Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	O6ZA21KW
Equipment	:	AT&T TV™ Device and Remote Control
Brand Name	:	AT&T
Model Name	:	A21KW-500
Applicant	:	Humax Co., Ltd. HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu, Yongin-si, Gyeonggi-do South Korea 17040
Manufacturer	:	Humax Co., Ltd. HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu, Yongin-si, Gyeonggi-do South Korea 17040
Standard	:	47 CFR FCC Part 15.247

The product was received on Oct. 19, 2020, and testing was started from Jan. 19, 2021 and completed on Mar. 10, 2021. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Approved by: Cliff Chang

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

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR0O1903AA	01	Initial issue of report	Jun. 15, 2021
FR0O1903AA	02	Revise the information on section 1.3 Testing Location Information	Jun. 18, 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 Band edge	PASS	-
3.5	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.6	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.7	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen
Report Producer: Wendy Pan

1 General Description

1.1 Information

1.1.1 RF General Information

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

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

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

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Antenna Gain (dBi)					
						WLAN 2.4GHz	WLAN5GHz				Bluetooth
							Band 1	Band 2	Band 3	Band 4	
1	2	Galtronics	DB1	PCB	I-PEX	2.366	3.786	3.786	4.028	4.041	-
2	1	Galtronics	DB2	PCB	I-PEX	2.987	3.513	3.624	4.484	4.875	-
3	1	Galtronics	BT	Printed	I-PEX	-	-	-	-	-	2.867

Correlated Antenna Gain (dBi)				
WLAN 2.4GHz	WLAN5GHz			
	Band 1	Band 2	Band 3	Band 4
4.72	5.2	5.45	5.9	5.9

Note: The above information was declared by manufacturer.

For WLAN 2.4GHz function:

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

Ant.1 and Ant.2 can be used as transmitting/receiving antenna.

Ant.1 and Ant.2 could transmit/receive simultaneously.

For WLAN 5GHz function:

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

Ant.1 and Ant.2 can be used as transmitting/receiving antenna.

Ant.1 and Ant.2 could transmit/receive simultaneously.

For Bluetooth (1TX/1RX):

Only Ant.3 can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-BR(1Mbps)	0.741	1.3	2.888m	1k
BT-EDR(2Mbps)	0.801	0.96	2.893m	1k
BT-EDR(3Mbps)	0.742	1.3	2.891m	1k

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter
Test Software Version	PUTTY.exe_Release0.62

1.1.5 EUT Function

The EUT supports AP Router in WLAN 2.4GHz, WLAN 5GHz Band 1/ Band 4 and supports Client without radar detection in WLAN 5GHz Band 2 / Band 3 function.

1.2 Applicable Standards

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

- 47 CFR FCC Part 15

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

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

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH02-CB	Jeff Wu	21.2-21.8 / 62-65	Jan. 20, 2021
Radiated<1G	03CH06-CB	Eason Chen	20.3-21.5 / 56-58	Mar. 09, 2021
Radiated>1G	03CH02-CB	Eason Chen	20.4-21.4 / 55-57	Jan. 19, 2021
AC Conduction	CO02-CB	Wei Li	21~23 / 54~57	Mar. 10, 2021

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)	2.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	12
2440MHz	12
2480MHz	12
BT-EDR(2Mbps)	-
2402MHz	12
2440MHz	12
2480MHz	12
BT-EDR(3Mbps)	-
2402MHz	12
2440MHz	12
2480MHz	12

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
Operating Mode	CTX
1	CTX - BT
2	CTX - WLAN 2.4GHz
3	CTX - WLAN 5GHz
For operating mode 3 is the worst case and it was record in this test report.	

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
1	CTX - BT
2	CTX - WLAN 2.4GHz
3	CTX - WLAN 5GHz
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	Bluetooth+WLAN 2.4GHz
2	Bluetooth+WLAN 5GHz
Refer to Sporton Test Report No.: FA0O1903 for Co-location RF Exposure Evaluation.	

Note: The EUT can only be used at Z axis position.

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories				
No.	**Equipment Name**	**Brand Name**	**Model Name**	**Rating**
1	Adapter	AT&T	EPS18R1B-16	INPUT: 120V~0.5A Max 60Hz OUTPUT: 12V, 15A 18W
Other				
Remote Controller*1				

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Ethernet NB	DELL	E6430	N/A
B	Flash disk3.0	Transcend	639205 7755	N/A

For Radiated:

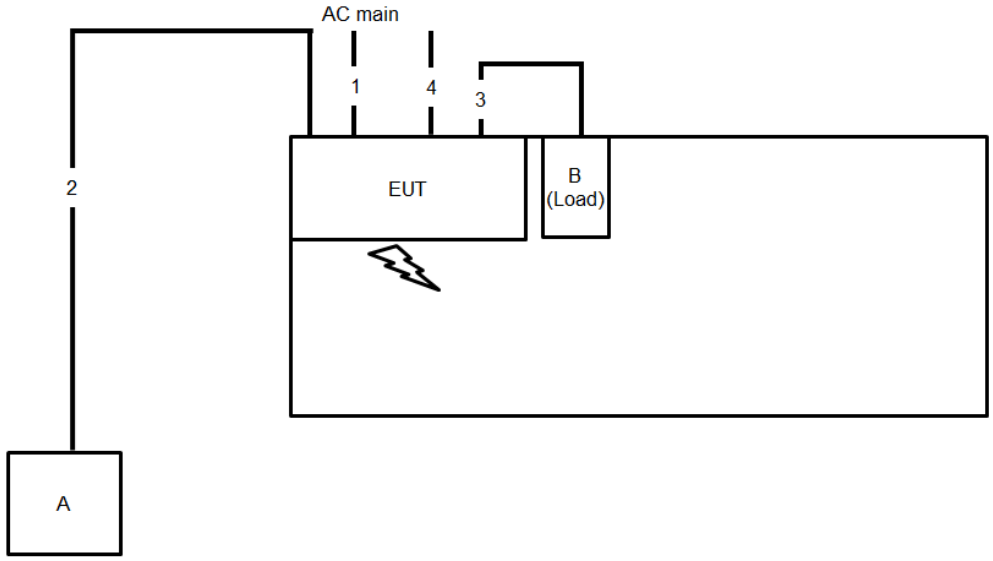
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Ethernet NB	DELL	E4300	N/A
B	Flash disk	Silicon Power	I-Series	N/A

For RF Conducted:

