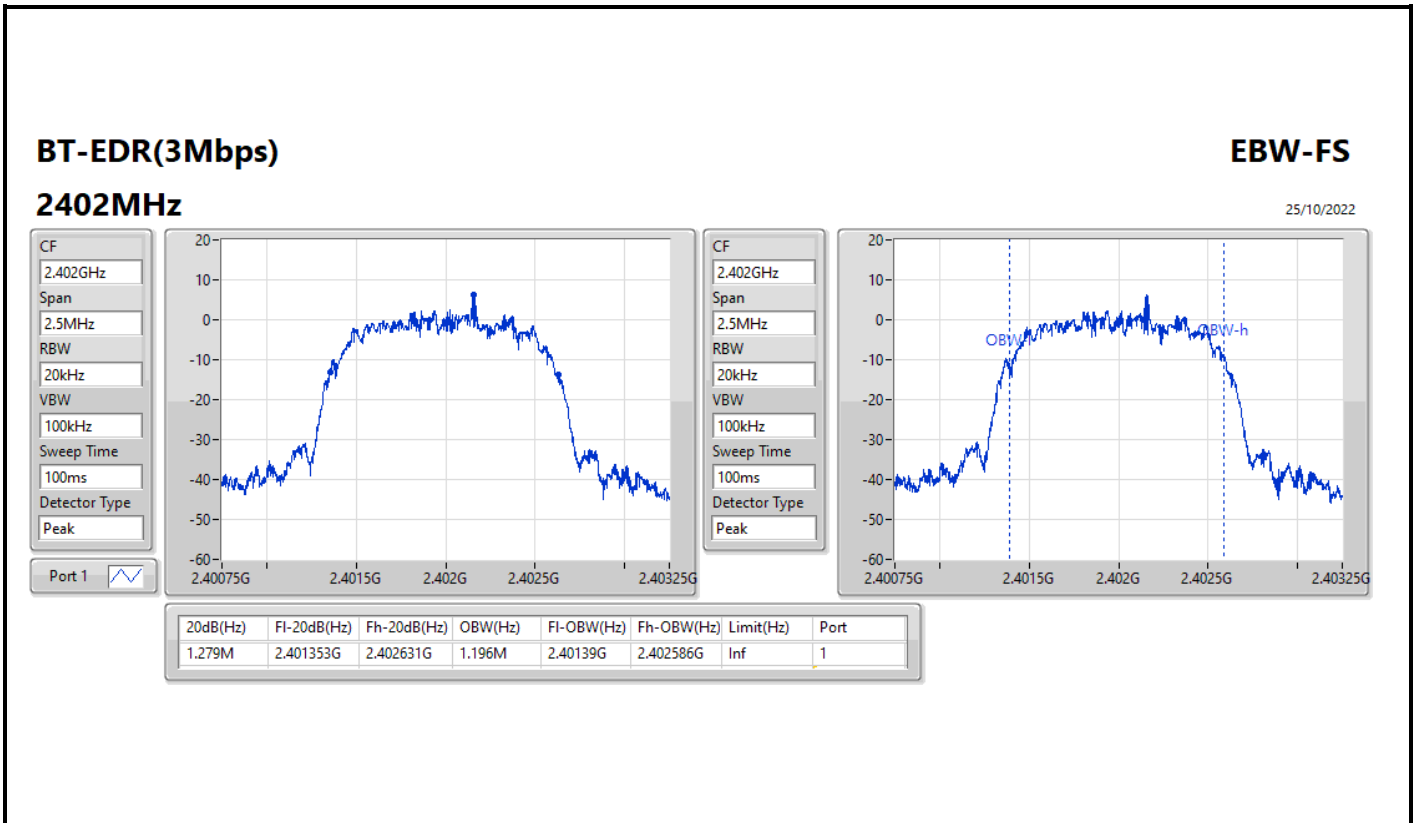
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	936.25k	877.875k
2440MHz	Pass	Inf	936.25k	872.617k
2480MHz	Pass	Inf	933.75k	869.66k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.321M	1.193M
2440MHz	Pass	Inf	1.321M	1.194M
2480MHz	Pass	Inf	1.324M	1.194M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.279M	1.196M
2440MHz	Pass	Inf	1.283M	1.196M
2480MHz	Pass	Inf	1.279M	1.196M

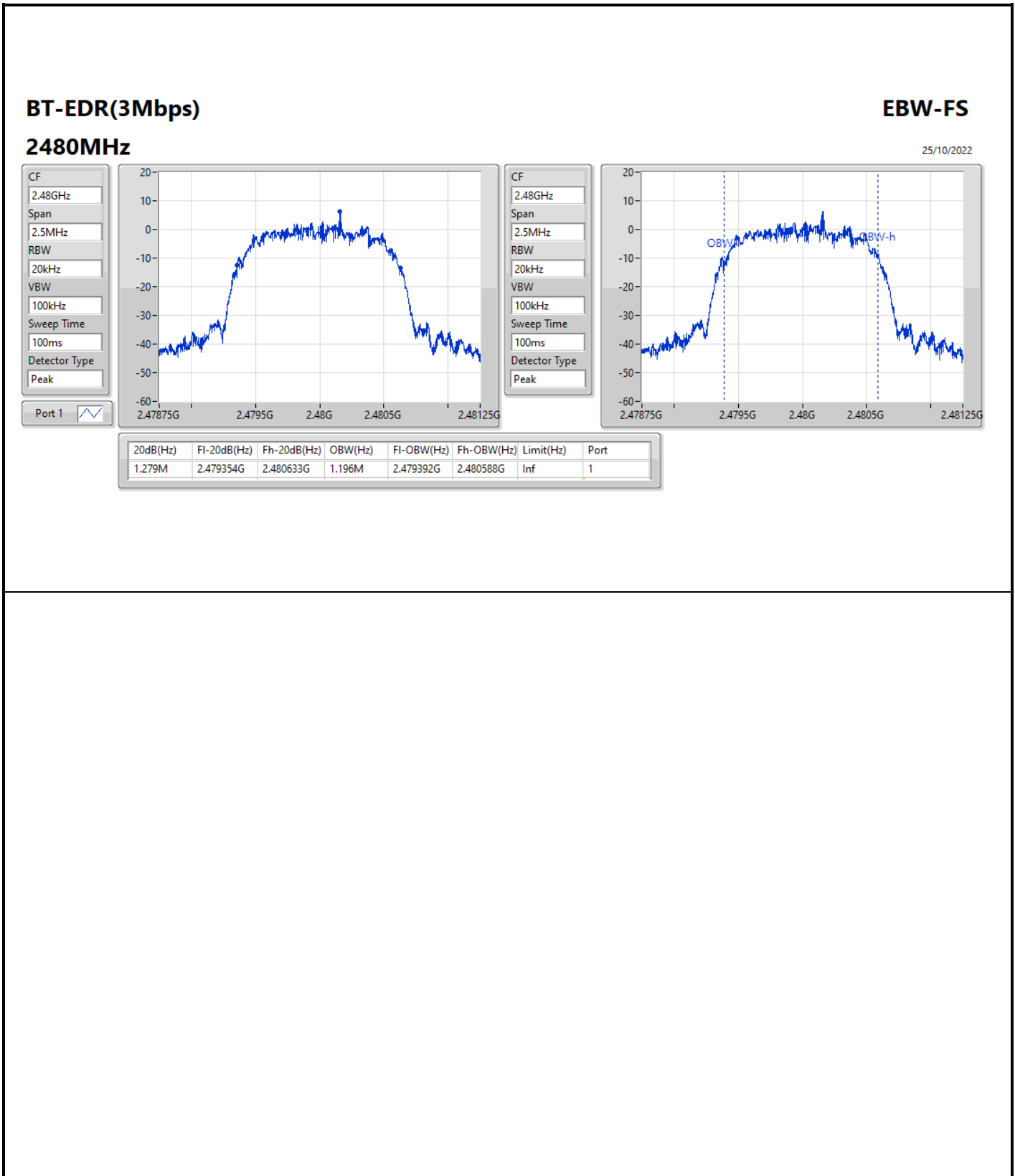
Port X-N dB = Port X 20dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth













Summary

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



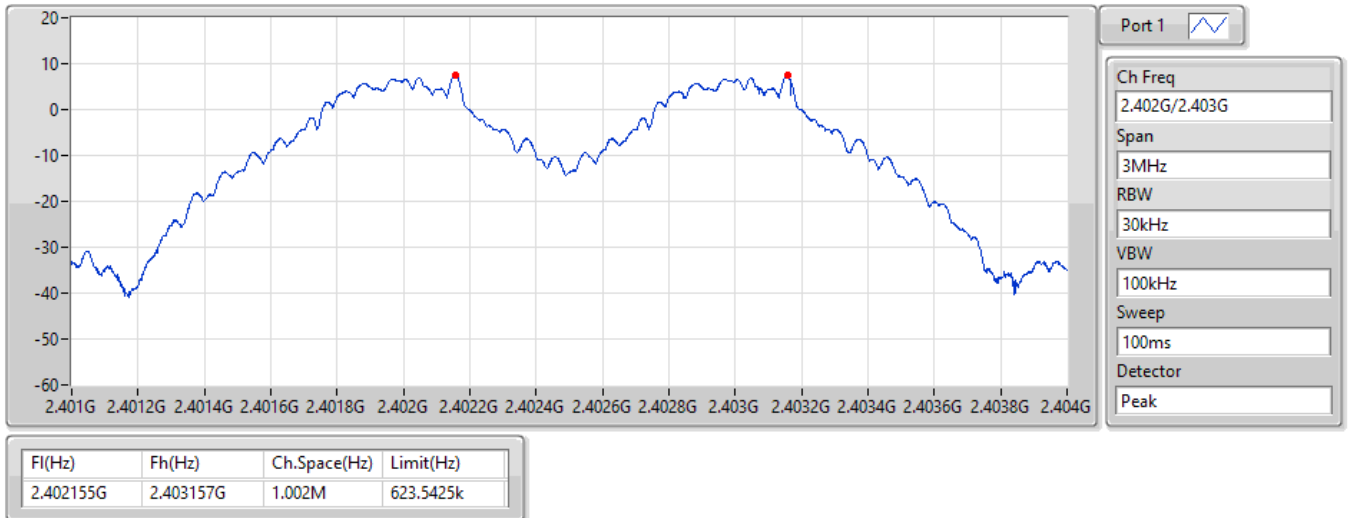
Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402155G	2.403157G	1.002M	623.5425k
2440MHz	Pass	2.440155G	2.441157G	1.002M	623.5425k
2480MHz	Pass	2.479157G	2.480157G	1.0005M	621.8775k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402155G	2.403157G	1.002M	879.786k
2440MHz	Pass	2.440157G	2.441157G	1.0005M	879.786k
2480MHz	Pass	2.479157G	2.480157G	1.0005M	881.784k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402158G	2.403157G	999k	851.814k
2440MHz	Pass	2.440158G	2.441157G	999k	854.478k
2480MHz	Pass	2.479158G	2.480157G	999k	851.814k

BT-BR(1Mbps)

Channel Separation-FS

2.402G/2.403GHz

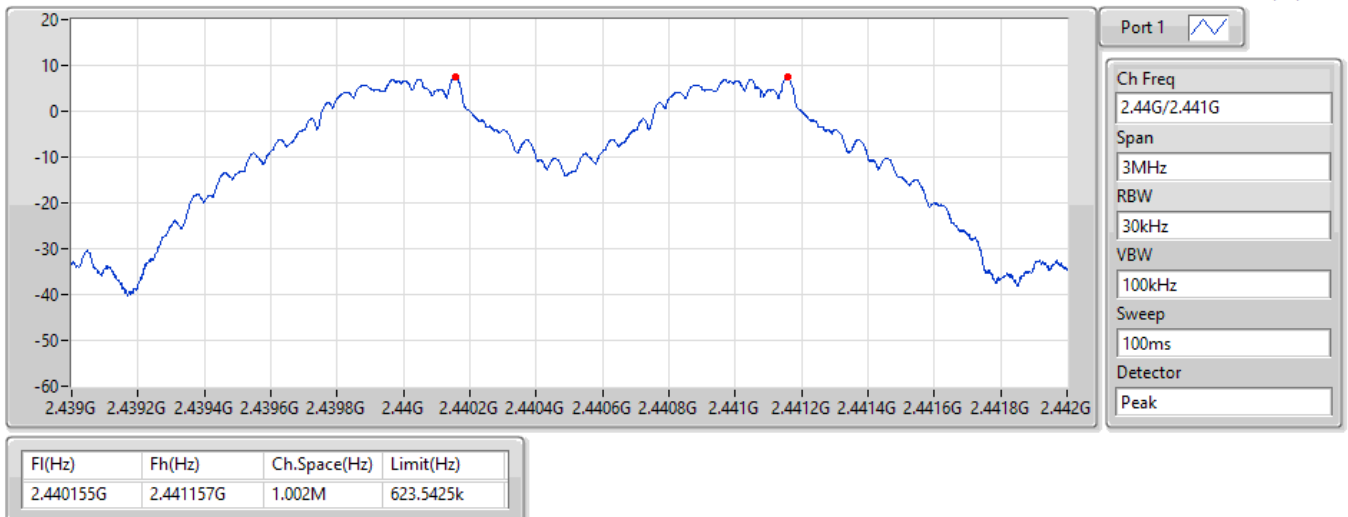


BT-BR(1Mbps)

Channel Separation-FS

2.44G/2.441GHz

25/10/2022




BT-BR(1Mbps)

2.48G/2.479GHz

Channel Separation-FS

25/10/2022



Port 1 

Ch Freq
2.48G/2.479G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

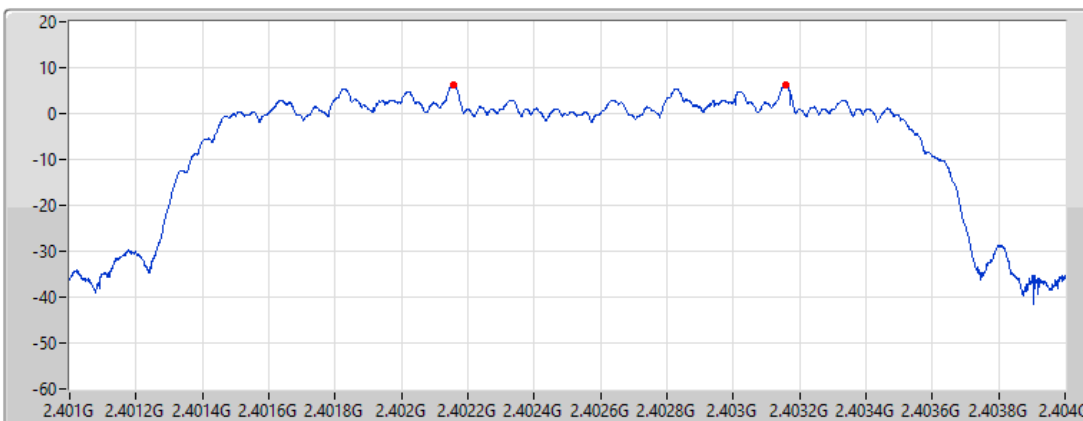
Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479157G	2.480157G	1.0005M	621.8775k


BT-EDR(2Mbps)

2.402G/2.403GHz

Channel Separation-FS

25/10/2022



Port 1 

Ch Freq
2.402G/2.403G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

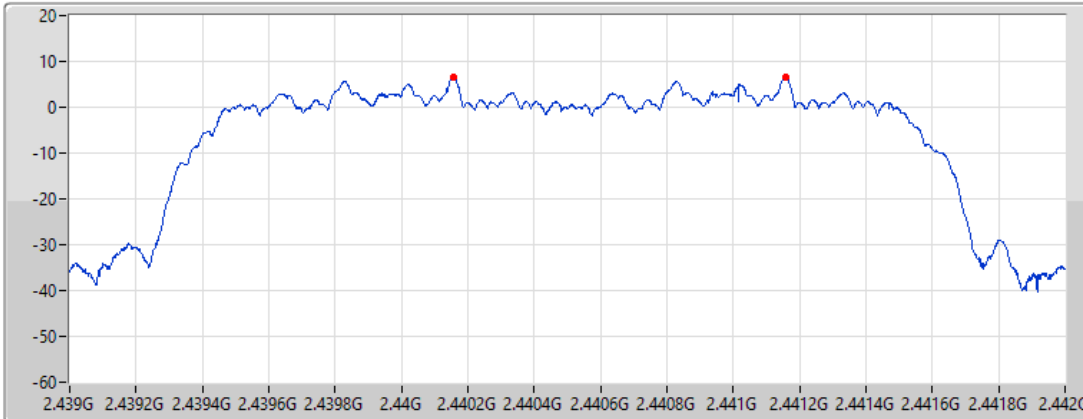
Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402155G	2.403157G	1.002M	879.786k


BT-EDR(2Mbps)

Channel Separation-FS

2.44G/2.441GHz

25/10/2022



Port 1 

Ch Freq
2.44G/2.441G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

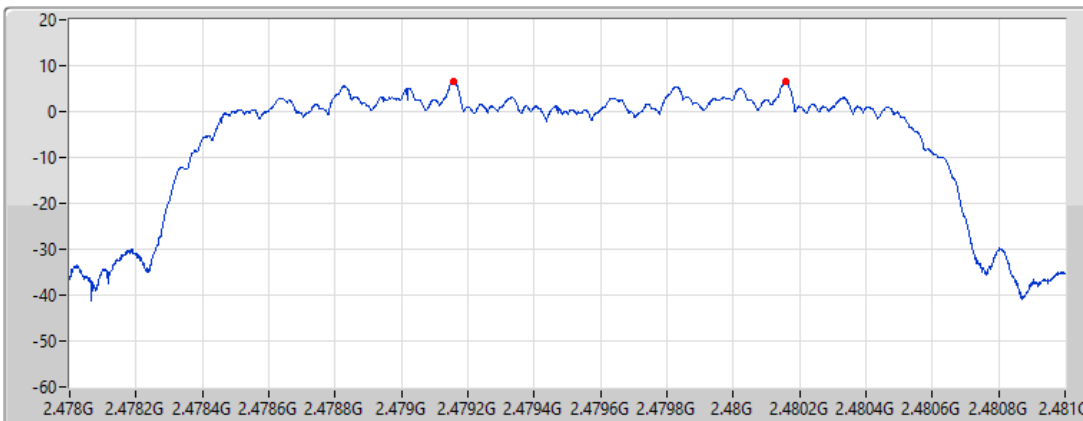
F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440157G	2.441157G	1.0005M	879.786k


BT-EDR(2Mbps)

Channel Separation-FS

2.48G/2.479GHz

25/10/2022



Port 1 

Ch Freq
2.48G/2.479G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479157G	2.480157G	1.0005M	881.784k


BT-EDR(3Mbps)

Channel Separation-FS

2.402G/2.403GHz

25/10/2022



Port 1 

Ch Freq
2.402G/2.403G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

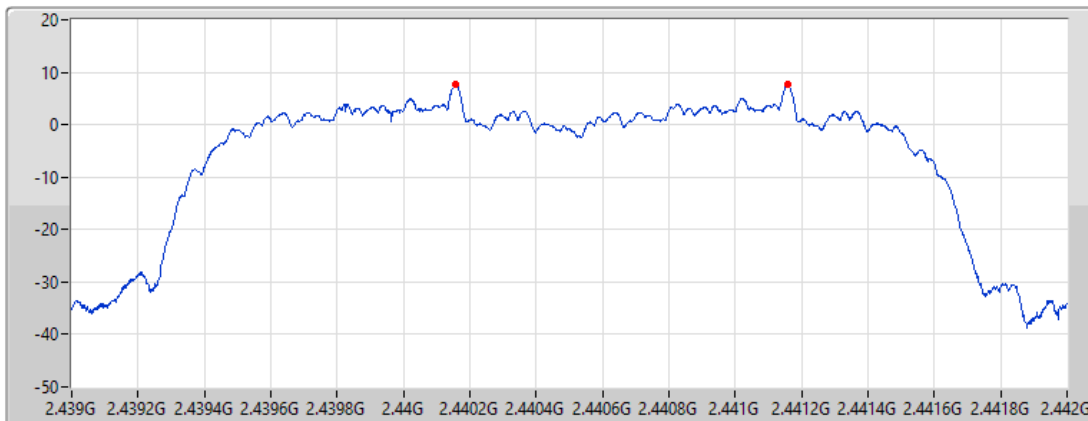
Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402158G	2.403157G	999k	851.814k


BT-EDR(3Mbps)

Channel Separation-FS

2.44G/2.441GHz

25/10/2022



Port 1 

Ch Freq
2.44G/2.441G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440158G	2.441157G	999k	854.478k



BT-EDR(3Mbps)

2.48G/2.479GHz

Channel Separation-FS

25/10/2022



Port 1

Ch Freq
2.48G/2.479G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479158G	2.480157G	999k	851.814k



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	10.00	0.01000
BT-EDR(2Mbps)	12.75	0.01884
BT-EDR(3Mbps)	13.32	0.02148



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	-5.56	9.88	21.00
2440MHz	Pass	-5.56	9.97	21.00
2480MHz	Pass	-5.56	10.00	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	-5.56	12.73	21.00
2440MHz	Pass	-5.56	12.75	21.00
2480MHz	Pass	-5.56	12.70	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	-5.56	13.32	21.00
2440MHz	Pass	-5.56	13.30	21.00
2480MHz	Pass	-5.56	13.28	21.00

