

FCC Radio Test Report

FCC ID : PPQ-QCS403YA
Equipment : QCS403-based 11ac+BT5.1 connectivity LGA SOM
Brand Name : LITEON
Model Name : QCS403YA
Applicant : Lite-On Technology Corp.
Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City
23585, Taiwan, R.O.C
Manufacturer : LITE-ON TECHNOLOGY (Changzhou) CO., LTD
A9 Building, No.88 Yanghu Road, Wujin Hi-Tech
Industrial Development Zone, Changzhou City, Jiangsu
Province 213100 China
Standard : 47 CFR FCC Part 15.247

The product was received on Apr. 07, 2021, and testing was started from Apr. 15, 2021 and completed on Apr. 23, 2021. 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: Allen Lin

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	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	20dB Bandwidth	PASS	-
3.2	15.247(a)	Carrier Frequency Separation	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(a)	Number of Hopping Frequencies and Hopping Bandedge	PASS	-
3.5	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.6	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.7	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Sam Tsai

Report Producer: Jenny Yang

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
1	INPAQ	RFPCA370808IMLB302	PIFA Antenna	I-PEX
2	INPAQ	RFPCA370811IMLB301	PIFA Antenna	I-PEX
3	INPAQ	RFPCA370838IMLB302	PIFA Antenna	I-PEX
4	INPAQ	RFPCA320808IMAB301	PIFA Antenna	I-PEX
5	INPAQ	RFPCA320806IMAB302	PIFA Antenna	I-PEX

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	1	2.55	4.87	2.55
2	1	2.4	4.56	2.4
3	1	2.02	5.46	2.02
4	1	2.5	-	2.5
5	1	2.5	-	2.5

Note 1: The EUT has five antennas. (Optional)

Note 2: EUT can match with above antennas for using. The higher gain for 2.4G (Ant. 1) and higher gain for 5G (Ant. 3) was used to perform the worst configuration and result of that was recorded as the final test result.

For 2.4GHz function:

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

Ant. 1/2/3/4/5 (port 1) can be used as transmitting/receiving.



For BT function:

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

Ant. 1/2/3/4/5 (port 1) can be used as transmitting/receiving.

For 5GHz function:

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

Ant. 1/2/3 (port 1) can be used as transmitting/receiving.

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From test fixture
EUT Function	<input type="checkbox"/> Point-to-multipoint <input checked="" 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)
	Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)
	Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-BR(1Mbps)	0.828	0.82	2.888m	1k
BT-EDR(2Mbps)	0.605	2.18	2.382m	1k
BT-EDR(3Mbps)	0.822	0.85	2.891m	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
AC Conduction	CO04-HY	Edward Wang	21.2~22.3°C / 58~63%	17/Apr/2021
RF Conducted	TH01-HY	Vivi Jiang	20.1~26.9°C / 50~60%	20/Apr/2021
Radiated	03CH03-HY	Billy Wang	20.1~26.9°C / 52~54%	15/Apr/2021~23/Apr/2021
<input 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.				

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)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 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	QDART_WIN_4_8_Installer_00072_1
-----------------------	---------------------------------

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	CTX
1	Test Fixture mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	20dB Bandwidth Carrier Frequency Separation Maximum Conducted Output Power Number of Hopping Frequencies Hopping Bandedge Time of Occupancy (Dwell Time) Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains <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	Test Fixture mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	Bluetooth+WLAN 2.4GHz
2	Bluetooth+WLAN 5GHz

Refer to Sporton Test Report No.: FA133007 for Co-location RF Exposure Evaluation and Appendix H for Radiated Emission Co-location.

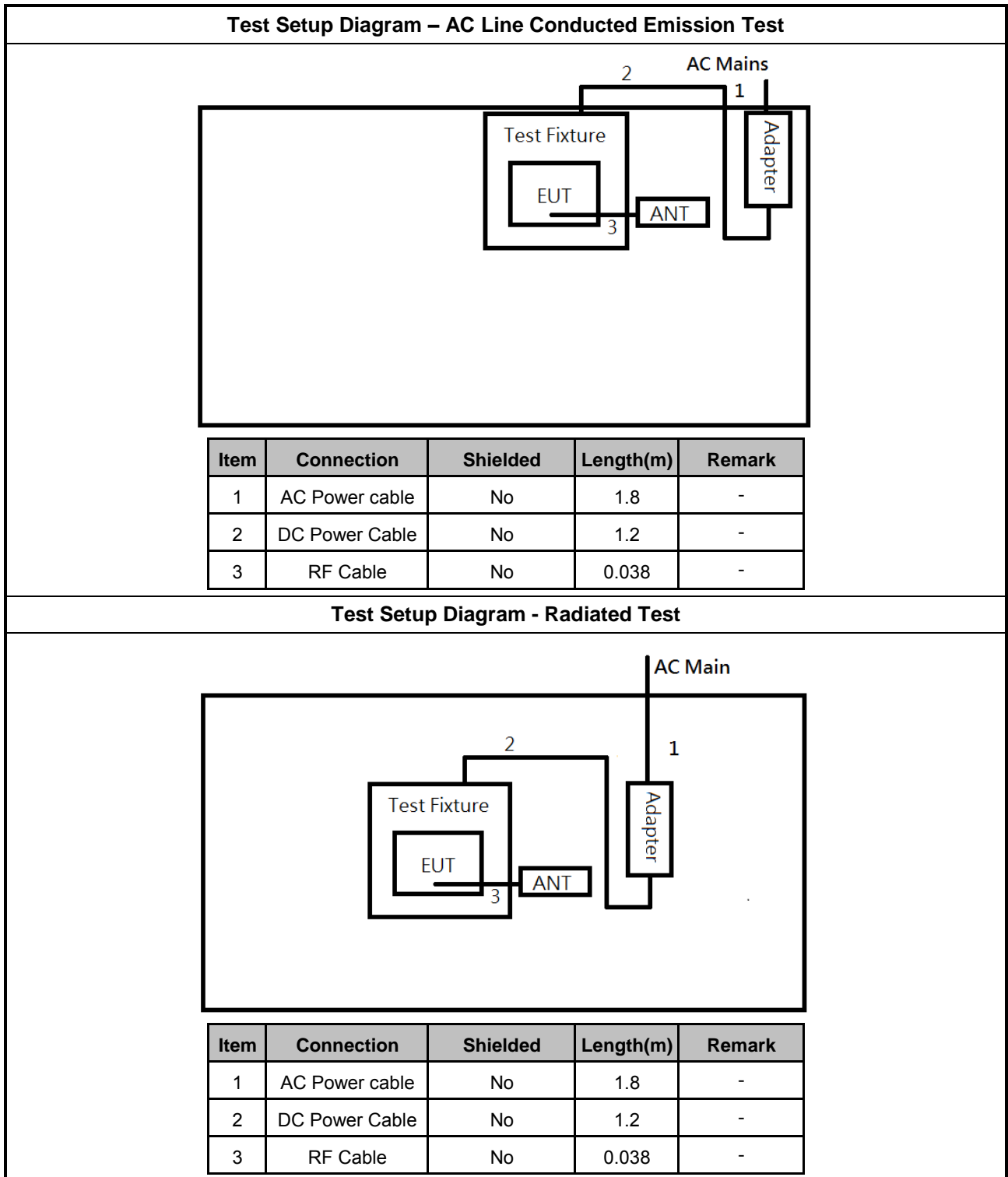
2.3 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	AC adapter	GlobTek	GT-46600-6012-T2	-	-
2	Test Fixture	-	-	-	-

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	AC adapter	GlobTek	GT-46600-6012-T2	-	-
4	Test Fixture	-	-	-	-

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	AC adapter	GlobTek	GT-46600-6012-T2	-	-
2	Test Fixture	-	-	-	-

2.4 Test Setup Diagram



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

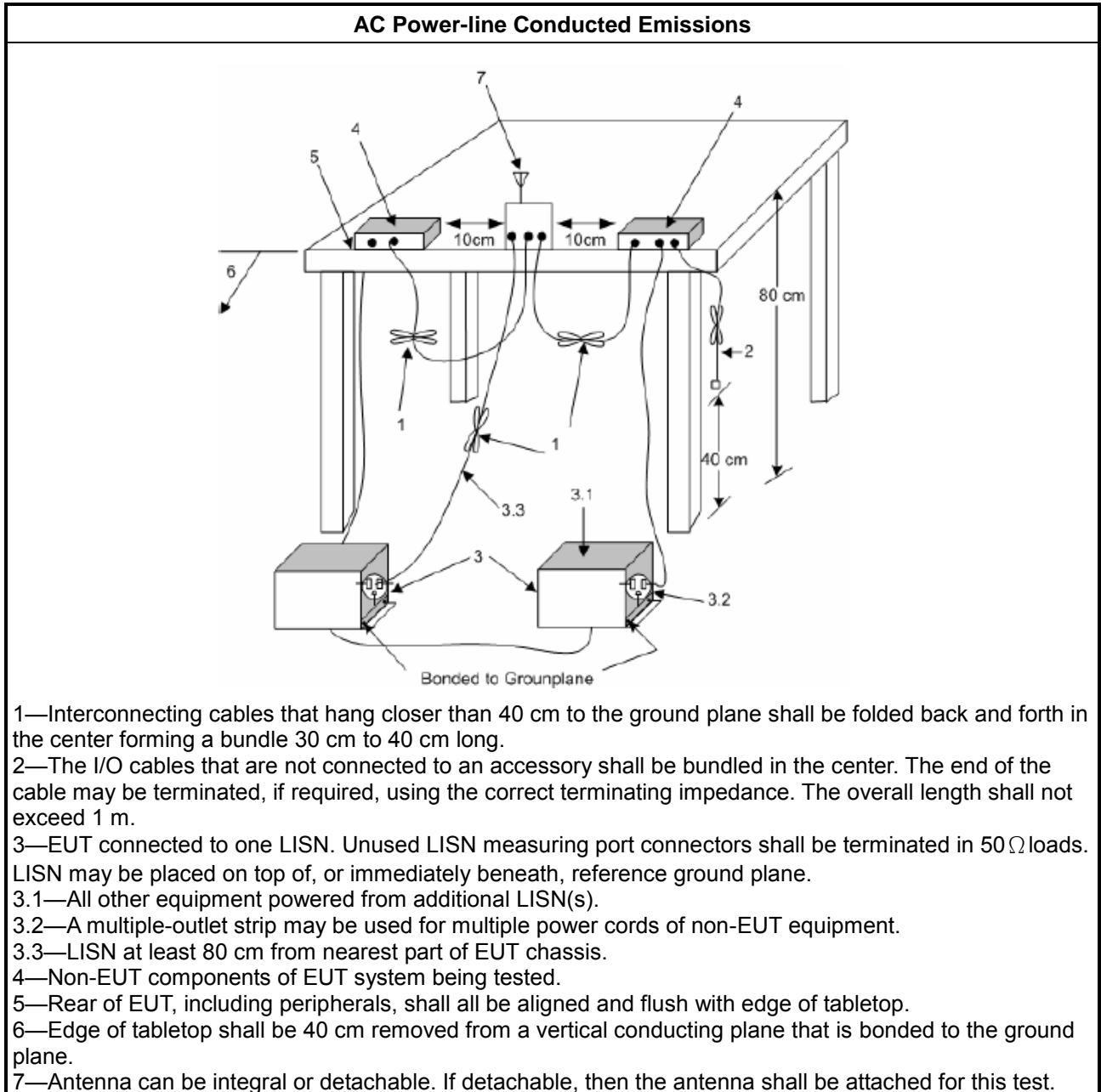
Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.5 Test Setup



3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
<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	

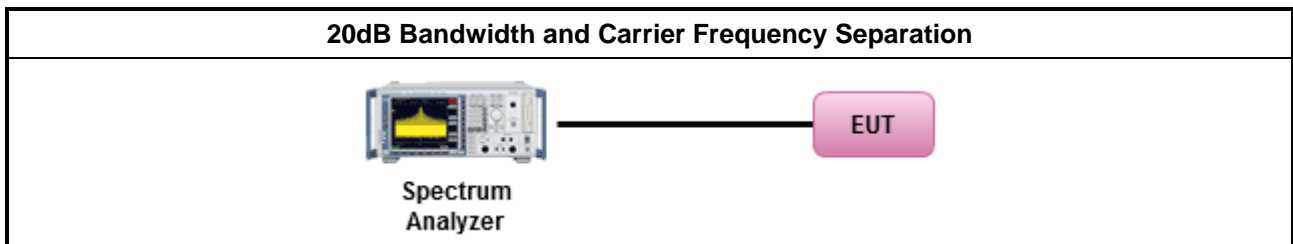
3.2.2 Measuring Instruments

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 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.

3.2.4 Test Setup



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	
<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	

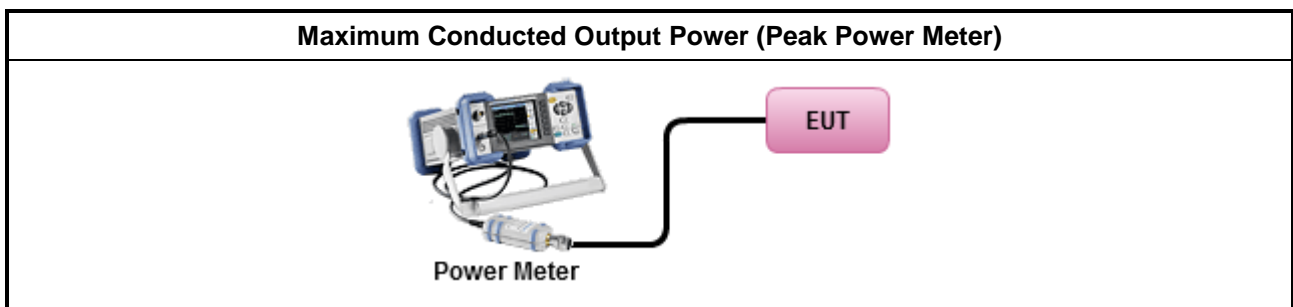
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup



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	
<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	

3.4.2 Hopping Bandedge Limit

Refer clause 3.6.1 and clause 3.7.1

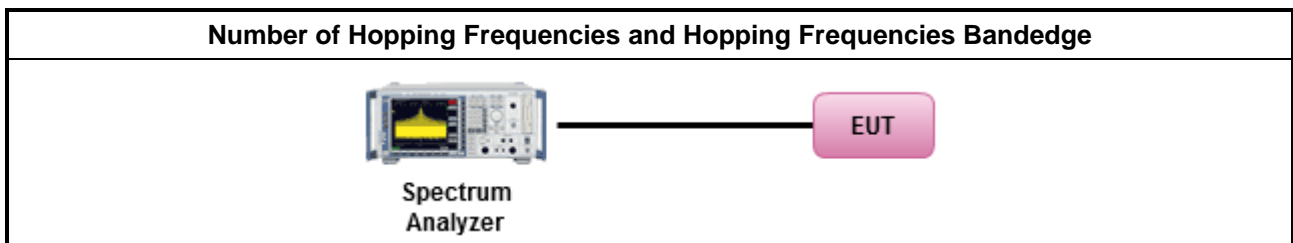
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

Test Method
<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.

3.4.5 Test Setup



3.4.6 Test Result of Number of Hopping Frequencies

Refer as Appendix D

3.4.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix D

3.5 Time of Occupancy (Dwell Time)

3.5.1 Time of Occupancy (Dwell Time) Limit

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems	
<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	

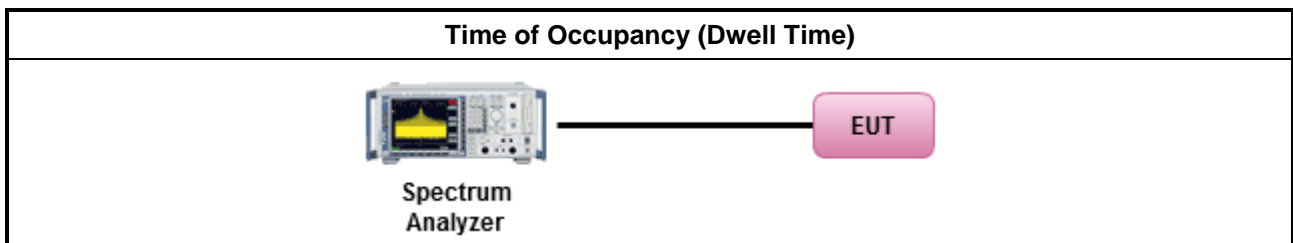
3.5.2 Measuring Instruments

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 7.8.4 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.

3.5.4 Test Setup



3.5.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix E

3.6 Emissions in Non-restricted Frequency Bands

3.6.1 Emissions in Non-restricted Frequency Bands Limit

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

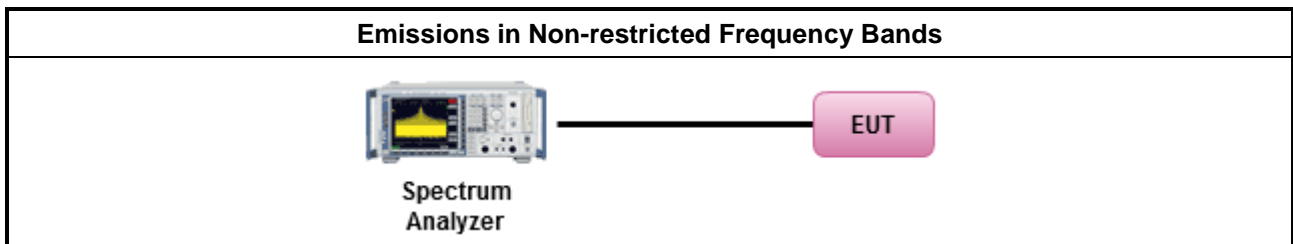
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



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 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.

3.7.2 Measuring Instruments

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

3.7.3 Test Procedures

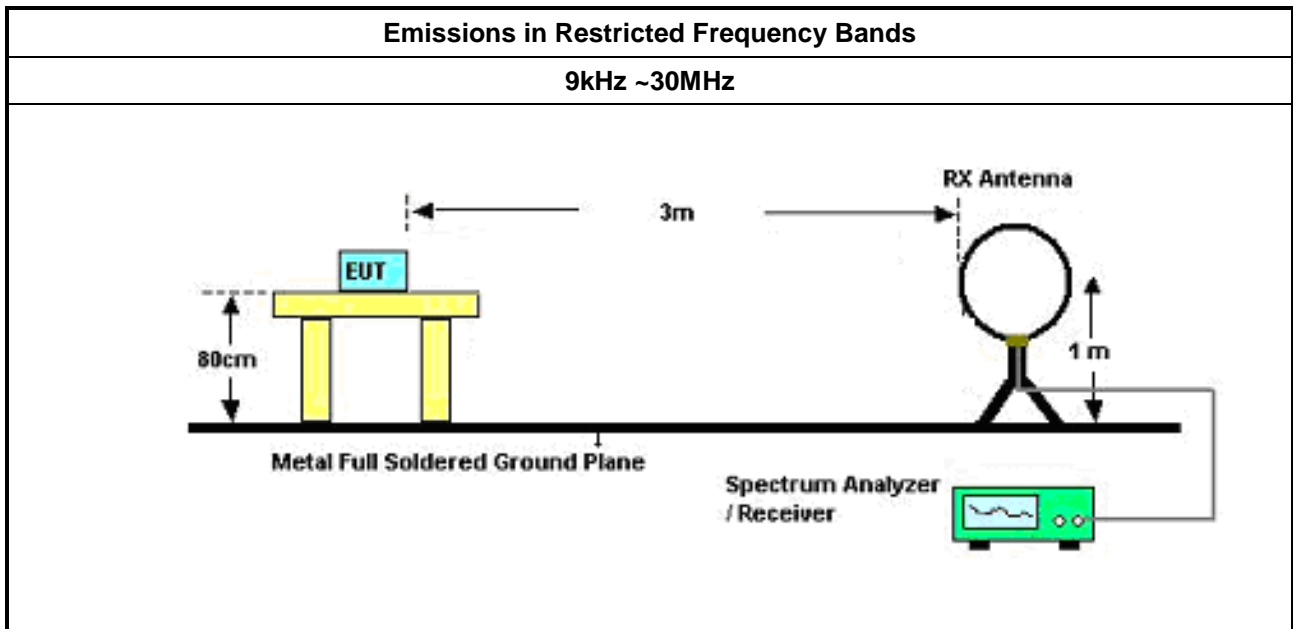
Test Method	
<ul style="list-style-type: none"> The average emission levels shall be measured in [hopping duty factor]. 	
<ul style="list-style-type: none"> Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. 	
<ul style="list-style-type: none"> For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.
<ul style="list-style-type: none"> KDB 414788 Open-Field Test Sites and Chamber Correlation Justification. 	
<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result. 	

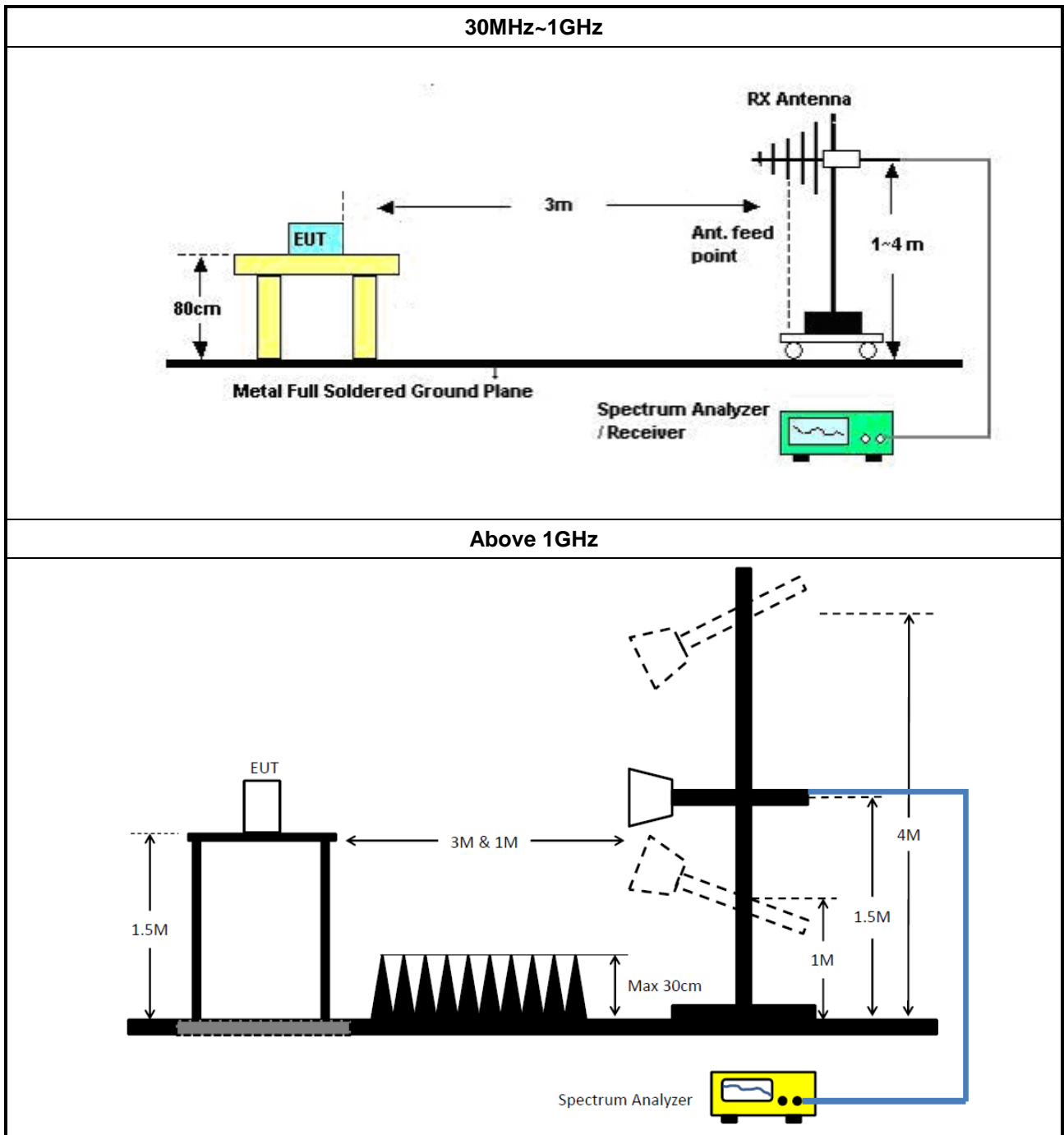
3.7.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.7.5 Test Setup





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

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

3.7.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G



4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	11/Nov/2020	10/Nov/2021
RF Cable 5m	TITAN	TITAN	CO04-cable-01	0.1MHz~200MHz	03/Mar/2021	02/Mar/2022
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	21/Sep/2020	20/Sep/2021

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	30/Mar/2021	29/Mar/2022
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2021
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	23/Feb/2021	22/Feb/2022
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	23/Feb/2021	22/Feb/2022

**Instrument for Radiated Test**

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	06/Aug/2020	05/Aug/2021
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	04/Aug/2020	03/Aug/2021
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	19/Aug/2020	18/Aug/2021
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz~26.5GHz	06/Oct/2020	05/Oct/2021
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	25/Oct/2020	24/Oct/2021
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz~18GHz	24/Mar/2021	23/Mar/2022
RF Cable-R03m	Jye Bao	RG142	MY37335/4+CB0 21-1+CB021-2	30MHz~1GHz	17/Mar/2021	16/Mar/2022
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	SN MY38596/4+SN 804300/4	1GHz~40GHz	04/Aug/2020	03/Aug/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	11/Mar/2021	10/Mar/2022
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz~40GHz	09/Mar/2021	08/Mar/2022
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	19/Jun/2020	18/Jun/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	13/Apr/2021	12/Apr/2022
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021



Summary

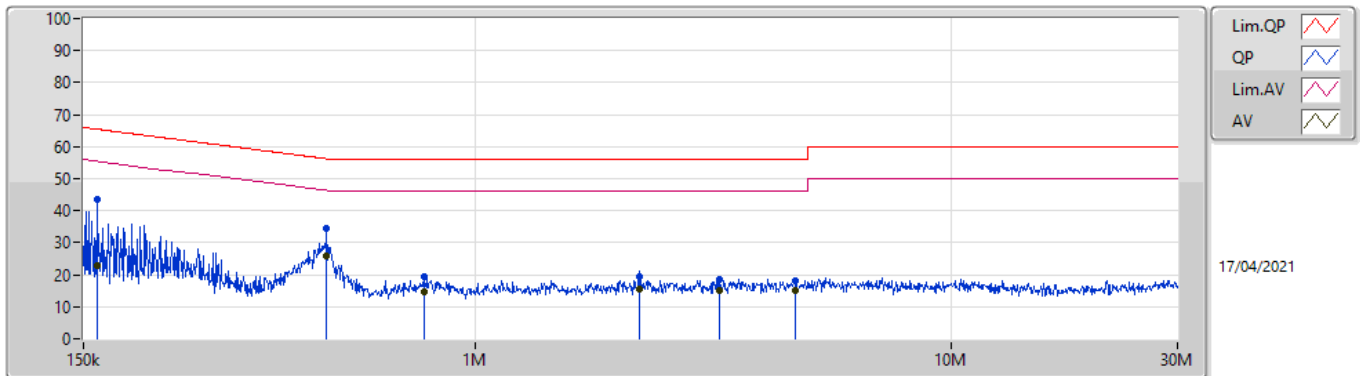
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	487.008k	25.80	46.21	-20.41	Line



Result

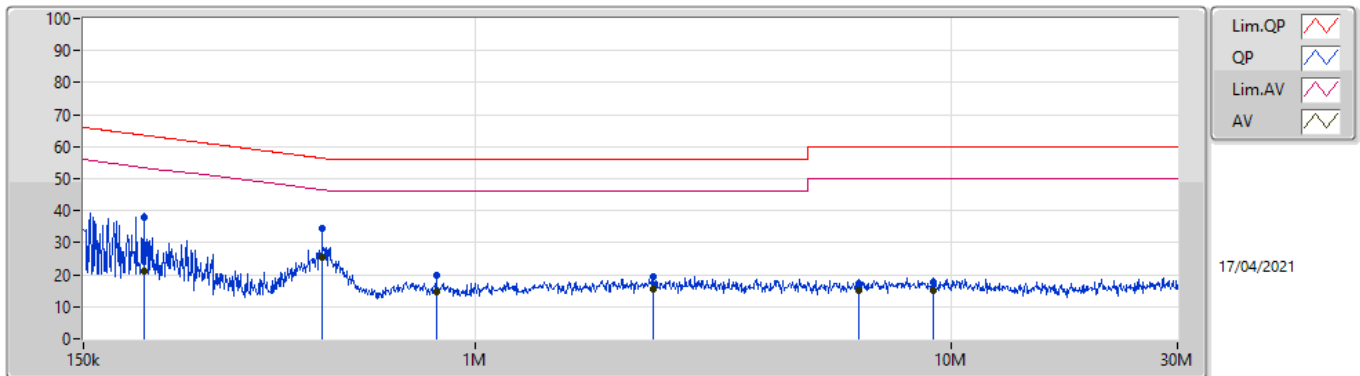
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	159.893k	43.32	65.46	-22.14	Line	-
Mode 1	Pass	AV	159.893k	22.99	55.46	-32.47	Line	-
Mode 1	Pass	QP	487.008k	34.65	56.21	-21.56	Line	-
Mode 1	Pass	AV	487.008k	25.80	46.21	-20.41	Line	-
Mode 1	Pass	QP	783.156k	19.32	56.00	-36.68	Line	-
Mode 1	Pass	AV	783.156k	14.70	46.00	-31.30	Line	-
Mode 1	Pass	QP	2.211M	19.33	56.00	-36.67	Line	-
Mode 1	Pass	AV	2.211M	15.39	46.00	-30.61	Line	-
Mode 1	Pass	QP	3.257M	18.41	56.00	-37.59	Line	-
Mode 1	Pass	AV	3.257M	15.11	46.00	-30.89	Line	-
Mode 1	Pass	QP	4.702M	18.18	56.00	-37.82	Line	-
Mode 1	Pass	AV	4.702M	15.19	46.00	-30.81	Line	-
Mode 1	Pass	QP	200.748k	37.86	63.57	-25.71	Neutral	-
Mode 1	Pass	AV	200.748k	21.23	53.57	-32.34	Neutral	-
Mode 1	Pass	QP	477.384k	34.47	56.38	-21.91	Neutral	-
Mode 1	Pass	AV	477.384k	25.61	46.38	-20.77	Neutral	-
Mode 1	Pass	QP	828.172k	19.68	56.00	-36.32	Neutral	-
Mode 1	Pass	AV	828.172k	14.61	46.00	-31.39	Neutral	-
Mode 1	Pass	QP	2.376M	19.47	56.00	-36.53	Neutral	-
Mode 1	Pass	AV	2.376M	15.37	46.00	-30.63	Neutral	-
Mode 1	Pass	QP	6.394M	17.14	60.00	-42.86	Neutral	-
Mode 1	Pass	AV	6.394M	14.90	50.00	-35.10	Neutral	-
Mode 1	Pass	QP	9.195M	17.79	60.00	-42.21	Neutral	-
Mode 1	Pass	AV	9.195M	15.26	50.00	-34.74	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	159.893k	43.32	65.46	-22.14	19.63	Line	-	23.69	9.69	0.04	9.90
AV	159.893k	22.99	55.46	-32.47	19.63	Line	-	3.36	9.69	0.04	9.90
QP	487.008k	34.65	56.21	-21.56	19.61	Line	-	15.04	9.67	0.06	9.88
AV	487.008k	25.80	46.21	-20.41	19.61	Line	-	6.19	9.67	0.06	9.88
QP	783.156k	19.32	56.00	-36.68	19.57	Line	-	-0.25	9.67	0.07	9.83
AV	783.156k	14.70	46.00	-31.30	19.57	Line	-	-4.87	9.67	0.07	9.83
QP	2.211M	19.33	56.00	-36.67	19.60	Line	-	-0.27	9.68	0.11	9.81
AV	2.211M	15.39	46.00	-30.61	19.60	Line	-	-4.21	9.68	0.11	9.81
QP	3.257M	18.41	56.00	-37.59	19.69	Line	-	-1.28	9.69	0.13	9.87
AV	3.257M	15.11	46.00	-30.89	19.69	Line	-	-4.58	9.69	0.13	9.87
QP	4.702M	18.18	56.00	-37.82	19.75	Line	-	-1.57	9.70	0.15	9.90
AV	4.702M	15.19	46.00	-30.81	19.75	Line	-	-4.56	9.70	0.15	9.90