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

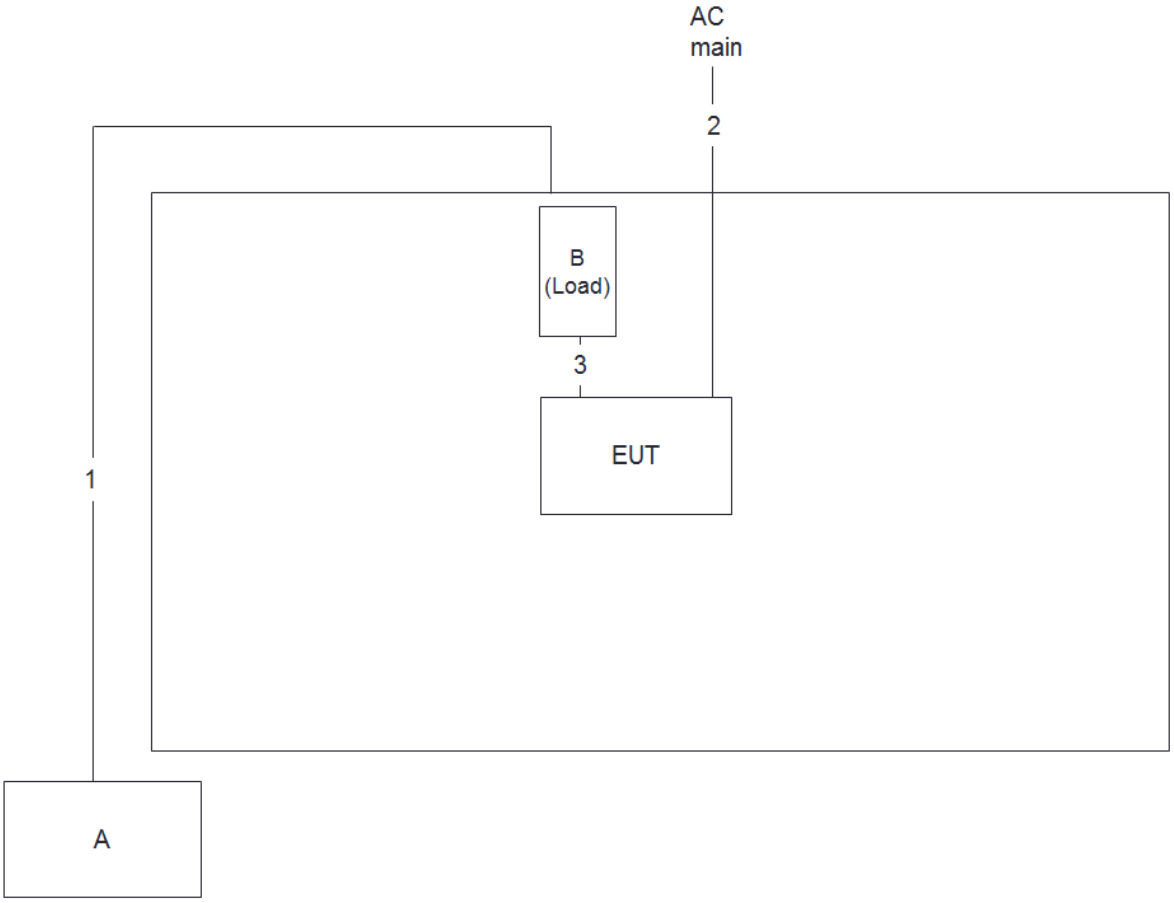
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m
3	USB cable	Yes	0.2m
4	HDMI cable	Yes	1.5m

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.8m
3	USB cable	Yes	0.15m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

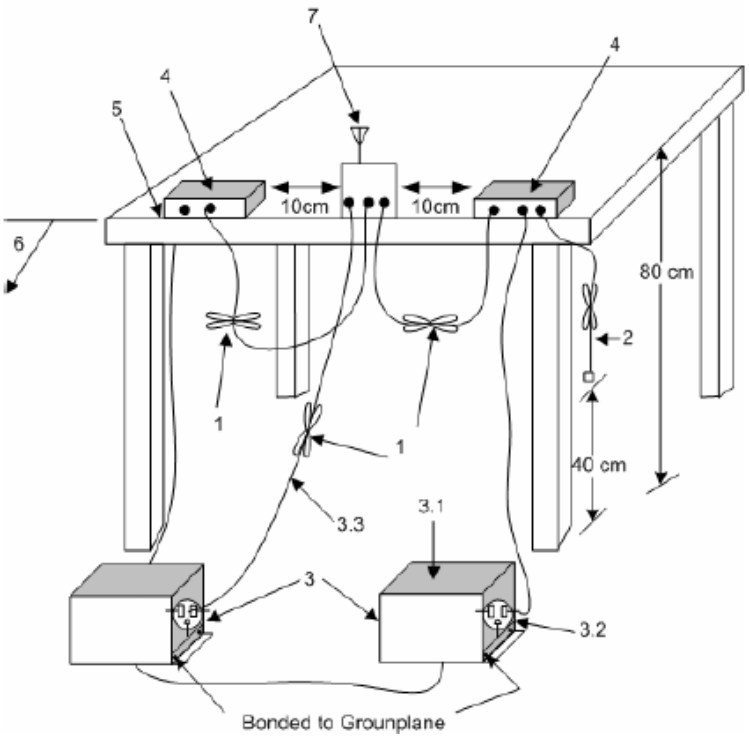
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



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

1.1.1. Measurement Results Calculation

The measured Level is calculated using:

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

b. Margin = -Limit + Level

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

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

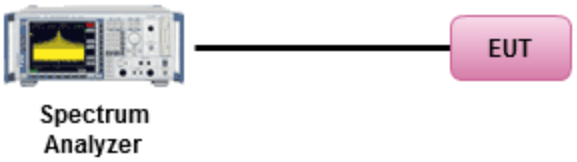
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup

20dB Bandwidth and Carrier Frequency Separation
 Spectrum Analyzer

3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup

Maximum Conducted Output Power (Peak Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Number of Hopping Frequencies and Hopping Bandedge

3.4.1 Number of Hopping Frequencies Limit

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

3.4.2 Hopping Bandedge Limit

Refer clause 3.6.1 and clause 3.7.1

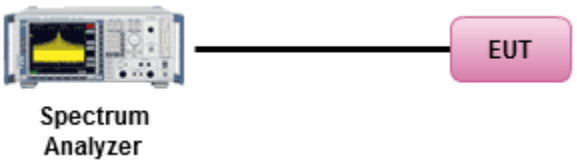
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

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

3.4.5 Test Setup

Number of Hopping Frequencies and Hopping Frequencies Bandedge


3.4.6 Test Result of Number of Hopping Frequencies

Refer as Appendix D

3.4.7 Test Result of Number of Hopping Frequencies Bandedge

Refer as Appendix D

3.5 Time of Occupancy (Dwell Time)

3.5.1 Time of Occupancy (Dwell Time) Limit

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

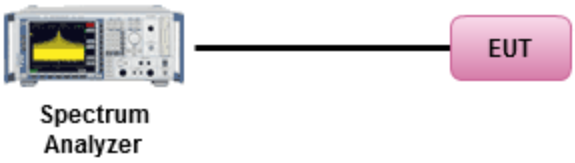
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup

Time of Occupancy (Dwell Time)


3.5.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix E

3.6 Emissions in Non-restricted Frequency Bands

3.6.1 Emissions in Non-restricted Frequency Bands Limit

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

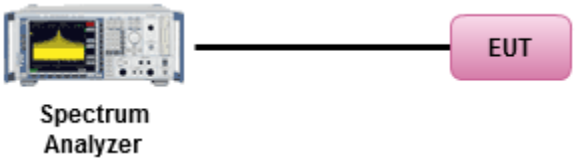
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.6.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix F

