FCC Test Report

FCC ID	:	**IPH-03837**
Equipment	:	**low power transmitter**
Model Name	:	**A03837**
Applicant	:	**Garmin International Inc 1200 East 151st Olathe, KS 66062**
Manufacturer	:	**Garmin International Inc 1200 East 151st Olathe, KS 66062**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Feb. 11, 2020, and testing was started from Feb. 20, 2020 and completed on Mar. 04, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR9D2620-01AD	01	Initial issue of report	Apr. 14, 2020

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: Michelle Tsai

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	NA	NA	Printed	i-Pex
2	NA	NA	Printed	i-Pex

Ant.	Port	Gain (dBi)	
		2.4G	BT
1	1	4.28	-
2	1	-	4.28

Note 1: The EUT has two antennas.
For 2.4GHz function:
For IEEE 802.11 b/g/n mode (1TX/1RX)
Ant. 1 (port 1) could transmit/receive simultaneously.
For BT function:
For IEEE 802.15.1 Bluetooth mode (1TX/1RX)
Ant. 2 (port 1) could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From AC Adapter			
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)	0.463	3.34	2.894m	1k
BT-EDR(2Mbps)	0.463	3.34	2.894m	1k
BT-EDR(3Mbps)	0.463	3.34	2.894m	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
- KDB 558074 D01 v05r02
- ANSI C63.10-2013
- KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			
☐	Wen Shan	ADD : No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
		TEL : 886-3-318-0787	FAX : 886-3-318-0287
Test site Designation No. TW1097 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO01-HY	Edward Wang	19.9°C ~20.4°C / 50%~65%	22/Feb/2020
RF Conducted	TH01-HY	Andy Lee	20.5°C ~26.5°C / 61.5%~66.5%	21/Feb/2020~04/Mar/2020
Radiated	03CH01-HY	Edward Wang	19.9°C ~21.5°C / 40%~50%	20/Feb/2020~21/Feb/2020

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software	Dos

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

2.3 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
Operating Mode	CTX
1	Adapter 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	Adapter Mode
Operating Mode > 1GHz	CTX
Orthogonal Planes of EUT	**Z Plane**
	

2.4 Support Equipment

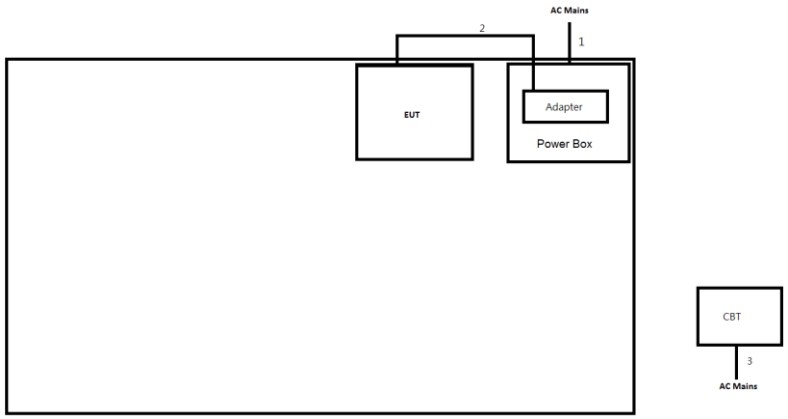
Support Equipment – AC Conduction and Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Adapter	PHIHONG	PSAC24A-120LB	-	-
2	AC Power cable	Power Sync	PW-GPC180-3	-	Remote
3	Bluetooth Tester	R&S	CBT	-	Remote

Note: Support equipment No.1 was provided by customer.

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	DoC	-
2	Adapter for NB	DELL	HA65NM130	DoC	-
3	DC Power Supply	GW	GPS-3030DD	-	-
4	Bluetooth Tester	R&S	CBT	-	-

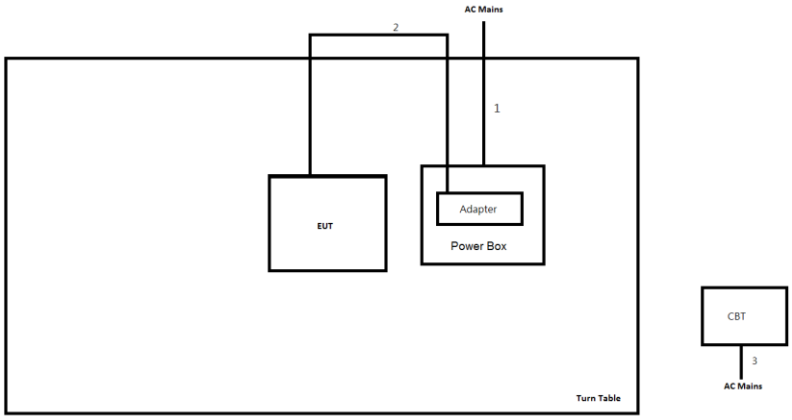
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.5	-
2	DC Power cable	No	1.5	-
3	AC Power cable	No	1.8	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.5	-
2	DC Power cable	No	1.5	-
3	AC Power cable	No	1.8	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

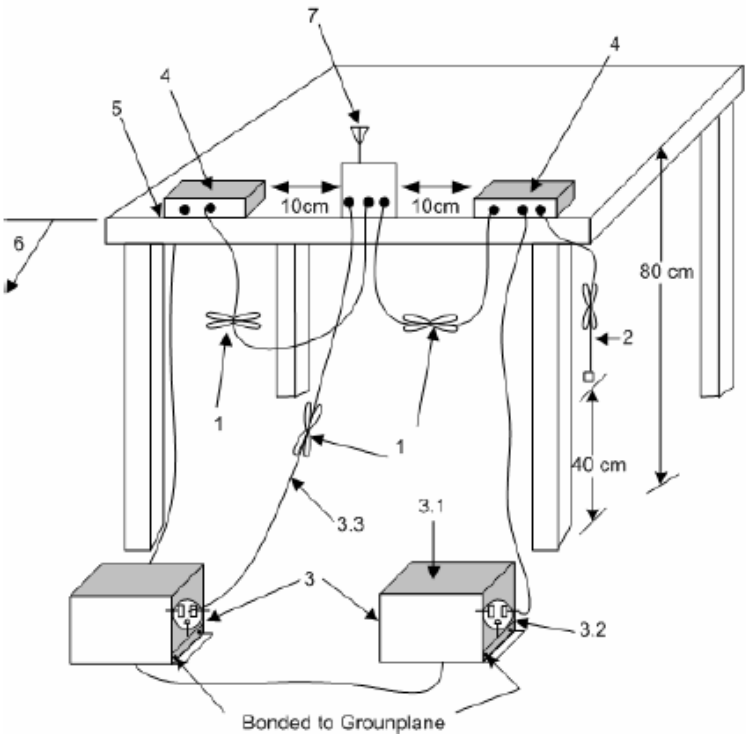
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ωloads. 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.

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

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

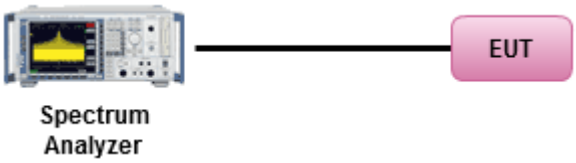
3.2.2 Measuring Instruments

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

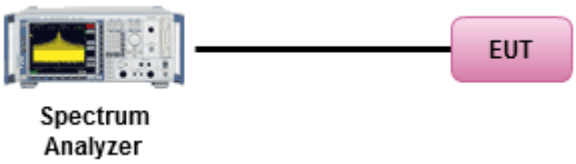
3.4.3 Measuring Instruments

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	

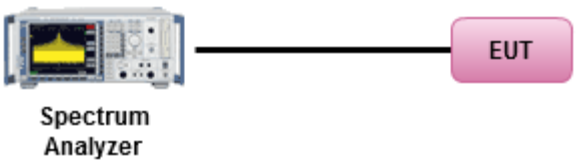
3.5.2 Measuring Instruments

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)


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.	

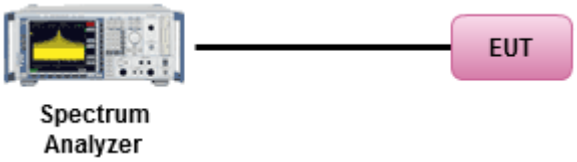
3.6.2 Measuring Instruments

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.

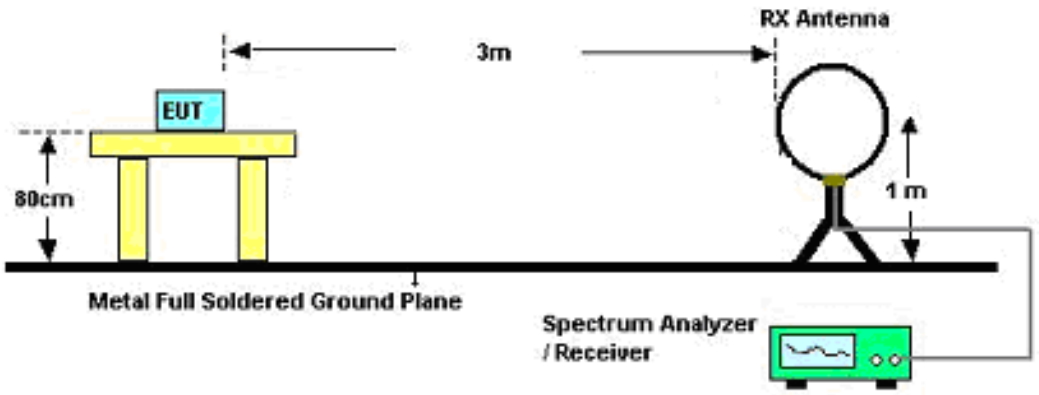
3.7.2 Measuring Instruments

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

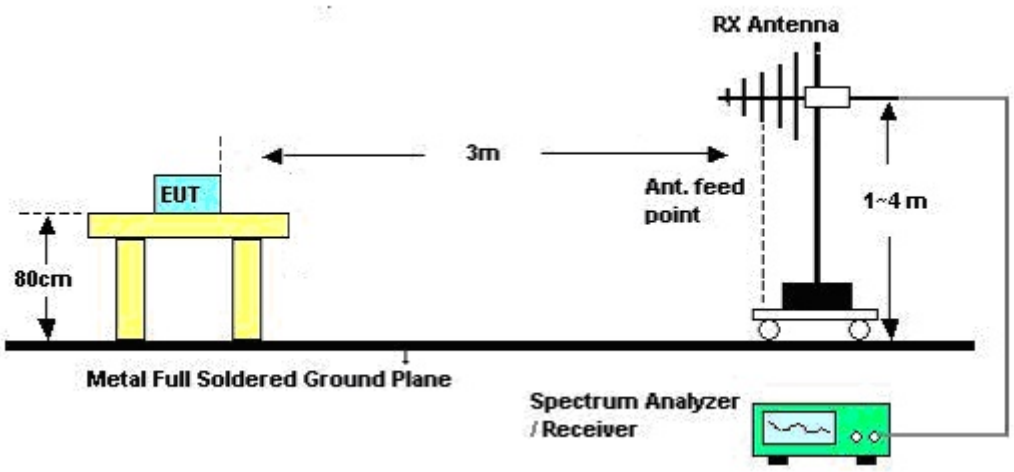
3.7.3 Test Procedures

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.

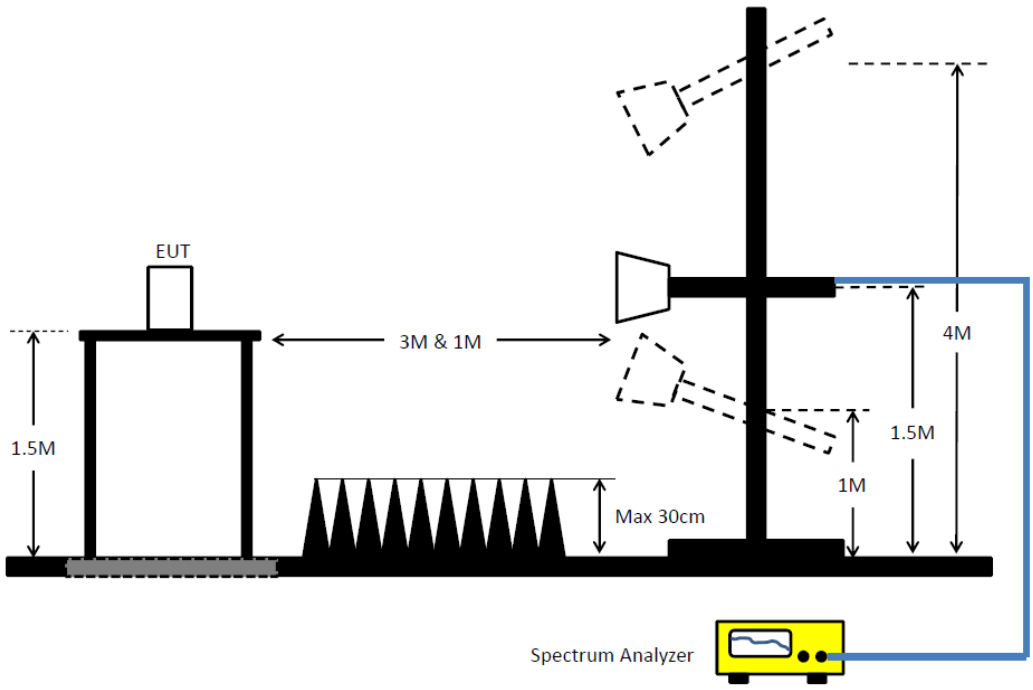
3.7.4 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz


30MHz~1GHz



Above 1GHz



3.7.5 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.

3.7.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	04/Nov/2019	05/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	12/Sep/2019	11/Sep/2020
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	24/Sep/2019	23/Sep/2020

NCR : Non-Calibration Require

Instrument for Conducted Test

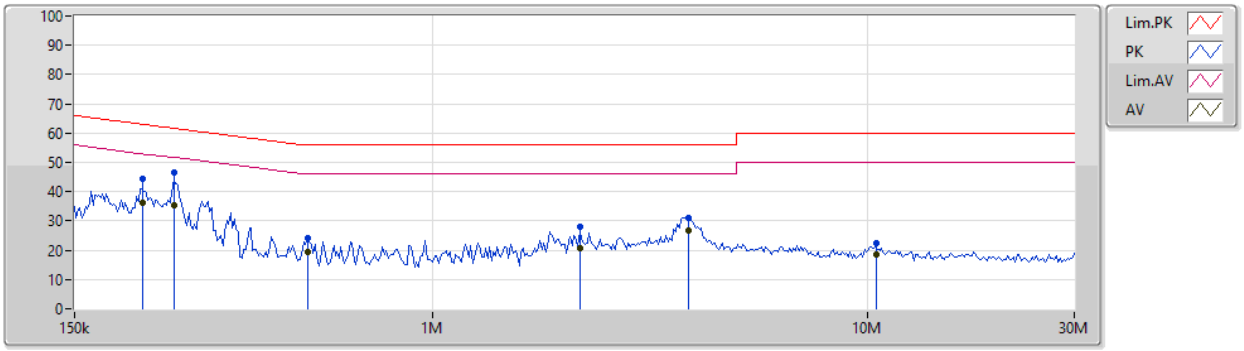
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	25/Nov/2019	24/Nov/2020
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	25/Nov/2019	24/Nov/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	Riken	SAC-3M	03CH01-HY	30MHz ~ 1GHz 3m	02/Jan/2020	01/Jan/2020
Site V.S.W.R	Riken	SAC-3M	03CH01-HY	1GHz ~ 18GHz 3m	08/Jan/2020	07/Jan/2021
PreAmplifier	COM-POWER	PA-103	161050	1 MHz ~ 1.0GHz	17/Jul/2019	16/Jul/2020
Microwave Preamplifier	Agilent	8449B	3008A02602	1GHz ~ 26.5GHz	27/Mar/2019	26/Mar/2020
Spectrum Analyzer	R&S	FSV40	101407	10Hz ~ 40GHz	10/Sep/2019	09/Sep/2020
RF Cable-R03m	Jye Bao	RG142	CB019	9kHz ~ 1GHz	16/Dec/2019	15/Dec/2020
RF Cable-HIGH	SUHNER	SUCOFLEX 104	SN805196/4+MY39495	1 GHz ~ 18 GHz	13/Mar/2019	12/Mar/2020
Bilog Antenna & 5db Attenuator	SCHAFFNER/MTJ	CBL6112D / MTJ6102-05	2678 / 001	30MHz ~ 2GHz	06/Jul/2019	05/Jul/2020
EMI Test Receiver	R&S	ESU-26	100422	20Hz ~ 26.5GHz	23/Oct/2019	22/Oct/2020
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020
Horn Antenna	SCHWARZBECK	BBHA 9120	BBHA9120D01834	1GHz ~ 18GHz	06/Feb/2020	05/Feb/2021

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Adapter Mode		

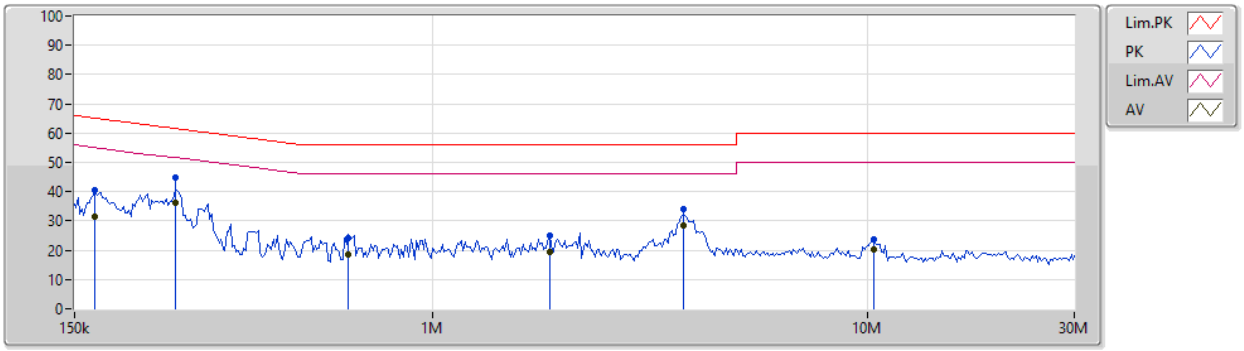
22/02/2020



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	214.615k	44.49	63.02	-18.53	19.62	Neutral	-	24.87	9.64	0.11	9.87
AV	214.615k	36.33	53.02	-16.69	19.62	Neutral	-	16.71	9.64	0.11	9.87
QP	254.17k	46.62	61.62	-15.00	19.63	Neutral	"Worst"	26.99	9.64	0.12	9.87
AV	254.17k	35.30	51.62	-16.32	19.63	Neutral	-	15.67	9.64	0.12	9.87
QP	515.159k	24.32	56.00	-31.68	19.63	Neutral	-	4.69	9.63	0.13	9.87
AV	515.159k	19.61	46.00	-26.39	19.63	Neutral	-	-0.02	9.63	0.13	9.87
QP	2.18M	28.08	56.00	-27.92	19.67	Neutral	-	8.41	9.65	0.15	9.87
AV	2.18M	20.86	46.00	-25.14	19.67	Neutral	-	1.19	9.65	0.15	9.87
QP	3.883M	31.18	56.00	-24.82	19.73	Neutral	-	11.45	9.66	0.19	9.88
AV	3.883M	26.55	46.00	-19.45	19.73	Neutral	-	6.82	9.66	0.19	9.88
QP	10.503M	22.43	60.00	-37.57	19.85	Neutral	-	2.58	9.70	0.27	9.88
AV	10.503M	18.50	50.00	-31.50	19.85	Neutral	-	-1.35	9.70	0.27	9.88

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	Adapter Mode		

22/02/2020



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	167.35k	40.56	65.08	-24.52	19.64	Line	-	20.92	9.66	0.11	9.87
AV	167.35k	31.39	55.08	-23.69	19.64	Line	-	11.75	9.66	0.11	9.87
QP	256.712k	44.70	61.54	-16.84	19.64	Line	-	25.06	9.65	0.12	9.87
AV	256.712k	36.21	51.54	-15.33	19.64	Line	"Worst"	16.57	9.65	0.12	9.87
QP	641.227k	24.08	56.00	-31.92	19.63	Line	-	4.45	9.64	0.12	9.87
AV	641.227k	18.57	46.00	-27.43	19.63	Line	-	-1.06	9.64	0.12	9.87
QP	1.86M	25.14	56.00	-30.86	19.66	Line	-	5.48	9.65	0.14	9.87
AV	1.86M	19.37	46.00	-26.63	19.66	Line	-	-0.29	9.65	0.14	9.87
QP	3.769M	34.14	56.00	-21.86	19.72	Line	-	14.42	9.66	0.18	9.88
AV	3.769M	28.25	46.00	-17.75	19.72	Line	-	8.53	9.66	0.18	9.88
QP	10.399M	23.92	60.00	-36.08	19.84	Line	-	4.08	9.69	0.27	9.88
AV	10.399M	20.07	50.00	-29.93	19.84	Line	-	0.23	9.69	0.27	9.88

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	875.812k	876KF1D	918.75k	867.066k
BT-EDR(2Mbps)	1.305M	1.181M	1M18G1D	1.284M	1.172M
BT-EDR(3Mbps)	1.26M	1.192M	1M19G1D	1.256M	1.179M