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	200.748k	37.86	63.57	-25.71	19.62	Neutral	-	18.24	9.68	0.04	9.90
AV	200.748k	21.23	53.57	-32.34	19.62	Neutral	-	1.61	9.68	0.04	9.90
QP	477.384k	34.47	56.38	-21.91	19.61	Neutral	-	14.86	9.67	0.06	9.88
AV	477.384k	25.61	46.38	-20.77	19.61	Neutral	-	6.00	9.67	0.06	9.88
QP	828.172k	19.68	56.00	-36.32	19.57	Neutral	-	0.11	9.67	0.08	9.82
AV	828.172k	14.61	46.00	-31.39	19.57	Neutral	-	-4.96	9.67	0.08	9.82
QP	2.376M	19.47	56.00	-36.53	19.61	Neutral	-	-0.14	9.68	0.11	9.82
AV	2.376M	15.37	46.00	-30.63	19.61	Neutral	-	-4.24	9.68	0.11	9.82
QP	6.394M	17.14	60.00	-42.86	19.78	Neutral	-	-2.64	9.71	0.17	9.90
AV	6.394M	14.90	50.00	-35.10	19.78	Neutral	-	-4.88	9.71	0.17	9.90
QP	9.195M	17.79	60.00	-42.21	19.82	Neutral	-	-2.03	9.73	0.19	9.90
AV	9.195M	15.26	50.00	-34.74	19.82	Neutral	-	-4.56	9.73	0.19	9.90



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)	882.5k	854.573k	855KF1D	881.25k	852.074k
BT-EDR(2Mbps)	1.255M	1.197M	1M20G1D	1.255M	1.187M
BT-EDR(3Mbps)	1.256M	1.201M	1M20G1D	1.255M	1.194M

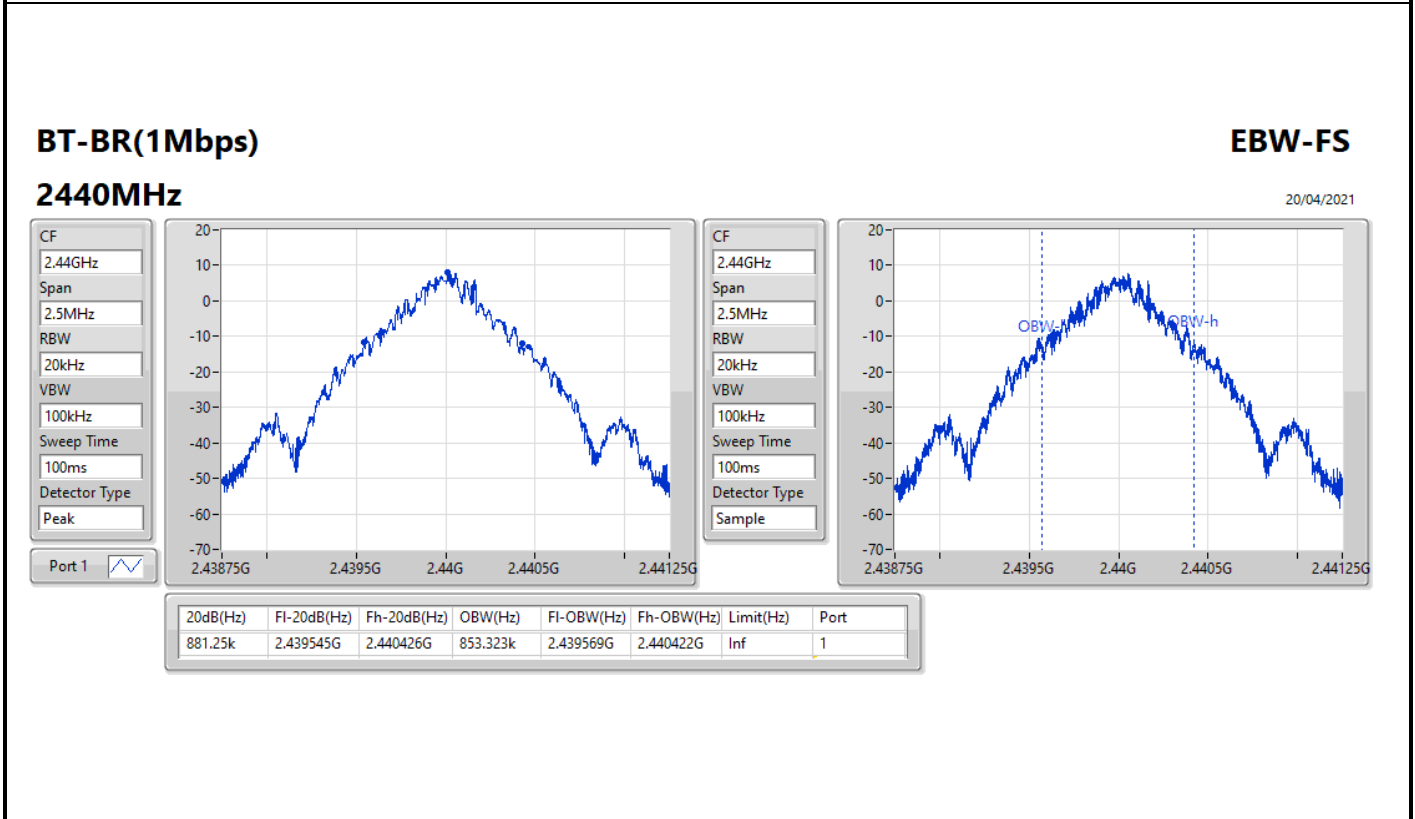
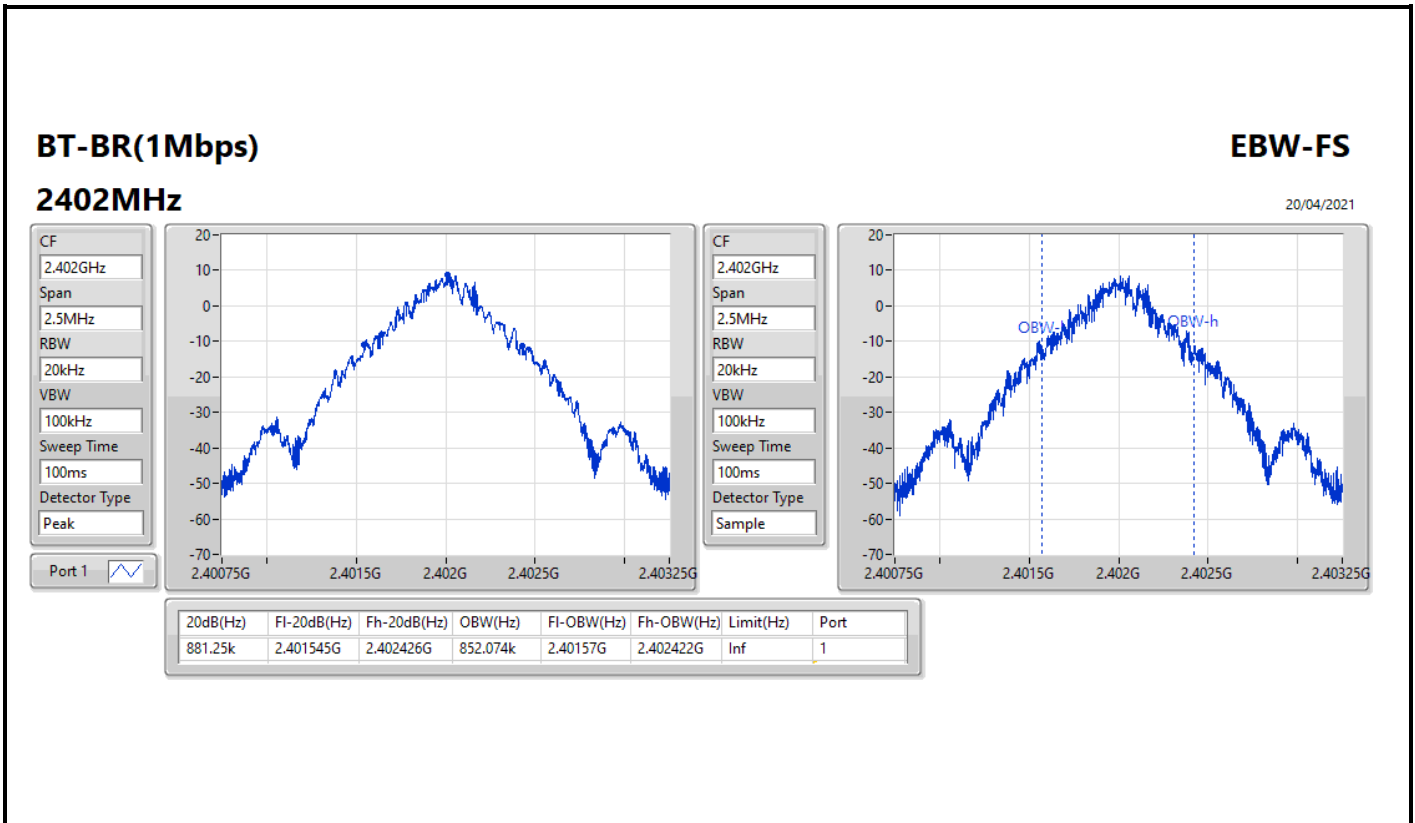
Max-N dB = Maximum 20dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 20dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

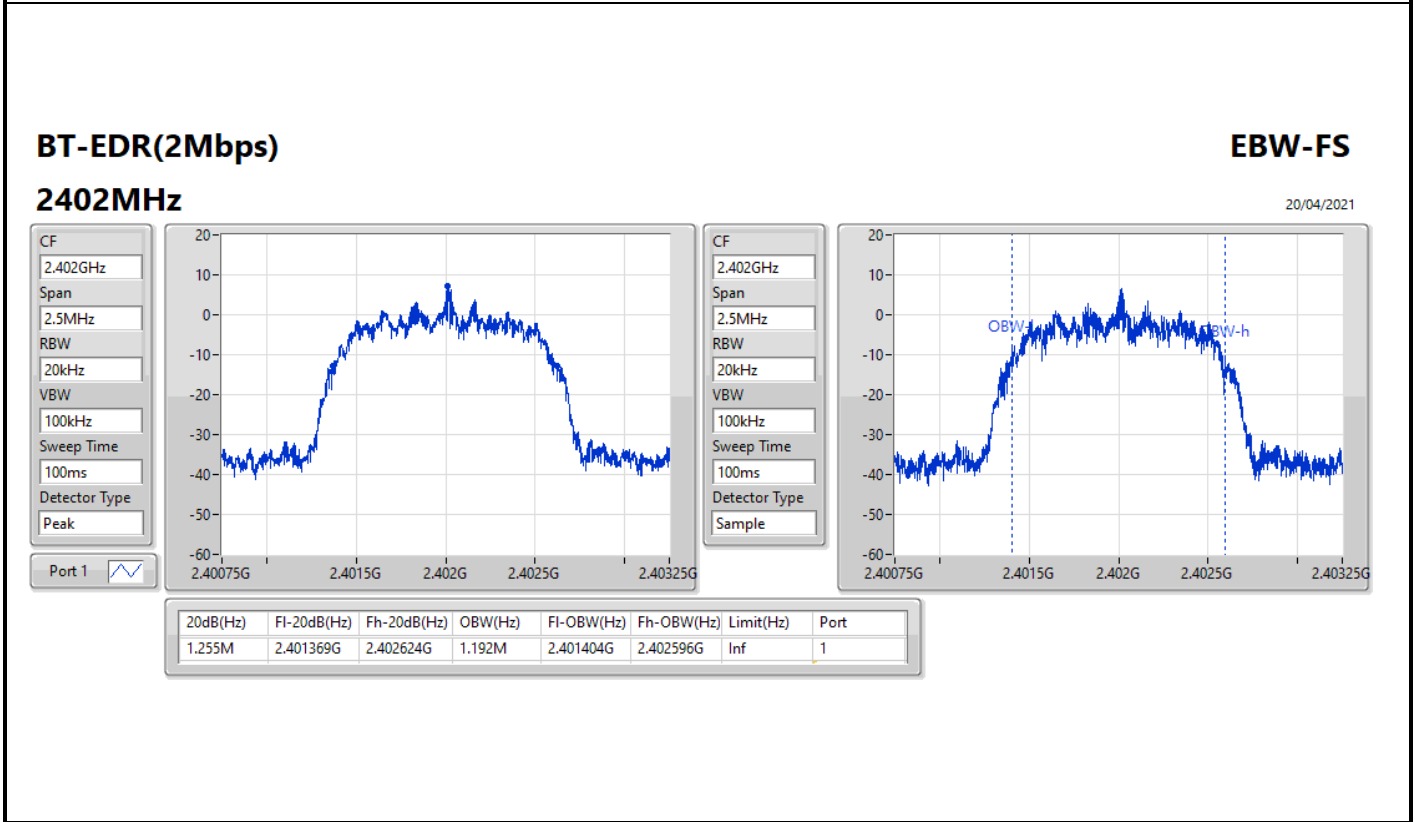
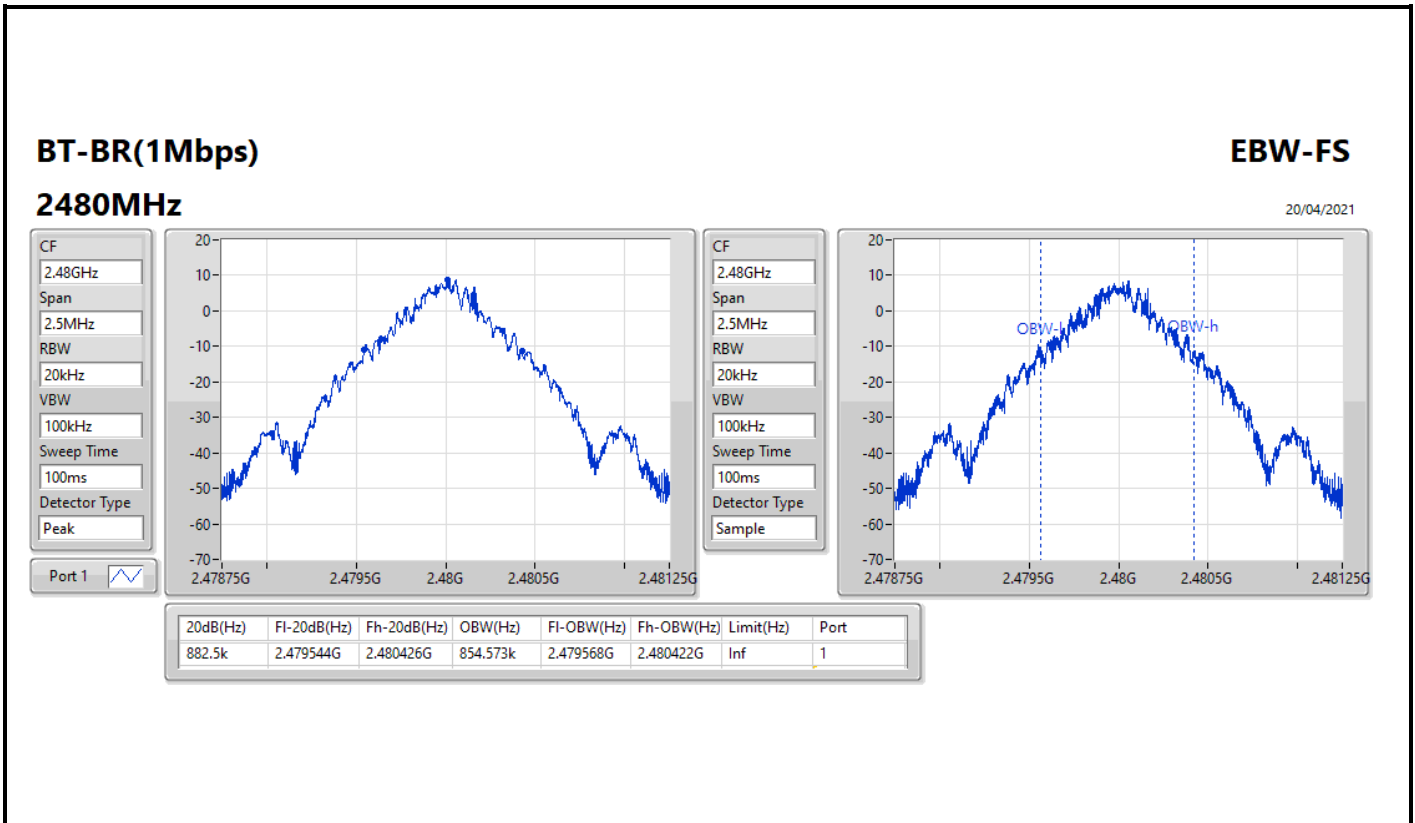


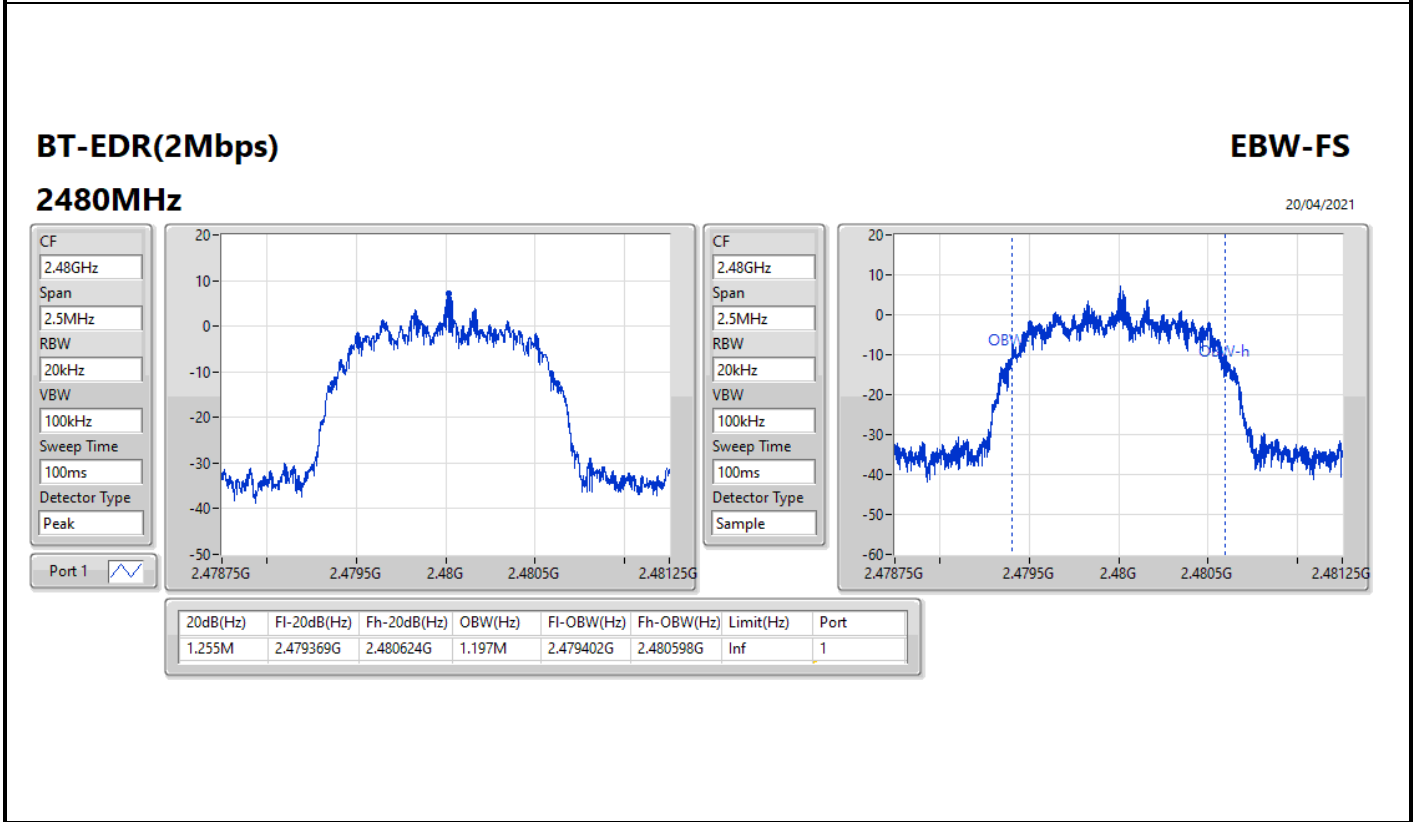
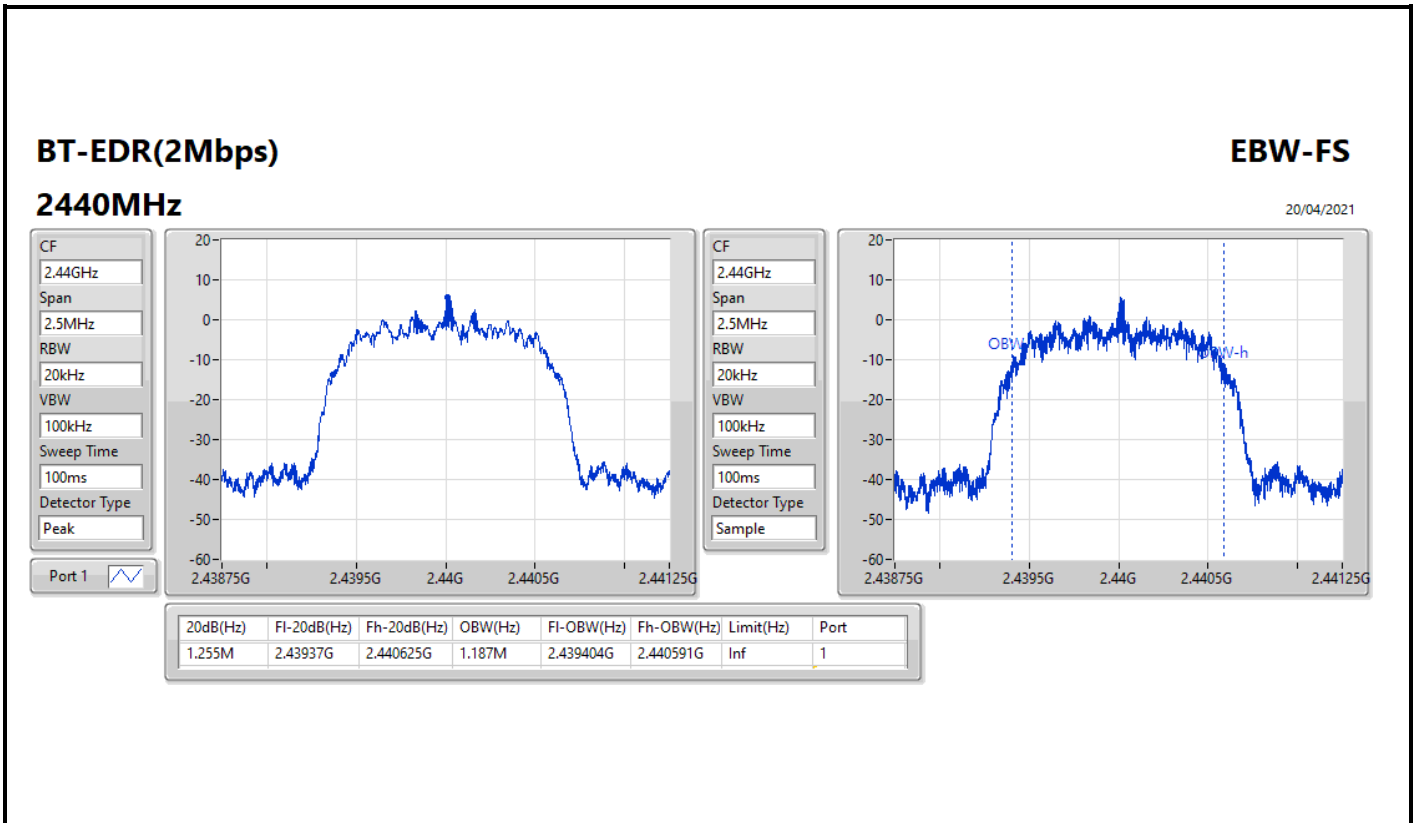
Result

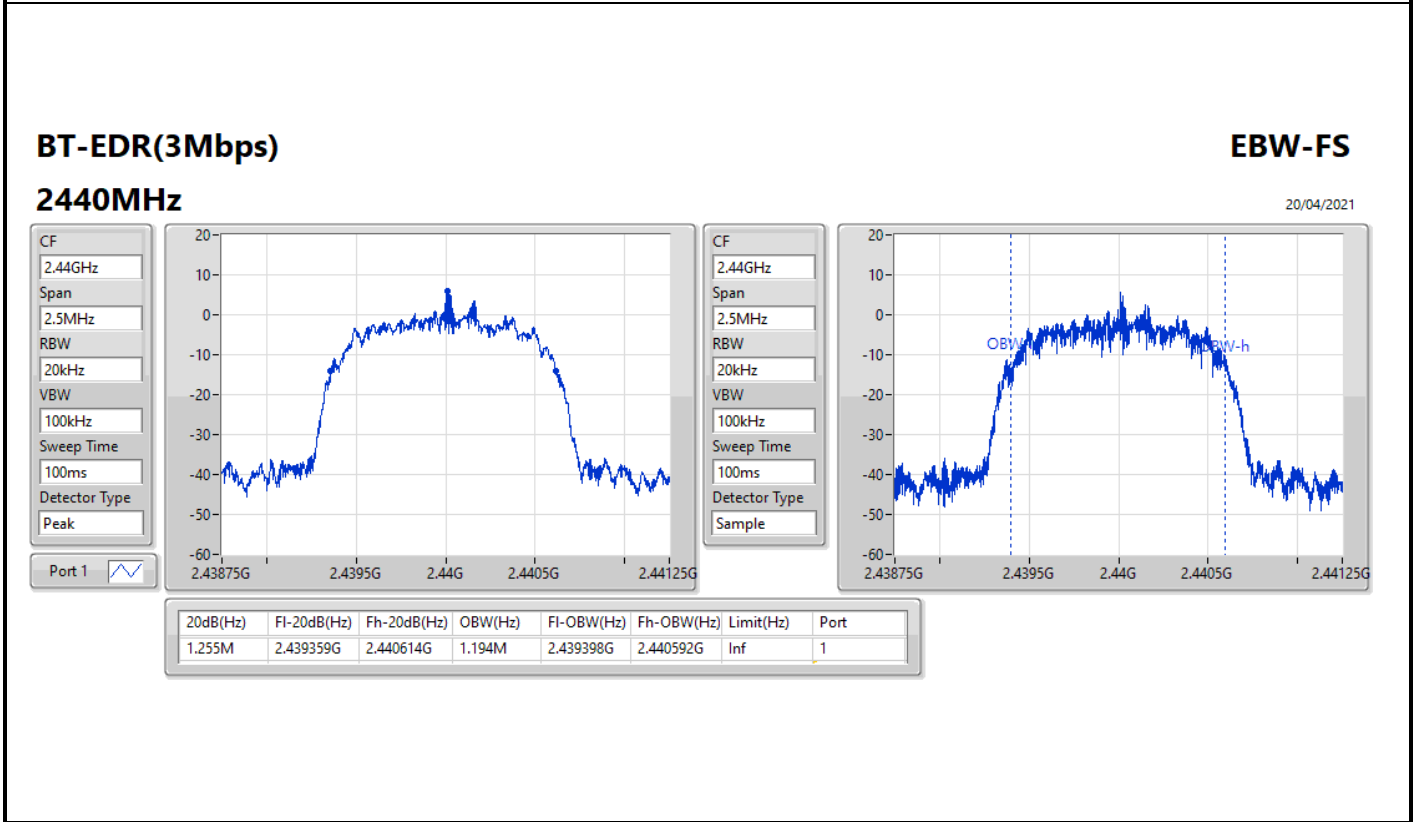
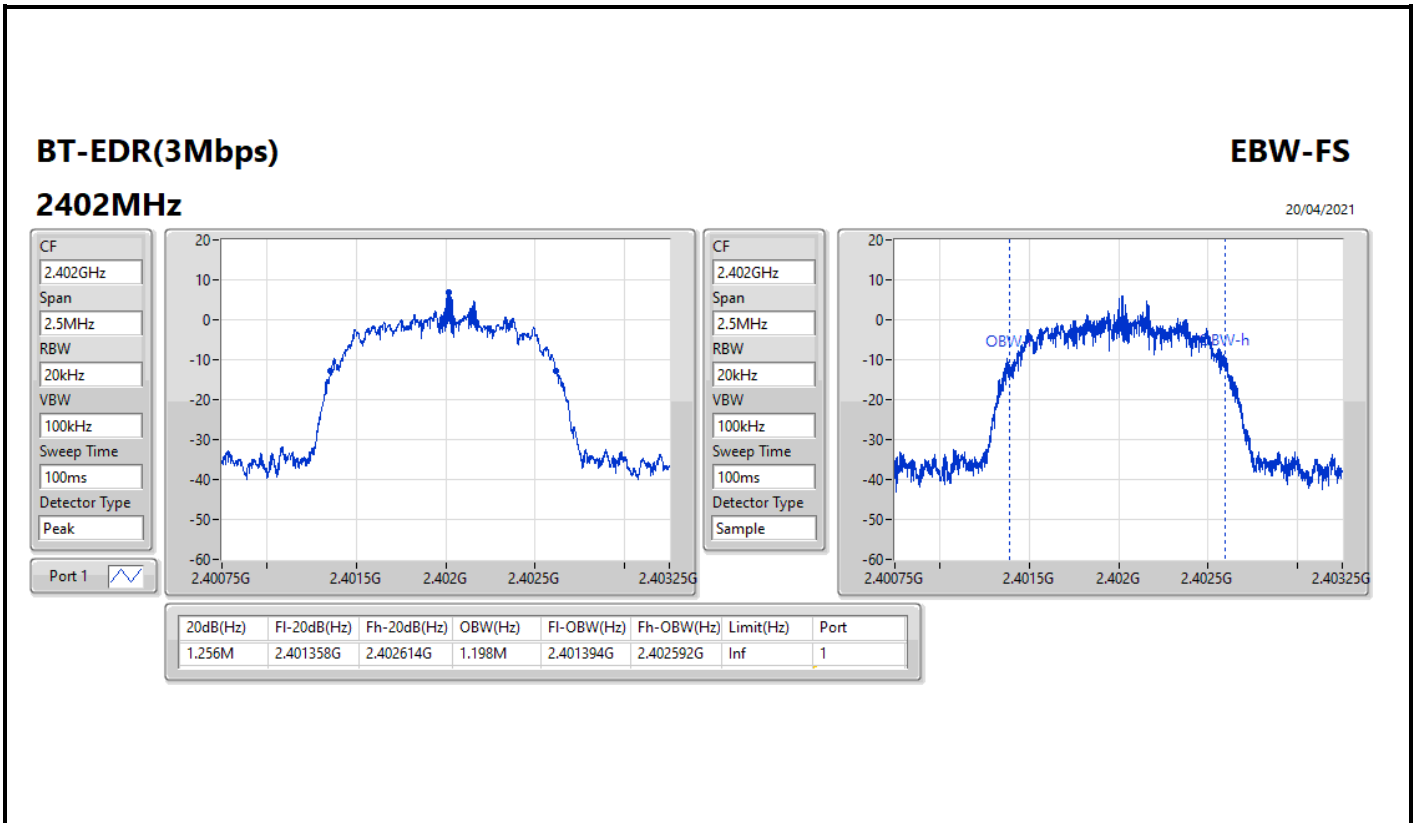
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	881.25k	852.074k
2440MHz	Pass	Inf	881.25k	853.323k
2480MHz	Pass	Inf	882.5k	854.573k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.255M	1.192M
2440MHz	Pass	Inf	1.255M	1.187M
2480MHz	Pass	Inf	1.255M	1.197M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.256M	1.198M
2440MHz	Pass	Inf	1.255M	1.194M
2480MHz	Pass	Inf	1.256M	1.201M