3.7 Emissions in Restricted Frequency Bands

3.7.1 Emissions in Restricted Frequency Bands Limit

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

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

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

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

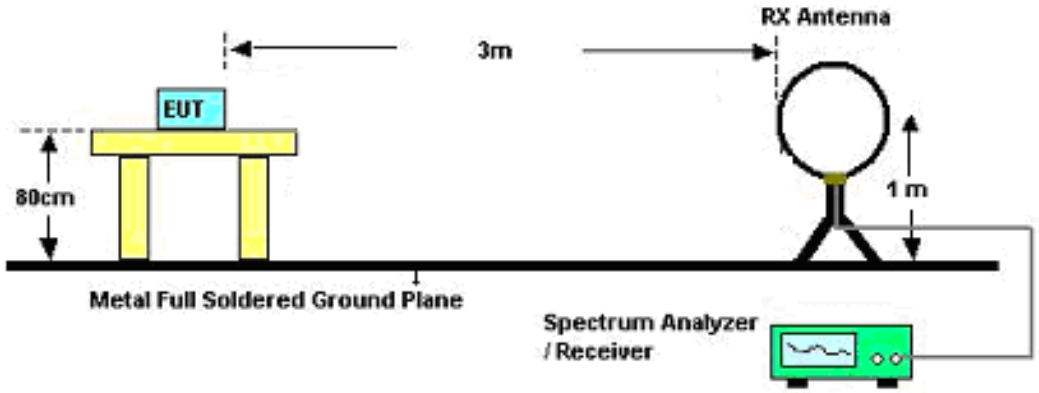
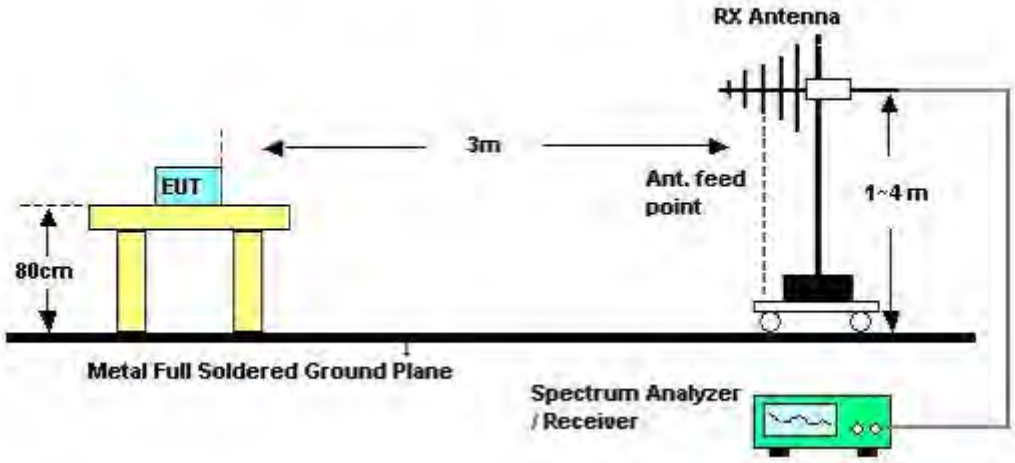
3.7.2 Measuring Instruments

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

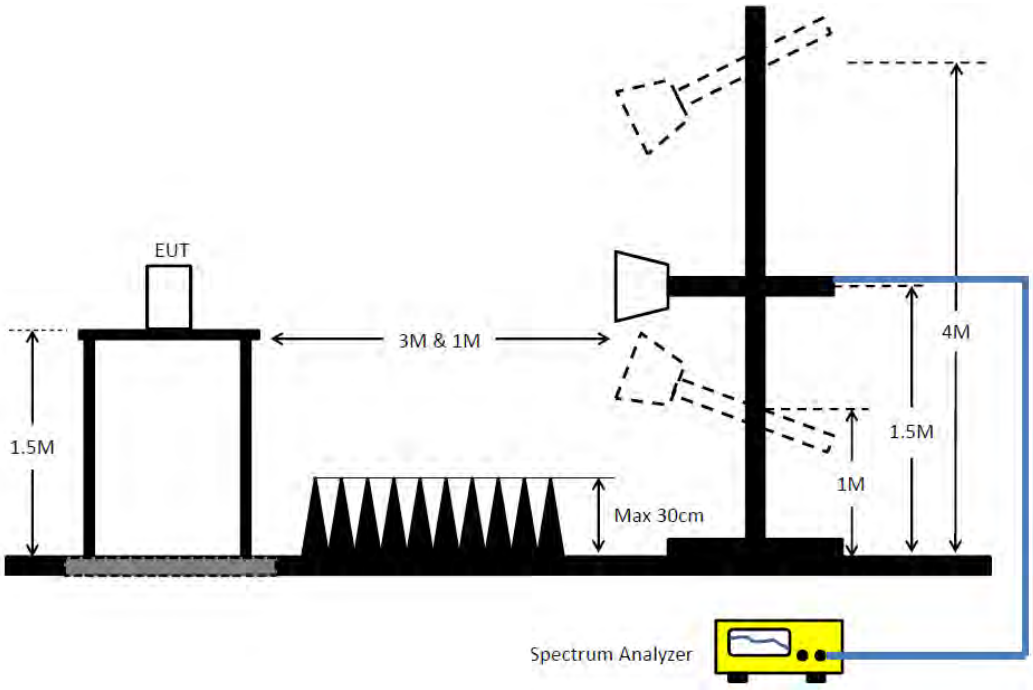
3.7.3 Test Procedures

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

3.7.4 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.7.5 Measurement Results Calculation

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

3.7.6 Emissions in Restricted Frequency Bands (Below 30MHz)

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

3.7.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Dec. 04, 2020	Dec. 03, 2021	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 20, 2020	Nov. 19, 2021	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 03, 2021	Mar. 02, 2022	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 20, 2020	Oct. 19, 2021	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Mar. 19, 2020	Mar. 18, 2021	Conduction (CO02-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 13, 2020	Apr. 12, 2021	Radiation (03CH06-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH06-CB	30 MHz ~ 1 GHz	Aug. 10, 2020	Aug. 09. 2021	Radiation (03CH06-CB)
Bilog Antenna with 6 dB attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37878 & AT-N0606	20MHz ~ 2GHz	Aug. 02, 2020	Aug. 01, 2021	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	310N	187290	0.1MHz ~ 1GHz	Nov. 05, 2020	Nov. 04, 2021	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 15, 2020	Dec. 14, 2021	Radiation (03CH06-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 13, 2020	May 12, 2021	Radiation (03CH06-CB)
RF Cable-low	Woken	RG402	Low Cable-05+24	30MHz~1GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz 3m	Mar. 28, 2020	Mar. 27, 2021	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	Apr. 21, 2020	Apr. 20, 2021	Radiation (03CH02-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2020	Jul. 20, 2021	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 13, 2020	Jul. 12, 2021	Radiation (03CH02-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 08, 2020	Jul. 07, 2021	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 15, 2020	Oct. 14, 2021	Radiation (03CH02-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 27, 2020	Jul. 26, 2021	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

Note: Calibration Interval of instruments listed above is one year.