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

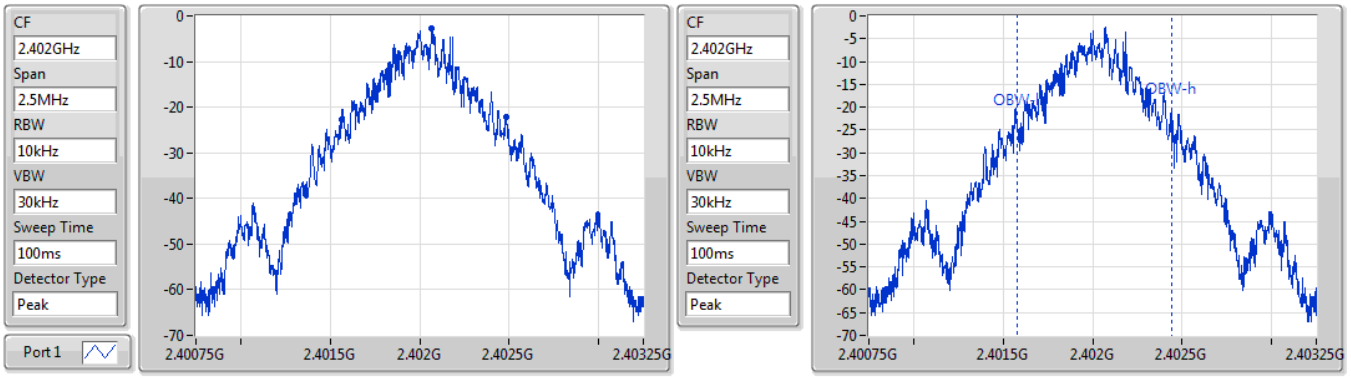
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	921.25k	867.066k
2440MHz_TnomVnom	Pass	Inf	918.75k	875.812k
2480MHz_TnomVnom	Pass	Inf	926.25k	872.064k
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	1.305M	1.173M
2440MHz_TnomVnom	Pass	Inf	1.284M	1.181M
2480MHz_TnomVnom	Pass	Inf	1.284M	1.172M
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	1.256M	1.179M
2440MHz_TnomVnom	Pass	Inf	1.256M	1.192M
2480MHz_TnomVnom	Pass	Inf	1.26M	1.179M

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

BT-BR(1Mbps) EBW

2402MHz

21/02/2020

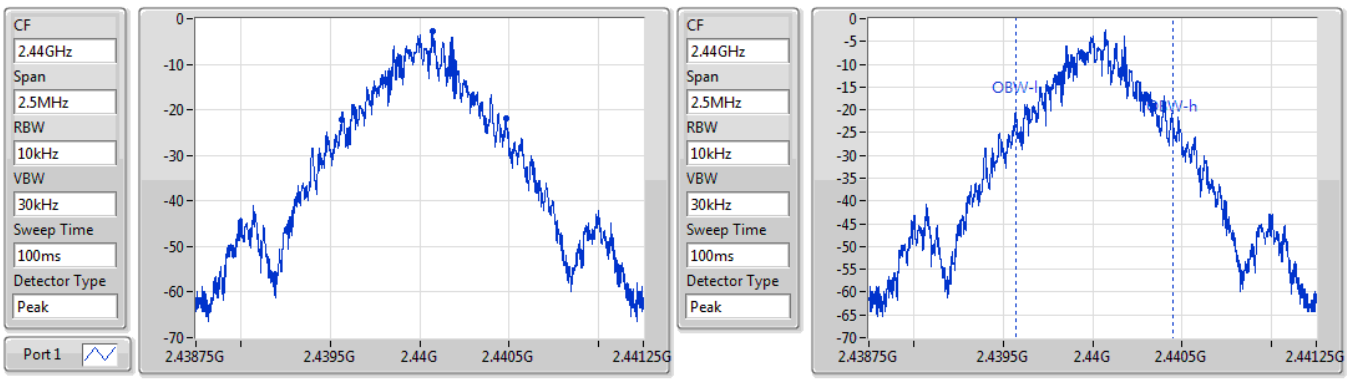


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
921.25k	2.401563G	2.402484G	867.066k	2.401576G	2.402444G	Inf	1

BT-BR(1Mbps) EBW

2440MHz

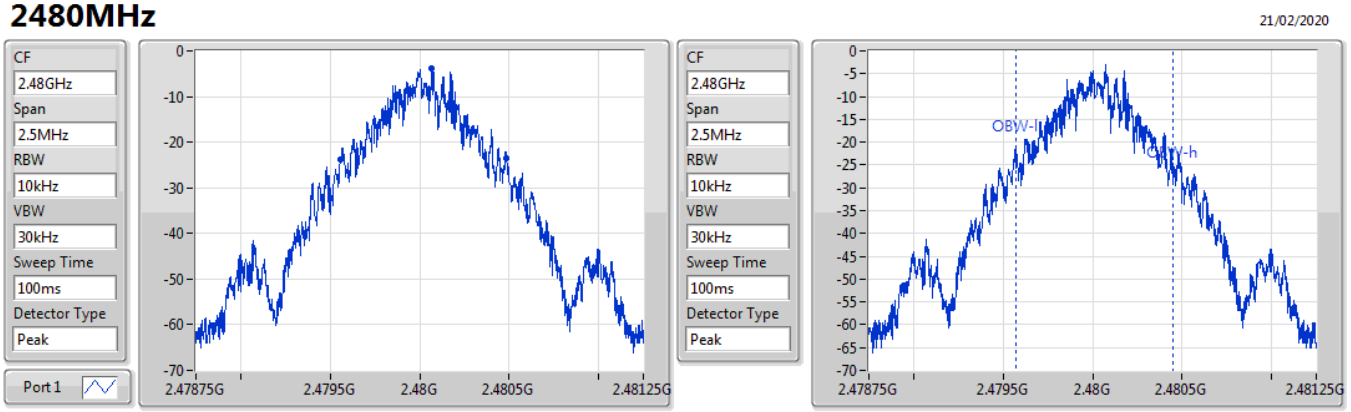
21/02/2020



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
918.75k	2.439564G	2.440483G	875.812k	2.439573G	2.440449G	Inf	1

BT-BR(1Mbps) EBW

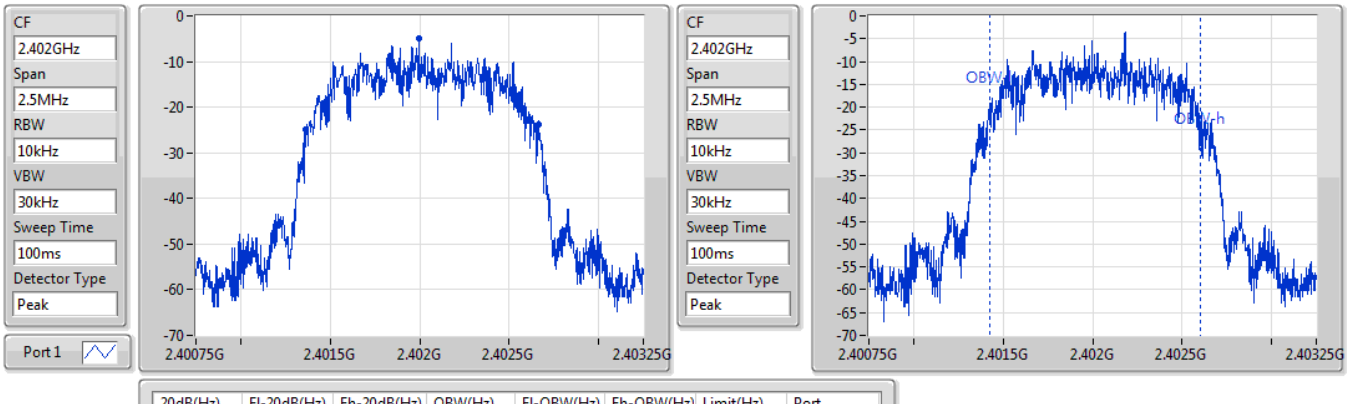
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
926.25k	2.479559G	2.480485G	872.064k	2.479574G	2.480446G	Inf	1

BT-EDR(2Mbps) EBW

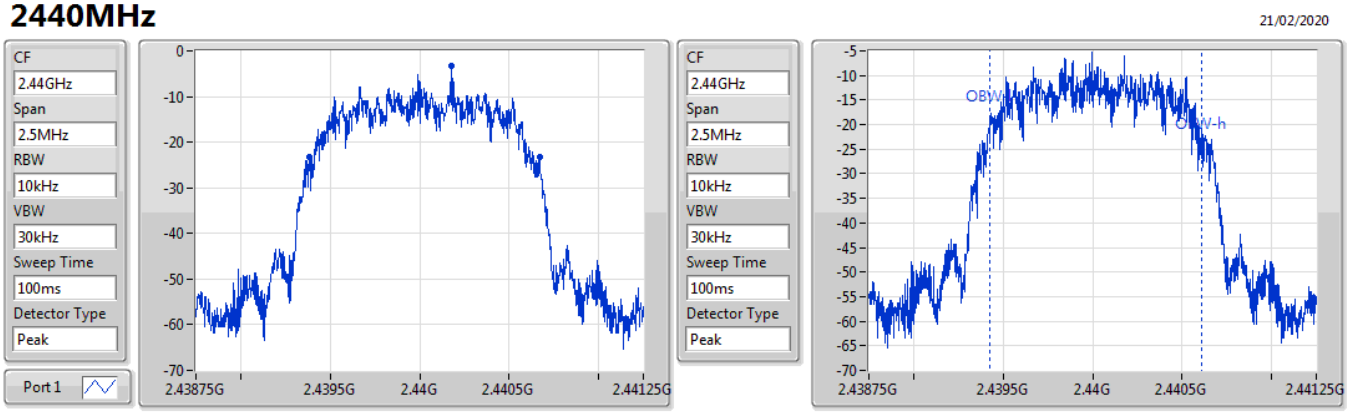
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.305M	2.40136G	2.402665G	1.173M	2.401427G	2.4026G	Inf	1

BT-EDR(2Mbps) EBW

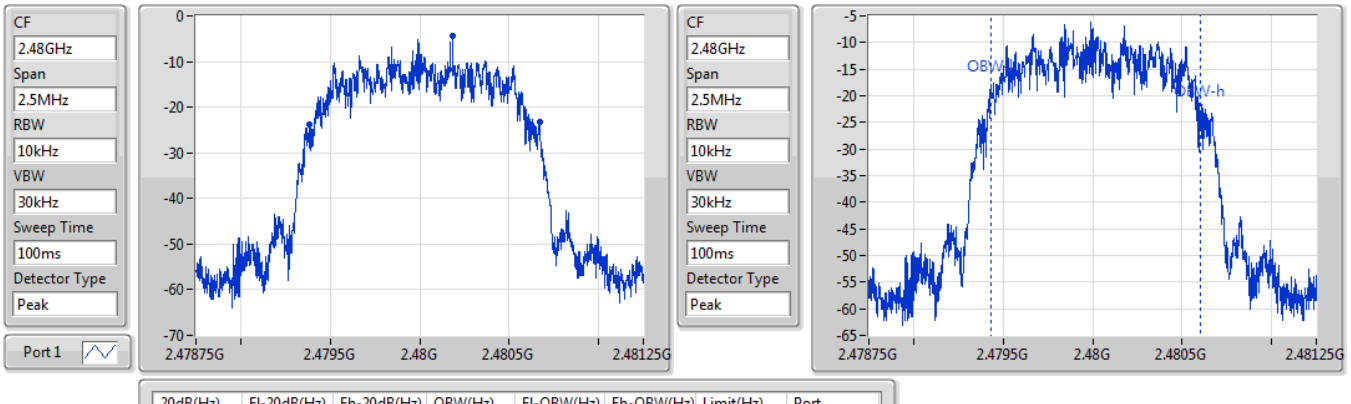
2440MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.284M	2.439386G	2.44067G	1.181M	2.439427G	2.440607G	Inf	1

BT-EDR(2Mbps) EBW

2480MHz

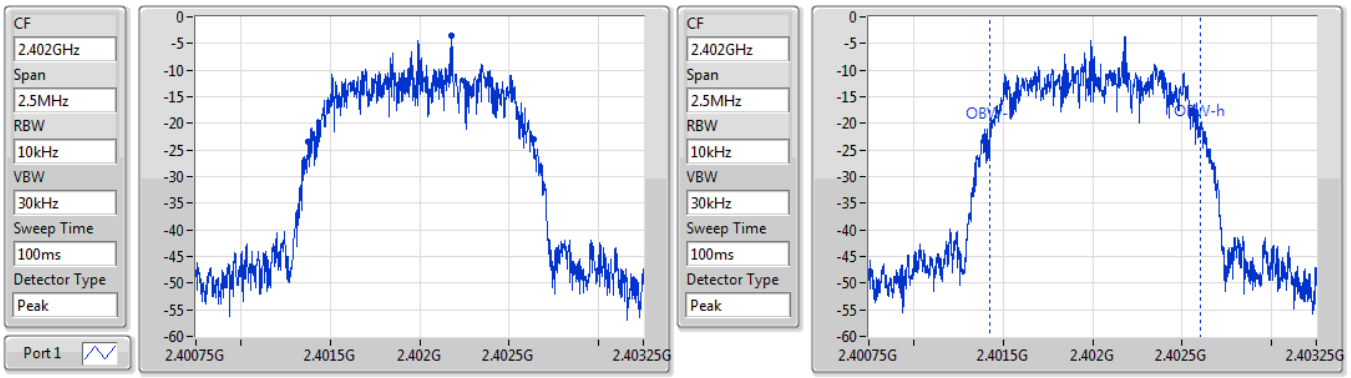


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.284M	2.479385G	2.480669G	1.172M	2.479429G	2.480601G	Inf	1

BT-EDR(3Mbps) EBW

2402MHz

21/02/2020

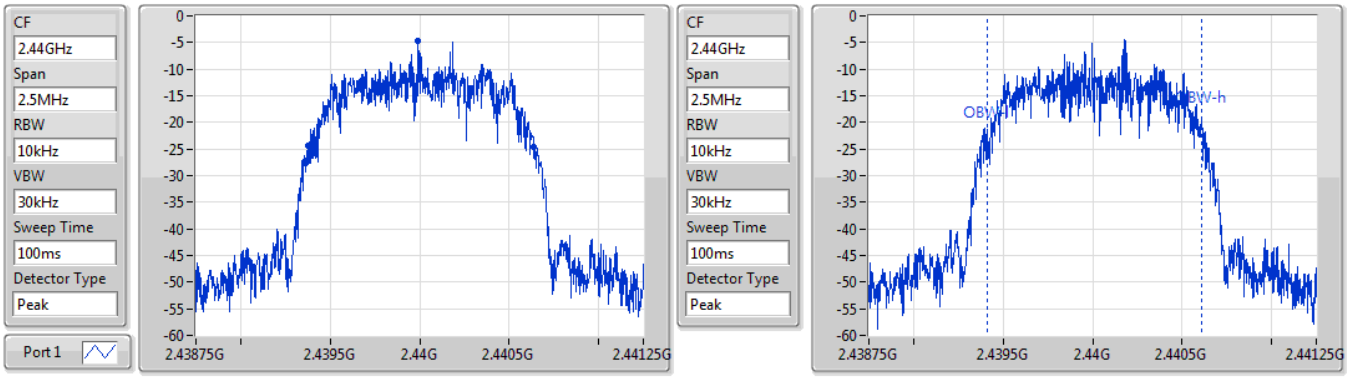


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.256M	2.401379G	2.402635G	1.179M	2.401425G	2.402605G	Inf	1

BT-EDR(3Mbps) EBW

2440MHz

21/02/2020

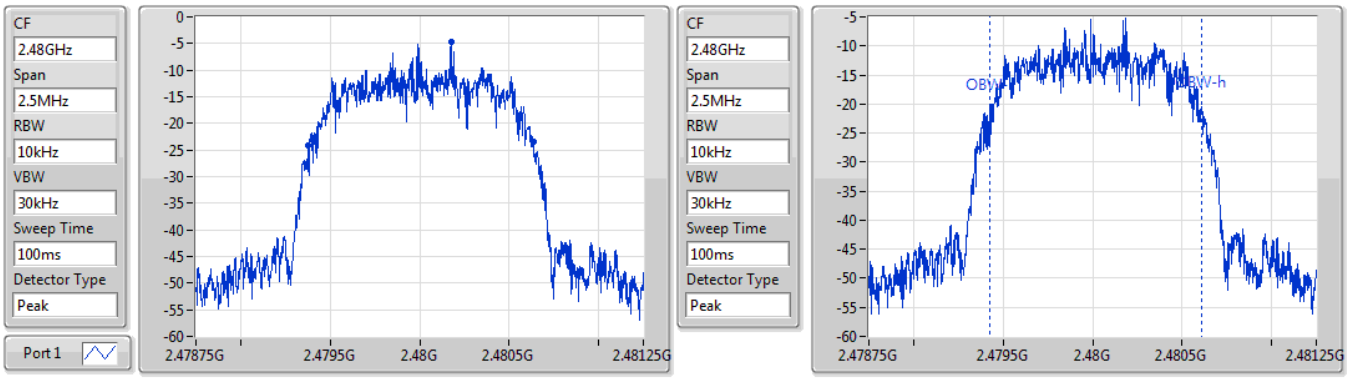


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.256M	2.43938G	2.440636G	1.192M	2.439414G	2.440606G	Inf	1

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

2480MHz

21/02/2020



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.26M	2.479375G	2.480635G	1.179M	2.479427G	2.480606G	Inf	1

Summary

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.0035M	997.5k
BT-EDR(2Mbps)	1.005M	997.5k
BT-EDR(3Mbps)	1.002M	999k

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402178G	2.40318G	1.002M	613.5525k
2440MHz_TnomVnom	Pass	2.440181G	2.441178G	997.5k	611.8875k
2480MHz_TnomVnom	Pass	2.479179G	2.480183G	1.0035M	616.8825k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402176G	2.403181G	1.005M	869.13k
2440MHz_TnomVnom	Pass	2.440181G	2.441178G	997.5k	855.144k
2480MHz_TnomVnom	Pass	2.479181G	2.48018G	999k	855.144k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402178G	2.40318G	1.002M	836.496k
2440MHz_TnomVnom	Pass	2.440179G	2.441178G	999k	836.496k
2480MHz_TnomVnom	Pass	2.479181G	2.48018G	999k	839.16k

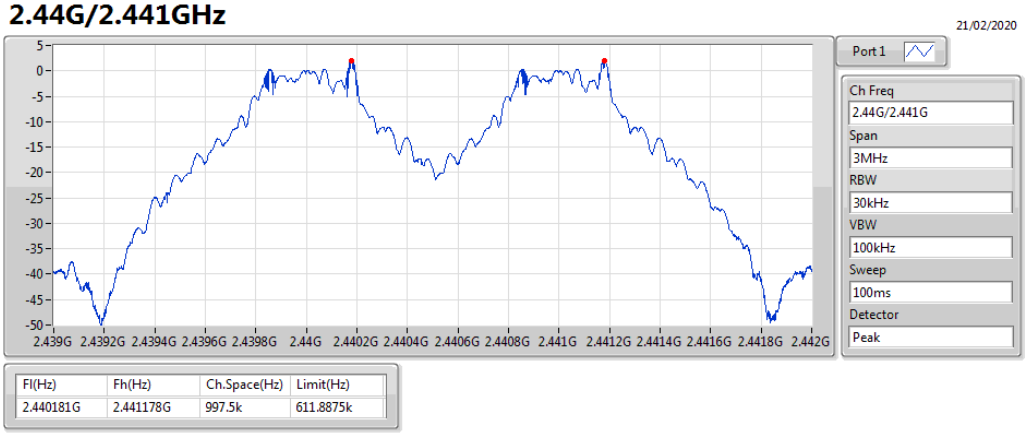
BT-BR(1Mbps) **Channel Separation**

2.402G/2.403GHz

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402178G	2.40318G	1.002M	613.5525k

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

2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440181G	2.441178G	997.5k	611.8875k

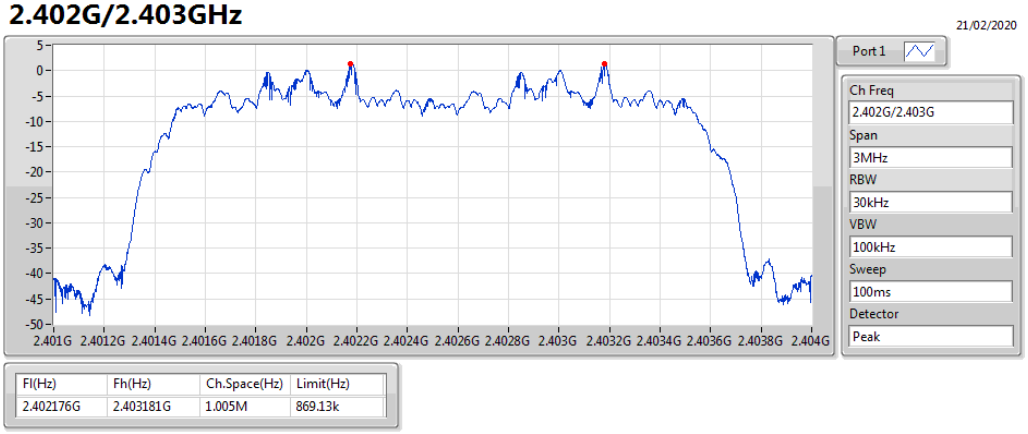
BT-BR(1Mbps) **Channel Separation**

2.48G/2.479GHz

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479179G	2.480183G	1.0035M	616.8825k