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



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	9.87	0.00971
BT-EDR(2Mbps)	9.94	0.00986
BT-EDR(3Mbps)	9.95	0.00989



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	-5.56	9.75	21.00
2440MHz	Pass	-5.56	9.50	21.00
2480MHz	Pass	-5.56	9.87	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	-5.56	9.85	21.00
2440MHz	Pass	-5.56	9.94	21.00
2480MHz	Pass	-5.56	9.93	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	-5.56	9.95	21.00
2440MHz	Pass	-5.56	9.88	21.00
2480MHz	Pass	-5.56	9.89	21.00

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



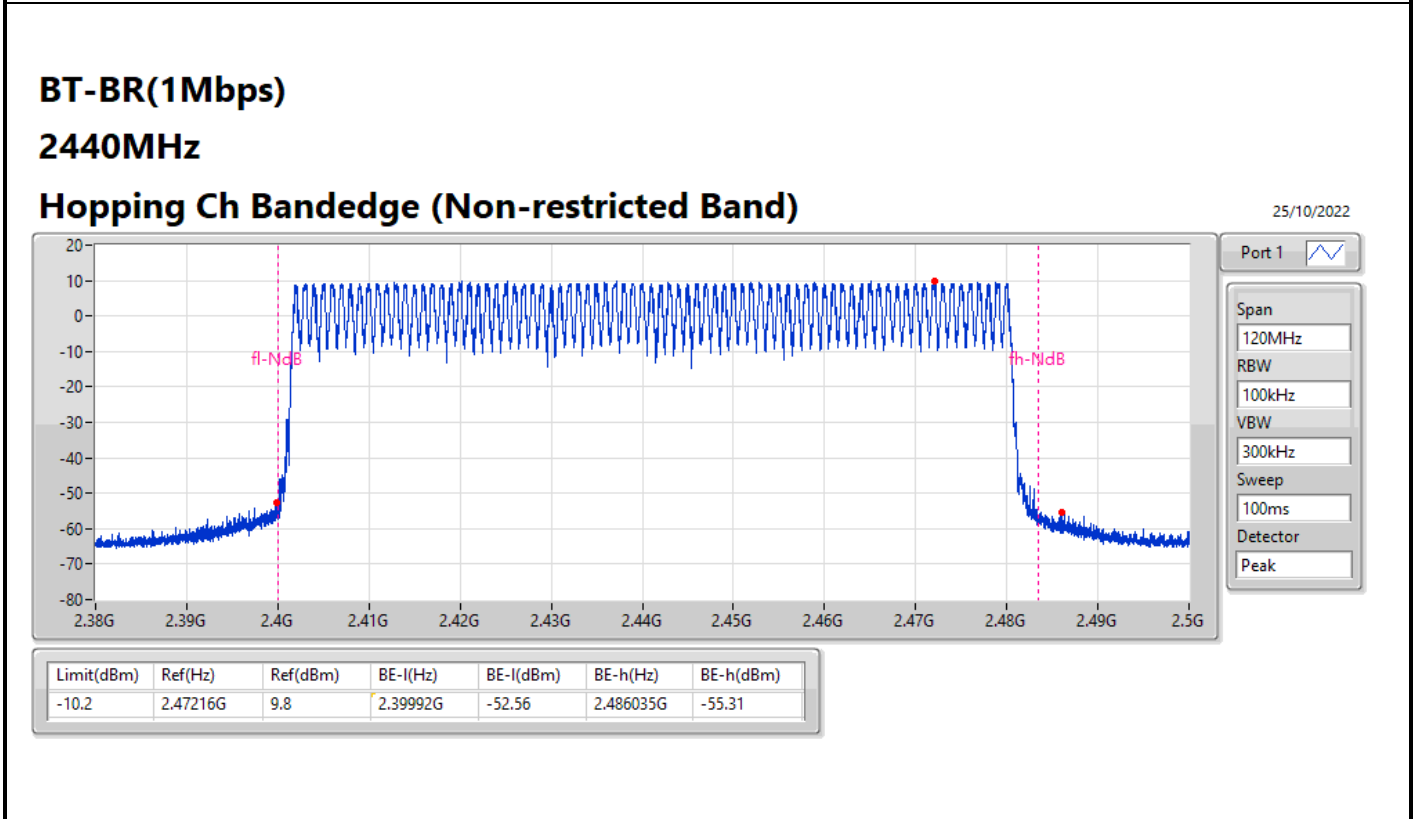
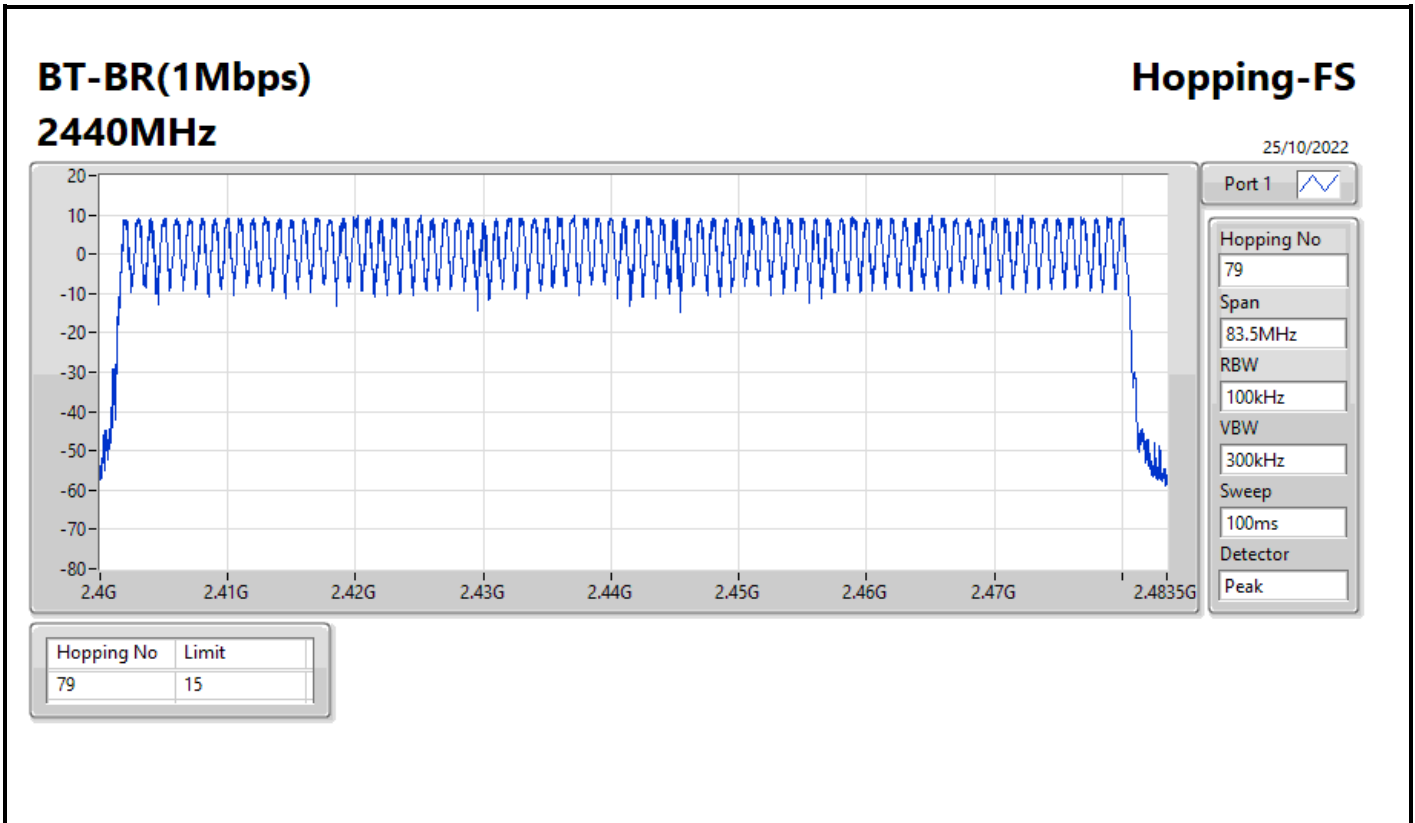
Summary

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



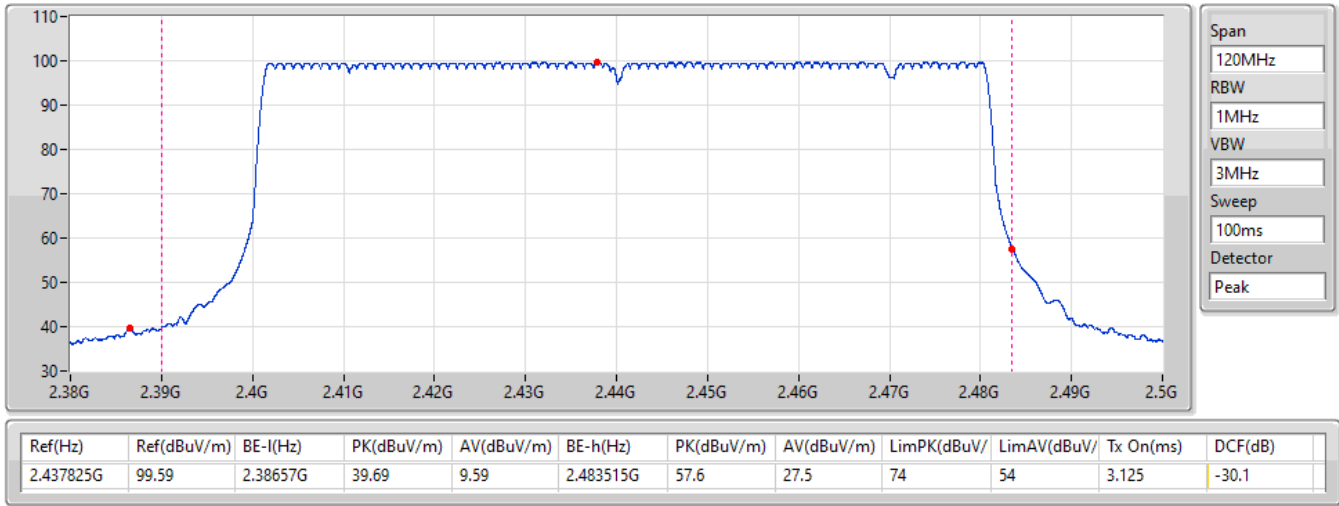
Result

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



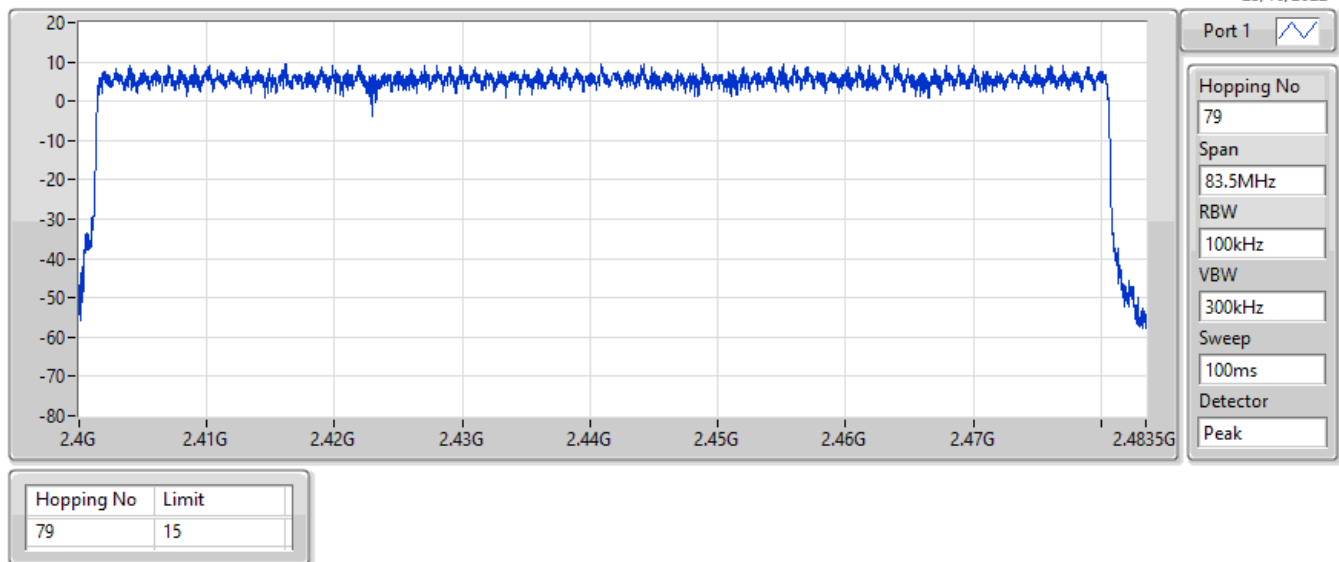
BT-BR(1Mbps)
2440MHz
Hopping Ch Bandedge (Restricted Band)

25/10/2022



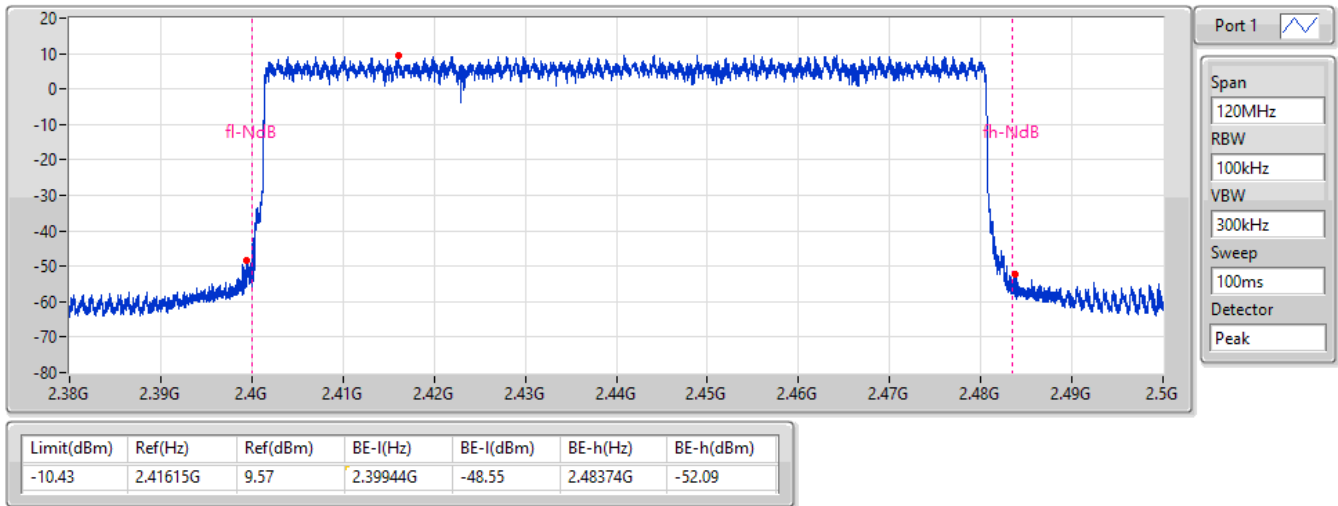
BT-EDR(2Mbps) **Hopping-FS**
2440MHz

25/10/2022



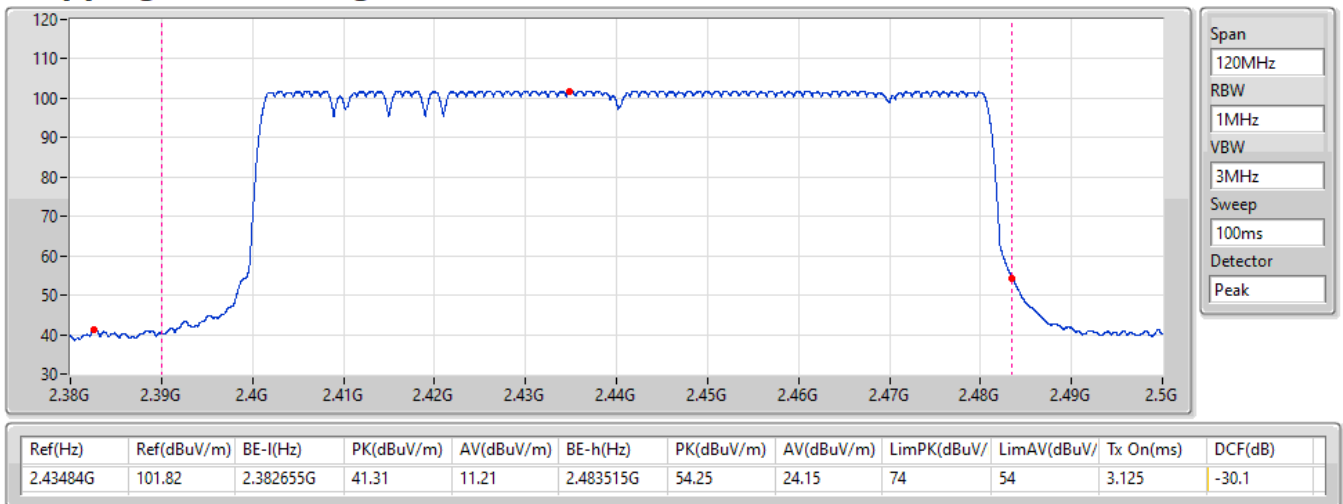
BT-EDR(2Mbps)
2440MHz
Hopping Ch Bandedge (Non-restricted Band)

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BT-EDR(2Mbps)
2440MHz
Hopping Ch Bandedge (Restricted Band)

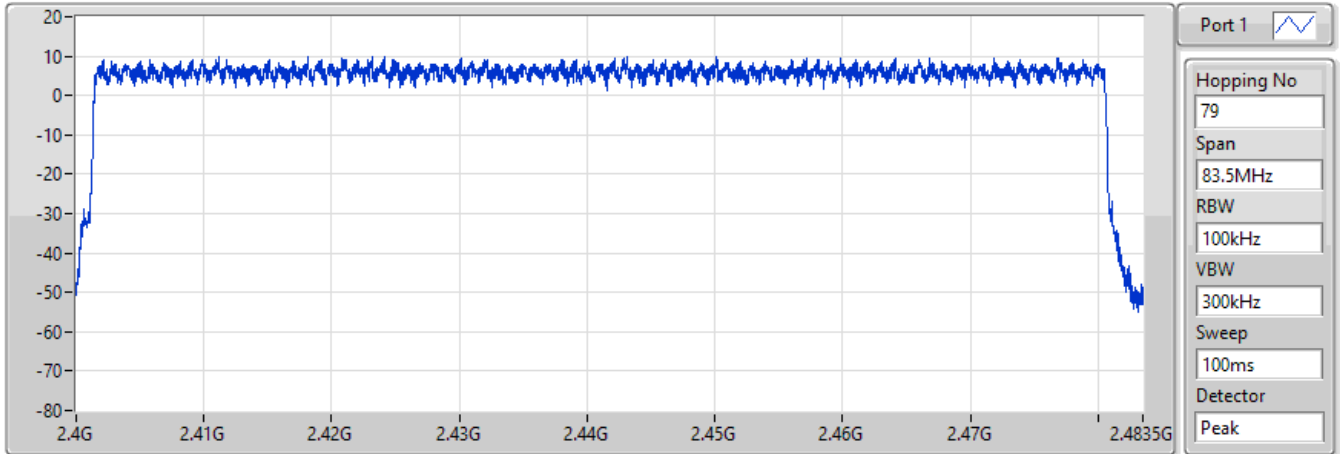
25/10/2022



BT-EDR(3Mbps)
2440MHz

Hopping-FS

25/10/2022

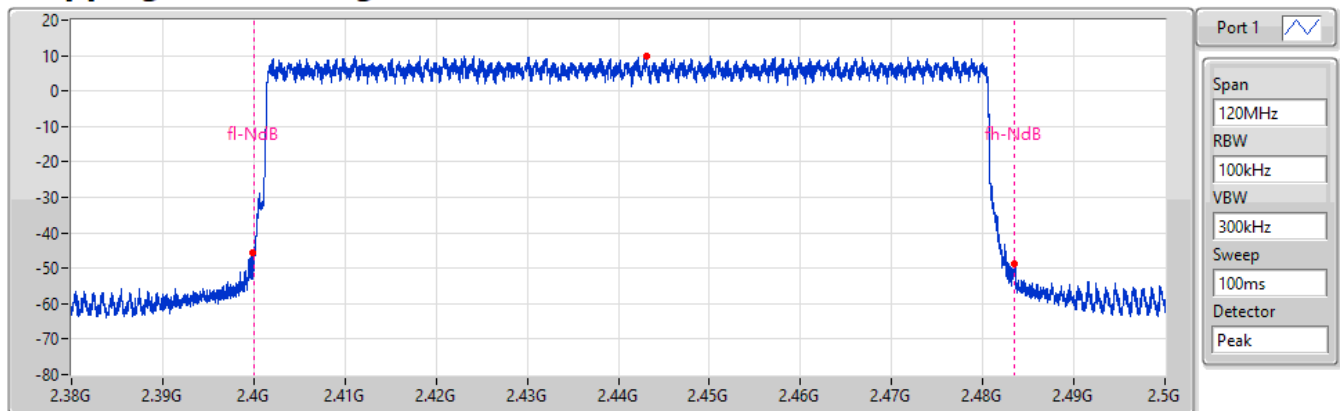


Hopping No	Limit
79	15

BT-EDR(3Mbps)
2440MHz

Hopping Ch Bandedge (Non-restricted Band)

