FCC Radio Test Report

FCC ID	:	**BKMAE-STI6200B**
Equipment	:	**WLAN/BT Module**
Brand Name	:	**EPSON**
Model Name	:	**STI6200B**
Applicant	:	**SEIKO EPSON CORPORATION** **3-3-5 Owa Suwa-shi Nagano-ken 392-8502 Japan**
Manufacturer	:	**SEIKO EPSON CORPORATION** **6925 Tazawa, Toyoshina Azumino-shi, Nagano 399-8285 Japan**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Jul. 21, 2021, and testing was started from Jul. 30, 2021 and completed on Aug. 17, 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.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR153118AD	01	Initial issue of report	Sep. 14, 2021

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: Ben Tseng

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	HONGBO	290-40488	PIFA	I-Pex
2	HONGBO	290-40488	PIFA	I-Pex

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	2	2.34	5.29	-
2	1	2.74	4.50	2.74

Note 1: The EUT has two antennas.

For 2.4GHz function:

For IEEE 802.11 b mode (1TX/2RX)

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

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

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

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

For BT function:

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

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

For 5GHz function:

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

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

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From Test Fixture			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point
Type of EUT				
☒	Stand-alone			
☐	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.:	…		
☐	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.:	…		
☐	Other:			

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-BR(1Mbps)	0.737	1.33	2.873m	1k
BT-EDR(2Mbps)	0.816	0.88	2.88m	1k
BT-EDR(3Mbps)	0.74	1.31	2.882m	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				
☒ 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	Billy Wang	23.1~24.2°C / 58~62%	04/Aug/2021
RF Conducted	TH06-HY	Howard Lee	20.8~25.9°C / 50~60%	04/Aug/2021~17/Aug/2021
Radiated	03CH03-HY	Edward Wang	23.6~24.4°C / 54~60%	30/Jul/2021~17/Aug/2021
☐ 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	Ampak RFTestTool, VER 7.1

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	0
2440MHz	0
2480MHz	0
BT-EDR(2Mbps)	-
2402MHz	0
2440MHz	0
2480MHz	0
BT-EDR(3Mbps)	-
2402MHz	0
2440MHz	0
2480MHz	0

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	
	☒	Non-adaptive frequency hopping systems (Non-AFH)
	☒	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	**Z Plane**
	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	WLAN 2.4GHz+Bluetooth
2	WLAN 5GHz+Bluetooth
Refer to Sporton Test Report No.: FA153118 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 Power Cable	Power Sync	PW-GPC180-3	-	-
2	Test Fixture	Askey	STI6200-D101-Ro HS-EVB REV:2	-	Note 1
3	AC Adapter	APD	WB-18D12FU	-	-

Note 1: Provided by Customer

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	Adapter	APD	WB-18D12FU	-	-
4	Test Fixture	Askey	STI6200-D101-Ro HS-EVB REV:2	-	Note 1
5	Monitor	DELL	UltraSharp U2410f	-	-
6	HDMI Cable	Sporton	Sporton	-	-
7	Remote Controller	EPSON	RC4261804	-	-

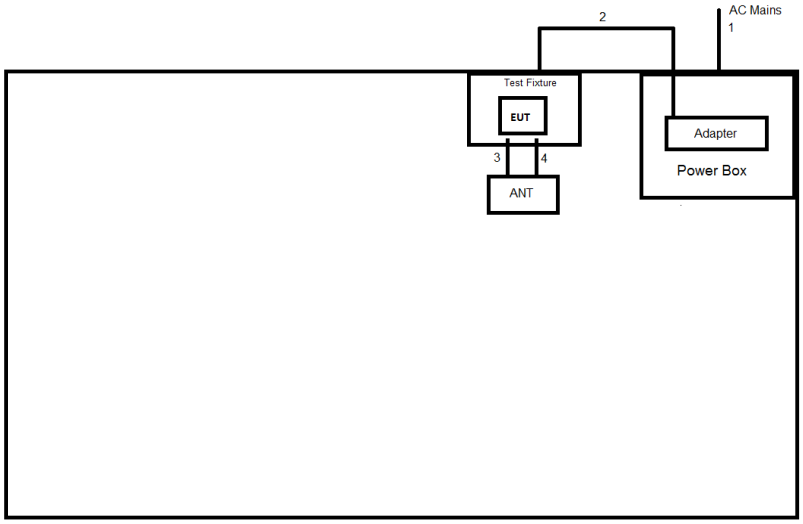
Note 1: Provided by Customer

Support Equipment – Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	AC Power Cable	Power Sync	PW-GPC180-3	-	-
2	Test Fixture	Askey	STI6200-D101-Ro HS-EVB REV:2	-	Note 1
3	AC Adapter	APD	WB-18D12FU	-	-

Note 1: Provided by Customer

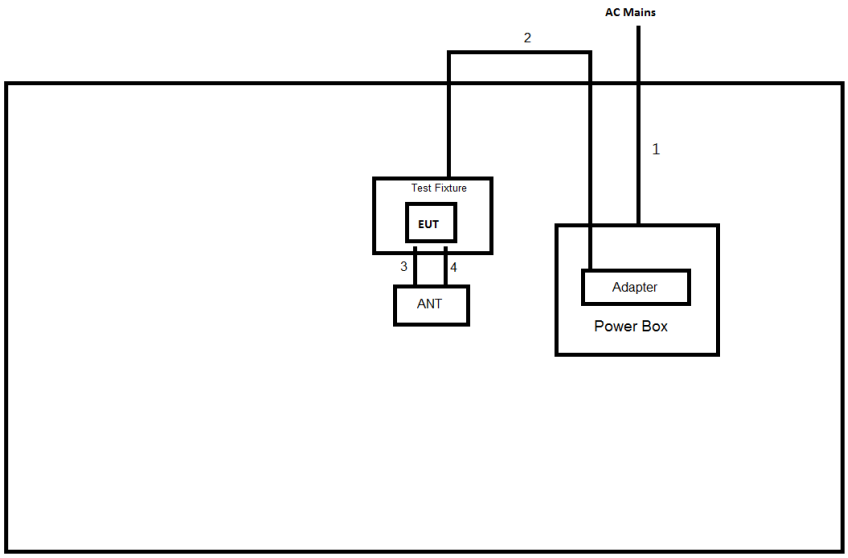
2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	2.0	-
3	RF cable	No	0.13	-
4	RF cable	No	0.13	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	2.0	-
3	RF cable	No	0.13	-
4	RF cable	No	0.13	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

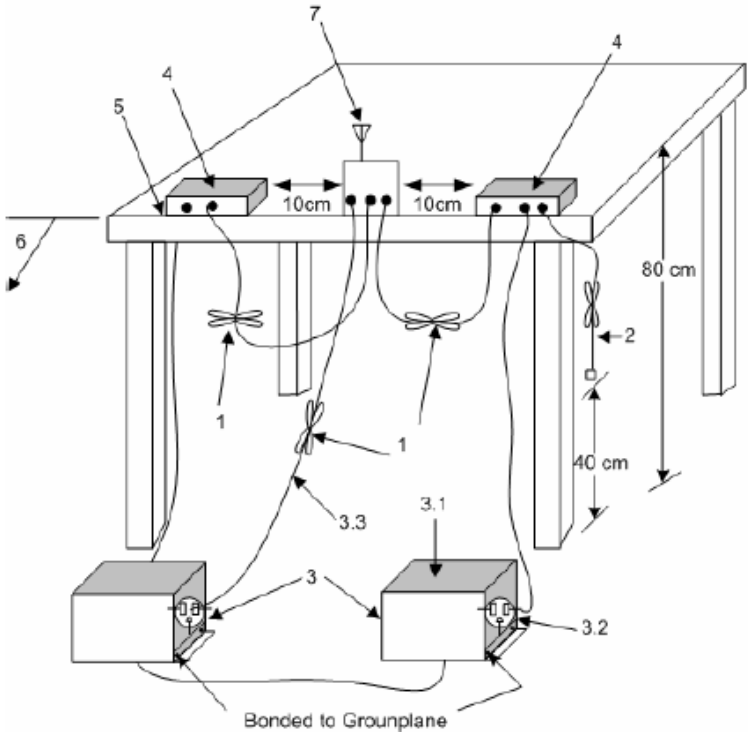
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 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

AC Power-line Conducted Emissions



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

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

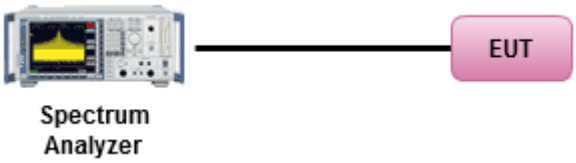
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup

20dB Bandwidth and Carrier Frequency Separation


3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
▪ 2400-2483.5 MHz Band:	
	▪ N ≥ 75; Power 30dBm; EIRP 36dBm
	▪ 75 >N ≥ 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
▪ Refer as ANSI C63.10-2013, clause 7.8.5 for output power measurement.

3.3.4 Test Setup

Maximum Conducted Output Power (Peak Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Number of Hopping Frequencies and Hopping Bandedge

3.4.1 Number of Hopping Frequencies Limit

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

3.4.2 Hopping Bandedge Limit

Refer clause 3.6.1 and clause 3.7.1

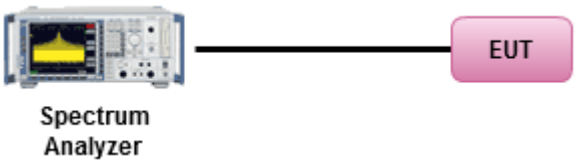
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

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

3.4.5 Test Setup

Number of Hopping Frequencies and Hopping Frequencies Bandedge


3.4.6 Test Result of Number of Hopping Frequencies

Refer as Appendix D

3.4.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix D

3.5 Time of Occupancy (Dwell Time)

3.5.1 Time of Occupancy (Dwell Time) Limit

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

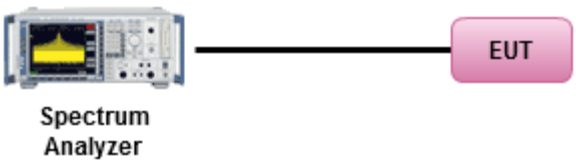
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup

Time of Occupancy (Dwell Time)
 Spectrum Analyzer

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.	

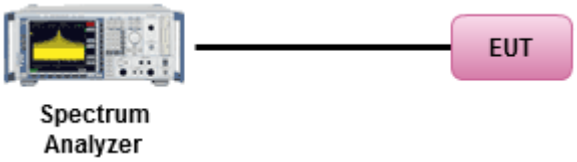
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.6.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix F

3.7 Emissions in Restricted Frequency Bands

3.7.1 Emissions in Restricted Frequency Bands Limit

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

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

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

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

3.7.2 Measuring Instruments

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

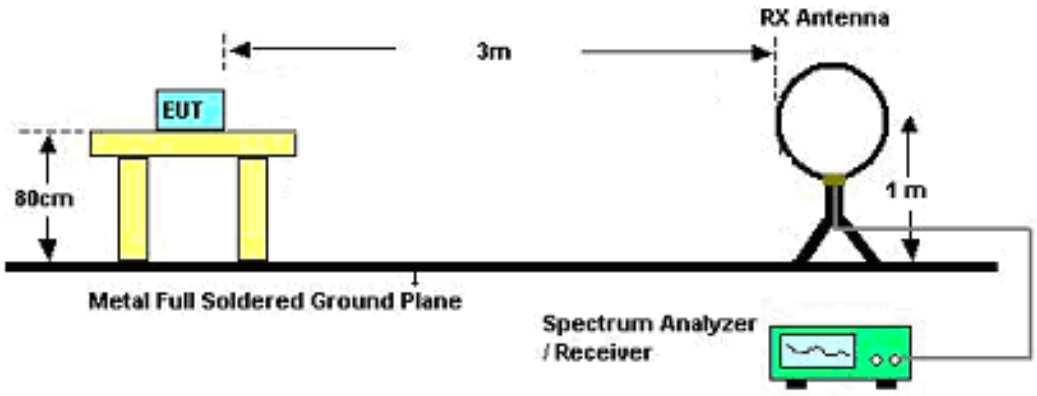
3.7.3 Test Procedures

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

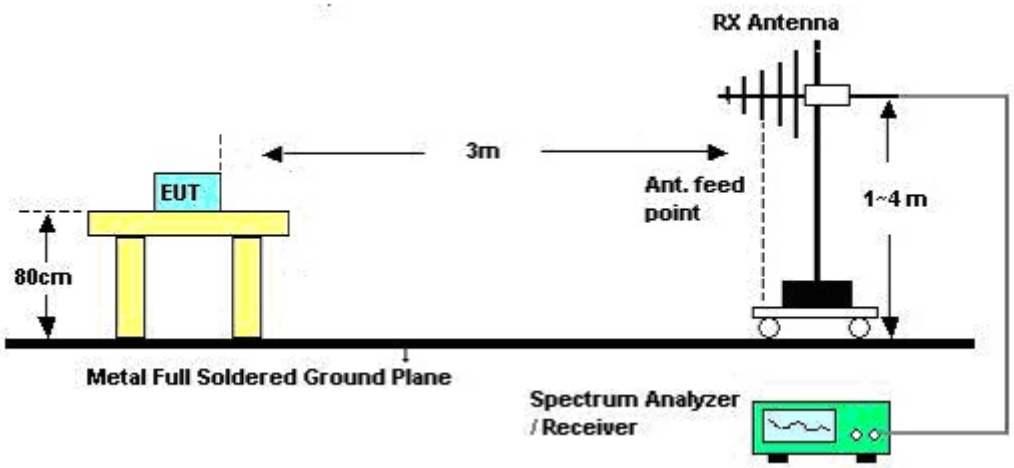
3.7.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

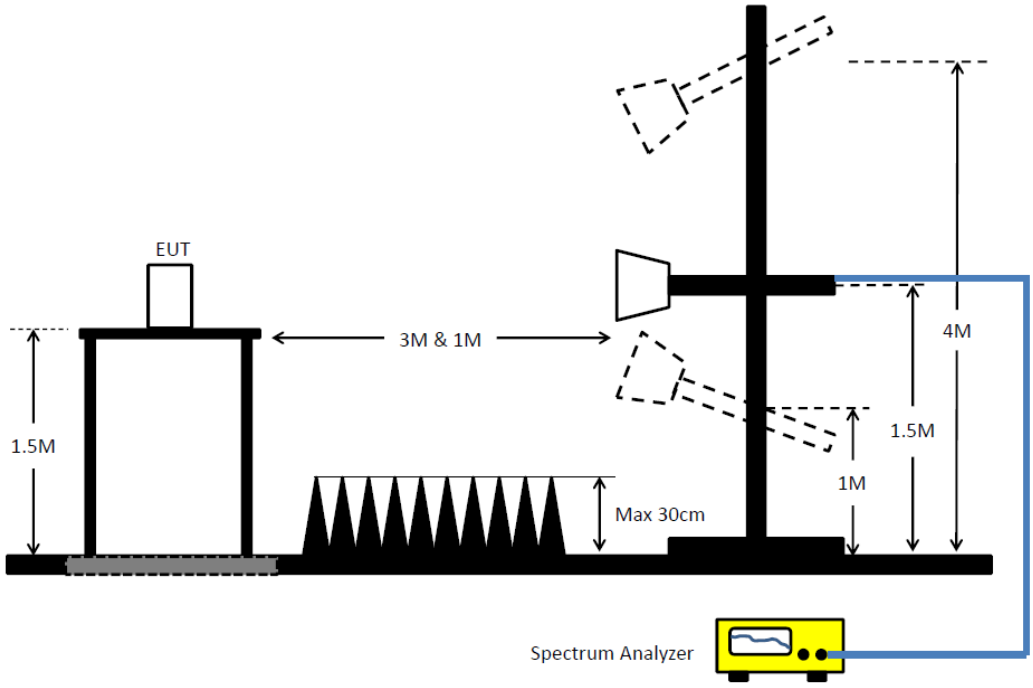
3.7.5 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz


30MHz~1GHz



Above 1GHz



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	ESR	102052	9kHz ~ 3.6GHz	19/Apr/2021	18/Apr/2022
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	101029	10Hz~40GHz	19/Oct/2020	18/Oct/2021
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2021
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	25/Mar/2021	24/Mar/2022
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	25/Mar/2021	24/Mar/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	03/Aug/2021	02/Aug/2022
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	03/Aug/2021	02/Aug/2022
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	19/Aug/2020	18/Aug/2021
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	13/Apr/2021	12/Apr/2022
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz~26.5GHz	06/Oct/2020	05/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	CB021	9kHz~30MHz	16/Jun/2021	15/Jun/2022
RF Cable-R03m	Jye Bao	RG142	MY37335/4+CB 021-1+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	28/Jul/2021	27/Jul/2022
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
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	19/Apr/2021	18/Apr/2022
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz~1GHz	06/Sep/2020	05/Sep/2021

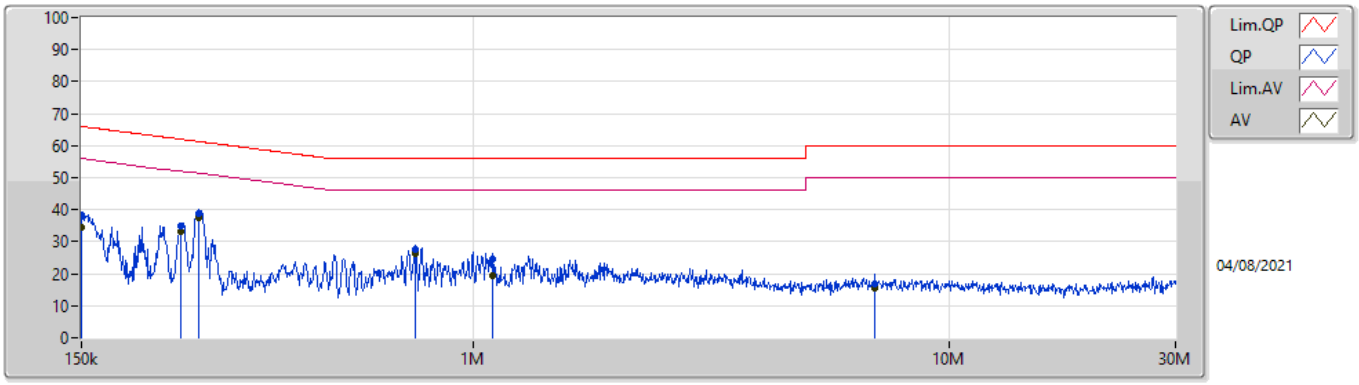
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	264.41k	38.63	51.30	-12.67	Neutral

Mode config

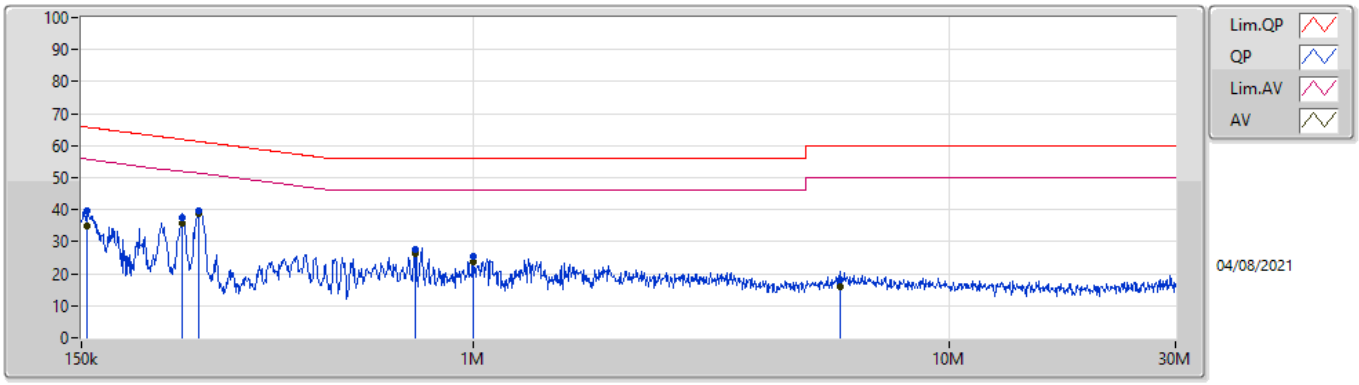
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	150k	38.35	66.00	-27.65	Line	-
Mode 1	Pass	AV	150k	34.51	56.00	-21.49	Line	-
Mode 1	Pass	QP	242.179k	35.07	62.02	-26.95	Line	-
Mode 1	Pass	AV	242.179k	32.98	52.02	-19.04	Line	-
Mode 1	Pass	QP	264.41k	38.64	61.30	-22.66	Line	-
Mode 1	Pass	AV	264.41k	37.61	51.30	-13.69	Line	-
Mode 1	Pass	QP	755.518k	27.64	56.00	-28.36	Line	-
Mode 1	Pass	AV	755.518k	26.49	46.00	-19.51	Line	-
Mode 1	Pass	QP	1.095M	24.63	56.00	-31.37	Line	-
Mode 1	Pass	AV	1.095M	19.52	46.00	-26.48	Line	-
Mode 1	Pass	QP	6.981M	16.90	60.00	-43.10	Line	-
Mode 1	Pass	AV	6.981M	15.38	50.00	-34.62	Line	-
Mode 1	Pass	QP	154.251k	39.87	65.77	-25.90	Neutral	-
Mode 1	Pass	AV	154.251k	34.91	55.77	-20.86	Neutral	-
Mode 1	Pass	QP	244.12k	37.51	61.95	-24.44	Neutral	-
Mode 1	Pass	AV	244.12k	35.75	51.95	-16.20	Neutral	-
Mode 1	Pass	QP	264.41k	39.58	61.30	-21.72	Neutral	-
Mode 1	Pass	AV	264.41k	38.63	51.30	-12.67	Neutral	-
Mode 1	Pass	QP	755.518k	27.42	56.00	-28.58	Neutral	-
Mode 1	Pass	AV	755.518k	26.10	46.00	-19.90	Neutral	-
Mode 1	Pass	QP	999.091k	25.26	56.00	-30.74	Neutral	-
Mode 1	Pass	AV	999.091k	23.52	46.00	-22.48	Neutral	-
Mode 1	Pass	QP	5.903M	18.05	60.00	-41.95	Neutral	-
Mode 1	Pass	AV	5.903M	16.13	50.00	-33.87	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	38.35	66.00	-27.65	19.63	Line	-	18.72	9.69	0.04	9.90
AV	150k	34.51	56.00	-21.49	19.63	Line	-	14.88	9.69	0.04	9.90
QP	242.179k	35.07	62.02	-26.95	19.63	Line	-	15.44	9.68	0.05	9.90
AV	242.179k	32.98	52.02	-19.04	19.63	Line	-	13.35	9.68	0.05	9.90
QP	264.41k	38.64	61.30	-22.66	19.63	Line	-	19.01	9.68	0.05	9.90
AV	264.41k	37.61	51.30	-13.69	19.63	Line	-	17.98	9.68	0.05	9.90
QP	755.518k	27.64	56.00	-28.36	19.57	Line	-	8.07	9.67	0.07	9.83
AV	755.518k	26.49	46.00	-19.51	19.57	Line	-	6.92	9.67	0.07	9.83
QP	1.095M	24.63	56.00	-31.37	19.55	Line	-	5.08	9.67	0.08	9.80
AV	1.095M	19.52	46.00	-26.48	19.55	Line	-	-0.03	9.67	0.08	9.80
QP	6.981M	16.90	60.00	-43.10	19.79	Line	-	-2.89	9.71	0.18	9.90
AV	6.981M	15.38	50.00	-34.62	19.79	Line	-	-4.41	9.71	0.18	9.90

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.251k	39.87	65.77	-25.90	19.63	Neutral	-	20.24	9.69	0.04	9.90
AV	154.251k	34.91	55.77	-20.86	19.63	Neutral	-	15.28	9.69	0.04	9.90
QP	244.12k	37.51	61.95	-24.44	19.63	Neutral	-	17.88	9.68	0.05	9.90
AV	244.12k	35.75	51.95	-16.20	19.63	Neutral	-	16.12	9.68	0.05	9.90
QP	264.41k	39.58	61.30	-21.72	19.63	Neutral	-	19.95	9.68	0.05	9.90
AV	264.41k	38.63	51.30	-12.67	19.63	Neutral	-	19.00	9.68	0.05	9.90
QP	755.518k	27.42	56.00	-28.58	19.57	Neutral	-	7.85	9.67	0.07	9.83
AV	755.518k	26.10	46.00	-19.90	19.57	Neutral	-	6.53	9.67	0.07	9.83
QP	999.091k	25.26	56.00	-30.74	19.55	Neutral	-	5.71	9.67	0.08	9.80
AV	999.091k	23.52	46.00	-22.48	19.55	Neutral	-	3.97	9.67	0.08	9.80
QP	5.903M	18.05	60.00	-41.95	19.78	Neutral	-	-1.73	9.71	0.17	9.90
AV	5.903M	16.13	50.00	-33.87	19.78	Neutral	-	-3.65	9.71	0.17	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)	926.25k	880.81k	881KF1D	912.5k	878.311k
BT-EDR(2Mbps)	1.33M	1.213M	1M21G1D	1.32M	1.212M
BT-EDR(3Mbps)	1.288M	1.217M	1M22G1D	1.286M	1.212M