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









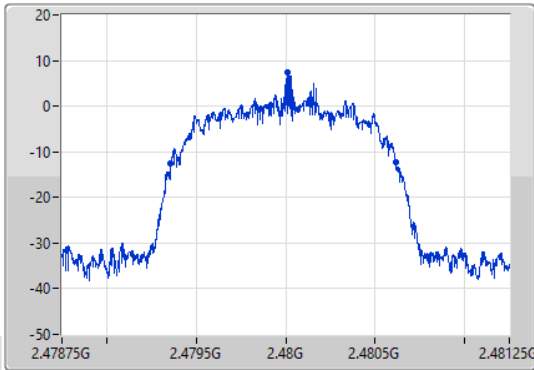
BT-EDR(3Mbps)

2480MHz

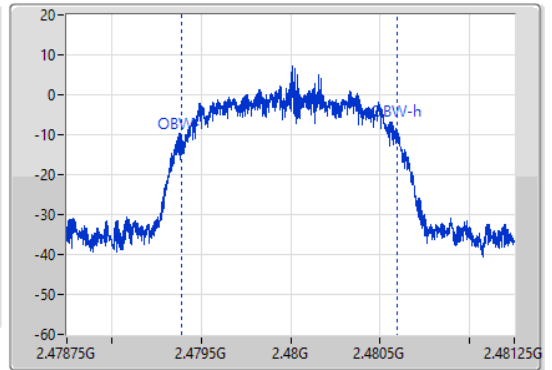
EBW-FS

20/04/2021

CF
2.48GHz
Span
2.5MHz
RBW
20kHz
VBW
100kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.48GHz
Span
2.5MHz
RBW
20kHz
VBW
100kHz
Sweep Time
100ms
Detector Type
Sample



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.256M	2.479358G	2.480614G	1.201M	2.479394G	2.480595G	Inf	1



Summary

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



Result

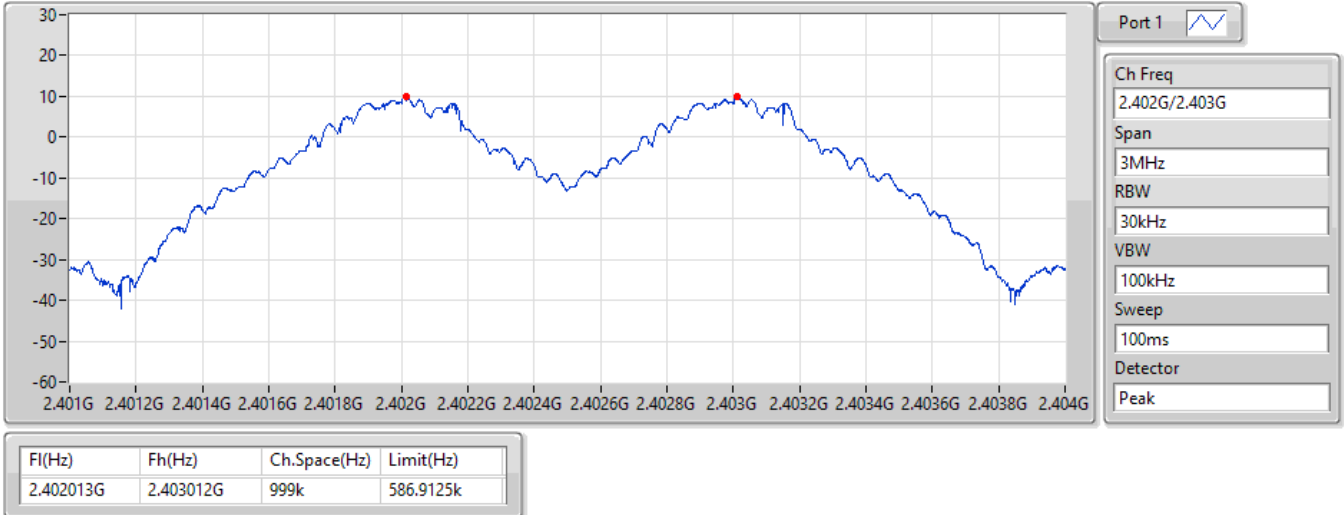
Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402013G	2.403012G	999k	586.9125k
2440MHz	Pass	2.440011G	2.441013G	1.002M	586.9125k
2480MHz	Pass	2.47901G	2.480012G	1.002M	587.745k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402013G	2.403012G	999k	835.83k
2440MHz	Pass	2.440011G	2.441012G	1.0005M	835.83k
2480MHz	Pass	2.47901G	2.480013G	1.0035M	835.83k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402011G	2.403013G	1.002M	836.496k
2440MHz	Pass	2.440013G	2.441012G	999k	835.83k
2480MHz	Pass	2.479011G	2.480012G	1.0005M	836.496k

BT-BR(1Mbps)

Channel Separation-FS

2.402G/2.403GHz

20/04/2021

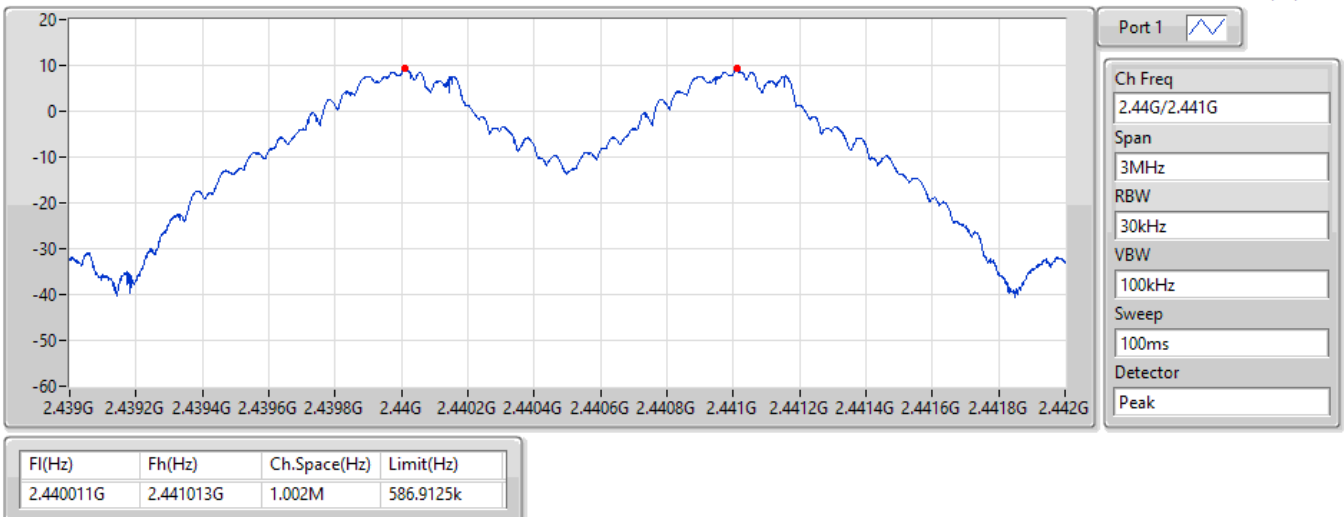


BT-BR(1Mbps)

Channel Separation-FS

2.44G/2.441GHz

20/04/2021




BT-BR(1Mbps)

2.48G/2.479GHz

Channel Separation-FS

20/04/2021



Port 1 

Ch Freq
2.48G/2.479G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

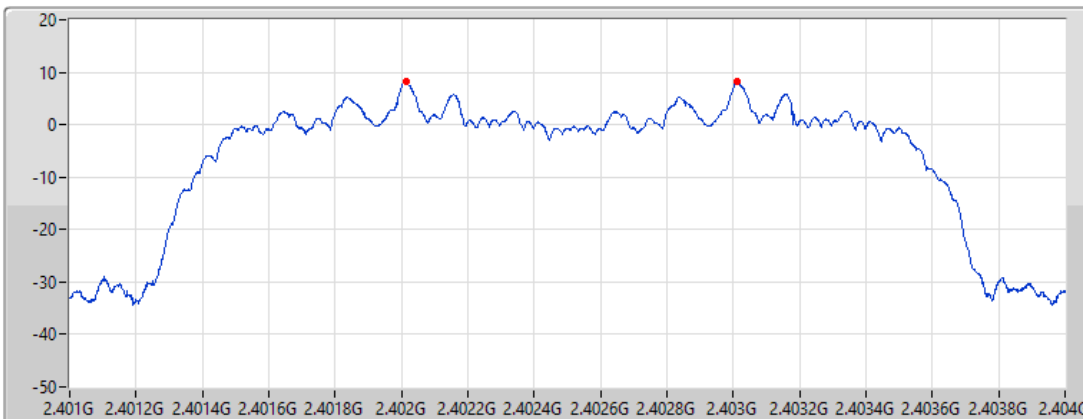
Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.47901G	2.480012G	1.002M	587.745k


BT-EDR(2Mbps)

2.402G/2.403GHz

Channel Separation-FS

20/04/2021



Port 1 

Ch Freq
2.402G/2.403G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

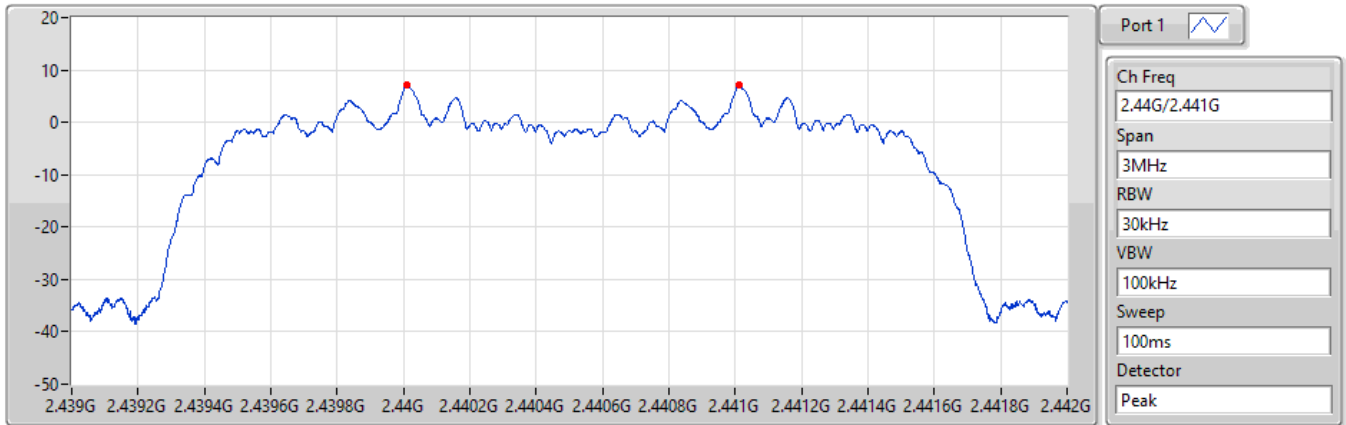
Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402013G	2.403012G	999k	835.83k

BT-EDR(2Mbps)

Channel Separation-FS

2.44G/2.441GHz

20/04/2021



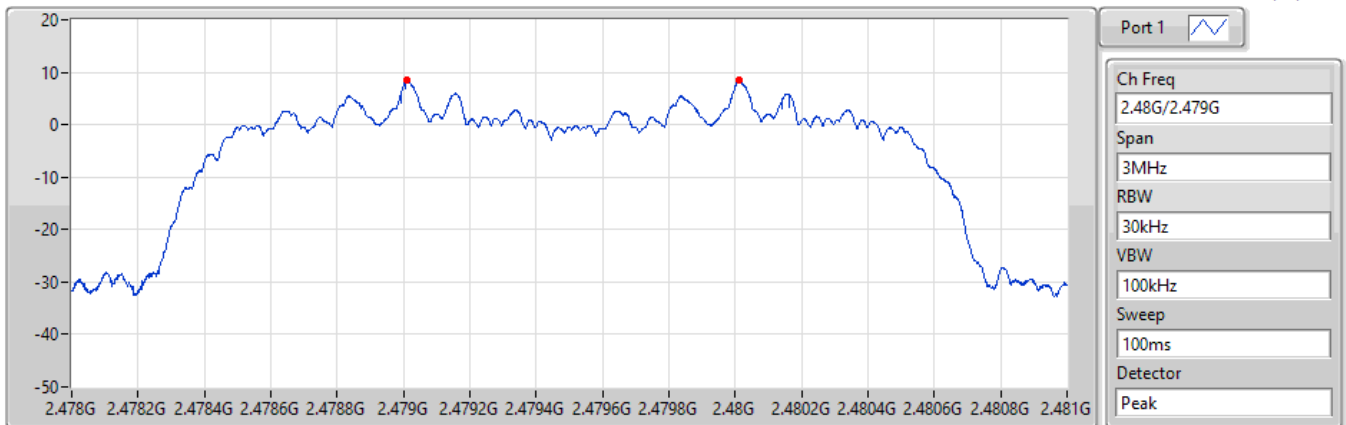
F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440011G	2.441012G	1.0005M	835.83k

BT-EDR(2Mbps)

Channel Separation-FS

2.48G/2.479GHz

20/04/2021



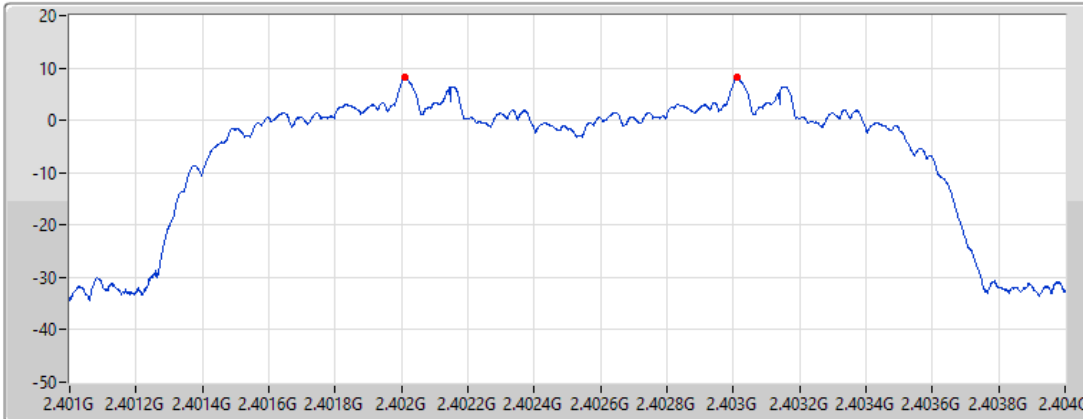
F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.47901G	2.480013G	1.0035M	835.83k


BT-EDR(3Mbps)

Channel Separation-FS

2.402G/2.403GHz

20/04/2021



Port 1 

Ch Freq
2.402G/2.403G

Span
3MHz

RBW
30kHz

VBW
100kHz

Sweep
100ms

Detector
Peak

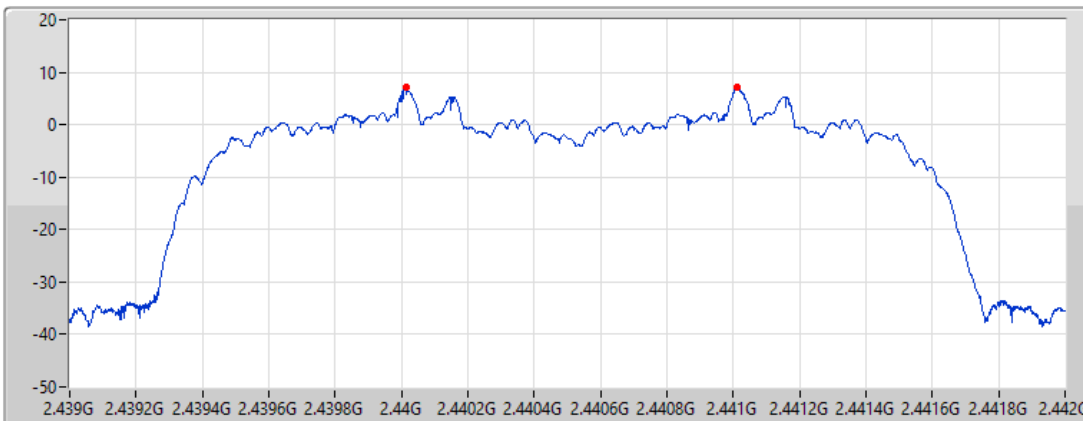
Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402011G	2.403013G	1.002M	836.496k


BT-EDR(3Mbps)

Channel Separation-FS

2.44G/2.441GHz

20/04/2021



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)
2.440013G	2.441012G	999k	835.83k


BT-EDR(3Mbps)

2.48G/2.479GHz

Channel Separation-FS

20/04/2021



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)
2.479011G	2.480012G	1.0005M	836.496k



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	12.22	0.01667
BT-EDR(2Mbps)	11.84	0.01528
BT-EDR(3Mbps)	12.01	0.01589



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.55	12.18	21.00
2440MHz	Pass	2.55	11.54	21.00
2480MHz	Pass	2.55	12.22	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.55	11.74	21.00
2440MHz	Pass	2.55	10.97	21.00
2480MHz	Pass	2.55	11.84	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.55	11.90	21.00
2440MHz	Pass	2.55	11.20	21.00
2480MHz	Pass	2.55	12.01	21.00

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



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	12.16	0.01644
BT-EDR(2Mbps)	10.67	0.01167
BT-EDR(3Mbps)	10.65	0.01161



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.55	12.16	21.00
2440MHz	Pass	2.55	11.52	21.00
2480MHz	Pass	2.55	12.10	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.55	10.29	21.00
2440MHz	Pass	2.55	9.17	21.00
2480MHz	Pass	2.55	10.67	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.55	10.25	21.00
2440MHz	Pass	2.55	9.12	21.00
2480MHz	Pass	2.55	10.65	21.00

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



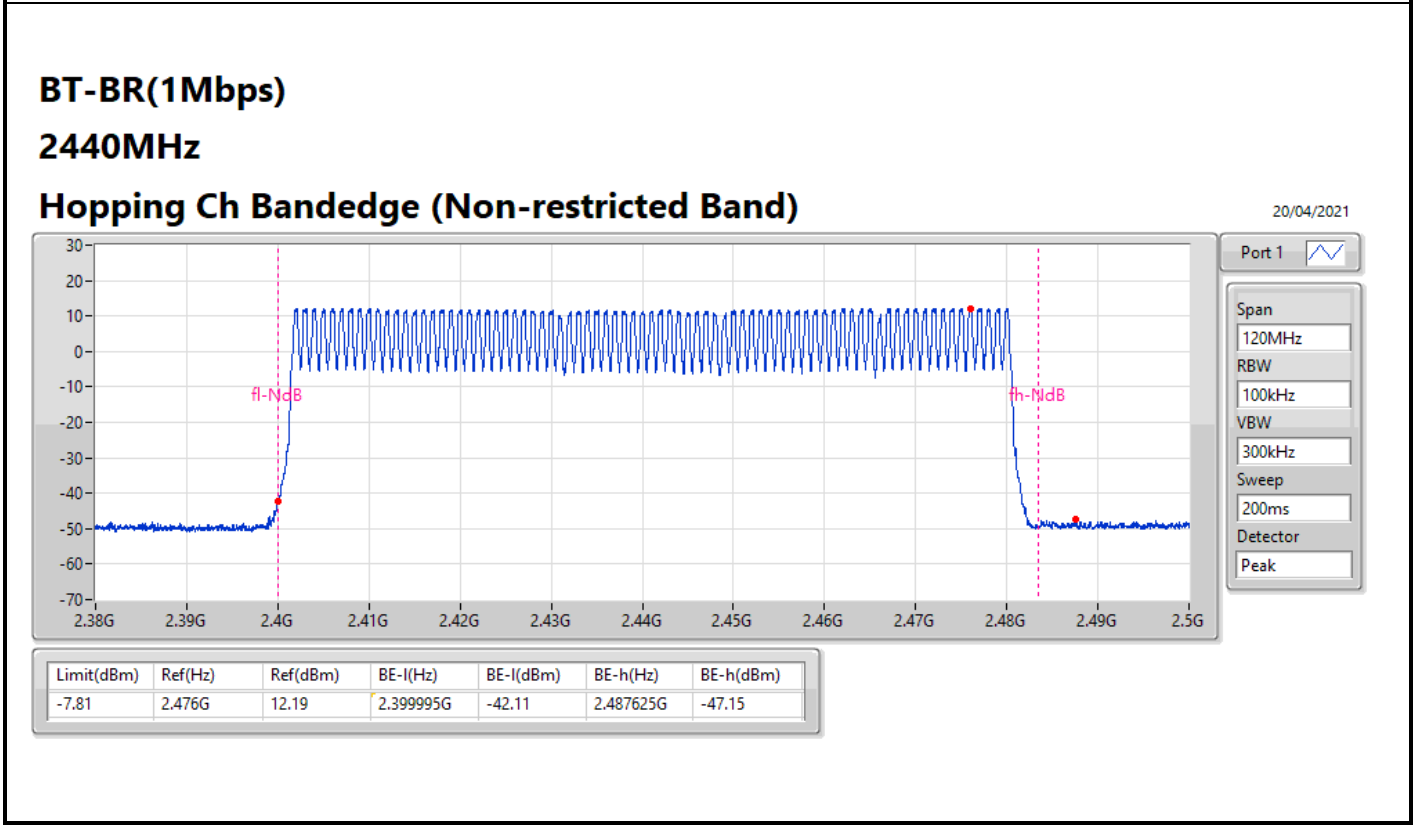
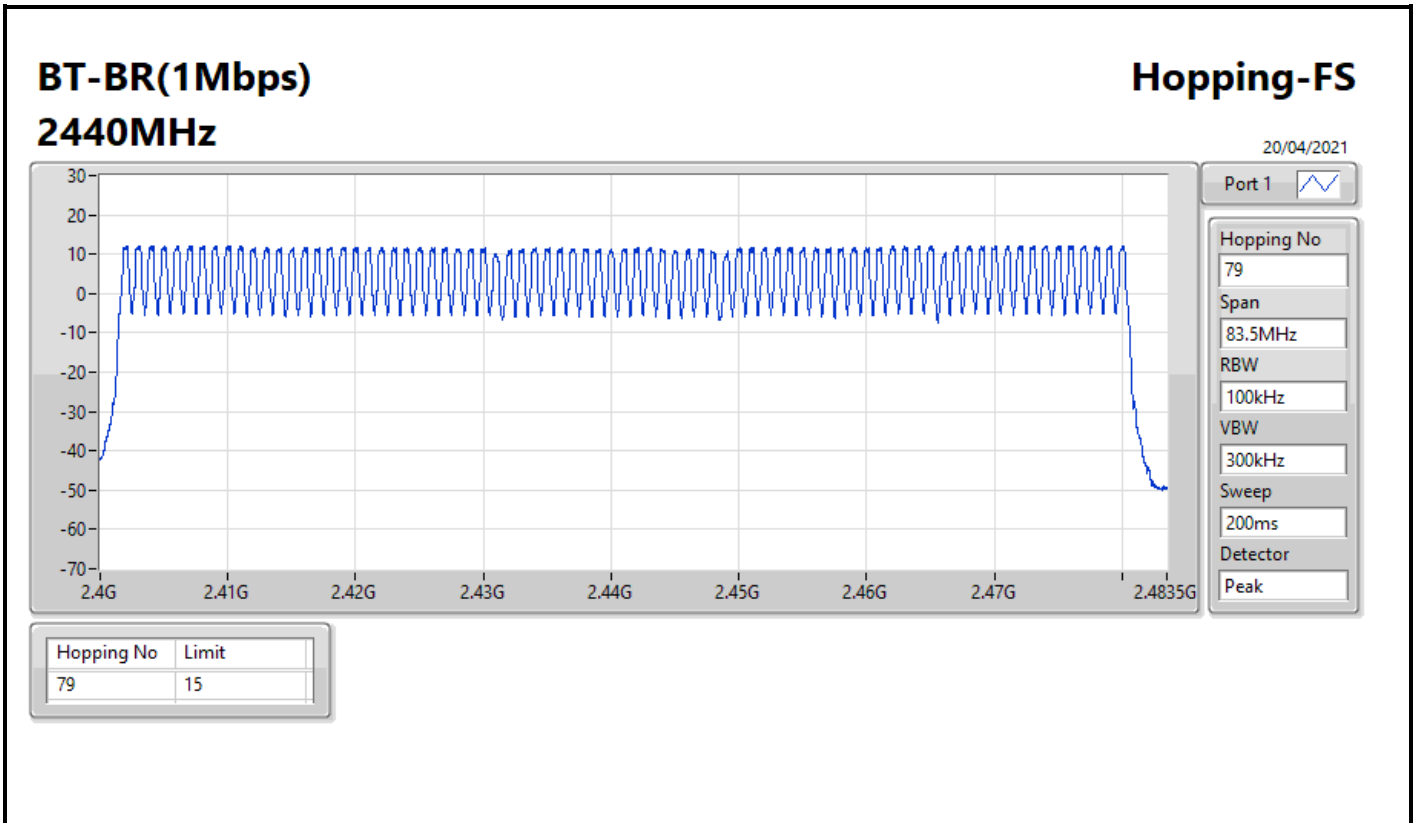
Summary

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



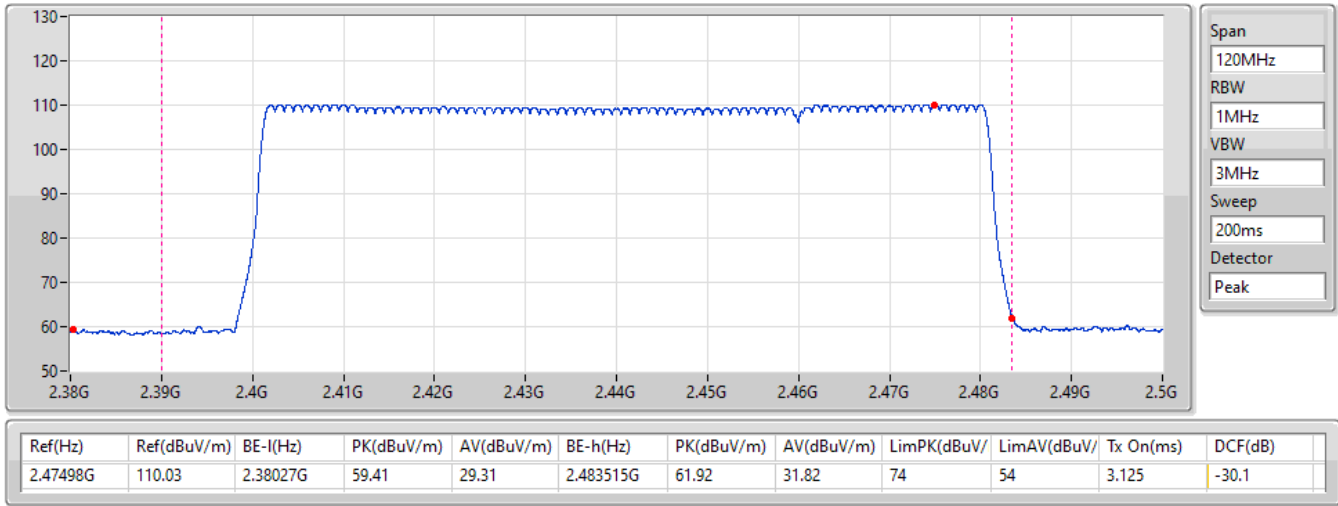
Result

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



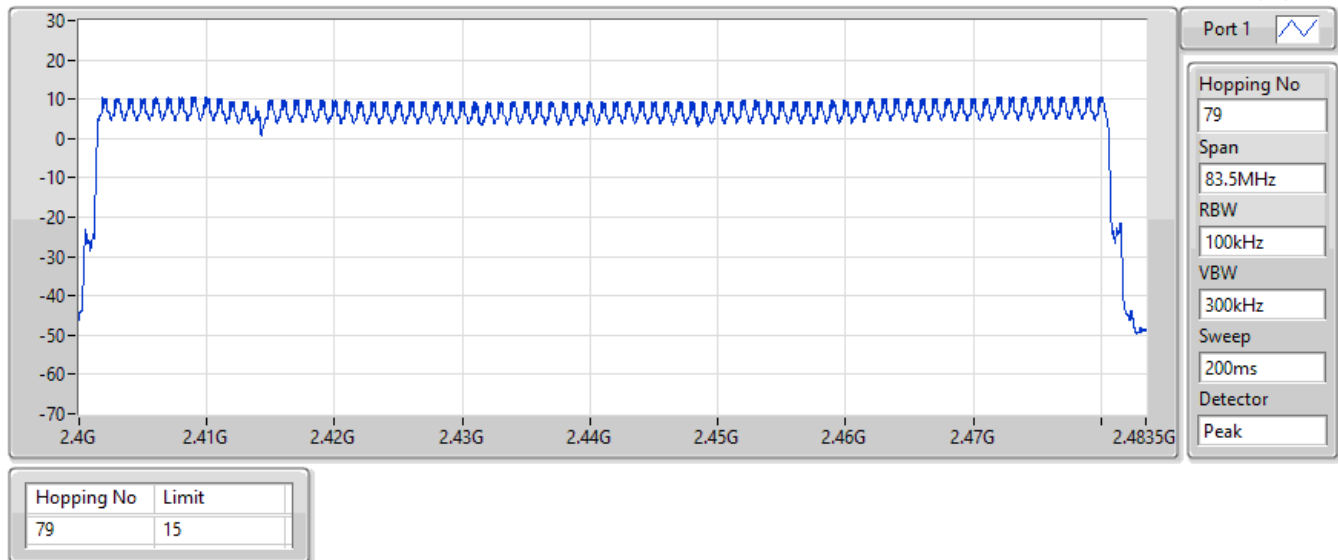
BT-BR(1Mbps)
2440MHz
Hopping Ch Bandedge (Restricted Band)