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

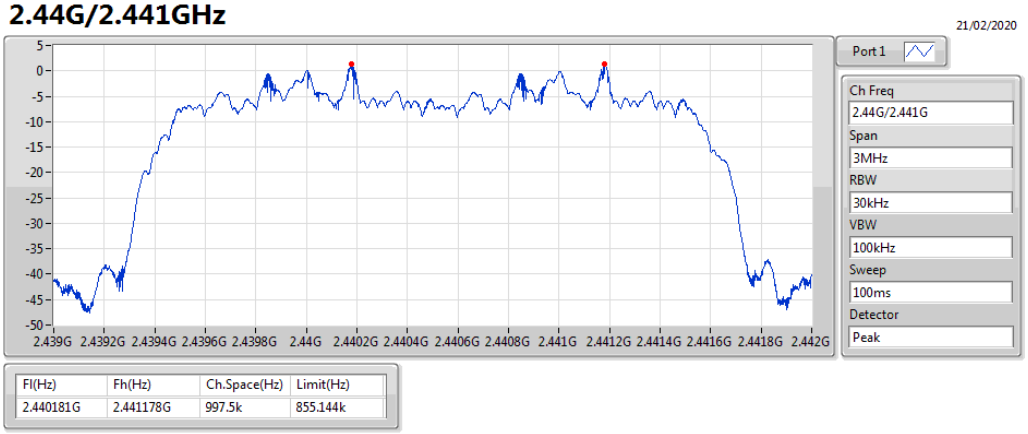
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402176G	2.403181G	1.005M	869.13k

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

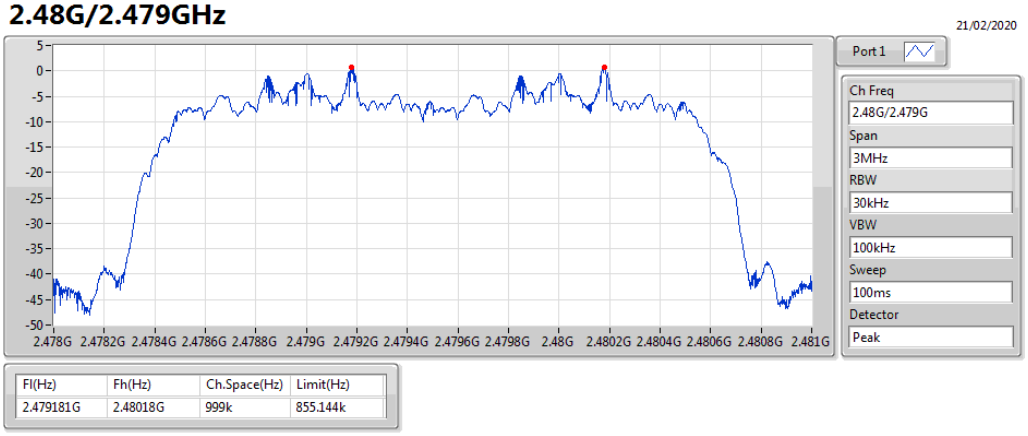
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440181G	2.441178G	997.5k	855.144k

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

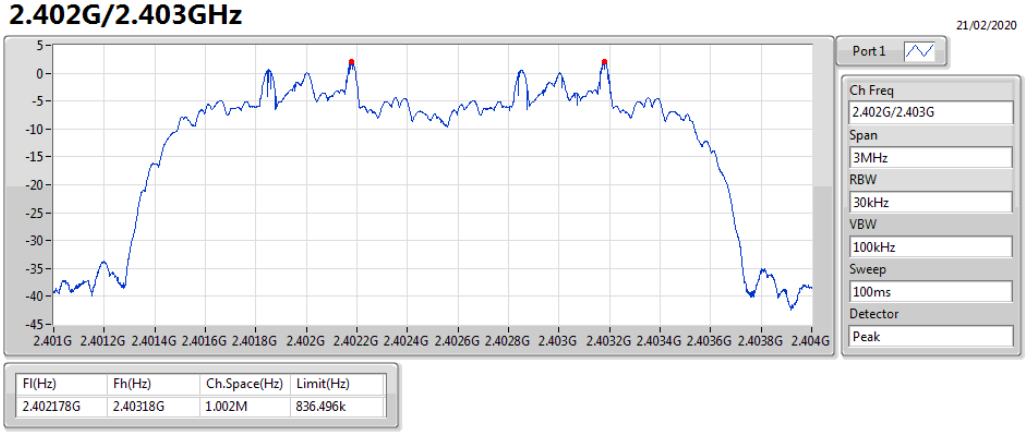
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479181G	2.48018G	999k	855.144k

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

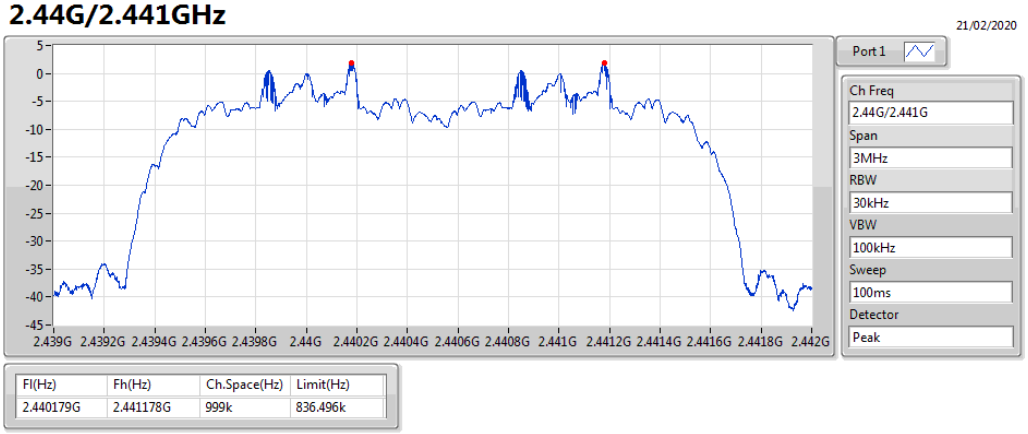
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402178G	2.40318G	1.002M	836.496k

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

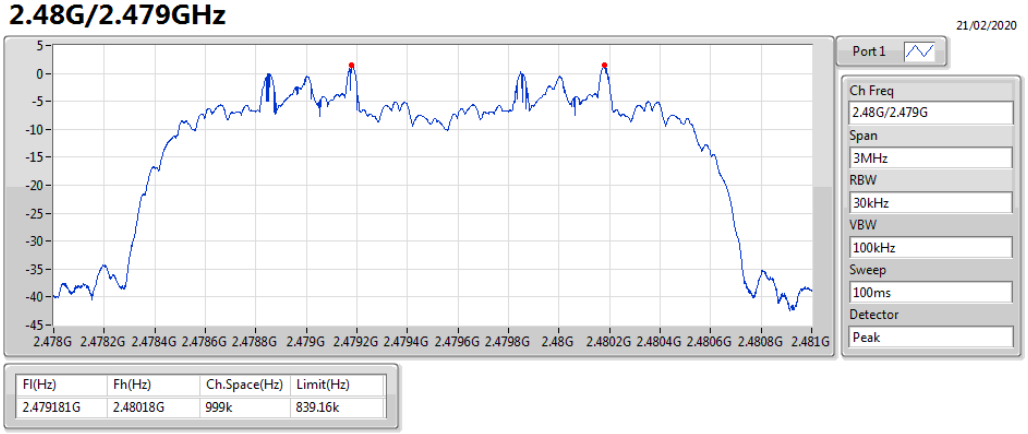
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440179G	2.441178G	999k	836.496k

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

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479181G	2.48018G	999k	839.16k

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	3.77	0.00238
BT-EDR(2Mbps)	5.87	0.00386
BT-EDR(3Mbps)	6.19	0.00416

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	4.28	3.77	21.00
2440MHz_TnomVnom	Pass	4.28	3.61	21.00
2480MHz_TnomVnom	Pass	4.28	3.21	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	4.28	5.87	21.00
2440MHz_TnomVnom	Pass	4.28	5.66	21.00
2480MHz_TnomVnom	Pass	4.28	5.26	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	4.28	6.19	21.00
2440MHz_TnomVnom	Pass	4.28	5.98	21.00
2480MHz_TnomVnom	Pass	4.28	5.62	21.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	3.22	0.00210
BT-EDR(2Mbps)	3.03	0.00201
BT-EDR(3Mbps)	3.03	0.00201

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	4.28	3.22	21.00
2440MHz_TnomVnom	Pass	4.28	3.04	21.00
2480MHz_TnomVnom	Pass	4.28	2.65	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	4.28	3.03	21.00
2440MHz_TnomVnom	Pass	4.28	2.83	21.00
2480MHz_TnomVnom	Pass	4.28	2.46	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	4.28	3.03	21.00
2440MHz_TnomVnom	Pass	4.28	2.82	21.00
2480MHz_TnomVnom	Pass	4.28	2.45	21.00

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

Summary

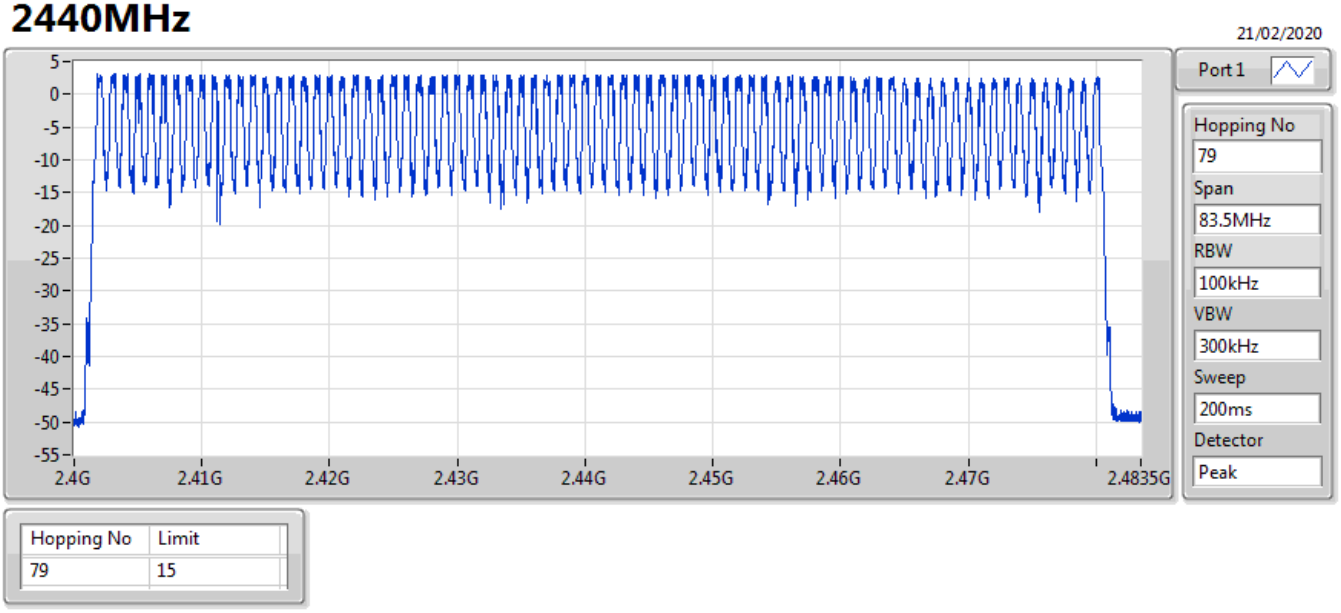
Mode	Max-Hop No
2.4-2.4835GHz	-
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

Result

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

BT-BR(1Mbps) **Hopping Ch**

2440MHz

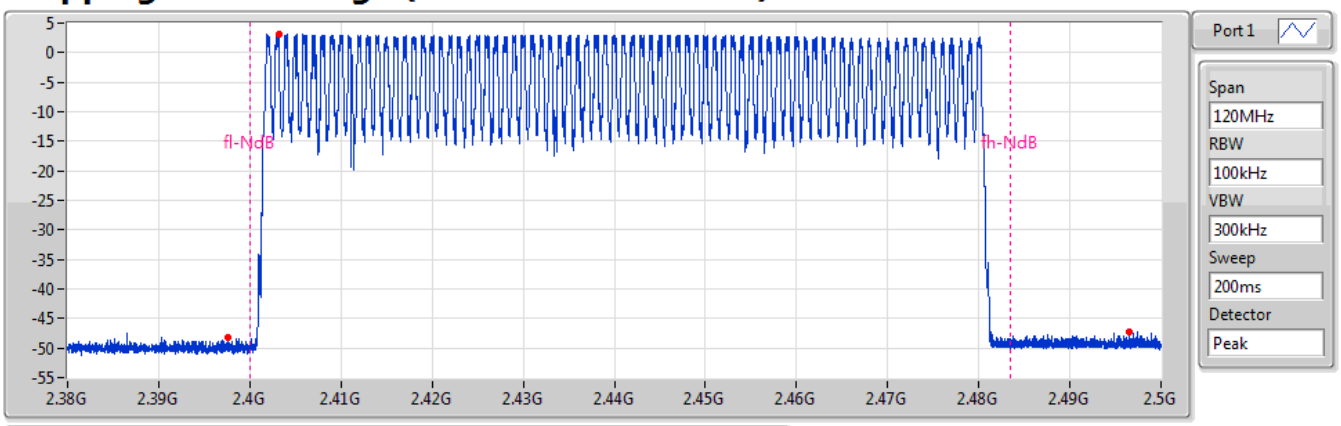


Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

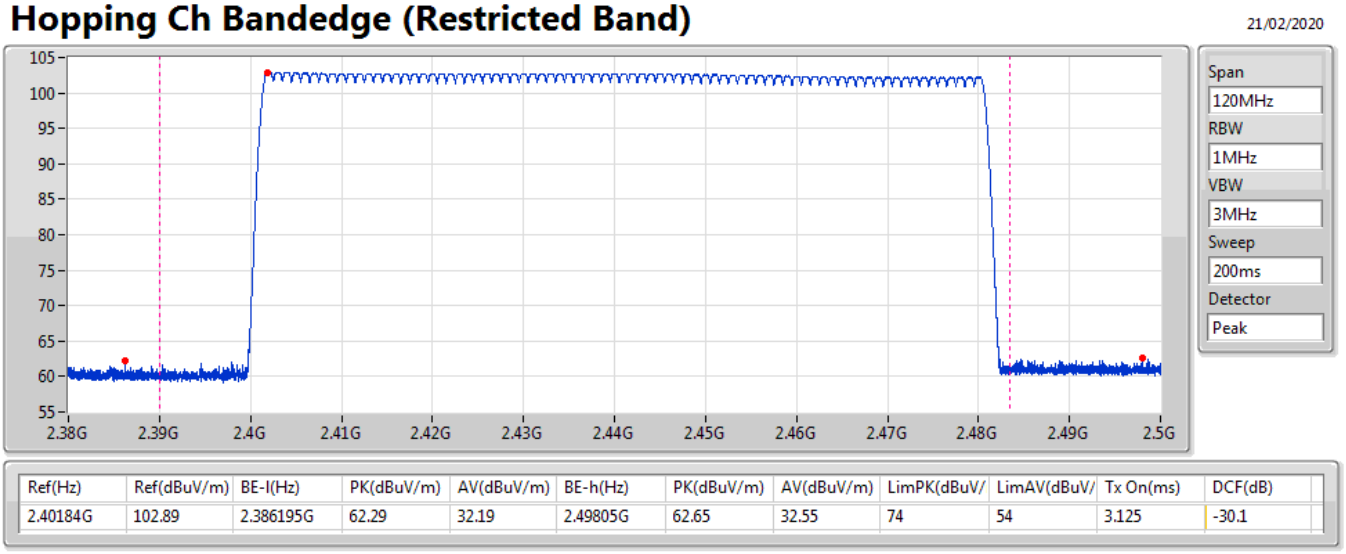


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-16.88	2.40319G	3.12	2.397535G	-48.11	2.49649G	-47.31

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

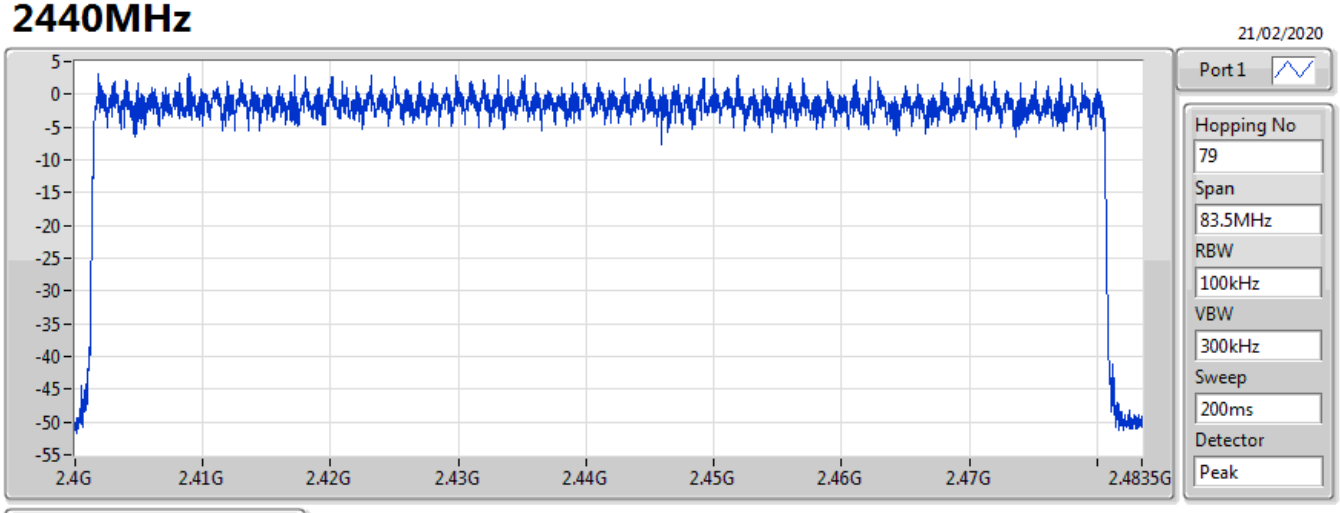


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.40184G	102.89	2.386195G	62.29	32.19	2.49805G	62.65	32.55	74	54	3.125	-30.1

BT-EDR(2Mbps)

2440MHz

Hopping Ch

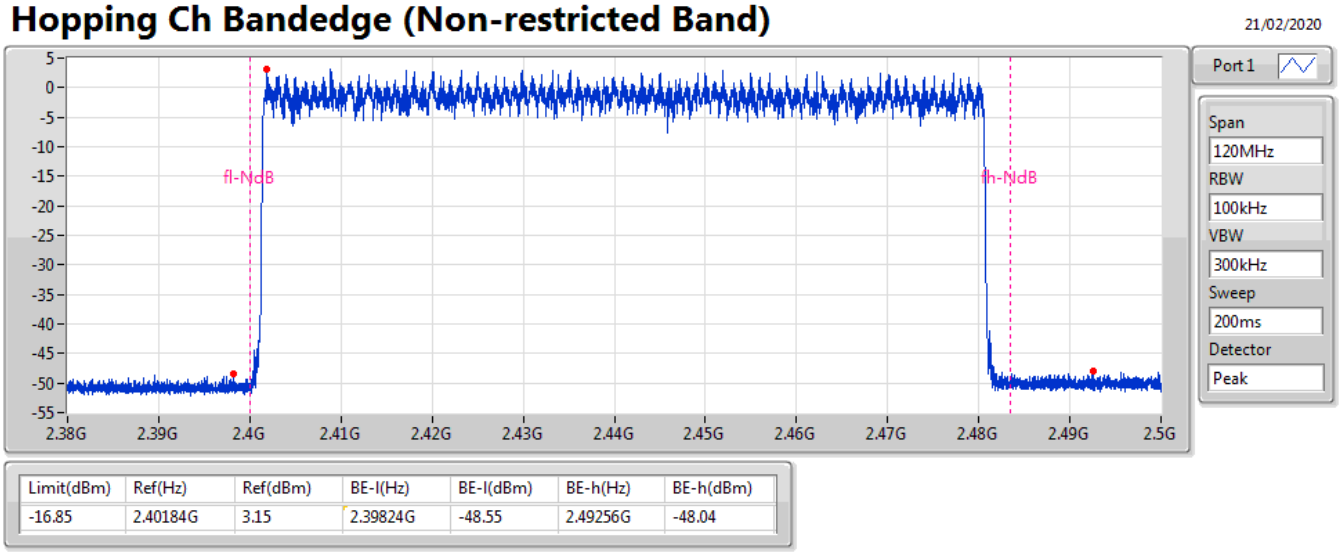


Hopping No	Limit
79	15

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

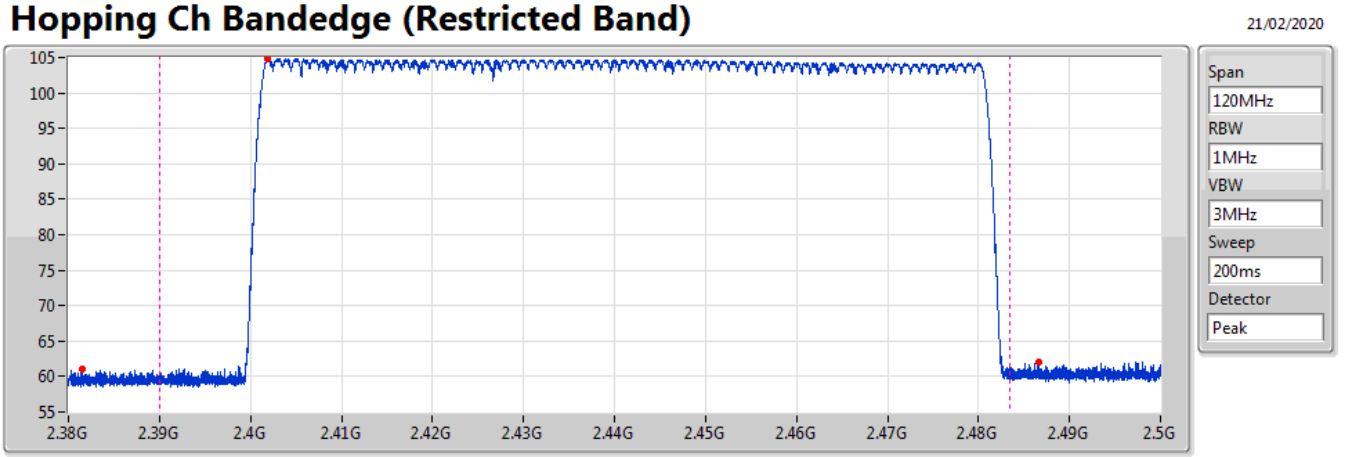


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-16.85	2.40184G	3.15	2.39824G	-48.55	2.49256G	-48.04