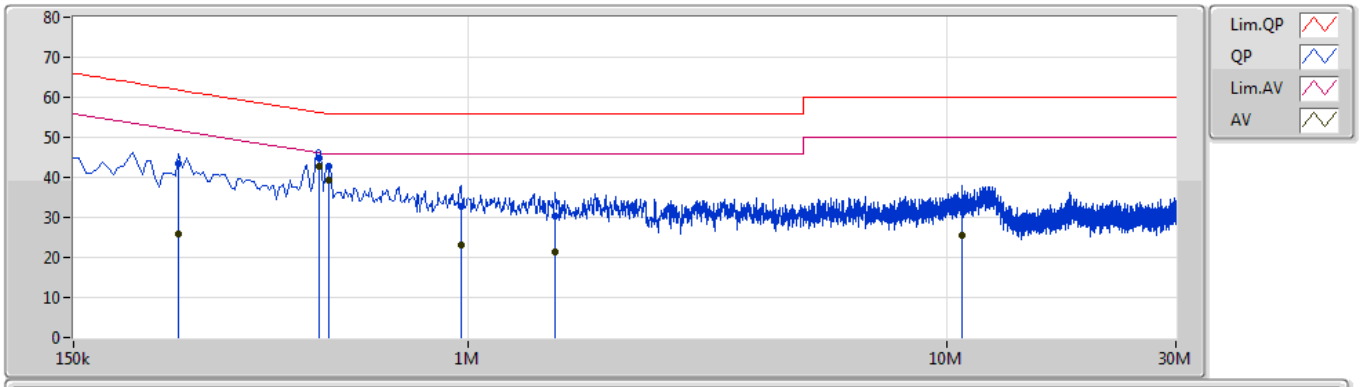
N.C.R. means Non-Calibration required.

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 3	Pass	AV	488.323k	42.78	46.19	-3.41	Line

Mode 3

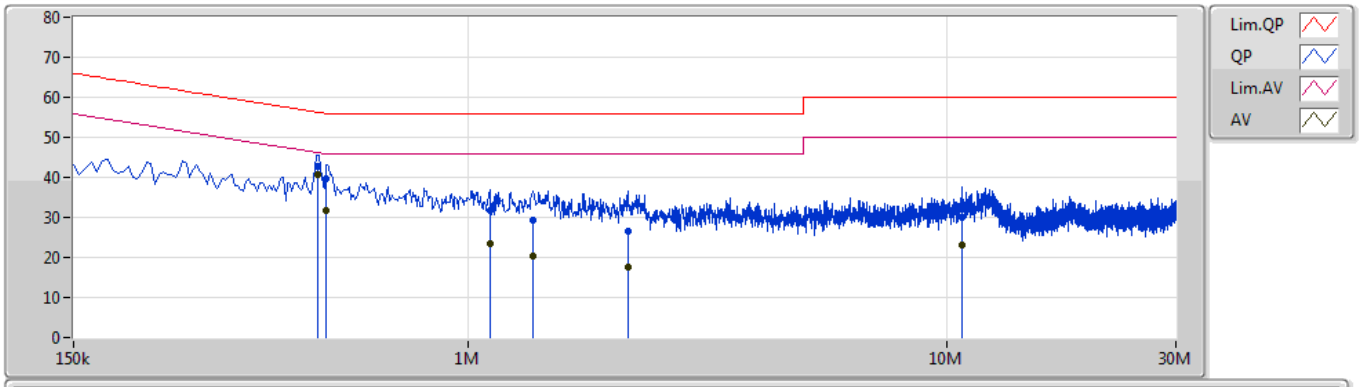
10/03/2021



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	249k	43.49	61.79	-18.30	10.29	Line	-	33.20	0.07	0.07	10.15
AV	249k	25.95	51.79	-25.84	10.29	Line	-	15.66	0.07	0.07	10.15
QP	488.323k	44.71	56.19	-11.48	10.24	Line	-	34.47	0.08	0.06	10.10
AV	488.323k	42.78	46.19	-3.41	10.24	Line	"Worst"	32.54	0.08	0.06	10.10
QP	510k	42.92	56.00	-13.08	10.25	Line	-	32.67	0.08	0.07	10.10
AV	510k	39.33	46.00	-6.67	10.25	Line	-	29.08	0.08	0.07	10.10
QP	964.5k	32.86	56.00	-23.14	10.28	Line	-	22.58	0.09	0.08	10.11
AV	964.5k	23.00	46.00	-23.00	10.28	Line	-	12.72	0.09	0.08	10.11
QP	1.518M	30.30	56.00	-25.70	10.31	Line	-	19.99	0.10	0.09	10.12
AV	1.518M	21.26	46.00	-24.74	10.31	Line	-	10.95	0.10	0.09	10.12
QP	10.712M	32.59	60.00	-27.41	10.68	Line	-	21.91	0.28	0.23	10.17
AV	10.712M	25.53	50.00	-24.47	10.68	Line	-	14.85	0.28	0.23	10.17

Mode 3

10/03/2021



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	483.539k	42.85	56.29	-13.44	10.22	Neutral	-	32.63	0.06	0.06	10.10
AV	483.539k	40.74	46.29	-5.55	10.22	Neutral	"Worst"	30.52	0.06	0.06	10.10
QP	505.5k	39.63	56.00	-16.37	10.24	Neutral	-	29.39	0.07	0.07	10.10
AV	505.5k	31.73	46.00	-14.27	10.24	Neutral	-	21.49	0.07	0.07	10.10
QP	1.109M	31.86	56.00	-24.14	10.27	Neutral	-	21.59	0.08	0.08	10.11
AV	1.109M	23.42	46.00	-22.58	10.27	Neutral	-	13.15	0.08	0.08	10.11
QP	1.361M	29.21	56.00	-26.79	10.29	Neutral	-	18.92	0.08	0.09	10.12
AV	1.361M	20.22	46.00	-25.78	10.29	Neutral	-	9.93	0.08	0.09	10.12
QP	2.153M	26.69	56.00	-29.31	10.32	Neutral	-	16.37	0.09	0.10	10.13
AV	2.153M	17.70	46.00	-28.30	10.32	Neutral	-	7.38	0.09	0.10	10.13
QP	10.761M	29.92	60.00	-30.08	10.63	Neutral	-	19.29	0.23	0.23	10.17
AV	10.761M	23.09	50.00	-26.91	10.63	Neutral	-	12.46	0.23	0.23	10.17

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)	918.75k	880.81k	881KF1D	917.5k	878.311k
BT-EDR(2Mbps)	1.32M	1.211M	1M21G1D	1.314M	1.207M
BT-EDR(3Mbps)	1.308M	1.218M	1M22G1D	1.263M	1.216M