20/04/2021



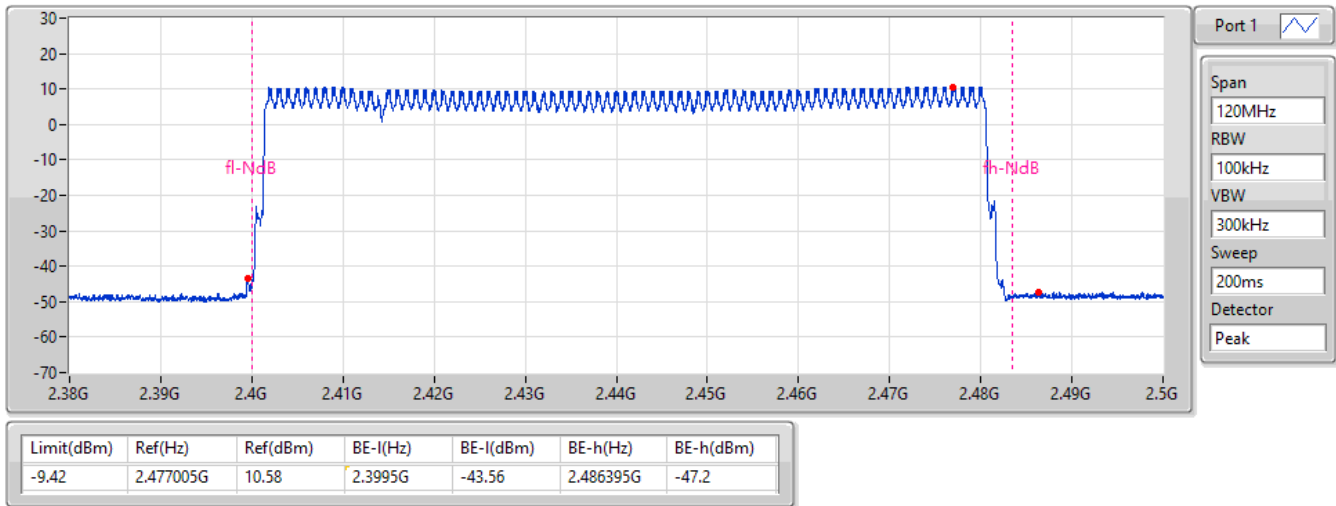
BT-EDR(2Mbps) **Hopping-FS**
2440MHz

20/04/2021



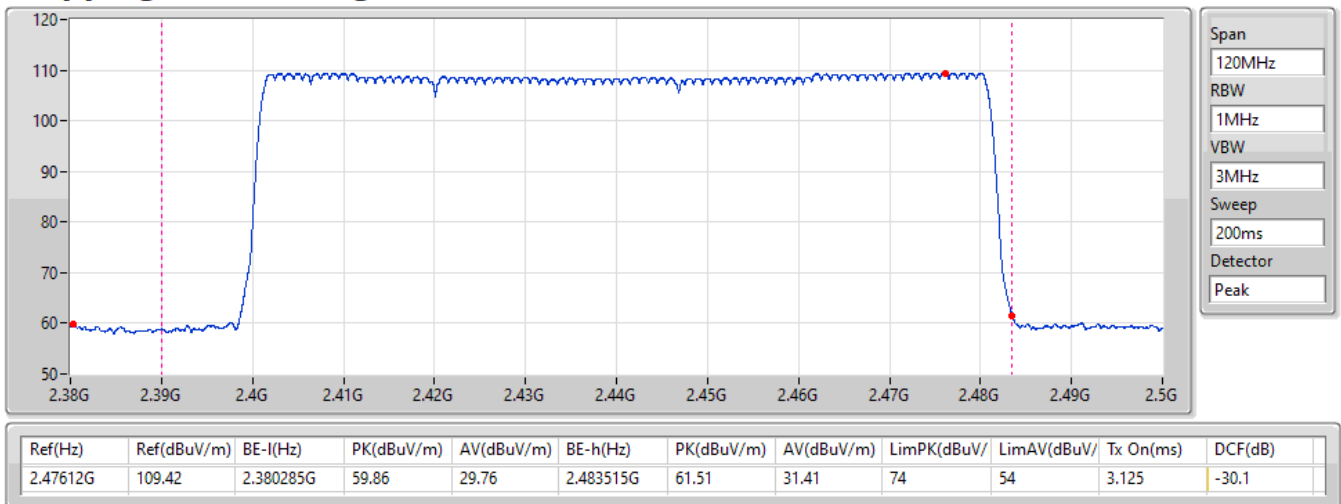
BT-EDR(2Mbps)
2440MHz
Hopping Ch Bandedge (Non-restricted Band)

20/04/2021



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

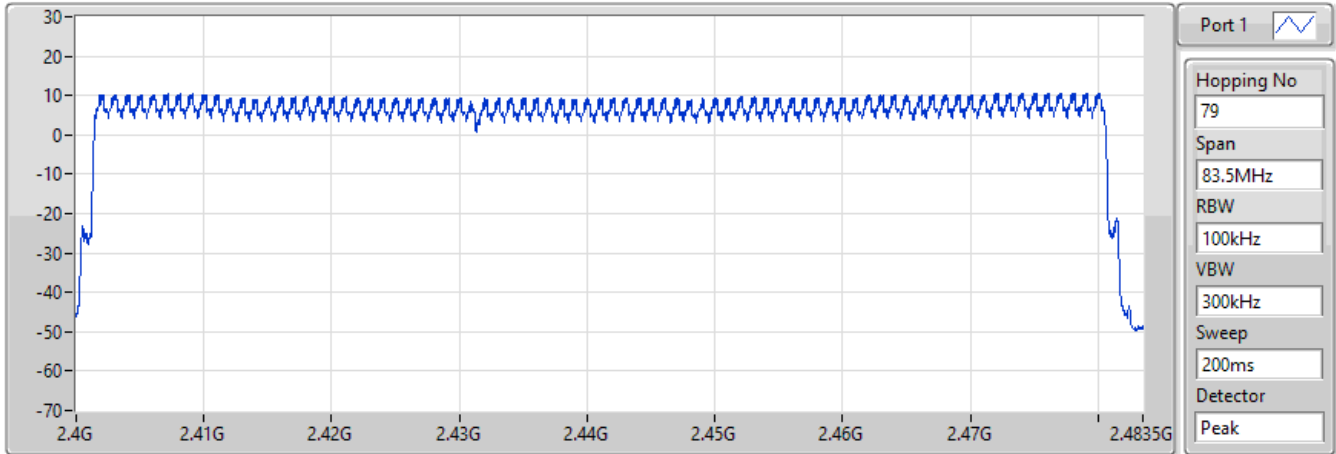
20/04/2021



**BT-EDR(3Mbps)
2440MHz**

Hopping-FS

20/04/2021

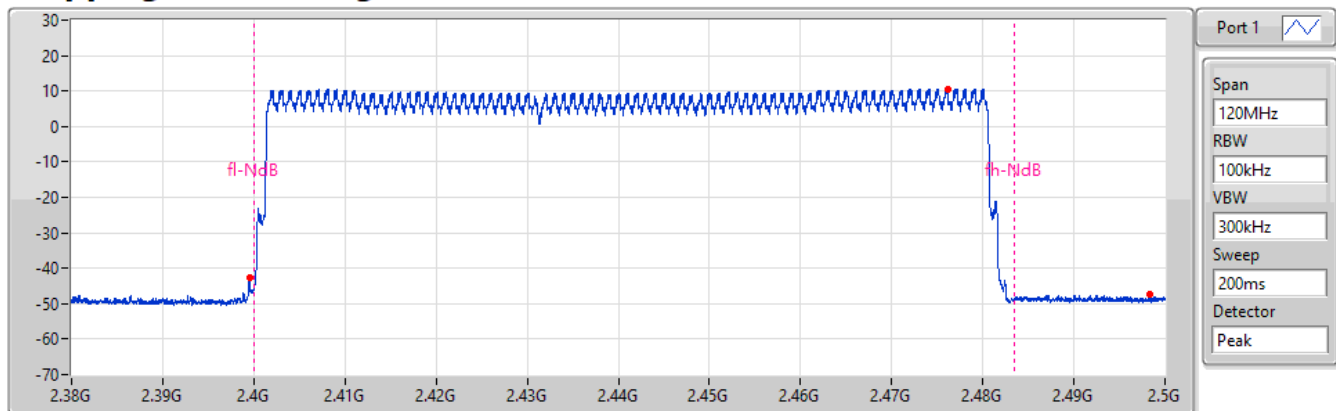


Hopping No	Limit
79	15

**BT-EDR(3Mbps)
2440MHz**

Hopping Ch Bandedge (Non-restricted Band)

20/04/2021

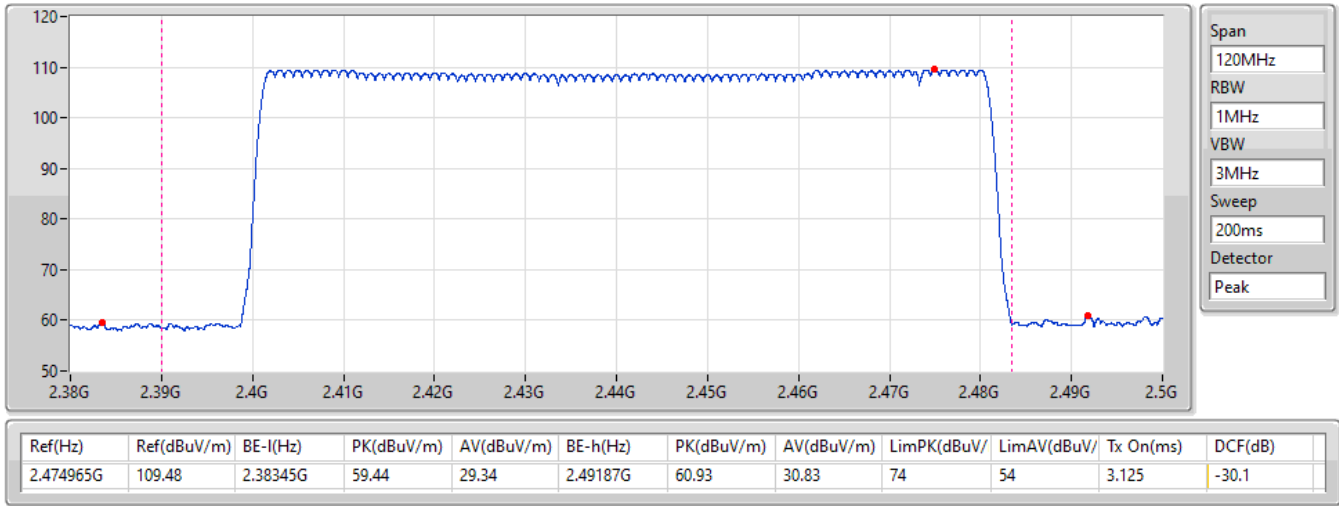


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-9.46	2.47615G	10.54	2.399515G	-42.8	2.498365G	-47.43



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

20/04/2021





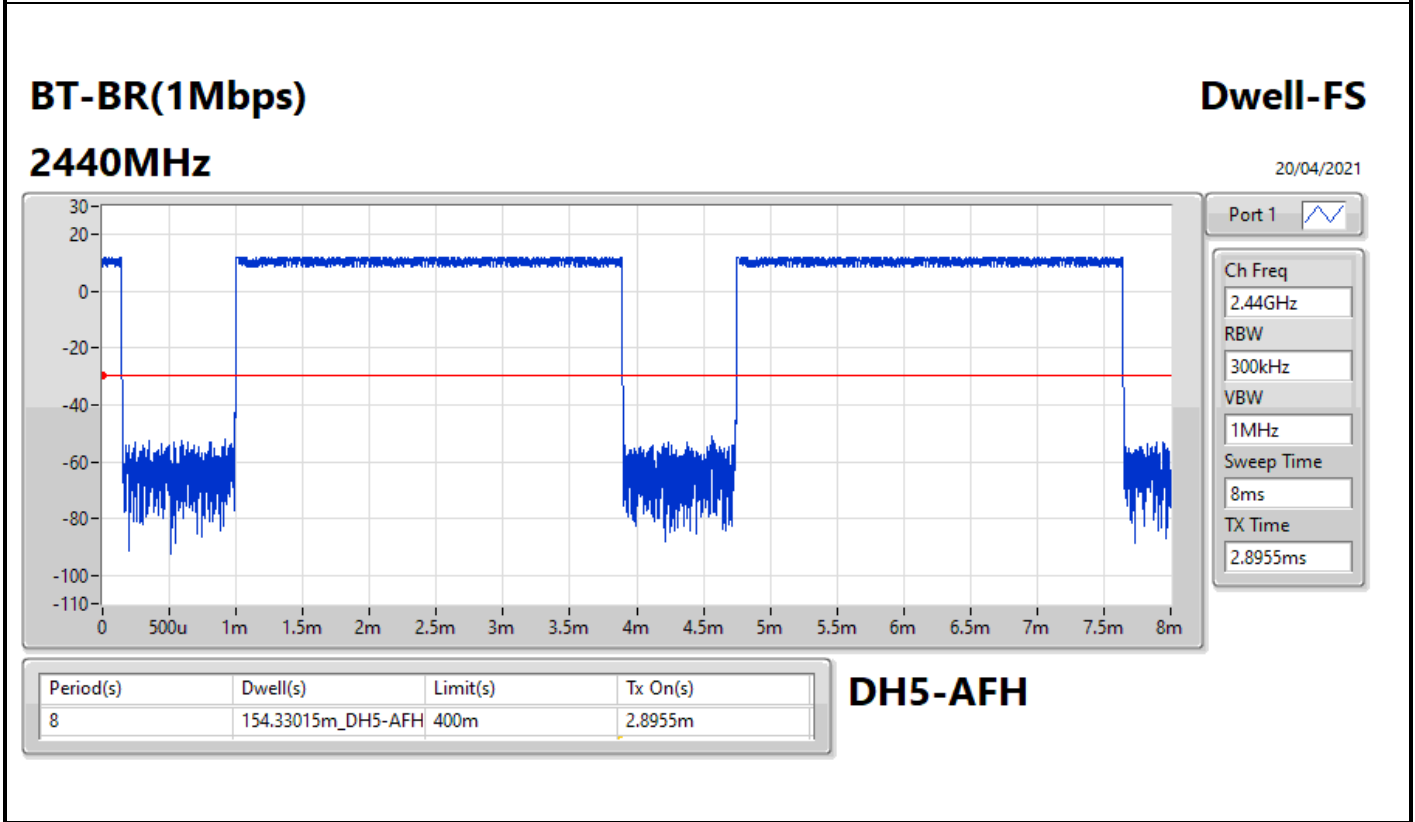
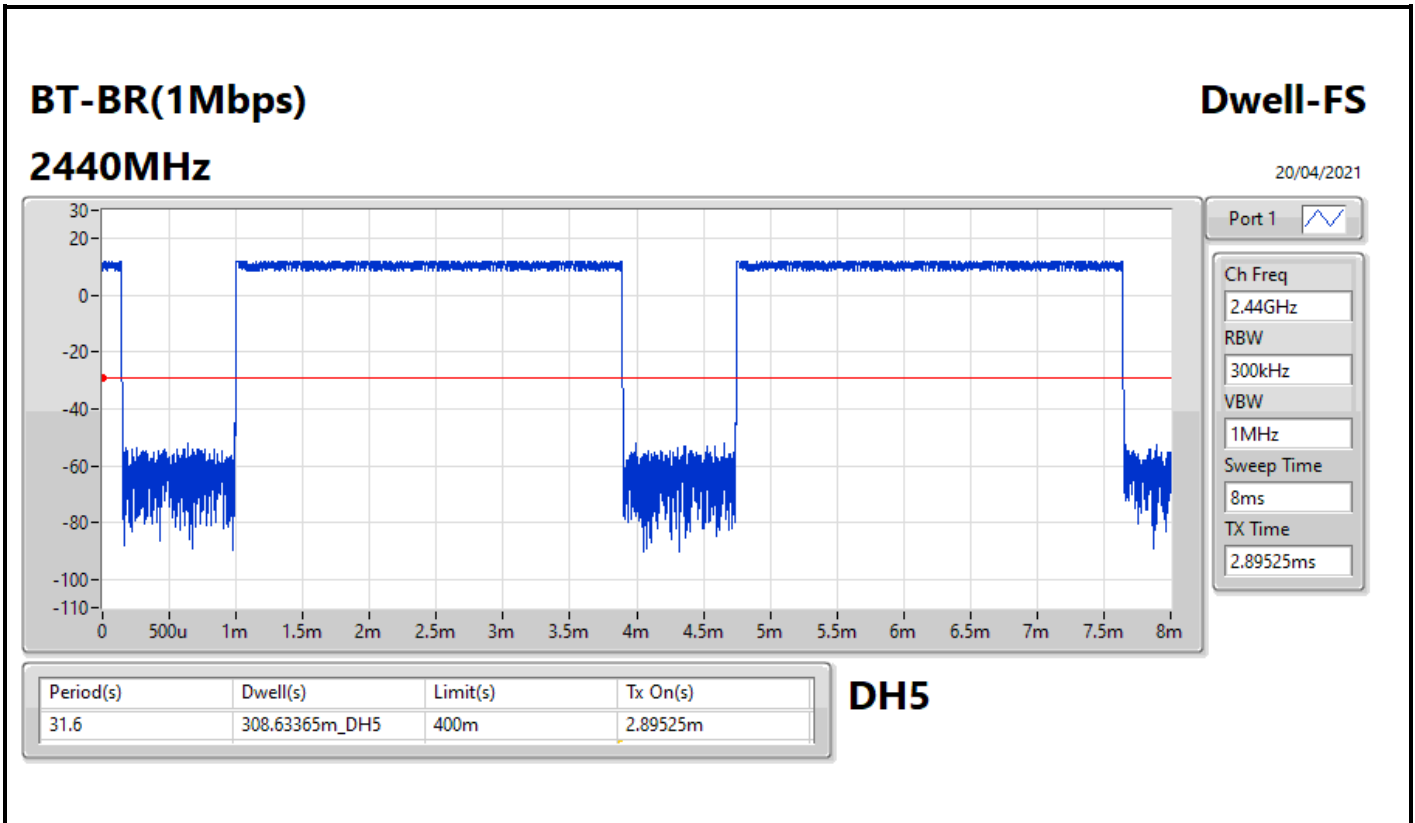
Summary

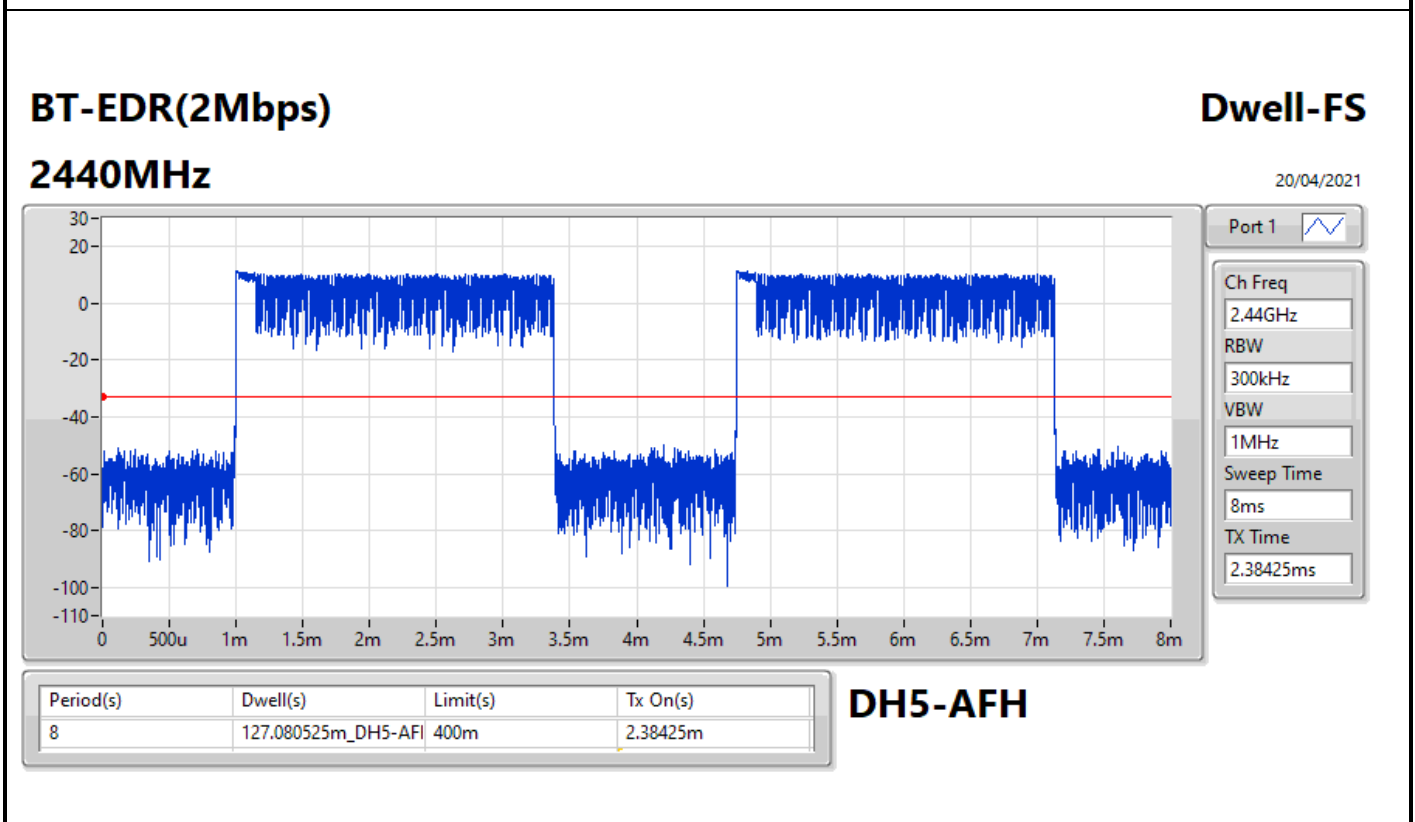
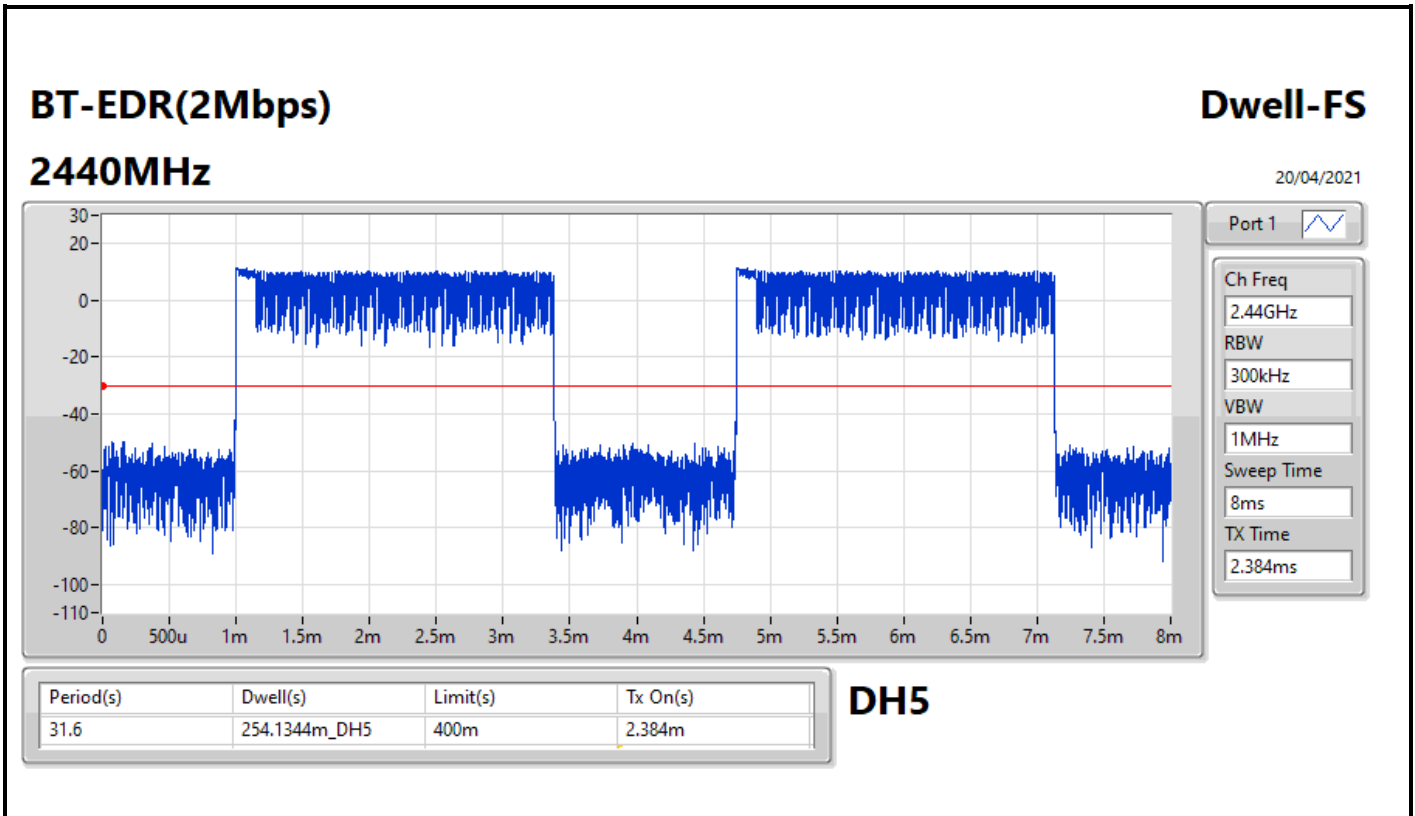
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.63365m_DH5
BT-EDR(2Mbps)	254.1344m_DH5
BT-EDR(3Mbps)	309.16665m_DH5

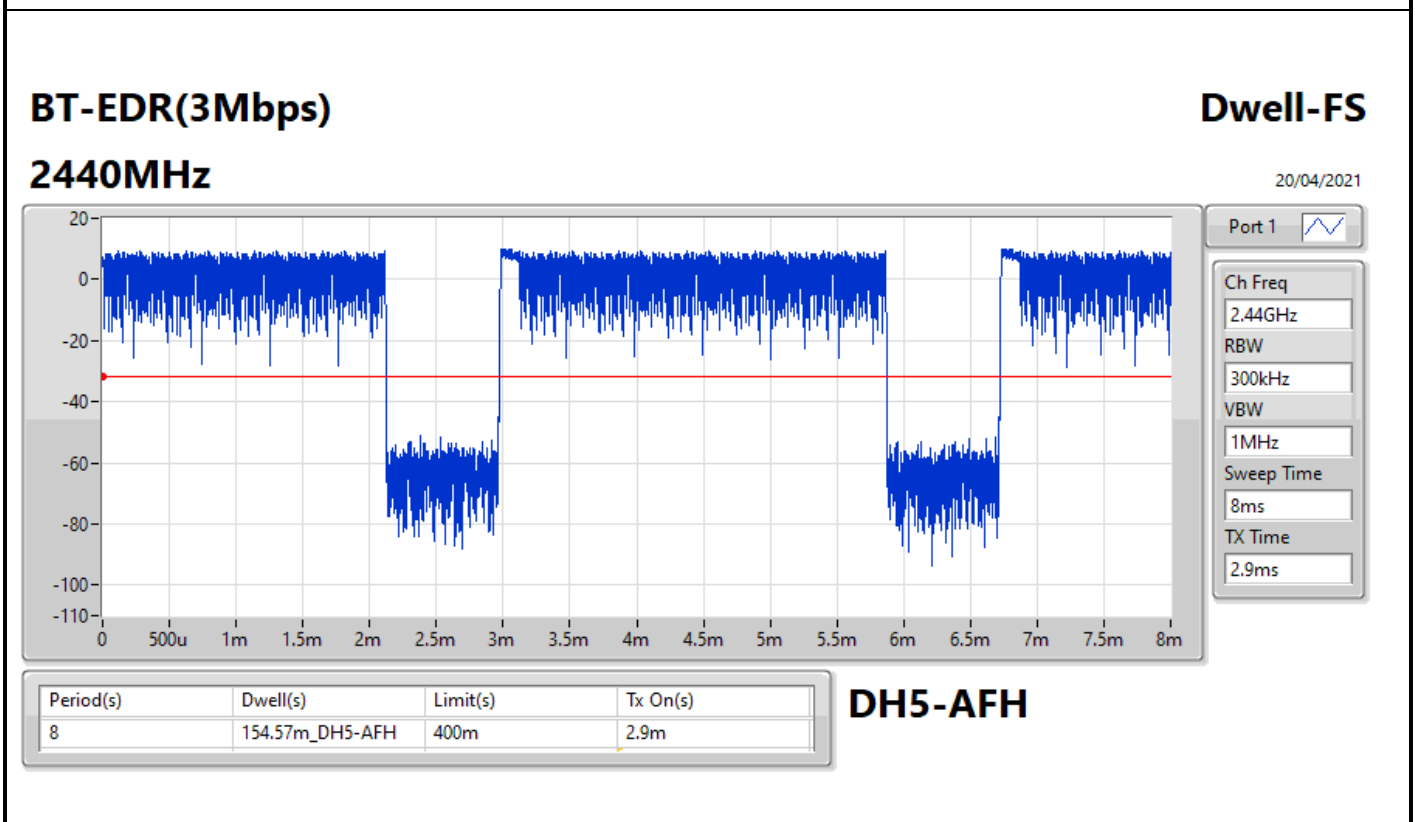
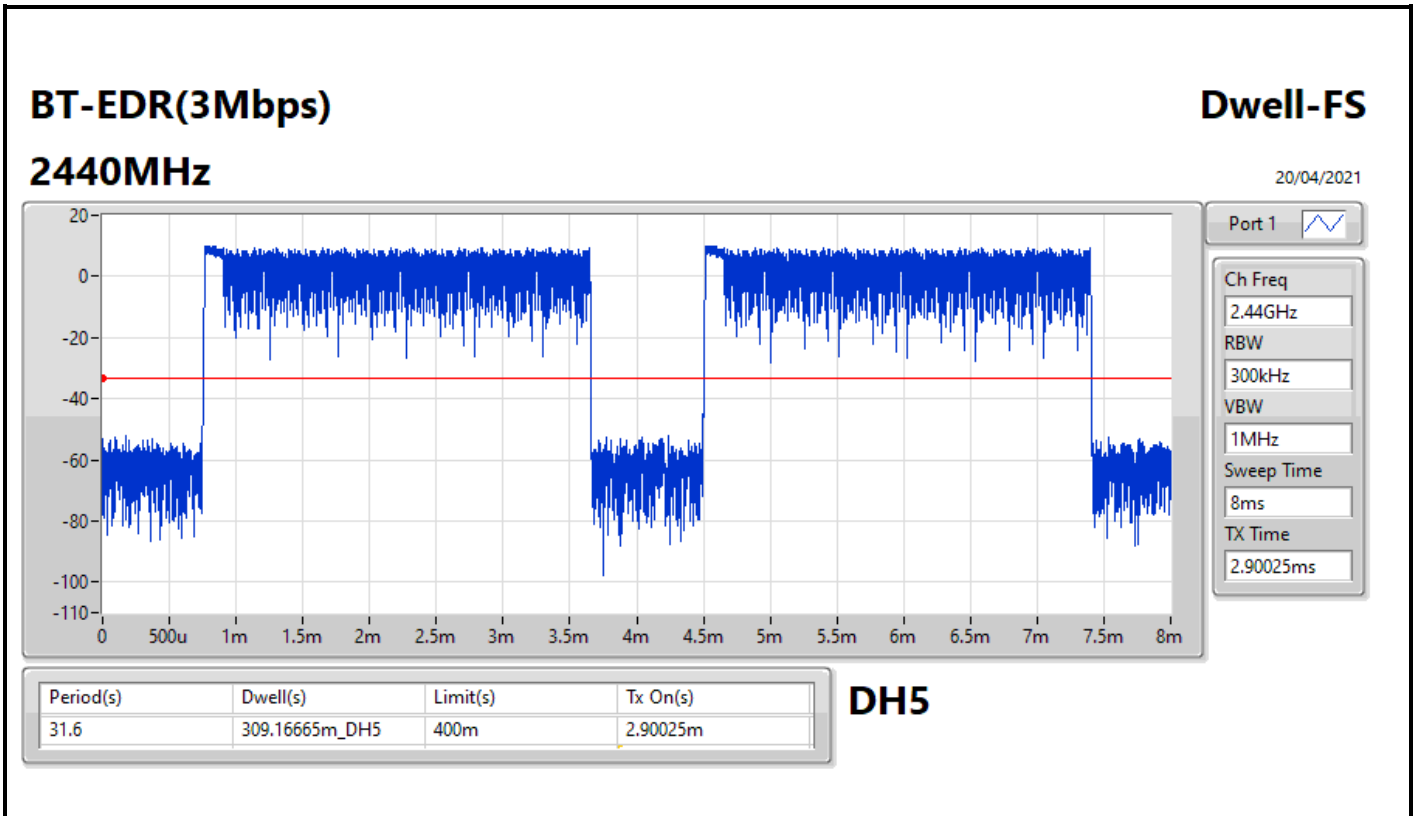


Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.63365m_DH5	400m	2.89525m
2440MHz	Pass	8	154.33015m_DH5-AFH	400m	2.8955m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	254.1344m_DH5	400m	2.384m
2440MHz	Pass	8	127.080525m_DH5-AFH	400m	2.38425m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.16665m_DH5	400m	2.90025m
2440MHz	Pass	8	154.57m_DH5-AFH	400m	2.9m









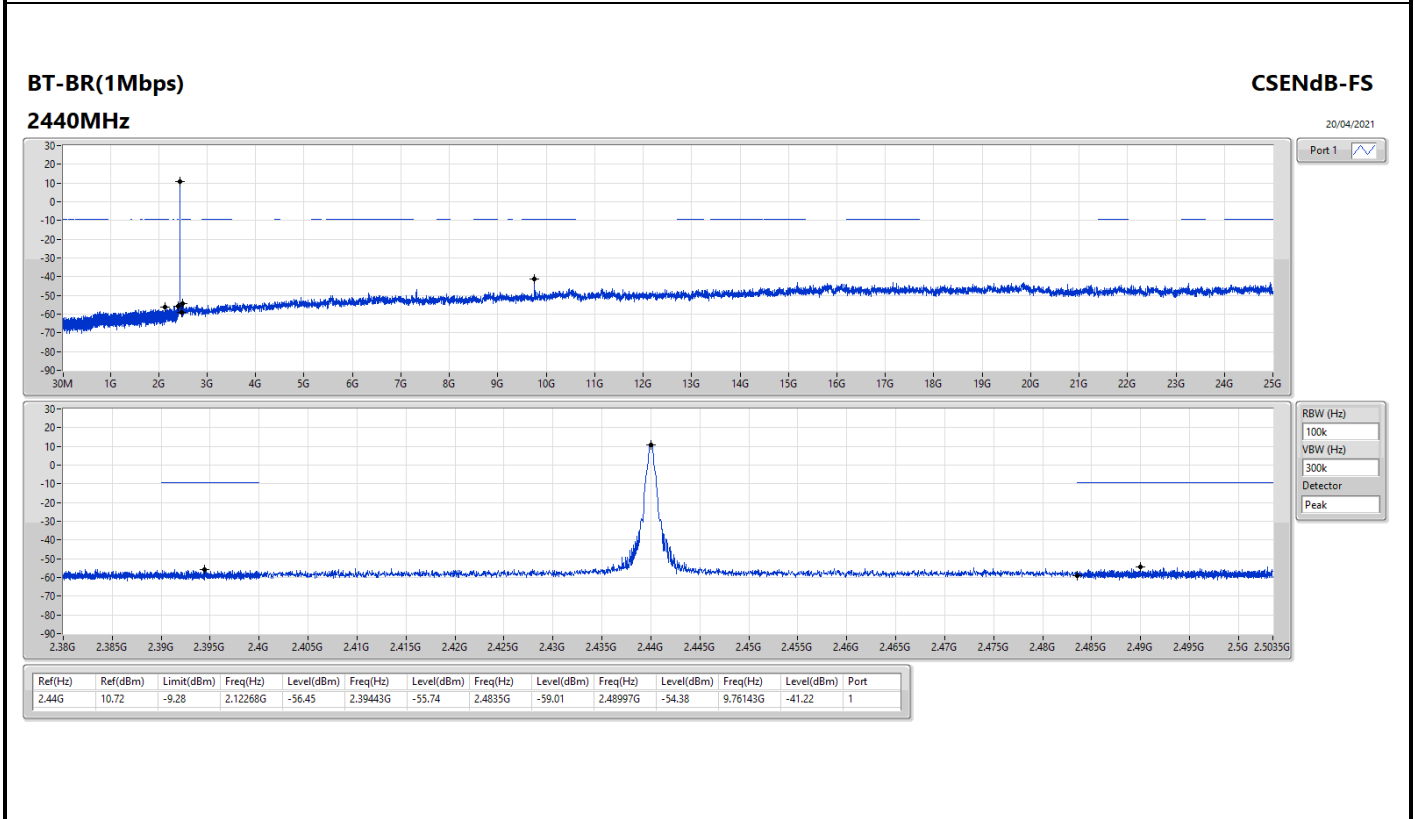
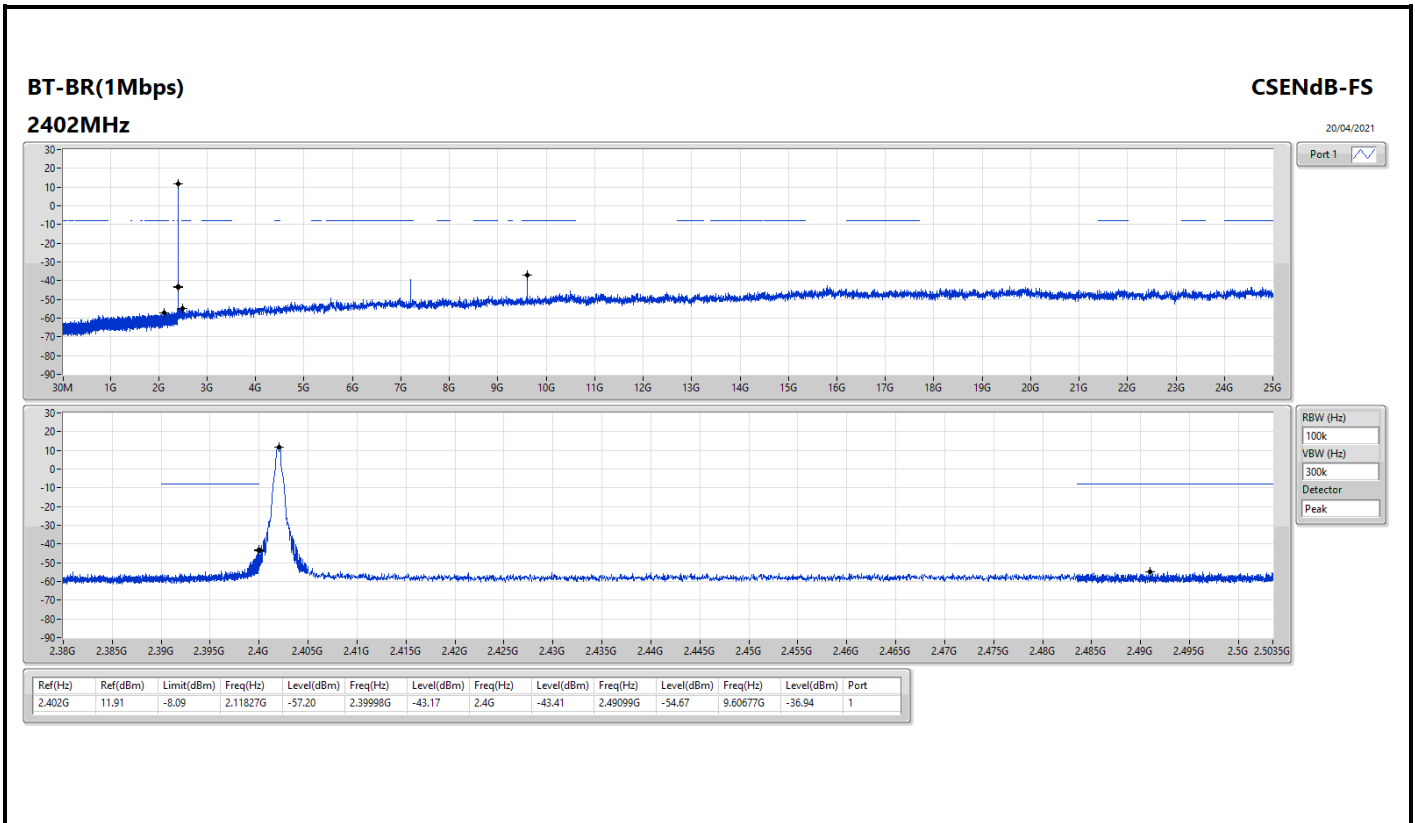
Summary

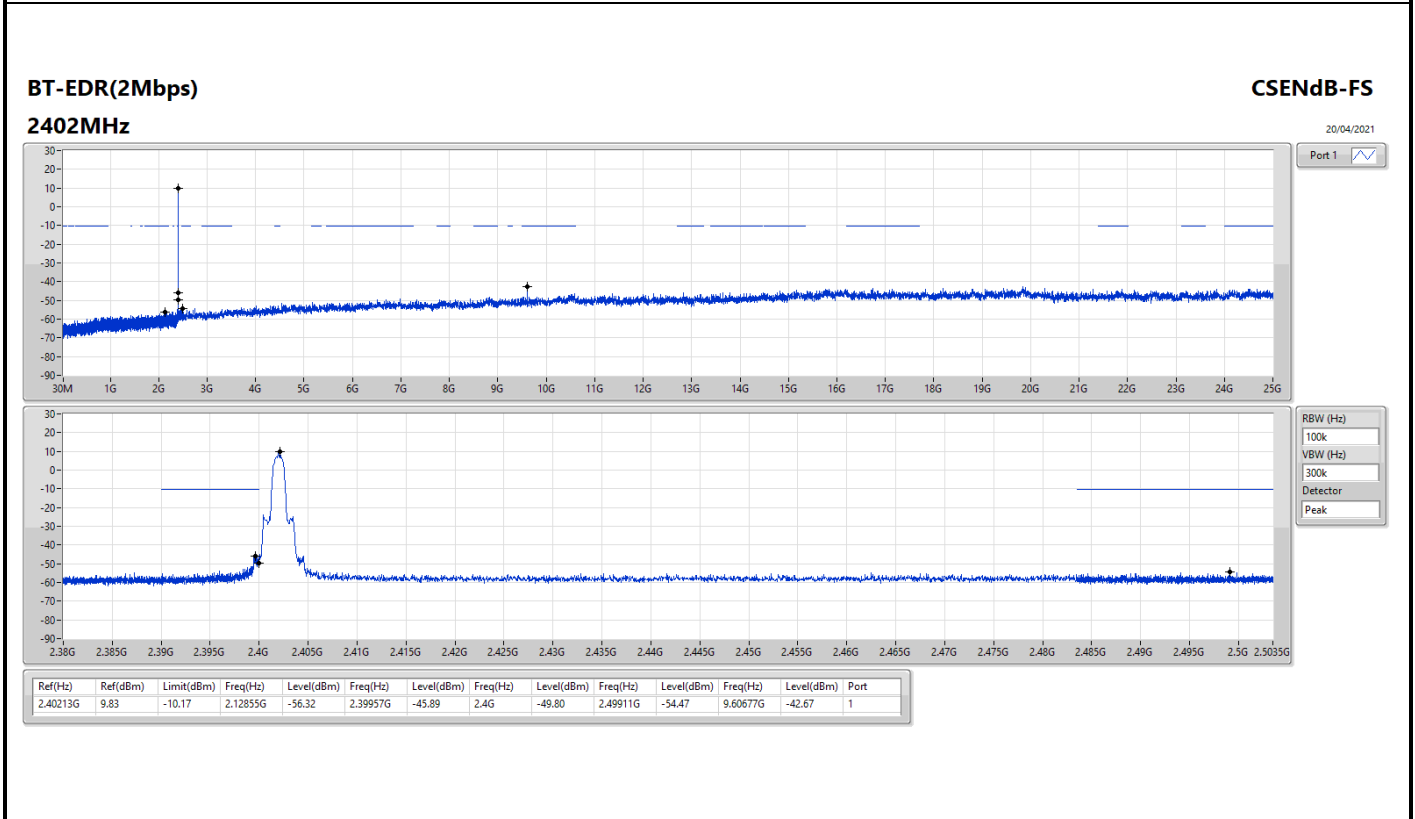
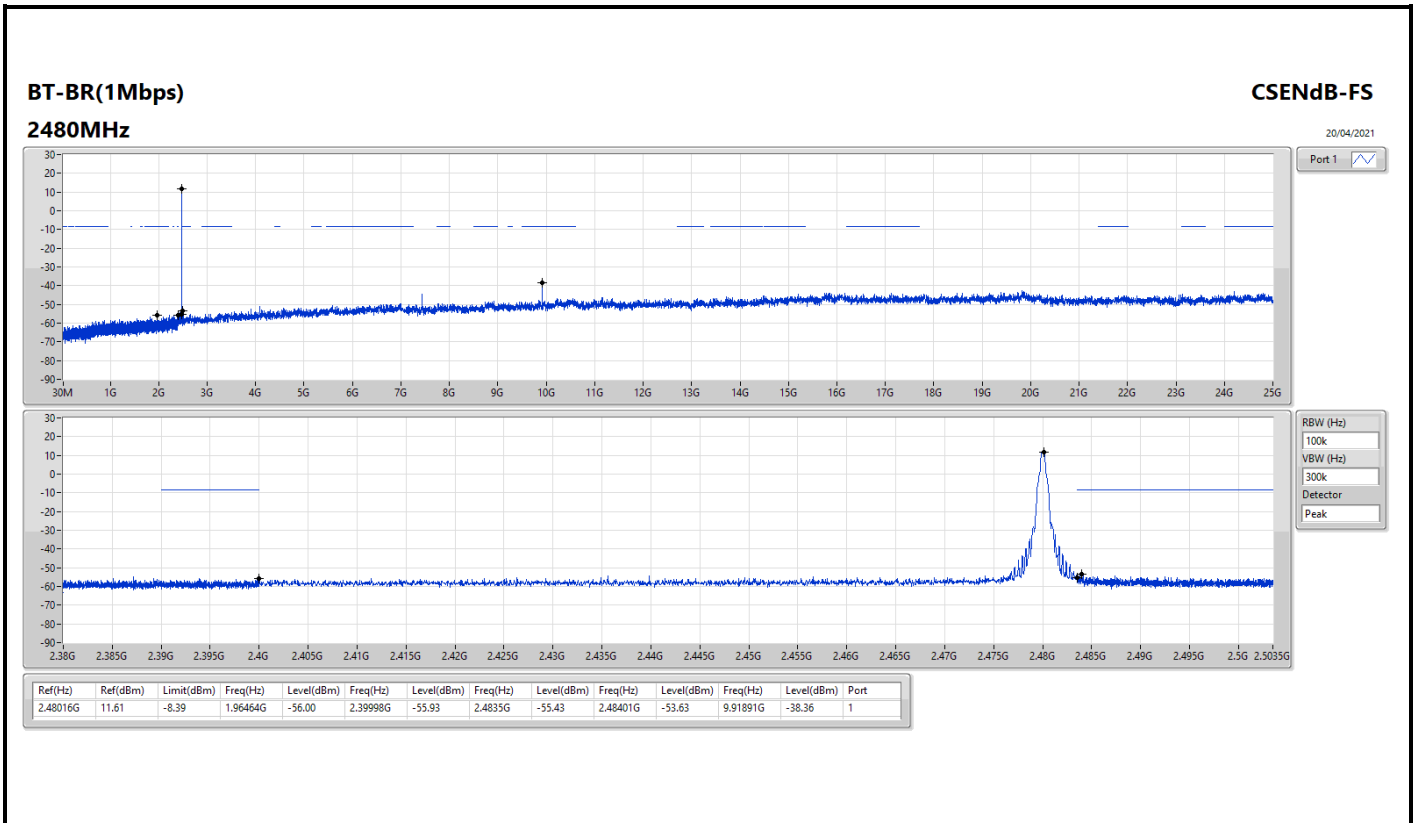
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.402G	11.91	-8.09	2.11827G	-57.20	2.39998G	-43.17	2.4G	-43.41	2.49099G	-54.67	9.60677G	-36.94	1
BT-EDR(2Mbps)	Pass	2.40213G	9.83	-10.17	2.12855G	-56.32	2.39957G	-45.89	2.4G	-49.80	2.49911G	-54.47	9.60677G	-42.67	1
BT-EDR(3Mbps)	Pass	2.40184G	9.65	-10.35	2.18201G	-56.20	2.39994G	-46.05	2.4G	-49.40	2.49516G	-55.10	24.19575G	-42.79	1

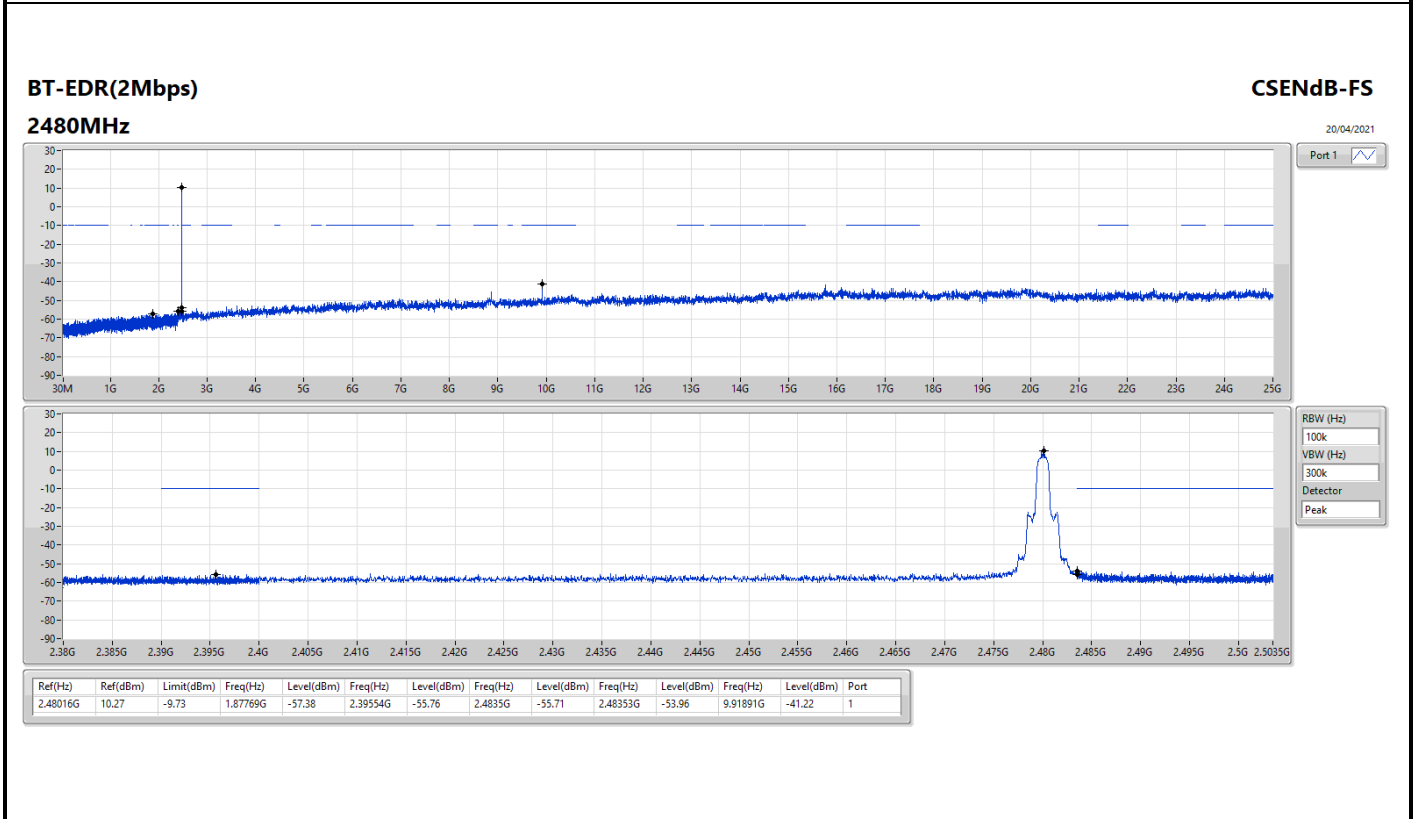
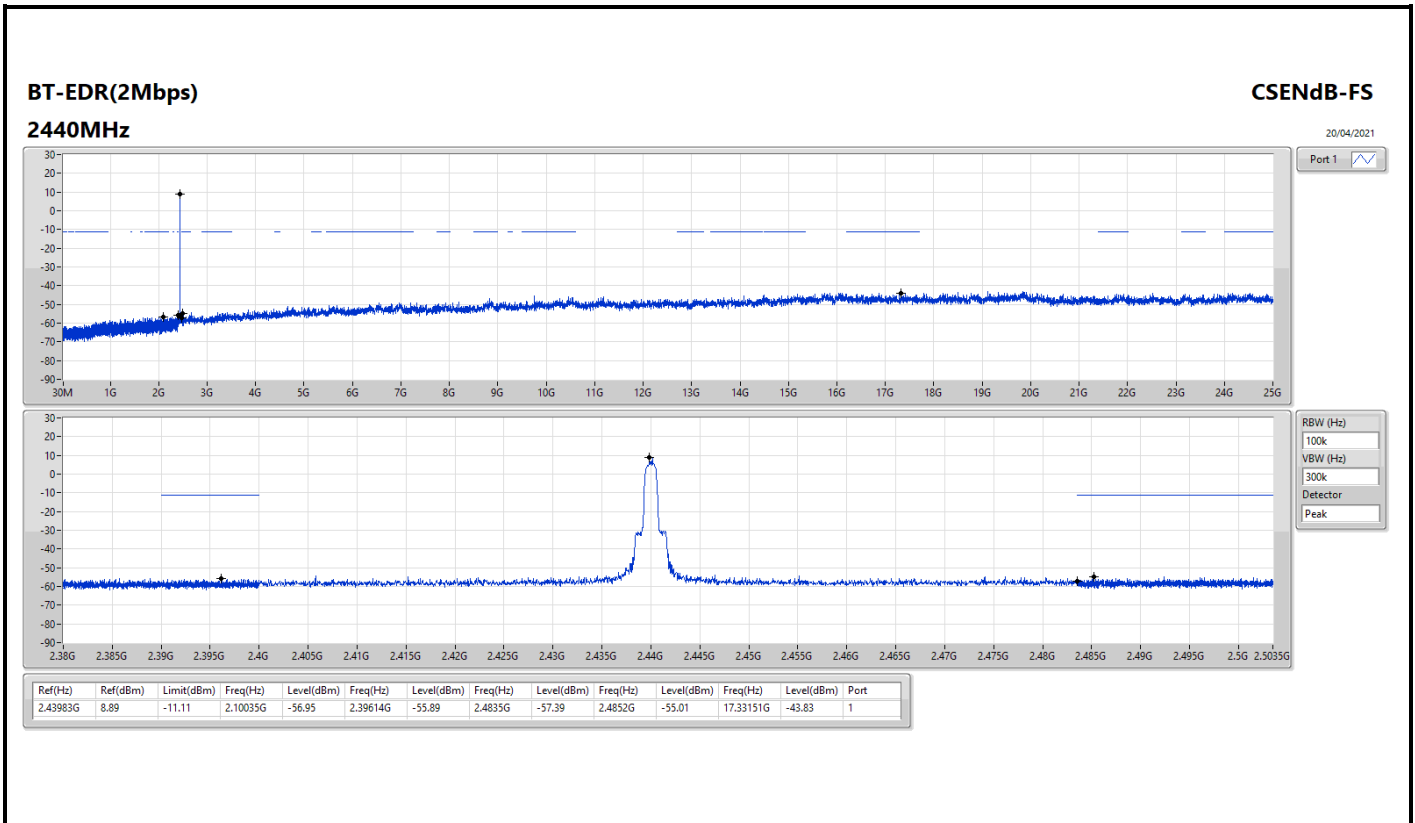


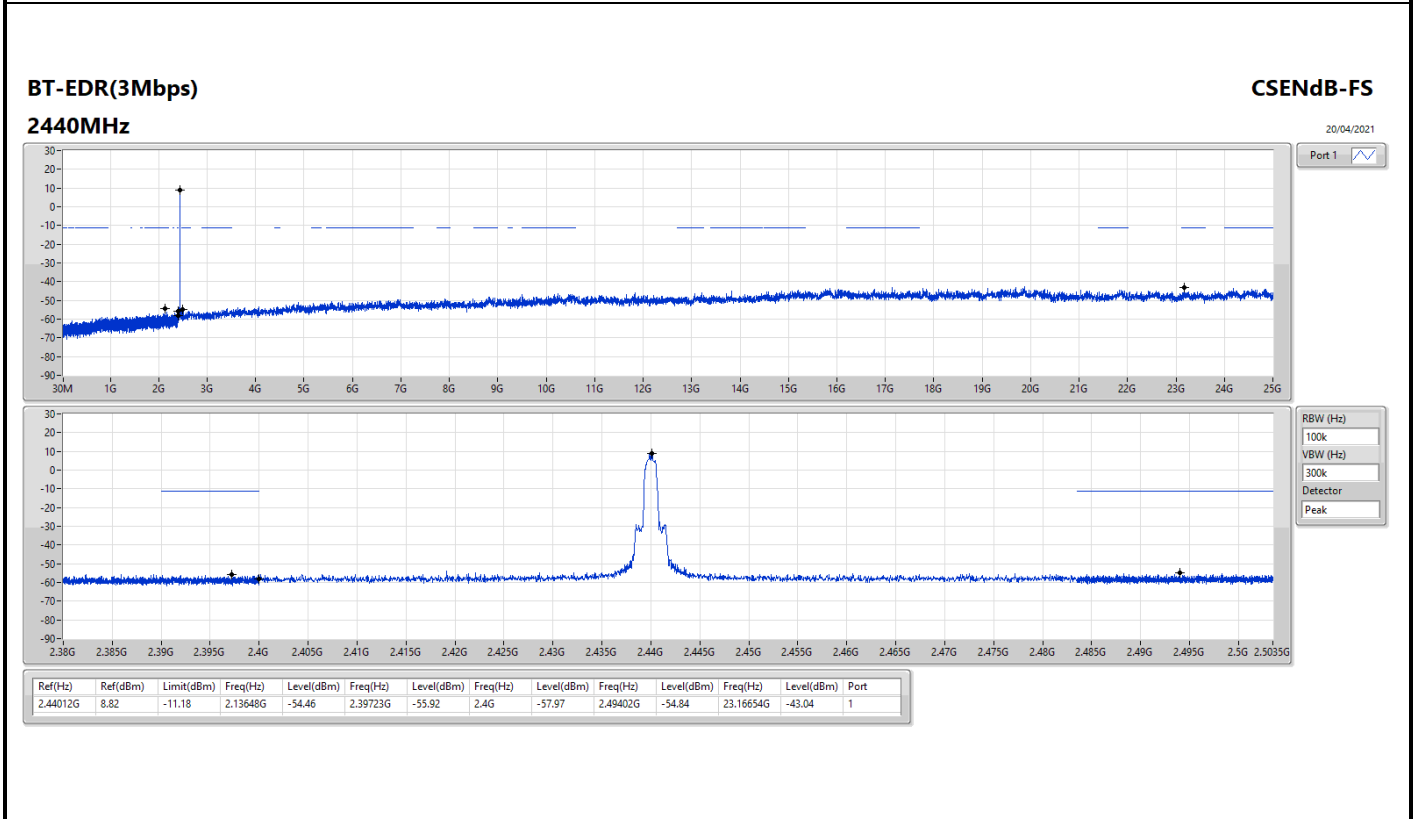
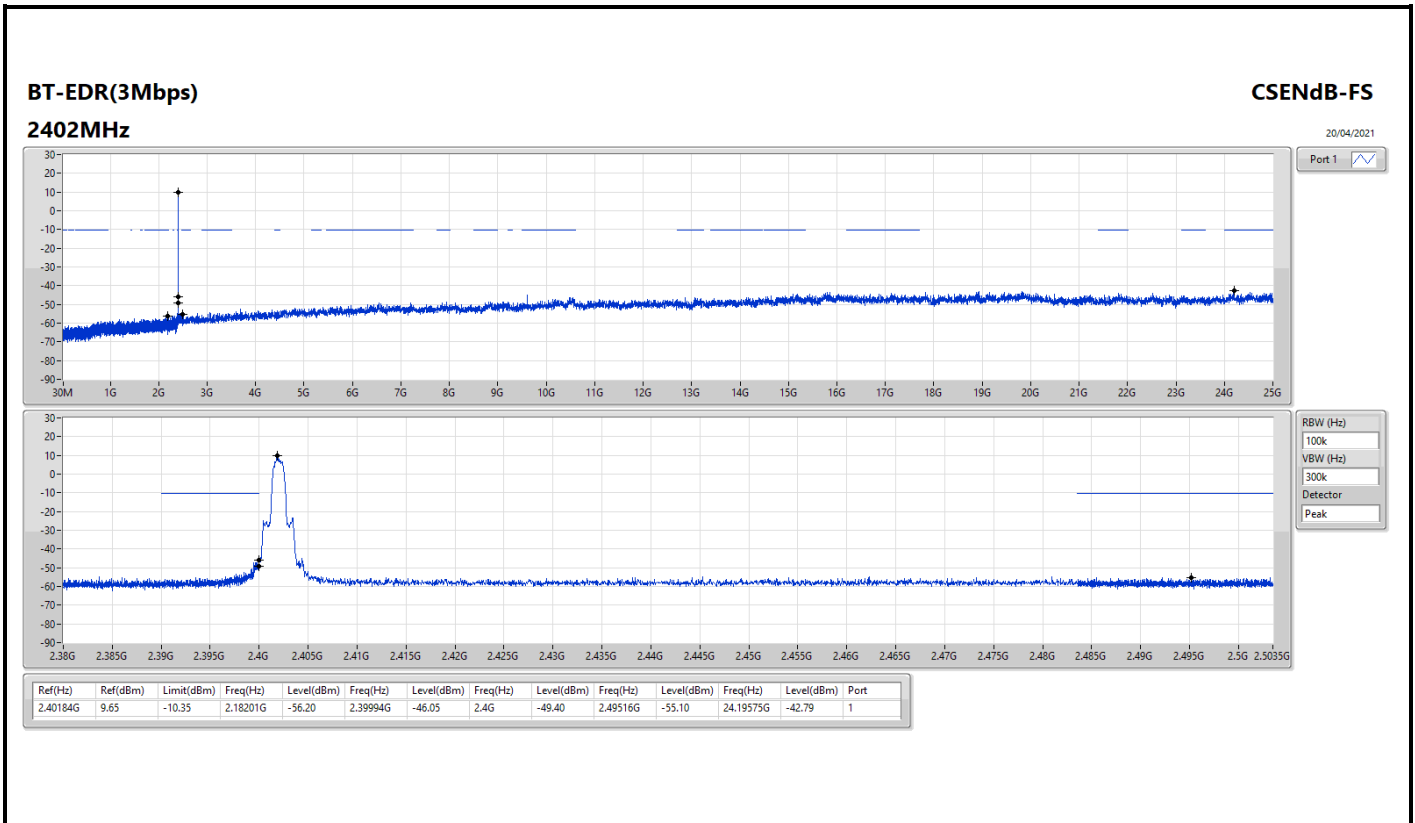
Result