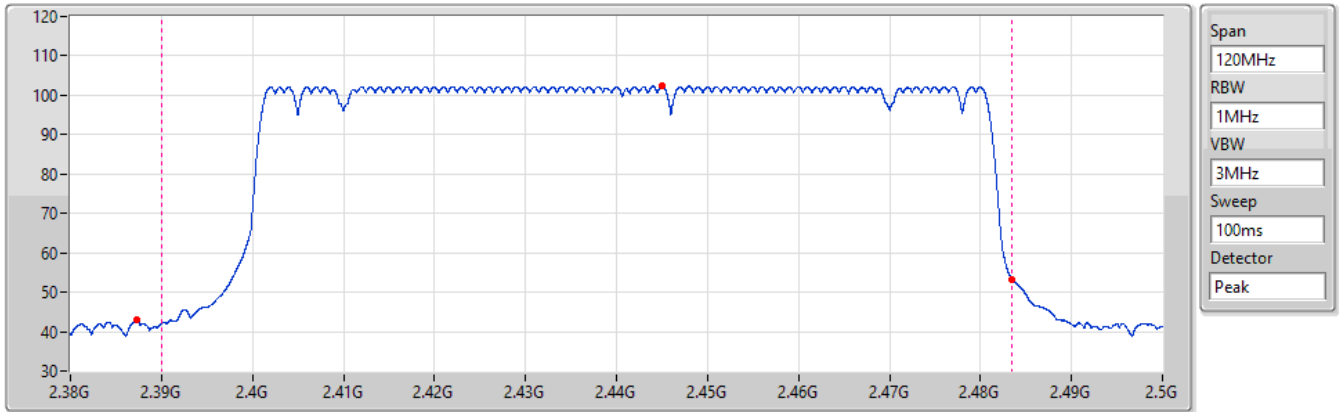
25/10/2022



Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-10.15	2.443165G	9.85	2.399845G	-45.66	2.48353G	-48.94

BT-EDR(3Mbps)
2440MHz
Hopping Ch Bandedge (Restricted Band)

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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)
2.44498G	102.28	2.387245G	42.9	12.8	2.483515G	53.22	23.12	74	54	3.125	-30.1



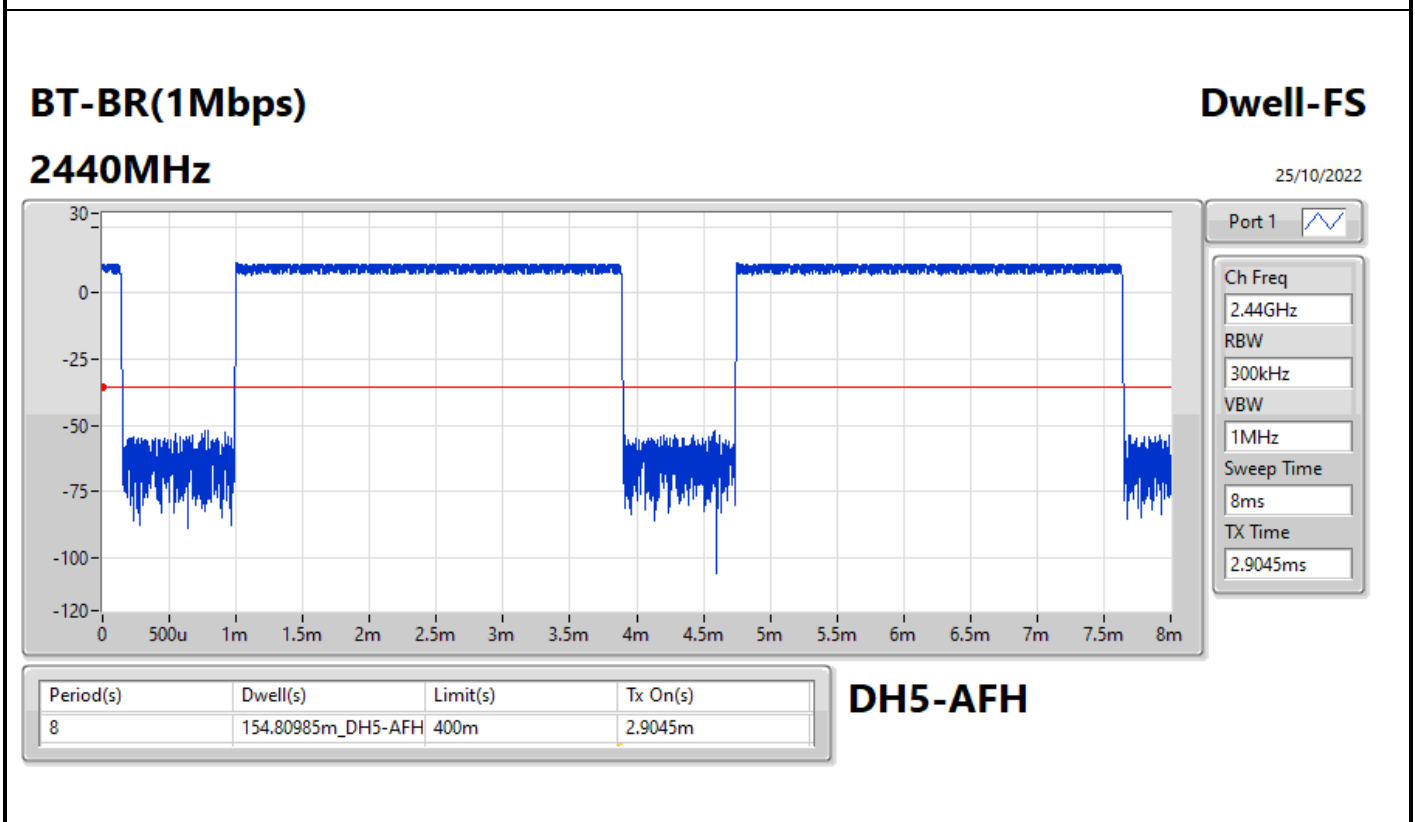
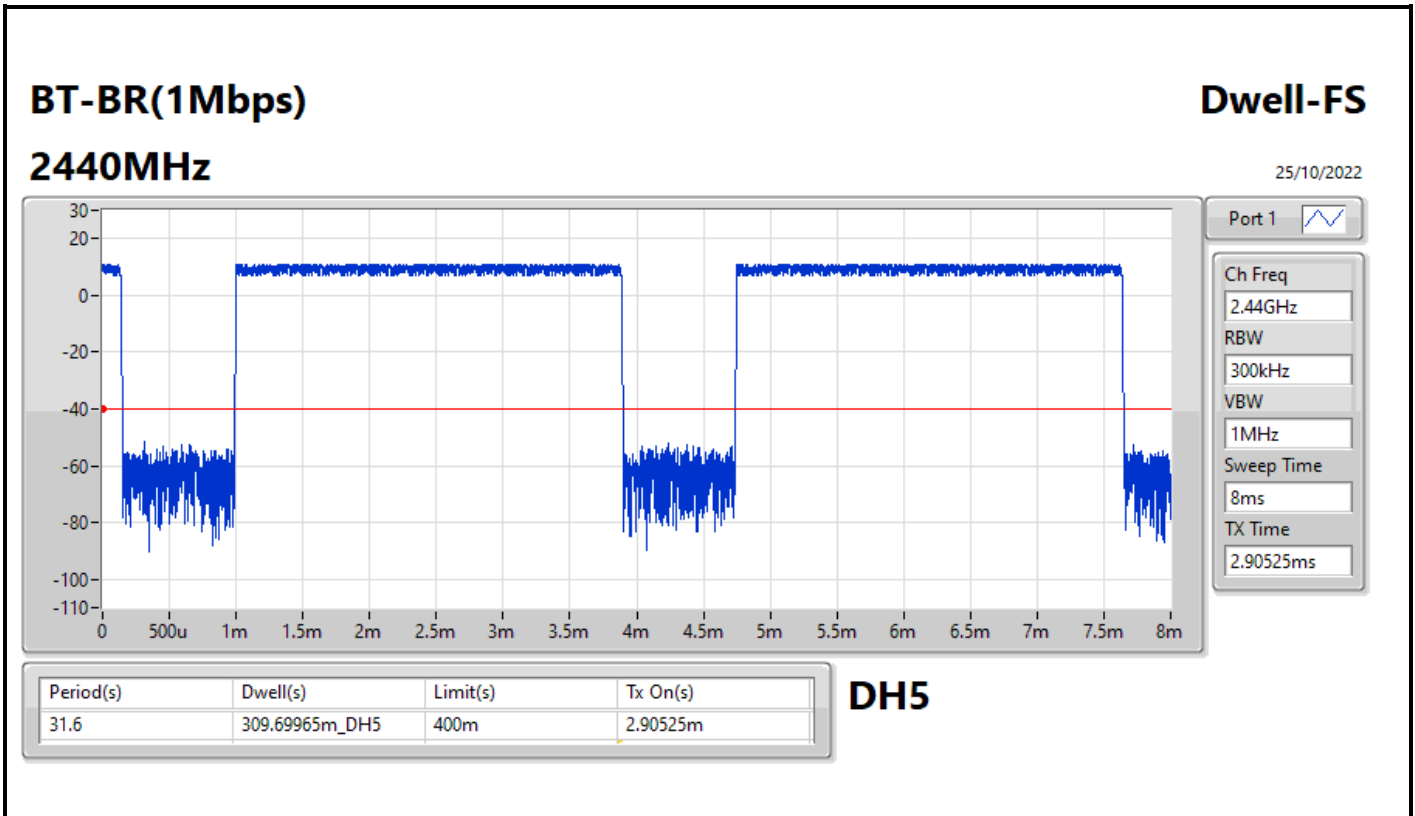
Summary

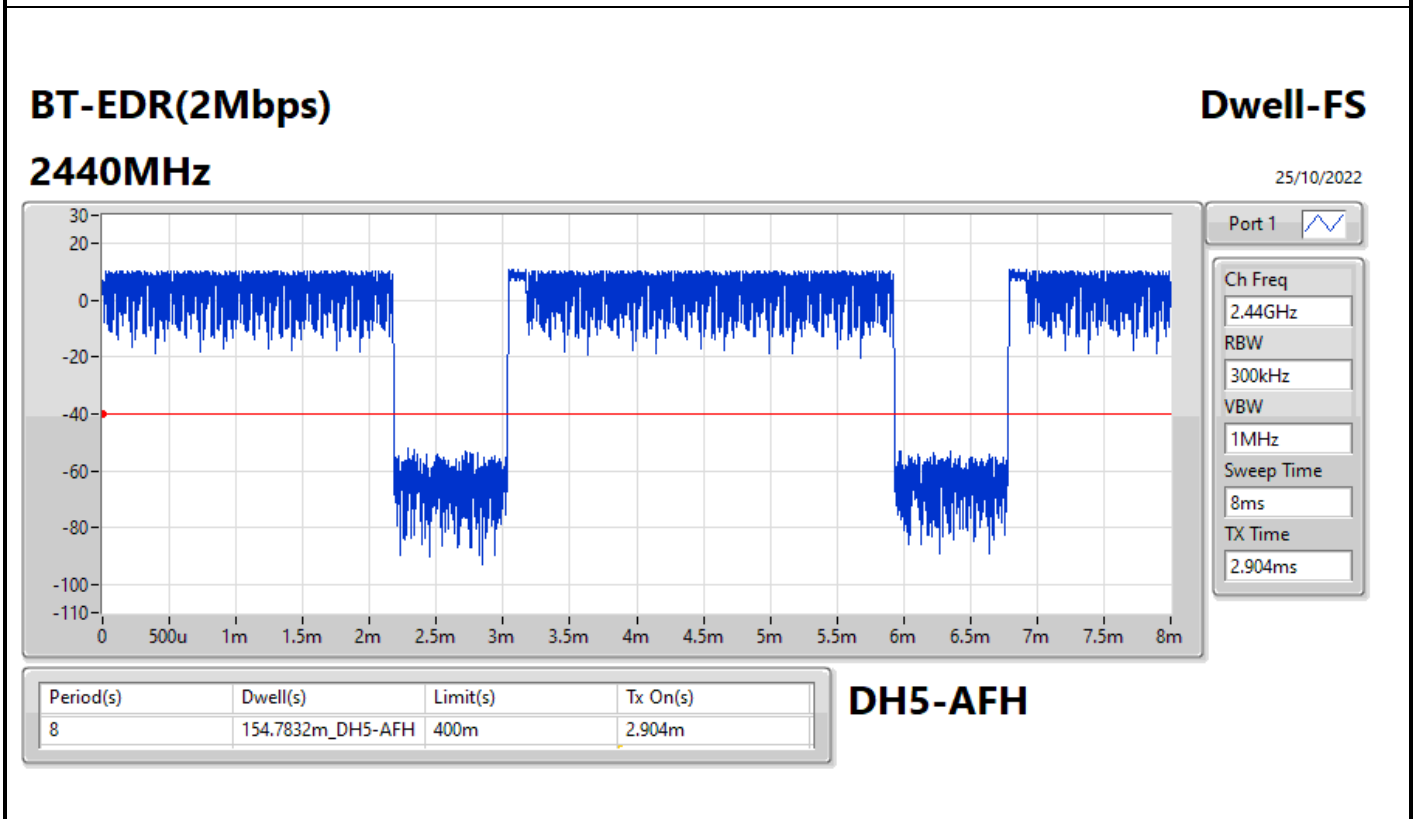
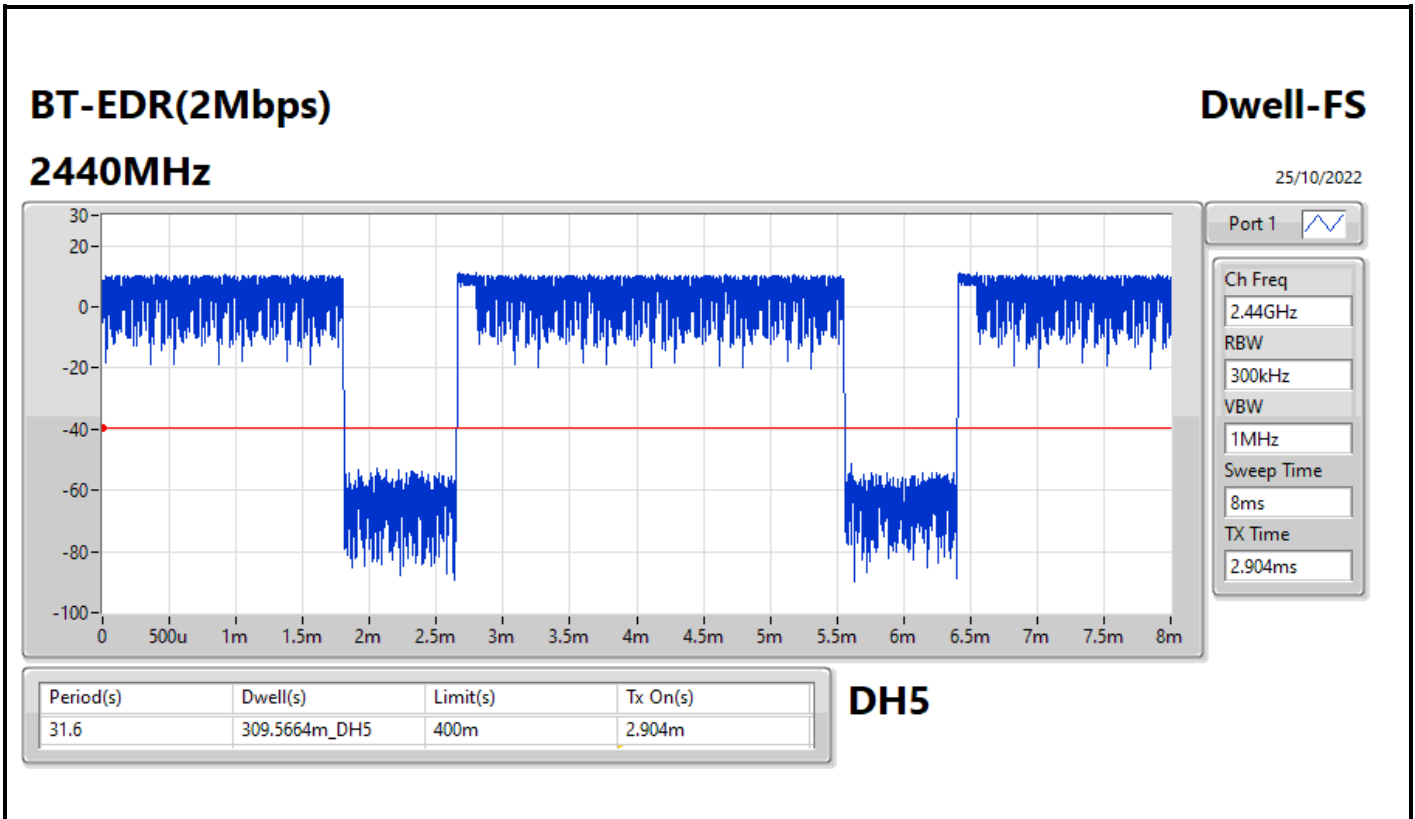
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	309.69965m_DH5
BT-EDR(2Mbps)	309.5664m_DH5
BT-EDR(3Mbps)	309.69965m_DH5

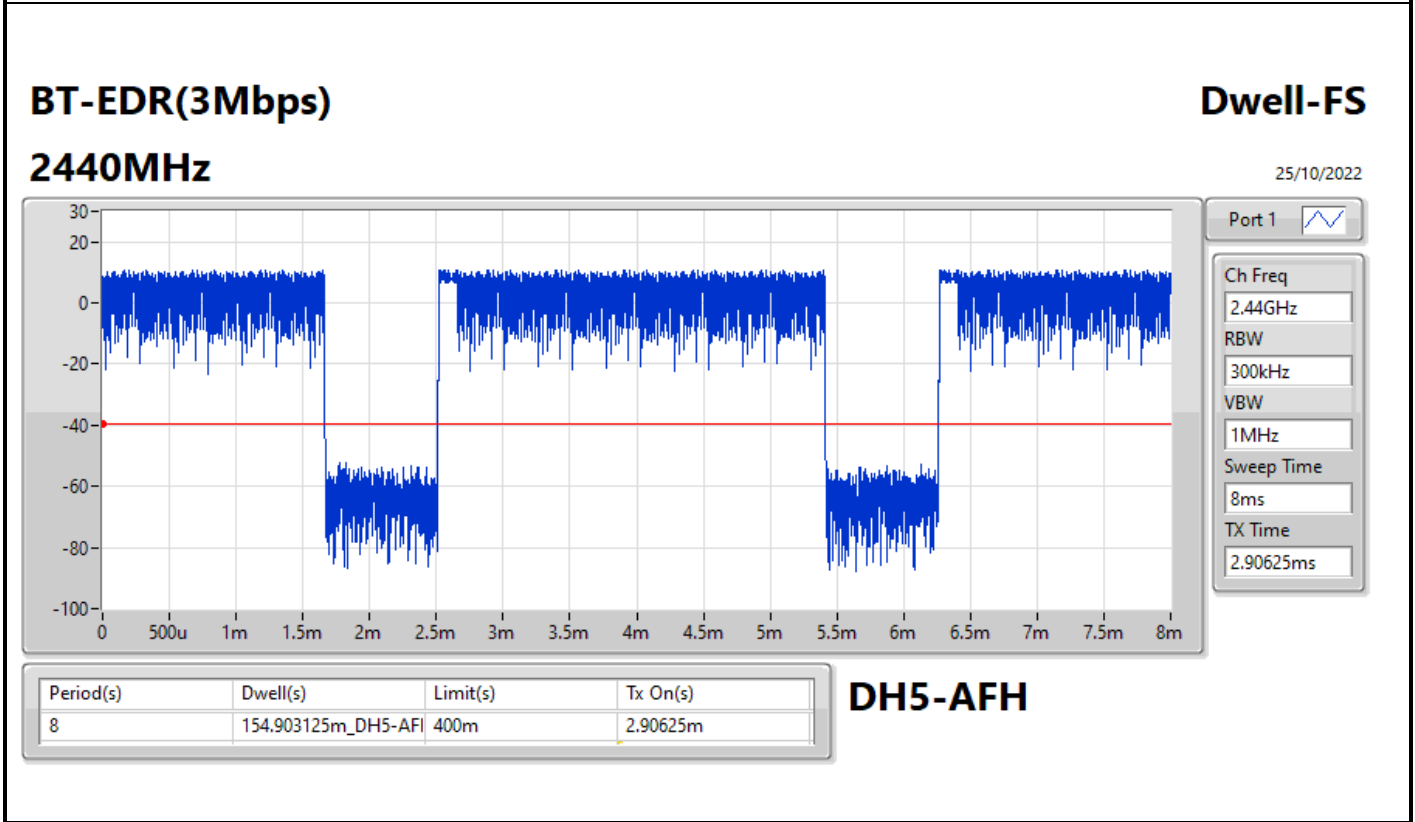
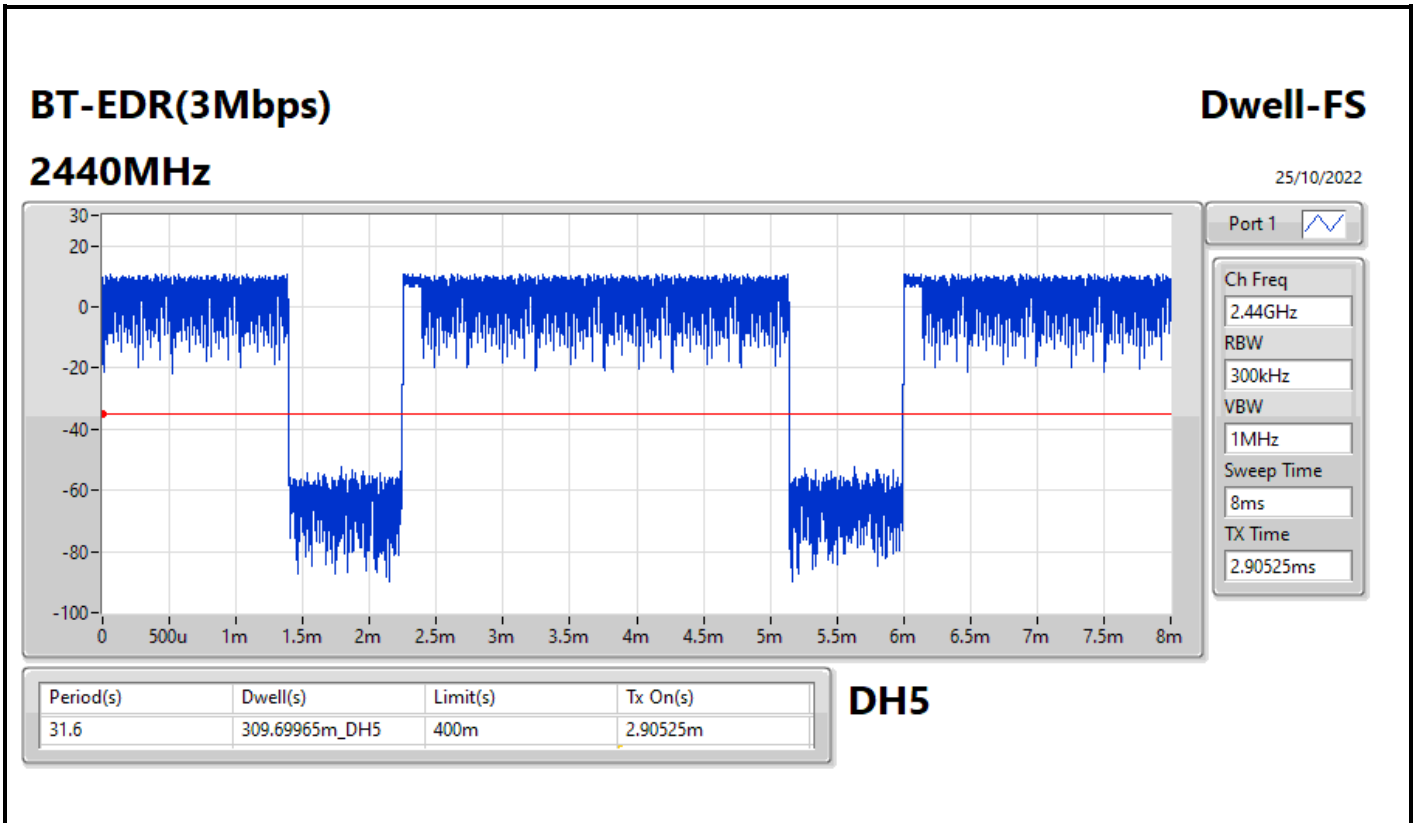


Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.69965m_DH5	400m	2.90525m
2440MHz	Pass	8	154.80985m_DH5-AFH	400m	2.9045m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.5664m_DH5	400m	2.904m
2440MHz	Pass	8	154.7832m_DH5-AFH	400m	2.904m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.69965m_DH5	400m	2.90525m
2440MHz	Pass	8	154.903125m_DH5-AFH	400m	2.90625m







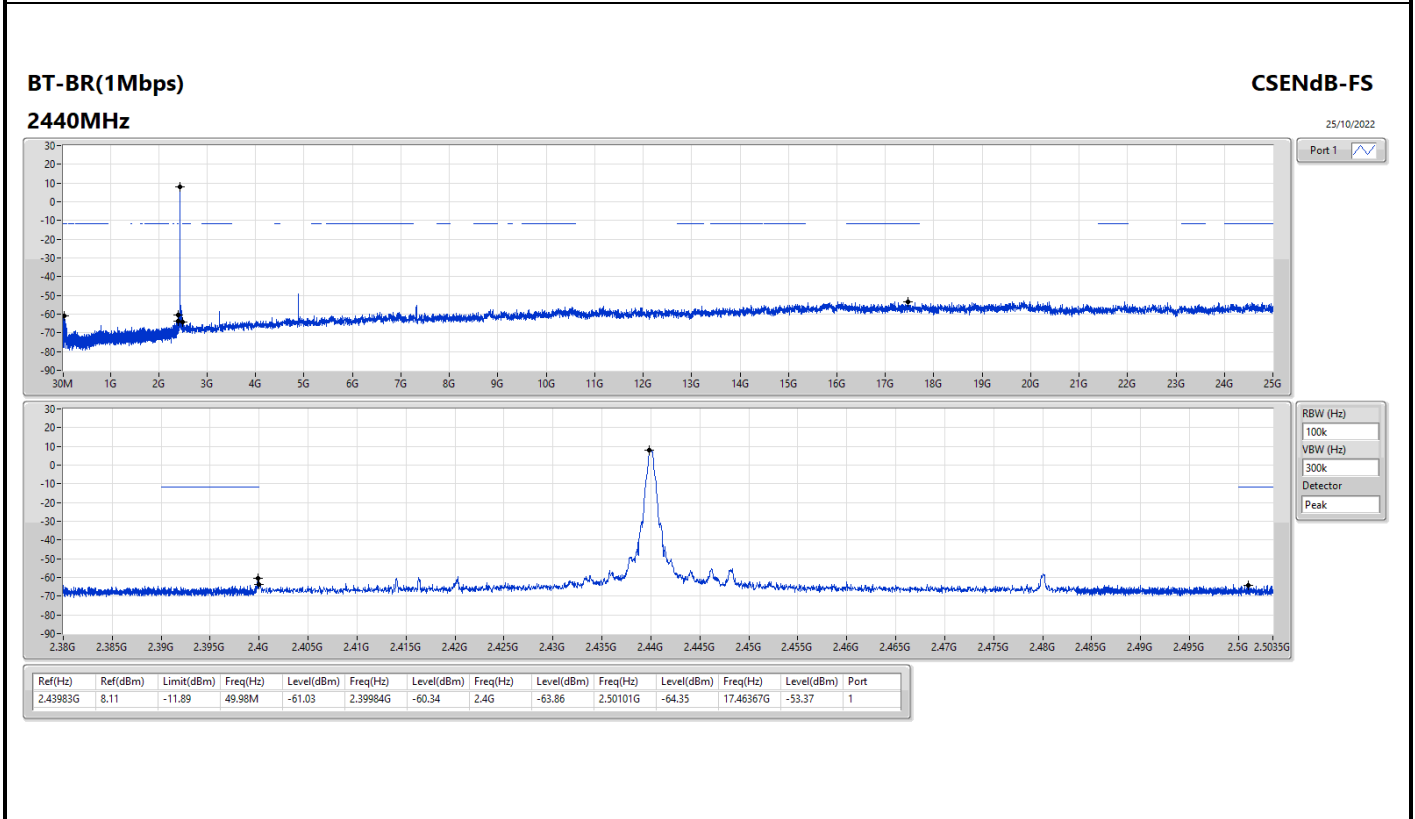
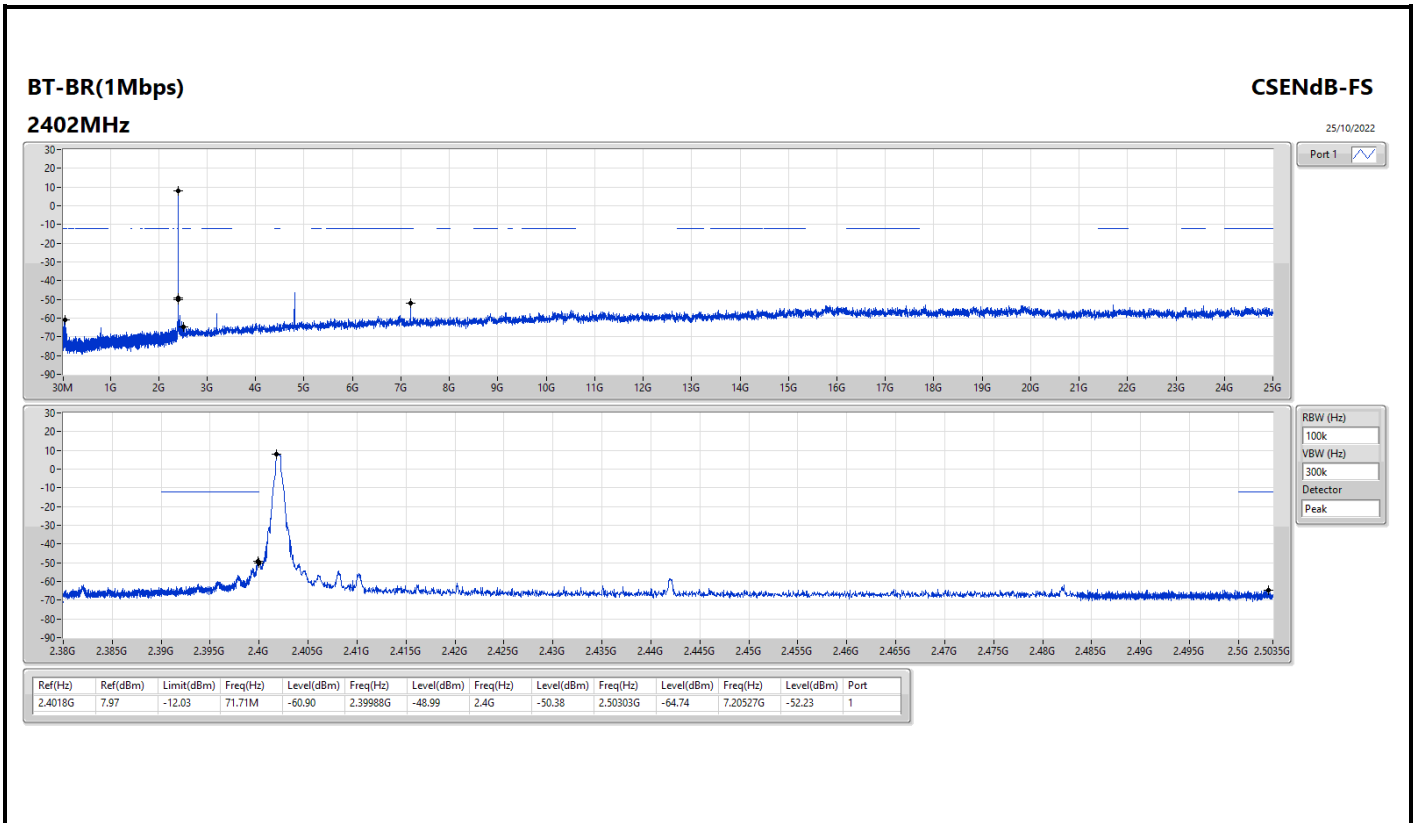


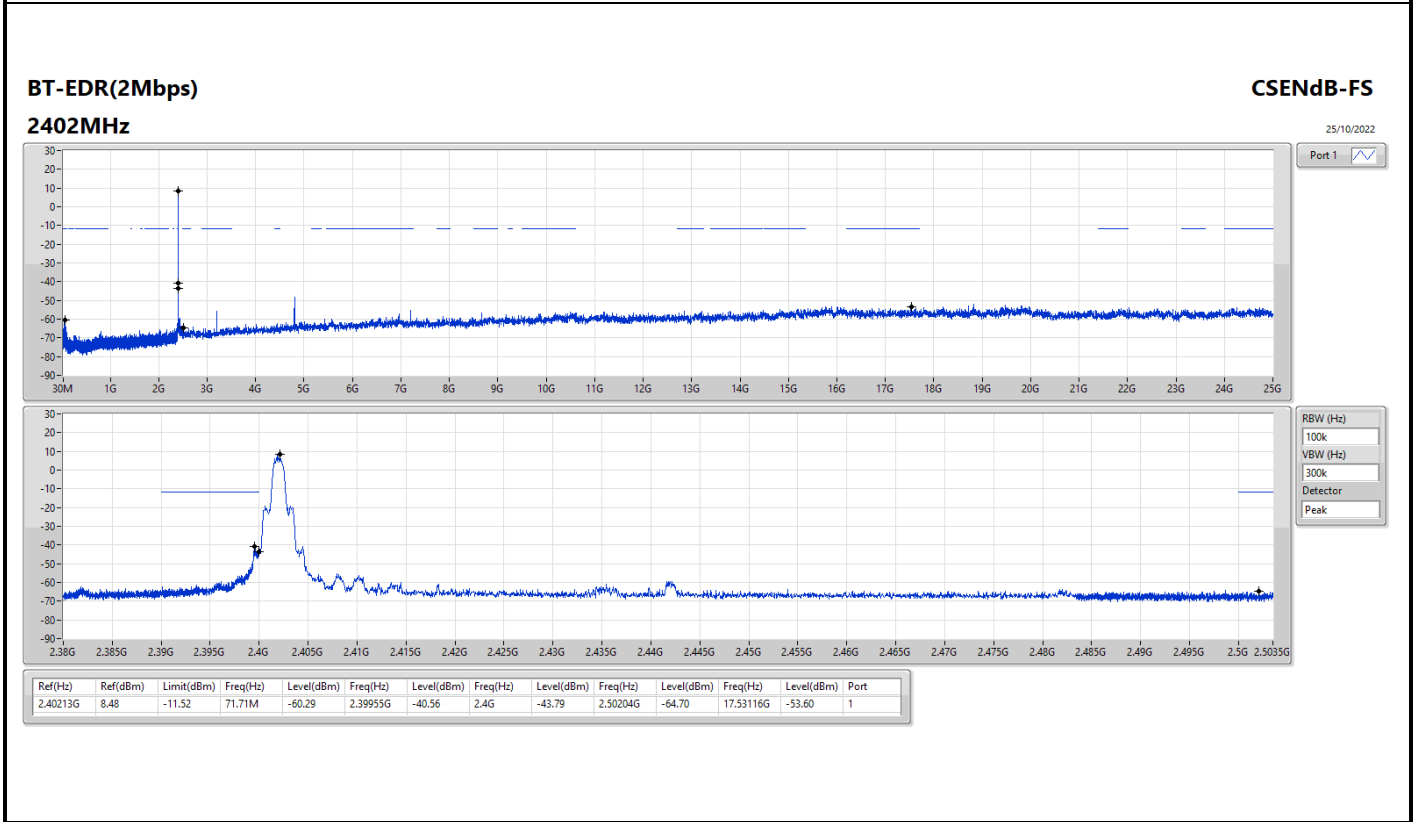
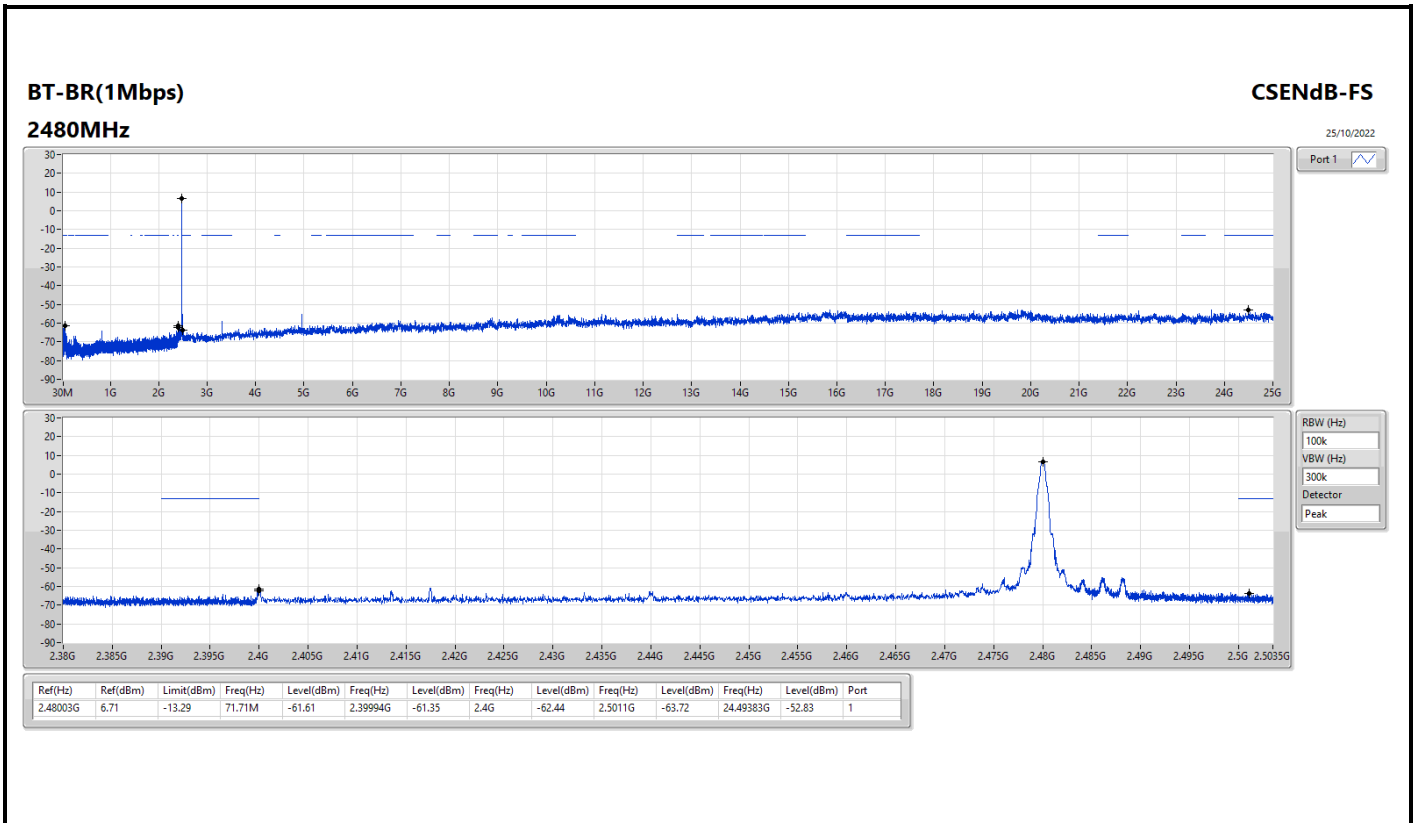
Summary