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

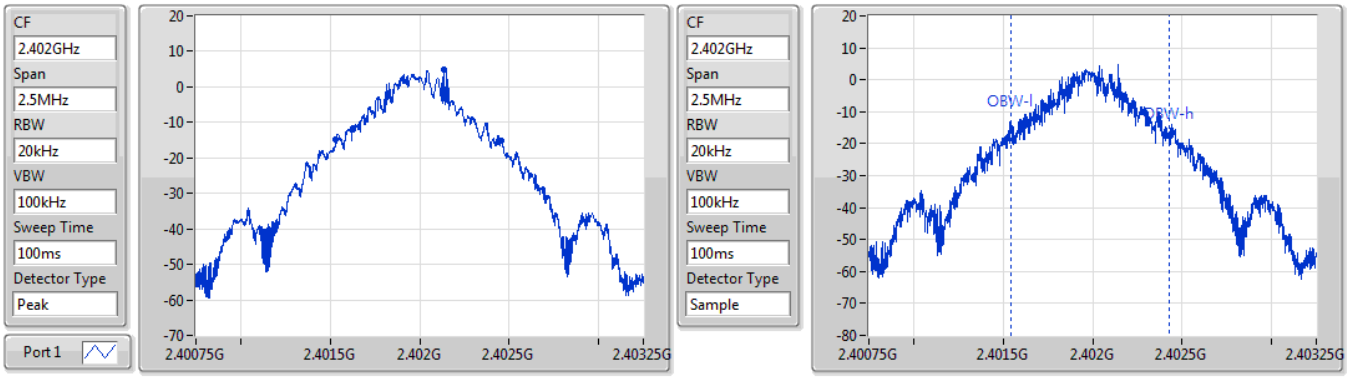
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	926.25k	880.81k
2440MHz	Pass	Inf	925k	878.311k
2480MHz	Pass	Inf	912.5k	879.56k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.32M	1.213M
2440MHz	Pass	Inf	1.33M	1.212M
2480MHz	Pass	Inf	1.329M	1.213M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.286M	1.212M
2440MHz	Pass	Inf	1.288M	1.213M
2480MHz	Pass	Inf	1.286M	1.217M

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

BT-BR(1Mbps) EBW-FS

2402MHz

17/08/2021

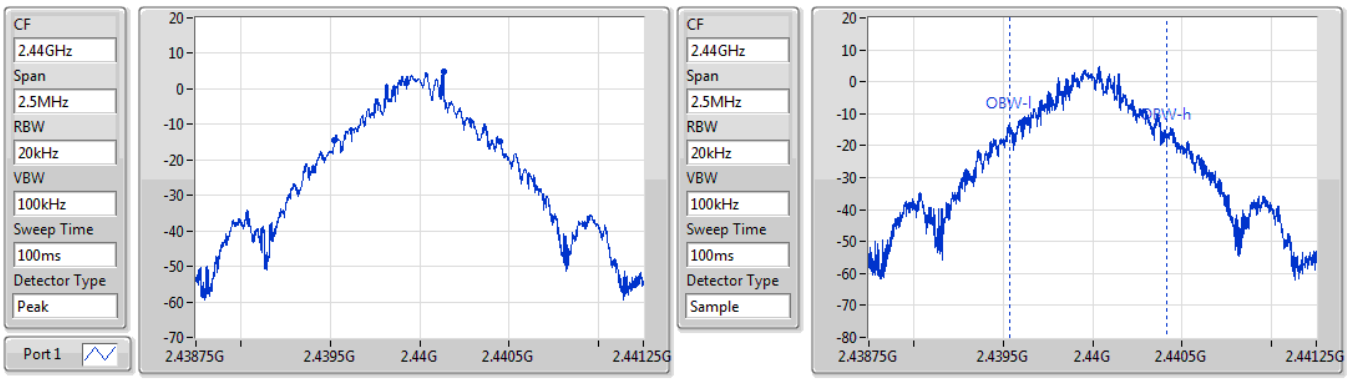


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
926.25k	2.401531G	2.402458G	880.81k	2.401546G	2.402427G	Inf	1

BT-BR(1Mbps) EBW-FS

2440MHz

17/08/2021

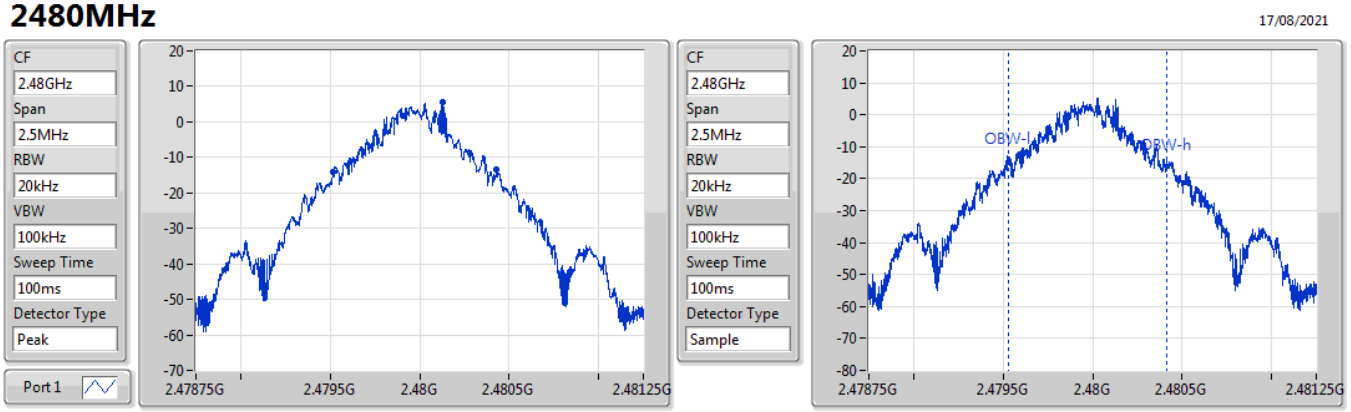


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
925k	2.439525G	2.44045G	878.311k	2.439539G	2.440417G	Inf	1

BT-BR(1Mbps)

EBW-FS

2480MHz

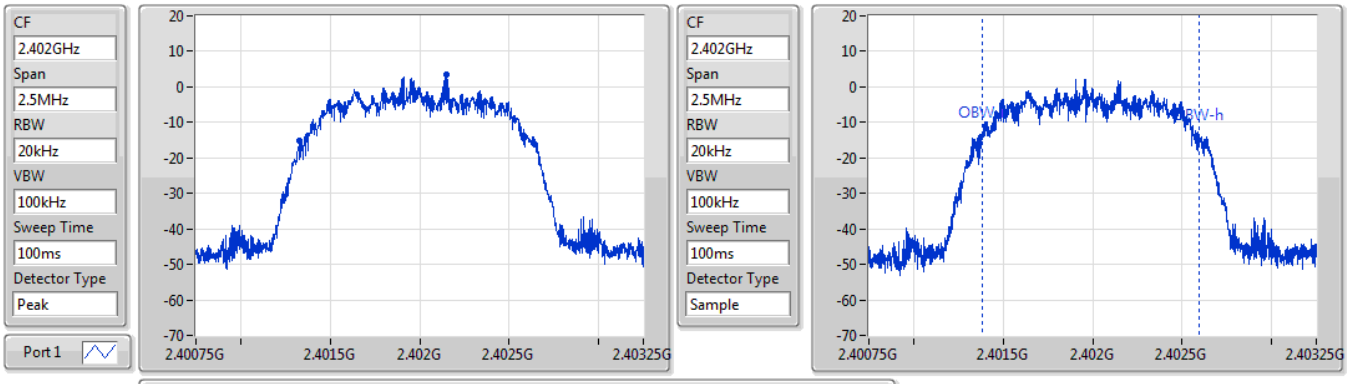


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
912.5k	2.479518G	2.48043G	879.56k	2.479531G	2.480411G	Inf	1

BT-EDR(2Mbps)

EBW-FS

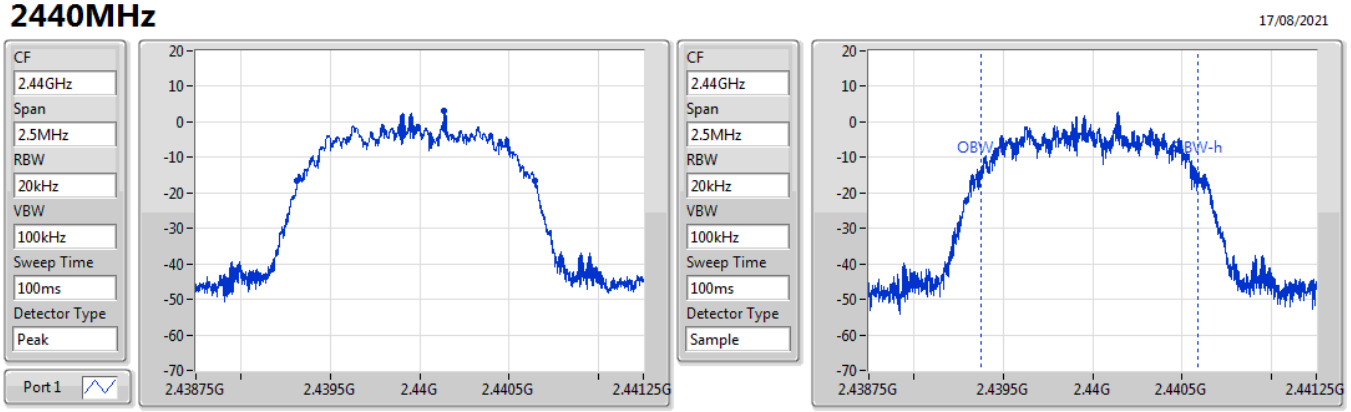
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.32M	2.401328G	2.402648G	1.213M	2.40138G	2.402593G	Inf	1

BT-EDR(2Mbps) EBW-FS

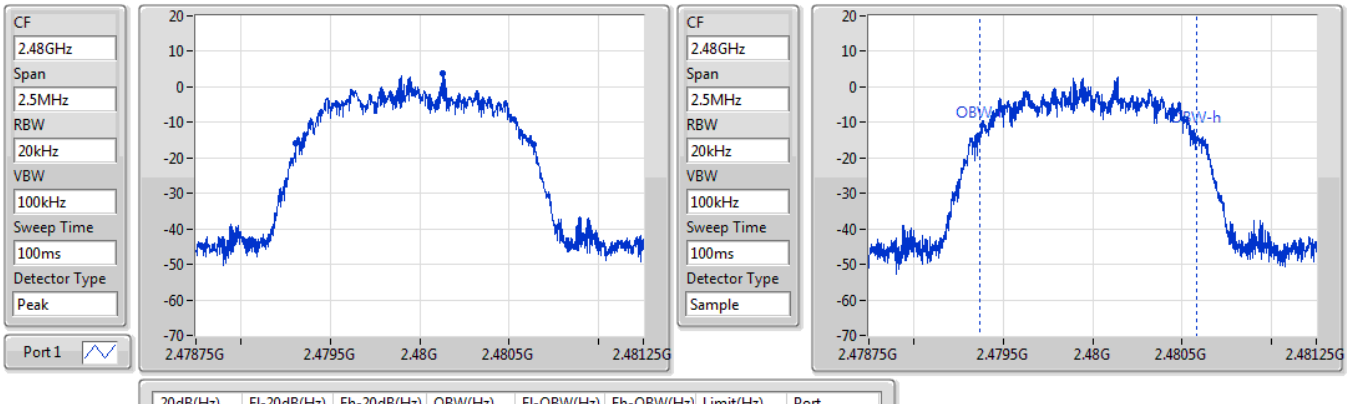
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.33M	2.439318G	2.440648G	1.212M	2.439374G	2.440586G	Inf	1

BT-EDR(2Mbps) EBW-FS

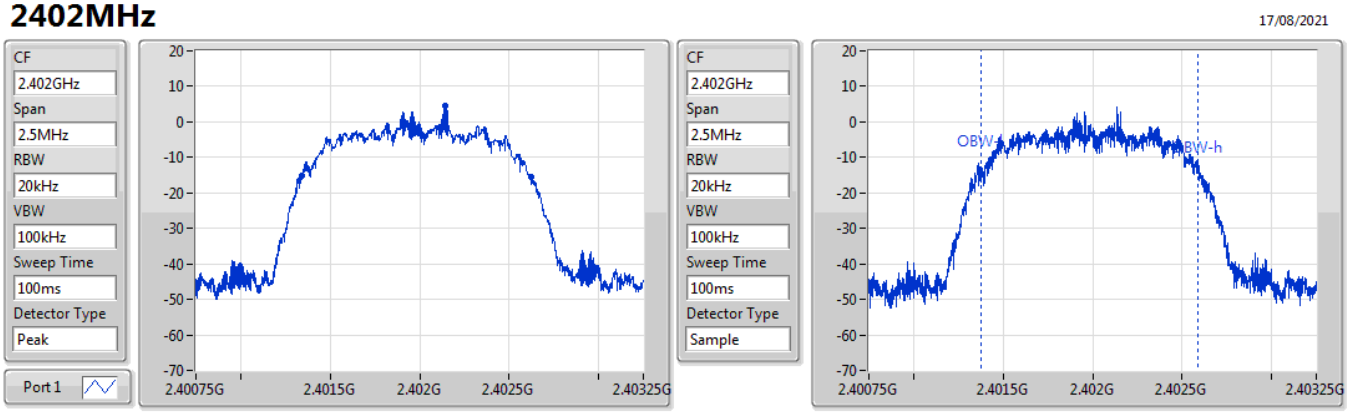
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.329M	2.47931G	2.480639G	1.213M	2.479367G	2.48058G	Inf	1

BT-EDR(3Mbps) EBW-FS

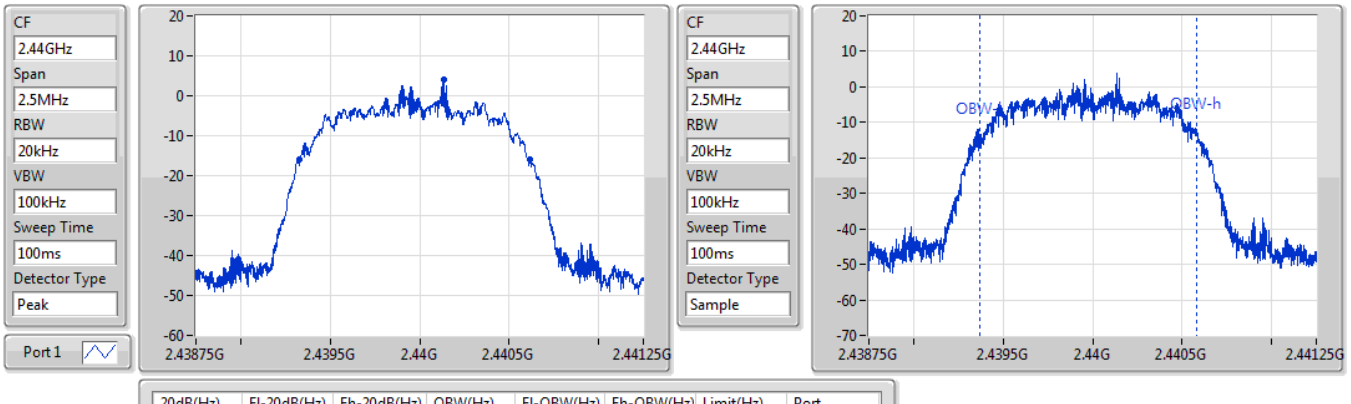
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.286M	2.40134G	2.402626G	1.212M	2.401374G	2.402586G	Inf	1

BT-EDR(3Mbps) EBW-FS

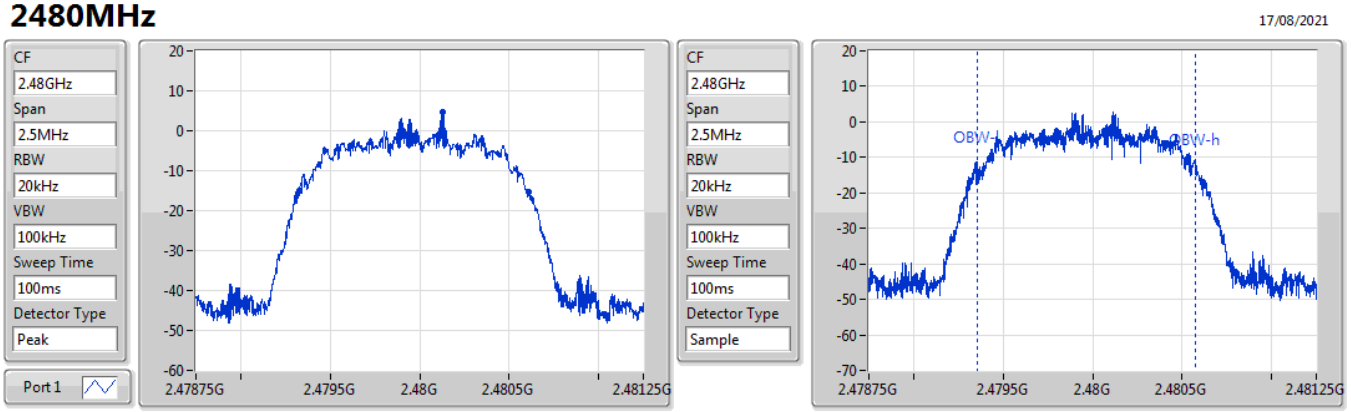
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.288M	2.439331G	2.440619G	1.213M	2.439368G	2.440581G	Inf	1

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

2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.286M	2.479325G	2.480611G	1.217M	2.479357G	2.480573G	Inf	1

Summary

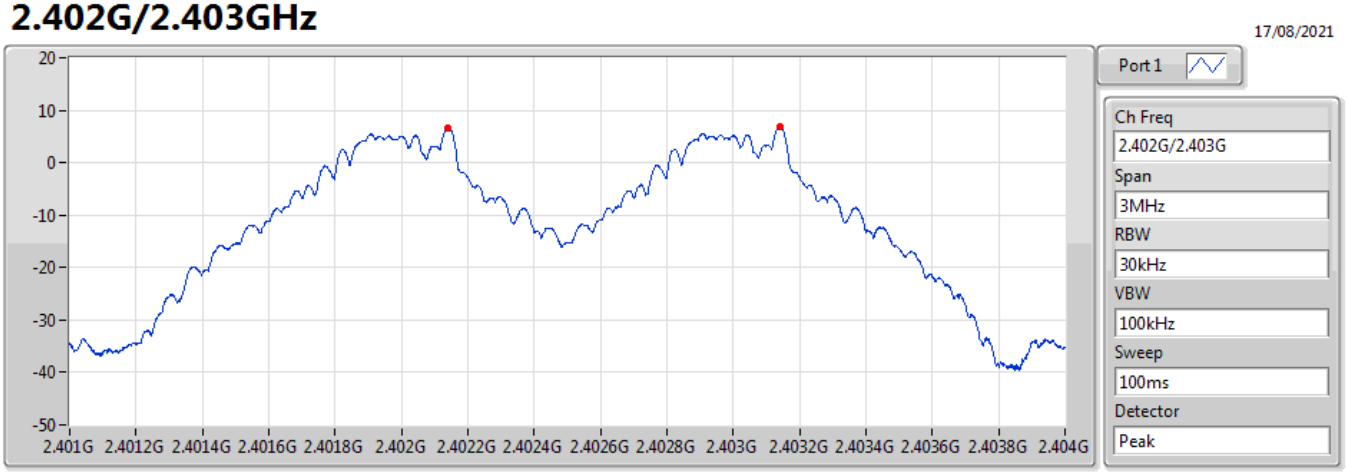
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.0035M	999k
BT-EDR(2Mbps)	1.002M	1.0005M
BT-EDR(3Mbps)	1.002M	999k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.40214G	2.403139G	999k	616.8825k
2440MHz	Pass	2.440134G	2.441135G	1.0005M	616.05k
2480MHz	Pass	2.479125G	2.480129G	1.0035M	607.725k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401906G	2.402908G	1.002M	879.12k
2440MHz	Pass	2.4399G	2.440901G	1.0005M	885.78k
2480MHz	Pass	2.478893G	2.479895G	1.002M	885.114k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.40214G	2.403141G	1.0005M	856.476k
2440MHz	Pass	2.440134G	2.441133G	999k	857.808k
2480MHz	Pass	2.479127G	2.480129G	1.002M	856.476k

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

2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.40214G	2.403139G	999k	616.8825k

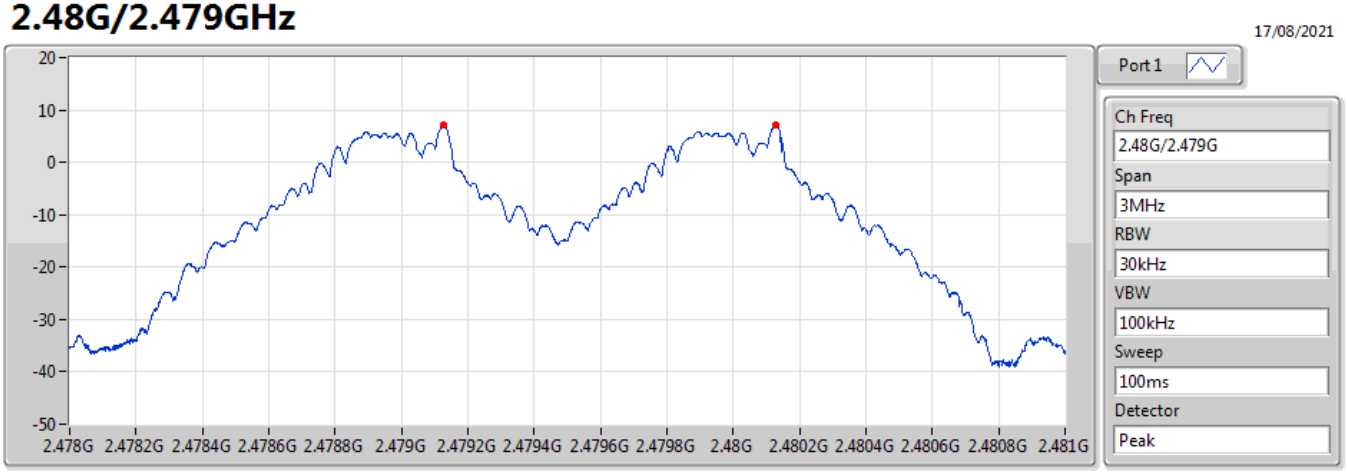
BT-BR(1Mbps) **Channel Separation-FS**

2.44G/2.441GHz

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440134G	2.441135G	1.0005M	616.05k

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

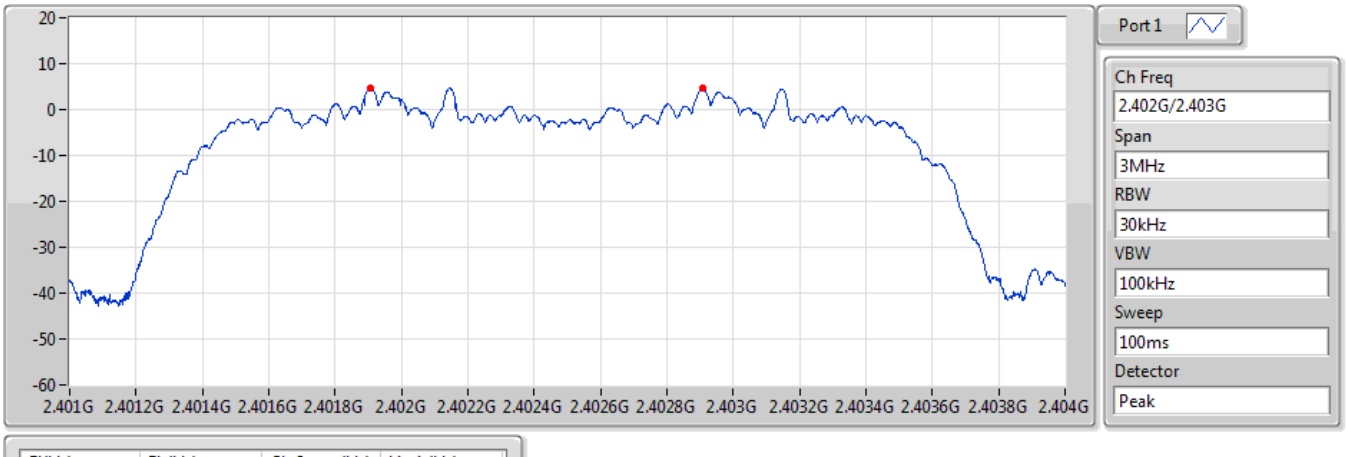
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479125G	2.480129G	1.0035M	607.725k

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

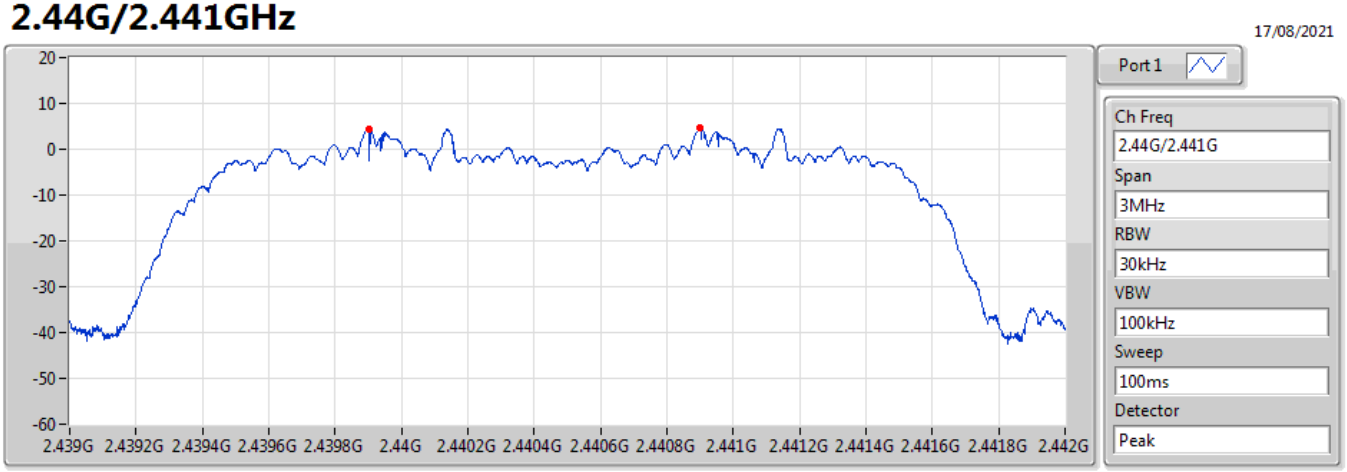
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.401906G	2.402908G	1.002M	879.12k