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

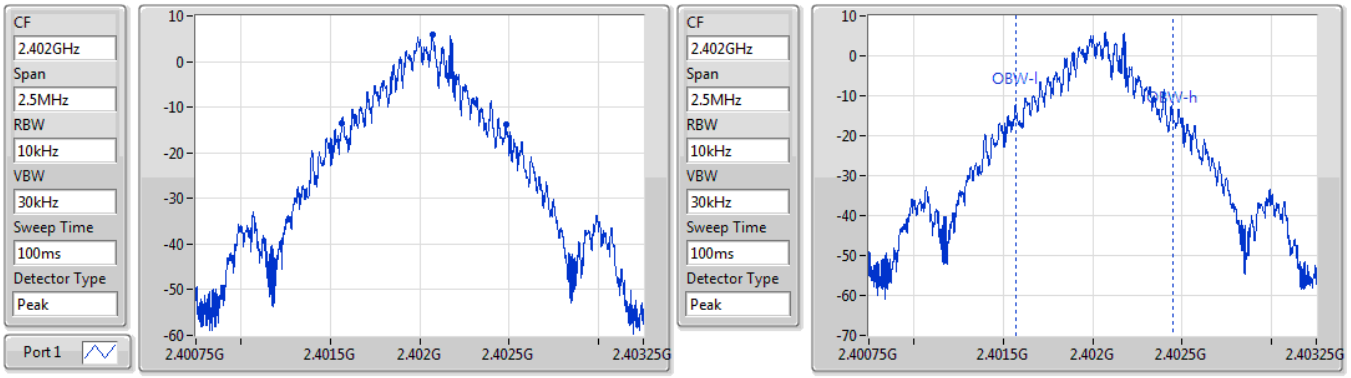
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	917.5k	880.81k
2440MHz	Pass	Inf	918.75k	879.56k
2480MHz	Pass	Inf	918.75k	878.311k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.315M	1.209M
2440MHz	Pass	Inf	1.314M	1.207M
2480MHz	Pass	Inf	1.32M	1.211M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.264M	1.216M
2440MHz	Pass	Inf	1.308M	1.216M
2480MHz	Pass	Inf	1.263M	1.218M

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

BT-BR(1Mbps) EBW

2402MHz

20/01/2021

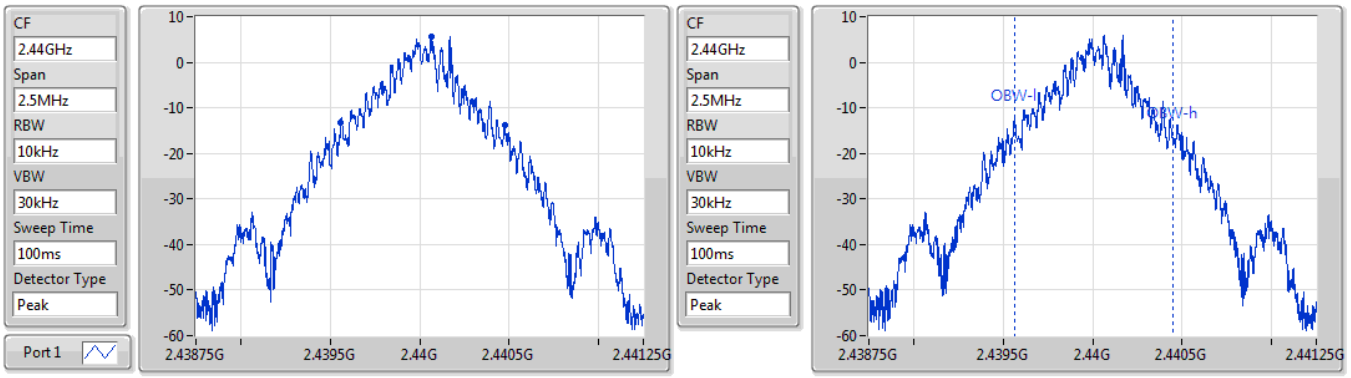


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
917.5k	2.401565G	2.402483G	880.81k	2.401571G	2.402452G	Inf	1

BT-BR(1Mbps) EBW

2440MHz

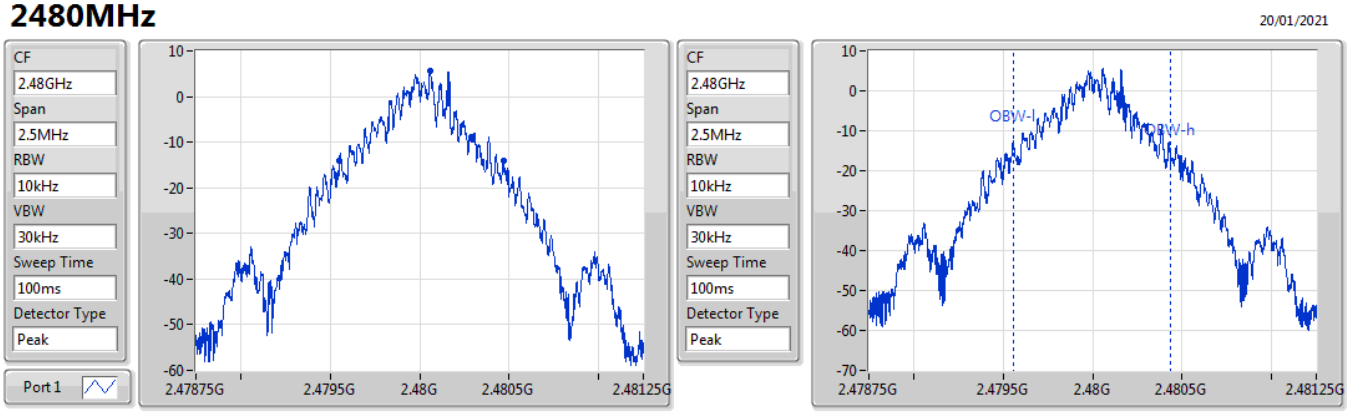
20/01/2021



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
918.75k	2.439559G	2.440478G	879.56k	2.439566G	2.440446G	Inf	1

BT-BR(1Mbps) EBW

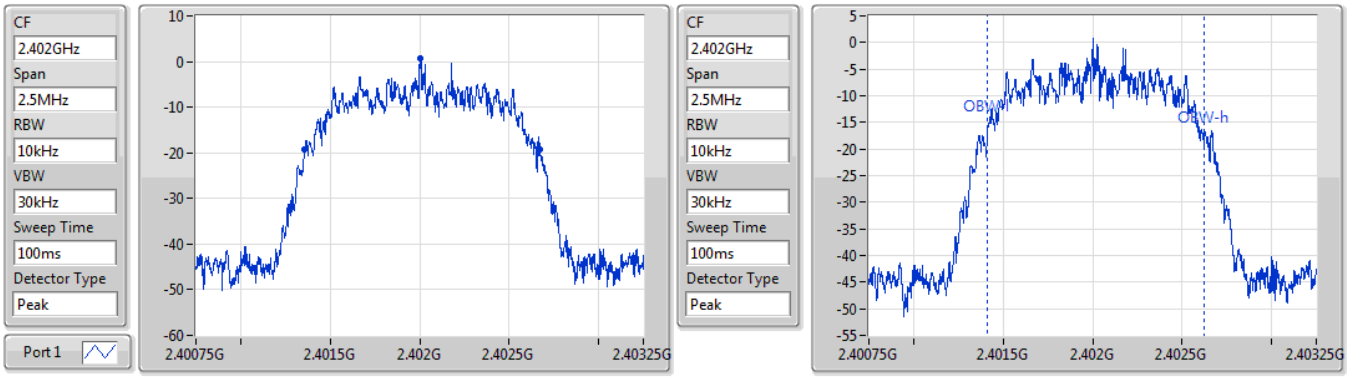
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
918.75k	2.479551G	2.48047G	878.311k	2.479559G	2.480437G	Inf	1