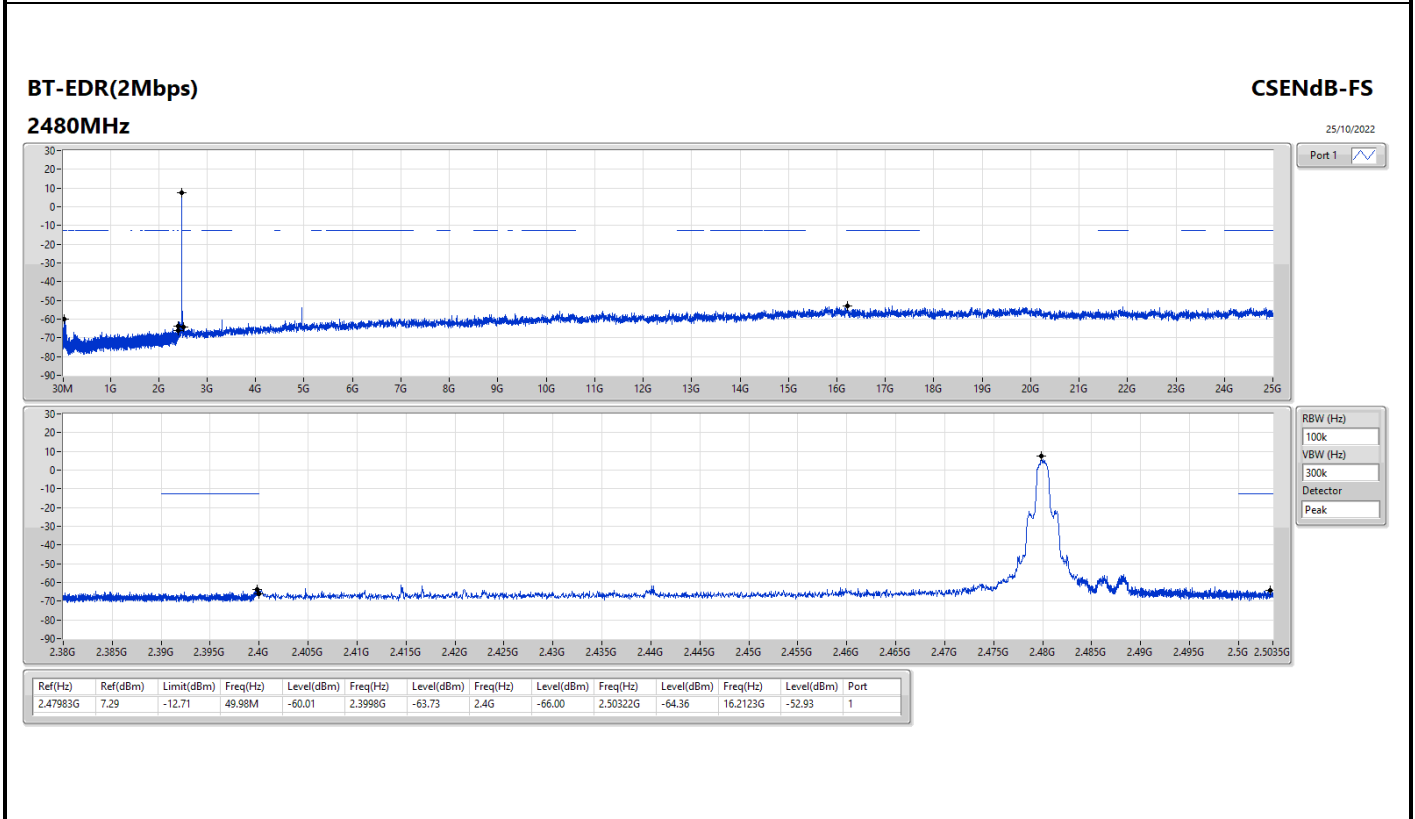
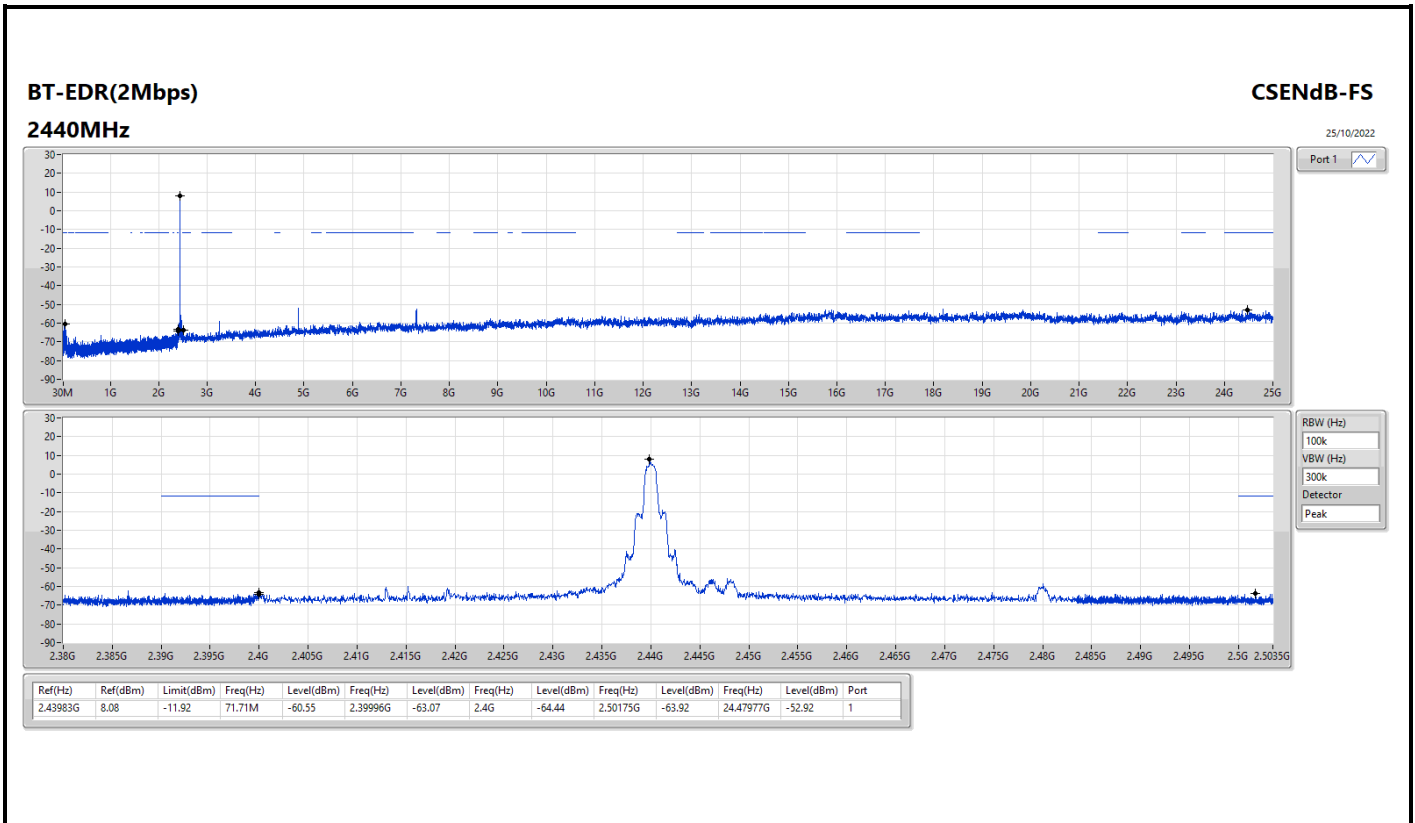
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.4018G	7.97	-12.03	71.71M	-60.9	2.39988G	-48.99	2.4G	-50.38	2.50303G	-64.74	7.20527G	-52.23	1
BT-EDR(2Mbps)	Pass	2.40213G	8.48	-11.52	71.71M	-60.29	2.39955G	-40.56	2.4G	-43.79	2.50204G	-64.7	17.53116G	-53.6	1
BT-EDR(3Mbps)	Pass	2.402G	7.81	-12.19	72.59M	-59.29	2.39948G	-40.52	2.4G	-44.38	2.50102G	-64.75	17.18809G	-53.83	1

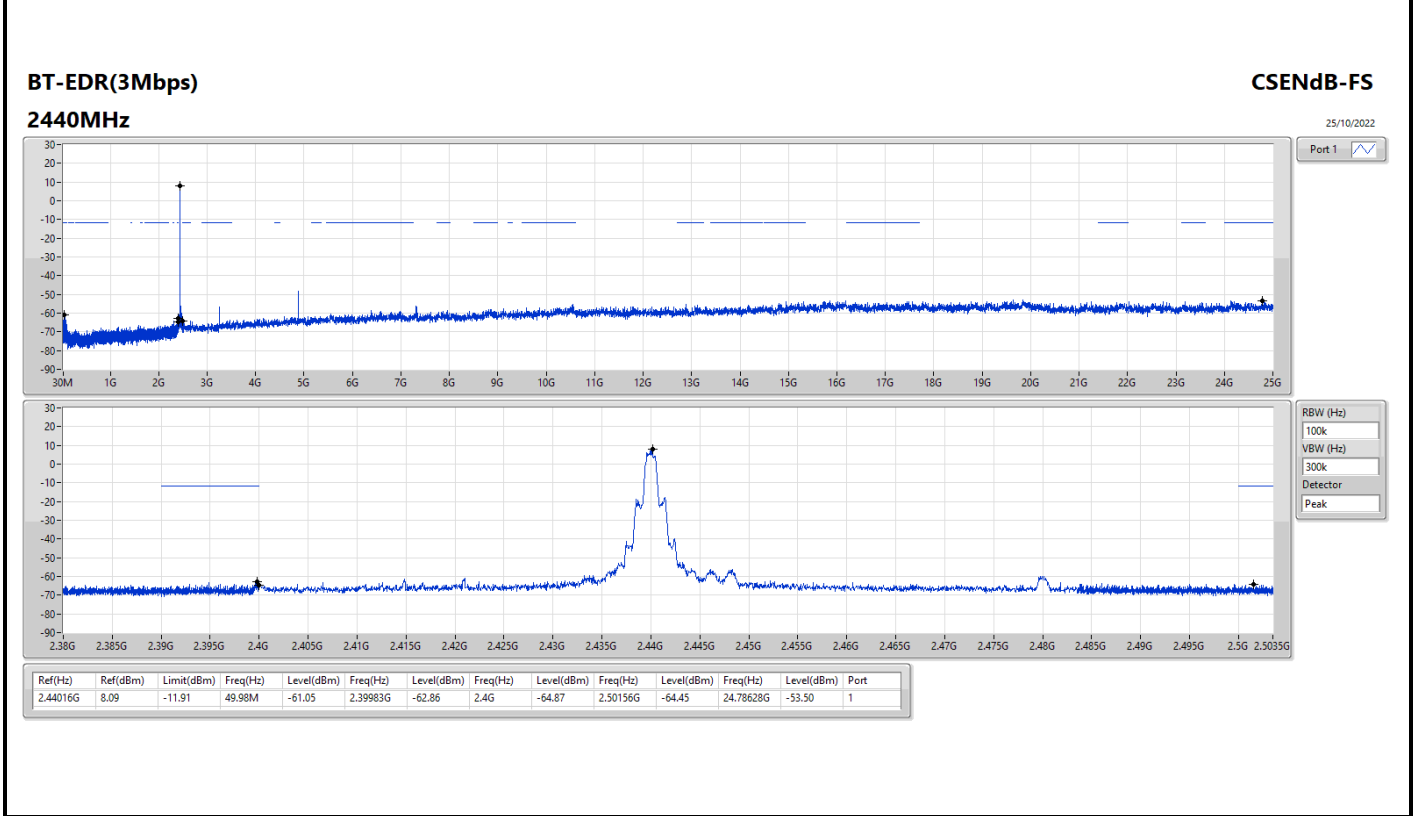
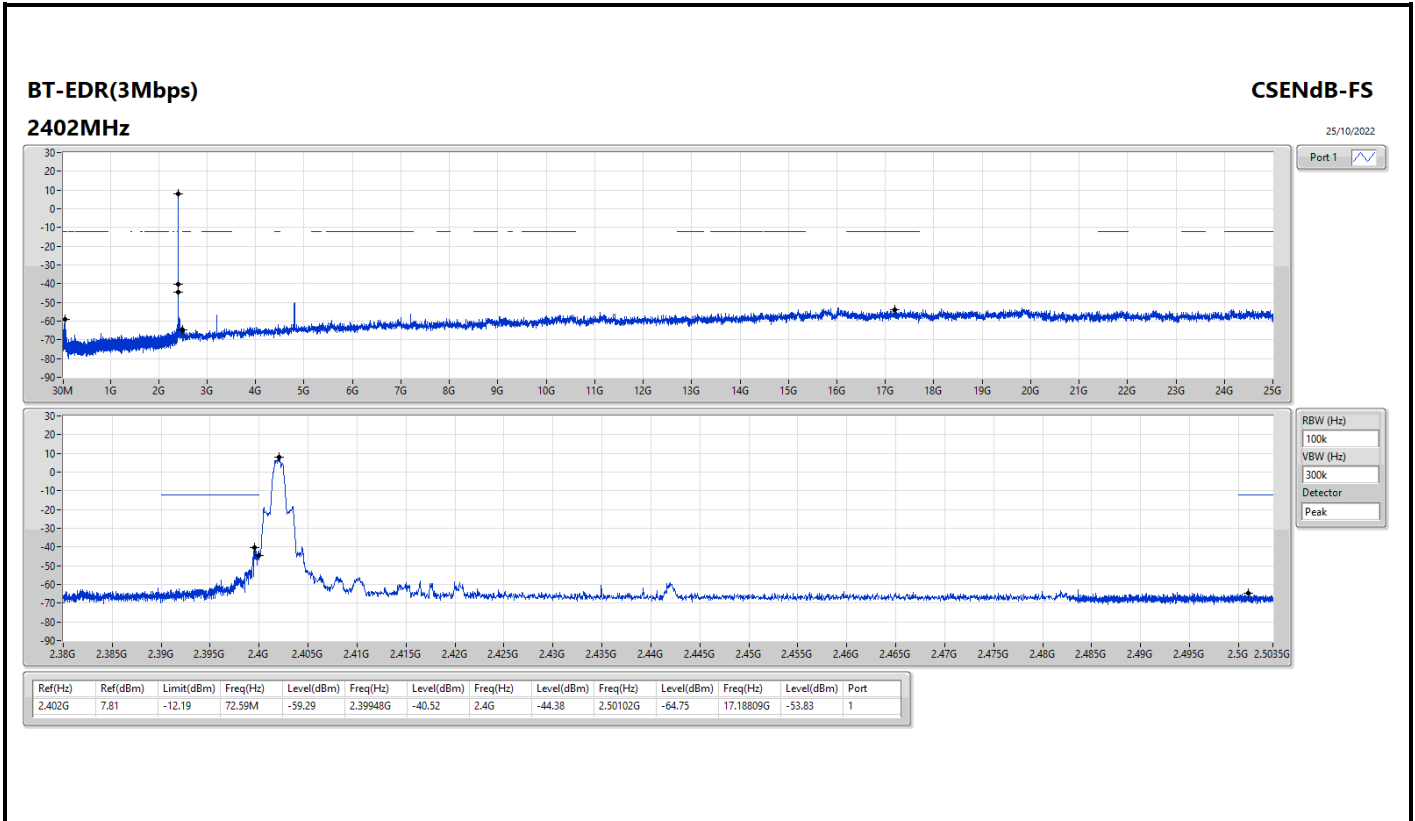
Result

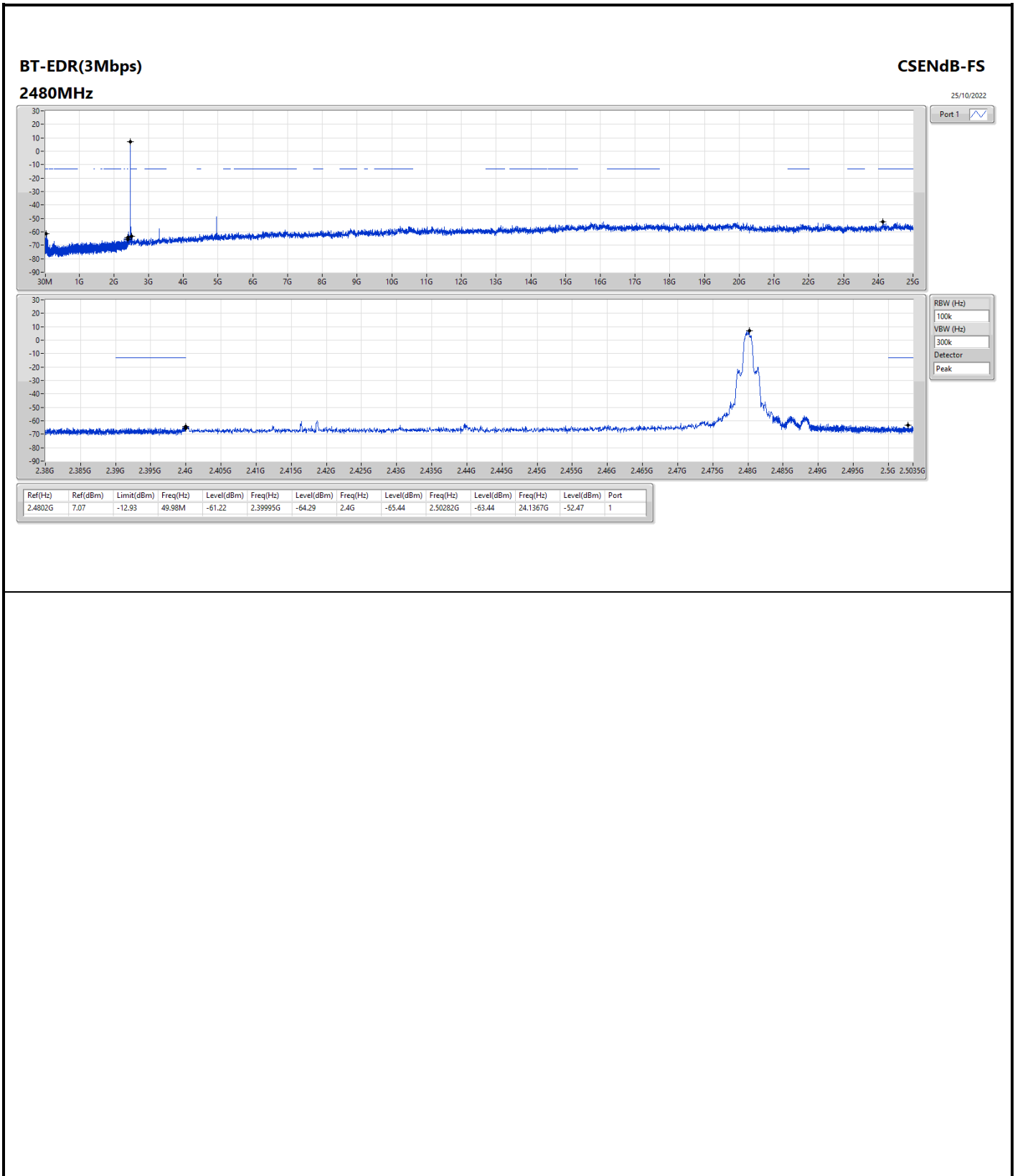
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.4018G	7.97	-12.03	71.71M	-60.9	2.39988G	-48.99	2.4G	-50.38	2.50303G	-64.74	7.20527G	-52.23	1
2440MHz	Pass	2.43983G	8.11	-11.89	49.98M	-61.03	2.39984G	-60.34	2.4G	-63.86	2.50101G	-64.35	17.46367G	-53.37	1
2480MHz	Pass	2.48003G	6.71	-13.29	71.71M	-61.61	2.39994G	-61.35	2.4G	-62.44	2.50111G	-63.72	24.49383G	-52.83	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40213G	8.48	-11.52	71.71M	-60.29	2.39955G	-40.56	2.4G	-43.79	2.50204G	-64.7	17.53116G	-53.6	1
2440MHz	Pass	2.43983G	8.08	-11.92	71.71M	-60.55	2.39996G	-63.07	2.4G	-64.44	2.50175G	-63.92	24.47977G	-52.92	1
2480MHz	Pass	2.47983G	7.29	-12.71	49.98M	-60.01	2.3998G	-63.73	2.4G	-66	2.50322G	-64.36	16.2123G	-52.93	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	7.81	-12.19	72.59M	-59.29	2.39948G	-40.52	2.4G	-44.38	2.50102G	-64.75	17.18809G	-53.83	1
2440MHz	Pass	2.44016G	8.09	-11.91	49.98M	-61.05	2.39983G	-62.86	2.4G	-64.87	2.50156G	-64.45	24.78628G	-53.5	1
2480MHz	Pass	2.4802G	7.07	-12.93	49.98M	-61.22	2.39995G	-64.29	2.4G	-65.44	2.50282G	-63.44	24.1367G	-52.47	1













Summary

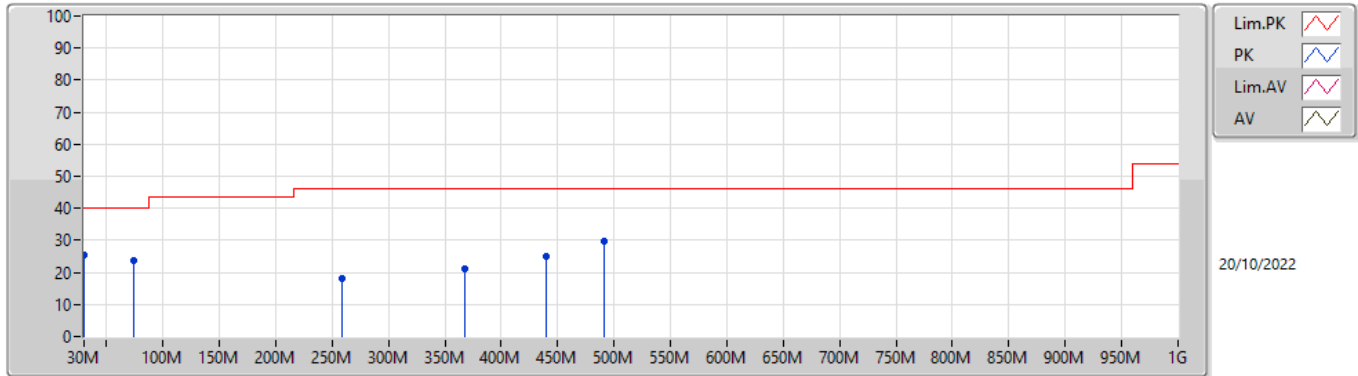
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-EDR(3Mbps)	Pass	PK	30M	25.23	40.00	-14.77	3	Vertical	360	1.00	-



Result

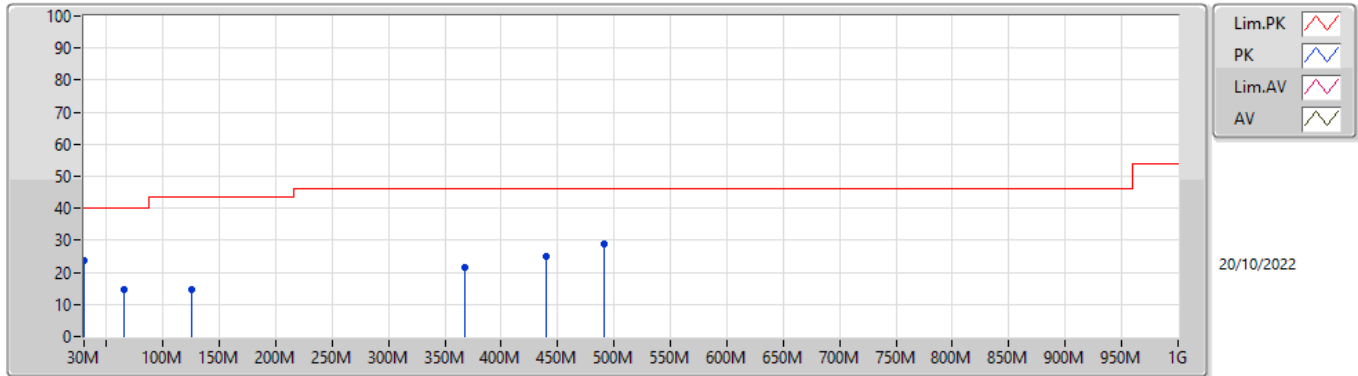
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	PK	30M	25.23	40.00	-14.77	3	Vertical	360	1.00	-
2402MHz	Pass	PK	74.62M	23.61	40.00	-16.39	3	Vertical	360	1.00	-
2402MHz	Pass	PK	258.92M	17.94	46.00	-28.06	3	Vertical	360	1.00	-
2402MHz	Pass	PK	367.56M	21.03	46.00	-24.97	3	Vertical	360	1.00	-
2402MHz	Pass	PK	439.34M	25.03	46.00	-20.97	3	Vertical	360	1.00	-
2402MHz	Pass	PK	491.72M	29.76	46.00	-16.24	3	Vertical	360	1.00	-
2402MHz	Pass	PK	30M	23.82	40.00	-16.18	3	Horizontal	0	1.00	-
2402MHz	Pass	PK	64.92M	14.65	40.00	-25.35	3	Horizontal	0	1.00	-
2402MHz	Pass	PK	125.06M	14.54	43.50	-28.96	3	Horizontal	0	1.00	-
2402MHz	Pass	PK	367.56M	21.68	46.00	-24.32	3	Horizontal	0	1.00	-
2402MHz	Pass	PK	439.34M	25.08	46.00	-20.92	3	Horizontal	0	1.00	-
2402MHz	Pass	PK	491.72M	29.07	46.00	-16.93	3	Horizontal	0	1.00	-