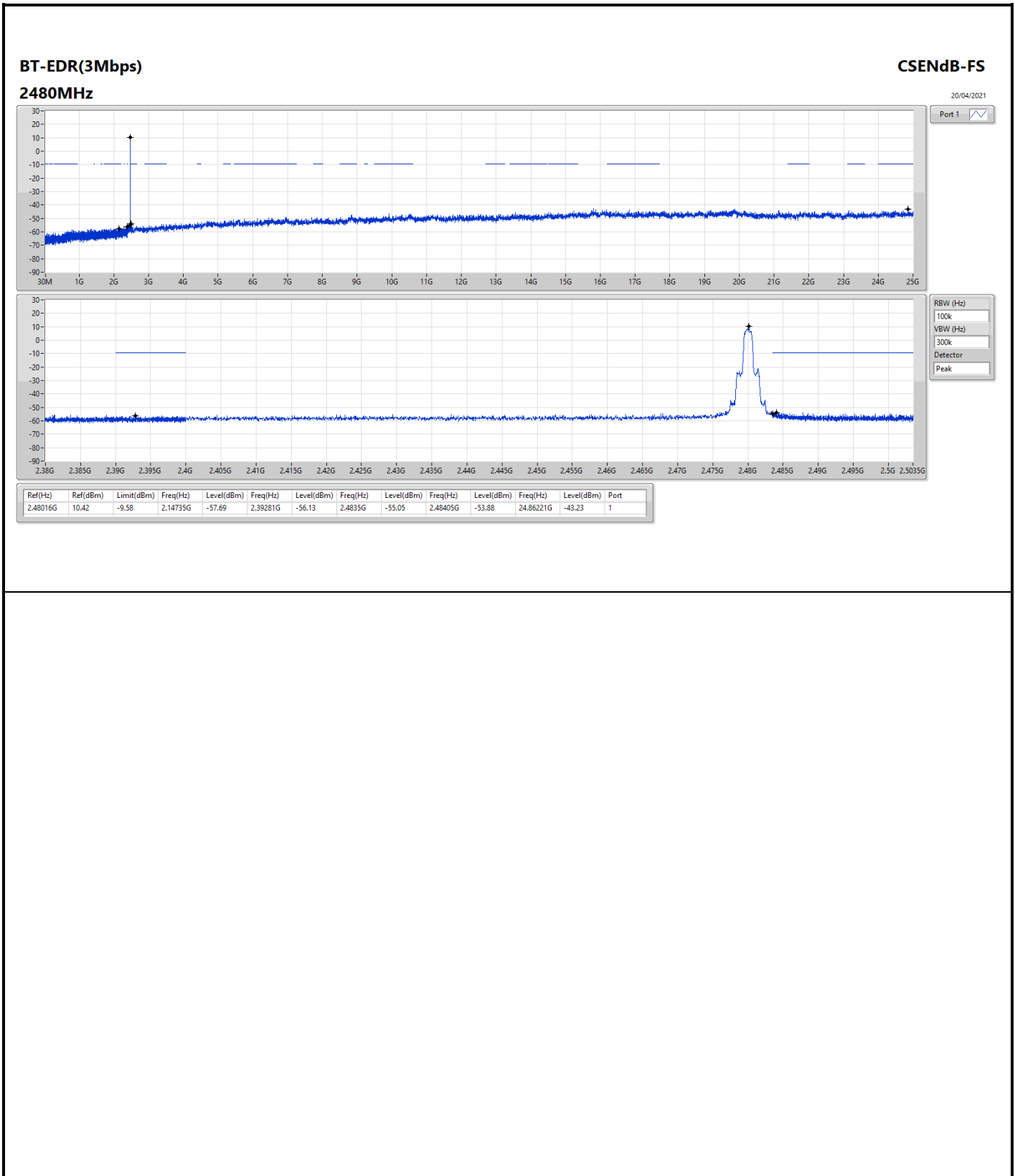
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	11.91	-8.09	2.11827G	-57.20	2.39998G	-43.17	2.4G	-43.41	2.49099G	-54.67	9.60677G	-36.94	1
2440MHz	Pass	2.44G	10.72	-9.28	2.12268G	-56.45	2.39443G	-55.74	2.4835G	-59.01	2.48997G	-54.38	9.76143G	-41.22	1
2480MHz	Pass	2.48016G	11.61	-8.39	1.96464G	-56.00	2.39998G	-55.93	2.4835G	-55.43	2.48401G	-53.63	9.91891G	-38.36	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40213G	9.83	-10.17	2.12855G	-56.32	2.39957G	-45.89	2.4G	-49.80	2.49911G	-54.47	9.60677G	-42.67	1
2440MHz	Pass	2.43983G	8.89	-11.11	2.10035G	-56.95	2.39614G	-55.89	2.4835G	-57.39	2.4852G	-55.01	17.33151G	-43.83	1
2480MHz	Pass	2.48016G	10.27	-9.73	1.87769G	-57.38	2.39554G	-55.76	2.4835G	-55.71	2.48353G	-53.96	9.91891G	-41.22	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	9.65	-10.35	2.18201G	-56.20	2.39994G	-46.05	2.4G	-49.40	2.49516G	-55.10	24.19575G	-42.79	1
2440MHz	Pass	2.44012G	8.82	-11.18	2.13648G	-54.46	2.39723G	-55.92	2.4G	-57.97	2.49402G	-54.84	23.16654G	-43.04	1
2480MHz	Pass	2.48016G	10.42	-9.58	2.14735G	-57.69	2.39281G	-56.13	2.4835G	-55.05	2.48405G	-53.88	24.86221G	-43.23	1













Summary

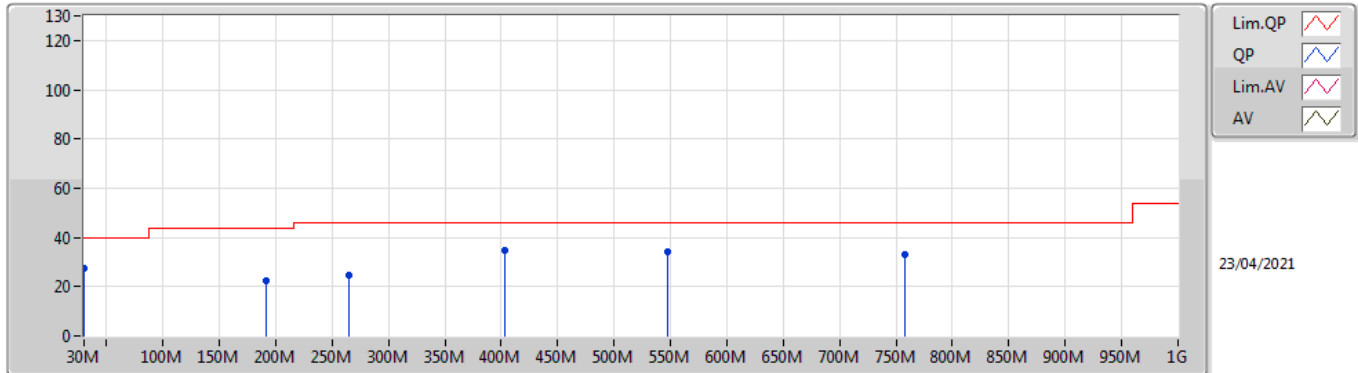
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	33.88M	31.04	40.00	-8.96	3	Horizontal	0	1.00	-



Result

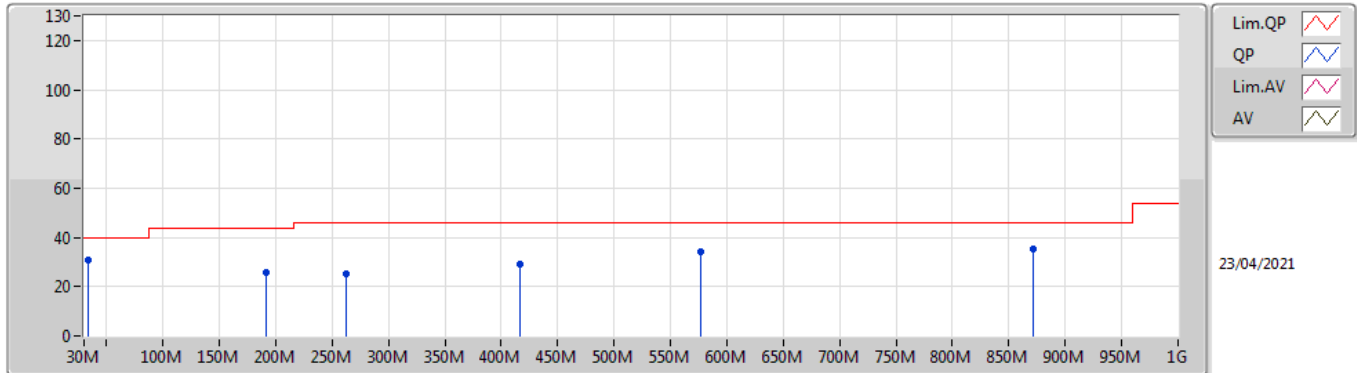
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	30M	27.57	40.00	-12.43	3	Vertical	360	1.00	-
2440MHz	Pass	PK	191.02M	22.54	43.50	-20.96	3	Vertical	360	1.00	-
2440MHz	Pass	PK	264.74M	24.57	46.00	-21.43	3	Vertical	360	1.00	-
2440MHz	Pass	PK	402.48M	34.71	46.00	-11.29	3	Vertical	360	1.00	-
2440MHz	Pass	PK	547.98M	33.94	46.00	-12.06	3	Vertical	360	1.00	-
2440MHz	Pass	PK	757.5M	33.29	46.00	-12.71	3	Vertical	360	1.00	-
2440MHz	Pass	PK	33.88M	31.04	40.00	-8.96	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	191.02M	25.68	43.50	-17.82	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	262.8M	25.09	46.00	-20.91	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	416.06M	29.14	46.00	-16.86	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	577.08M	34.10	46.00	-11.90	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	871.96M	35.23	46.00	-10.77	3	Horizontal	0	1.00	-

BT-BR(1Mbps)
2440MHz_Test Fixture



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	27.57	40.00	-12.43	-3.23	3	Vertical	360	1.00	-	30.80	23.51	0.90	27.64
PK	191.02M	22.54	43.50	-20.96	-10.35	3	Vertical	360	1.00	-	32.89	14.41	2.33	27.09
PK	264.74M	24.57	46.00	-21.43	-5.43	3	Vertical	360	1.00	-	30.00	18.57	2.74	26.74
PK	402.48M	34.71	46.00	-11.29	-2.67	3	Vertical	360	1.00	-	37.38	21.15	3.46	27.28
PK	547.98M	33.94	46.00	-12.06	0.47	3	Vertical	360	1.00	-	33.47	24.52	4.07	28.12
PK	757.5M	33.29	46.00	-12.71	2.43	3	Vertical	360	1.00	-	30.86	25.55	4.85	27.97

BT-BR(1Mbps)
2440MHz_Test Fixture



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	33.88M	31.04	40.00	-8.96	-5.32	3	Horizontal	0	1.00	-	36.36	21.33	0.97	27.62
PK	191.02M	25.68	43.50	-17.82	-10.35	3	Horizontal	0	1.00	-	36.03	14.41	2.33	27.09
PK	262.8M	25.09	46.00	-20.91	-5.28	3	Horizontal	0	1.00	-	30.37	18.73	2.73	26.74
PK	416.06M	29.14	46.00	-16.86	-2.14	3	Horizontal	0	1.00	-	31.28	21.75	3.52	27.41
PK	577.08M	34.10	46.00	-11.90	0.18	3	Horizontal	0	1.00	-	33.92	24.02	4.25	28.09
PK	871.96M	35.23	46.00	-10.77	3.62	3	Horizontal	0	1.00	-	31.61	26.06	5.22	27.66



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	PK	2.4872G	60.57	74.00	-13.43	3	Horizontal	324	1.00	-
BT-EDR(3Mbps)	Pass	PK	2.4936G	60.80	74.00	-13.20	3	Vertical	324	2.17	-



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	2.3764G	37.65	54.00	-16.35	3	Vertical	344	1.78	-
2402MHz	Pass	AV	2.402G	77.43	Inf	-Inf	3	Vertical	344	1.78	-
2402MHz	Pass	PK	2.3764G	60.15	74.00	-13.85	3	Vertical	344	1.78	-
2402MHz	Pass	PK	2.402G	99.93	Inf	-Inf	3	Vertical	344	1.78	-
2402MHz	Pass	AV	2.3562G	37.83	54.00	-16.17	3	Horizontal	313	1.00	-
2402MHz	Pass	AV	2.402G	84.87	Inf	-Inf	3	Horizontal	313	1.00	-
2402MHz	Pass	PK	2.3562G	60.33	74.00	-13.67	3	Horizontal	313	1.00	-
2402MHz	Pass	PK	2.402G	107.37	Inf	-Inf	3	Horizontal	313	1.00	-
2402MHz	Pass	AV	4.80438G	23.98	54.00	-30.02	3	Vertical	350	1.50	-
2402MHz	Pass	PK	4.80438G	46.48	74.00	-27.52	3	Vertical	350	1.50	-
2402MHz	Pass	AV	4.80392G	24.64	54.00	-29.36	3	Horizontal	45	2.28	-
2402MHz	Pass	PK	4.80433G	47.14	74.00	-26.86	3	Horizontal	45	2.28	-
2440MHz	Pass	AV	2.3676G	36.56	54.00	-17.44	3	Vertical	342	1.75	-
2440MHz	Pass	AV	2.44G	75.17	Inf	-Inf	3	Vertical	342	1.75	-
2440MHz	Pass	AV	2.4988G	37.03	54.00	-16.97	3	Vertical	342	1.75	-
2440MHz	Pass	PK	2.3676G	59.06	74.00	-14.94	3	Vertical	342	1.75	-
2440MHz	Pass	PK	2.44G	97.67	Inf	-Inf	3	Vertical	342	1.75	-
2440MHz	Pass	PK	2.4988G	59.53	74.00	-14.47	3	Vertical	342	1.75	-
2440MHz	Pass	AV	2.35G	36.52	54.00	-17.48	3	Horizontal	324	1.00	-
2440MHz	Pass	AV	2.44G	82.98	Inf	-Inf	3	Horizontal	324	1.00	-
2440MHz	Pass	AV	2.4964G	37.76	54.00	-16.24	3	Horizontal	324	1.00	-
2440MHz	Pass	PK	2.35G	59.02	74.00	-14.98	3	Horizontal	324	1.00	-
2440MHz	Pass	PK	2.44G	105.48	Inf	-Inf	3	Horizontal	324	1.00	-
2440MHz	Pass	PK	2.4964G	60.26	74.00	-13.74	3	Horizontal	324	1.00	-
2440MHz	Pass	AV	4.88003G	22.02	54.00	-31.98	3	Vertical	315	1.50	-
2440MHz	Pass	AV	7.31988G	31.11	54.00	-22.89	3	Vertical	0	1.66	-
2440MHz	Pass	PK	4.88003G	44.52	74.00	-29.48	3	Vertical	315	1.50	-
2440MHz	Pass	PK	7.32027G	53.61	74.00	-20.39	3	Vertical	0	1.66	-
2440MHz	Pass	AV	4.87995G	26.20	54.00	-27.80	3	Horizontal	10	2.29	-
2440MHz	Pass	AV	7.31954G	31.85	54.00	-22.15	3	Horizontal	177	1.88	-
2440MHz	Pass	PK	4.8799G	48.70	74.00	-25.30	3	Horizontal	10	2.29	-
2440MHz	Pass	PK	7.31954G	54.35	74.00	-19.65	3	Horizontal	177	1.88	-
2480MHz	Pass	AV	2.48G	77.77	Inf	-Inf	3	Vertical	326	2.16	-
2480MHz	Pass	AV	2.4974G	37.55	54.00	-16.45	3	Vertical	326	2.16	-
2480MHz	Pass	PK	2.48G	100.27	Inf	-Inf	3	Vertical	326	2.16	-
2480MHz	Pass	PK	2.4974G	60.05	74.00	-13.95	3	Vertical	326	2.16	-
2480MHz	Pass	AV	2.48G	84.57	Inf	-Inf	3	Horizontal	324	1.00	-
2480MHz	Pass	AV	2.4872G	38.07	54.00	-15.93	3	Horizontal	324	1.00	-
2480MHz	Pass	PK	2.48G	107.07	Inf	-Inf	3	Horizontal	324	1.00	-
2480MHz	Pass	PK	2.4872G	60.57	74.00	-13.43	3	Horizontal	324	1.00	-
2480MHz	Pass	AV	4.9599G	25.90	54.00	-28.10	3	Vertical	40	1.00	-
2480MHz	Pass	AV	7.4405G	33.94	54.00	-20.06	3	Vertical	10	1.63	-
2480MHz	Pass	PK	4.95972G	48.40	74.00	-25.60	3	Vertical	40	1.00	-
2480MHz	Pass	PK	7.4405G	56.44	74.00	-17.56	3	Vertical	10	1.63	-
2480MHz	Pass	AV	4.96002G	28.12	54.00	-25.88	3	Horizontal	37	2.22	-
2480MHz	Pass	AV	7.43959G	33.12	54.00	-20.88	3	Horizontal	184	1.78	-
2480MHz	Pass	PK	4.96025G	50.62	74.00	-23.38	3	Horizontal	37	2.22	-
2480MHz	Pass	PK	7.43959G	55.62	74.00	-18.38	3	Horizontal	184	1.78	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3672G	36.64	54.00	-17.36	3	Vertical	356	1.54	-
2402MHz	Pass	AV	2.402G	75.97	Inf	-Inf	3	Vertical	356	1.54	-
2402MHz	Pass	PK	2.3672G	59.14	74.00	-14.86	3	Vertical	356	1.54	-
2402MHz	Pass	PK	2.402G	98.47	Inf	-Inf	3	Vertical	356	1.54	-
2402MHz	Pass	AV	2.3858G	36.66	54.00	-17.34	3	Horizontal	325	1.20	-
2402MHz	Pass	AV	2.402G	83.36	Inf	-Inf	3	Horizontal	325	1.20	-
2402MHz	Pass	PK	2.3858G	59.16	74.00	-14.84	3	Horizontal	325	1.20	-
2402MHz	Pass	PK	2.402G	105.86	Inf	-Inf	3	Horizontal	325	1.20	-
2402MHz	Pass	AV	4.80375G	22.97	54.00	-31.03	3	Vertical	360	1.61	-
2402MHz	Pass	PK	4.80508G	45.47	74.00	-28.53	3	Vertical	360	1.61	-
2402MHz	Pass	AV	4.80383G	23.98	54.00	-30.02	3	Horizontal	45	2.18	-



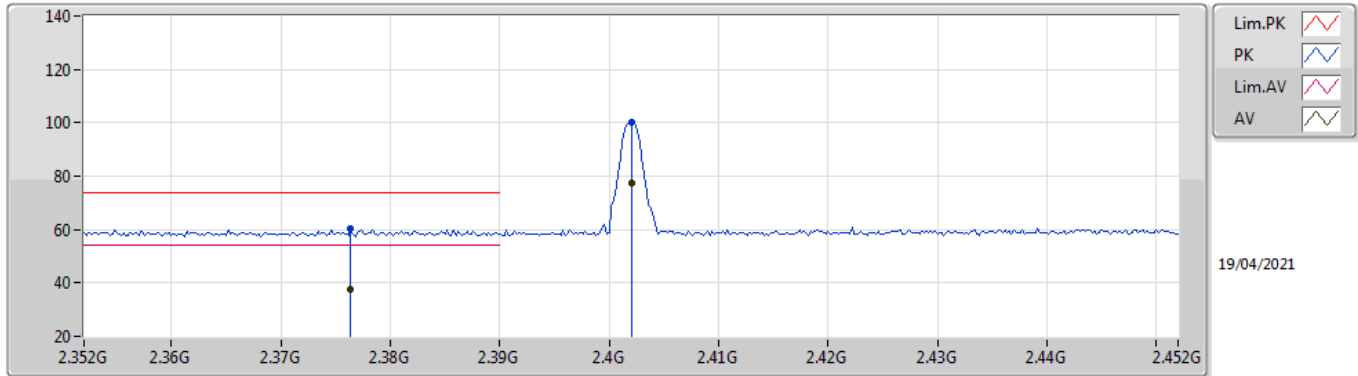
RSE TX above 1GHz

Appendix G.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2402MHz	Pass	PK	4.80437G	46.48	74.00	-27.52	3	Horizontal	45	2.18	-
2440MHz	Pass	AV	2.3532G	36.77	54.00	-17.23	3	Vertical	353	2.39	-
2440MHz	Pass	AV	2.44G	74.00	Inf	-Inf	3	Vertical	353	2.39	-
2440MHz	Pass	AV	2.4876G	38.08	54.00	-15.92	3	Vertical	353	2.39	-
2440MHz	Pass	PK	2.3532G	59.27	74.00	-14.73	3	Vertical	353	2.39	-
2440MHz	Pass	PK	2.44G	96.50	Inf	-Inf	3	Vertical	353	2.39	-
2440MHz	Pass	PK	2.4876G	60.58	74.00	-13.42	3	Vertical	353	2.39	-
2440MHz	Pass	AV	2.386G	37.16	54.00	-16.84	3	Horizontal	325	1.00	-
2440MHz	Pass	AV	2.44G	81.57	Inf	-Inf	3	Horizontal	325	1.00	-
2440MHz	Pass	AV	2.4944G	37.08	54.00	-16.92	3	Horizontal	325	1.00	-
2440MHz	Pass	PK	2.386G	59.66	74.00	-14.34	3	Horizontal	325	1.00	-
2440MHz	Pass	PK	2.44G	104.07	Inf	-Inf	3	Horizontal	325	1.00	-
2440MHz	Pass	PK	2.4944G	59.58	74.00	-14.42	3	Horizontal	325	1.00	-
2440MHz	Pass	AV	4.88103G	24.02	54.00	-29.98	3	Vertical	103	1.08	-
2440MHz	Pass	AV	7.31965G	29.13	54.00	-24.87	3	Vertical	268	2.19	-
2440MHz	Pass	PK	4.87901G	46.52	74.00	-27.48	3	Vertical	103	1.08	-
2440MHz	Pass	PK	7.31945G	51.63	74.00	-22.37	3	Vertical	268	2.19	-
2440MHz	Pass	AV	4.88001G	24.19	54.00	-29.81	3	Horizontal	177	2.44	-
2440MHz	Pass	AV	7.31968G	29.19	54.00	-24.81	3	Horizontal	112	2.57	-
2440MHz	Pass	PK	4.88024G	46.69	74.00	-27.31	3	Horizontal	177	2.44	-
2440MHz	Pass	PK	7.32145G	51.69	74.00	-22.31	3	Horizontal	112	2.57	-
2480MHz	Pass	AV	2.48G	75.89	Inf	-Inf	3	Vertical	324	2.17	-
2480MHz	Pass	AV	2.4936G	38.30	54.00	-15.70	3	Vertical	324	2.17	-
2480MHz	Pass	PK	2.48G	98.39	Inf	-Inf	3	Vertical	324	2.17	-
2480MHz	Pass	PK	2.4936G	60.80	74.00	-13.20	3	Vertical	324	2.17	-
2480MHz	Pass	AV	2.48G	82.61	Inf	-Inf	3	Horizontal	324	1.00	-
2480MHz	Pass	AV	2.4836G	38.13	54.00	-15.87	3	Horizontal	324	1.00	-
2480MHz	Pass	PK	2.48G	105.11	Inf	-Inf	3	Horizontal	324	1.00	-
2480MHz	Pass	PK	2.4836G	60.63	74.00	-13.37	3	Horizontal	324	1.00	-
2480MHz	Pass	AV	4.9576G	23.97	54.00	-30.03	3	Vertical	105	1.36	-
2480MHz	Pass	AV	7.43973G	29.00	54.00	-25.00	3	Vertical	58	1.31	-
2480MHz	Pass	PK	4.9619G	46.47	74.00	-27.53	3	Vertical	105	1.36	-
2480MHz	Pass	PK	7.44084G	51.50	74.00	-22.50	3	Vertical	58	1.31	-
2480MHz	Pass	AV	4.95987G	27.35	54.00	-26.65	3	Horizontal	37	2.22	-
2480MHz	Pass	AV	7.43967G	29.19	54.00	-24.81	3	Horizontal	187	2.32	-
2480MHz	Pass	PK	4.95963G	49.85	74.00	-24.15	3	Horizontal	37	2.22	-
2480MHz	Pass	PK	7.43867G	51.69	74.00	-22.31	3	Horizontal	187	2.32	-

BT-BR(1Mbps)

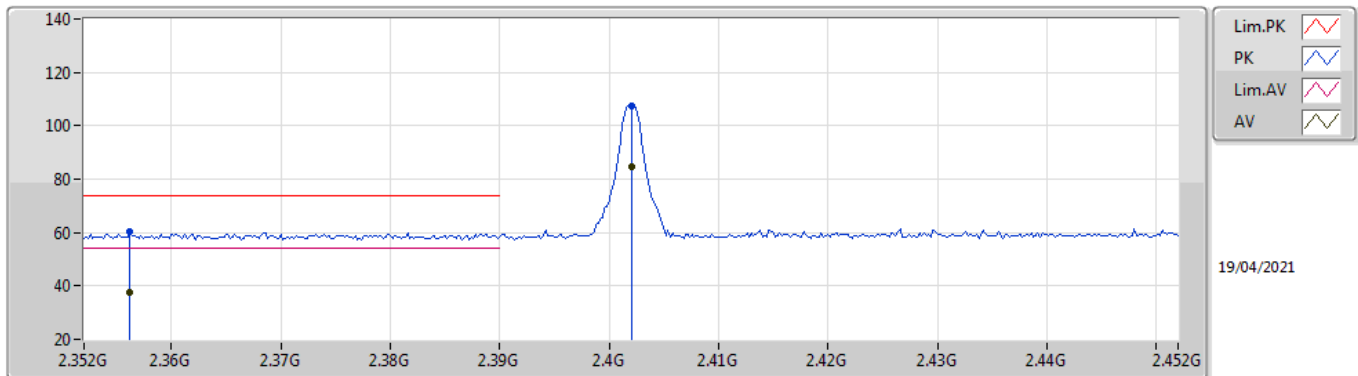
2402MHz_TX



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	2.3764G	37.65	54.00	-16.35	31.97	3	Vertical	344	1.78	-	5.68	27.69	4.28	-
AV	2.402G	77.43	Inf	-Inf	31.90	3	Vertical	344	1.78	-	45.53	27.60	4.30	-
PK	2.3764G	60.15	74.00	-13.85	31.97	3	Vertical	344	1.78	-	28.18	27.69	4.28	-
PK	2.402G	99.93	Inf	-Inf	31.90	3	Vertical	344	1.78	-	68.03	27.60	4.30	-

BT-BR(1Mbps)

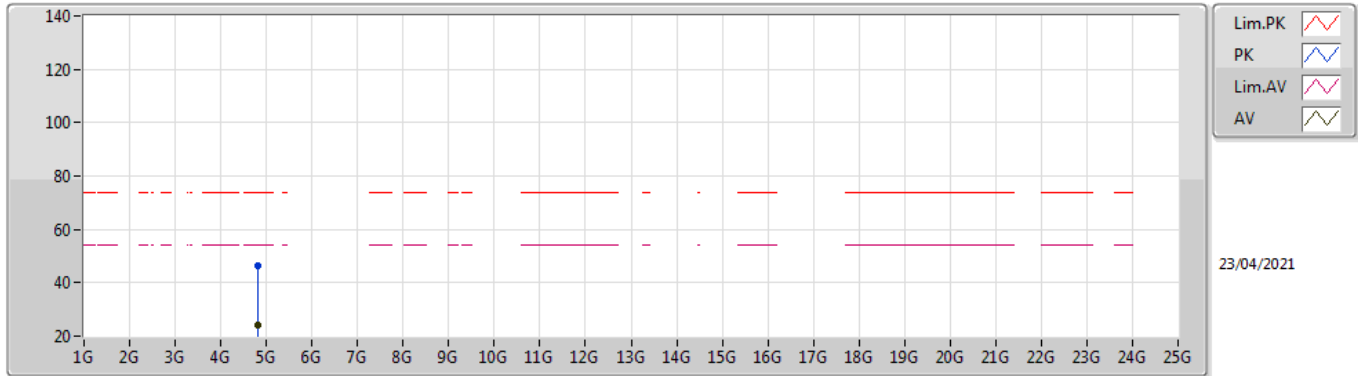
2402MHz_TX



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	2.3562G	37.83	54.00	-16.17	32.04	3	Horizontal	313	1.00	-	5.79	27.78	4.26	-
AV	2.402G	84.87	Inf	-Inf	31.90	3	Horizontal	313	1.00	-	52.97	27.60	4.30	-
PK	2.3562G	60.33	74.00	-13.67	32.04	3	Horizontal	313	1.00	-	28.29	27.78	4.26	-
PK	2.402G	107.37	Inf	-Inf	31.90	3	Horizontal	313	1.00	-	75.47	27.60	4.30	-