BT-EDR(2Mbps) Channel Separation-FS

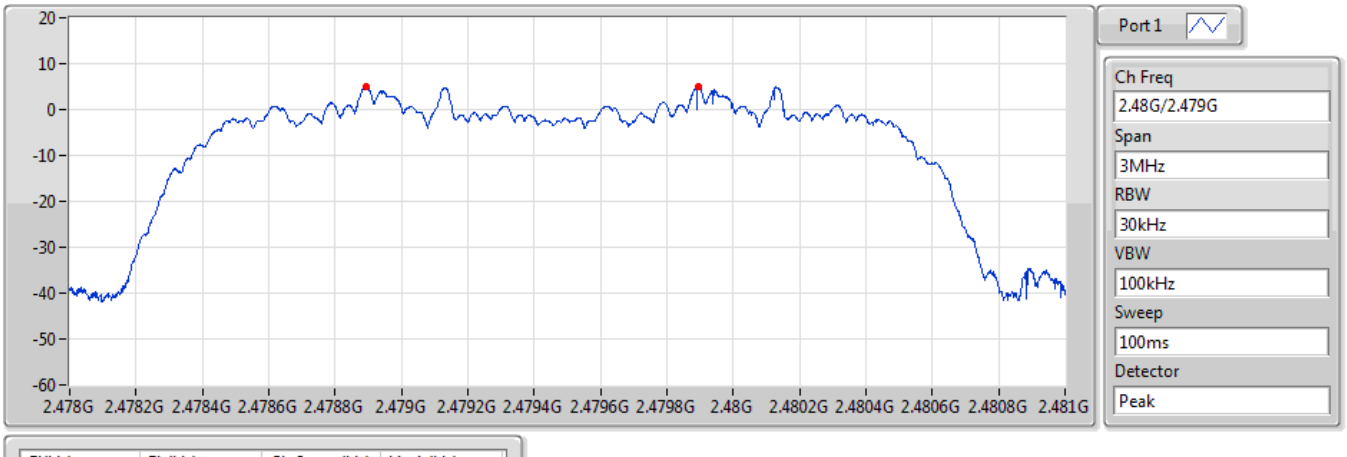
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.4399G	2.440901G	1.0005M	885.78k

BT-EDR(2Mbps) Channel Separation-FS

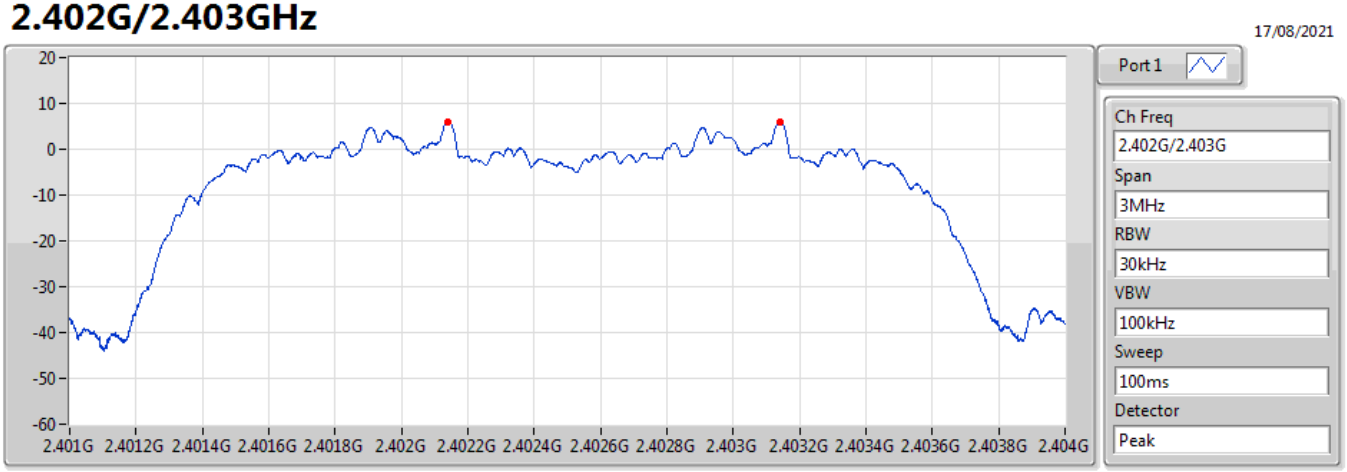
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478893G	2.479895G	1.002M	885.114k

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

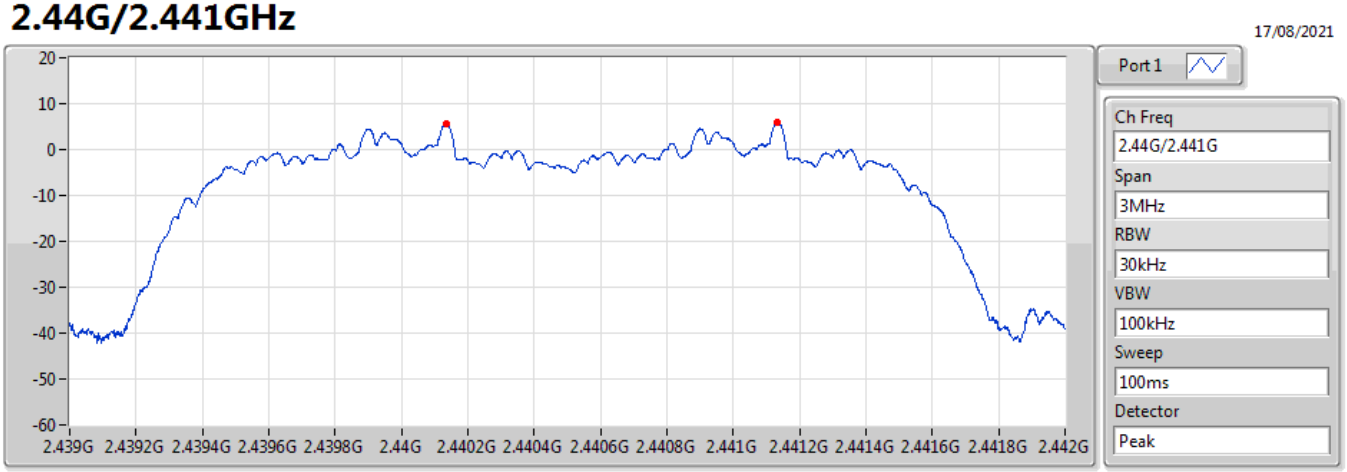
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.40214G	2.403141G	1.0005M	856.476k

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

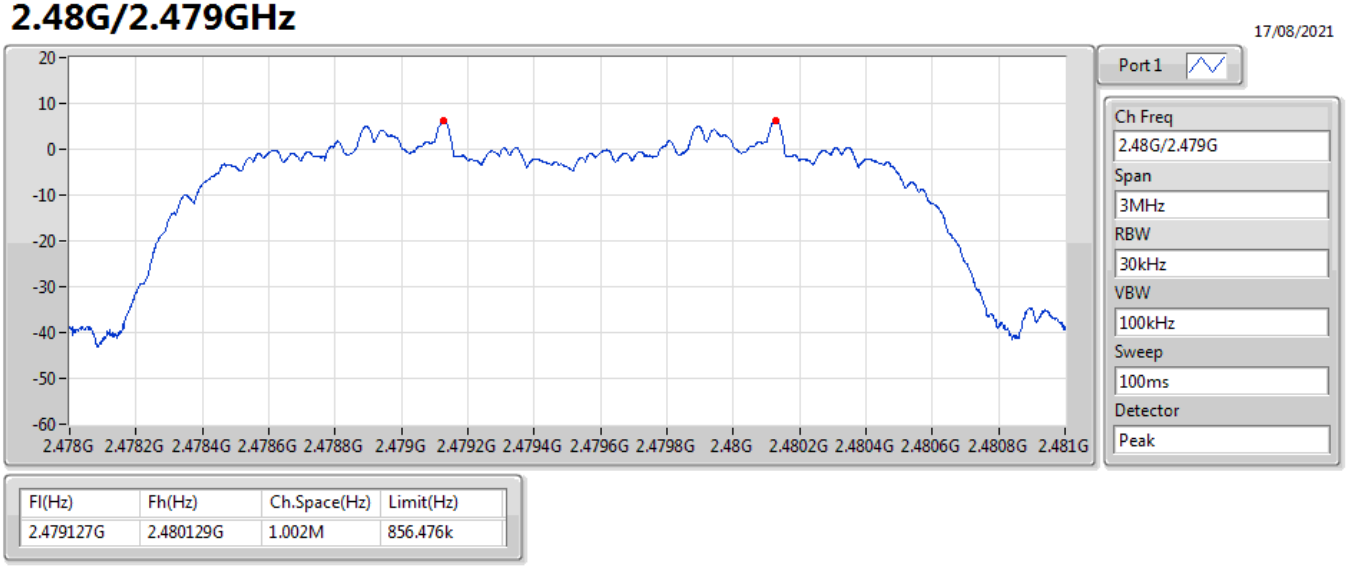
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440134G	2.441133G	999k	857.808k

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

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479127G	2.480129G	1.002M	856.476k

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	8.91	0.00778
BT-EDR(2Mbps)	10.05	0.01012
BT-EDR(3Mbps)	10.60	0.01148

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.74	8.40	21.00
2440MHz	Pass	2.74	8.53	21.00
2480MHz	Pass	2.74	8.91	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.74	9.93	21.00
2440MHz	Pass	2.74	9.58	21.00
2480MHz	Pass	2.74	10.05	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.74	10.55	21.00
2440MHz	Pass	2.74	10.11	21.00
2480MHz	Pass	2.74	10.60	21.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	8.42	0.00695
BT-EDR(2Mbps)	7.69	0.00587
BT-EDR(3Mbps)	7.74	0.00594

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.74	7.81	21.00
2440MHz	Pass	2.74	7.90	21.00
2480MHz	Pass	2.74	8.42	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.74	7.38	21.00
2440MHz	Pass	2.74	7.01	21.00
2480MHz	Pass	2.74	7.69	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.74	7.49	21.00
2440MHz	Pass	2.74	7.05	21.00
2480MHz	Pass	2.74	7.74	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

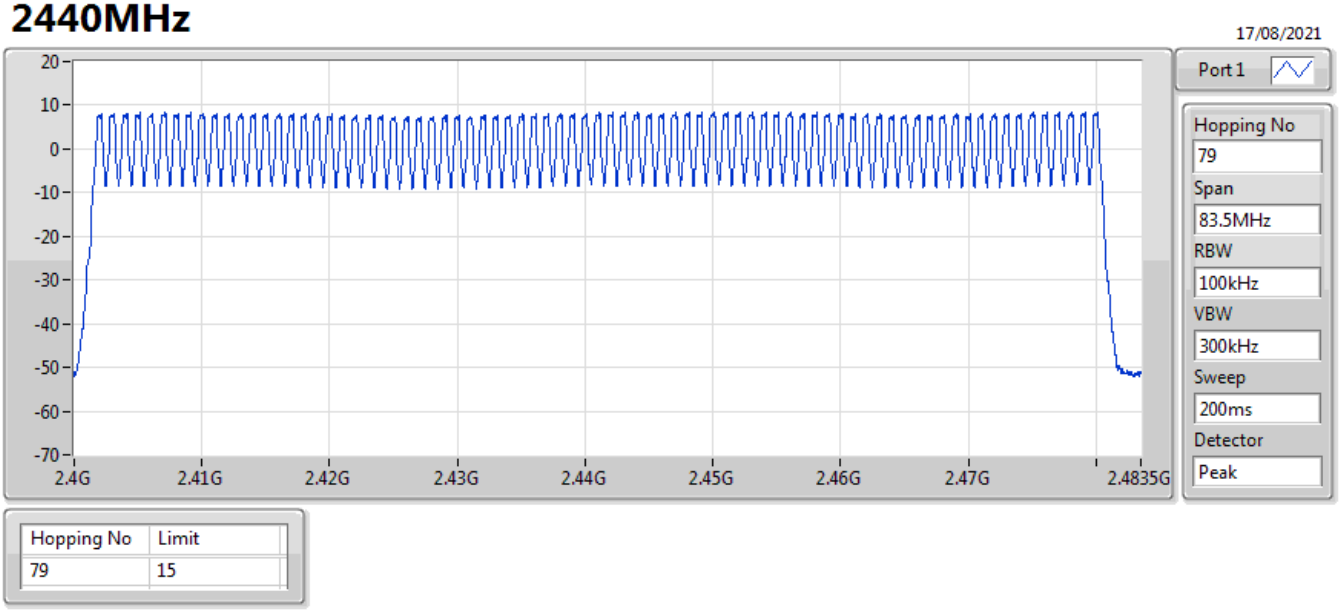
Result

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-FS

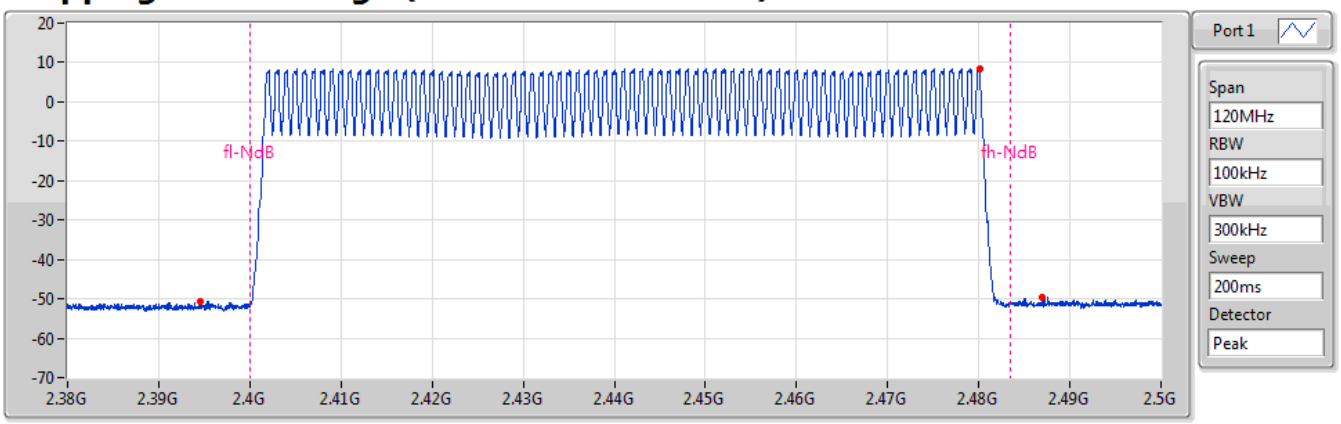


Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

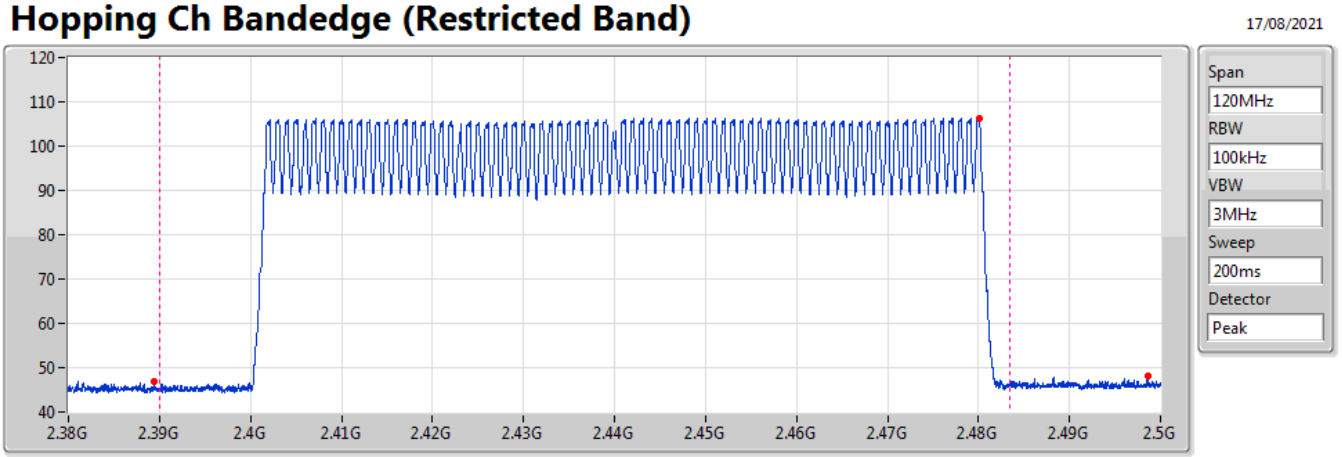


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-11.47	2.480125G	8.53	2.39449G	-50.54	2.487025G	-49.72

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

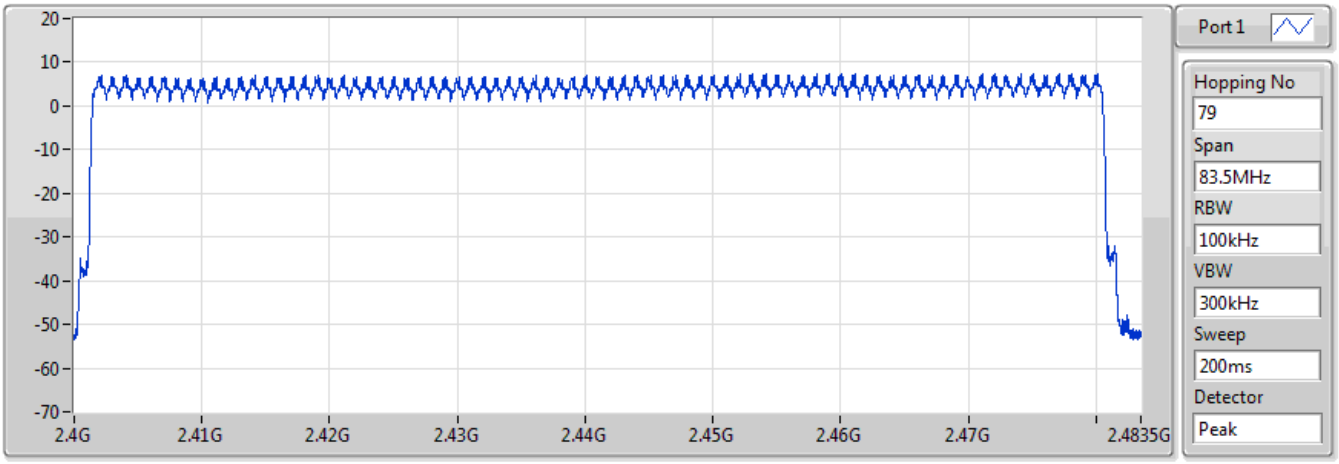


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.480125G	106.38	2.38939G	46.73	16.63	2.498605G	48	17.9	74	54	3.125	-30.1

BT-EDR(2Mbps)

Hopping-FS

2440MHz

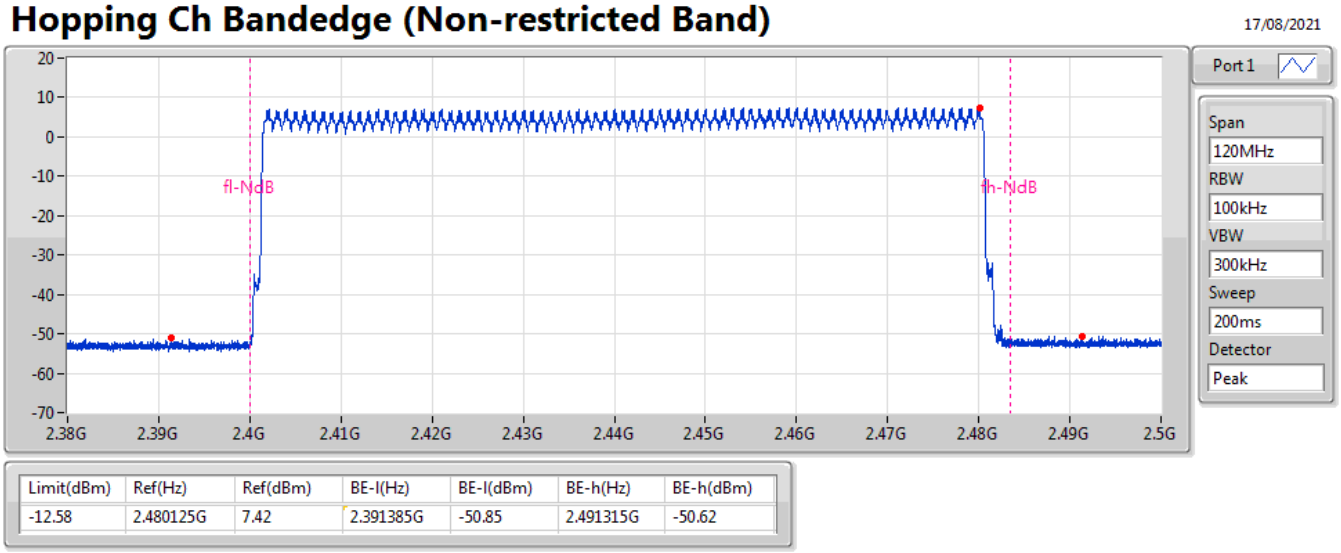


Hopping No	Limit
79	15

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

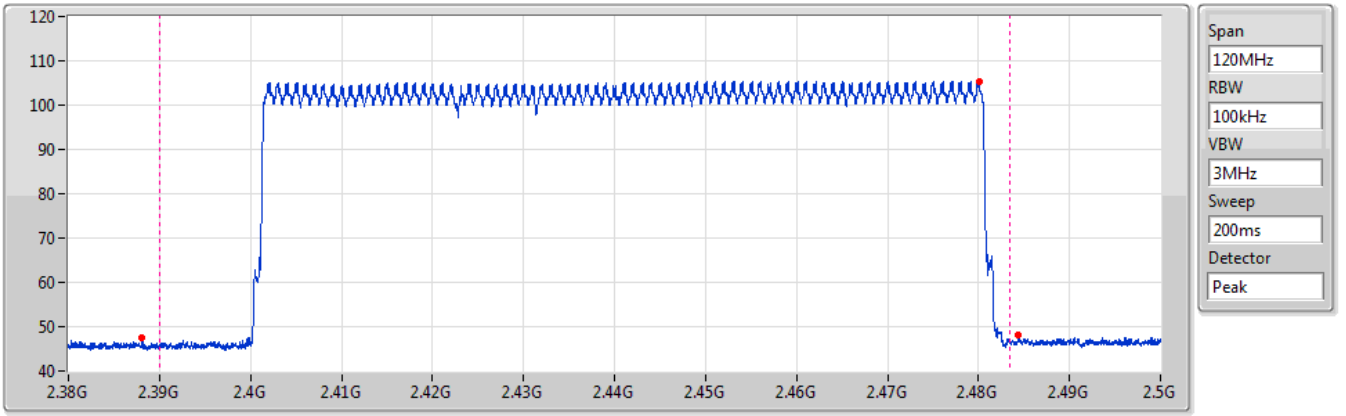


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.58	2.480125G	7.42	2.391385G	-50.85	2.491315G	-50.62

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

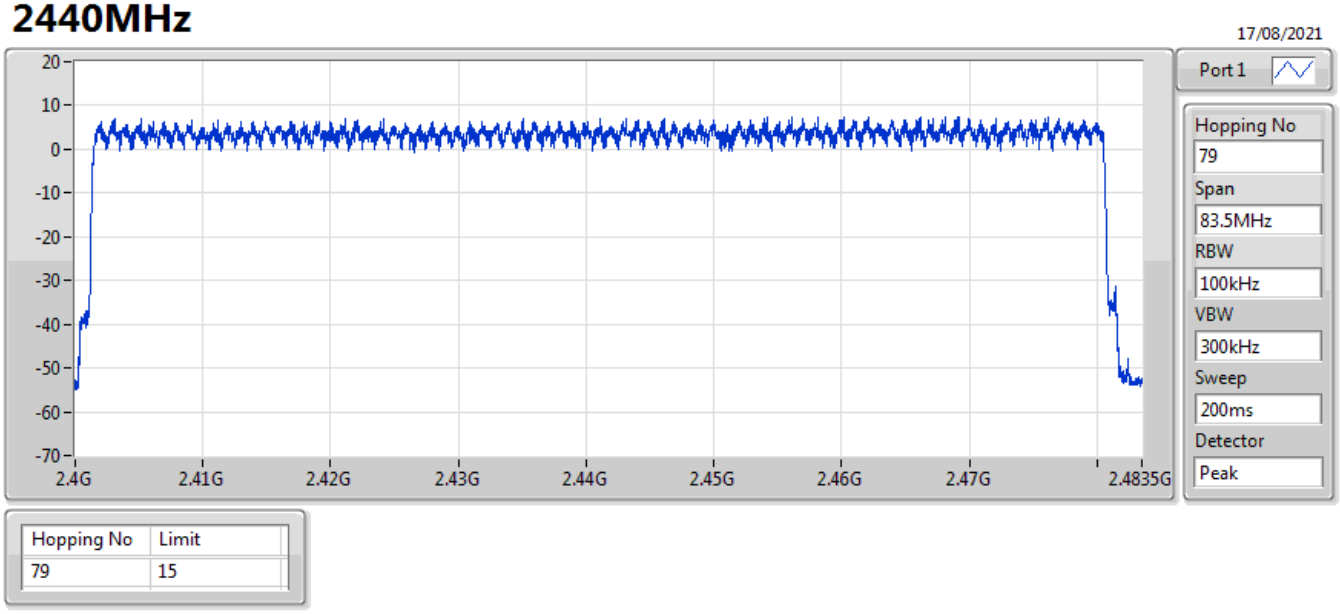


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.480125G	105.46	2.388115G	47.45	17.35	2.48434G	48.05	17.95	74	54	3.125	-30.1