BT-EDR(3Mbps)
2402MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	25.23	40.00	-14.77	-12.95	3	Vertical	360	1.00	-	38.18	23.71	0.54	37.20
PK	74.62M	23.61	40.00	-16.39	-24.10	3	Vertical	360	1.00	-	47.71	11.95	0.87	36.92
PK	258.92M	17.94	46.00	-28.06	-15.70	3	Vertical	360	1.00	-	33.64	19.11	1.66	36.47
PK	367.56M	21.03	46.00	-24.97	-14.64	3	Vertical	360	1.00	-	35.67	19.85	2.03	36.52
PK	439.34M	25.03	46.00	-20.97	-12.38	3	Vertical	360	1.00	-	37.41	22.02	2.22	36.62
PK	491.72M	29.76	46.00	-16.24	-11.55	3	Vertical	360	1.00	-	41.31	23.00	2.38	36.93

BT-EDR(3Mbps)
2402MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	23.82	40.00	-16.18	-12.95	3	Horizontal	0	1.00	-	36.77	23.71	0.54	37.20
PK	64.92M	14.65	40.00	-25.35	-25.05	3	Horizontal	0	1.00	-	39.70	11.18	0.80	37.03
PK	125.06M	14.54	43.50	-28.96	-18.62	3	Horizontal	0	1.00	-	33.16	16.83	1.13	36.58
PK	367.56M	21.68	46.00	-24.32	-14.64	3	Horizontal	0	1.00	-	36.32	19.85	2.03	36.52
PK	439.34M	25.08	46.00	-20.92	-12.38	3	Horizontal	0	1.00	-	37.46	22.02	2.22	36.62
PK	491.72M	29.07	46.00	-16.93	-11.55	3	Horizontal	0	1.00	-	40.62	23.00	2.38	36.93



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	4.95997G	44.87	54.00	-9.13	3	Vertical	182	1.85	-
BT-EDR(3Mbps)	Pass	PK	2.4898G	58.02	74.00	-15.98	3	Vertical	241	1.07	-



Result

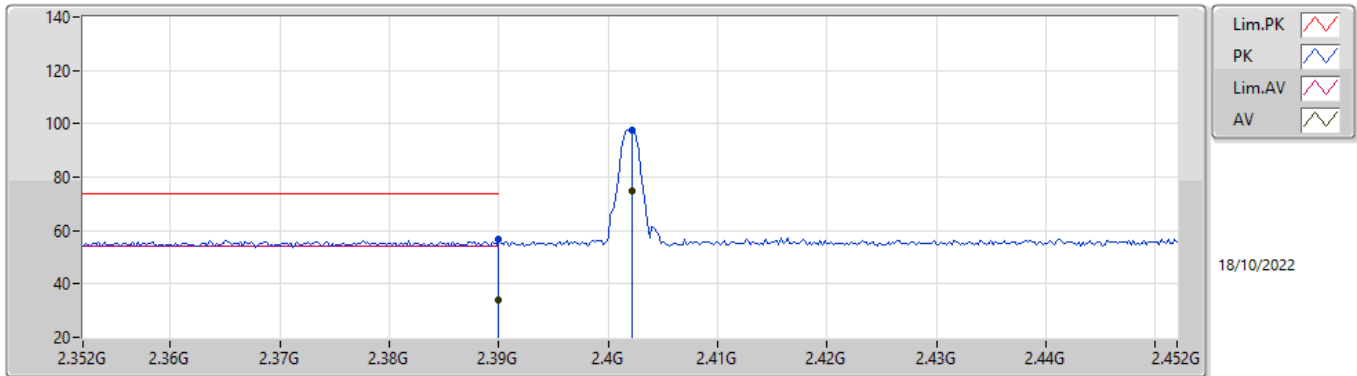
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.39G	34.19	54.00	-19.81	3	Vertical	242	1.12	-
2402MHz	Pass	AV	2.4022G	74.92	Inf	-Inf	3	Vertical	242	1.12	-
2402MHz	Pass	PK	2.39G	56.69	74.00	-17.31	3	Vertical	242	1.12	-
2402MHz	Pass	PK	2.4022G	97.42	Inf	-Inf	3	Vertical	242	1.12	-
2402MHz	Pass	PK	2.3664G	56.48	74.00	-17.52	3	Horizontal	216	1.50	-
2402MHz	Pass	PK	2.4022G	89.59	Inf	-Inf	3	Horizontal	216	1.50	-
2402MHz	Pass	AV	2.3664G	33.98	54.00	-20.02	3	Horizontal	216	1.50	-
2402MHz	Pass	AV	2.4022G	67.09	Inf	-Inf	3	Horizontal	216	1.50	-
2402MHz	Pass	AV	4.80436G	28.66	54.00	-25.34	3	Vertical	220	1.94	-
2402MHz	Pass	PK	4.80436G	51.16	74.00	-22.84	3	Vertical	220	1.94	-
2402MHz	Pass	AV	4.80411G	27.86	54.00	-26.14	3	Horizontal	165	1.81	-
2402MHz	Pass	PK	4.80411G	50.36	74.00	-23.64	3	Horizontal	165	1.81	-
2440MHz	Pass	AV	2.3812G	34.78	54.00	-19.22	3	Vertical	181	2.36	-
2440MHz	Pass	AV	2.44G	74.05	Inf	-Inf	3	Vertical	181	2.36	-
2440MHz	Pass	AV	2.4892G	35.38	54.00	-18.62	3	Vertical	181	2.36	-
2440MHz	Pass	PK	2.3812G	57.28	74.00	-16.72	3	Vertical	181	2.36	-
2440MHz	Pass	PK	2.44G	96.55	Inf	-Inf	3	Vertical	181	2.36	-
2440MHz	Pass	PK	2.4892G	57.88	74.00	-16.12	3	Vertical	181	2.36	-
2440MHz	Pass	AV	2.3548G	34.80	54.00	-19.20	3	Horizontal	212	1.99	-
2440MHz	Pass	AV	2.44G	66.78	Inf	-Inf	3	Horizontal	212	1.99	-
2440MHz	Pass	AV	2.4884G	36.19	54.00	-17.81	3	Horizontal	212	1.99	-
2440MHz	Pass	PK	2.3548G	57.30	74.00	-16.70	3	Horizontal	212	1.99	-
2440MHz	Pass	PK	2.44G	89.28	Inf	-Inf	3	Horizontal	212	1.99	-
2440MHz	Pass	PK	2.4884G	58.69	74.00	-15.31	3	Horizontal	212	1.99	-
2440MHz	Pass	AV	4.87969G	28.93	54.00	-25.07	3	Vertical	218	1.90	-
2440MHz	Pass	PK	4.87969G	51.43	74.00	-22.57	3	Vertical	218	1.90	-
2440MHz	Pass	AV	4.87999G	27.06	54.00	-26.94	3	Horizontal	167	1.24	-
2440MHz	Pass	PK	4.87999G	49.56	74.00	-24.44	3	Horizontal	167	1.24	-
2480MHz	Pass	AV	2.4802G	73.45	Inf	-Inf	3	Vertical	181	2.26	-
2480MHz	Pass	AV	2.4848G	34.30	54.00	-19.70	3	Vertical	181	2.26	-
2480MHz	Pass	PK	2.4802G	95.95	Inf	-Inf	3	Vertical	181	2.26	-
2480MHz	Pass	PK	2.4848G	56.80	74.00	-17.20	3	Vertical	181	2.26	-
2480MHz	Pass	AV	2.4798G	67.64	Inf	-Inf	3	Horizontal	229	1.11	-
2480MHz	Pass	AV	2.4866G	35.85	54.00	-18.15	3	Horizontal	229	1.11	-
2480MHz	Pass	PK	2.4798G	90.14	Inf	-Inf	3	Horizontal	229	1.11	-
2480MHz	Pass	PK	2.4866G	58.35	74.00	-15.65	3	Horizontal	229	1.11	-
2480MHz	Pass	AV	4.95997G	44.87	54.00	-9.13	3	Vertical	182	1.85	-
2480MHz	Pass	PK	4.96029G	51.59	74.00	-22.41	3	Vertical	182	1.85	-
2480MHz	Pass	AV	4.9599G	42.49	54.00	-11.51	3	Horizontal	165	1.02	-
2480MHz	Pass	PK	4.96026G	50.10	74.00	-23.90	3	Horizontal	165	1.02	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3748G	34.78	54.00	-19.22	3	Vertical	2	1.87	-
2402MHz	Pass	AV	2.402G	75.88	Inf	-Inf	3	Vertical	2	1.87	-
2402MHz	Pass	PK	2.3748G	57.28	74.00	-16.72	3	Vertical	2	1.87	-
2402MHz	Pass	PK	2.402G	98.38	Inf	-Inf	3	Vertical	2	1.87	-
2402MHz	Pass	AV	2.3548G	34.35	54.00	-19.65	3	Horizontal	214	1.50	-
2402MHz	Pass	AV	2.402G	69.05	Inf	-Inf	3	Horizontal	214	1.50	-
2402MHz	Pass	PK	2.3548G	56.85	74.00	-17.15	3	Horizontal	214	1.50	-
2402MHz	Pass	PK	2.402G	91.55	Inf	-Inf	3	Horizontal	214	1.50	-
2402MHz	Pass	AV	4.80369G	28.14	54.00	-25.86	3	Vertical	218	1.94	-
2402MHz	Pass	PK	4.80369G	50.64	74.00	-23.36	3	Vertical	218	1.94	-
2402MHz	Pass	AV	4.80435G	27.56	54.00	-26.44	3	Horizontal	164	1.57	-
2402MHz	Pass	PK	4.80435G	50.06	74.00	-23.94	3	Horizontal	164	1.57	-
2440MHz	Pass	AV	2.3632G	34.21	54.00	-19.79	3	Vertical	180	2.36	-
2440MHz	Pass	AV	2.44G	75.77	Inf	-Inf	3	Vertical	180	2.36	-
2440MHz	Pass	AV	2.4896G	35.38	54.00	-18.62	3	Vertical	180	2.36	-
2440MHz	Pass	PK	2.3632G	56.71	74.00	-17.29	3	Vertical	180	2.36	-
2440MHz	Pass	PK	2.44G	98.27	Inf	-Inf	3	Vertical	180	2.36	-
2440MHz	Pass	PK	2.4896G	57.88	74.00	-16.12	3	Vertical	180	2.36	-
2440MHz	Pass	AV	2.3784G	34.70	54.00	-19.30	3	Horizontal	212	1.98	-



Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2440MHz	Pass	AV	2.44G	68.43	Inf	-Inf	3	Horizontal	212	1.98	-
2440MHz	Pass	AV	2.4964G	35.47	54.00	-18.53	3	Horizontal	212	1.98	-
2440MHz	Pass	PK	2.3784G	57.20	74.00	-16.80	3	Horizontal	212	1.98	-
2440MHz	Pass	PK	2.44G	90.93	Inf	-Inf	3	Horizontal	212	1.98	-
2440MHz	Pass	PK	2.4964G	57.97	74.00	-16.03	3	Horizontal	212	1.98	-
2440MHz	Pass	AV	4.87998G	28.89	54.00	-25.11	3	Vertical	215	1.92	-
2440MHz	Pass	PK	4.87998G	51.39	74.00	-22.61	3	Vertical	215	1.92	-
2440MHz	Pass	AV	4.87985G	26.87	54.00	-27.13	3	Horizontal	162	1.19	-
2440MHz	Pass	PK	4.87985G	49.37	74.00	-24.63	3	Horizontal	162	1.19	-
2480MHz	Pass	AV	2.48G	75.38	Inf	-Inf	3	Vertical	241	1.07	-
2480MHz	Pass	AV	2.4898G	35.52	54.00	-18.48	3	Vertical	241	1.07	-
2480MHz	Pass	PK	2.48G	97.88	Inf	-Inf	3	Vertical	241	1.07	-
2480MHz	Pass	PK	2.4898G	58.02	74.00	-15.98	3	Vertical	241	1.07	-
2480MHz	Pass	AV	2.48G	69.70	Inf	-Inf	3	Horizontal	229	1.12	-
2480MHz	Pass	AV	2.4854G	35.37	54.00	-18.63	3	Horizontal	229	1.12	-
2480MHz	Pass	PK	2.48G	92.20	Inf	-Inf	3	Horizontal	229	1.12	-
2480MHz	Pass	PK	2.4854G	57.87	74.00	-16.13	3	Horizontal	229	1.12	-
2480MHz	Pass	AV	4.95967G	29.23	54.00	-24.77	3	Vertical	216	2.15	-
2480MHz	Pass	PK	4.95967G	51.73	74.00	-22.27	3	Vertical	216	2.15	-
2480MHz	Pass	AV	4.95974G	27.12	54.00	-26.88	3	Horizontal	164	1.03	-
2480MHz	Pass	PK	4.95974G	49.62	74.00	-24.38	3	Horizontal	164	1.03	-

BT-BR(1Mbps)

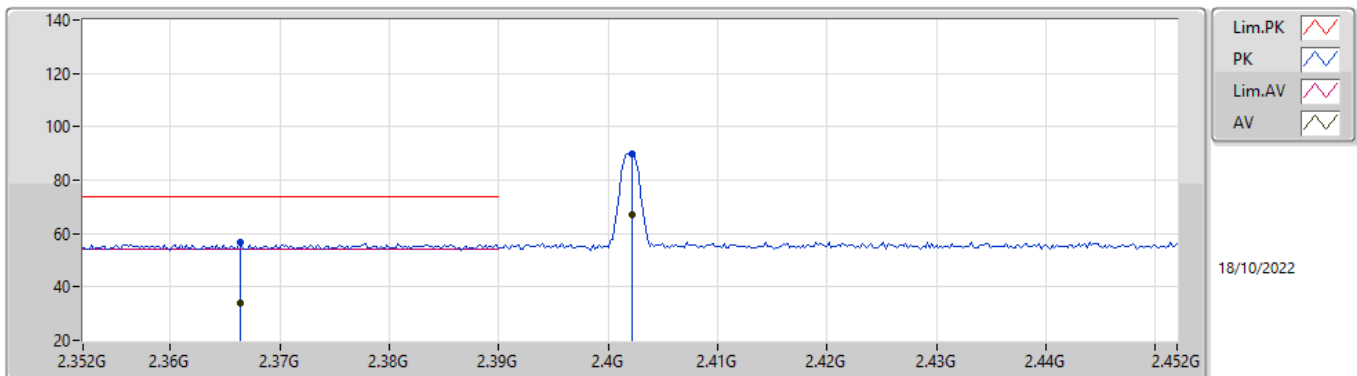
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.39G	34.19	54.00	-19.81	31.60	3	Vertical	242	1.12	-	2.59	27.44	4.16	-
AV	2.4022G	74.92	Inf	-Inf	31.67	3	Vertical	242	1.12	-	43.25	27.50	4.17	-
PK	2.39G	56.69	74.00	-17.31	31.60	3	Vertical	242	1.12	-	25.09	27.44	4.16	-
PK	2.4022G	97.42	Inf	-Inf	31.67	3	Vertical	242	1.12	-	65.75	27.50	4.17	-

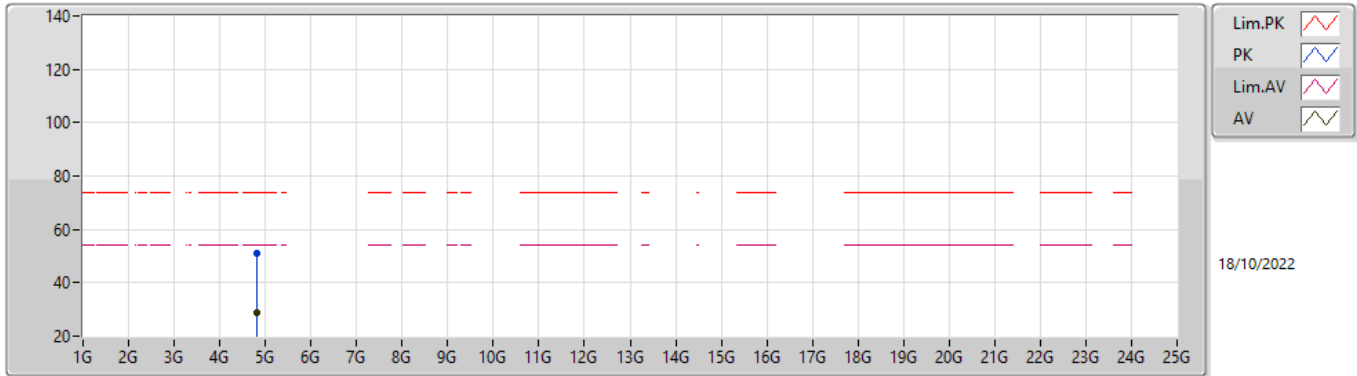
BT-BR(1Mbps)

2402MHz_TX



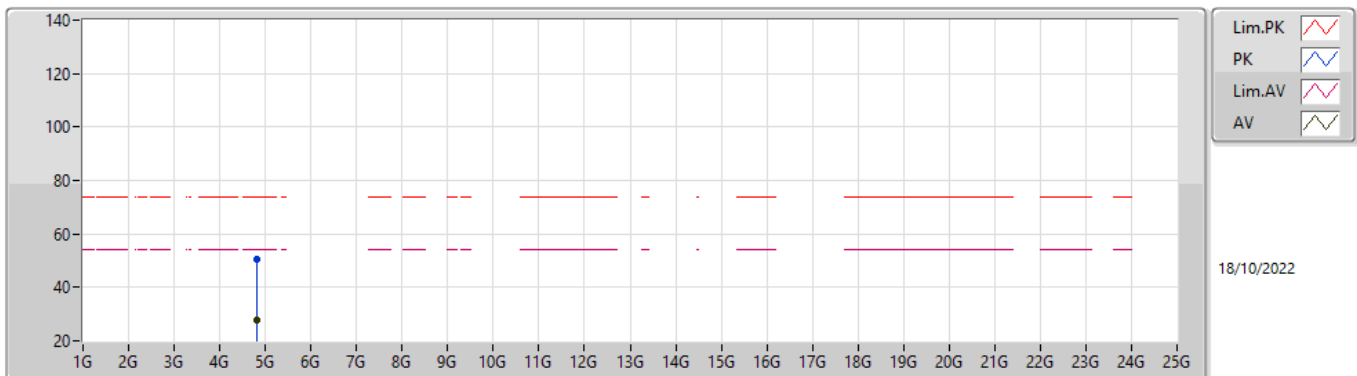
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	2.3664G	56.48	74.00	-17.52	31.44	3	Horizontal	216	1.50	-	25.04	27.30	4.14	-
PK	2.4022G	89.59	Inf	-Inf	31.67	3	Horizontal	216	1.50	-	57.92	27.50	4.17	-
AV	2.3664G	33.98	54.00	-20.02	31.44	3	Horizontal	216	1.50	-	2.54	27.30	4.14	-
AV	2.4022G	67.09	Inf	-Inf	31.67	3	Horizontal	216	1.50	-	35.42	27.50	4.17	-

BT-BR(1Mbps)
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.804366	28.66	54.00	-25.34	3.34	3	Vertical	220	1.94	-	25.32	32.33	5.67	34.66
PK	4.804366	51.16	74.00	-22.84	3.34	3	Vertical	220	1.94	-	47.82	32.33	5.67	34.66