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

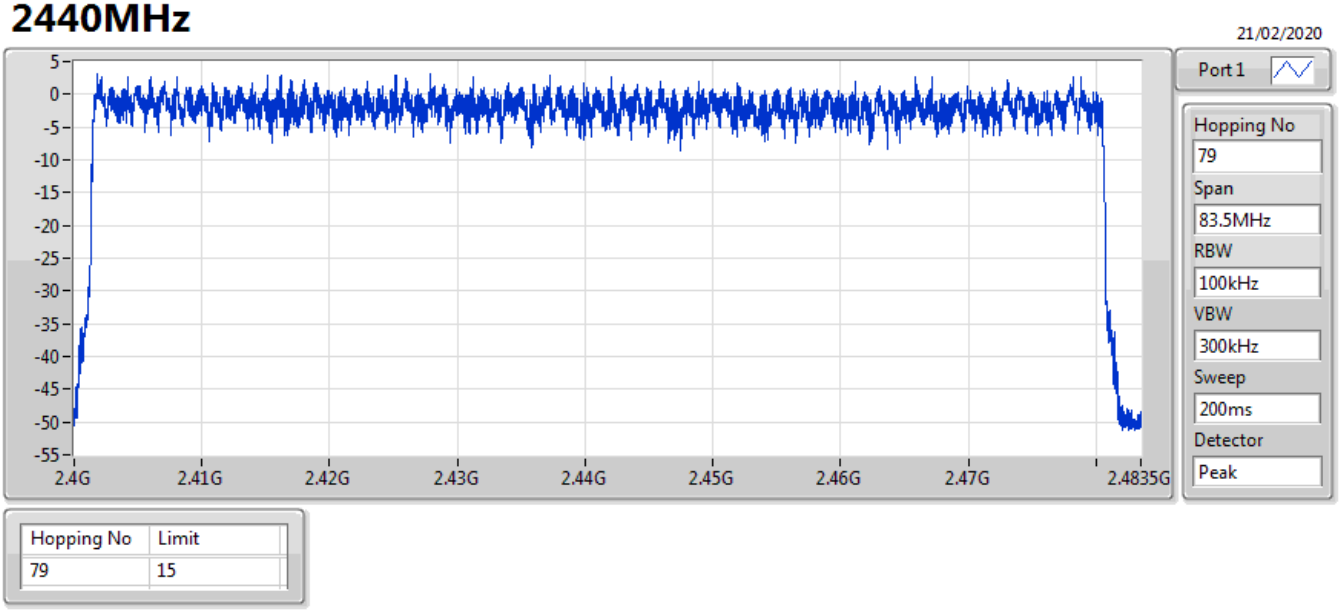


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.4019G	104.84	2.3815G	61.05	30.95	2.48665G	62.02	31.92	74	54	3.125	-30.1

BT-EDR(3Mbps)

2440MHz

Hopping Ch

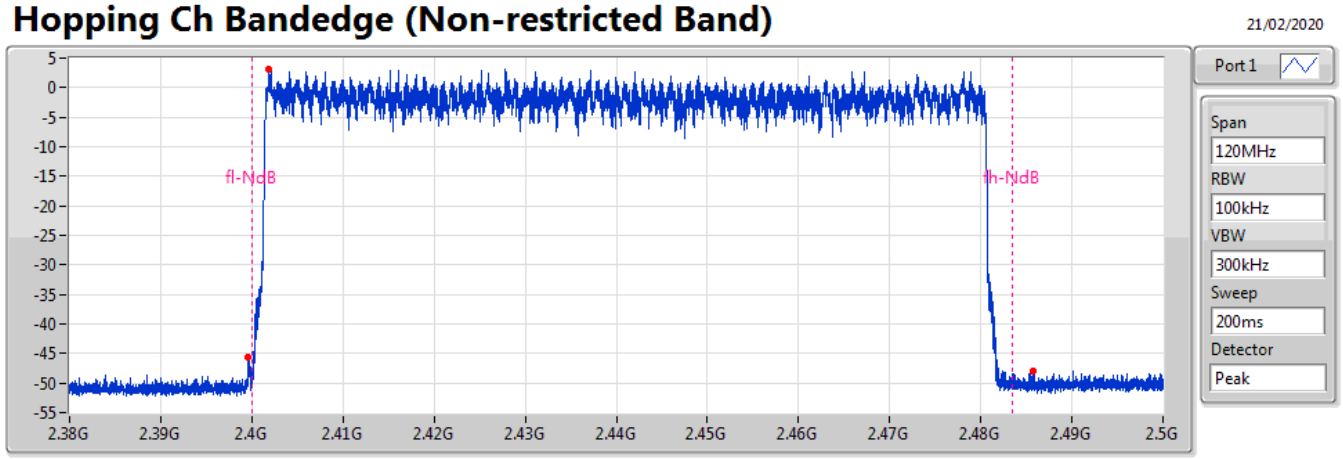


Hopping No	Limit
79	15

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

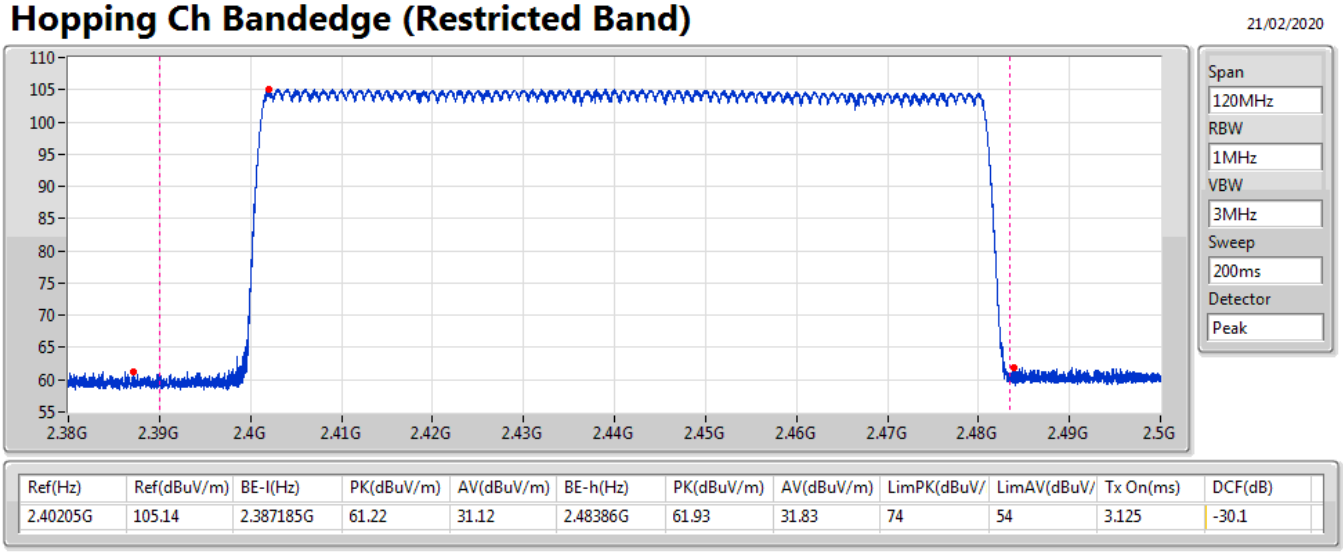


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-16.77	2.40184G	3.23	2.399635G	-45.64	2.485735G	-47.87

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)
2.40205G	105.14	2.387185G	61.22	31.12	2.48386G	61.93	31.83	74	54	3.125	-30.1

Summary

Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.607m
BT-EDR(2Mbps)	308.3938m
BT-EDR(3Mbps)	308.5004m

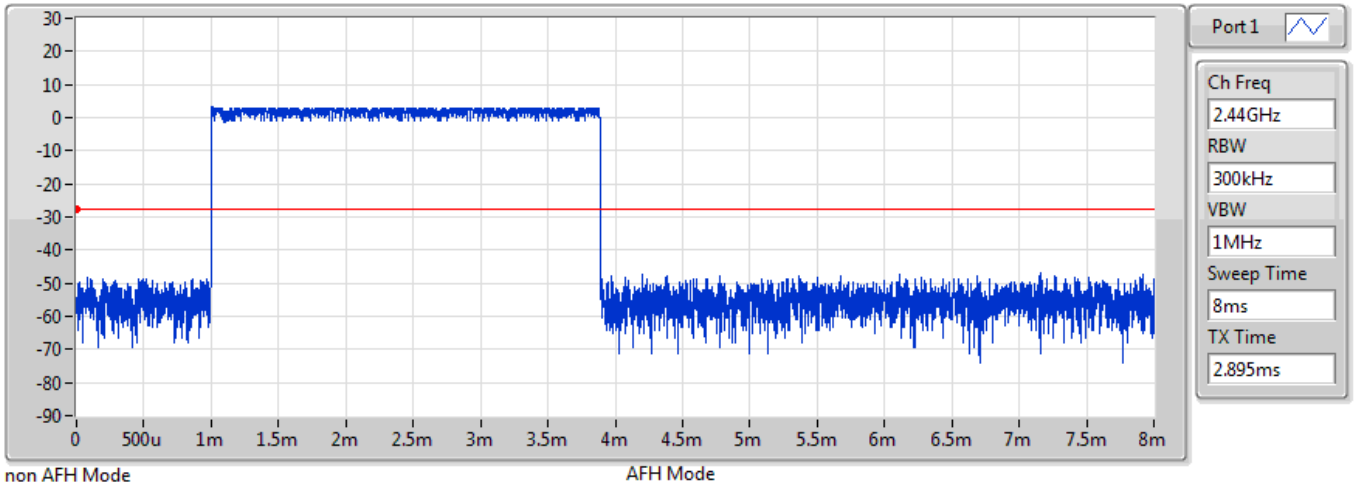
Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz_TnomVnom	Pass	31.6	308.607m	400m	2.895m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz_TnomVnom	Pass	31.6	308.3938m	400m	2.893m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz_TnomVnom	Pass	31.6	308.5004m	400m	2.894m

BT-BR(1Mbps)

Dwell

2440MHz



non AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.607m	400m	2.895m

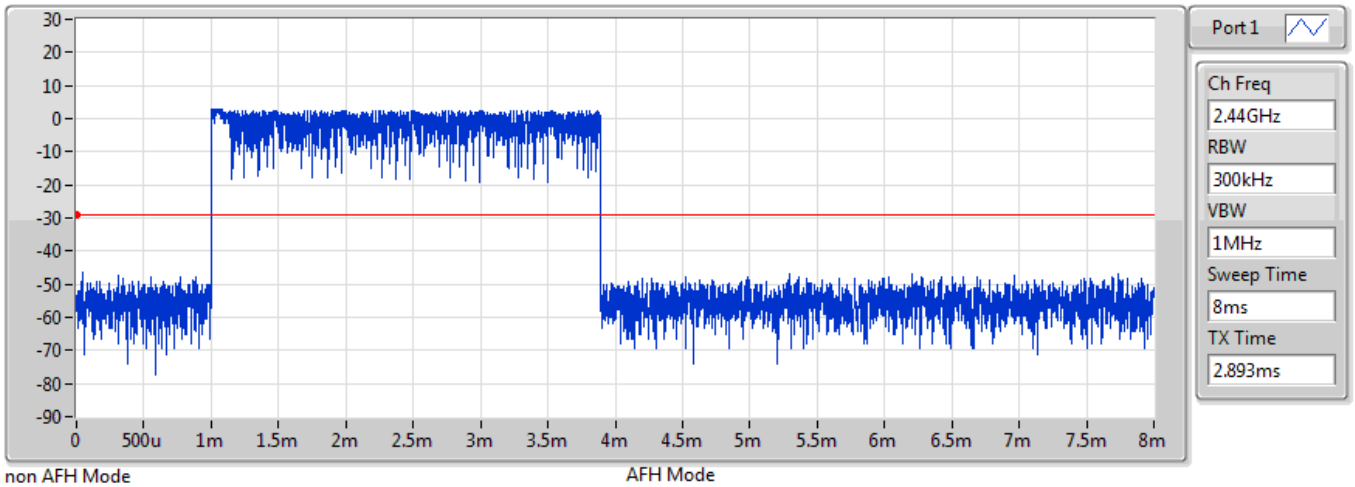
AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.3035m	400m	2.895m

BT-EDR(2Mbps)

Dwell

2440MHz



non AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.3938m	400m	2.893m

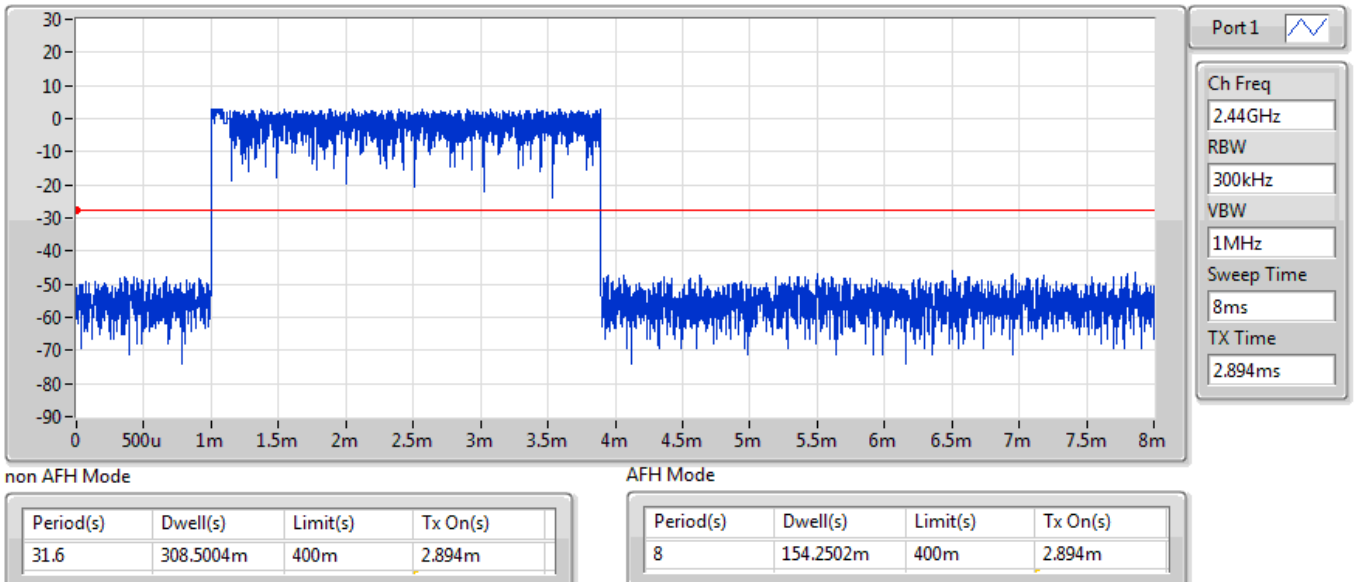
AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.1969m	400m	2.893m

BT-EDR(3Mbps) **Dwell**

2440MHz

21/02/2020



non AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.5004m	400m	2.894m

AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.2502m	400m	2.894m

Summary

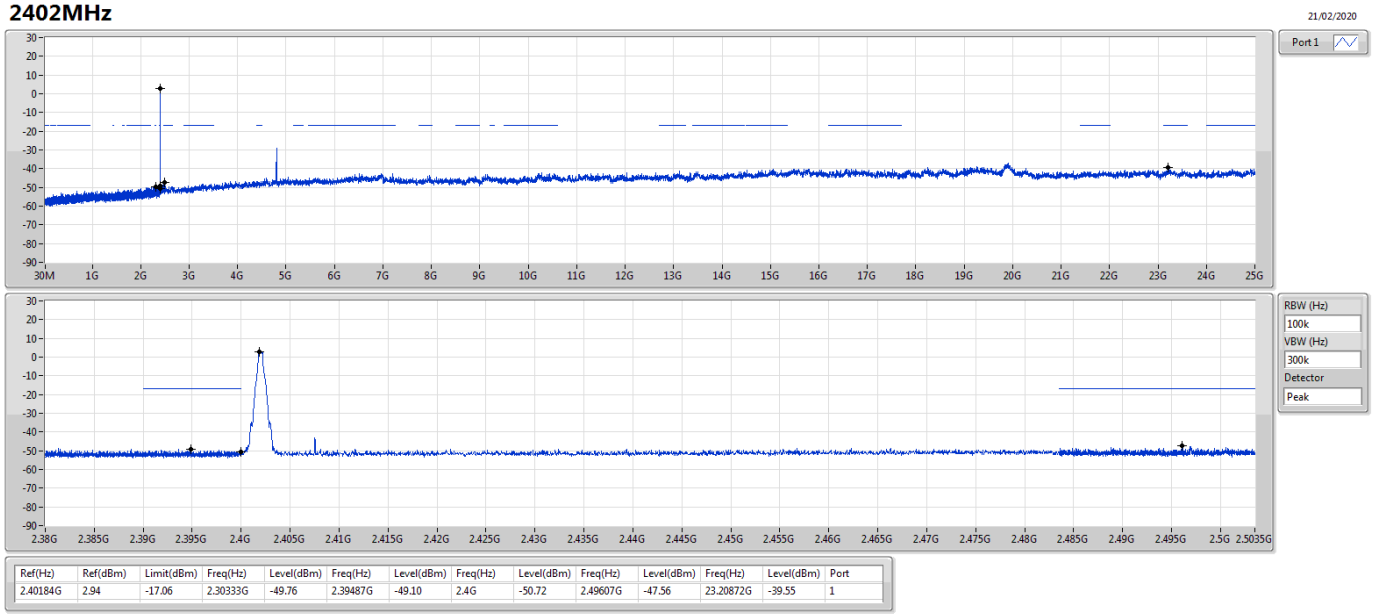
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.40184G	2.94	-17.06	2.30333G	-49.76	2.39487G	-49.10	2.4G	-50.72	2.49607G	-47.56	23.20872G	-39.55	1
BT-EDR(2Mbps)	Pass	2.4018G	2.88	-17.12	2.15117G	-50.25	2.39968G	-47.37	2.4G	-49.58	2.49872G	-48.13	16.81971G	-39.62	1
BT-EDR(3Mbps)	Pass	2.40217G	3.20	-16.80	2.13824G	-50.22	2.39963G	-45.23	2.4G	-47.15	2.4982G	-47.32	23.33807G	-38.84	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_TnomVnom	Pass	2.40184G	2.94	-17.06	2.30333G	-49.76	2.39487G	-49.10	2.4G	-50.72	2.49607G	-47.56	23.20872G	-39.55	1
2440MHz_TnomVnom	Pass	2.44016G	3.20	-16.80	2.13854G	-49.90	2.39941G	-49.38	2.4835G	-50.05	2.5006G	-48.41	16.69036G	-38.19	1
2480MHz_TnomVnom	Pass	2.4802G	2.58	-17.42	2.15558G	-49.58	2.39961G	-48.76	2.4G	-49.80	2.50235G	-48.47	15.07342G	-39.41	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.4018G	2.88	-17.12	2.15117G	-50.25	2.39968G	-47.37	2.4G	-49.58	2.49872G	-48.13	16.81971G	-39.62	1
2440MHz_TnomVnom	Pass	2.43987G	2.26	-17.74	1.97022G	-50.15	2.39994G	-49.23	2.4G	-51.21	2.49162G	-48.55	16.55819G	-37.83	1
2480MHz_TnomVnom	Pass	2.4802G	2.58	-17.42	2.14735G	-50.08	2.39302G	-49.17	2.4G	-51.38	2.49796G	-48.40	23.52648G	-39.31	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.40217G	3.20	-16.80	2.13824G	-50.22	2.39963G	-45.23	2.4G	-47.15	2.4982G	-47.32	23.33807G	-38.84	1
2440MHz_TnomVnom	Pass	2.43983G	2.97	-17.03	2.13002G	-50.17	2.39821G	-49.29	2.4835G	-50.89	2.49301G	-47.79	24.86221G	-39.59	1
2480MHz_TnomVnom	Pass	2.47987G	2.27	-17.73	2.19406G	-50.22	2.39434G	-48.24	2.4G	-49.10	2.48385G	-47.67	16.58068G	-39.76	1