BT-EDR(2Mbps) EBW

2402MHz

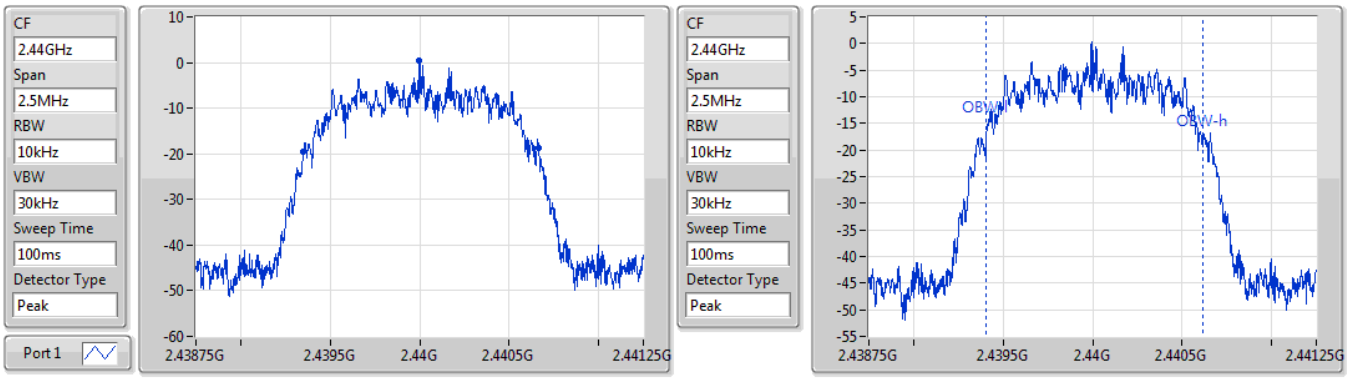


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.315M	2.401358G	2.402673G	1.209M	2.401413G	2.402622G	Inf	1

BT-EDR(2Mbps) EBW

2440MHz

20/01/2021

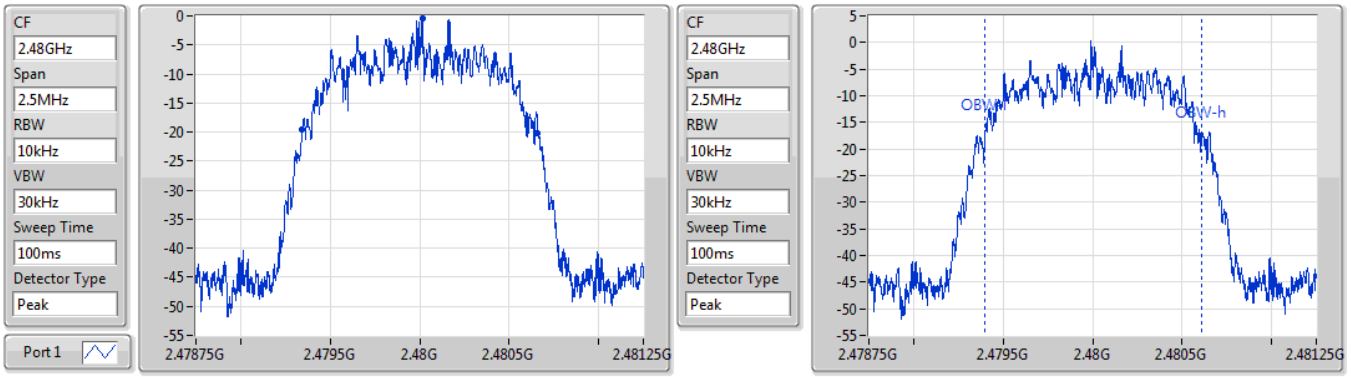


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.314M	2.439351G	2.440665G	1.207M	2.439408G	2.440615G	Inf	1

BT-EDR(2Mbps) EBW

2480MHz

20/01/2021

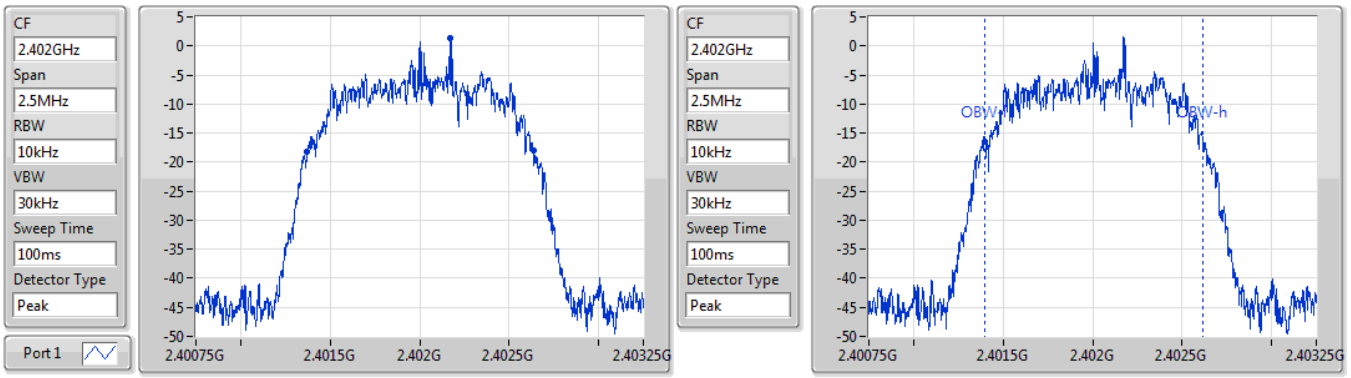


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.32M	2.479341G	2.480661G	1.211M	2.4794G	2.480611G	Inf	1

BT-EDR(3Mbps) EBW

2402MHz

20/01/2021

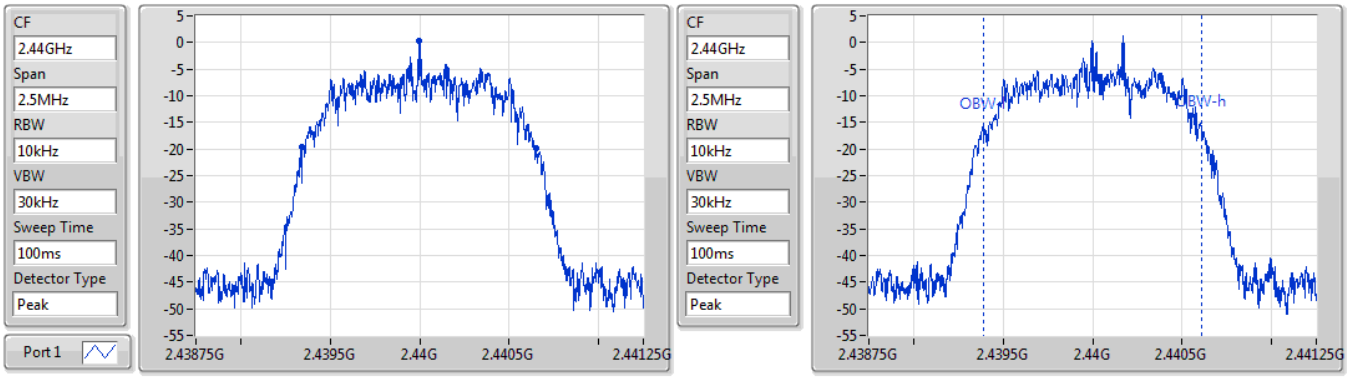


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.264M	2.401373G	2.402636G	1.216M	2.401398G	2.402613G	Inf	1