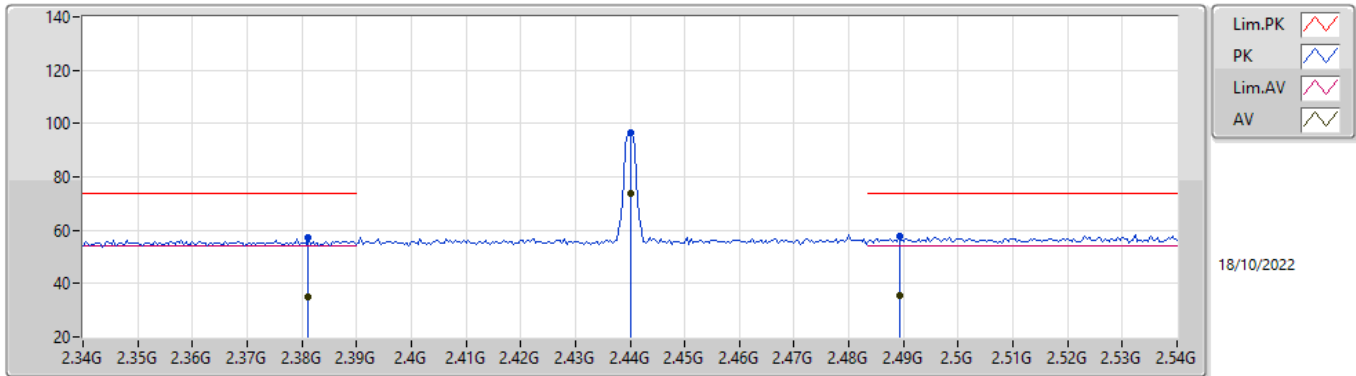
BT-BR(1Mbps)
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80411G	27.86	54.00	-26.14	3.33	3	Horizontal	165	1.81	-	24.53	32.32	5.67	34.66
PK	4.80411G	50.36	74.00	-23.64	3.33	3	Horizontal	165	1.81	-	47.03	32.32	5.67	34.66

BT-BR(1Mbps)

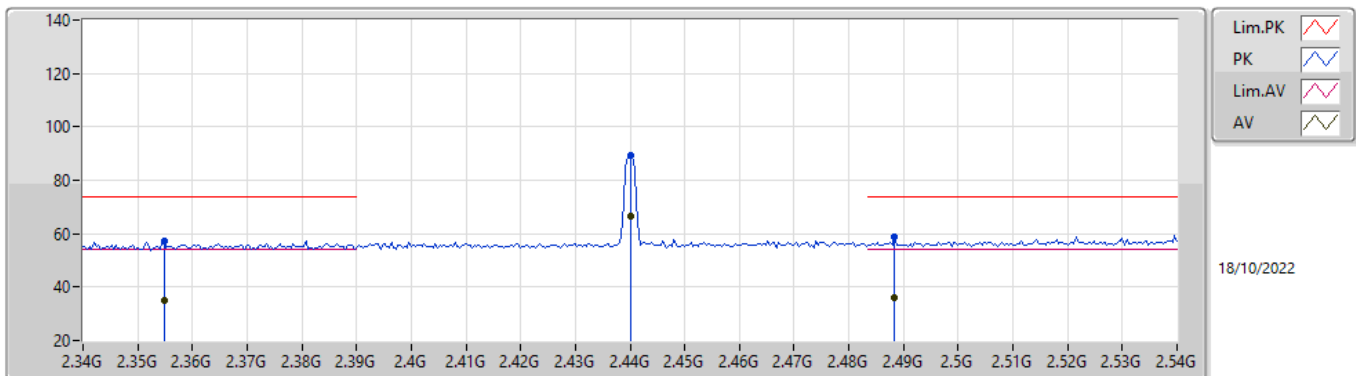
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3812G	34.78	54.00	-19.22	31.54	3	Vertical	181	2.36	-	3.24	27.39	4.15	-
AV	2.44G	74.05	Inf	-Inf	31.77	3	Vertical	181	2.36	-	42.28	27.58	4.19	-
AV	2.4892G	35.38	54.00	-18.62	32.06	3	Vertical	181	2.36	-	3.32	27.84	4.22	-
PK	2.3812G	57.28	74.00	-16.72	31.54	3	Vertical	181	2.36	-	25.74	27.39	4.15	-
PK	2.44G	96.55	Inf	-Inf	31.77	3	Vertical	181	2.36	-	64.78	27.58	4.19	-
PK	2.4892G	57.88	74.00	-16.12	32.06	3	Vertical	181	2.36	-	25.82	27.84	4.22	-

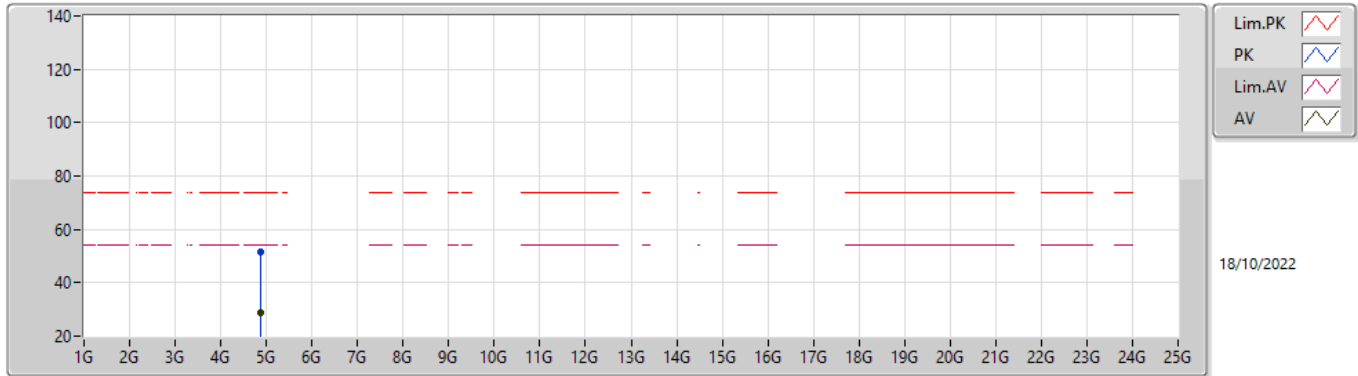
BT-BR(1Mbps)

2440MHz_TX



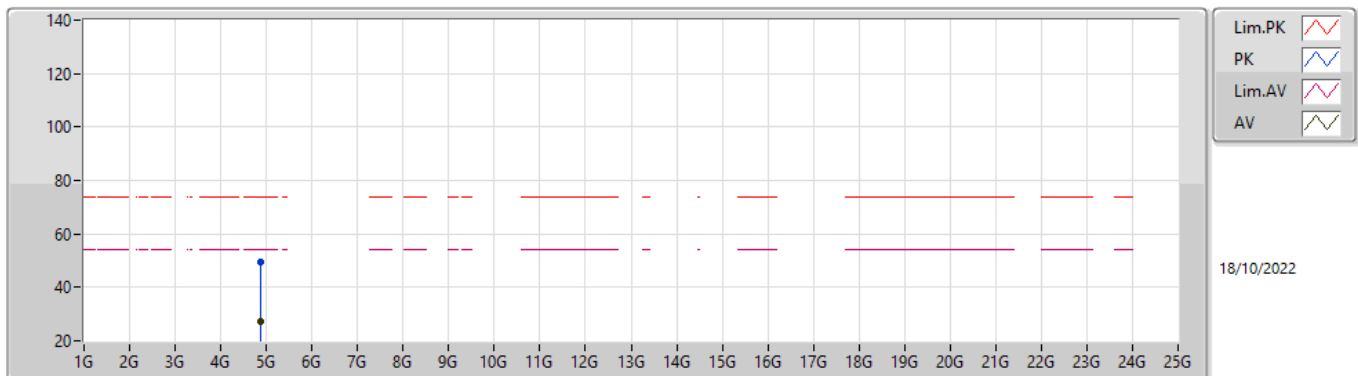
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3548G	34.80	54.00	-19.20	31.36	3	Horizontal	212	1.99	-	3.44	27.23	4.13	-
AV	2.44G	66.78	Inf	-Inf	31.77	3	Horizontal	212	1.99	-	35.01	27.58	4.19	-
AV	2.4884G	36.19	54.00	-17.81	32.05	3	Horizontal	212	1.99	-	4.14	27.83	4.22	-
PK	2.3548G	57.30	74.00	-16.70	31.36	3	Horizontal	212	1.99	-	25.94	27.23	4.13	-
PK	2.44G	89.28	Inf	-Inf	31.77	3	Horizontal	212	1.99	-	57.51	27.58	4.19	-
PK	2.4884G	58.69	74.00	-15.31	32.05	3	Horizontal	212	1.99	-	26.64	27.83	4.22	-

BT-BR(1Mbps)
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87969G	28.93	54.00	-25.07	3.79	3	Vertical	218	1.90	-	25.14	32.72	5.72	34.65
PK	4.87969G	51.43	74.00	-22.57	3.79	3	Vertical	218	1.90	-	47.64	32.72	5.72	34.65

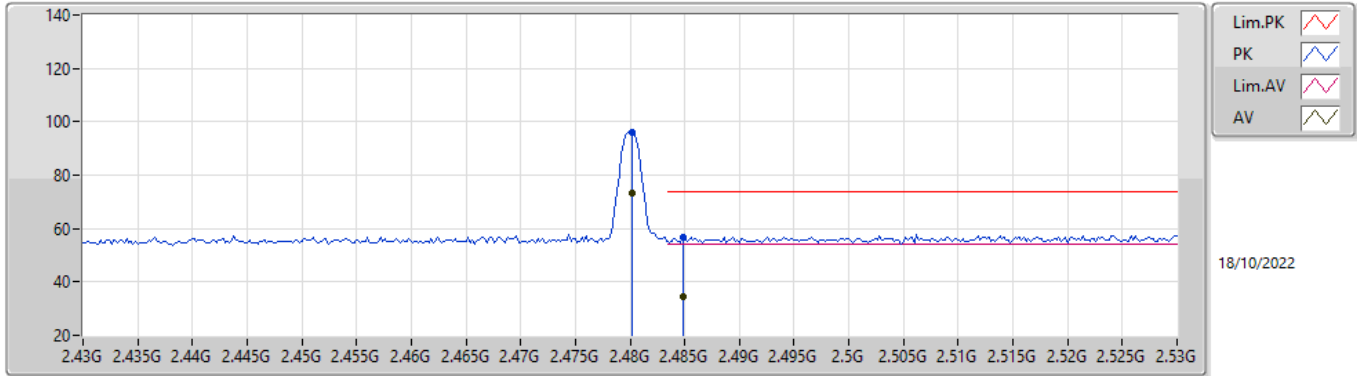
BT-BR(1Mbps)
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87999G	27.06	54.00	-26.94	3.79	3	Horizontal	167	1.24	-	23.27	32.72	5.72	34.65
PK	4.87999G	49.56	74.00	-24.44	3.79	3	Horizontal	167	1.24	-	45.77	32.72	5.72	34.65

BT-BR(1Mbps)

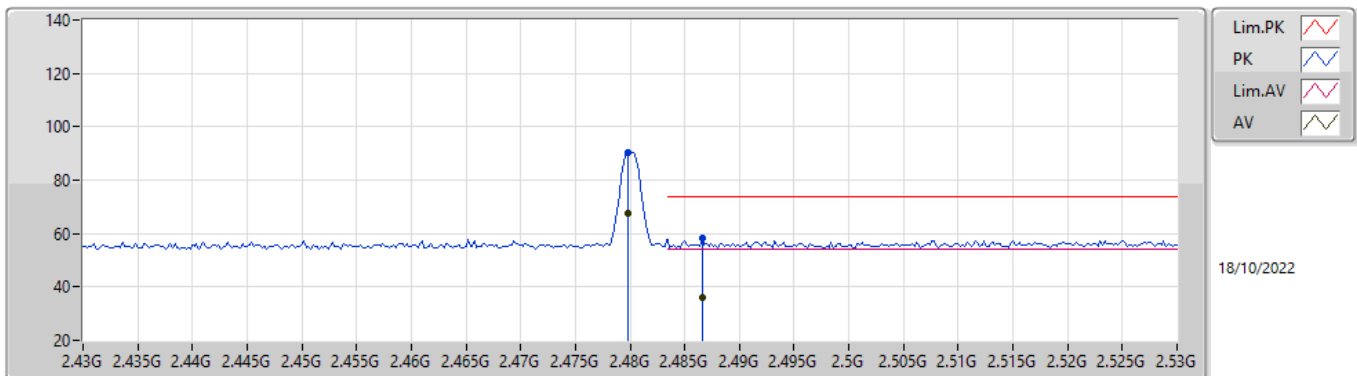
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.4802G	73.45	Inf	-Inf	32.00	3	Vertical	181	2.26	-	41.45	27.78	4.22	-
AV	2.4848G	34.30	54.00	-19.70	32.03	3	Vertical	181	2.26	-	2.27	27.81	4.22	-
PK	2.4802G	95.95	Inf	-Inf	32.00	3	Vertical	181	2.26	-	63.95	27.78	4.22	-
PK	2.4848G	56.80	74.00	-17.20	32.03	3	Vertical	181	2.26	-	24.77	27.81	4.22	-

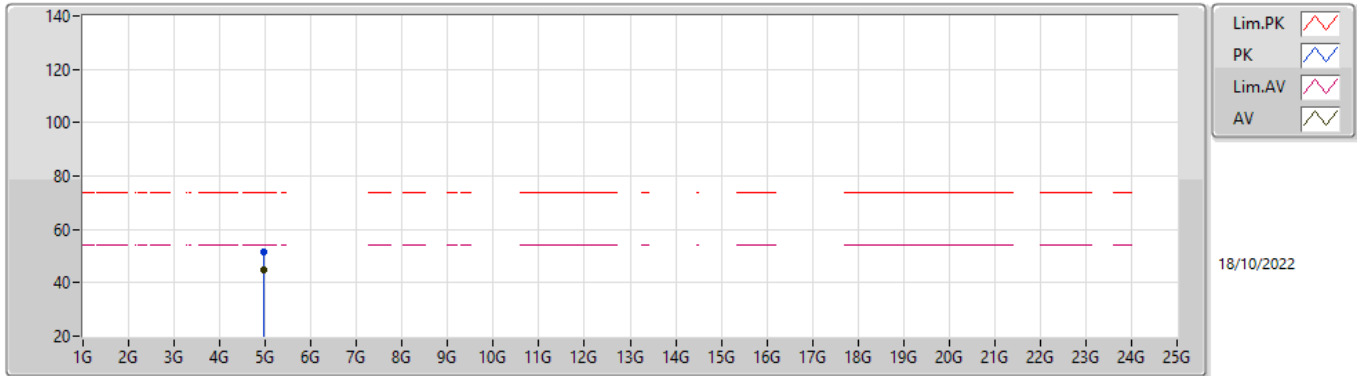
BT-BR(1Mbps)

2480MHz_TX



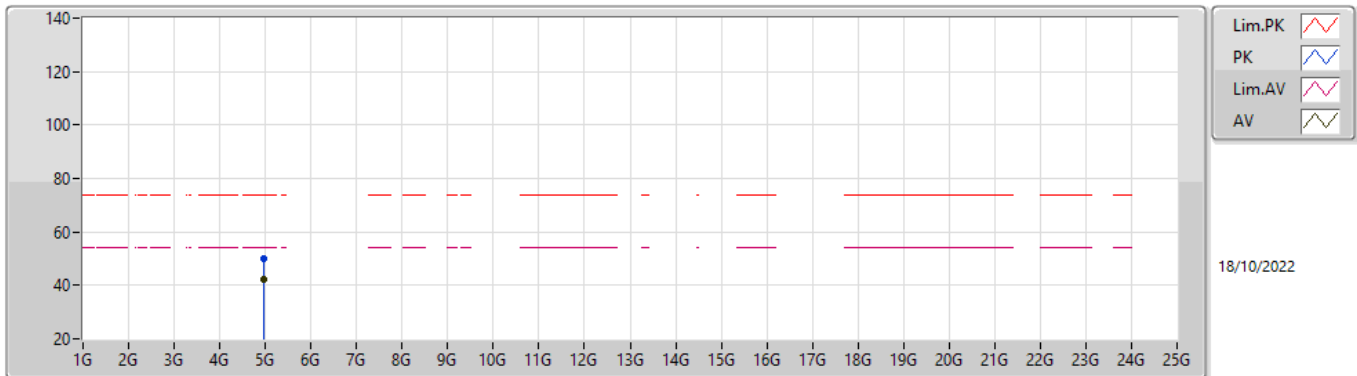
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.4798G	67.64	Inf	-Inf	32.00	3	Horizontal	229	1.11	-	35.64	27.78	4.22	-
AV	2.4866G	35.85	54.00	-18.15	32.04	3	Horizontal	229	1.11	-	3.81	27.82	4.22	-
PK	2.4798G	90.14	Inf	-Inf	32.00	3	Horizontal	229	1.11	-	58.14	27.78	4.22	-
PK	2.4866G	58.35	74.00	-15.65	32.04	3	Horizontal	229	1.11	-	26.31	27.82	4.22	-

BT-BR(1Mbps)
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95997G	44.87	54.00	-9.13	4.15	3	Vertical	182	1.85	-	40.72	33.02	5.77	34.64
PK	4.96029G	51.59	74.00	-22.41	4.15	3	Vertical	182	1.85	-	47.44	33.02	5.77	34.64

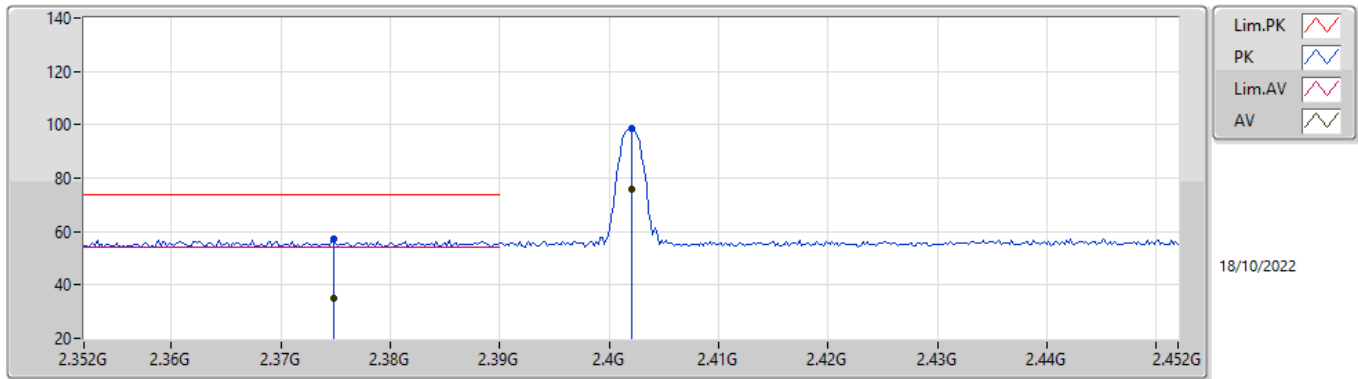
BT-BR(1Mbps)
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.9599G	42.49	54.00	-11.51	4.15	3	Horizontal	165	1.02	-	38.34	33.02	5.77	34.64
PK	4.96026G	50.10	74.00	-23.90	4.15	3	Horizontal	165	1.02	-	45.95	33.02	5.77	34.64

BT-EDR(3Mbps)

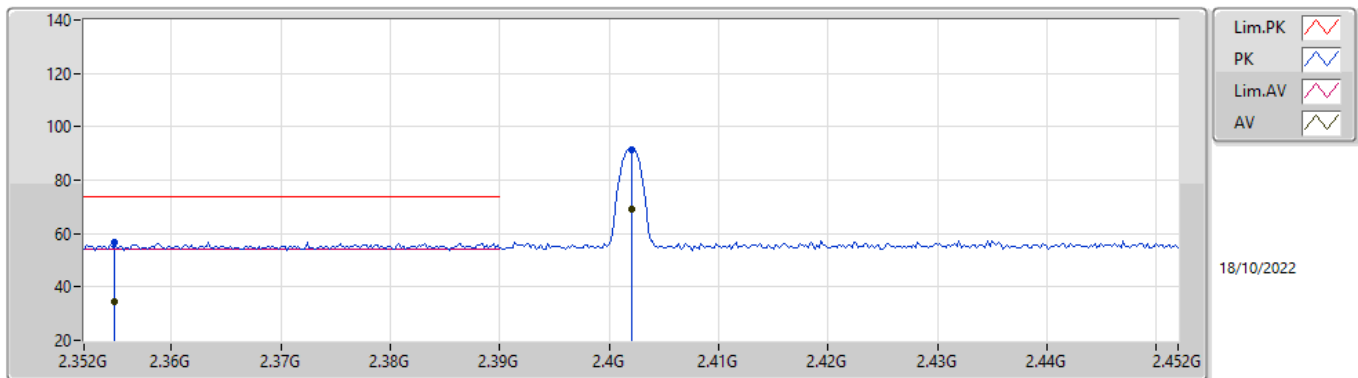
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3748G	34.78	54.00	-19.22	31.50	3	Vertical	2	1.87	-	3.28	27.35	4.15	-
AV	2.402G	75.88	Inf	-Inf	31.67	3	Vertical	2	1.87	-	44.21	27.50	4.17	-
PK	2.3748G	57.28	74.00	-16.72	31.50	3	Vertical	2	1.87	-	25.78	27.35	4.15	-
PK	2.402G	98.38	Inf	-Inf	31.67	3	Vertical	2	1.87	-	66.71	27.50	4.17	-