BT-BR(1Mbps) **CSE NdB**

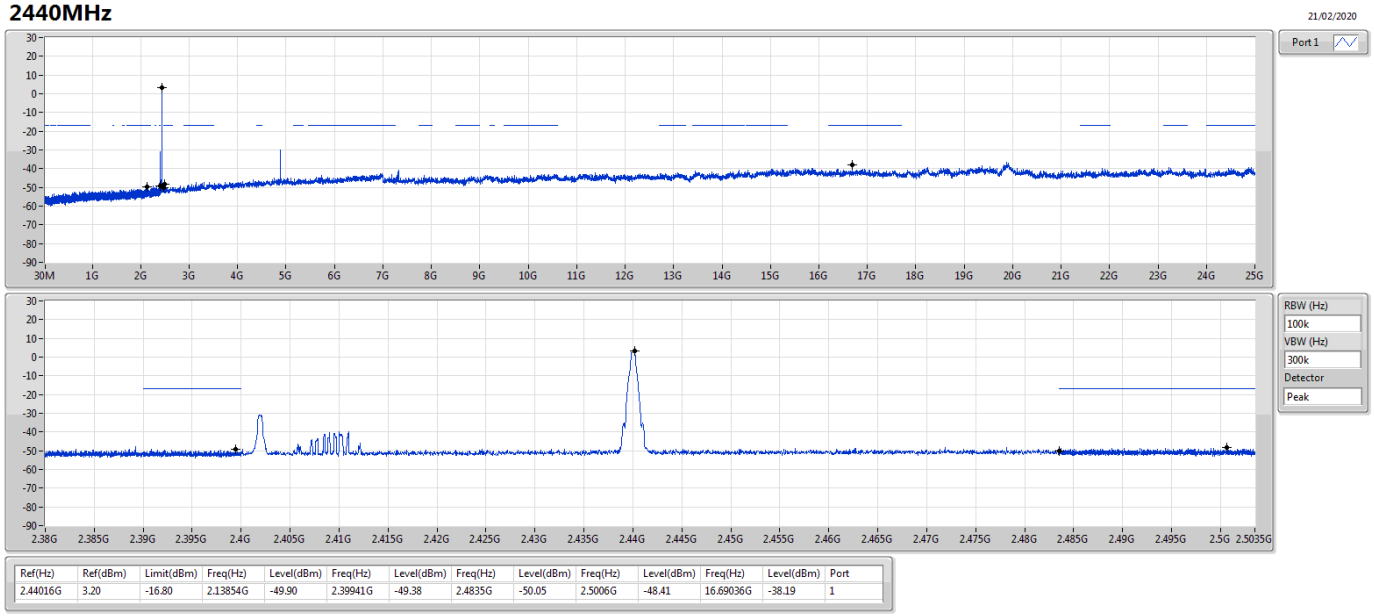
2402MHz



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
2.40184G	2.94	-17.06	2.30333G	-49.76	2.39487G	-49.10	2.4G	-50.72	2.49607G	-47.56	23.20872G	-39.55	1

BT-BR(1Mbps) **CSE NdB**

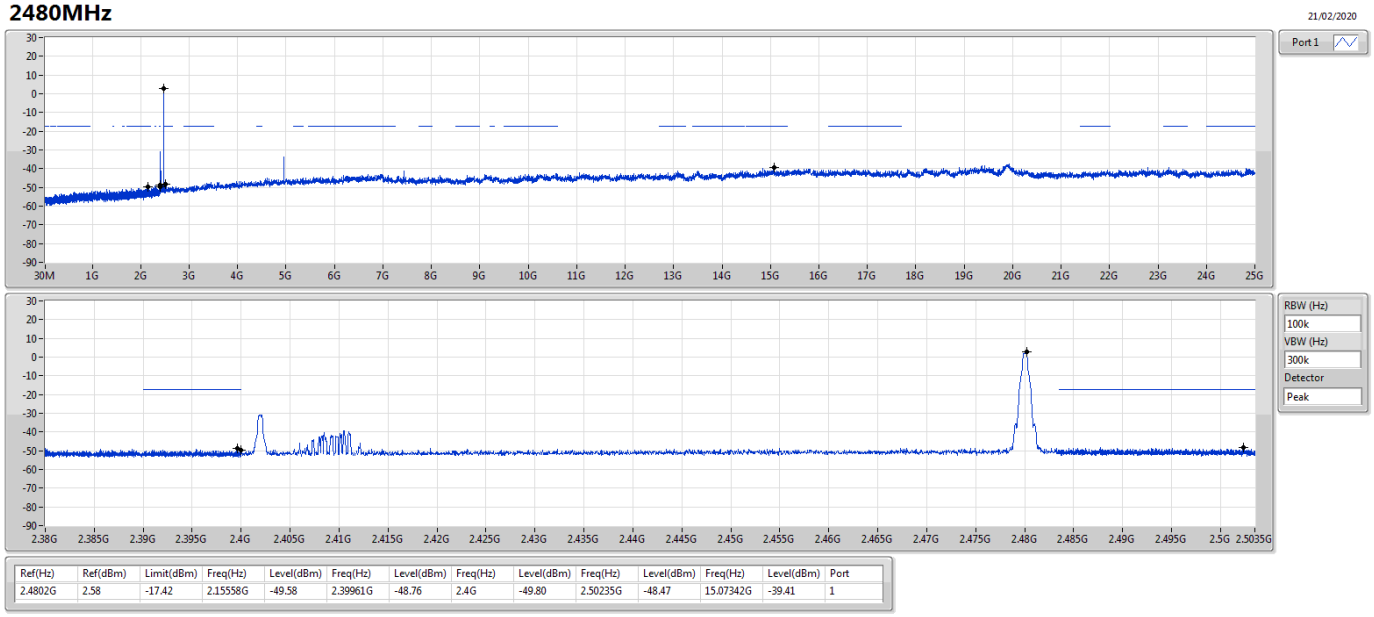
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44016G	3.20	-16.80	2.13854G	-49.90	2.39941G	-49.38	2.4835G	-50.05	2.5006G	-48.41	16.69036G	-38.19	1

BT-BR(1Mbps) **CSE NdB**

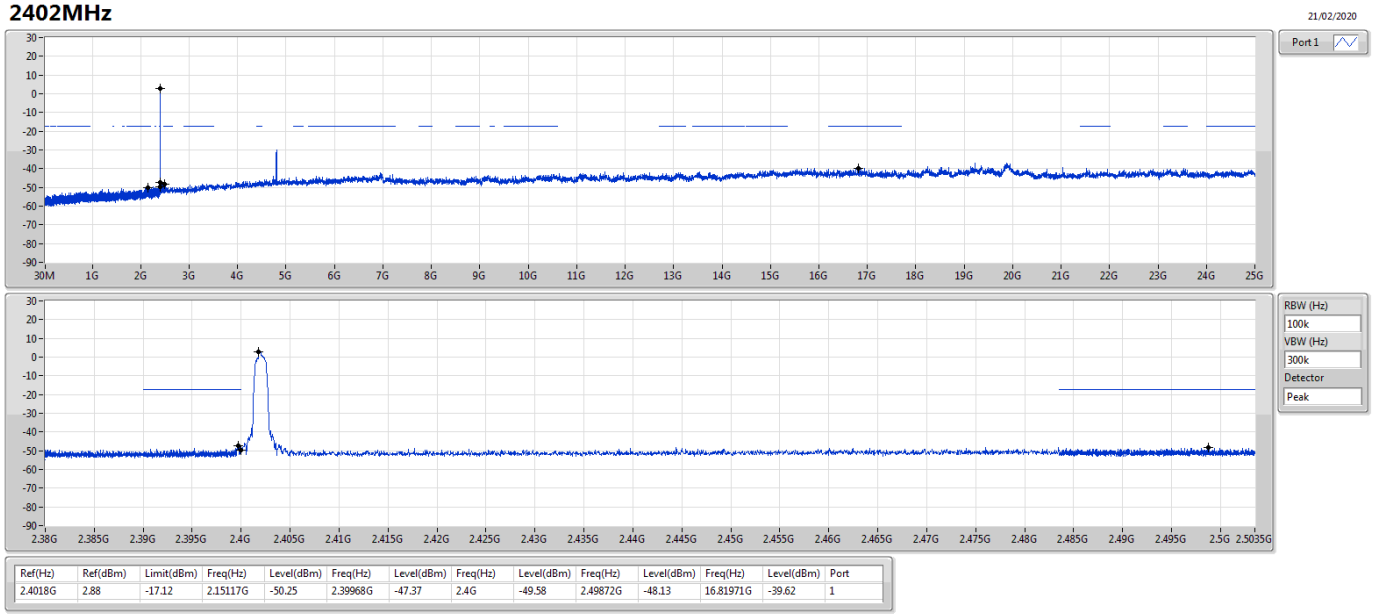
2480MHz



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
2.4802G	2.58	-17.42	2.15558G	-49.58	2.39961G	-48.76	2.4G	-49.80	2.50235G	-48.47	15.07342G	-39.41	1

BT-EDR(2Mbps) **CSE NdB**

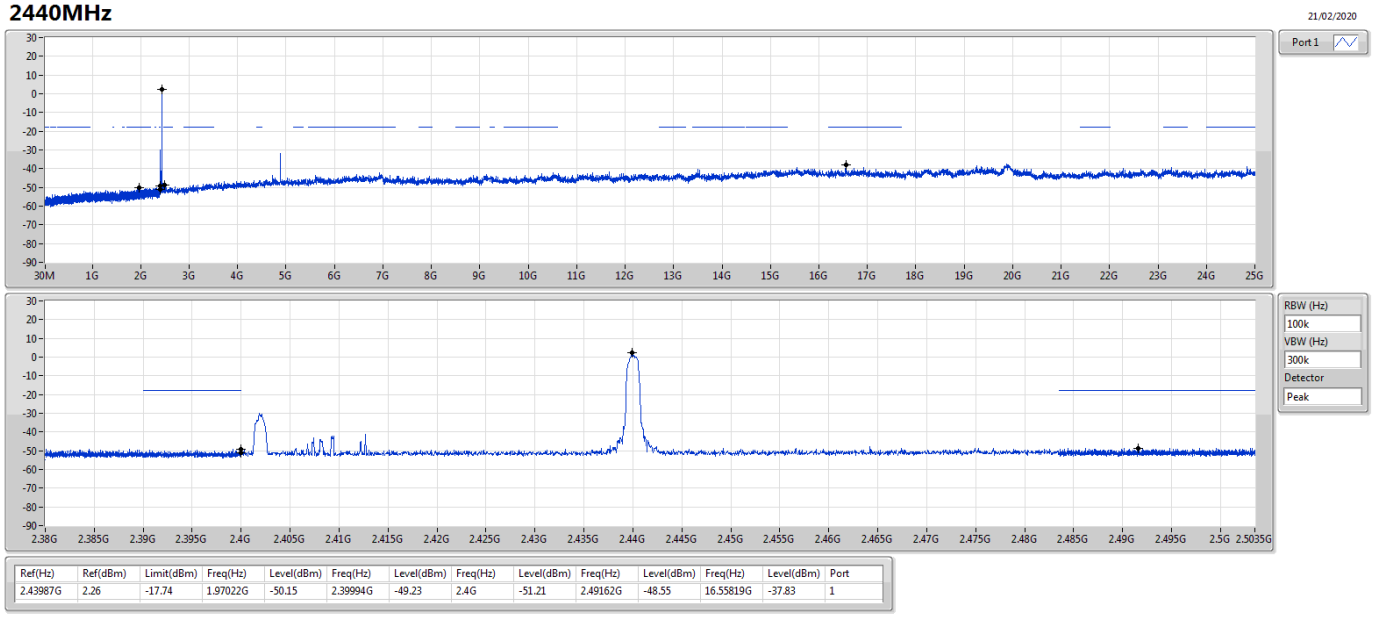
2402MHz



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
2.4018G	2.88	-17.12	2.15117G	-50.25	2.39968G	-47.37	2.4G	-49.58	2.49872G	-48.13	16.81971G	-39.62	1

BT-EDR(2Mbps) **CSE NdB**

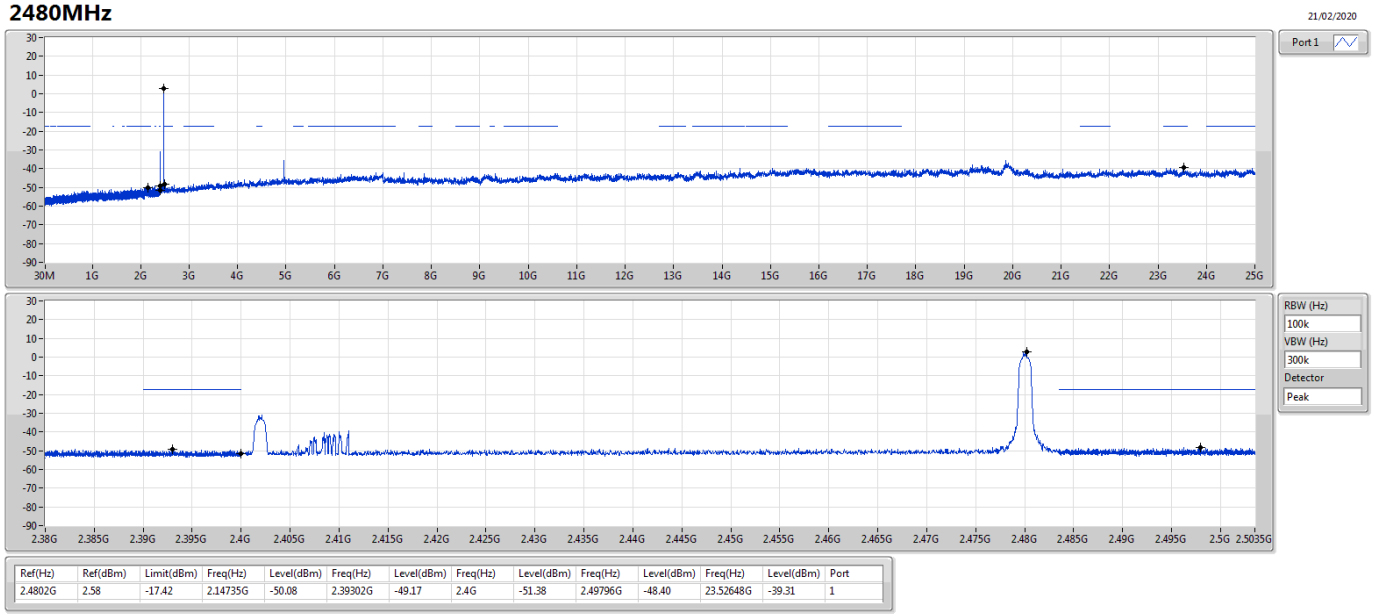
2440MHz



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
2.43987G	2.26	-17.74	1.97022G	-50.15	2.39994G	-49.23	2.4G	-51.21	2.49162G	-48.55	16.55819G	-37.83	1

BT-EDR(2Mbps) **CSE NdB**

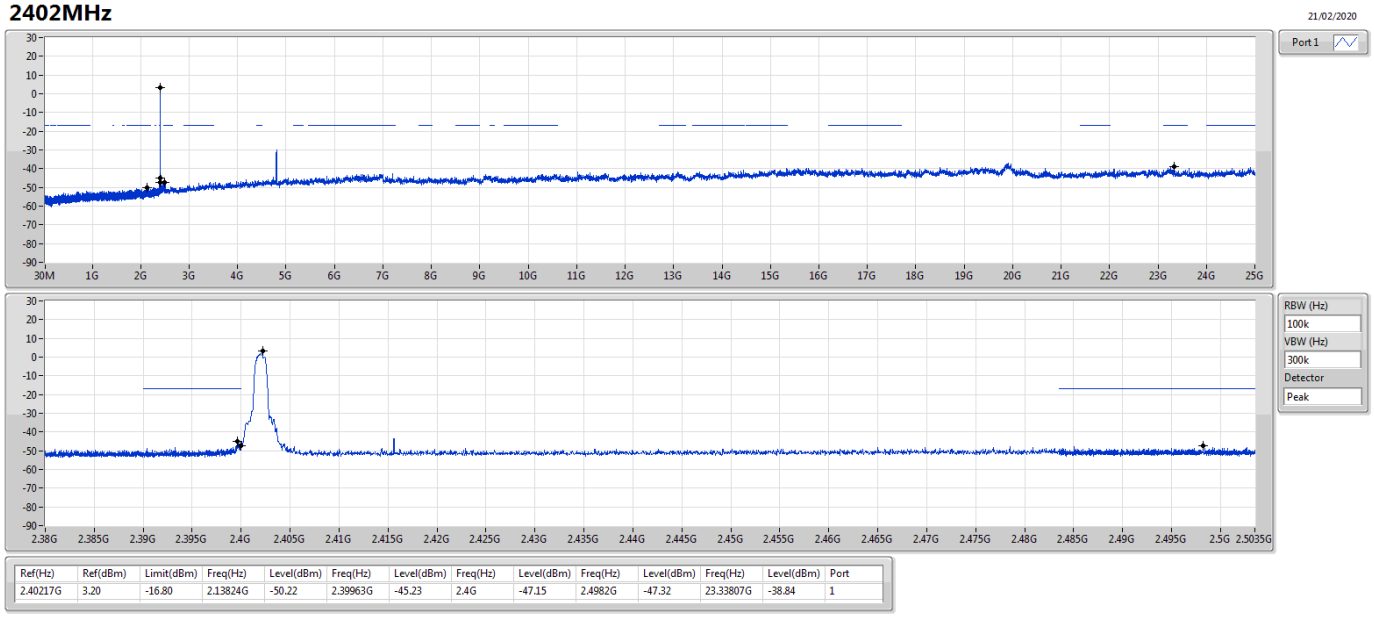
2480MHz



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
2.4802G	2.58	-17.42	2.14735G	-50.08	2.39302G	-49.17	2.4G	-51.38	2.49796G	-48.40	23.52648G	-39.31	1

BT-EDR(3Mbps) **CSE NdB**

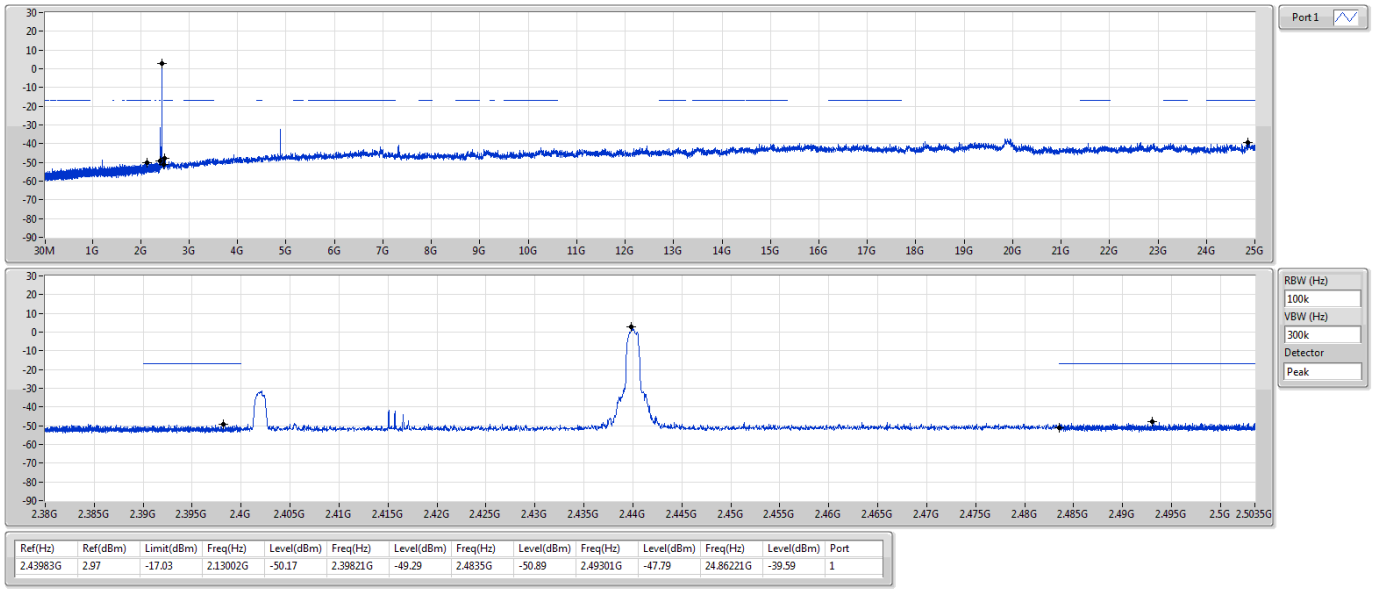
2402MHz



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
2.40217G	3.20	-16.80	2.13824G	-50.22	2.39963G	-45.23	2.4G	-47.15	2.4982G	-47.32	23.33807G	-38.84	1