BT-EDR(3Mbps)

2440MHz

Hopping-FS

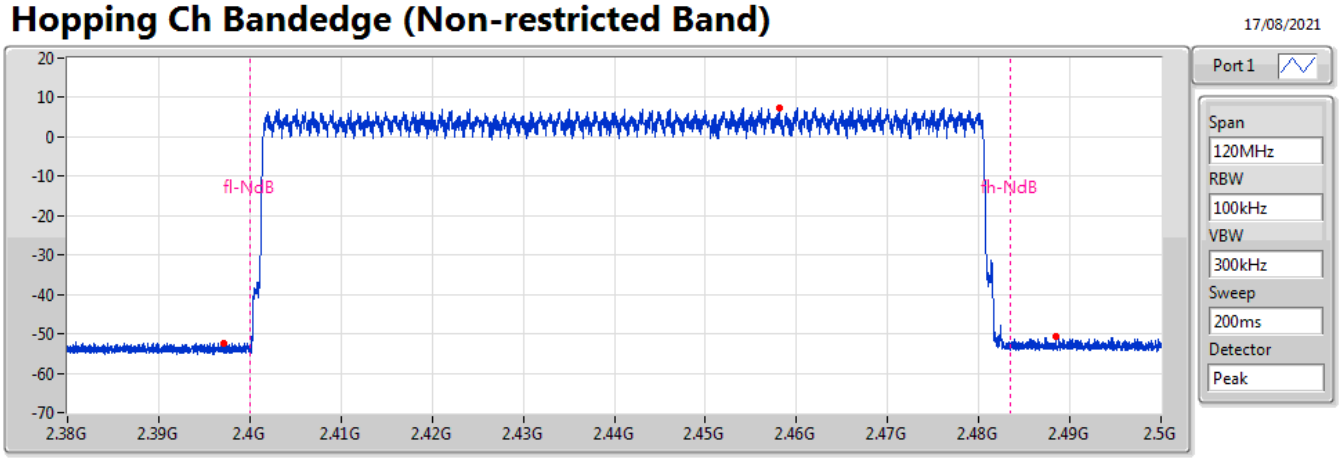


Hopping No	Limit
79	15

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

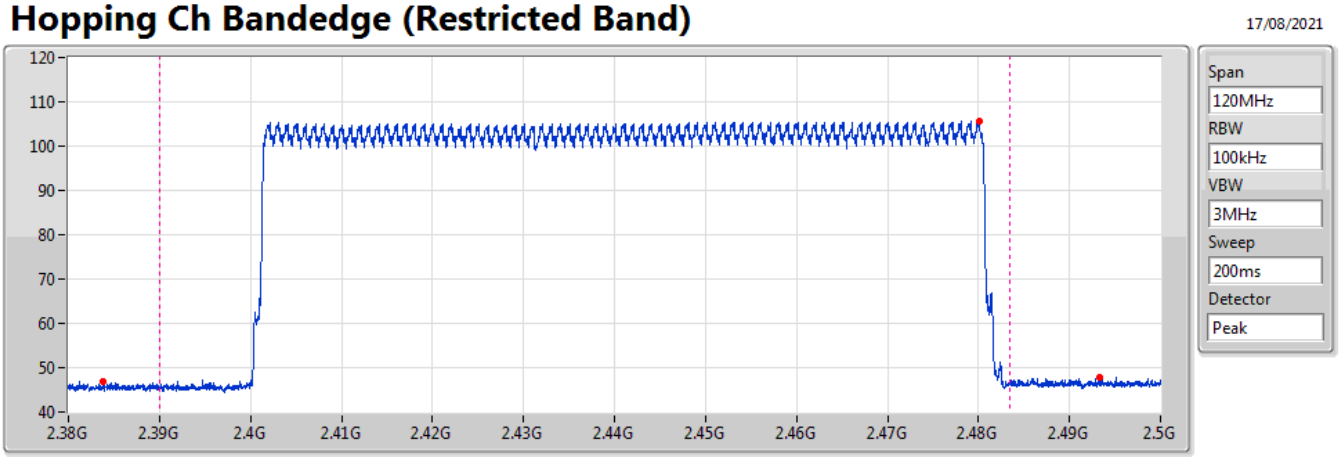


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.59	2.45812G	7.41	2.39719G	-52.34	2.48842G	-50.61

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)



Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.480125G	105.56	2.38387G	46.79	16.69	2.493325G	47.9	17.8	74	54	3.125	-30.1

Summary

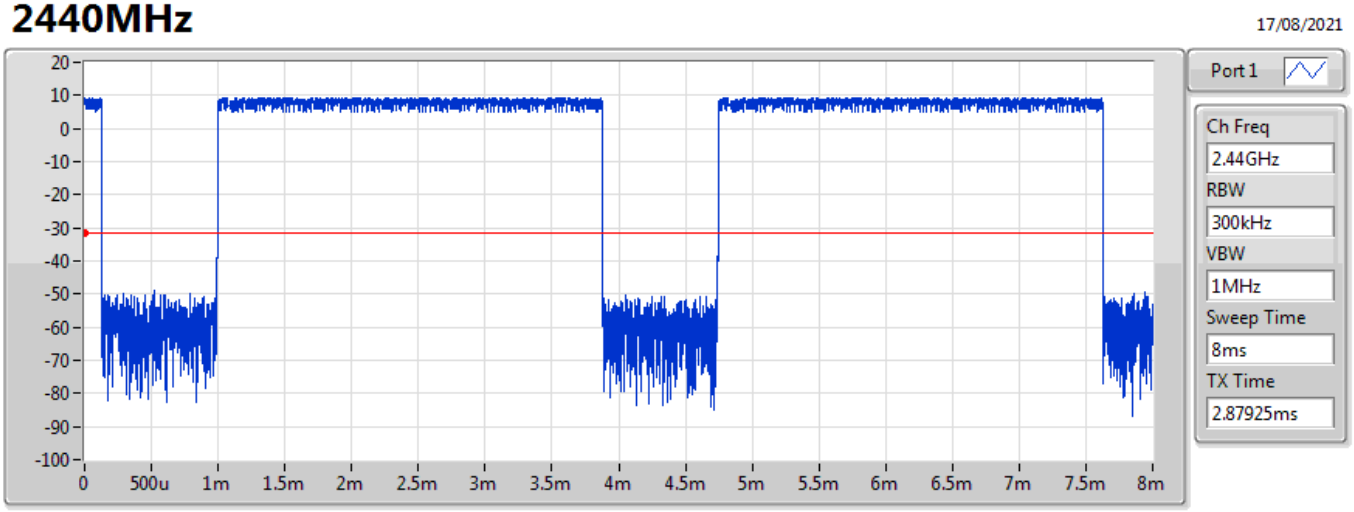
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	306.92805m_DH5
BT-EDR(2Mbps)	307.24785m_DH5
BT-EDR(3Mbps)	307.46105m_DH5

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	306.92805m_DH5	400m	2.87925m
2440MHz	Pass	8	153.490675m_DH5-AFH	400m	2.87975m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.24785m_DH5	400m	2.88225m
2440MHz	Pass	8	153.63725m_DH5-AFH	400m	2.8825m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	307.46105m_DH5	400m	2.88425m
2440MHz	Pass	8	153.730525m_DH5-AFH	400m	2.88425m

BT-BR(1Mbps) Dwell-FS

2440MHz

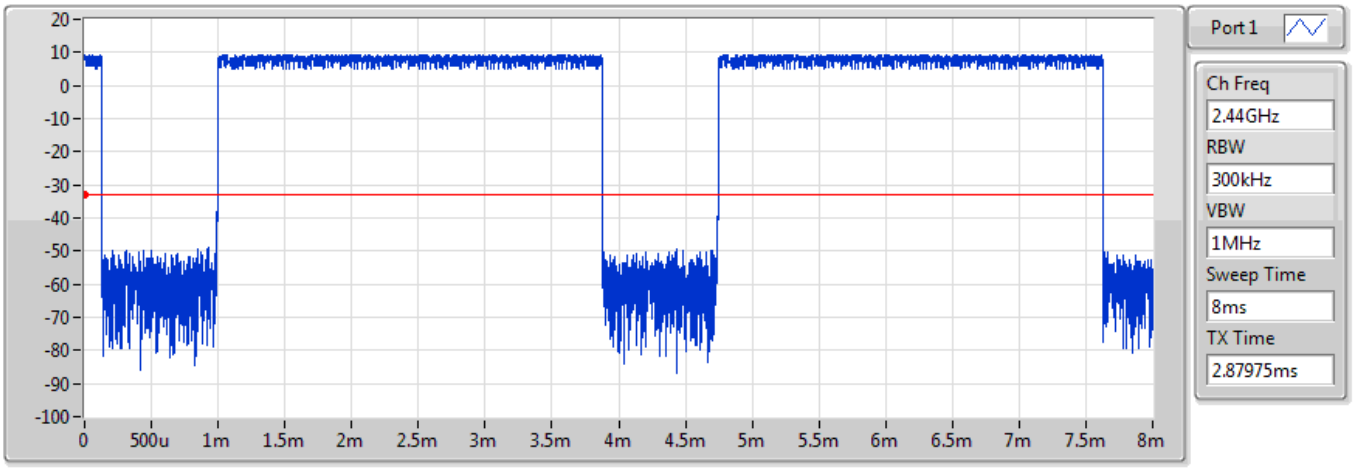


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	306.92805m_DH5	400m	2.87925m

DH5

BT-BR(1Mbps) Dwell-FS

2440MHz

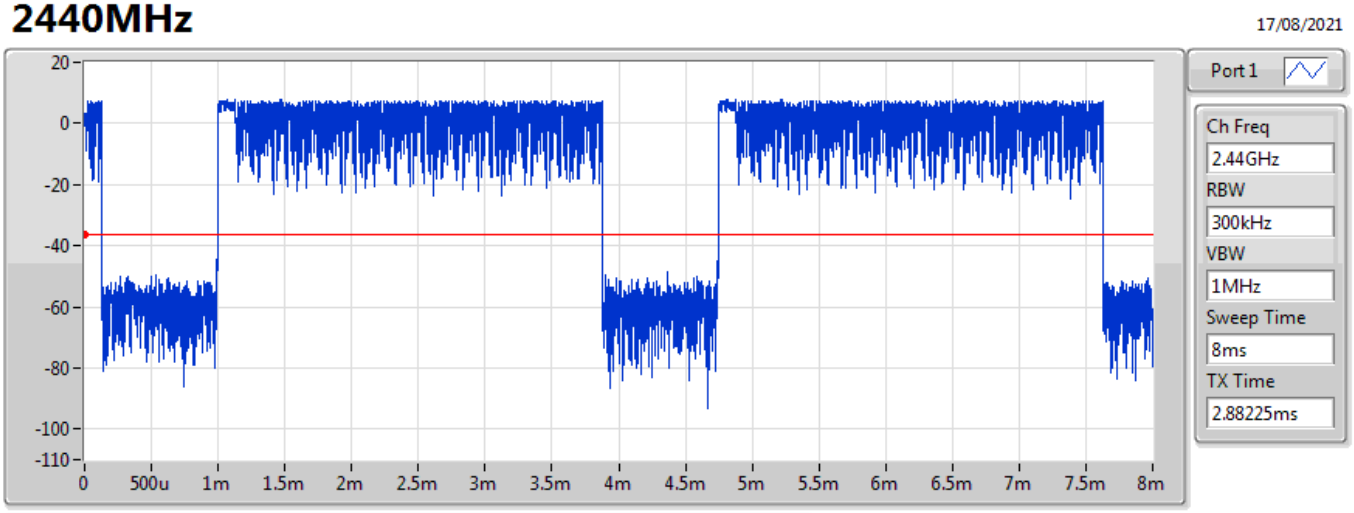


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.490675m_DH5-AFI	400m	2.87975m

DH5-AFH

BT-EDR(2Mbps) Dwell-FS

2440MHz

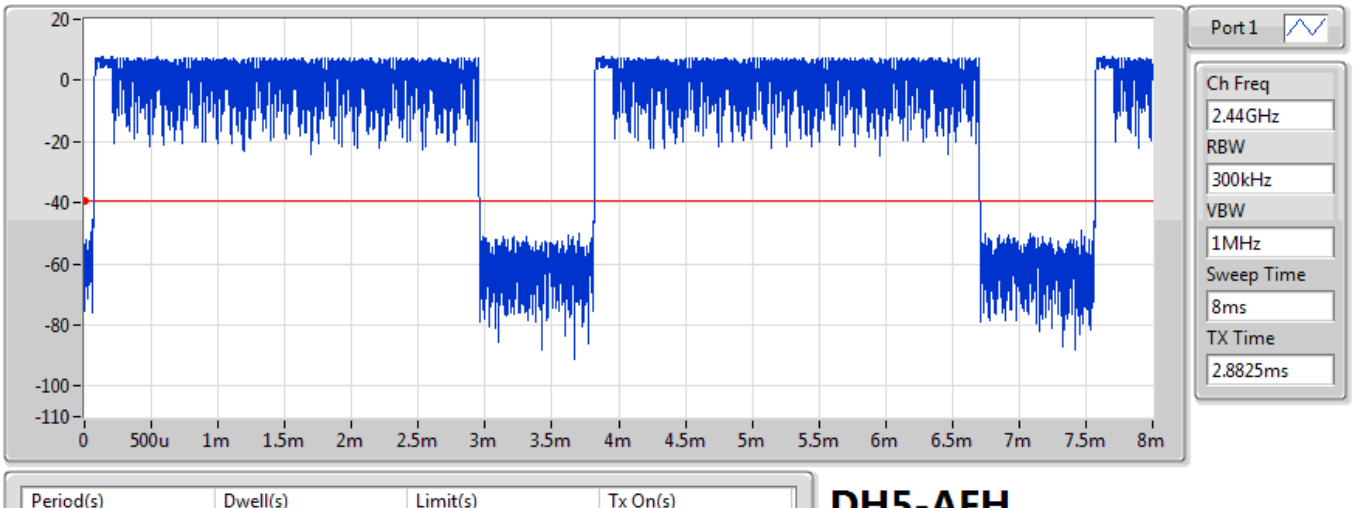


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.24785m_DH5	400m	2.88225m

DH5

BT-EDR(2Mbps) Dwell-FS

2440MHz

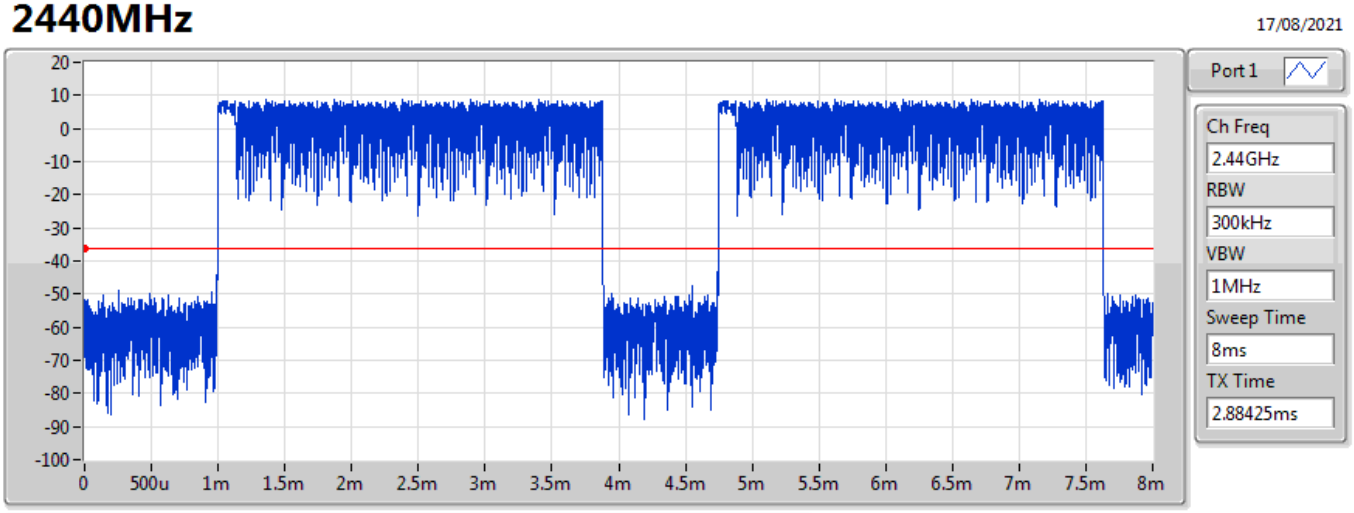


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.63725m_DH5-AFH	400m	2.8825m

DH5-AFH

BT-EDR(3Mbps) Dwell-FS

2440MHz

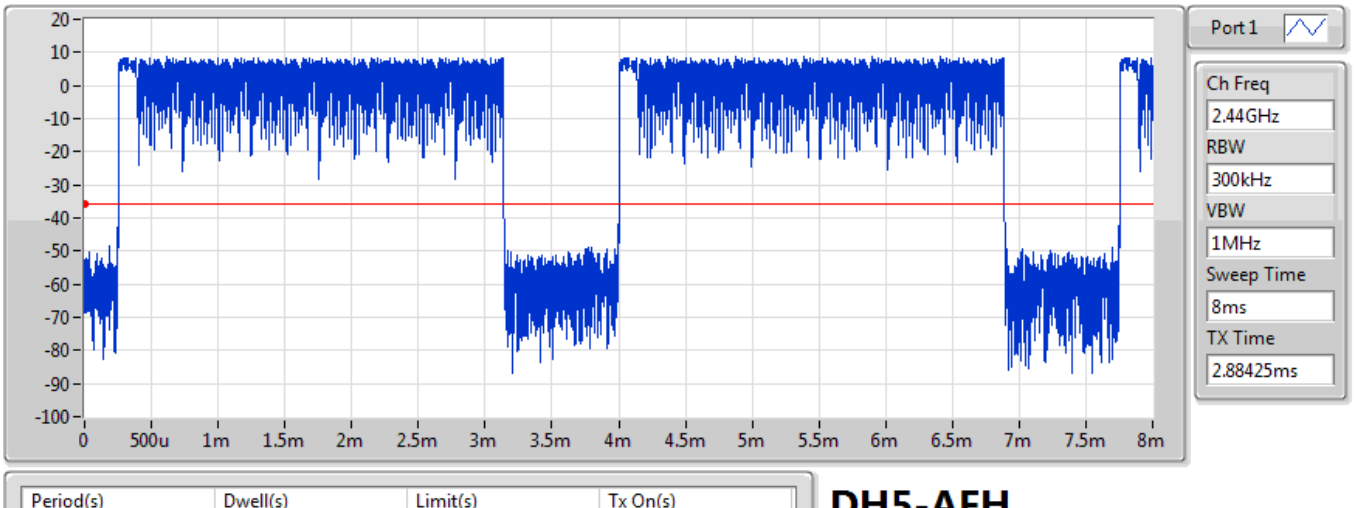


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	307.46105m_DH5	400m	2.88425m

DH5

BT-EDR(3Mbps) Dwell-FS

2440MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	153.730525m_DH5-AFI	400m	2.88425m

DH5-AFH

Summary

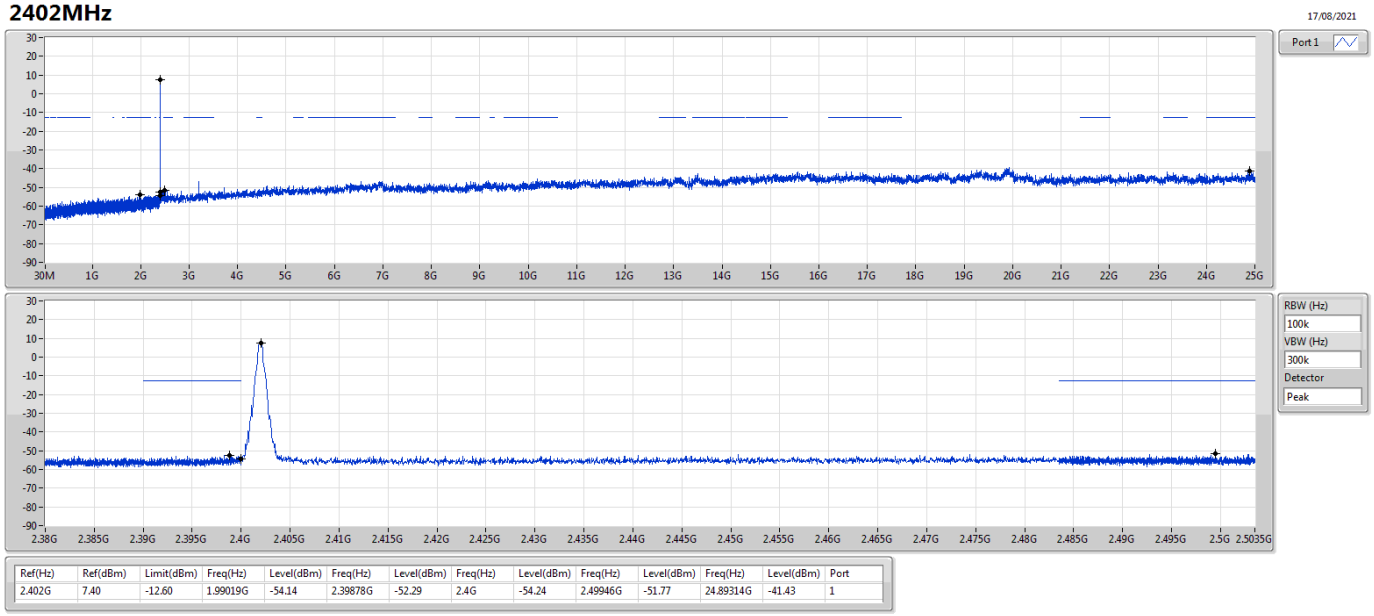
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.402G	7.40	-12.60	1.99019G	-54.14	2.39878G	-52.29	2.4G	-54.24	2.49946G	-51.77	24.89314G	-41.43	1
BT-EDR(2Mbps)	Pass	2.44G	5.87	-14.13	2.14118G	-53.48	2.39199G	-52.93	2.4835G	-56.00	2.49023G	-50.80	16.79721G	-41.93	1
BT-EDR(3Mbps)	Pass	2.47995G	7.13	-12.87	1.63828G	-54.13	2.39886G	-52.53	2.4835G	-55.07	2.49042G	-51.15	17.47773G	-41.85	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	7.40	-12.60	1.99019G	-54.14	2.39878G	-52.29	2.4G	-54.24	2.49946G	-51.77	24.89314G	-41.43	1
2440MHz	Pass	2.44004G	7.58	-12.42	1.95406G	-52.47	2.39324G	-52.80	2.4835G	-54.16	2.49693G	-51.74	24.83409G	-41.07	1
2480MHz	Pass	2.48016G	8.58	-11.42	2.13413G	-53.48	2.39333G	-53.09	2.4835G	-55.24	2.4892G	-51.84	16.30791G	-41.34	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	5.54	-14.46	2.10299G	-53.64	2.39969G	-52.51	2.4G	-52.73	2.48928G	-51.56	23.30151G	-40.34	1
2440MHz	Pass	2.44G	5.87	-14.13	2.14118G	-53.48	2.39199G	-52.93	2.4835G	-56.00	2.49023G	-50.80	16.79721G	-41.93	1
2480MHz	Pass	2.47999G	6.72	-13.28	1.85213G	-53.85	2.39973G	-53.24	2.4835G	-54.12	2.50166G	-51.56	24.82565G	-41.54	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40213G	7.41	-12.59	2.14618G	-54.06	2.39918G	-51.06	2.4G	-53.63	2.49564G	-51.08	24.19856G	-41.57	1
2440MHz	Pass	2.44012G	6.98	-13.02	2.14236G	-53.66	2.39961G	-52.14	2.4835G	-54.69	2.50272G	-51.89	16.57506G	-40.85	1
2480MHz	Pass	2.47995G	7.13	-12.87	1.63828G	-54.13	2.39886G	-52.53	2.4835G	-55.07	2.49042G	-51.15	17.47773G	-41.85	1