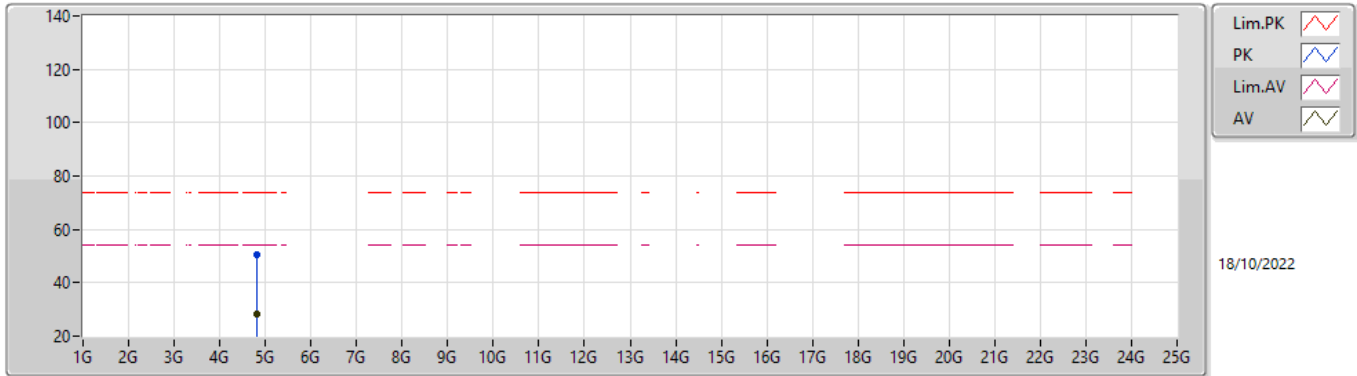
BT-EDR(3Mbps)

2402MHz_TX



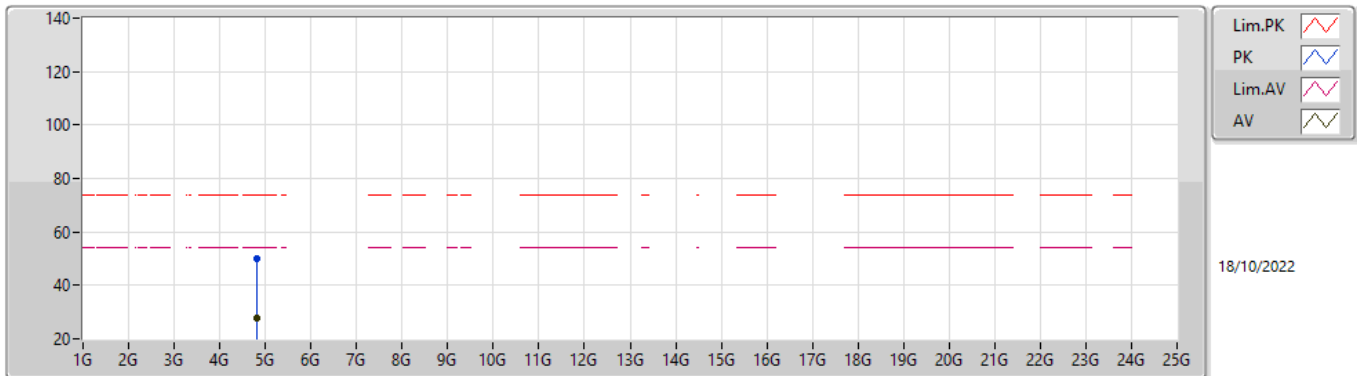
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3548G	34.35	54.00	-19.65	31.36	3	Horizontal	214	1.50	-	2.99	27.23	4.13	-
AV	2.402G	69.05	Inf	-Inf	31.67	3	Horizontal	214	1.50	-	37.38	27.50	4.17	-
PK	2.3548G	56.85	74.00	-17.15	31.36	3	Horizontal	214	1.50	-	25.49	27.23	4.13	-
PK	2.402G	91.55	Inf	-Inf	31.67	3	Horizontal	214	1.50	-	59.88	27.50	4.17	-

BT-EDR(3Mbps)
2402MHz_TX



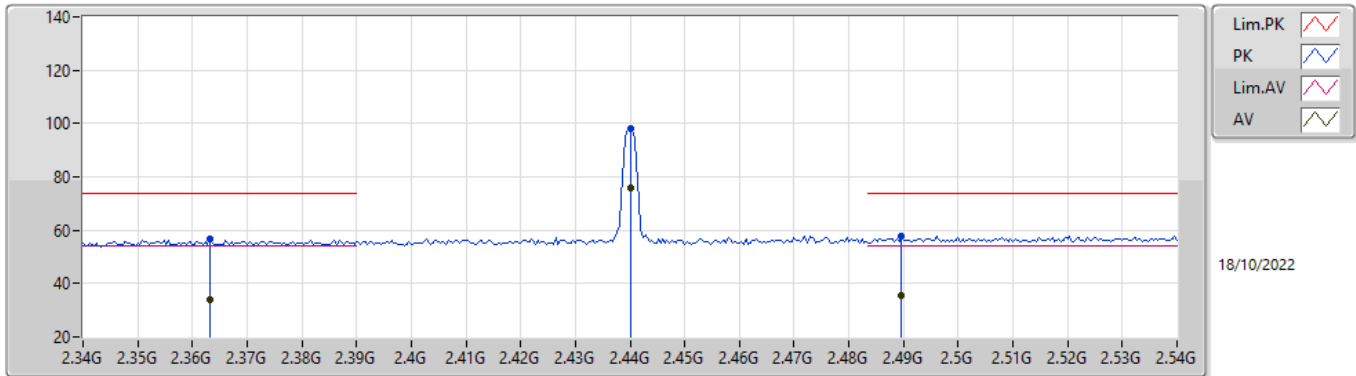
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AV	4.80369G	28.14	54.00	-25.86	3.33	3	Vertical	218	1.94	-	24.81	32.32	5.67	34.66
PK	4.80369G	50.64	74.00	-23.36	3.33	3	Vertical	218	1.94	-	47.31	32.32	5.67	34.66

BT-EDR(3Mbps)
2402MHz_TX



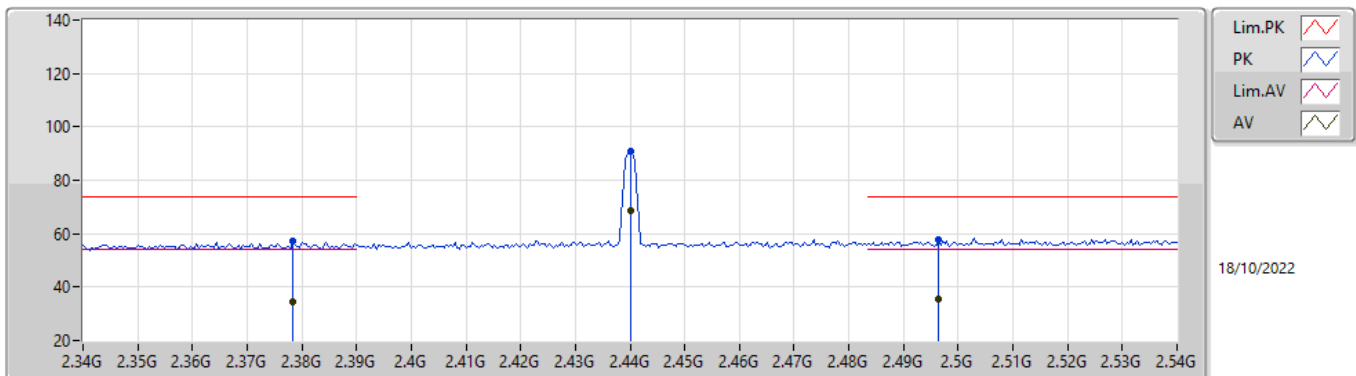
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AV	4.80435G	27.56	54.00	-26.44	3.34	3	Horizontal	164	1.57	-	24.22	32.33	5.67	34.66
PK	4.80435G	50.06	74.00	-23.94	3.34	3	Horizontal	164	1.57	-	46.72	32.33	5.67	34.66

BT-EDR(3Mbps)
2440MHz_TX



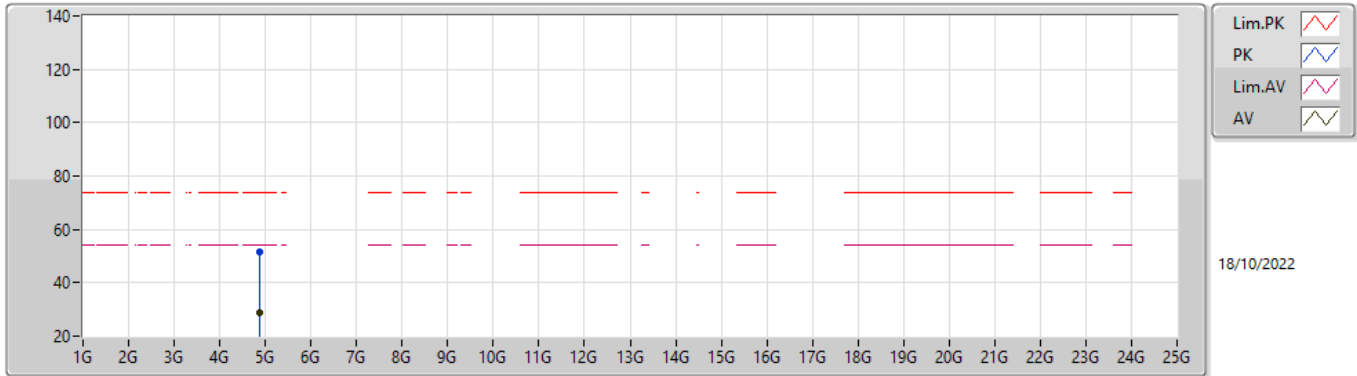
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3632G	34.21	54.00	-19.79	31.42	3	Vertical	180	2.36	-	2.79	27.28	4.14	-
AV	2.44G	75.77	Inf	-Inf	31.77	3	Vertical	180	2.36	-	44.00	27.58	4.19	-
AV	2.4896G	35.38	54.00	-18.62	32.06	3	Vertical	180	2.36	-	3.32	27.84	4.22	-
PK	2.3632G	56.71	74.00	-17.29	31.42	3	Vertical	180	2.36	-	25.29	27.28	4.14	-
PK	2.44G	98.27	Inf	-Inf	31.77	3	Vertical	180	2.36	-	66.50	27.58	4.19	-
PK	2.4896G	57.88	74.00	-16.12	32.06	3	Vertical	180	2.36	-	25.82	27.84	4.22	-

BT-EDR(3Mbps)
2440MHz_TX



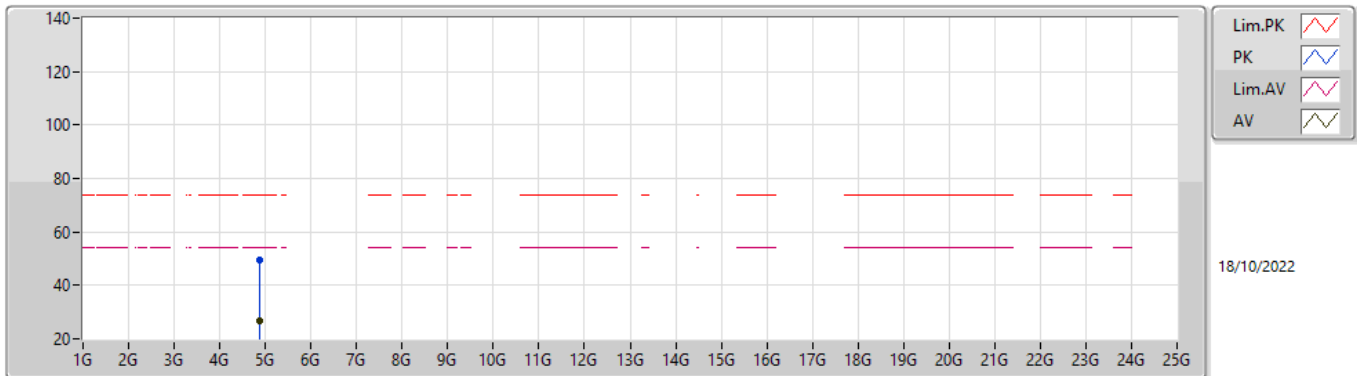
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3784G	34.70	54.00	-19.30	31.52	3	Horizontal	212	1.98	-	3.18	27.37	4.15	-
AV	2.44G	68.43	Inf	-Inf	31.77	3	Horizontal	212	1.98	-	36.66	27.58	4.19	-
AV	2.4964G	35.47	54.00	-18.53	32.11	3	Horizontal	212	1.98	-	3.36	27.88	4.23	-
PK	2.3784G	57.20	74.00	-16.80	31.52	3	Horizontal	212	1.98	-	25.68	27.37	4.15	-
PK	2.44G	90.93	Inf	-Inf	31.77	3	Horizontal	212	1.98	-	59.16	27.58	4.19	-
PK	2.4964G	57.97	74.00	-16.03	32.11	3	Horizontal	212	1.98	-	25.86	27.88	4.23	-

BT-EDR(3Mbps)
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87998G	28.89	54.00	-25.11	3.79	3	Vertical	215	1.92	-	25.10	32.72	5.72	34.65
PK	4.87998G	51.39	74.00	-22.61	3.79	3	Vertical	215	1.92	-	47.60	32.72	5.72	34.65

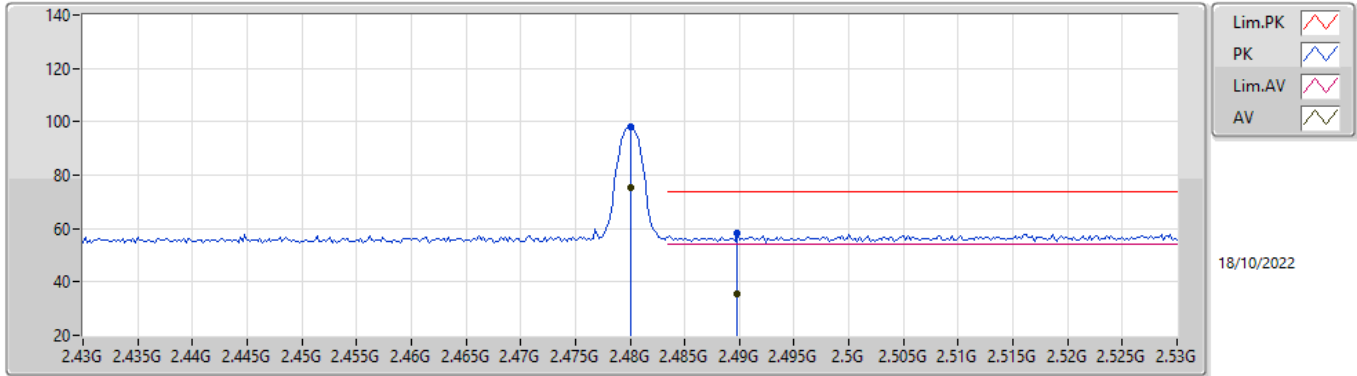
BT-EDR(3Mbps)
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87985G	26.87	54.00	-27.13	3.79	3	Horizontal	162	1.19	-	23.08	32.72	5.72	34.65
PK	4.87985G	49.37	74.00	-24.63	3.79	3	Horizontal	162	1.19	-	45.58	32.72	5.72	34.65

BT-EDR(3Mbps)

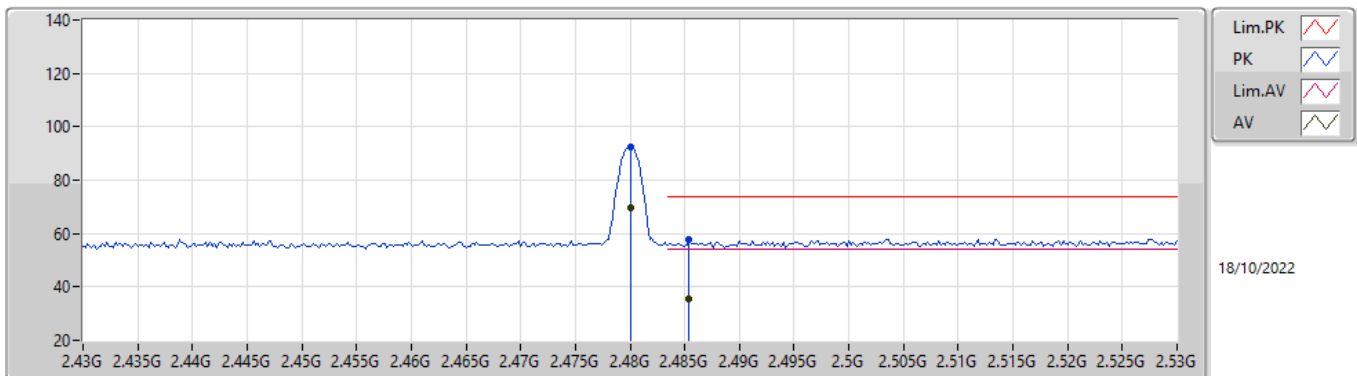
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	75.38	Inf	-Inf	32.00	3	Vertical	241	1.07	-	43.38	27.78	4.22	-
AV	2.4898G	35.52	54.00	-18.48	32.06	3	Vertical	241	1.07	-	3.46	27.84	4.22	-
PK	2.48G	97.88	Inf	-Inf	32.00	3	Vertical	241	1.07	-	65.88	27.78	4.22	-
PK	2.4898G	58.02	74.00	-15.98	32.06	3	Vertical	241	1.07	-	25.96	27.84	4.22	-

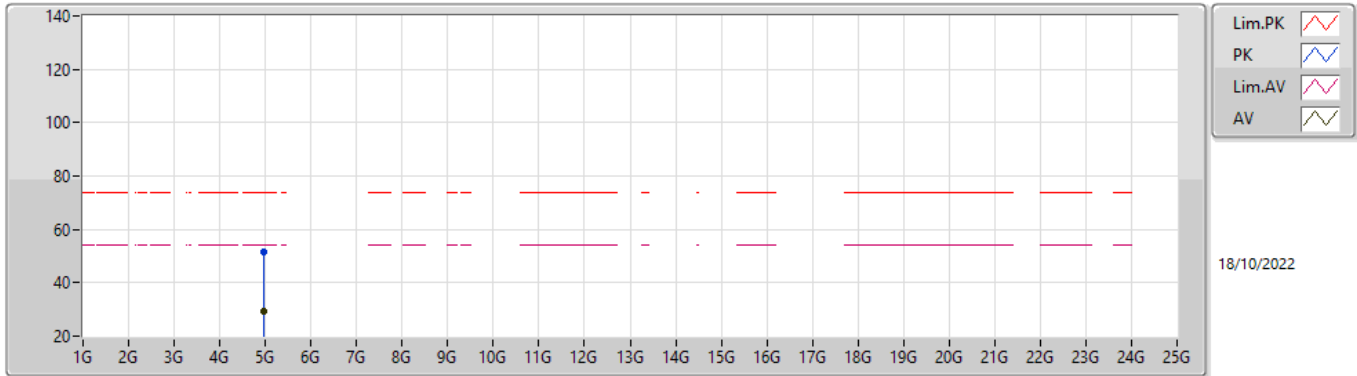
BT-EDR(3Mbps)

2480MHz_TX



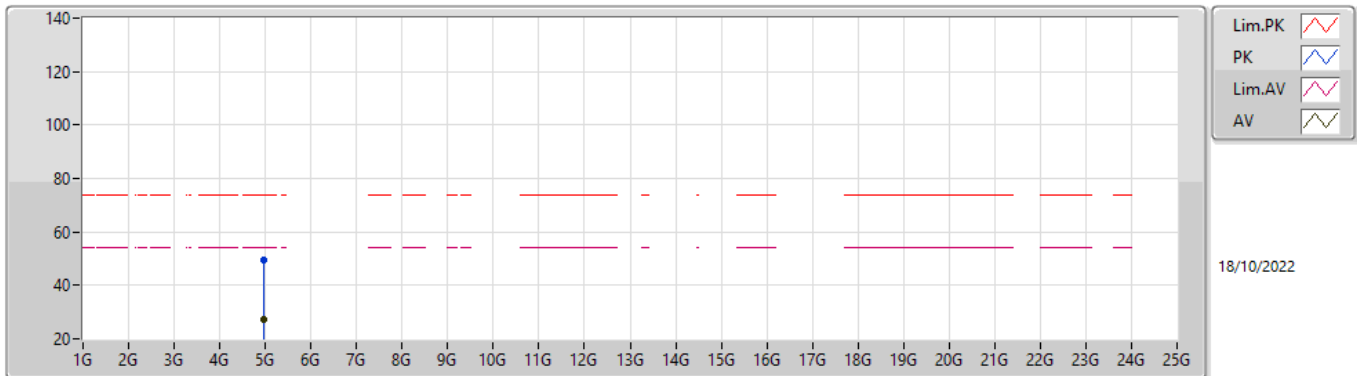
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	69.70	Inf	-Inf	32.00	3	Horizontal	229	1.12	-	37.70	27.78	4.22	-
AV	2.4854G	35.37	54.00	-18.63	32.03	3	Horizontal	229	1.12	-	3.34	27.81	4.22	-
PK	2.48G	92.20	Inf	-Inf	32.00	3	Horizontal	229	1.12	-	60.20	27.78	4.22	-
PK	2.4854G	57.87	74.00	-16.13	32.03	3	Horizontal	229	1.12	-	25.84	27.81	4.22	-

BT-EDR(3Mbps)
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95967G	29.23	54.00	-24.77	4.15	3	Vertical	216	2.15	-	25.08	33.02	5.77	34.64
PK	4.95967G	51.73	74.00	-22.27	4.15	3	Vertical	216	2.15	-	47.58	33.02	5.77	34.64

BT-EDR(3Mbps)
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95974G	27.12	54.00	-26.88	4.15	3	Horizontal	164	1.03	-	22.97	33.02	5.77	34.64
PK	4.95974G	49.62	74.00	-24.38	4.15	3	Horizontal	164	1.03	-	45.47	33.02	5.77	34.64