BT-EDR(3Mbps) EBW

2440MHz

20/01/2021

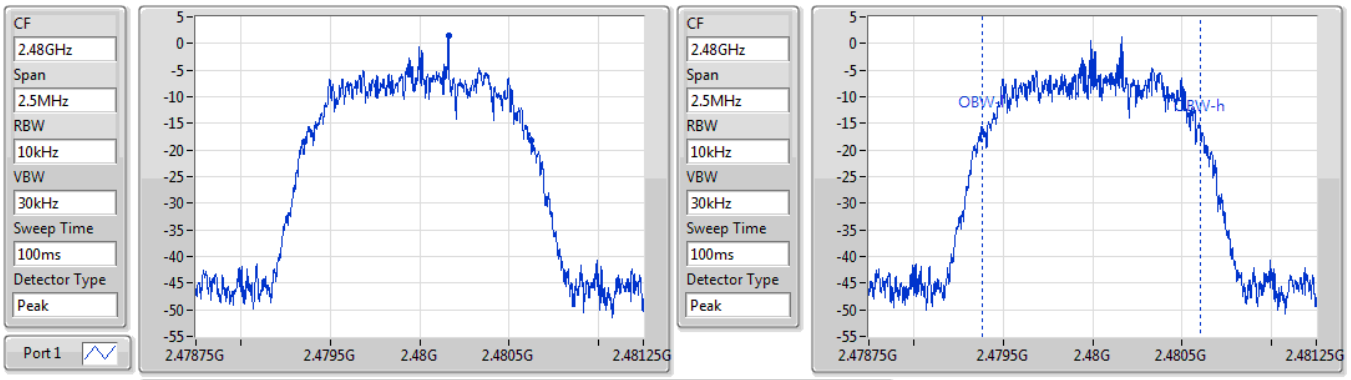


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.308M	2.439344G	2.440651G	1.216M	2.439392G	2.440607G	Inf	1

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

2480MHz

20/01/2021



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.263M	2.479359G	2.480621G	1.218M	2.479384G	2.480602G	Inf	1

Summary

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

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402167G	2.403171G	1.0035M	611.055k
2440MHz	Pass	2.440164G	2.441165G	1.0005M	611.8875k
2480MHz	Pass	2.479157G	2.480157G	1.0005M	611.8875k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402014G	2.403018G	1.0035M	875.79k
2440MHz	Pass	2.440008G	2.441012G	1.0035M	875.124k
2480MHz	Pass	2.479004G	2.480003G	999k	879.12k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402169G	2.403169G	1.0005M	841.824k
2440MHz	Pass	2.440163G	2.441162G	999k	871.128k
2480MHz	Pass	2.479157G	2.480154G	997.5k	841.158k

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

2.402G/2.403GHz

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402167G	2.403171G	1.0035M	611.055k

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

2.44G/2.441GHz

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440164G	2.441165G	1.0005M	611.8875k

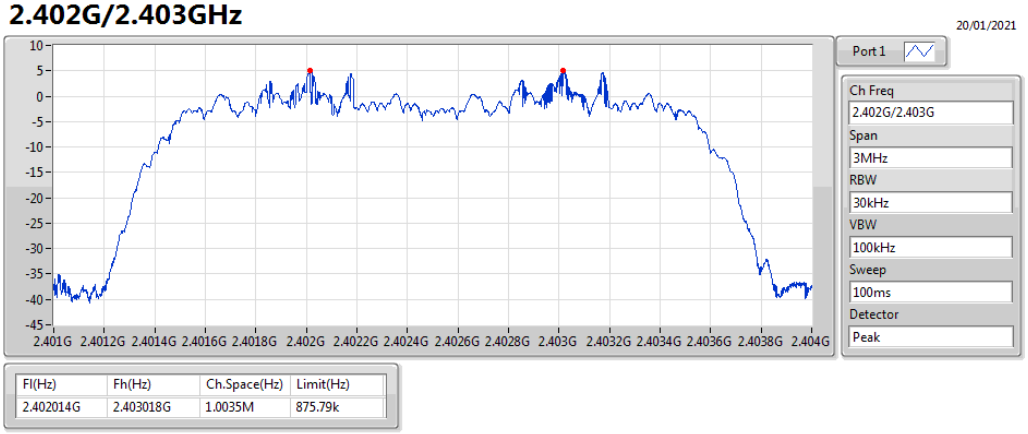
BT-BR(1Mbps) **Channel Separation**

2.48G/2.479GHz

Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479157G	2.480157G	1.0005M	611.8875k

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

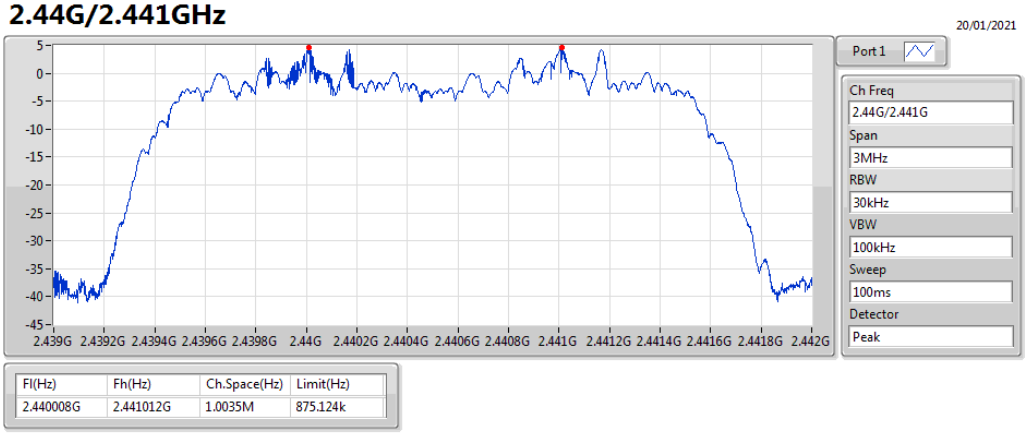
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402014G	2.403018G	1.0035M	875.79k