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

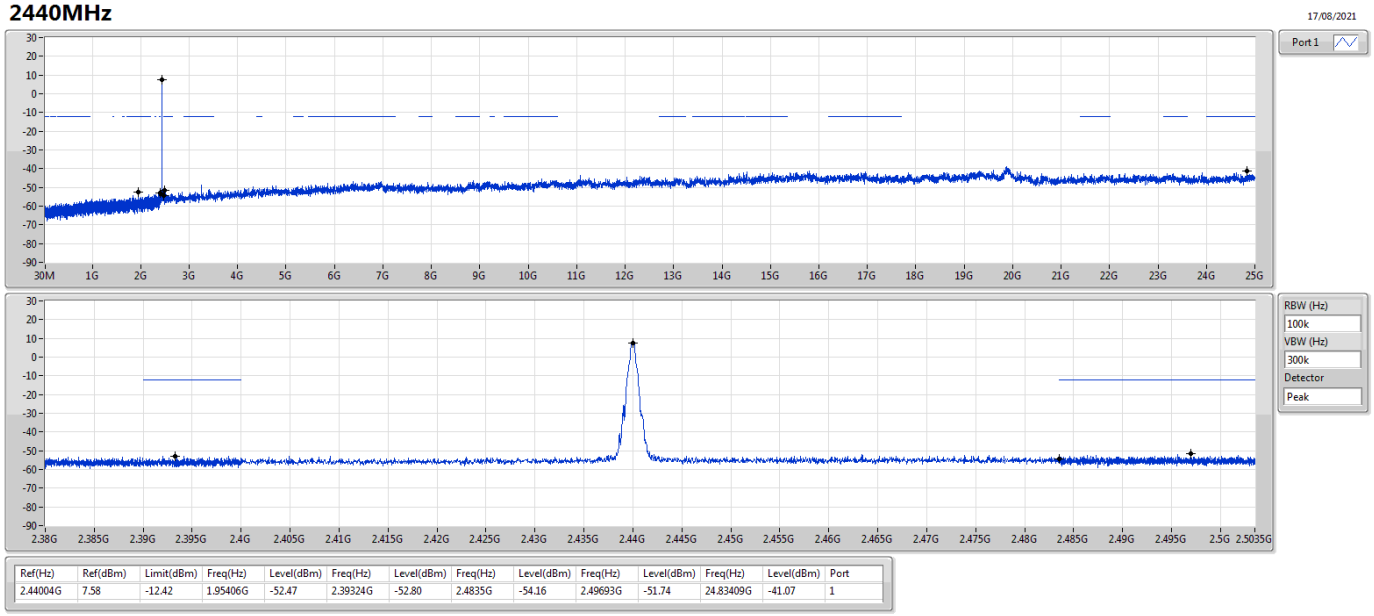
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.402G	7.40	-12.60	1.99019G	-54.14	2.39878G	-52.29	2.4G	-54.24	2.49946G	-51.77	24.89314G	-41.43	1

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

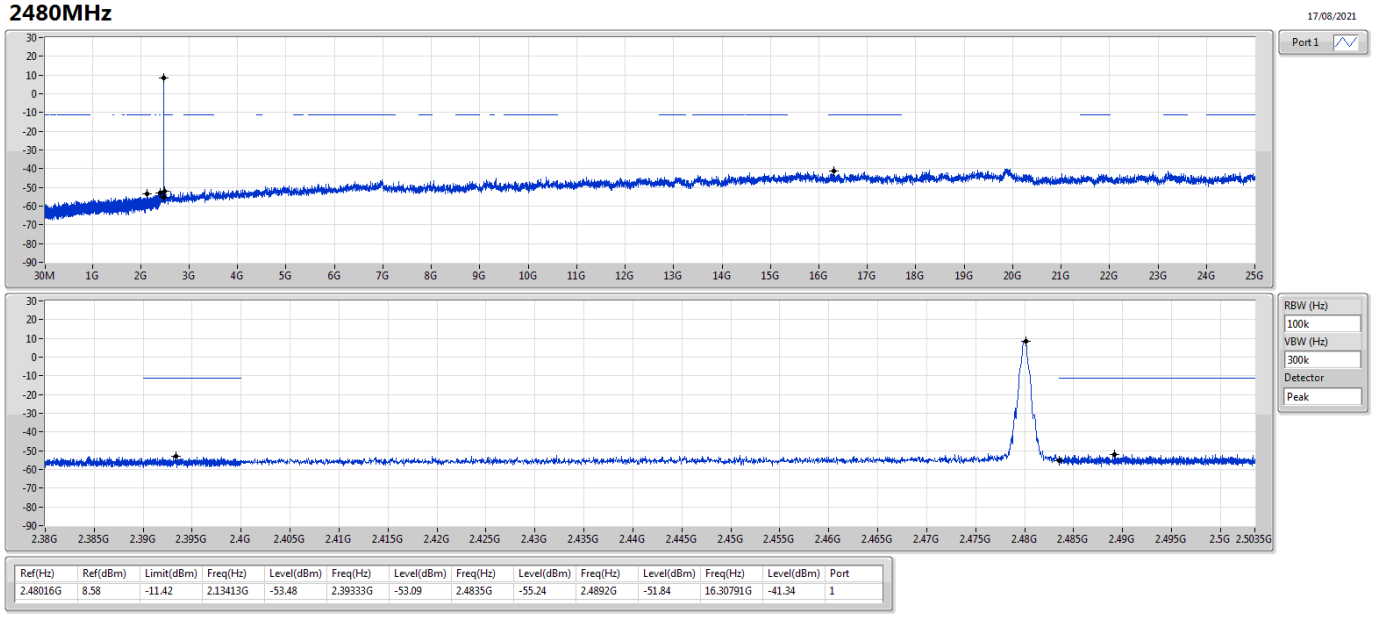
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44004G	7.58	-12.42	1.95406G	-52.47	2.39324G	-52.80	2.4835G	-54.16	2.49693G	-51.74	24.83409G	-41.07	1

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

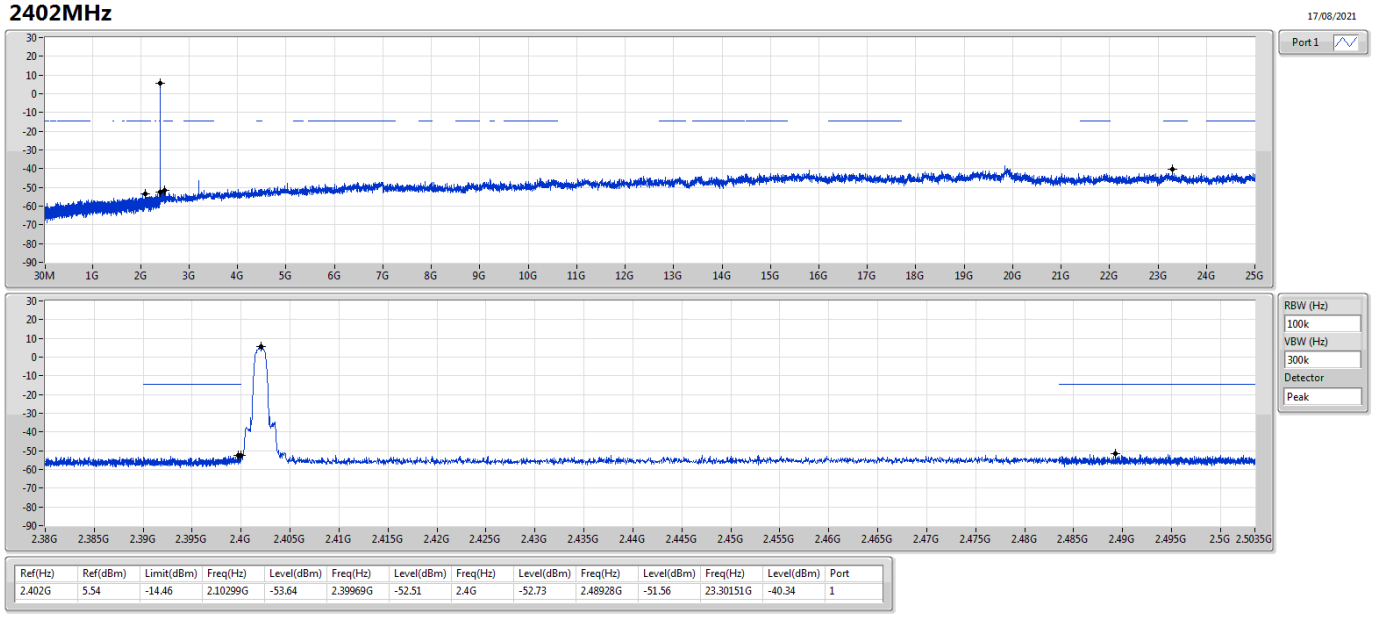
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48016G	8.58	-11.42	2.13413G	-53.48	2.39333G	-53.09	2.4835G	-55.24	2.4892G	-51.84	16.30791G	-41.34	1

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

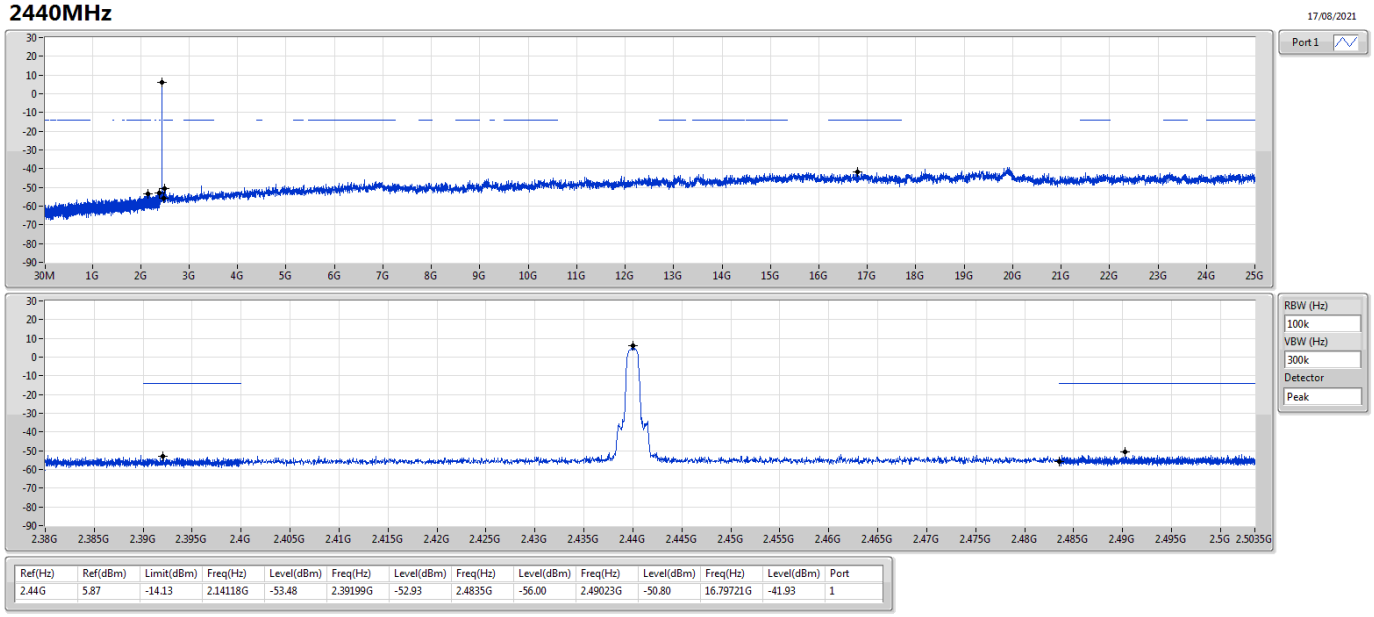
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.402G	5.54	-14.46	2.10299G	-53.64	2.39969G	-52.51	2.4G	-52.73	2.48928G	-51.56	23.30151G	-40.34	1

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

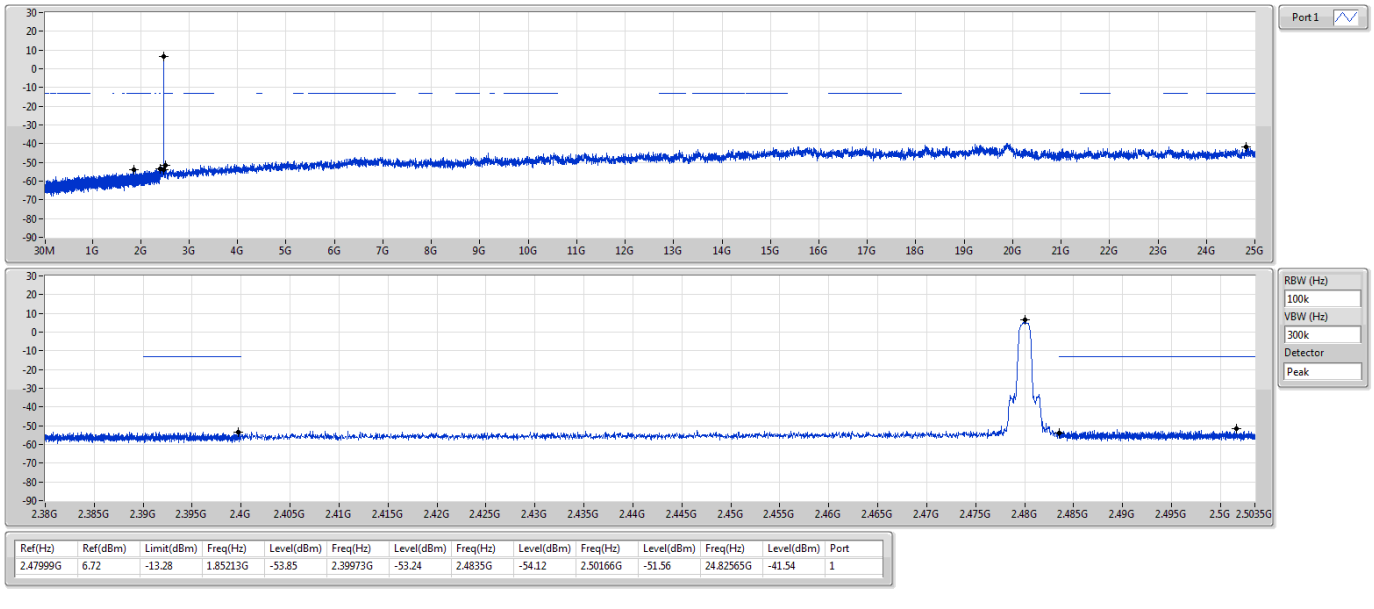
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44G	5.87	-14.13	2.14118G	-53.48	2.39199G	-52.93	2.4835G	-56.00	2.49023G	-50.80	16.79721G	-41.93	1

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

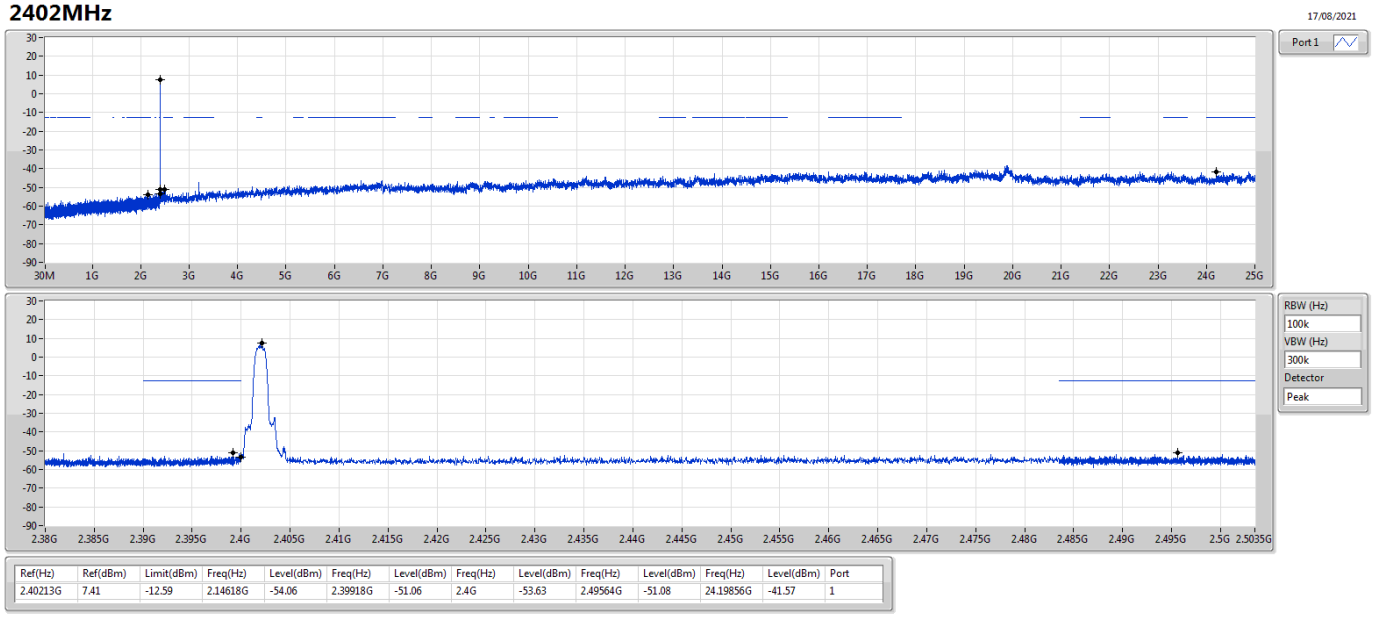
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47999G	6.72	-13.28	1.85213G	-53.85	2.39973G	-53.24	2.4835G	-54.12	2.50166G	-51.56	24.82565G	-41.54	1

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

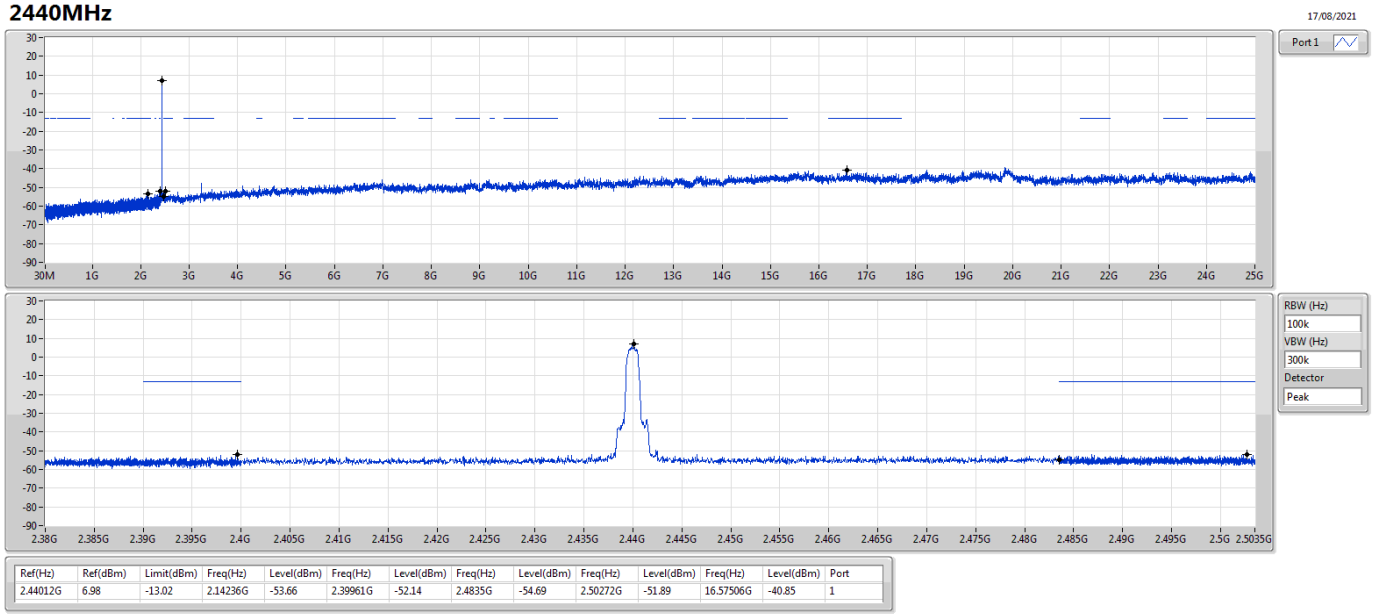
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40213G	7.41	-12.59	2.14618G	-54.06	2.39918G	-51.06	2.4G	-53.63	2.49564G	-51.08	24.19856G	-41.57	1

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

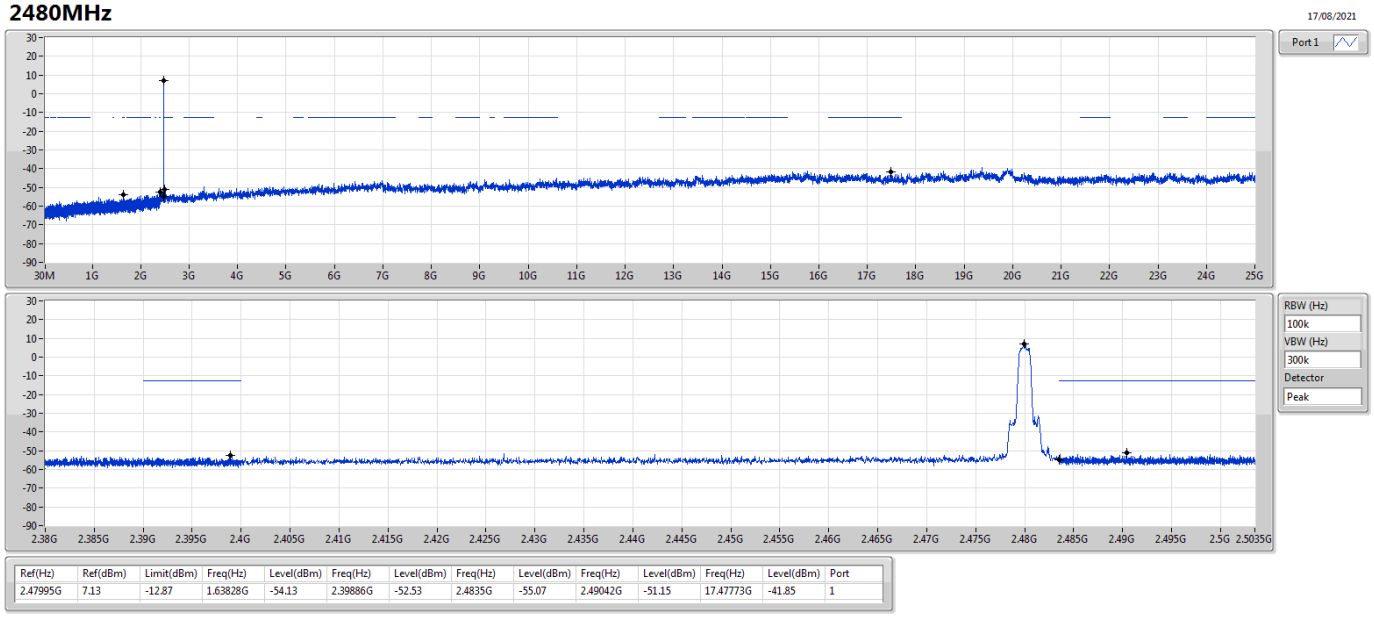
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44012G	6.98	-13.02	2.14236G	-53.66	2.39961G	-52.14	2.4835G	-54.69	2.50272G	-51.89	16.57506G	-40.85	1

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

2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47995G	7.13	-12.87	1.63828G	-54.13	2.39886G	-52.53	2.4835G	-55.07	2.49042G	-51.15	17.47773G	-41.85	1

Summary

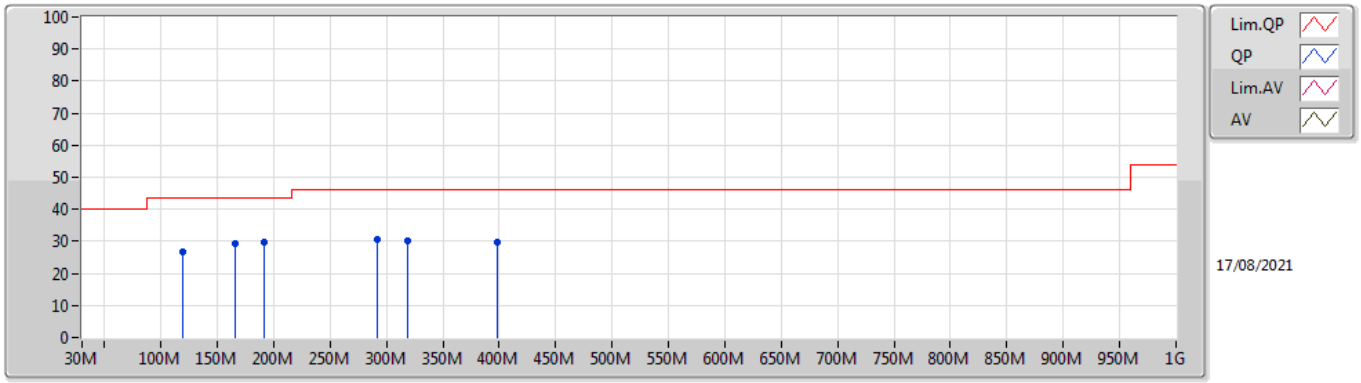
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	443.22M	34.98	46.00	-11.02	3	Horizontal	360	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	119.24M	27.39	43.50	-16.11	3	Vertical	0	1.00	-
2440MHz	Pass	PK	165.8M	30.95	43.50	-12.55	3	Vertical	0	1.00	-
2440MHz	Pass	PK	191.02M	29.73	43.50	-13.77	3	Vertical	0	1.00	-
2440MHz	Pass	PK	289.96M	30.49	46.00	-15.51	3	Vertical	0	1.00	-
2440MHz	Pass	PK	324.88M	30.37	46.00	-15.63	3	Vertical	0	1.00	-
2440MHz	Pass	PK	396.66M	29.41	46.00	-16.59	3	Vertical	0	1.00	-
2440MHz	Pass	PK	115.36M	29.81	43.50	-13.69	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	191.02M	31.13	43.50	-12.37	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	258.92M	30.56	46.00	-15.44	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	319.06M	33.07	46.00	-12.93	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	394.72M	32.98	46.00	-13.02	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	443.22M	34.98	46.00	-11.02	3	Horizontal	360	1.00	-

BT-BR(1Mbps)