BT-EDR(3Mbps) **CSE NdB**

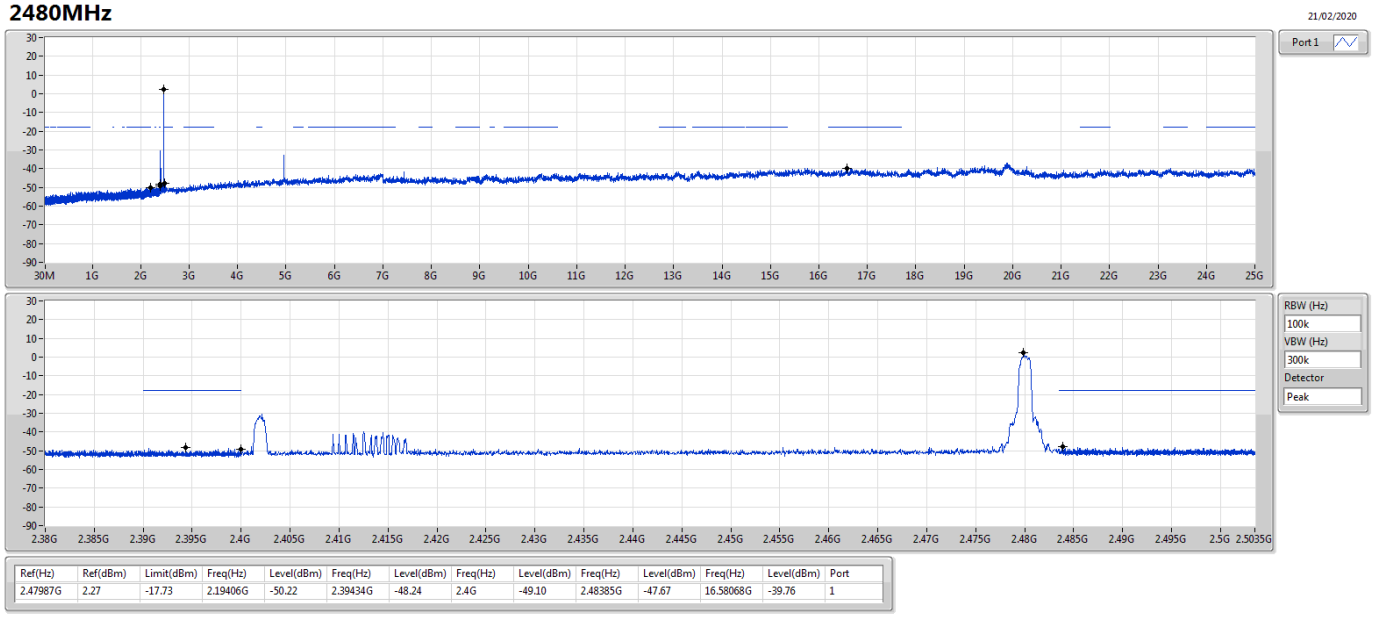
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	2.97	-17.03	2.13002G	-50.17	2.39821G	-49.29	2.4835G	-50.89	2.49301G	-47.79	24.86221G	-39.59	1

BT-EDR(3Mbps) **CSE NdB**

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
2.47987G	2.27	-17.73	2.19406G	-50.22	2.39434G	-48.24	2.4G	-49.10	2.48385G	-47.67	16.58068G	-39.76	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	35.82M	36.04	40.00	-3.96	3	Vertical	360	1.00	-

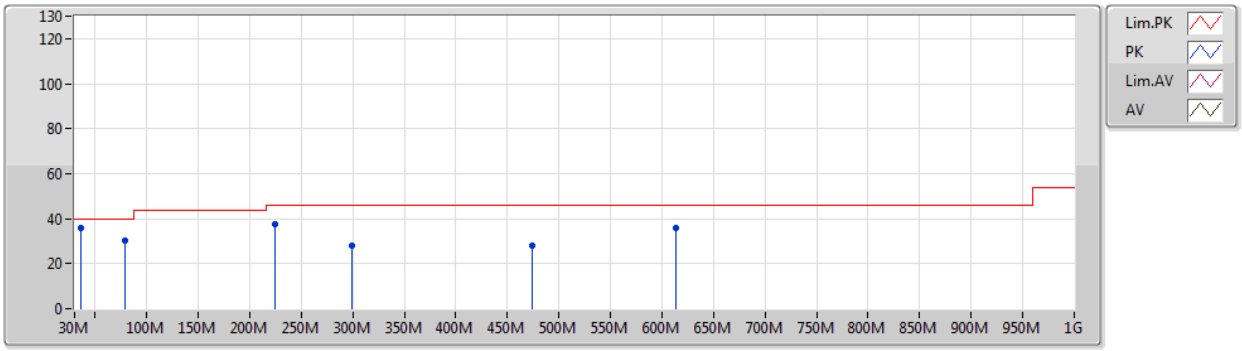
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	35.82M	36.04	40.00	-3.96	3	Vertical	360	1.00	-
2440MHz	Pass	PK	78.5M	30.42	40.00	-9.58	3	Vertical	360	1.00	-
2440MHz	Pass	PK	224M	37.44	46.00	-8.56	3	Vertical	360	1.00	-
2440MHz	Pass	PK	299.66M	28.13	46.00	-17.87	3	Vertical	360	1.00	-
2440MHz	Pass	PK	474.26M	28.09	46.00	-17.91	3	Vertical	360	1.00	-
2440MHz	Pass	PK	613.94M	36.08	46.00	-9.92	3	Vertical	360	1.00	-
2440MHz	Pass	PK	185.2M	35.07	43.50	-8.43	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	224M	41.88	46.00	-4.12	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	251.16M	38.96	46.00	-7.04	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	301.6M	41.72	46.00	-4.28	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	503.36M	32.41	46.00	-13.59	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	613.94M	33.05	46.00	-12.95	3	Horizontal	0	1.00	-

BT-BR(1Mbps)

2440MHz_Adapter

21/02/2020

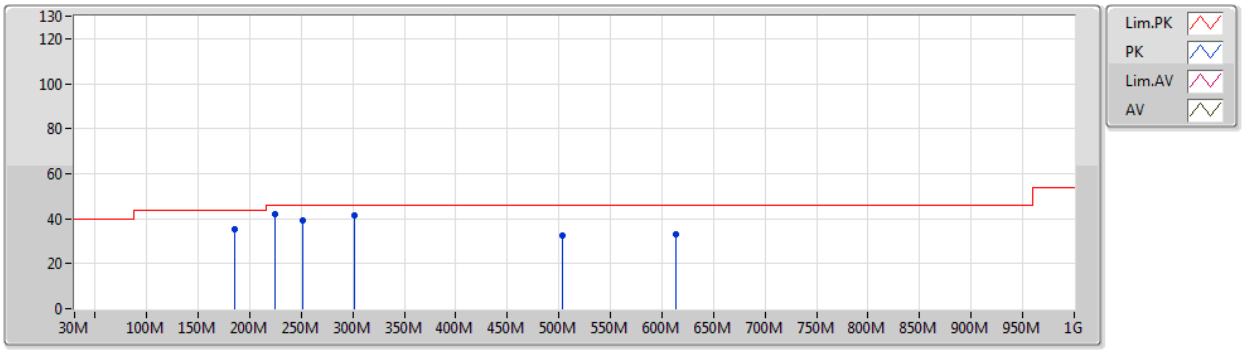


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	35.82M	36.04	40.00	-3.96	-10.14	3	Vertical	360	1.00	-	46.18	20.43	1.22	31.79
PK	78.5M	30.42	40.00	-9.58	-18.33	3	Vertical	360	1.00	-	48.75	12.00	1.47	31.80
PK	224M	37.44	46.00	-8.56	-14.73	3	Vertical	360	1.00	-	52.17	14.70	2.25	31.68
PK	299.66M	28.13	46.00	-17.87	-10.66	3	Vertical	360	1.00	-	38.79	18.32	2.60	31.58
PK	474.26M	28.09	46.00	-17.91	-5.72	3	Vertical	360	1.00	-	33.81	22.51	3.20	31.43
PK	613.94M	36.08	46.00	-9.92	-3.68	3	Vertical	360	1.00	-	39.76	24.02	3.57	31.27

BT-BR(1Mbps)

2440MHz_Adapter

21/02/2020



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	185.2M	35.07	43.50	-8.43	-15.56	3	Horizontal	0	1.00	-	50.63	14.10	2.05	31.71
PK	224M	41.88	46.00	-4.12	-14.73	3	Horizontal	0	1.00	-	56.61	14.70	2.25	31.68
PK	251.16M	38.96	46.00	-7.04	-11.57	3	Horizontal	0	1.00	-	50.53	17.78	2.31	31.66
PK	301.6M	41.72	46.00	-4.28	-10.61	3	Horizontal	0	1.00	-	52.33	18.37	2.60	31.58
PK	503.36M	32.41	46.00	-13.59	-5.59	3	Horizontal	0	1.00	-	38.00	22.59	3.22	31.40
PK	613.94M	33.05	46.00	-12.95	-3.68	3	Horizontal	0	1.00	-	36.73	24.02	3.57	31.27

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	2.499G	60.13	74.00	-13.87	3	Horizontal	53	1.00	-
BT-EDR(3Mbps)	Pass	PK	2.4884G	59.54	74.00	-14.46	3	Vertical	50	1.50	-

Result

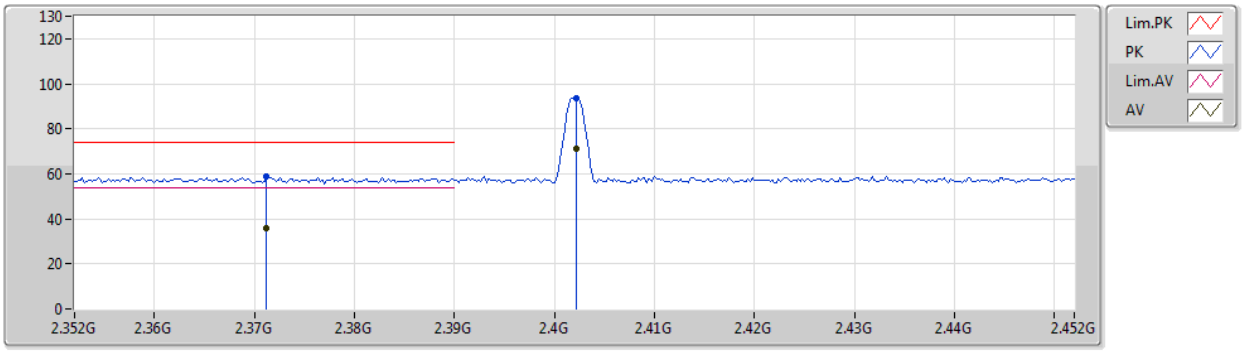
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3712G	36.06	54.00	-17.94	3	Vertical	58	1.37	-
2402MHz	Pass	AV	2.4022G	71.34	Inf	-Inf	3	Vertical	58	1.37	-
2402MHz	Pass	PK	2.3712G	58.56	74.00	-15.44	3	Vertical	58	1.37	-
2402MHz	Pass	PK	2.4022G	93.84	Inf	-Inf	3	Vertical	58	1.37	-
2402MHz	Pass	AV	2.3822G	36.78	54.00	-17.22	3	Horizontal	291	1.96	-
2402MHz	Pass	AV	2.4022G	72.52	Inf	-Inf	3	Horizontal	291	1.96	-
2402MHz	Pass	PK	2.3822G	59.28	74.00	-14.72	3	Horizontal	291	1.96	-
2402MHz	Pass	PK	2.4022G	95.02	Inf	-Inf	3	Horizontal	291	1.96	-
2402MHz	Pass	AV	4.80433G	33.53	54.00	-20.47	3	Vertical	319	3.00	-
2402MHz	Pass	PK	4.80433G	56.03	74.00	-17.97	3	Vertical	319	3.00	-
2402MHz	Pass	AV	4.8039G	28.79	54.00	-25.21	3	Horizontal	346	1.50	-
2402MHz	Pass	PK	4.8039G	51.29	74.00	-22.71	3	Horizontal	346	1.50	-
2440MHz	Pass	AV	2.3764G	36.09	54.00	-17.91	3	Vertical	195	1.37	-
2440MHz	Pass	AV	2.44G	72.75	Inf	-Inf	3	Vertical	195	1.37	-
2440MHz	Pass	AV	2.4888G	35.29	54.00	-18.71	3	Vertical	195	1.37	-
2440MHz	Pass	PK	2.3764G	58.59	74.00	-15.41	3	Vertical	195	1.37	-
2440MHz	Pass	PK	2.44G	95.25	Inf	-Inf	3	Vertical	195	1.37	-
2440MHz	Pass	PK	2.4888G	57.79	74.00	-16.21	3	Vertical	195	1.37	-
2440MHz	Pass	AV	2.374G	35.89	54.00	-18.11	3	Horizontal	302	1.06	-
2440MHz	Pass	AV	2.44G	74.64	Inf	-Inf	3	Horizontal	302	1.06	-
2440MHz	Pass	AV	2.496G	35.86	54.00	-18.14	3	Horizontal	302	1.06	-
2440MHz	Pass	PK	2.374G	58.39	74.00	-15.61	3	Horizontal	302	1.06	-
2440MHz	Pass	PK	2.44G	97.14	Inf	-Inf	3	Horizontal	302	1.06	-
2440MHz	Pass	PK	2.496G	58.36	74.00	-15.64	3	Horizontal	302	1.06	-
2440MHz	Pass	AV	4.87963G	31.82	54.00	-22.18	3	Vertical	324	3.00	-
2440MHz	Pass	PK	4.87963G	54.32	74.00	-19.68	3	Vertical	324	3.00	-
2440MHz	Pass	AV	4.87982G	27.62	54.00	-26.38	3	Horizontal	347	1.50	-
2440MHz	Pass	PK	4.87982G	50.12	74.00	-23.88	3	Horizontal	347	1.50	-
2480MHz	Pass	AV	2.4798G	71.61	Inf	-Inf	3	Vertical	47	1.50	-
2480MHz	Pass	AV	2.4858G	37.04	54.00	-16.96	3	Vertical	47	1.50	-
2480MHz	Pass	PK	2.4798G	94.11	Inf	-Inf	3	Vertical	47	1.50	-
2480MHz	Pass	PK	2.4858G	59.54	74.00	-14.46	3	Vertical	47	1.50	-
2480MHz	Pass	AV	2.4798G	74.47	Inf	-Inf	3	Horizontal	53	1.00	-
2480MHz	Pass	AV	2.499G	37.63	54.00	-16.37	3	Horizontal	53	1.00	-
2480MHz	Pass	PK	2.4798G	96.97	Inf	-Inf	3	Horizontal	53	1.00	-
2480MHz	Pass	PK	2.499G	60.13	74.00	-13.87	3	Horizontal	53	1.00	-
2480MHz	Pass	AV	4.96035G	31.99	54.00	-22.01	3	Vertical	325	1.70	-
2480MHz	Pass	PK	4.96035G	54.49	74.00	-19.51	3	Vertical	325	1.70	-
2480MHz	Pass	AV	4.95973G	28.96	54.00	-25.04	3	Horizontal	349	1.50	-
2480MHz	Pass	PK	4.95973G	51.46	74.00	-22.54	3	Horizontal	349	1.50	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3672G	36.30	54.00	-17.70	3	Vertical	59	1.38	-
2402MHz	Pass	AV	2.402G	72.70	Inf	-Inf	3	Vertical	59	1.38	-
2402MHz	Pass	PK	2.3672G	58.80	74.00	-15.20	3	Vertical	59	1.38	-
2402MHz	Pass	PK	2.402G	95.20	Inf	-Inf	3	Vertical	59	1.38	-
2402MHz	Pass	AV	2.3696G	36.85	54.00	-17.15	3	Horizontal	39	1.24	-
2402MHz	Pass	AV	2.402G	75.15	Inf	-Inf	3	Horizontal	39	1.24	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2402MHz	Pass	PK	2.3696G	59.35	74.00	-14.65	3	Horizontal	39	1.24	-
2402MHz	Pass	PK	2.402G	97.65	Inf	-Inf	3	Horizontal	39	1.24	-
2402MHz	Pass	AV	4.80406G	36.11	54.00	-17.89	3	Vertical	326	1.92	-
2402MHz	Pass	PK	4.80406G	58.61	74.00	-15.39	3	Vertical	326	1.92	-
2402MHz	Pass	AV	4.80458G	29.98	54.00	-24.02	3	Horizontal	345	1.50	-
2402MHz	Pass	PK	4.80458G	52.48	74.00	-21.52	3	Horizontal	345	1.50	-
2440MHz	Pass	AV	2.3404G	36.83	54.00	-17.17	3	Vertical	190	1.64	-
2440MHz	Pass	AV	2.44G	74.08	Inf	-Inf	3	Vertical	190	1.64	-
2440MHz	Pass	AV	2.4916G	36.54	54.00	-17.46	3	Vertical	190	1.64	-
2440MHz	Pass	PK	2.3404G	59.33	74.00	-14.67	3	Vertical	190	1.64	-
2440MHz	Pass	PK	2.44G	96.58	Inf	-Inf	3	Vertical	190	1.64	-
2440MHz	Pass	PK	2.4916G	59.04	74.00	-14.96	3	Vertical	190	1.64	-
2440MHz	Pass	AV	2.3496G	36.18	54.00	-17.82	3	Horizontal	337	1.22	-
2440MHz	Pass	AV	2.44G	76.27	Inf	-Inf	3	Horizontal	337	1.22	-
2440MHz	Pass	AV	2.494G	35.53	54.00	-18.47	3	Horizontal	337	1.22	-
2440MHz	Pass	PK	2.3496G	58.68	74.00	-15.32	3	Horizontal	337	1.22	-
2440MHz	Pass	PK	2.44G	98.77	Inf	-Inf	3	Horizontal	337	1.22	-
2440MHz	Pass	PK	2.494G	58.03	74.00	-15.97	3	Horizontal	337	1.22	-
2440MHz	Pass	AV	4.87965G	34.13	54.00	-19.87	3	Vertical	323	3.00	-
2440MHz	Pass	PK	4.87965G	56.63	74.00	-17.37	3	Vertical	323	3.00	-
2440MHz	Pass	AV	4.87954G	30.05	54.00	-23.95	3	Horizontal	351	1.50	-
2440MHz	Pass	PK	4.87954G	52.55	74.00	-21.45	3	Horizontal	351	1.50	-
2480MHz	Pass	AV	2.48G	73.65	Inf	-Inf	3	Vertical	50	1.50	-
2480MHz	Pass	AV	2.4884G	37.04	54.00	-16.96	3	Vertical	50	1.50	-
2480MHz	Pass	PK	2.48G	96.15	Inf	-Inf	3	Vertical	50	1.50	-
2480MHz	Pass	PK	2.4884G	59.54	74.00	-14.46	3	Vertical	50	1.50	-
2480MHz	Pass	AV	2.48G	70.87	Inf	-Inf	3	Horizontal	310	1.00	-
2480MHz	Pass	AV	2.4892G	36.39	54.00	-17.61	3	Horizontal	310	1.00	-
2480MHz	Pass	PK	2.48G	93.37	Inf	-Inf	3	Horizontal	310	1.00	-
2480MHz	Pass	PK	2.4892G	58.89	74.00	-15.11	3	Horizontal	310	1.00	-
2480MHz	Pass	AV	4.96037G	34.18	54.00	-19.82	3	Vertical	326	2.91	-
2480MHz	Pass	PK	4.96037G	56.68	74.00	-17.32	3	Vertical	326	2.91	-
2480MHz	Pass	AV	4.95985G	30.17	54.00	-23.83	3	Horizontal	349	1.50	-
2480MHz	Pass	PK	4.95985G	52.67	74.00	-21.33	3	Horizontal	349	1.50	-

BT-BR(1Mbps)

2402MHz_TX

21/02/2020

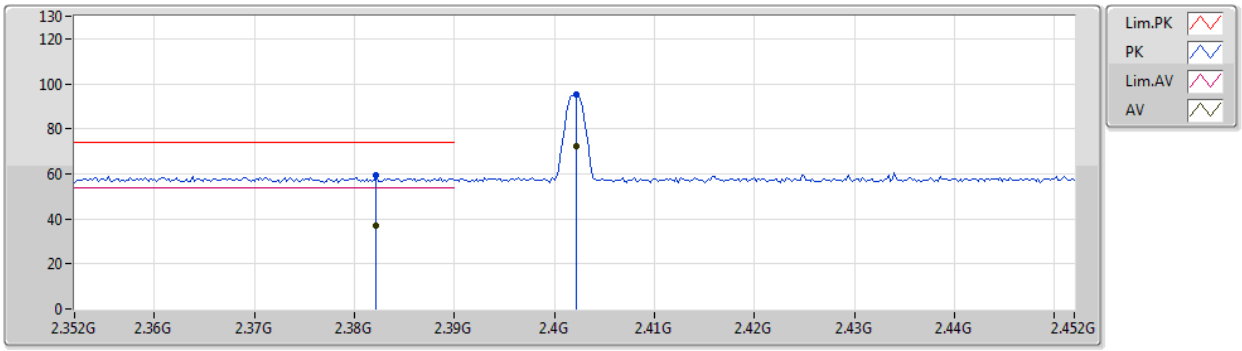


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3712G	36.06	54.00	-17.94	31.34	3	Vertical	58	1.37	-	4.72	27.69	3.65	-
AV	2.4022G	71.34	Inf	-Inf	31.27	3	Vertical	58	1.37	-	40.07	27.60	3.67	-
PK	2.3712G	58.56	74.00	-15.44	31.34	3	Vertical	58	1.37	-	27.22	27.69	3.65	-
PK	2.4022G	93.84	Inf	-Inf	31.27	3	Vertical	58	1.37	-	62.57	27.60	3.67	-

BT-BR(1Mbps)