BT-BR(1Mbps)

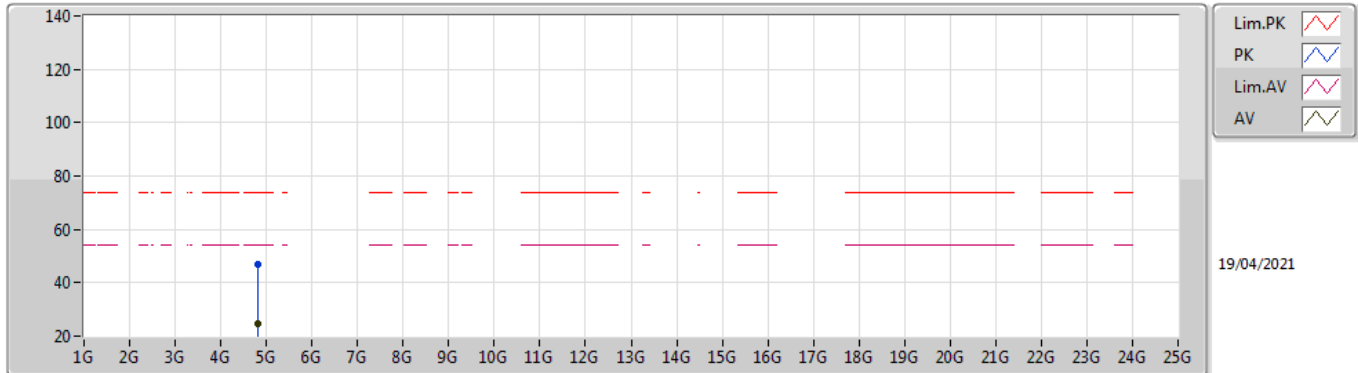
2402MHz_TX



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	4.80438G	23.98	54.00	-30.02	8.38	3	Vertical	350	1.50	-	15.60	31.11	6.50	29.23
PK	4.80438G	46.48	74.00	-27.52	8.38	3	Vertical	350	1.50	-	38.10	31.11	6.50	29.23

BT-BR(1Mbps)

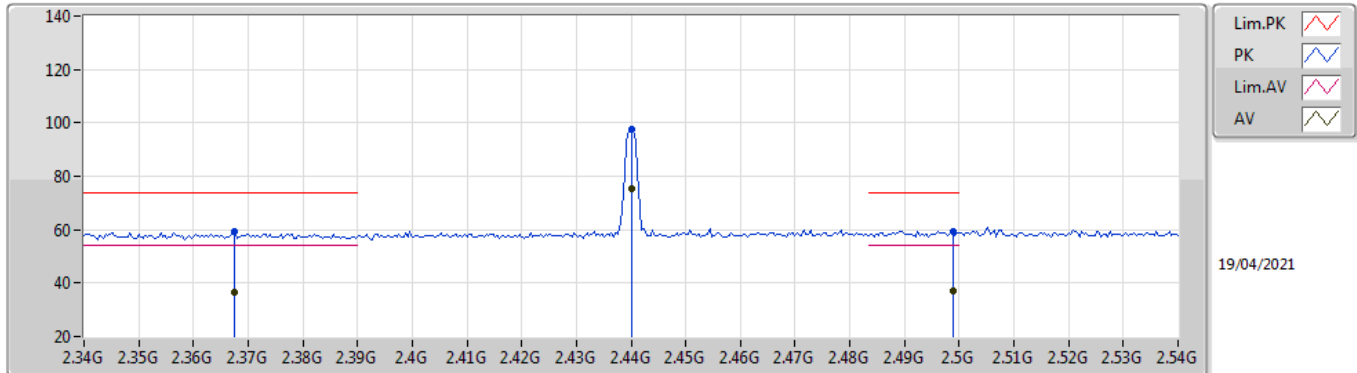
2402MHz_TX



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	4.80392G	24.64	54.00	-29.36	8.38	3	Horizontal	45	2.28	-	16.26	31.11	6.50	29.23
PK	4.80433G	47.14	74.00	-26.86	8.38	3	Horizontal	45	2.28	-	38.76	31.11	6.50	29.23

BT-BR(1Mbps)

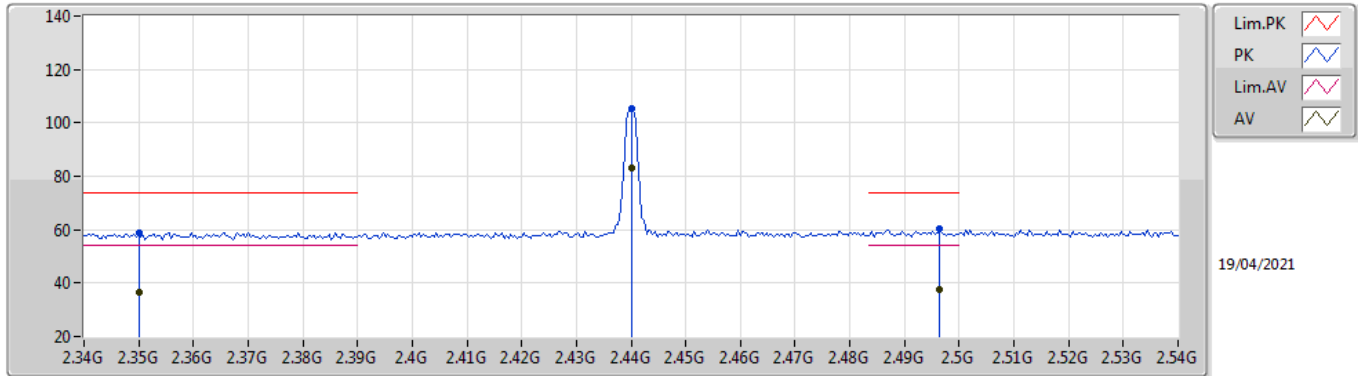
2440MHz_TX



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	2.3676G	36.56	54.00	-17.44	32.00	3	Vertical	342	1.75	-	4.56	27.73	4.27	-
AV	2.44G	75.17	Inf	-Inf	31.94	3	Vertical	342	1.75	-	43.23	27.60	4.34	-
AV	2.4988G	37.03	54.00	-16.97	32.10	3	Vertical	342	1.75	-	4.93	27.70	4.40	-
PK	2.3676G	59.06	74.00	-14.94	32.00	3	Vertical	342	1.75	-	27.06	27.73	4.27	-
PK	2.44G	97.67	Inf	-Inf	31.94	3	Vertical	342	1.75	-	65.73	27.60	4.34	-
PK	2.4988G	59.53	74.00	-14.47	32.10	3	Vertical	342	1.75	-	27.43	27.70	4.40	-

BT-BR(1Mbps)

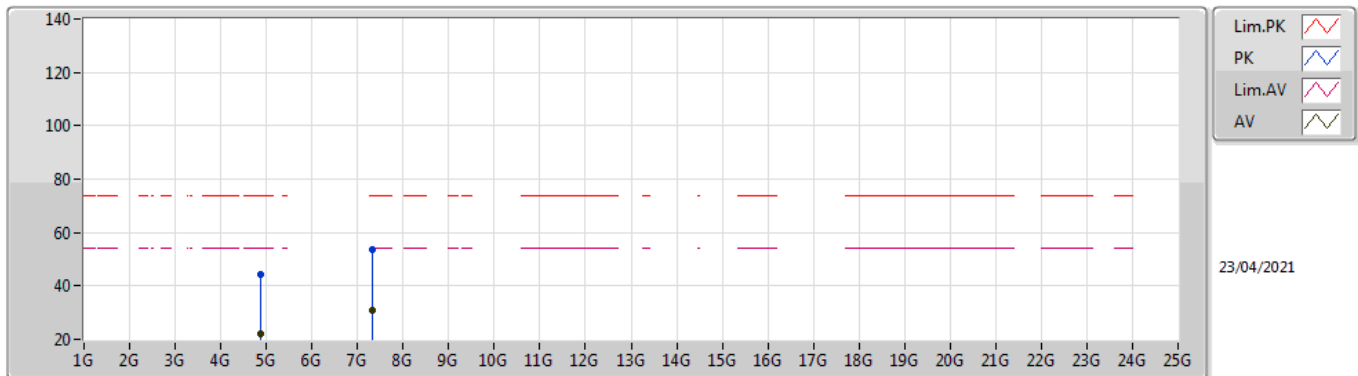
2440MHz_TX



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	2.35G	36.52	54.00	-17.48	32.05	3	Horizontal	324	1.00	-	4.47	27.80	4.25	-
AV	2.44G	82.98	Inf	-Inf	31.94	3	Horizontal	324	1.00	-	51.04	27.60	4.34	-
AV	2.4964G	37.76	54.00	-16.24	32.09	3	Horizontal	324	1.00	-	5.67	27.69	4.40	-
PK	2.35G	59.02	74.00	-14.98	32.05	3	Horizontal	324	1.00	-	26.97	27.80	4.25	-
PK	2.44G	105.48	Inf	-Inf	31.94	3	Horizontal	324	1.00	-	73.54	27.60	4.34	-
PK	2.4964G	60.26	74.00	-13.74	32.09	3	Horizontal	324	1.00	-	28.17	27.69	4.40	-

BT-BR(1Mbps)

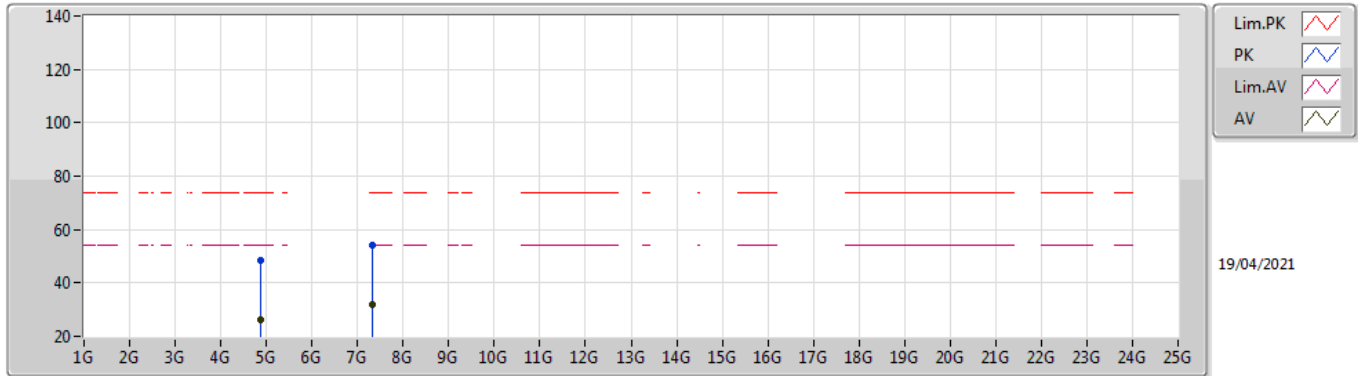
2440MHz_TX



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	4.88003G	22.02	54.00	-31.98	8.57	3	Vertical	315	1.50	-	13.45	31.20	6.58	29.21
AV	7.31988G	31.11	54.00	-22.89	13.69	3	Vertical	0	1.66	-	17.42	36.26	7.60	30.17
PK	4.88003G	44.52	74.00	-29.48	8.57	3	Vertical	315	1.50	-	35.95	31.20	6.58	29.21
PK	7.32027G	53.61	74.00	-20.39	13.69	3	Vertical	0	1.66	-	39.92	36.26	7.60	30.17

BT-BR(1Mbps)

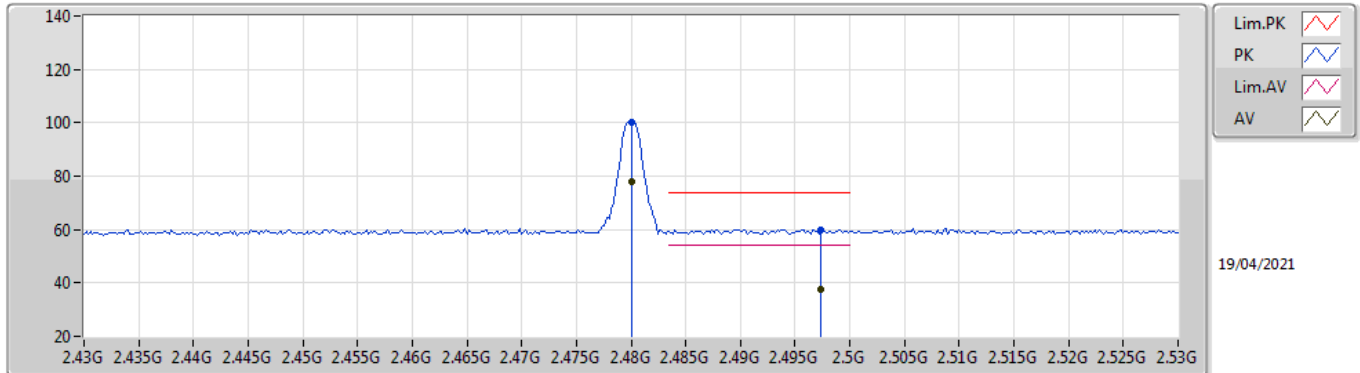
2440MHz_TX



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	4.87995G	26.20	54.00	-27.80	8.57	3	Horizontal	10	2.29	-	17.63	31.20	6.58	29.21
AV	7.31954G	31.85	54.00	-22.15	13.69	3	Horizontal	177	1.88	-	18.16	36.26	7.60	30.17
PK	4.8799G	48.70	74.00	-25.30	8.57	3	Horizontal	10	2.29	-	40.13	31.20	6.58	29.21
PK	7.31954G	54.35	74.00	-19.65	13.69	3	Horizontal	177	1.88	-	40.66	36.26	7.60	30.17

BT-BR(1Mbps)

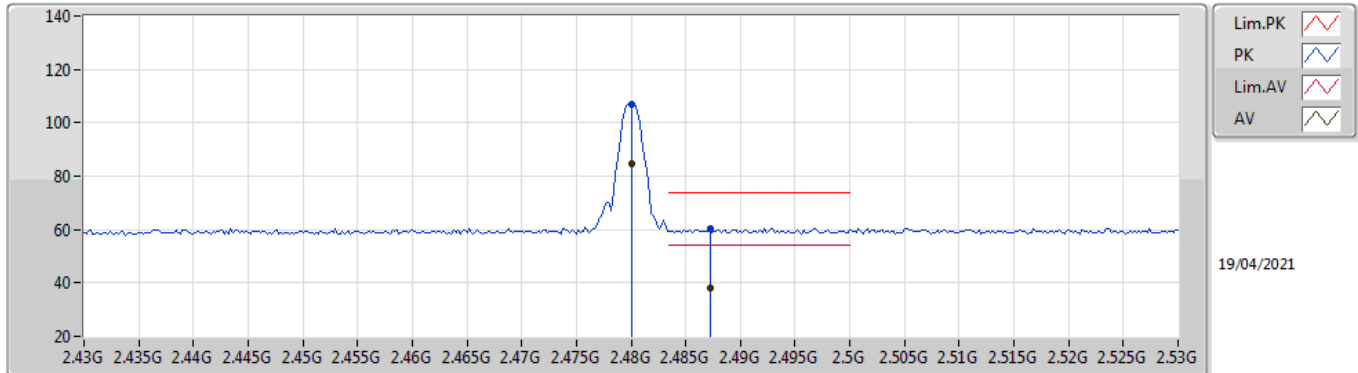
2480MHz_TX



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	2.48G	77.77	Inf	-Inf	32.04	3	Vertical	326	2.16	-	45.73	27.66	4.38	-
AV	2.4974G	37.55	54.00	-16.45	32.09	3	Vertical	326	2.16	-	5.46	27.69	4.40	-
PK	2.48G	100.27	Inf	-Inf	32.04	3	Vertical	326	2.16	-	68.23	27.66	4.38	-
PK	2.4974G	60.05	74.00	-13.95	32.09	3	Vertical	326	2.16	-	27.96	27.69	4.40	-

BT-BR(1Mbps)

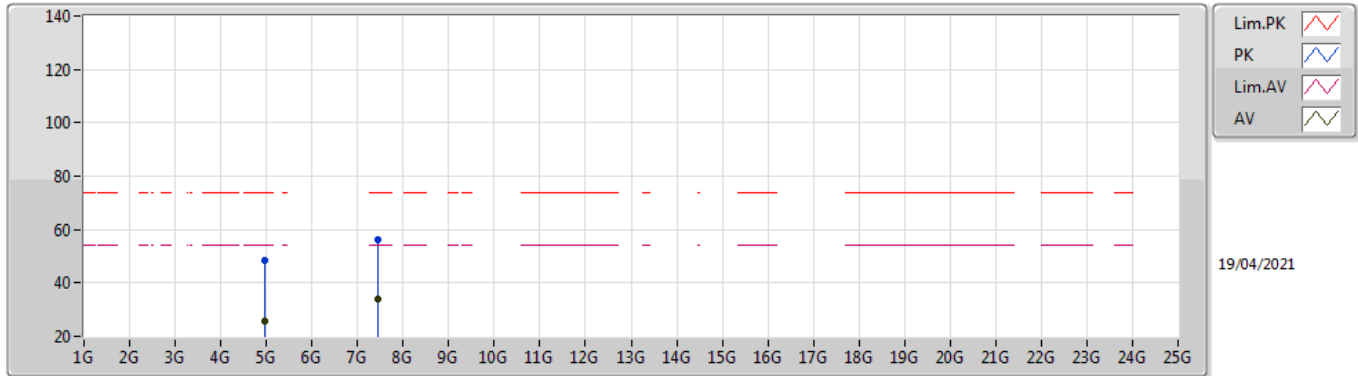
2480MHz_TX



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	2.48G	84.57	Inf	-Inf	32.04	3	Horizontal	324	1.00	-	52.53	27.66	4.38	-
AV	2.4872G	38.07	54.00	-15.93	32.06	3	Horizontal	324	1.00	-	6.01	27.67	4.39	-
PK	2.48G	107.07	Inf	-Inf	32.04	3	Horizontal	324	1.00	-	75.03	27.66	4.38	-
PK	2.4872G	60.57	74.00	-13.43	32.06	3	Horizontal	324	1.00	-	28.51	27.67	4.39	-

BT-BR(1Mbps)

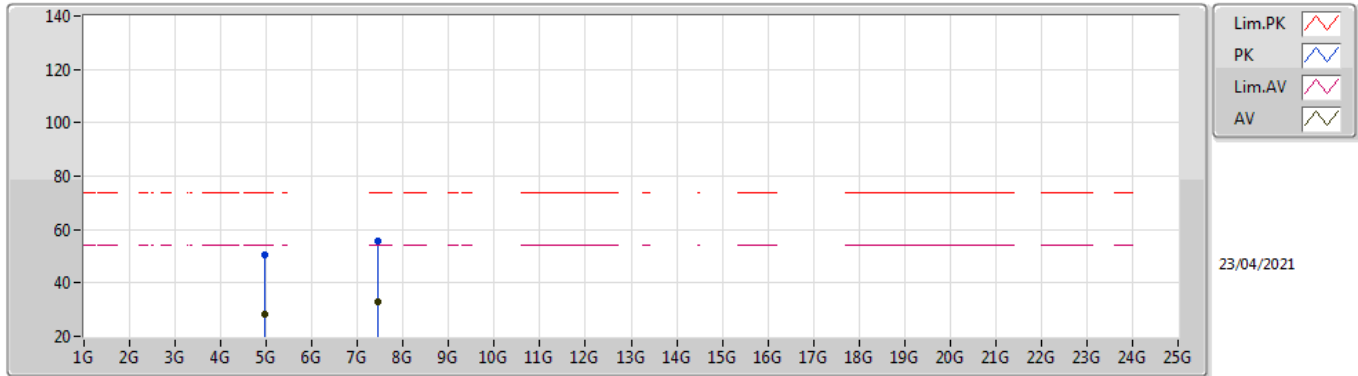
2480MHz_TX



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	25.90	54.00	-28.10	8.82	3	Vertical	40	1.00	-	17.08	31.34	6.66	29.18
AV	7.4405G	33.94	54.00	-20.06	13.64	3	Vertical	10	1.63	-	20.30	36.26	7.64	30.26
PK	4.95972G	48.40	74.00	-25.60	8.82	3	Vertical	40	1.00	-	39.58	31.34	6.66	29.18
PK	7.4405G	56.44	74.00	-17.56	13.64	3	Vertical	10	1.63	-	42.80	36.26	7.64	30.26

BT-BR(1Mbps)

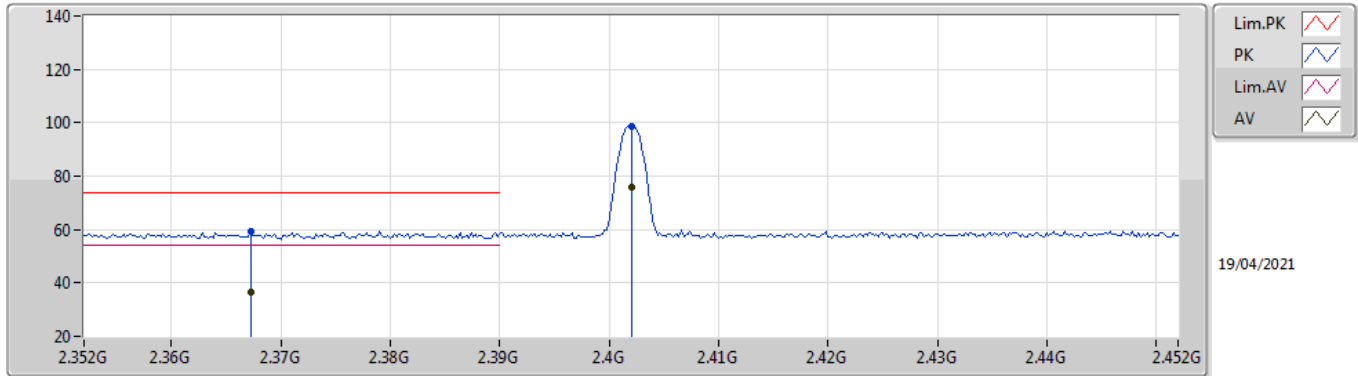
2480MHz_TX



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	4.96002G	28.12	54.00	-25.88	8.82	3	Horizontal	37	2.22	-	19.30	31.34	6.66	29.18
AV	7.43959G	33.12	54.00	-20.88	13.64	3	Horizontal	184	1.78	-	19.48	36.26	7.64	30.26
PK	4.96025G	50.62	74.00	-23.38	8.82	3	Horizontal	37	2.22	-	41.80	31.34	6.66	29.18
PK	7.43959G	55.62	74.00	-18.38	13.64	3	Horizontal	184	1.78	-	41.98	36.26	7.64	30.26

BT-EDR(3Mbps)

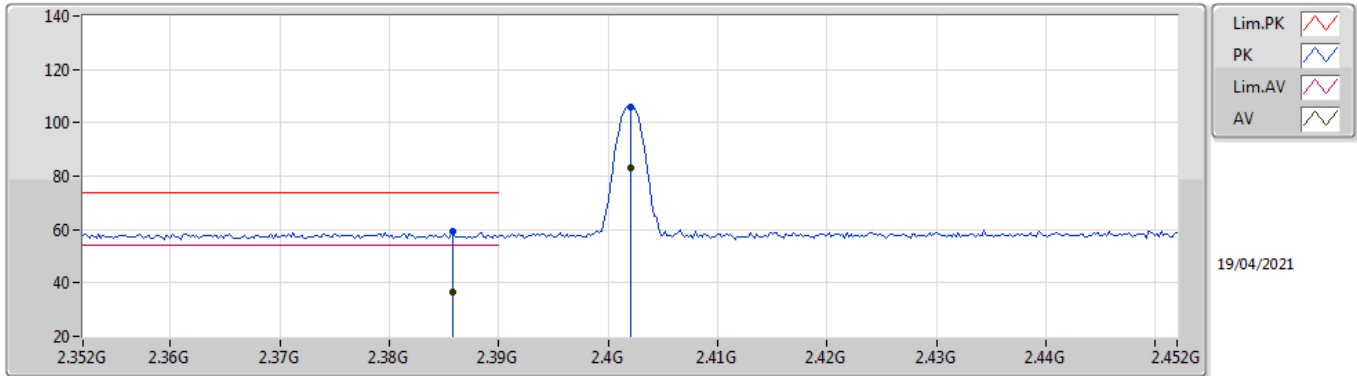
2402MHz_TX



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	2.3672G	36.64	54.00	-17.36	32.00	3	Vertical	356	1.54	-	4.64	27.73	4.27	-
AV	2.402G	75.97	Inf	-Inf	31.90	3	Vertical	356	1.54	-	44.07	27.60	4.30	-
PK	2.3672G	59.14	74.00	-14.86	32.00	3	Vertical	356	1.54	-	27.14	27.73	4.27	-
PK	2.402G	98.47	Inf	-Inf	31.90	3	Vertical	356	1.54	-	66.57	27.60	4.30	-

BT-EDR(3Mbps)

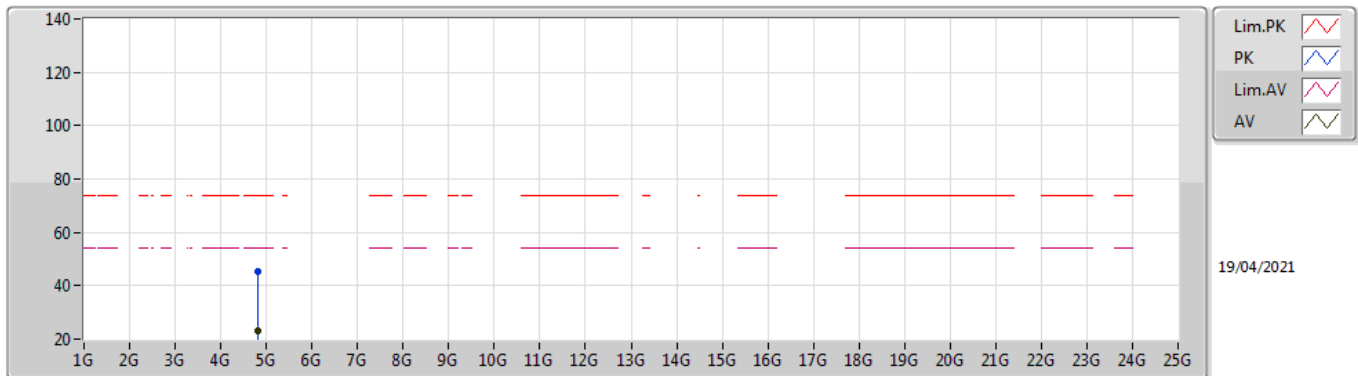
2402MHz_TX



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	2.3858G	36.66	54.00	-17.34	31.95	3	Horizontal	325	1.20	-	4.71	27.66	4.29	-
AV	2.402G	83.36	Inf	-Inf	31.90	3	Horizontal	325	1.20	-	51.46	27.60	4.30	-
PK	2.3858G	59.16	74.00	-14.84	31.95	3	Horizontal	325	1.20	-	27.21	27.66	4.29	-
PK	2.402G	105.86	Inf	-Inf	31.90	3	Horizontal	325	1.20	-	73.96	27.60	4.30	-

BT-EDR(3Mbps)

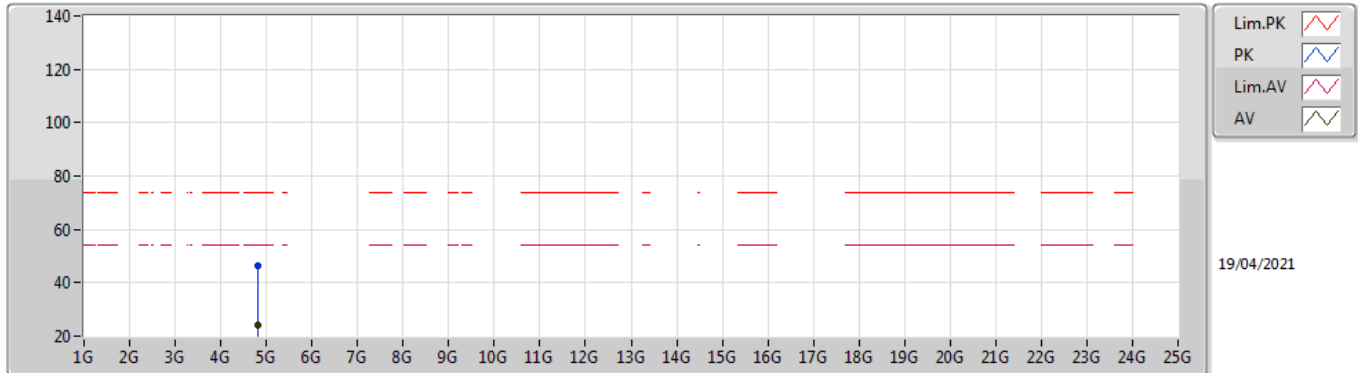
2402MHz_TX



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	4.80375G	22.97	54.00	-31.03	8.38	3	Vertical	360	1.61	-	14.59	31.11	6.50	29.23
PK	4.80508G	45.47	74.00	-28.53	8.39	3	Vertical	360	1.61	-	37.08	31.11	6.51	29.23

BT-EDR(3Mbps)

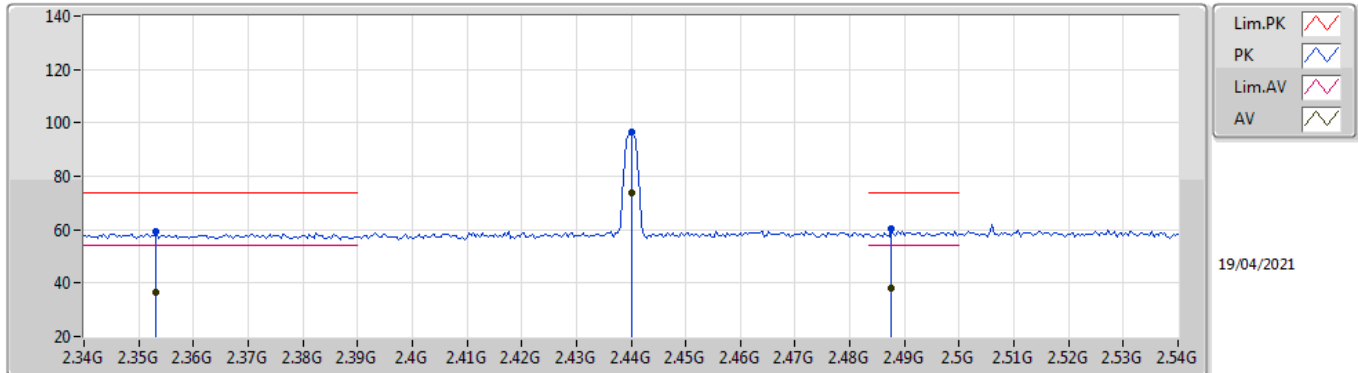
2402MHz_TX



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	4.80383G	23.98	54.00	-30.02	8.38	3	Horizontal	45	2.18	-	15.60	31.11	6.50	29.23
PK	4.80437G	46.48	74.00	-27.52	8.38	3	Horizontal	45	2.18	-	38.10	31.11	6.50	29.23