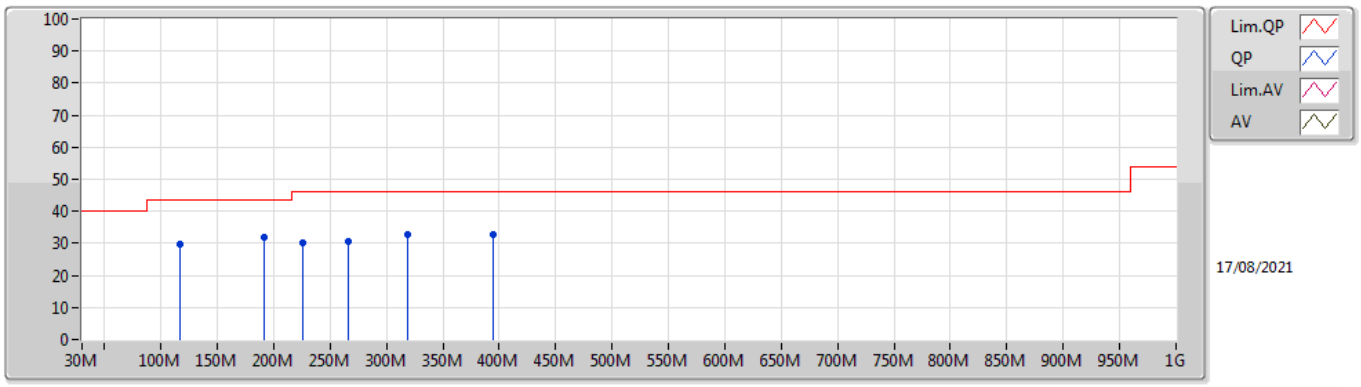
2440MHz_test fixture



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	119.24M	26.89	43.50	-16.61	-8.08	3	Vertical	0	1.00	-	34.97	17.41	1.88	27.37
PK	165.8M	29.45	43.50	-14.05	-10.10	3	Vertical	0	1.00	-	39.55	14.92	2.16	27.18
PK	191.02M	29.80	43.50	-13.70	-10.48	3	Vertical	0	1.00	-	40.28	14.28	2.33	27.09
PK	291.9M	30.44	46.00	-15.56	-5.66	3	Vertical	0	1.00	-	36.10	18.24	2.88	26.78
PK	319.06M	30.25	46.00	-15.75	-5.00	3	Vertical	0	1.00	-	35.25	18.81	3.05	26.86
PK	398.6M	29.59	46.00	-16.41	-2.83	3	Vertical	0	1.00	-	32.42	20.98	3.44	27.25

BT-BR(1Mbps)

2440MHz_test fixture



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	117.3M	29.91	43.50	-13.59	-8.12	3	Horizontal	360	1.00	-	38.03	17.39	1.86	27.37
PK	191.02M	31.75	43.50	-11.75	-10.48	3	Horizontal	360	1.00	-	42.23	14.28	2.33	27.09
PK	225.94M	30.07	46.00	-15.93	-9.45	3	Horizontal	360	1.00	-	39.52	14.89	2.54	26.88
PK	266.68M	30.79	46.00	-15.21	-5.58	3	Horizontal	360	1.00	-	36.37	18.41	2.75	26.74
PK	319.06M	32.74	46.00	-13.26	-5.00	3	Horizontal	360	1.00	-	37.74	18.81	3.05	26.86
PK	394.72M	32.81	46.00	-13.19	-3.02	3	Horizontal	360	1.00	-	35.83	20.78	3.43	27.23

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	2.4882G	62.15	74.00	-11.85	3	Vertical	333	1.14	-
BT-EDR(3Mbps)	Pass	PK	2.4932G	62.17	74.00	-11.83	3	Vertical	333	1.50	-

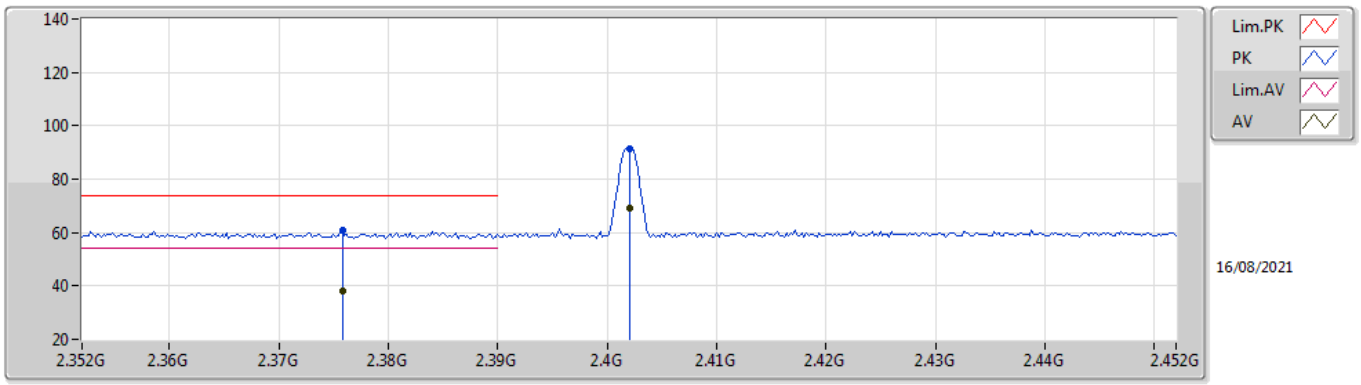
Result

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	2.3758G	38.12	54.00	-15.88	3	Vertical	328	1.50	-
2402MHz	Pass	AV	2.402G	68.95	Inf	-Inf	3	Vertical	328	1.50	-
2402MHz	Pass	PK	2.3758G	60.62	74.00	-13.38	3	Vertical	328	1.50	-
2402MHz	Pass	PK	2.402G	91.45	Inf	-Inf	3	Vertical	328	1.50	-
2402MHz	Pass	AV	2.3576G	38.00	54.00	-16.00	3	Horizontal	224	2.79	-
2402MHz	Pass	AV	2.402G	67.25	Inf	-Inf	3	Horizontal	224	2.79	-
2402MHz	Pass	PK	2.3576G	60.50	74.00	-13.50	3	Horizontal	224	2.79	-
2402MHz	Pass	PK	2.402G	89.75	Inf	-Inf	3	Horizontal	224	2.79	-
2402MHz	Pass	AV	4.80236G	24.04	54.00	-29.96	3	Vertical	340	1.50	-
2402MHz	Pass	PK	4.80236G	46.54	74.00	-27.46	3	Vertical	340	1.50	-
2402MHz	Pass	AV	4.80212G	24.08	54.00	-29.92	3	Horizontal	6	1.40	-
2402MHz	Pass	PK	4.80212G	46.58	74.00	-27.42	3	Horizontal	6	1.40	-
2440MHz	Pass	AV	2.3896G	37.90	54.00	-16.10	3	Vertical	212	1.89	-
2440MHz	Pass	AV	2.44G	67.94	Inf	-Inf	3	Vertical	212	1.89	-
2440MHz	Pass	AV	2.494G	38.93	54.00	-15.07	3	Vertical	212	1.89	-
2440MHz	Pass	PK	2.3896G	60.40	74.00	-13.60	3	Vertical	212	1.89	-
2440MHz	Pass	PK	2.44G	90.44	Inf	-Inf	3	Vertical	212	1.89	-
2440MHz	Pass	PK	2.494G	61.43	74.00	-12.57	3	Vertical	212	1.89	-
2440MHz	Pass	AV	2.3896G	38.32	54.00	-15.68	3	Horizontal	303	1.49	-
2440MHz	Pass	AV	2.44G	59.78	Inf	-Inf	3	Horizontal	303	1.49	-
2440MHz	Pass	AV	2.4924G	38.40	54.00	-15.60	3	Horizontal	303	1.49	-
2440MHz	Pass	PK	2.3896G	60.82	74.00	-13.18	3	Horizontal	303	1.49	-
2440MHz	Pass	PK	2.44G	83.28	Inf	-Inf	3	Horizontal	303	1.49	-
2440MHz	Pass	PK	2.4924G	60.90	74.00	-13.10	3	Horizontal	303	1.49	-
2440MHz	Pass	AV	4.8787G	25.43	54.00	-28.57	3	Vertical	0	1.49	-
2440MHz	Pass	PK	4.8787G	47.93	74.00	-26.07	3	Vertical	0	1.49	-
2440MHz	Pass	AV	4.88108G	24.47	54.00	-29.53	3	Horizontal	22	1.72	-
2440MHz	Pass	PK	4.88108G	46.97	74.00	-27.03	3	Horizontal	22	1.72	-
2480MHz	Pass	AV	2.48G	69.38	Inf	-Inf	3	Vertical	333	1.14	-
2480MHz	Pass	AV	2.4882G	39.65	54.00	-14.35	3	Vertical	333	1.14	-
2480MHz	Pass	PK	2.48G	91.88	Inf	-Inf	3	Vertical	333	1.14	-
2480MHz	Pass	PK	2.4882G	62.15	74.00	-11.85	3	Vertical	333	1.14	-
2480MHz	Pass	AV	2.4798G	64.18	Inf	-Inf	3	Horizontal	32	2.88	-
2480MHz	Pass	AV	2.4862G	38.60	54.00	-15.40	3	Horizontal	32	2.88	-
2480MHz	Pass	PK	2.4798G	86.68	Inf	-Inf	3	Horizontal	32	2.88	-
2480MHz	Pass	PK	2.4862G	61.10	74.00	-12.90	3	Horizontal	32	2.88	-
2480MHz	Pass	AV	4.95995G	25.23	54.00	-28.77	3	Vertical	67	1.65	-
2480MHz	Pass	PK	4.95995G	47.73	74.00	-26.27	3	Vertical	67	1.65	-
2480MHz	Pass	AV	4.9595G	25.09	54.00	-28.91	3	Horizontal	234	1.50	-
2480MHz	Pass	PK	4.9595G	47.59	74.00	-26.41	3	Horizontal	234	1.50	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3642G	38.18	54.00	-15.82	3	Vertical	335	1.02	-
2402MHz	Pass	AV	2.402G	68.79	Inf	-Inf	3	Vertical	335	1.02	-
2402MHz	Pass	PK	2.3642G	60.68	74.00	-13.32	3	Vertical	335	1.02	-
2402MHz	Pass	PK	2.402G	91.29	Inf	-Inf	3	Vertical	335	1.02	-
2402MHz	Pass	AV	2.3606G	38.66	54.00	-15.34	3	Horizontal	331	2.93	-
2402MHz	Pass	AV	2.402G	62.81	Inf	-Inf	3	Horizontal	331	2.93	-
2402MHz	Pass	PK	2.3606G	61.16	74.00	-12.84	3	Horizontal	331	2.93	-
2402MHz	Pass	PK	2.402G	85.31	Inf	-Inf	3	Horizontal	331	2.93	-
2402MHz	Pass	AV	4.80383G	23.75	54.00	-30.25	3	Vertical	0	1.50	-
2402MHz	Pass	PK	4.80383G	46.25	74.00	-27.75	3	Vertical	0	1.50	-
2402MHz	Pass	AV	4.8047G	24.21	54.00	-29.79	3	Horizontal	81	1.50	-
2402MHz	Pass	PK	4.8047G	46.71	74.00	-27.29	3	Horizontal	81	1.50	-
2440MHz	Pass	AV	2.36G	37.84	54.00	-16.16	3	Vertical	333	1.50	-
2440MHz	Pass	AV	2.44G	67.23	Inf	-Inf	3	Vertical	333	1.50	-
2440MHz	Pass	AV	2.4932G	39.67	54.00	-14.33	3	Vertical	333	1.50	-
2440MHz	Pass	PK	2.36G	60.34	74.00	-13.66	3	Vertical	333	1.50	-
2440MHz	Pass	PK	2.44G	89.73	Inf	-Inf	3	Vertical	333	1.50	-
2440MHz	Pass	PK	2.4932G	62.17	74.00	-11.83	3	Vertical	333	1.50	-
2440MHz	Pass	AV	2.3812G	38.47	54.00	-15.53	3	Horizontal	319	2.66	-

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	60.02	Inf	-Inf	3	Horizontal	319	2.66	-
2440MHz	Pass	AV	2.4948G	37.88	54.00	-16.12	3	Horizontal	319	2.66	-
2440MHz	Pass	PK	2.3812G	60.97	74.00	-13.03	3	Horizontal	319	2.66	-
2440MHz	Pass	PK	2.44G	82.52	Inf	-Inf	3	Horizontal	319	2.66	-
2440MHz	Pass	PK	2.4948G	60.38	74.00	-13.62	3	Horizontal	319	2.66	-
2440MHz	Pass	AV	4.87976G	24.16	54.00	-29.84	3	Vertical	260	1.50	-
2440MHz	Pass	PK	4.87976G	46.66	74.00	-27.34	3	Vertical	260	1.50	-
2440MHz	Pass	AV	4.87968G	25.67	54.00	-28.33	3	Horizontal	202	1.50	-
2440MHz	Pass	PK	4.87968G	48.17	74.00	-25.83	3	Horizontal	202	1.50	-
2480MHz	Pass	AV	2.48G	69.58	Inf	-Inf	3	Vertical	319	1.15	-
2480MHz	Pass	AV	2.4908G	38.77	54.00	-15.23	3	Vertical	319	1.15	-
2480MHz	Pass	PK	2.48G	92.08	Inf	-Inf	3	Vertical	319	1.15	-
2480MHz	Pass	PK	2.4908G	61.27	74.00	-12.73	3	Vertical	319	1.15	-
2480MHz	Pass	AV	2.48G	63.37	Inf	-Inf	3	Horizontal	47	1.33	-
2480MHz	Pass	AV	2.4926G	39.06	54.00	-14.94	3	Horizontal	47	1.33	-
2480MHz	Pass	PK	2.48G	85.87	Inf	-Inf	3	Horizontal	47	1.33	-
2480MHz	Pass	PK	2.4926G	61.56	74.00	-12.44	3	Horizontal	47	1.33	-
2480MHz	Pass	AV	4.95921G	26.69	54.00	-27.31	3	Vertical	116	1.50	-
2480MHz	Pass	PK	4.95921G	47.19	74.00	-26.81	3	Vertical	116	1.50	-
2480MHz	Pass	AV	4.9603G	25.02	54.00	-28.98	3	Horizontal	332	2.99	-
2480MHz	Pass	PK	4.9603G	47.52	74.00	-26.48	3	Horizontal	332	2.99	-

BT-BR(1Mbps)

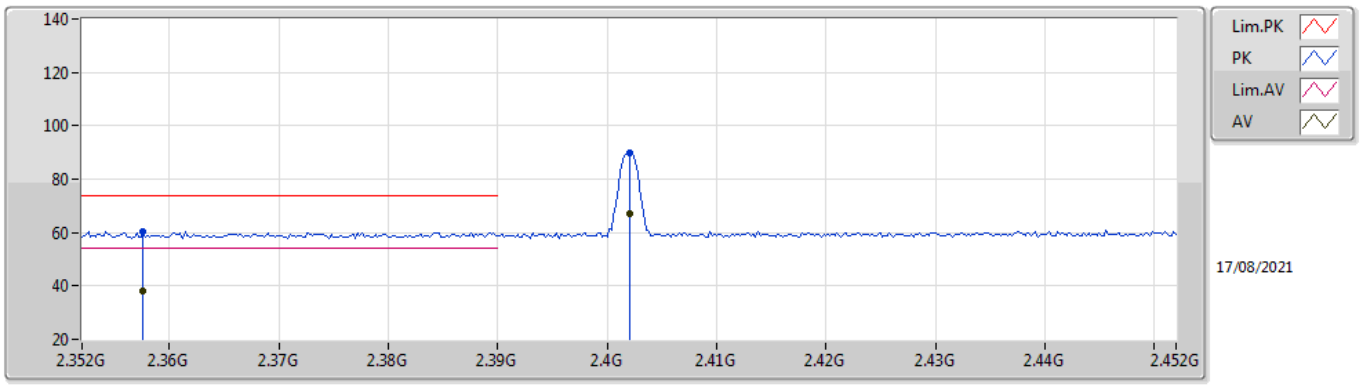
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3758G	38.12	54.00	-15.88	32.05	3	Vertical	328	1.50	-	6.07	27.70	4.35	-
AV	2.402G	68.95	Inf	-Inf	31.98	3	Vertical	328	1.50	-	36.97	27.60	4.38	-
PK	2.3758G	60.62	74.00	-13.38	32.05	3	Vertical	328	1.50	-	28.57	27.70	4.35	-
PK	2.402G	91.45	Inf	-Inf	31.98	3	Vertical	328	1.50	-	59.47	27.60	4.38	-

BT-BR(1Mbps)

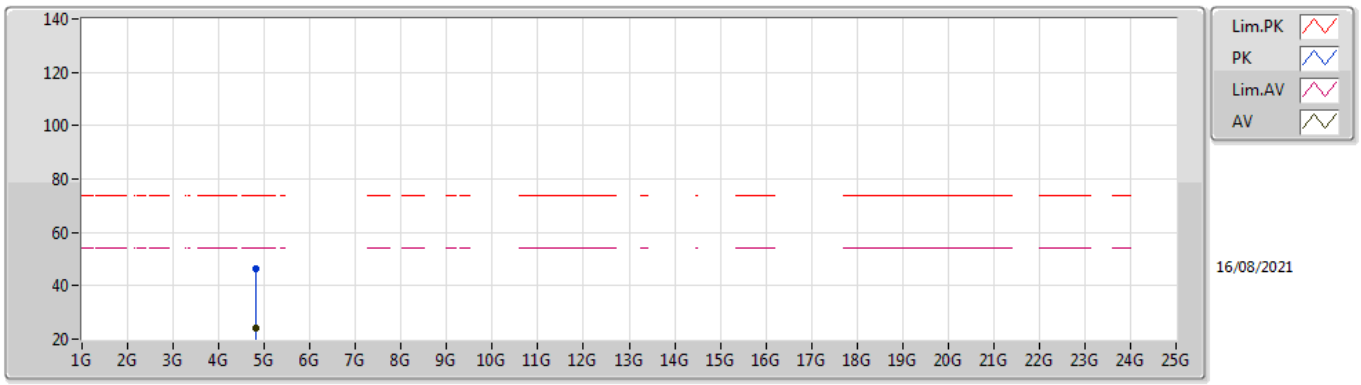
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3576G	38.00	54.00	-16.00	32.11	3	Horizontal	224	2.79	-	5.89	27.77	4.34	-
AV	2.402G	67.25	Inf	-Inf	31.98	3	Horizontal	224	2.79	-	35.27	27.60	4.38	-
PK	2.3576G	60.50	74.00	-13.50	32.11	3	Horizontal	224	2.79	-	28.39	27.77	4.34	-
PK	2.402G	89.75	Inf	-Inf	31.98	3	Horizontal	224	2.79	-	57.77	27.60	4.38	-

BT-BR(1Mbps)

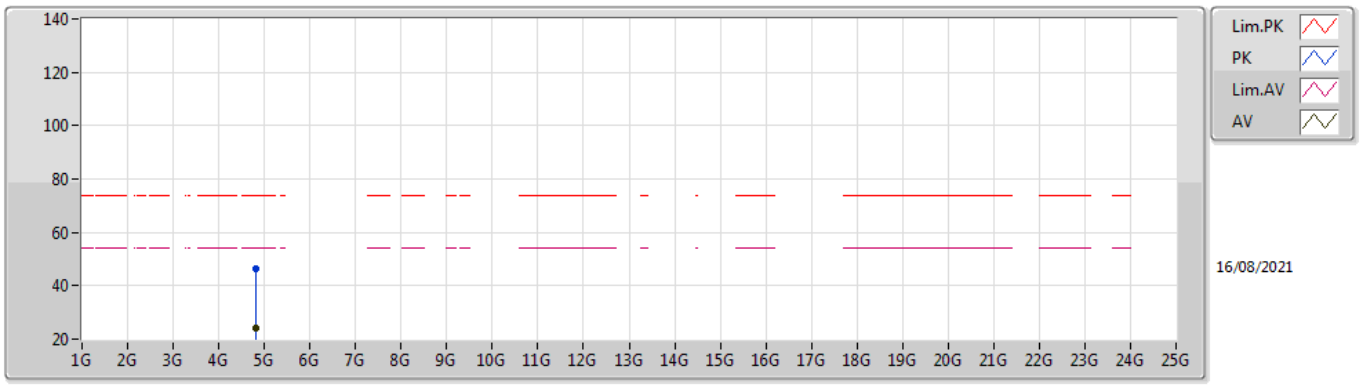
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80236G	24.04	54.00	-29.96	8.13	3	Vertical	340	1.50	-	15.91	31.10	6.26	29.23
PK	4.80236G	46.54	74.00	-27.46	8.13	3	Vertical	340	1.50	-	38.41	31.10	6.26	29.23

BT-BR(1Mbps)

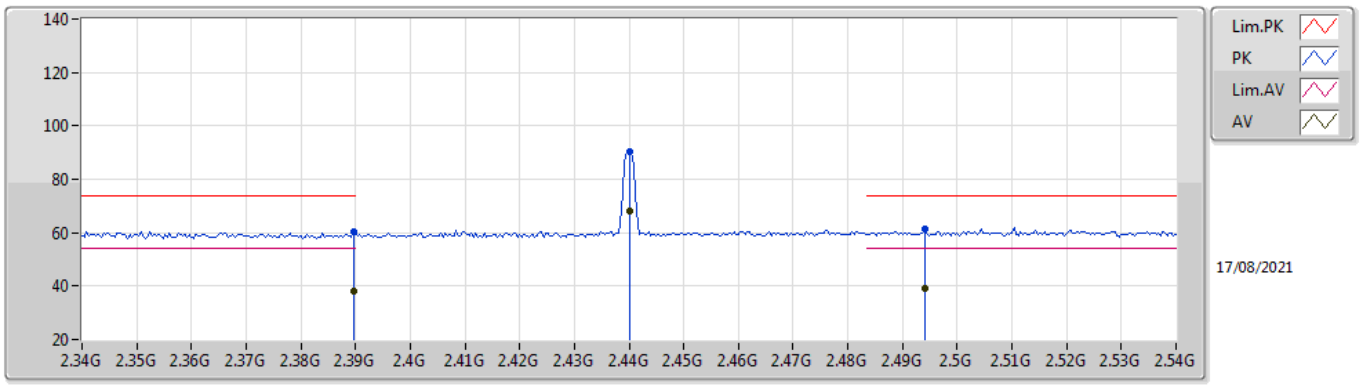
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80212G	24.08	54.00	-29.92	8.13	3	Horizontal	6	1.40	-	15.95	31.10	6.26	29.23
PK	4.80212G	46.58	74.00	-27.42	8.13	3	Horizontal	6	1.40	-	38.45	31.10	6.26	29.23

BT-BR(1Mbps)

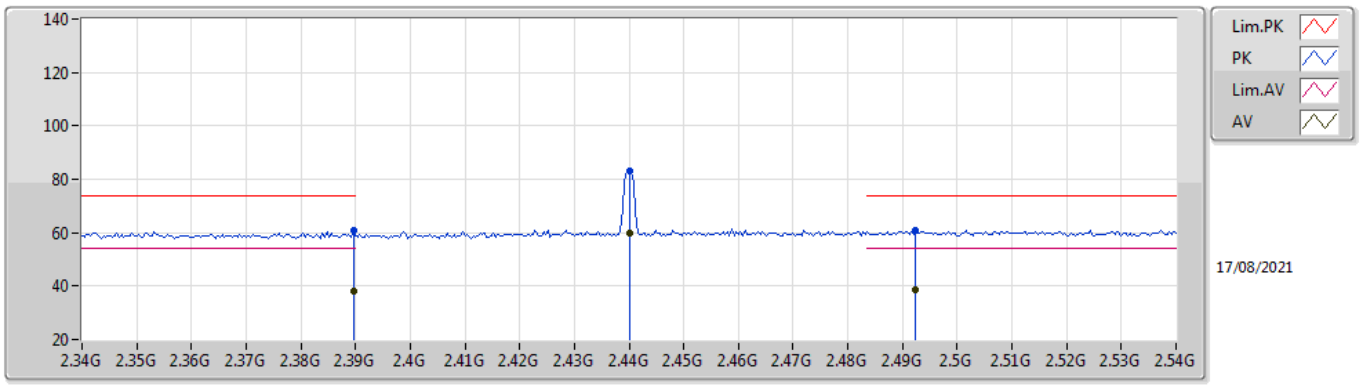
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3896G	37.90	54.00	-16.10	32.01	3	Vertical	212	1.89	-	5.89	27.64	4.37	-
AV	2.44G	67.94	Inf	-Inf	32.04	3	Vertical	212	1.89	-	35.90	27.60	4.44	-
AV	2.494G	38.93	54.00	-15.07	32.21	3	Vertical	212	1.89	-	6.72	27.69	4.52	-
PK	2.3896G	60.40	74.00	-13.60	32.01	3	Vertical	212	1.89	-	28.39	27.64	4.37	-
PK	2.44G	90.44	Inf	-Inf	32.04	3	Vertical	212	1.89	-	58.40	27.60	4.44	-
PK	2.494G	61.43	74.00	-12.57	32.21	3	Vertical	212	1.89	-	29.22	27.69	4.52	-

BT-BR(1Mbps)