2402MHz_TX

21/02/2020

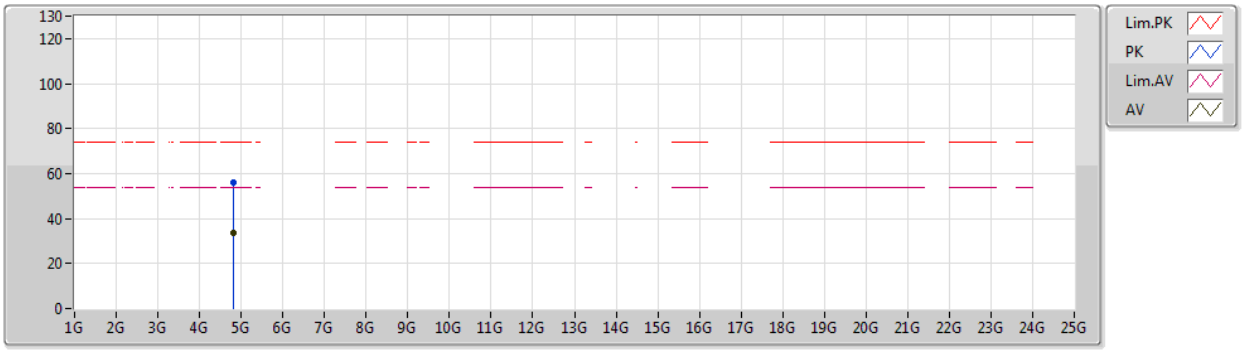


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3822G	36.78	54.00	-17.22	31.31	3	Horizontal	291	1.96	-	5.47	27.65	3.66	-
AV	2.4022G	72.52	Inf	-Inf	31.27	3	Horizontal	291	1.96	-	41.25	27.60	3.67	-
PK	2.3822G	59.28	74.00	-14.72	31.31	3	Horizontal	291	1.96	-	27.97	27.65	3.66	-
PK	2.4022G	95.02	Inf	-Inf	31.27	3	Horizontal	291	1.96	-	63.75	27.60	3.67	-

BT-BR(1Mbps)

2402MHz_TX

21/02/2020

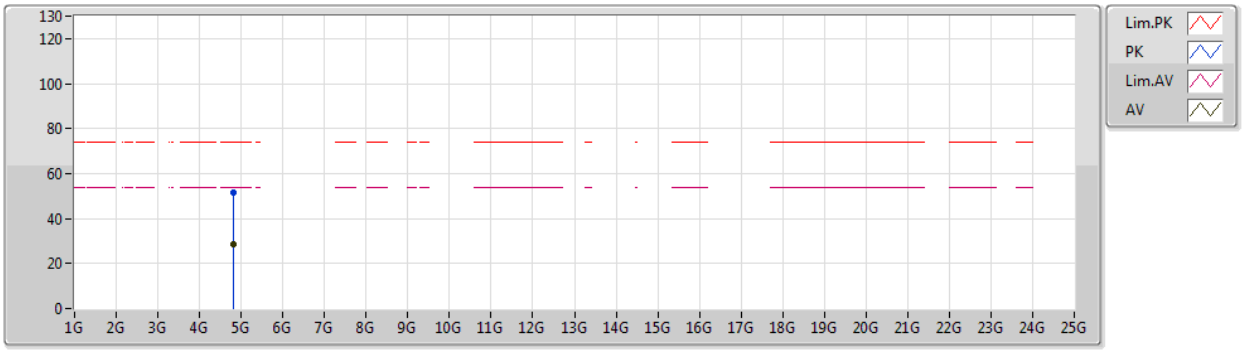


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80433G	33.53	54.00	-20.47	1.98	3	Vertical	319	3.00	-	31.55	31.20	5.32	34.54
PK	4.80433G	56.03	74.00	-17.97	1.98	3	Vertical	319	3.00	-	54.05	31.20	5.32	34.54

BT-BR(1Mbps)

2402MHz_TX

21/02/2020

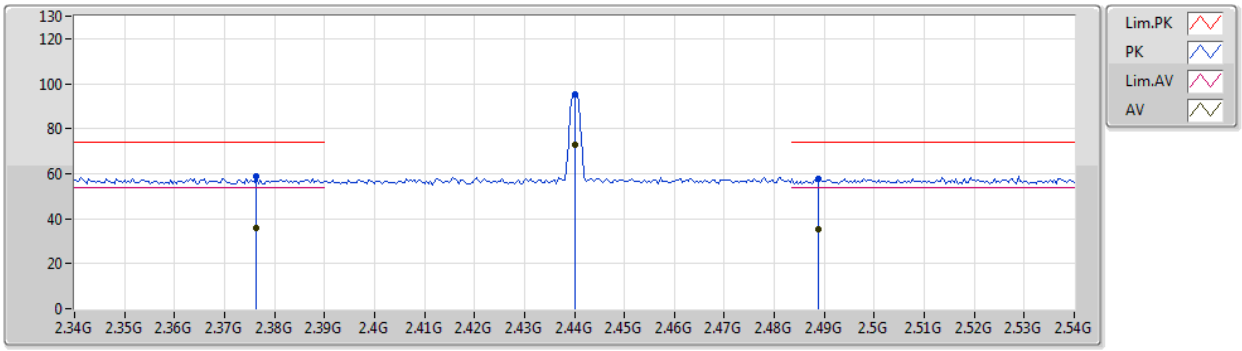


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.8039G	28.79	54.00	-25.21	1.98	3	Horizontal	346	1.50	-	26.81	31.20	5.32	34.54
PK	4.8039G	51.29	74.00	-22.71	1.98	3	Horizontal	346	1.50	-	49.31	31.20	5.32	34.54

BT-BR(1Mbps)

2440MHz_TX

21/02/2020

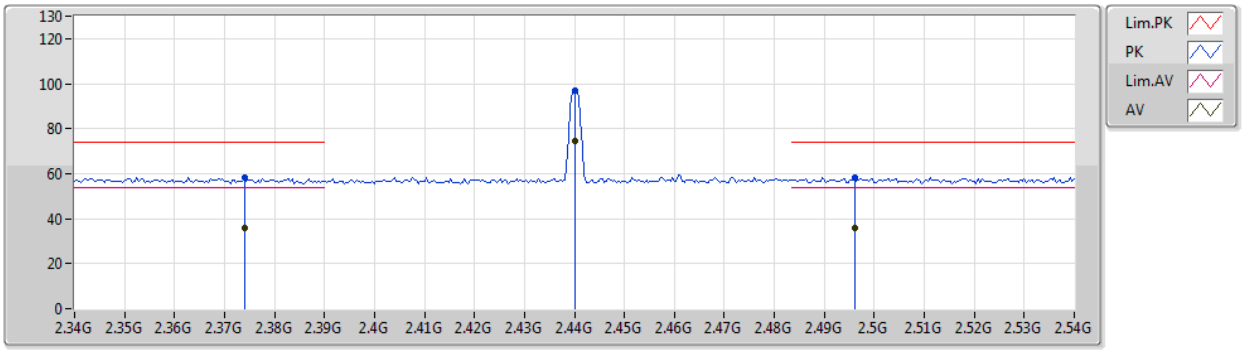


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3764G	36.09	54.00	-17.91	31.32	3	Vertical	195	1.37	-	4.77	27.67	3.65	-
AV	2.44G	72.75	Inf	-Inf	31.27	3	Vertical	195	1.37	-	41.48	27.56	3.71	-
AV	2.4888G	35.29	54.00	-18.71	31.26	3	Vertical	195	1.37	-	4.03	27.51	3.75	-
PK	2.3764G	58.59	74.00	-15.41	31.32	3	Vertical	195	1.37	-	27.27	27.67	3.65	-
PK	2.44G	95.25	Inf	-Inf	31.27	3	Vertical	195	1.37	-	63.98	27.56	3.71	-
PK	2.4888G	57.79	74.00	-16.21	31.26	3	Vertical	195	1.37	-	26.53	27.51	3.75	-

BT-BR(1Mbps)

2440MHz_TX

21/02/2020

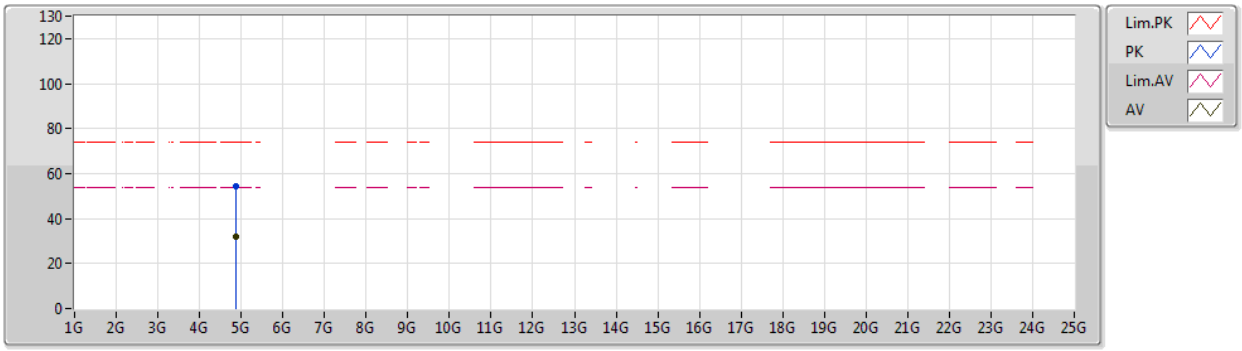


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.374G	35.89	54.00	-18.11	31.33	3	Horizontal	302	1.06	-	4.56	27.68	3.65	-
AV	2.44G	74.64	Inf	-Inf	31.27	3	Horizontal	302	1.06	-	43.37	27.56	3.71	-
AV	2.496G	35.86	54.00	-18.14	31.26	3	Horizontal	302	1.06	-	4.60	27.50	3.76	-
PK	2.374G	58.39	74.00	-15.61	31.33	3	Horizontal	302	1.06	-	27.06	27.68	3.65	-
PK	2.44G	97.14	Inf	-Inf	31.27	3	Horizontal	302	1.06	-	65.87	27.56	3.71	-
PK	2.496G	58.36	74.00	-15.64	31.26	3	Horizontal	302	1.06	-	27.10	27.50	3.76	-

BT-BR(1Mbps)

2440MHz_TX

21/02/2020

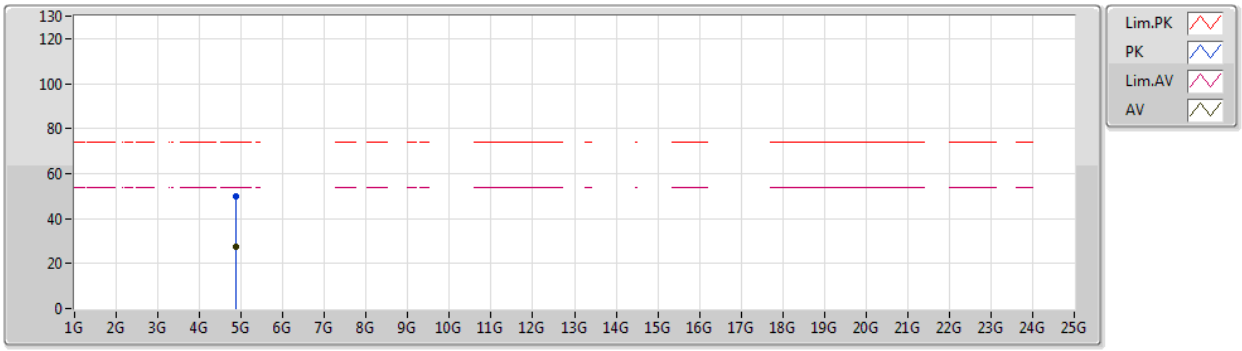


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87963G	31.82	54.00	-22.18	1.97	3	Vertical	324	3.00	-	29.85	31.12	5.36	34.51
PK	4.87963G	54.32	74.00	-19.68	1.97	3	Vertical	324	3.00	-	52.35	31.12	5.36	34.51

BT-BR(1Mbps)

2440MHz_TX

21/02/2020

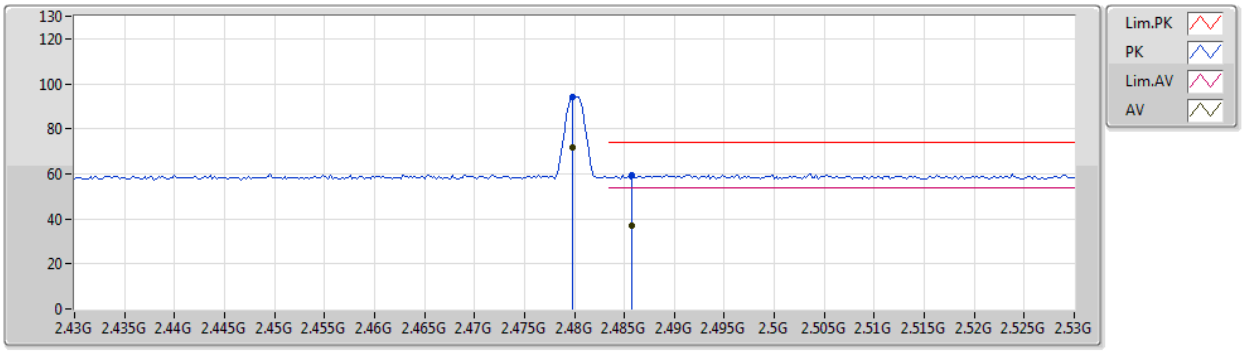


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87982G	27.62	54.00	-26.38	1.97	3	Horizontal	347	1.50	-	25.65	31.12	5.36	34.51
PK	4.87982G	50.12	74.00	-23.88	1.97	3	Horizontal	347	1.50	-	48.15	31.12	5.36	34.51

BT-BR(1Mbps)

2480MHz_TX

21/02/2020

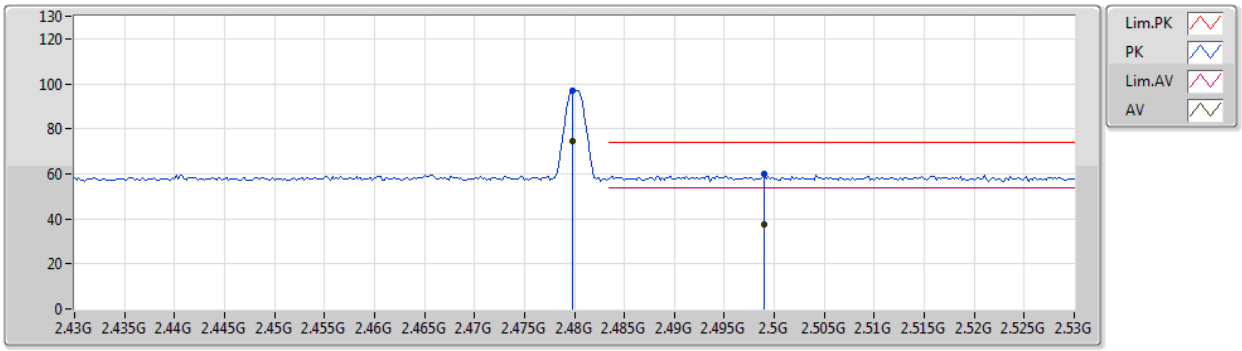


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4798G	71.61	Inf	-Inf	31.26	3	Vertical	47	1.50	-	40.35	27.52	3.74	-
AV	2.4858G	37.04	54.00	-16.96	31.26	3	Vertical	47	1.50	-	5.78	27.51	3.75	-
PK	2.4798G	94.11	Inf	-Inf	31.26	3	Vertical	47	1.50	-	62.85	27.52	3.74	-
PK	2.4858G	59.54	74.00	-14.46	31.26	3	Vertical	47	1.50	-	28.28	27.51	3.75	-

BT-BR(1Mbps)

2480MHz_TX

21/02/2020

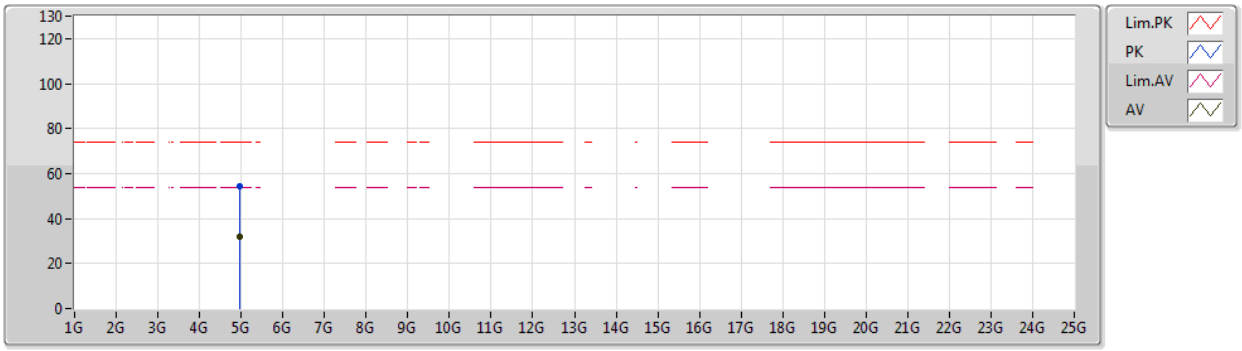


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4798G	74.47	Inf	-Inf	31.26	3	Horizontal	53	1.00	-	43.21	27.52	3.74	-
AV	2.499G	37.63	54.00	-16.37	31.26	3	Horizontal	53	1.00	-	6.37	27.50	3.76	-
PK	2.4798G	96.97	Inf	-Inf	31.26	3	Horizontal	53	1.00	-	65.71	27.52	3.74	-
PK	2.499G	60.13	74.00	-13.87	31.26	3	Horizontal	53	1.00	-	28.87	27.50	3.76	-

BT-BR(1Mbps)

2480MHz_TX

21/02/2020

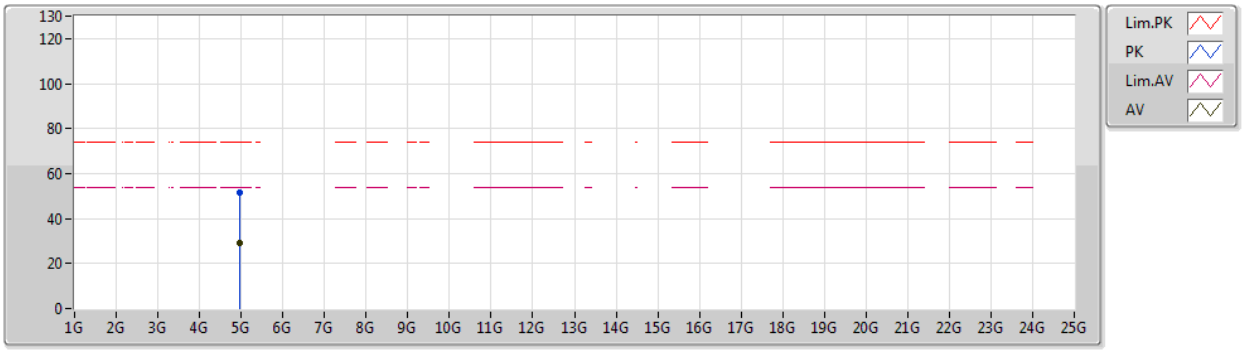


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.96035G	31.99	54.00	-22.01	2.15	3	Vertical	325	1.70	-	29.84	31.22	5.40	34.47
PK	4.96035G	54.49	74.00	-19.51	2.15	3	Vertical	325	1.70	-	52.34	31.22	5.40	34.47

BT-BR(1Mbps)

2480MHz_TX

21/02/2020

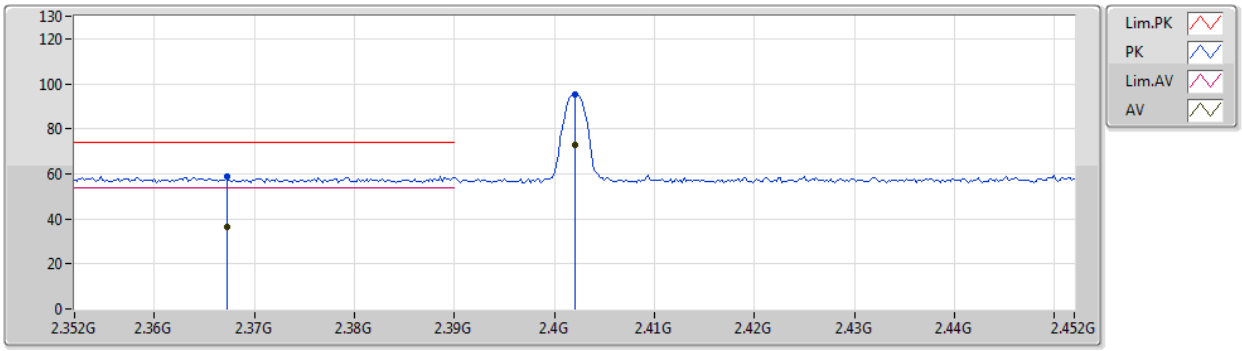


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95973G	28.96	54.00	-25.04	2.15	3	Horizontal	349	1.50	-	26.81	31.22	5.40	34.47
PK	4.95973G	51.46	74.00	-22.54	2.15	3	Horizontal	349	1.50	-	49.31	31.22	5.40	34.47

BT-EDR(3Mbps)