BT-EDR(3Mbps)

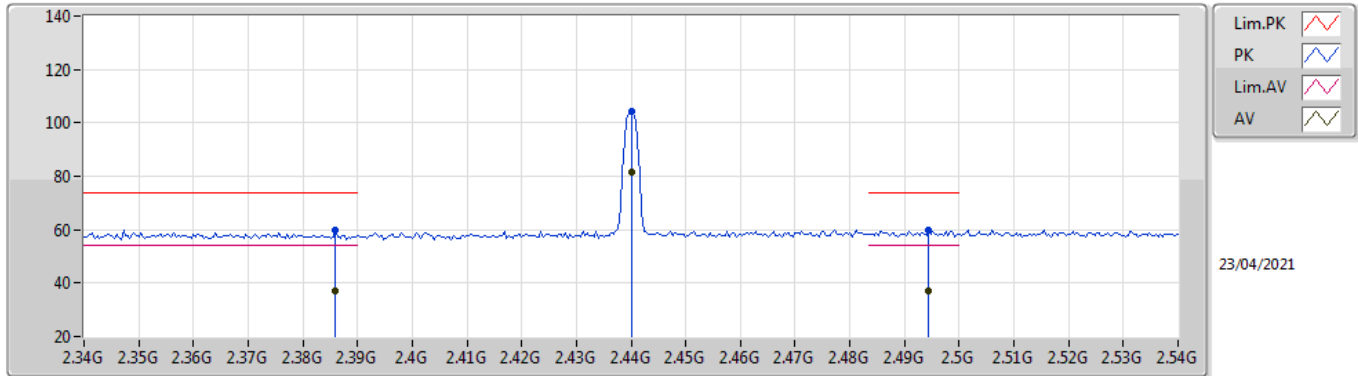
2440MHz_TX



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	2.3532G	36.77	54.00	-17.23	32.04	3	Vertical	353	2.39	-	4.73	27.79	4.25	-
AV	2.44G	74.00	Inf	-Inf	31.94	3	Vertical	353	2.39	-	42.06	27.60	4.34	-
AV	2.4876G	38.08	54.00	-15.92	32.07	3	Vertical	353	2.39	-	6.01	27.68	4.39	-
PK	2.3532G	59.27	74.00	-14.73	32.04	3	Vertical	353	2.39	-	27.23	27.79	4.25	-
PK	2.44G	96.50	Inf	-Inf	31.94	3	Vertical	353	2.39	-	64.56	27.60	4.34	-
PK	2.4876G	60.58	74.00	-13.42	32.07	3	Vertical	353	2.39	-	28.51	27.68	4.39	-

BT-EDR(3Mbps)

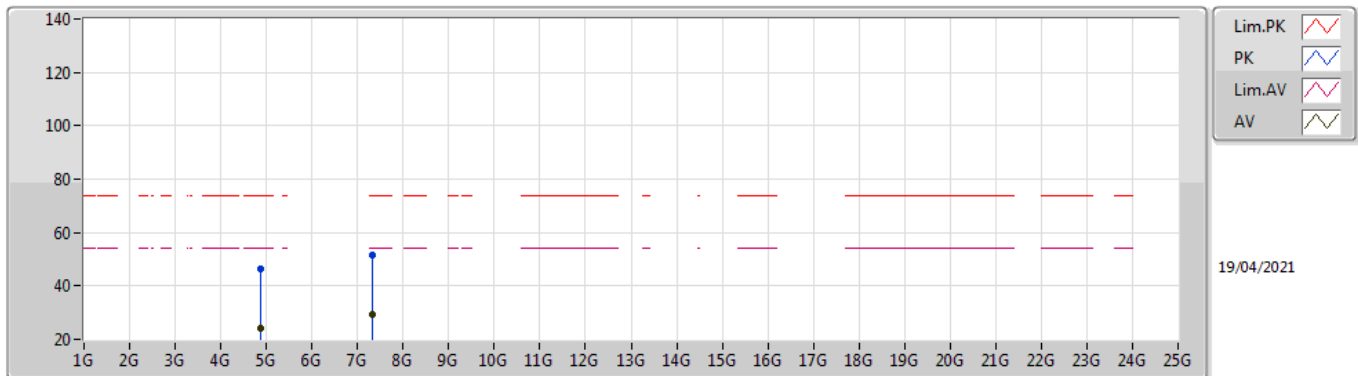
2440MHz_TX



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	2.386G	37.16	54.00	-16.84	31.95	3	Horizontal	325	1.00	-	5.21	27.66	4.29	-
AV	2.44G	81.57	Inf	-Inf	31.94	3	Horizontal	325	1.00	-	49.63	27.60	4.34	-
AV	2.4944G	37.08	54.00	-16.92	32.08	3	Horizontal	325	1.00	-	5.00	27.69	4.39	-
PK	2.386G	59.66	74.00	-14.34	31.95	3	Horizontal	325	1.00	-	27.71	27.66	4.29	-
PK	2.44G	104.07	Inf	-Inf	31.94	3	Horizontal	325	1.00	-	72.13	27.60	4.34	-
PK	2.4944G	59.58	74.00	-14.42	32.08	3	Horizontal	325	1.00	-	27.50	27.69	4.39	-

BT-EDR(3Mbps)

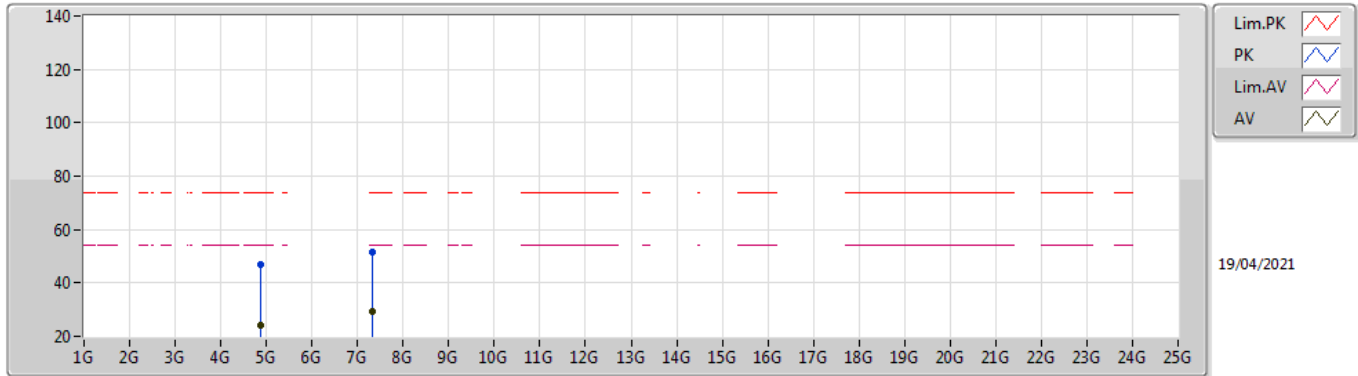
2440MHz_TX



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	4.88103G	24.02	54.00	-29.98	8.57	3	Vertical	103	1.08	-	15.45	31.20	6.58	29.21
AV	7.31965G	29.13	54.00	-24.87	13.69	3	Vertical	268	2.19	-	15.44	36.26	7.60	30.17
PK	4.87901G	46.52	74.00	-27.48	8.57	3	Vertical	103	1.08	-	37.95	31.20	6.58	29.21
PK	7.31945G	51.63	74.00	-22.37	13.69	3	Vertical	268	2.19	-	37.94	36.26	7.60	30.17

BT-EDR(3Mbps)

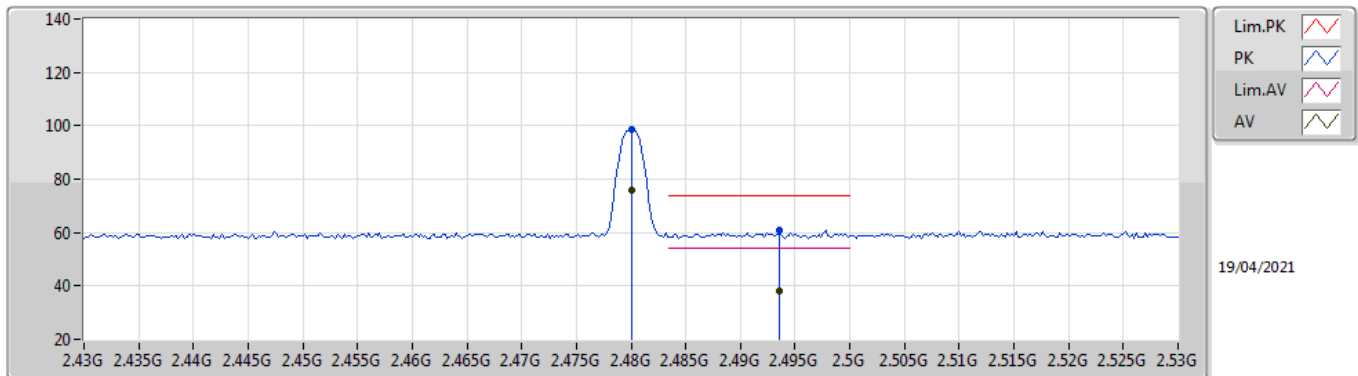
2440MHz_TX



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	4.88001G	24.19	54.00	-29.81	8.57	3	Horizontal	177	2.44	-	15.62	31.20	6.58	29.21
AV	7.31968G	29.19	54.00	-24.81	13.69	3	Horizontal	112	2.57	-	15.50	36.26	7.60	30.17
PK	4.88024G	46.69	74.00	-27.31	8.57	3	Horizontal	177	2.44	-	38.12	31.20	6.58	29.21
PK	7.32145G	51.69	74.00	-22.31	13.69	3	Horizontal	112	2.57	-	38.00	36.26	7.60	30.17

BT-EDR(3Mbps)

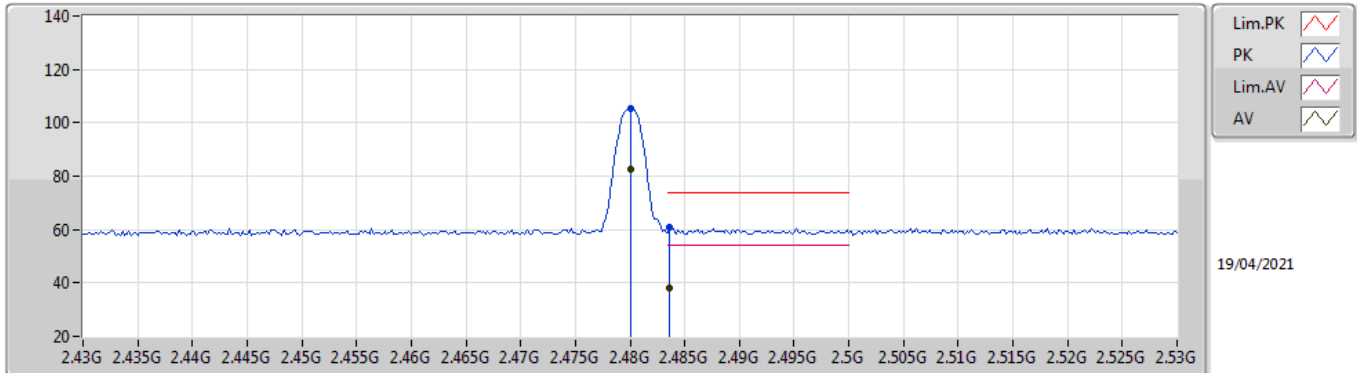
2480MHz_TX



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	75.89	Inf	-Inf	32.04	3	Vertical	324	2.17	-	43.85	27.66	4.38	-
AV	2.4936G	38.30	54.00	-15.70	32.08	3	Vertical	324	2.17	-	6.22	27.69	4.39	-
PK	2.48G	98.39	Inf	-Inf	32.04	3	Vertical	324	2.17	-	66.35	27.66	4.38	-
PK	2.4936G	60.80	74.00	-13.20	32.08	3	Vertical	324	2.17	-	28.72	27.69	4.39	-

BT-EDR(3Mbps)

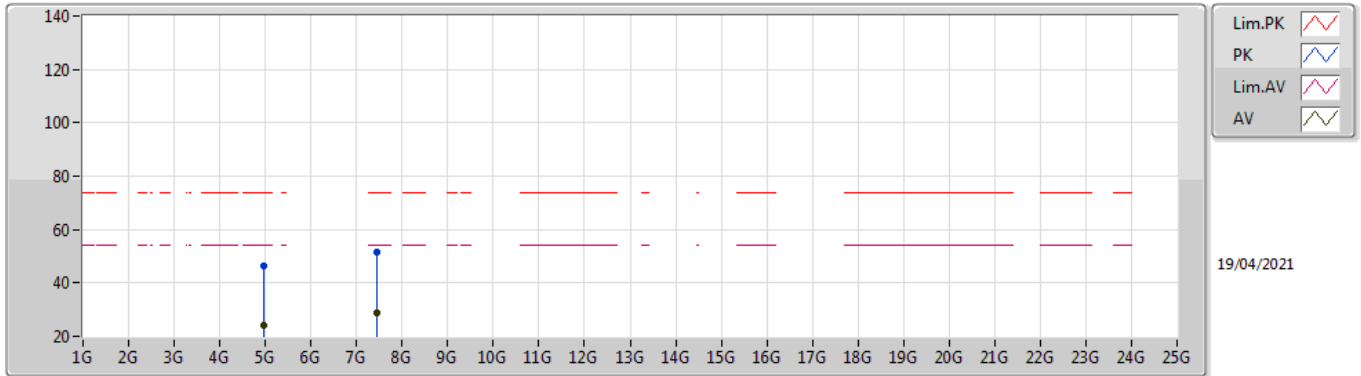
2480MHz_TX



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	82.61	Inf	-Inf	32.04	3	Horizontal	324	1.00	-	50.57	27.66	4.38	-
AV	2.4836G	38.13	54.00	-15.87	32.05	3	Horizontal	324	1.00	-	6.08	27.67	4.38	-
PK	2.48G	105.11	Inf	-Inf	32.04	3	Horizontal	324	1.00	-	73.07	27.66	4.38	-
PK	2.4836G	60.63	74.00	-13.37	32.05	3	Horizontal	324	1.00	-	28.58	27.67	4.38	-

BT-EDR(3Mbps)

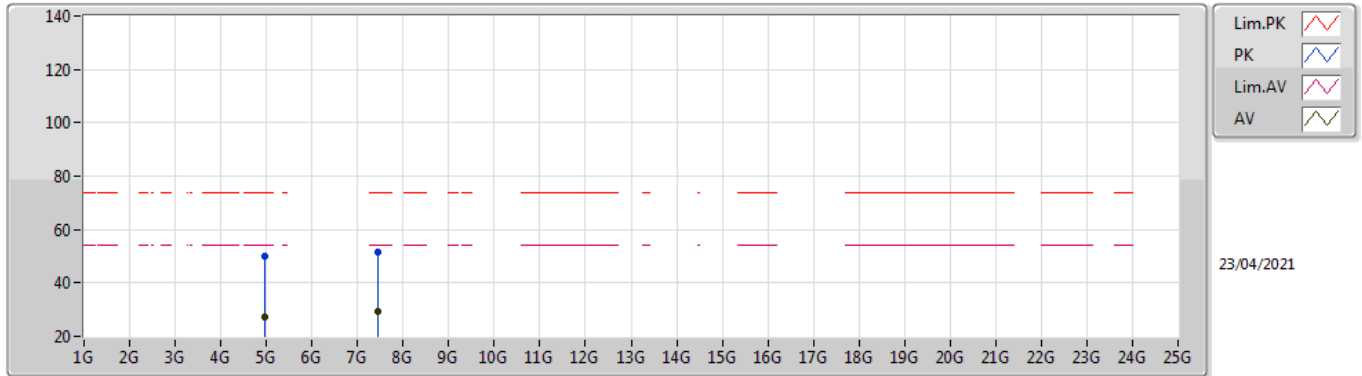
2480MHz_TX



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	4.9576G	23.97	54.00	-30.03	8.81	3	Vertical	105	1.36	-	15.16	31.33	6.66	29.18
AV	7.43973G	29.00	54.00	-25.00	13.64	3	Vertical	58	1.31	-	15.36	36.26	7.64	30.26
PK	4.9619G	46.47	74.00	-27.53	8.83	3	Vertical	105	1.36	-	37.64	31.35	6.66	29.18
PK	7.44084G	51.50	74.00	-22.50	13.64	3	Vertical	58	1.31	-	37.86	36.26	7.64	30.26

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	4.95987G	27.35	54.00	-26.65	8.82	3	Horizontal	37	2.22	-	18.53	31.34	6.66	29.18
AV	7.43967G	29.19	54.00	-24.81	13.64	3	Horizontal	187	2.32	-	15.55	36.26	7.64	30.26
PK	4.95963G	49.85	74.00	-24.15	8.82	3	Horizontal	37	2.22	-	41.03	31.34	6.66	29.18
PK	7.43867G	51.69	74.00	-22.31	13.63	3	Horizontal	187	2.32	-	38.06	36.25	7.64	30.26



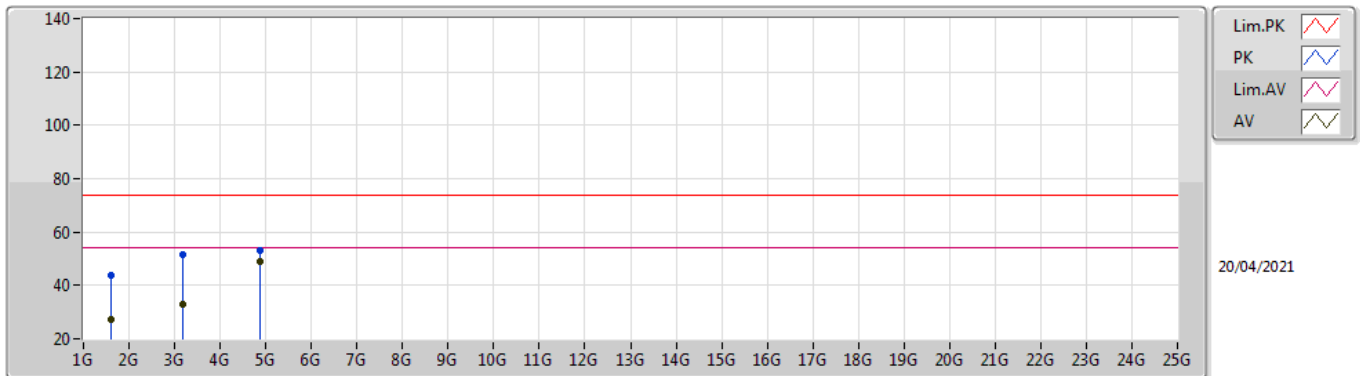
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.87399G	48.99	54.00	-5.01	Vertical
Mode 2	Pass	PK	5.176G	56.93	68.20	-11.27	Vertical

Mode Configure

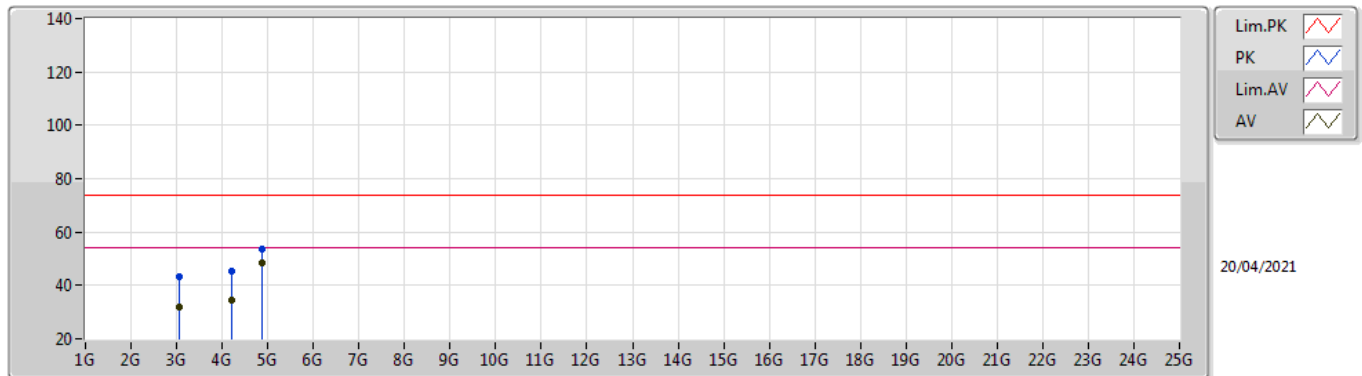
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	1.594G	27.48	54.00	-26.52	-2.35	3	Vertical	360	1.00	-
Mode 1	Pass	AV	3.178G	32.86	54.00	-21.14	4.28	3	Vertical	360	1.00	-
Mode 1	Pass	AV	4.87399G	48.99	54.00	-5.01	8.56	3	Vertical	312	1.27	-
Mode 1	Pass	PK	1.594G	43.68	74.00	-30.32	-2.35	3	Vertical	360	1.00	-
Mode 1	Pass	PK	3.178G	51.32	74.00	-22.68	4.28	3	Vertical	360	1.00	-
Mode 1	Pass	PK	4.87406G	53.29	74.00	-20.71	8.56	3	Vertical	312	1.27	-
Mode 1	Pass	AV	3.052G	32.13	54.00	-21.87	3.74	3	Horizontal	0	1.00	-
Mode 1	Pass	AV	4.222G	34.53	54.00	-19.47	6.72	3	Horizontal	0	1.00	-
Mode 1	Pass	AV	4.874G	48.19	54.00	-5.81	8.56	3	Horizontal	341	2.32	-
Mode 1	Pass	PK	3.052G	43.35	74.00	-30.65	3.74	3	Horizontal	0	1.00	-
Mode 1	Pass	PK	4.222G	45.39	74.00	-28.61	6.72	3	Horizontal	0	1.00	-
Mode 1	Pass	PK	4.87402G	53.73	74.00	-20.27	8.56	3	Horizontal	341	2.32	-
Mode 2	Pass	AV	1.492G	29.99	54.00	-24.01	-1.89	3	Vertical	0	1.00	-
Mode 2	Pass	AV	3.184G	35.22	68.20	-32.98	4.28	3	Vertical	0	1.00	-
Mode 2	Pass	AV	5.176G	37.72	68.20	-30.48	9.56	3	Vertical	0	1.00	-
Mode 2	Pass	PK	1.492G	43.89	74.00	-30.11	-1.89	3	Vertical	0	1.00	-
Mode 2	Pass	PK	3.184G	51.40	68.20	-16.80	4.28	3	Vertical	0	1.00	-
Mode 2	Pass	PK	5.176G	56.93	68.20	-11.27	9.56	3	Vertical	0	1.00	-
Mode 2	Pass	AV	2.194G	31.88	68.20	-36.32	2.03	3	Horizontal	360	1.00	-
Mode 2	Pass	AV	3.184G	33.10	68.20	-35.10	4.28	3	Horizontal	360	1.00	-
Mode 2	Pass	AV	4.696G	36.54	54.00	-17.46	8.37	3	Horizontal	360	1.00	-
Mode 2	Pass	PK	2.194G	42.18	68.20	-26.02	2.03	3	Horizontal	360	1.00	-
Mode 2	Pass	PK	3.184G	46.21	68.20	-21.99	4.28	3	Horizontal	360	1.00	-
Mode 2	Pass	PK	4.696G	46.97	74.00	-27.03	8.37	3	Horizontal	360	1.00	-

Radiated Emissions above 1GHz_Mode 1



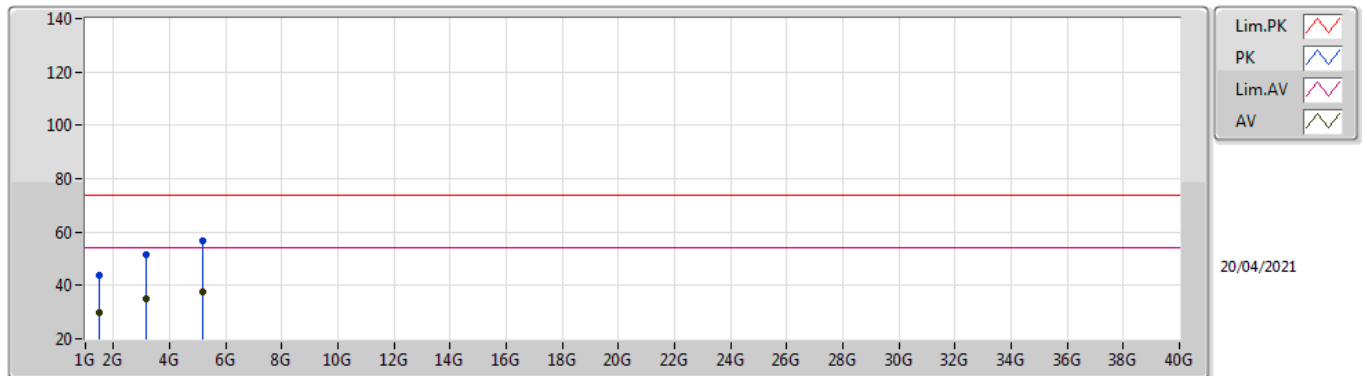
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.594G	27.48	54.00	-26.52	-2.35	3	Vertical	360	1.00	-	29.83	25.04	3.39	30.78
AV	3.178G	32.86	54.00	-21.14	4.28	3	Vertical	360	1.00	-	28.58	28.90	5.18	29.80
AV	4.87399G	48.99	54.00	-5.01	8.56	3	Vertical	312	1.27	-	40.43	31.20	6.57	29.21
PK	1.594G	43.68	74.00	-30.32	-2.35	3	Vertical	360	1.00	-	46.03	25.04	3.39	30.78
PK	3.178G	51.32	74.00	-22.68	4.28	3	Vertical	360	1.00	-	47.04	28.90	5.18	29.80
PK	4.87406G	53.29	74.00	-20.71	8.56	3	Vertical	312	1.27	-	44.73	31.20	6.57	29.21

Radiated Emissions above 1GHz_Mode 1



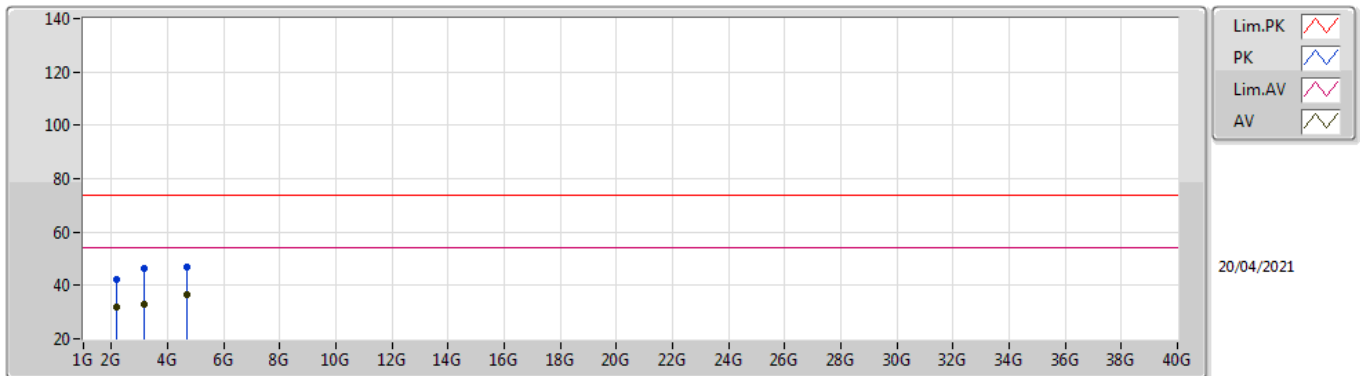
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	3.052G	32.13	54.00	-21.87	3.74	3	Horizontal	0	1.00	-	28.39	28.51	5.05	29.82
AV	4.222G	34.53	54.00	-19.47	6.72	3	Horizontal	0	1.00	-	27.81	29.94	6.12	29.34
AV	4.874G	48.19	54.00	-5.81	8.56	3	Horizontal	341	2.32	-	39.63	31.20	6.57	29.21
PK	3.052G	43.35	74.00	-30.65	3.74	3	Horizontal	0	1.00	-	39.61	28.51	5.05	29.82
PK	4.222G	45.39	74.00	-28.61	6.72	3	Horizontal	0	1.00	-	38.67	29.94	6.12	29.34
PK	4.87402G	53.73	74.00	-20.27	8.56	3	Horizontal	341	2.32	-	45.17	31.20	6.57	29.21

Radiated Emissions above 1GHz_Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	1.492G	29.99	54.00	-24.01	-1.89	3	Vertical	0	1.00	-	31.88	25.76	3.29	30.94
AV	3.184G	35.22	54.00	-18.78	4.28	3	Vertical	0	1.00	-	30.94	28.90	5.18	29.80
AV	5.176G	37.72	54.00	-16.28	9.56	3	Vertical	0	1.00	-	28.16	31.95	6.79	29.18
PK	1.492G	43.89	74.00	-30.11	-1.89	3	Vertical	0	1.00	-	45.78	25.76	3.29	30.94
PK	3.184G	51.40	74.00	-22.60	4.28	3	Vertical	0	1.00	-	47.12	28.90	5.18	29.80
PK	5.176G	56.93	74.00	-17.07	9.56	3	Vertical	0	1.00	-	47.37	31.95	6.79	29.18

Radiated Emissions above 1GHz_Mode 2



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
AV	2.194G	31.88	54.00	-22.12	2.03	3	Horizontal	360	1.00	-	29.85	28.06	4.09	30.12
AV	3.184G	33.10	54.00	-20.90	4.28	3	Horizontal	360	1.00	-	28.82	28.90	5.18	29.80
AV	4.696G	36.54	54.00	-17.46	8.37	3	Horizontal	360	1.00	-	28.17	31.19	6.45	29.27
PK	2.194G	42.18	74.00	-31.82	2.03	3	Horizontal	360	1.00	-	40.15	28.06	4.09	30.12
PK	3.184G	46.21	74.00	-27.79	4.28	3	Horizontal	360	1.00	-	41.93	28.90	5.18	29.80
PK	4.696G	46.97	74.00	-27.03	8.37	3	Horizontal	360	1.00	-	38.60	31.19	6.45	29.27