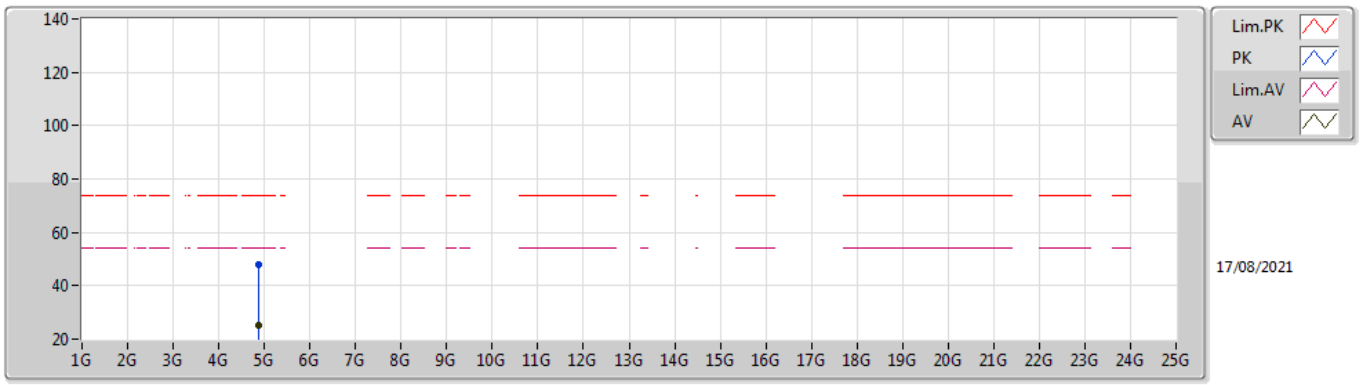
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3896G	38.32	54.00	-15.68	32.01	3	Horizontal	303	1.49	-	6.31	27.64	4.37	-
AV	2.44G	59.78	Inf	-Inf	32.04	3	Horizontal	303	1.49	-	27.74	27.60	4.44	-
AV	2.4924G	38.40	54.00	-15.60	32.19	3	Horizontal	303	1.49	-	6.21	27.68	4.51	-
PK	2.3896G	60.82	74.00	-13.18	32.01	3	Horizontal	303	1.49	-	28.81	27.64	4.37	-
PK	2.44G	83.28	Inf	-Inf	32.04	3	Horizontal	303	1.49	-	51.24	27.60	4.44	-
PK	2.4924G	60.90	74.00	-13.10	32.19	3	Horizontal	303	1.49	-	28.71	27.68	4.51	-

BT-BR(1Mbps)

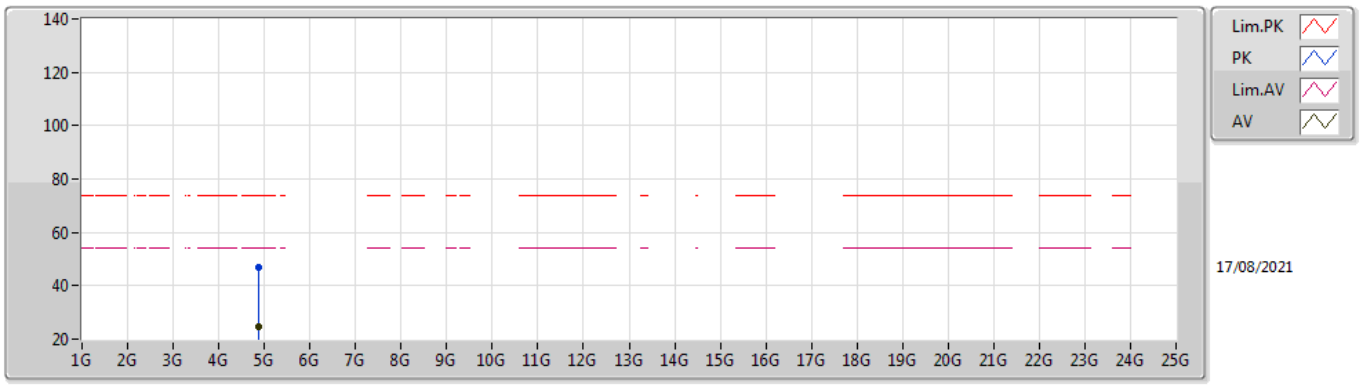
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.8787G	25.43	54.00	-28.57	8.30	3	Vertical	0	1.49	-	17.13	31.20	6.31	29.21
PK	4.8787G	47.93	74.00	-26.07	8.30	3	Vertical	0	1.49	-	39.63	31.20	6.31	29.21

BT-BR(1Mbps)

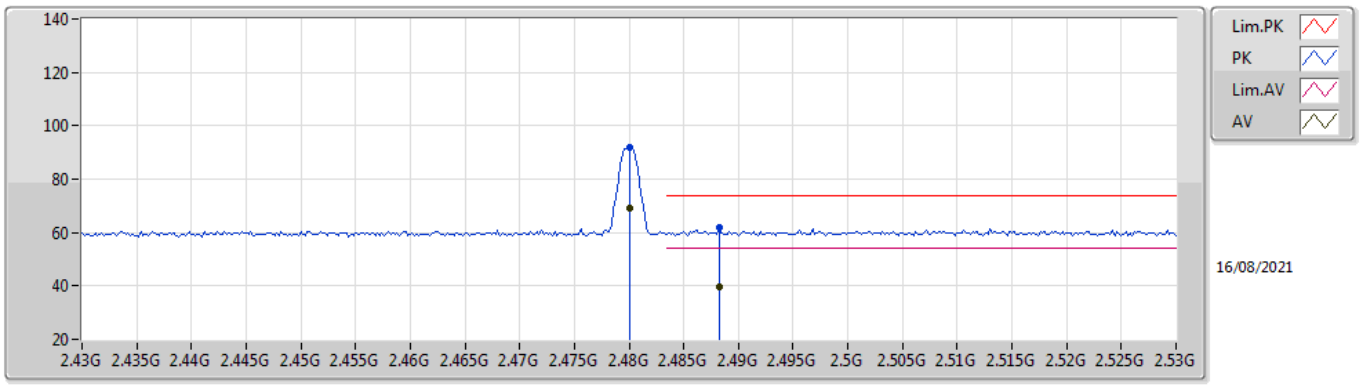
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.88108G	24.47	54.00	-29.53	8.30	3	Horizontal	22	1.72	-	16.17	31.20	6.31	29.21
PK	4.88108G	46.97	74.00	-27.03	8.30	3	Horizontal	22	1.72	-	38.67	31.20	6.31	29.21

BT-BR(1Mbps)

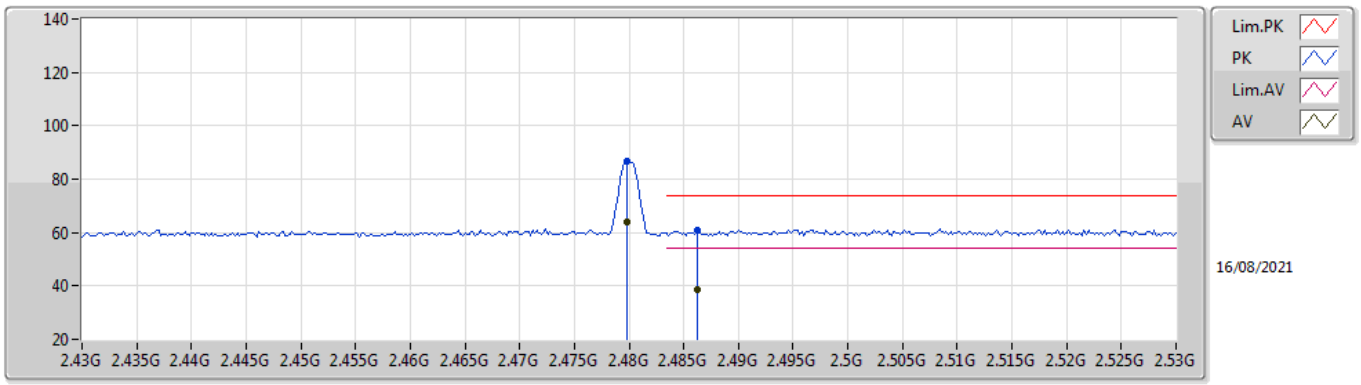
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	69.38	Inf	-Inf	32.16	3	Vertical	333	1.14	-	37.22	27.66	4.50	-
AV	2.4882G	39.65	54.00	-14.35	32.19	3	Vertical	333	1.14	-	7.46	27.68	4.51	-
PK	2.48G	91.88	Inf	-Inf	32.16	3	Vertical	333	1.14	-	59.72	27.66	4.50	-
PK	2.4882G	62.15	74.00	-11.85	32.19	3	Vertical	333	1.14	-	29.96	27.68	4.51	-

BT-BR(1Mbps)

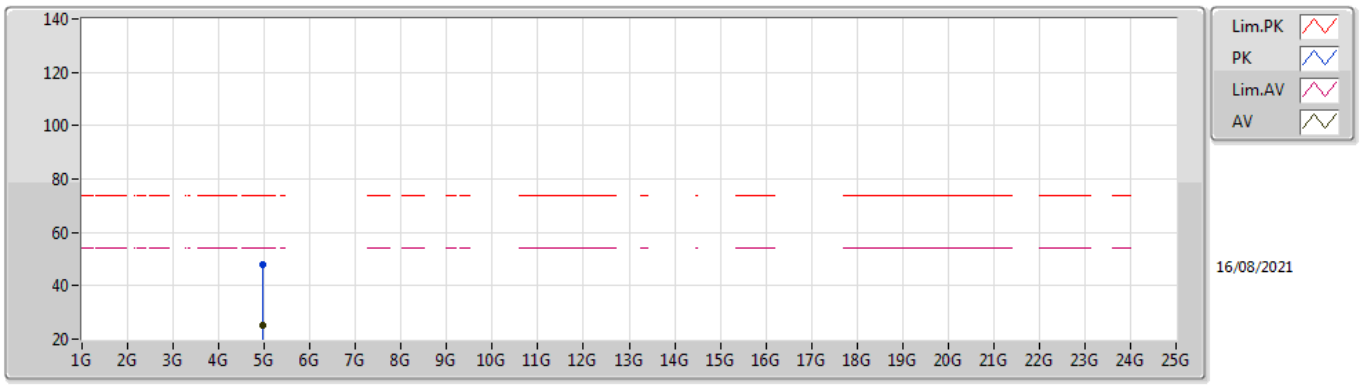
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4798G	64.18	Inf	-Inf	32.16	3	Horizontal	32	2.88	-	32.02	27.66	4.50	-
AV	2.4862G	38.60	54.00	-15.40	32.17	3	Horizontal	32	2.88	-	6.43	27.67	4.50	-
PK	2.4798G	86.68	Inf	-Inf	32.16	3	Horizontal	32	2.88	-	54.52	27.66	4.50	-
PK	2.4862G	61.10	74.00	-12.90	32.17	3	Horizontal	32	2.88	-	28.93	27.67	4.50	-

BT-BR(1Mbps)

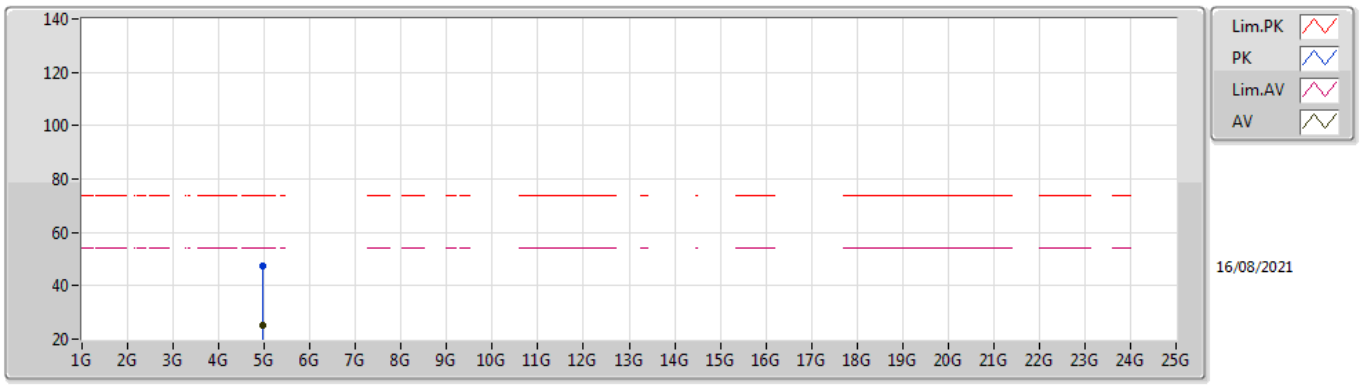
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95995G	25.23	54.00	-28.77	8.52	3	Vertical	67	1.65	-	16.71	31.34	6.36	29.18
PK	4.95995G	47.73	74.00	-26.27	8.52	3	Vertical	67	1.65	-	39.21	31.34	6.36	29.18

BT-BR(1Mbps)

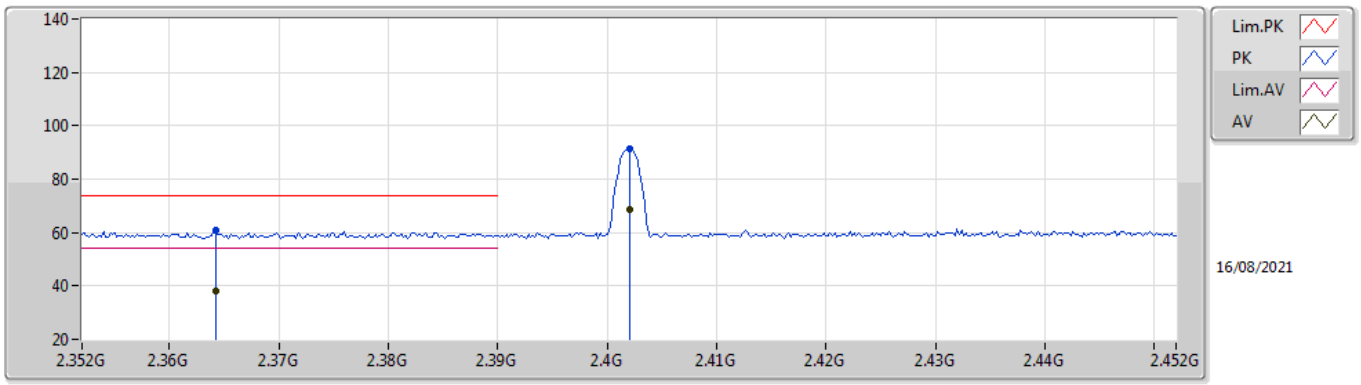
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.9595G	25.09	54.00	-28.91	8.52	3	Horizontal	234	1.50	-	16.57	31.34	6.36	29.18
PK	4.9595G	47.59	74.00	-26.41	8.52	3	Horizontal	234	1.50	-	39.07	31.34	6.36	29.18

BT-EDR(3Mbps)

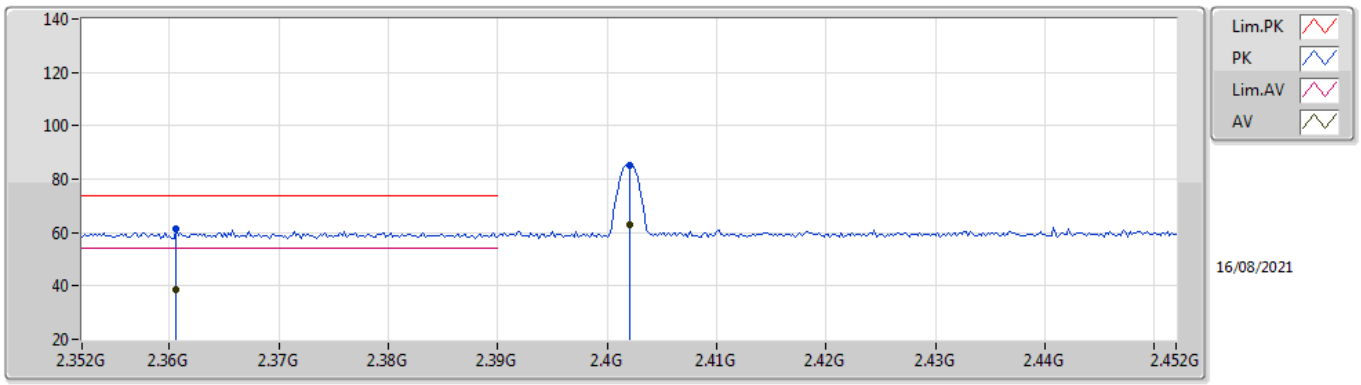
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3642G	38.18	54.00	-15.82	32.08	3	Vertical	335	1.02	-	6.10	27.74	4.34	-
AV	2.402G	68.79	Inf	-Inf	31.98	3	Vertical	335	1.02	-	36.81	27.60	4.38	-
PK	2.3642G	60.68	74.00	-13.32	32.08	3	Vertical	335	1.02	-	28.60	27.74	4.34	-
PK	2.402G	91.29	Inf	-Inf	31.98	3	Vertical	335	1.02	-	59.31	27.60	4.38	-

BT-EDR(3Mbps)

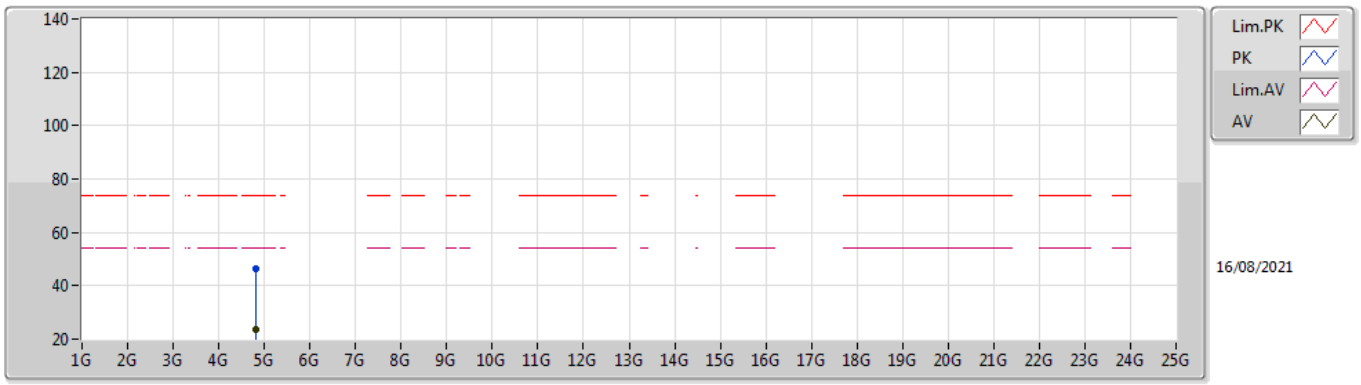
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3606G	38.66	54.00	-15.34	32.10	3	Horizontal	331	2.93	-	6.56	27.76	4.34	-
AV	2.402G	62.81	Inf	-Inf	31.98	3	Horizontal	331	2.93	-	30.83	27.60	4.38	-
PK	2.3606G	61.16	74.00	-12.84	32.10	3	Horizontal	331	2.93	-	29.06	27.76	4.34	-
PK	2.402G	85.31	Inf	-Inf	31.98	3	Horizontal	331	2.93	-	53.33	27.60	4.38	-

BT-EDR(3Mbps)

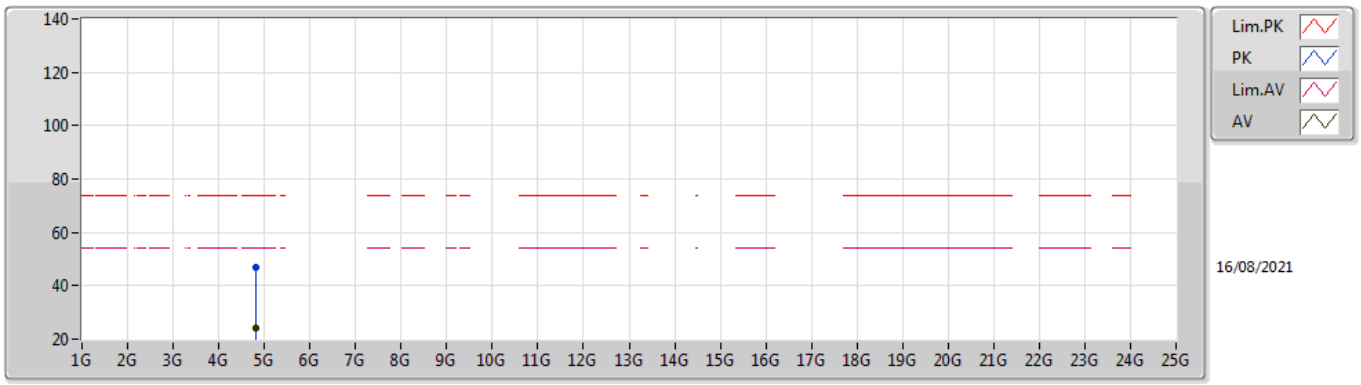
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80383G	23.75	54.00	-30.25	8.14	3	Vertical	0	1.50	-	15.61	31.11	6.26	29.23
PK	4.80383G	46.25	74.00	-27.75	8.14	3	Vertical	0	1.50	-	38.11	31.11	6.26	29.23

BT-EDR(3Mbps)

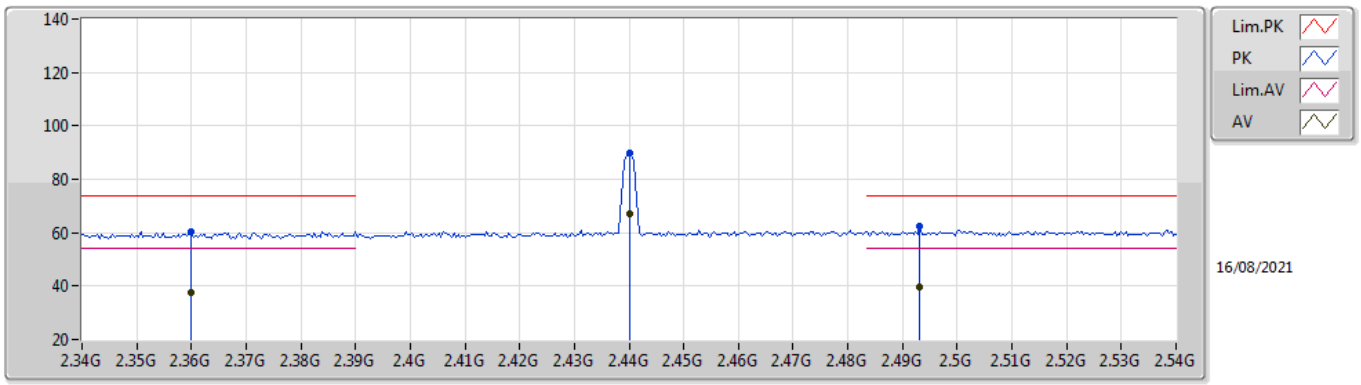
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.8047G	24.21	54.00	-29.79	8.14	3	Horizontal	81	1.50	-	16.07	31.11	6.26	29.23
PK	4.8047G	46.71	74.00	-27.29	8.14	3	Horizontal	81	1.50	-	38.57	31.11	6.26	29.23

BT-EDR(3Mbps)

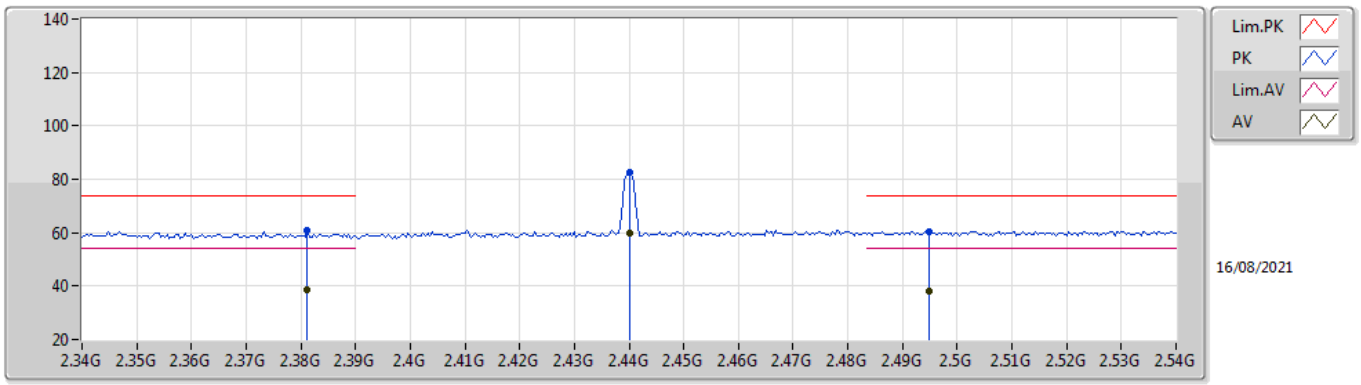
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.36G	37.84	54.00	-16.16	32.10	3	Vertical	333	1.50	-	5.74	27.76	4.34	-
AV	2.44G	67.23	Inf	-Inf	32.04	3	Vertical	333	1.50	-	35.19	27.60	4.44	-
AV	2.4932G	39.67	54.00	-14.33	32.21	3	Vertical	333	1.50	-	7.46	27.69	4.52	-
PK	2.36G	60.34	74.00	-13.66	32.10	3	Vertical	333	1.50	-	28.24	27.76	4.34	-
PK	2.44G	89.73	Inf	-Inf	32.04	3	Vertical	333	1.50	-	57.69	27.60	4.44	-
PK	2.4932G	62.17	74.00	-11.83	32.21	3	Vertical	333	1.50	-	29.96	27.69	4.52	-

BT-EDR(3Mbps)