21/02/2020

2402MHz_TX

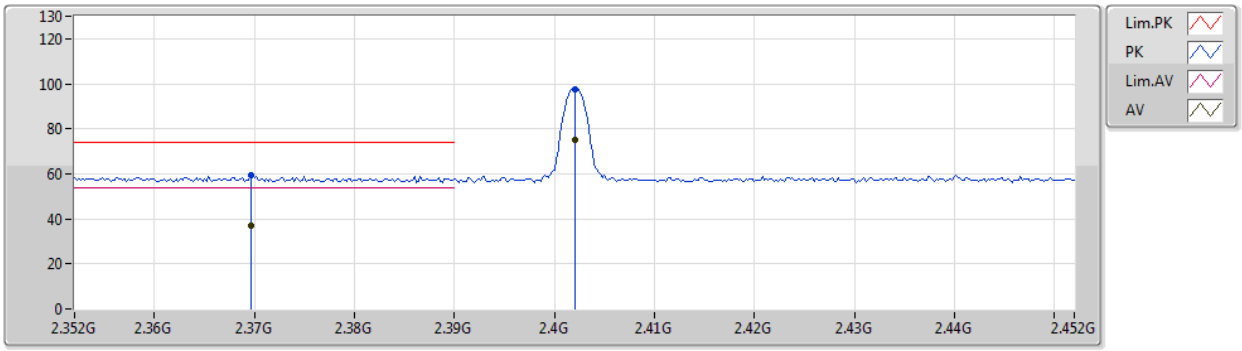


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3672G	36.30	54.00	-17.70	31.35	3	Vertical	59	1.38	-	4.95	27.70	3.65	-
AV	2.402G	72.70	Inf	-Inf	31.27	3	Vertical	59	1.38	-	41.43	27.60	3.67	-
PK	2.3672G	58.80	74.00	-15.20	31.35	3	Vertical	59	1.38	-	27.45	27.70	3.65	-
PK	2.402G	95.20	Inf	-Inf	31.27	3	Vertical	59	1.38	-	63.93	27.60	3.67	-

BT-EDR(3Mbps)

2402MHz_TX

21/02/2020

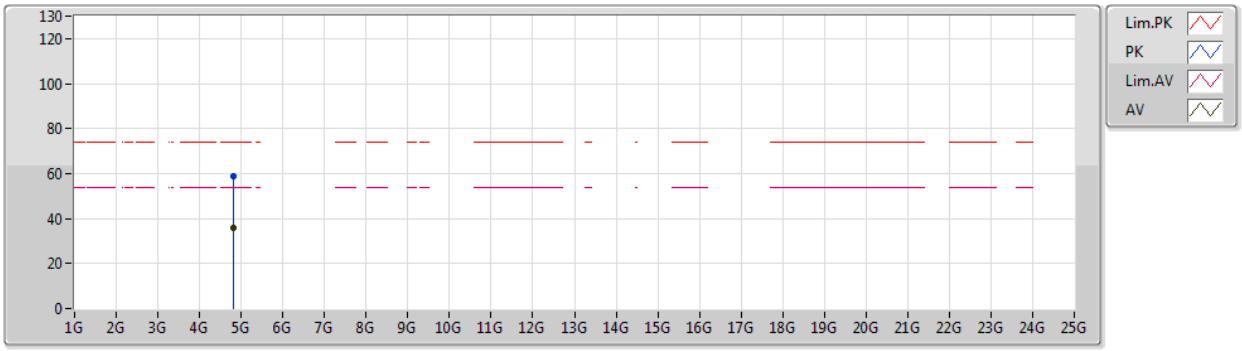


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3696G	36.85	54.00	-17.15	31.34	3	Horizontal	39	1.24	-	5.51	27.69	3.65	-
AV	2.402G	75.15	Inf	-Inf	31.27	3	Horizontal	39	1.24	-	43.88	27.60	3.67	-
PK	2.3696G	59.35	74.00	-14.65	31.34	3	Horizontal	39	1.24	-	28.01	27.69	3.65	-
PK	2.402G	97.65	Inf	-Inf	31.27	3	Horizontal	39	1.24	-	66.38	27.60	3.67	-

BT-EDR(3Mbps)

2402MHz_TX

21/02/2020

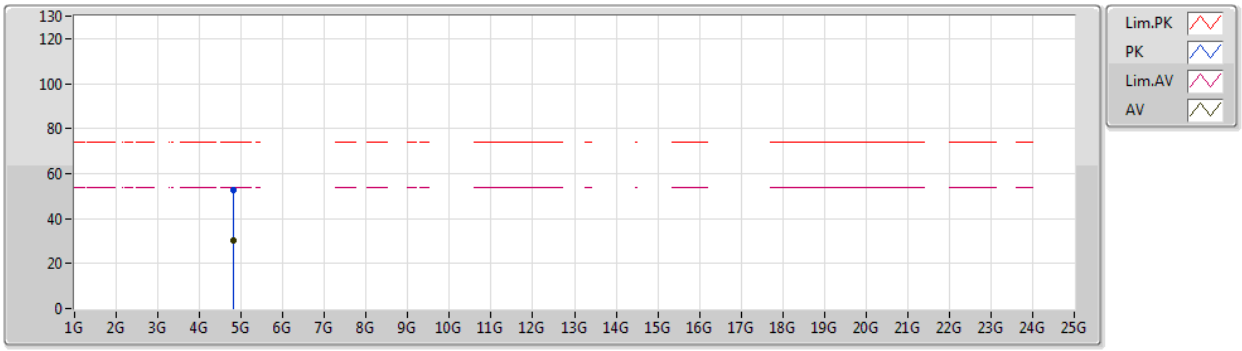


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80406G	36.11	54.00	-17.89	1.98	3	Vertical	326	1.92	-	34.13	31.20	5.32	34.54
PK	4.80406G	58.61	74.00	-15.39	1.98	3	Vertical	326	1.92	-	56.63	31.20	5.32	34.54

BT-EDR(3Mbps)

2402MHz_TX

21/02/2020

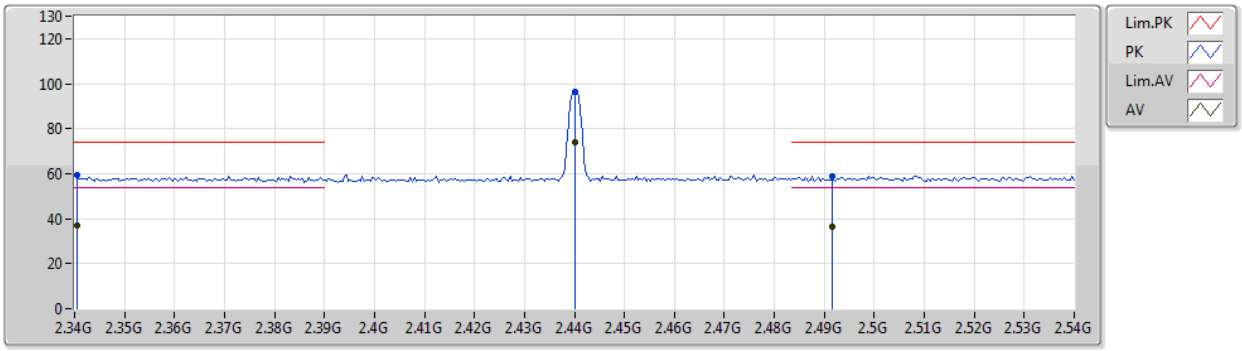


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80458G	29.98	54.00	-24.02	1.98	3	Horizontal	345	1.50	-	28.00	31.20	5.32	34.54
PK	4.80458G	52.48	74.00	-21.52	1.98	3	Horizontal	345	1.50	-	50.50	31.20	5.32	34.54

BT-EDR(3Mbps)

2440MHz_TX

21/02/2020

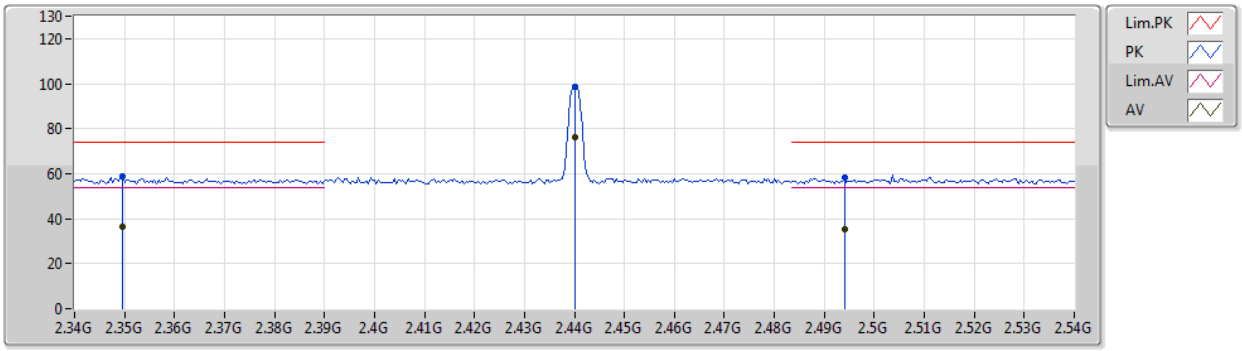


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3404G	36.83	54.00	-17.17	31.41	3	Vertical	190	1.64	-	5.42	27.78	3.63	-
AV	2.44G	74.08	Inf	-Inf	31.27	3	Vertical	190	1.64	-	42.81	27.56	3.71	-
AV	2.4916G	36.54	54.00	-17.46	31.26	3	Vertical	190	1.64	-	5.28	27.51	3.75	-
PK	2.3404G	59.33	74.00	-14.67	31.41	3	Vertical	190	1.64	-	27.92	27.78	3.63	-
PK	2.44G	96.58	Inf	-Inf	31.27	3	Vertical	190	1.64	-	65.31	27.56	3.71	-
PK	2.4916G	59.04	74.00	-14.96	31.26	3	Vertical	190	1.64	-	27.78	27.51	3.75	-

BT-EDR(3Mbps)

2440MHz_TX

21/02/2020

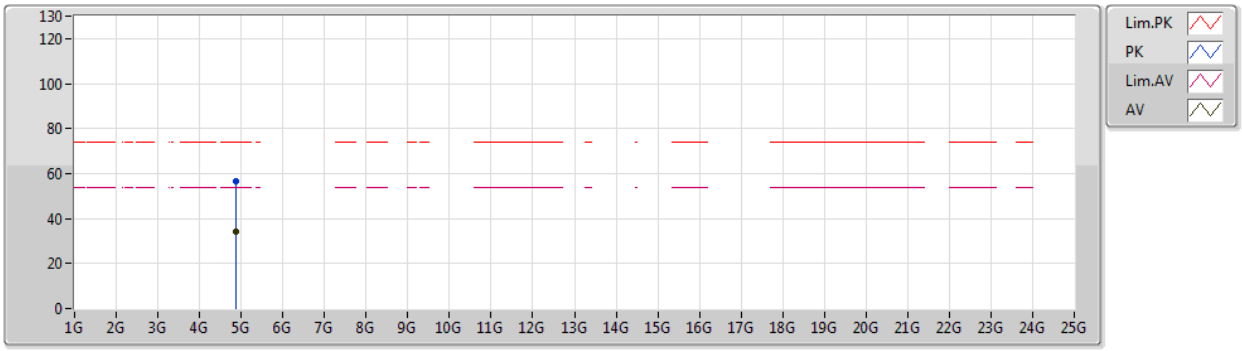


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3496G	36.18	54.00	-17.82	31.38	3	Horizontal	337	1.22	-	4.80	27.75	3.63	-
AV	2.44G	76.27	Inf	-Inf	31.27	3	Horizontal	337	1.22	-	45.00	27.56	3.71	-
AV	2.494G	35.53	54.00	-18.47	31.26	3	Horizontal	337	1.22	-	4.27	27.51	3.75	-
PK	2.3496G	58.68	74.00	-15.32	31.38	3	Horizontal	337	1.22	-	27.30	27.75	3.63	-
PK	2.44G	98.77	Inf	-Inf	31.27	3	Horizontal	337	1.22	-	67.50	27.56	3.71	-
PK	2.494G	58.03	74.00	-15.97	31.26	3	Horizontal	337	1.22	-	26.77	27.51	3.75	-

BT-EDR(3Mbps)

2440MHz_TX

21/02/2020

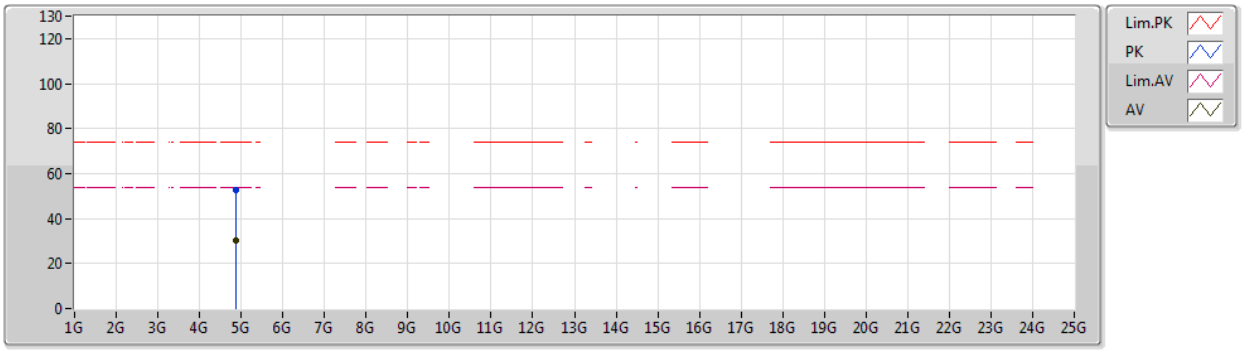


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87965G	34.13	54.00	-19.87	1.97	3	Vertical	323	3.00	-	32.16	31.12	5.36	34.51
PK	4.87965G	56.63	74.00	-17.37	1.97	3	Vertical	323	3.00	-	54.66	31.12	5.36	34.51

BT-EDR(3Mbps)

2440MHz_TX

21/02/2020

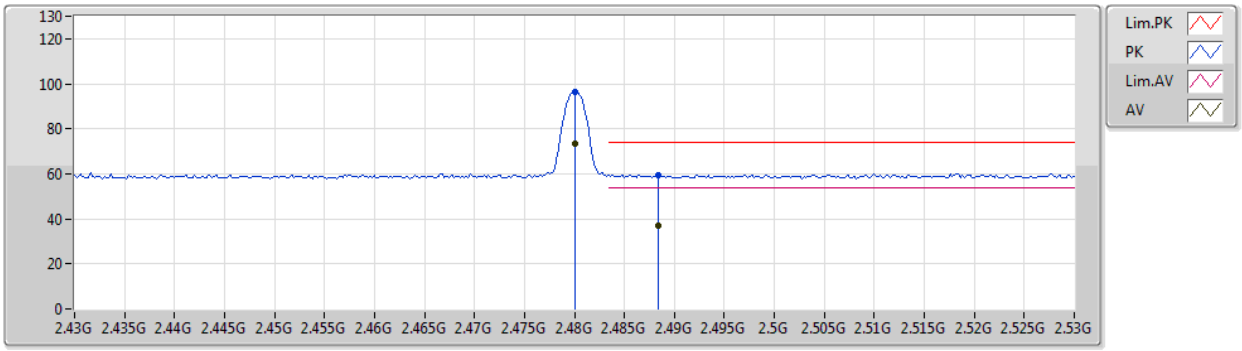


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87954G	30.05	54.00	-23.95	1.97	3	Horizontal	351	1.50	-	28.08	31.12	5.36	34.51
PK	4.87954G	52.55	74.00	-21.45	1.97	3	Horizontal	351	1.50	-	50.58	31.12	5.36	34.51

BT-EDR(3Mbps)

2480MHz_TX

21/02/2020

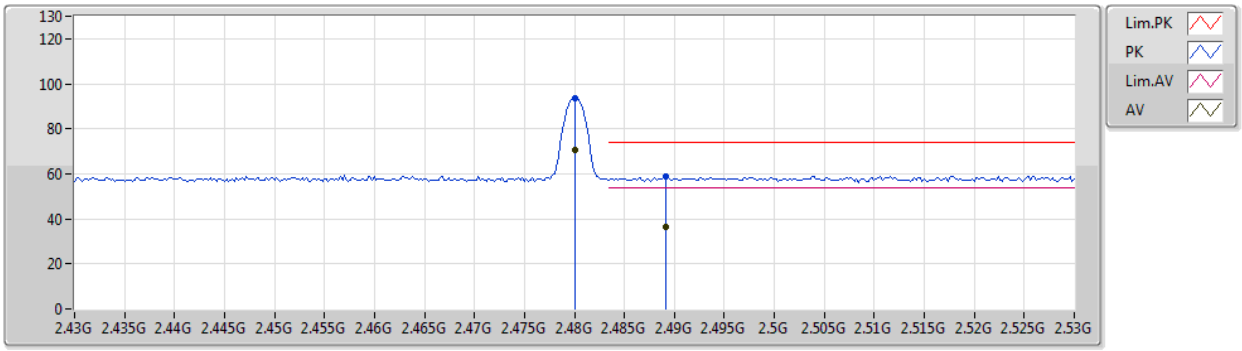


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	73.65	Inf	-Inf	31.26	3	Vertical	50	1.50	-	42.39	27.52	3.74	-
AV	2.4884G	37.04	54.00	-16.96	31.26	3	Vertical	50	1.50	-	5.78	27.51	3.75	-
PK	2.48G	96.15	Inf	-Inf	31.26	3	Vertical	50	1.50	-	64.89	27.52	3.74	-
PK	2.4884G	59.54	74.00	-14.46	31.26	3	Vertical	50	1.50	-	28.28	27.51	3.75	-

BT-EDR(3Mbps)

2480MHz_TX

21/02/2020

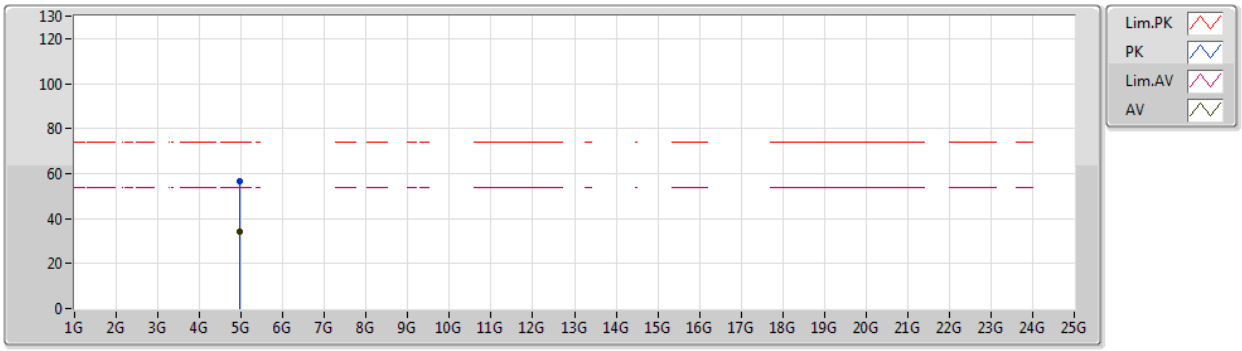


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	70.87	Inf	-Inf	31.26	3	Horizontal	310	1.00	-	39.61	27.52	3.74	-
AV	2.4892G	36.39	54.00	-17.61	31.26	3	Horizontal	310	1.00	-	5.13	27.51	3.75	-
PK	2.48G	93.37	Inf	-Inf	31.26	3	Horizontal	310	1.00	-	62.11	27.52	3.74	-
PK	2.4892G	58.89	74.00	-15.11	31.26	3	Horizontal	310	1.00	-	27.63	27.51	3.75	-

BT-EDR(3Mbps)

2480MHz_TX

21/02/2020

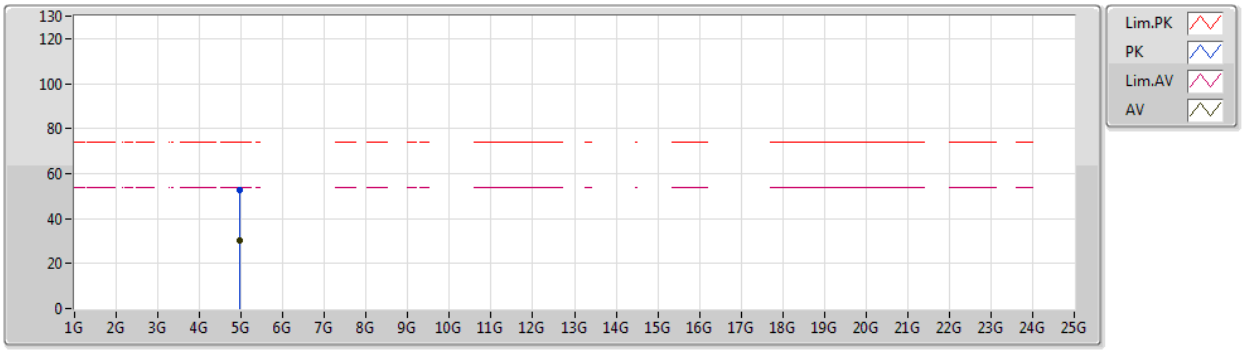


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.96037G	34.18	54.00	-19.82	2.15	3	Vertical	326	2.91	-	32.03	31.22	5.40	34.47
PK	4.96037G	56.68	74.00	-17.32	2.15	3	Vertical	326	2.91	-	54.53	31.22	5.40	34.47

BT-EDR(3Mbps)

2480MHz_TX

21/02/2020



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	4.95985G	30.17	54.00	-23.83	2.15	3	Horizontal	349	1.50	-	28.02	31.22	5.40	34.47
PK	4.95985G	52.67	74.00	-21.33	2.15	3	Horizontal	349	1.50	-	50.52	31.22	5.40	34.47