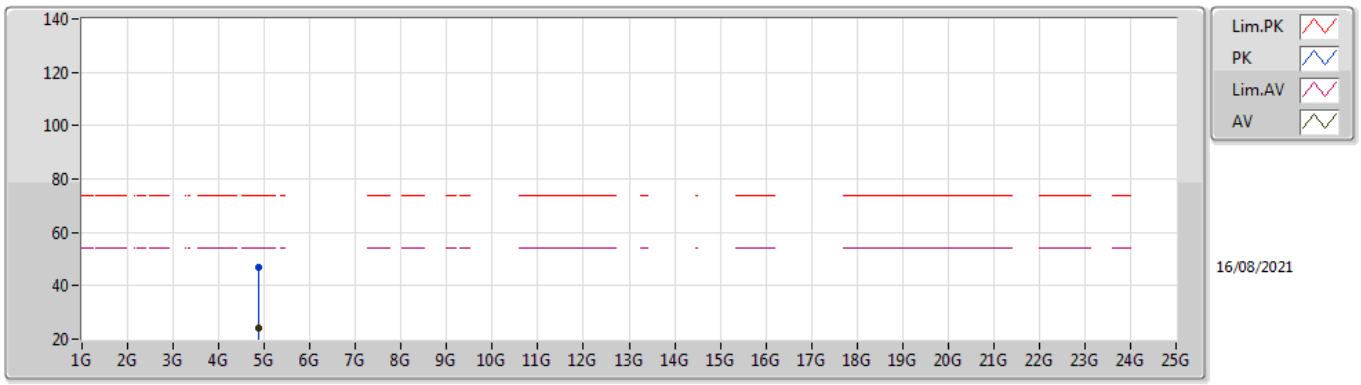
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3812G	38.47	54.00	-15.53	32.04	3	Horizontal	319	2.66	-	6.43	27.68	4.36	-
AV	2.44G	60.02	Inf	-Inf	32.04	3	Horizontal	319	2.66	-	27.98	27.60	4.44	-
AV	2.4948G	37.88	54.00	-16.12	32.21	3	Horizontal	319	2.66	-	5.67	27.69	4.52	-
PK	2.3812G	60.97	74.00	-13.03	32.04	3	Horizontal	319	2.66	-	28.93	27.68	4.36	-
PK	2.44G	82.52	Inf	-Inf	32.04	3	Horizontal	319	2.66	-	50.48	27.60	4.44	-
PK	2.4948G	60.38	74.00	-13.62	32.21	3	Horizontal	319	2.66	-	28.17	27.69	4.52	-

BT-EDR(3Mbps)

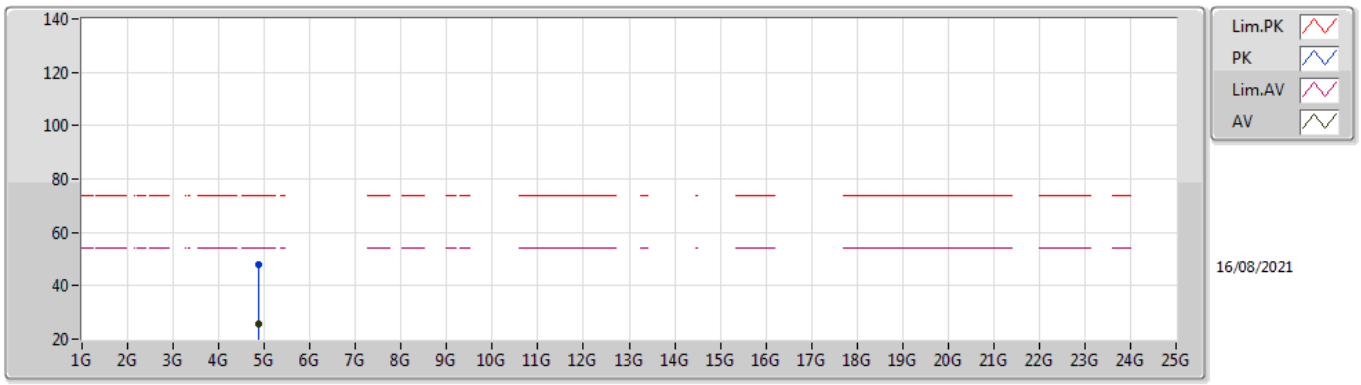
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87976G	24.16	54.00	-29.84	8.30	3	Vertical	260	1.50	-	15.86	31.20	6.31	29.21
PK	4.87976G	46.66	74.00	-27.34	8.30	3	Vertical	260	1.50	-	38.36	31.20	6.31	29.21

BT-EDR(3Mbps)

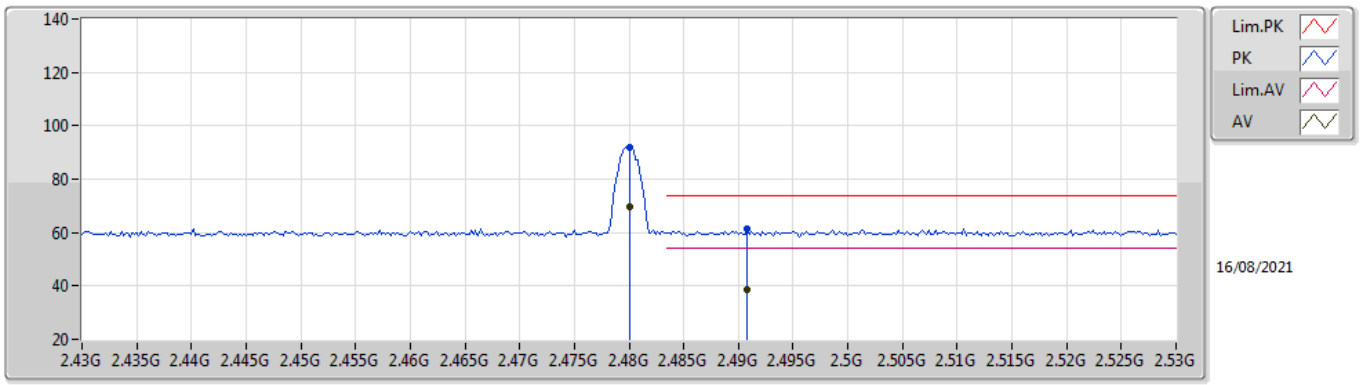
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87968G	25.67	54.00	-28.33	8.30	3	Horizontal	202	1.50	-	17.37	31.20	6.31	29.21
PK	4.87968G	48.17	74.00	-25.83	8.30	3	Horizontal	202	1.50	-	39.87	31.20	6.31	29.21

BT-EDR(3Mbps)

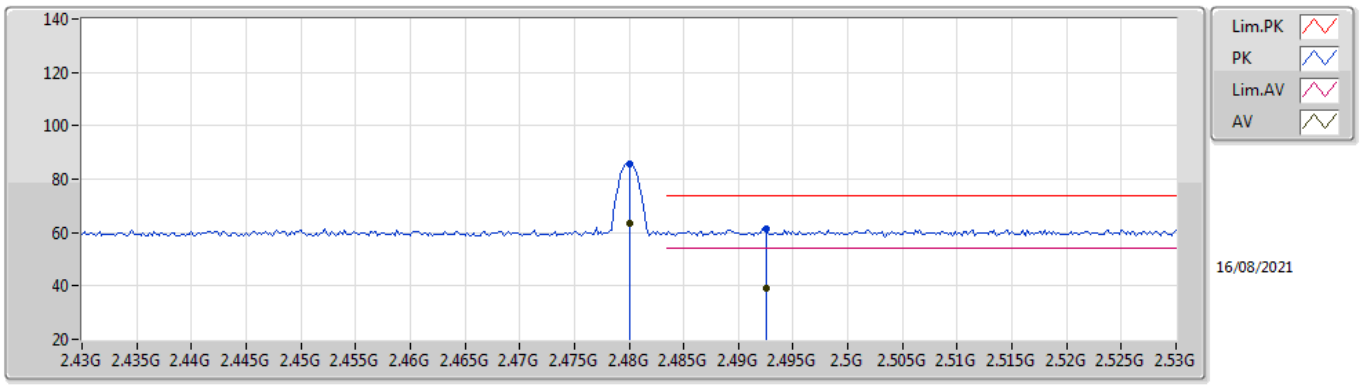
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	69.58	Inf	-Inf	32.16	3	Vertical	319	1.15	-	37.42	27.66	4.50	-
AV	2.4908G	38.77	54.00	-15.23	32.19	3	Vertical	319	1.15	-	6.58	27.68	4.51	-
PK	2.48G	92.08	Inf	-Inf	32.16	3	Vertical	319	1.15	-	59.92	27.66	4.50	-
PK	2.4908G	61.27	74.00	-12.73	32.19	3	Vertical	319	1.15	-	29.08	27.68	4.51	-

BT-EDR(3Mbps)

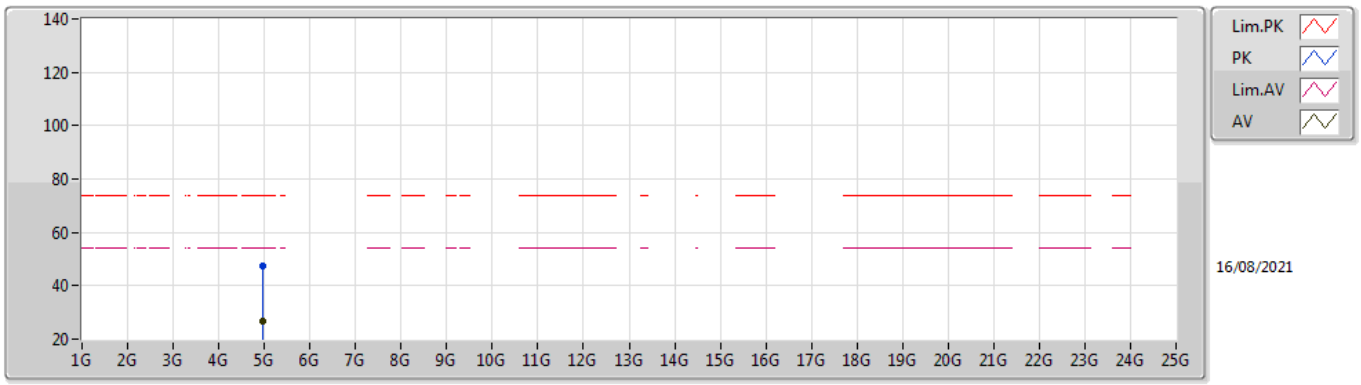
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	63.37	Inf	-Inf	32.16	3	Horizontal	47	1.33	-	31.21	27.66	4.50	-
AV	2.4926G	39.06	54.00	-14.94	32.20	3	Horizontal	47	1.33	-	6.86	27.69	4.51	-
PK	2.48G	85.87	Inf	-Inf	32.16	3	Horizontal	47	1.33	-	53.71	27.66	4.50	-
PK	2.4926G	61.56	74.00	-12.44	32.20	3	Horizontal	47	1.33	-	29.36	27.69	4.51	-

BT-EDR(3Mbps)

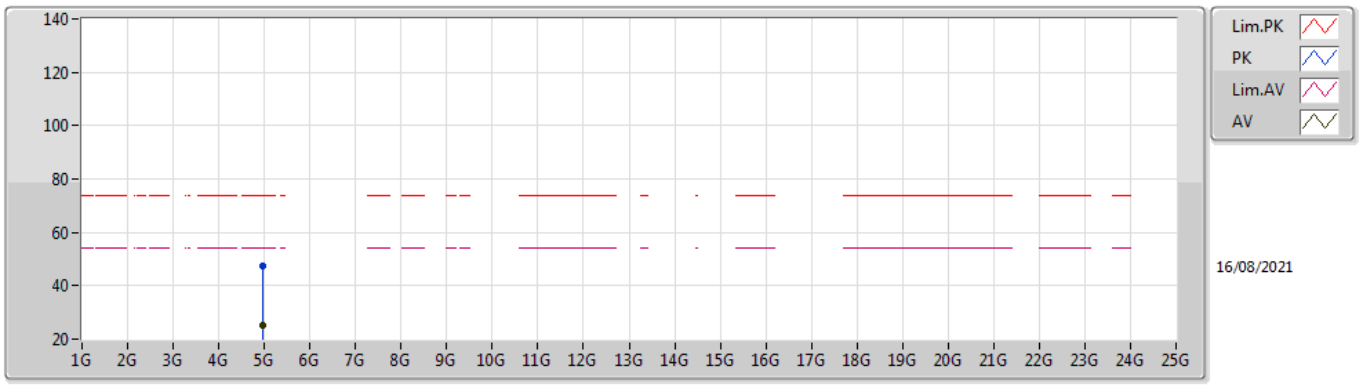
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95921G	26.69	54.00	-27.31	8.52	3	Vertical	116	1.50	-	18.17	31.34	6.36	29.18
PK	4.95921G	47.19	74.00	-26.81	8.52	3	Vertical	116	1.50	-	38.67	31.34	6.36	29.18

BT-EDR(3Mbps)

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.9603G	25.02	54.00	-28.98	8.52	3	Horizontal	332	2.99	-	16.50	31.34	6.36	29.18
PK	4.9603G	47.52	74.00	-26.48	8.52	3	Horizontal	332	2.99	-	39.00	31.34	6.36	29.18

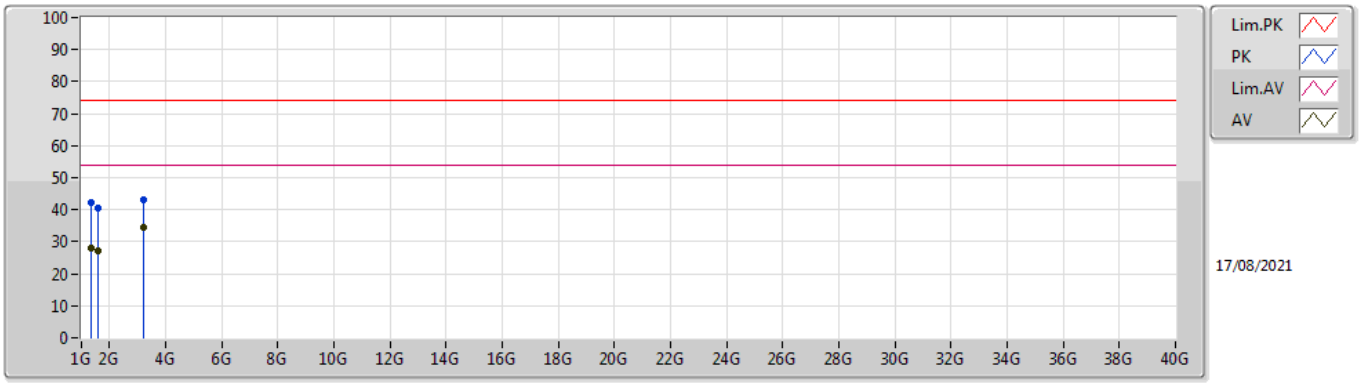
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	3.2023G	34.30	54.00	-19.70	Vertical
Mode 2	Pass	AV	4.81388G	47.01	54.00	-6.99	Vertical

Result

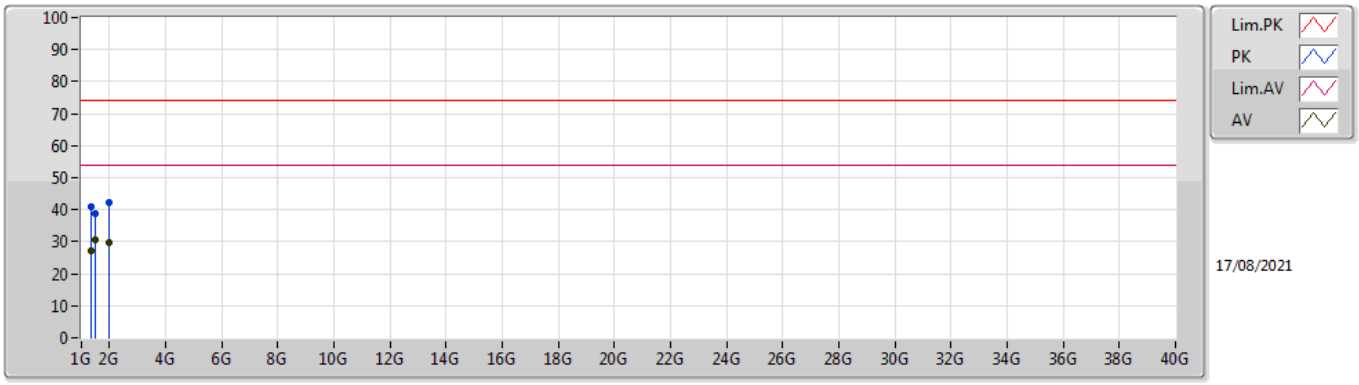
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1	Pass	AV	1.33144G	27.81	54.00	-26.19	3	Vertical	360	1.00	-
Mode 1	Pass	AV	1.603G	26.94	54.00	-27.06	3	Vertical	360	1.00	-
Mode 1	Pass	AV	3.2023G	34.30	54.00	-19.70	3	Vertical	360	1.00	-
Mode 1	Pass	PK	1.33144G	42.44	74.00	-31.56	3	Vertical	360	1.00	-
Mode 1	Pass	PK	1.603G	40.35	74.00	-33.65	3	Vertical	360	1.00	-
Mode 1	Pass	PK	3.2023G	43.24	74.00	-30.76	3	Vertical	360	1.00	-
Mode 1	Pass	AV	1.333G	26.97	54.00	-27.03	3	Horizontal	0	1.00	-
Mode 1	Pass	AV	1.492G	30.53	54.00	-23.47	3	Horizontal	0	1.00	-
Mode 1	Pass	AV	1.95934G	29.55	54.00	-24.45	3	Horizontal	0	1.00	-
Mode 1	Pass	PK	1.333G	41.11	74.00	-32.89	3	Horizontal	0	1.00	-
Mode 1	Pass	PK	1.492G	38.80	74.00	-35.20	3	Horizontal	0	1.00	-
Mode 1	Pass	PK	1.95934G	42.14	74.00	-31.86	3	Horizontal	0	1.00	-
Mode 2	Pass	AV	1.20004G	42.54	54.00	-11.46	3	Vertical	58	1.30	-
Mode 2	Pass	AV	1.50002G	44.21	54.00	-9.79	3	Vertical	360	1.50	-
Mode 2	Pass	AV	4.81388G	47.01	54.00	-6.99	3	Vertical	0	2.84	-
Mode 2	Pass	PK	1.20004G	46.00	74.00	-28.00	3	Vertical	58	1.30	-
Mode 2	Pass	PK	1.50002G	47.43	74.00	-26.57	3	Vertical	360	1.50	-
Mode 2	Pass	PK	4.81388G	54.39	74.00	-19.61	3	Vertical	0	2.84	-
Mode 2	Pass	AV	1.20004G	41.92	54.00	-12.08	3	Horizontal	66	1.94	-
Mode 2	Pass	AV	1.34136G	27.41	54.00	-26.59	3	Horizontal	0	1.00	-
Mode 2	Pass	AV	1.71598G	45.23	68.20	-22.97	3	Horizontal	199	2.15	-
Mode 2	Pass	PK	1.20004G	45.64	74.00	-28.36	3	Horizontal	66	1.94	-
Mode 2	Pass	PK	1.34136G	38.63	74.00	-35.37	3	Horizontal	0	1.00	-
Mode 2	Pass	PK	1.71598G	48.20	68.20	-20.00	3	Horizontal	199	2.15	-

Mode 1



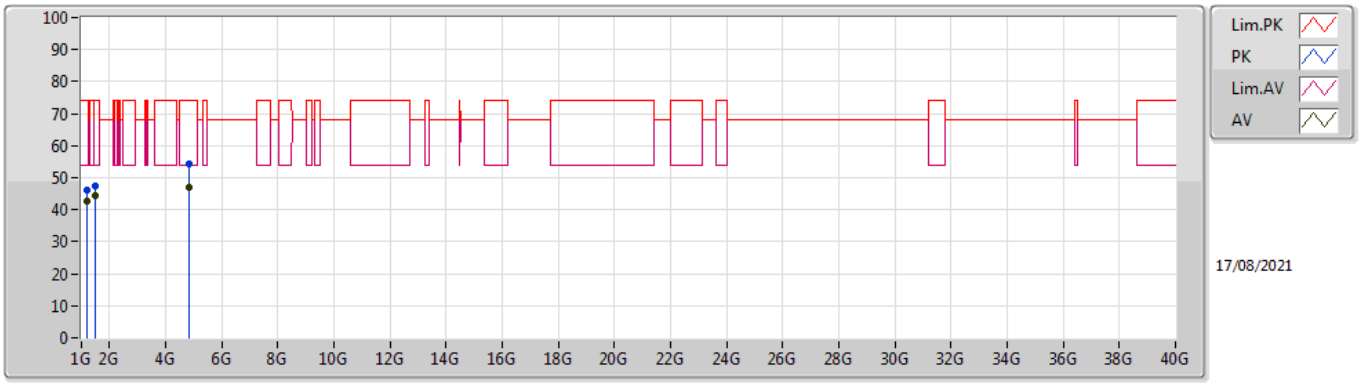
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
AV	1.33144G	27.81	54.00	-26.19	-2.51	3	Vertical	360	1.00	-	30.32	25.86	3.24	31.61
AV	1.603G	26.94	54.00	-27.06	-2.25	3	Vertical	360	1.00	-	29.19	25.00	3.52	30.77
AV	3.2023G	34.30	54.00	-19.70	4.17	3	Vertical	360	1.00	-	30.13	28.89	5.07	29.79
PK	1.33144G	42.44	74.00	-31.56	-2.51	3	Vertical	360	1.00	-	44.95	25.86	3.24	31.61
PK	1.603G	40.35	74.00	-33.65	-2.25	3	Vertical	360	1.00	-	42.60	25.00	3.52	30.77
PK	3.2023G	43.24	74.00	-30.76	4.17	3	Vertical	360	1.00	-	39.07	28.89	5.07	29.79

Mode 1



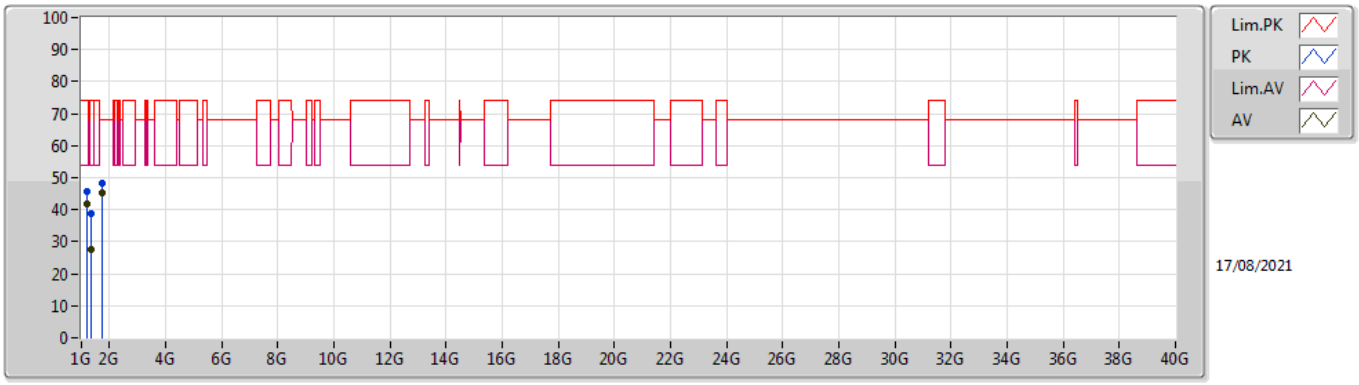
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
AV	1.333G	26.97	54.00	-27.03	-2.49	3	Horizontal	0	1.00	-	29.46	25.87	3.24	31.60
AV	1.492G	30.53	54.00	-23.47	-1.76	3	Horizontal	0	1.00	-	32.29	25.76	3.42	30.94
AV	1.95934G	29.55	54.00	-24.45	-0.12	3	Horizontal	0	1.00	-	29.67	26.22	3.94	30.28
PK	1.333G	41.11	74.00	-32.89	-2.49	3	Horizontal	0	1.00	-	43.60	25.87	3.24	31.60
PK	1.492G	38.80	74.00	-35.20	-1.76	3	Horizontal	0	1.00	-	40.56	25.76	3.42	30.94
PK	1.95934G	42.14	74.00	-31.86	-0.12	3	Horizontal	0	1.00	-	42.26	26.22	3.94	30.28

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
AV	1.20004G	42.54	54.00	-11.46	-3.41	3	Vertical	58	1.30	-	45.95	25.70	3.05	32.16
AV	1.50002G	44.21	54.00	-9.79	-1.78	3	Vertical	360	1.50	-	45.99	25.70	3.43	30.91
AV	4.81388G	47.01	54.00	-6.99	8.17	3	Vertical	0	2.84	-	38.84	31.13	6.27	29.23
PK	1.20004G	46.00	74.00	-28.00	-3.41	3	Vertical	58	1.30	-	49.41	25.70	3.05	32.16
PK	1.50002G	47.43	74.00	-26.57	-1.78	3	Vertical	360	1.50	-	49.21	25.70	3.43	30.91
PK	4.81388G	54.39	74.00	-19.61	8.17	3	Vertical	0	2.84	-	46.22	31.13	6.27	29.23

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
AV	1.20004G	41.92	54.00	-12.08	-3.41	3	Horizontal	66	1.94	-	45.33	25.70	3.05	32.16
AV	1.34136G	27.41	54.00	-26.59	-2.44	3	Horizontal	0	1.00	-	29.85	25.88	3.25	31.57
AV	1.71598G	45.23	68.20	-22.97	-1.82	3	Horizontal	199	2.15	-	47.05	25.13	3.66	30.61
PK	1.20004G	45.64	74.00	-28.36	-3.41	3	Horizontal	66	1.94	-	49.05	25.70	3.05	32.16
PK	1.34136G	38.63	74.00	-35.37	-2.44	3	Horizontal	0	1.00	-	41.07	25.88	3.25	31.57
PK	1.71598G	48.20	68.20	-20.00	-1.82	3	Horizontal	199	2.15	-	50.02	25.13	3.66	30.61