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

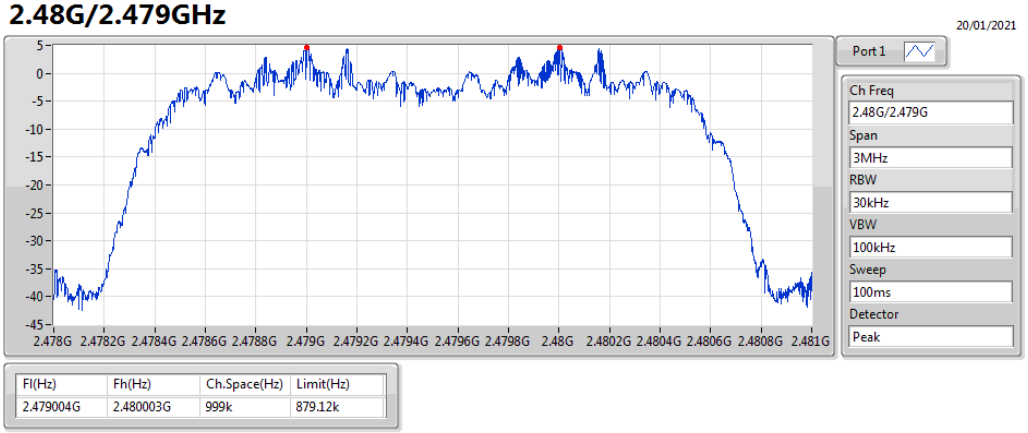
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440008G	2.441012G	1.0035M	875.124k

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

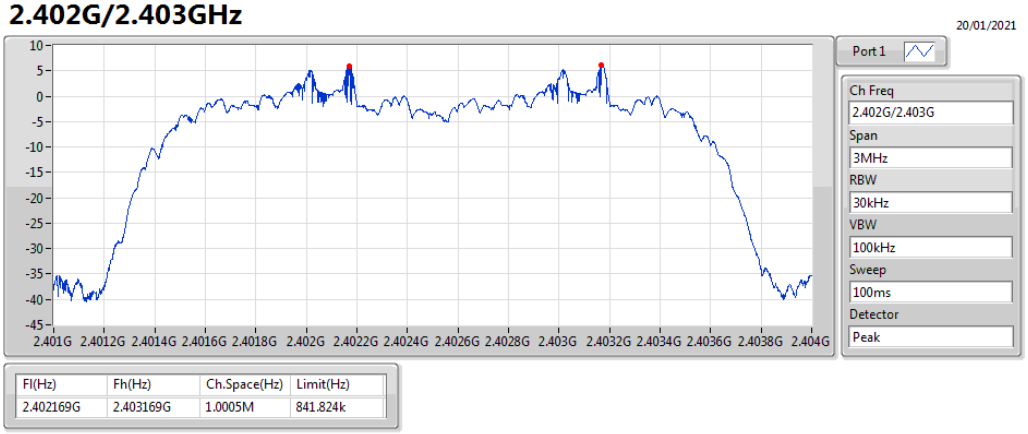
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479004G	2.480003G	999k	879.12k

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

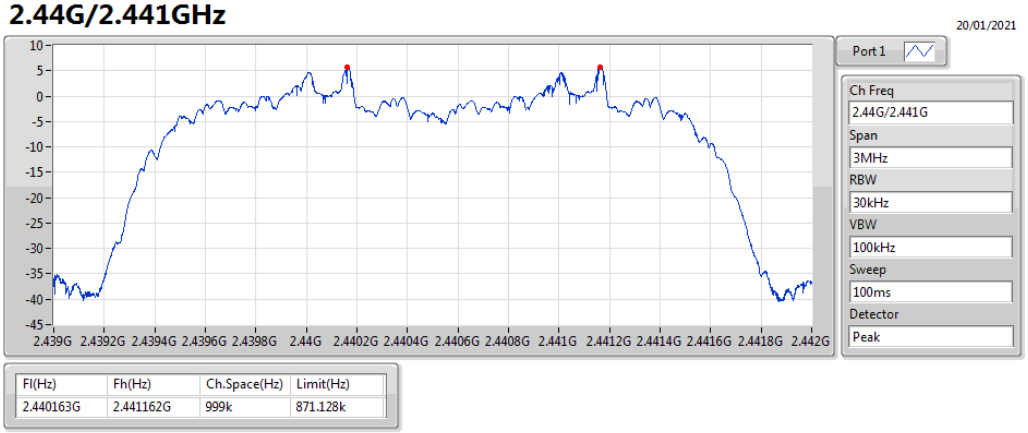
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402169G	2.403169G	1.0005M	841.824k

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

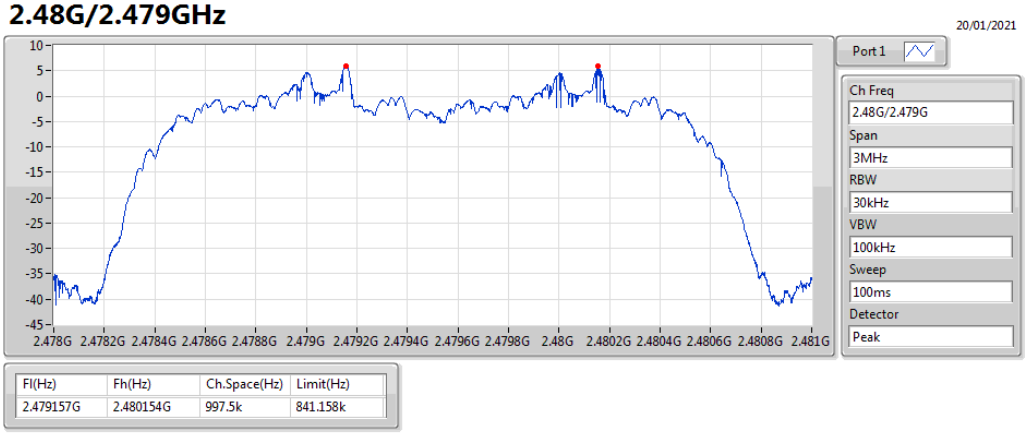
2.44G/2.441GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440163G	2.441162G	999k	871.128k

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

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479157G	2.480154G	997.5k	841.158k

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.74	0.01493
BT-EDR(2Mbps)	7.17	0.00521
BT-EDR(3Mbps)	7.57	0.00571

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.867	11.74	21.00
2440MHz	Pass	2.867	11.72	21.00
2480MHz	Pass	2.867	11.48	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.867	7.17	21.00
2440MHz	Pass	2.867	6.88	21.00
2480MHz	Pass	2.867	7.02	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.867	7.57	21.00
2440MHz	Pass	2.867	7.25	21.00
2480MHz	Pass	2.867	7.43	21.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.95	0.01567
BT-EDR(2Mbps)	9.74	0.00942
BT-EDR(3Mbps)	10.23	0.01054

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.867	11.95	21.00
2440MHz	Pass	2.867	11.94	21.00
2480MHz	Pass	2.867	11.75	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.867	9.74	21.00
2440MHz	Pass	2.867	9.47	21.00
2480MHz	Pass	2.867	9.72	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.867	10.21	21.00
2440MHz	Pass	2.867	9.95	21.00
2480MHz	Pass	2.867	10.23	21.00

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

Summary

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

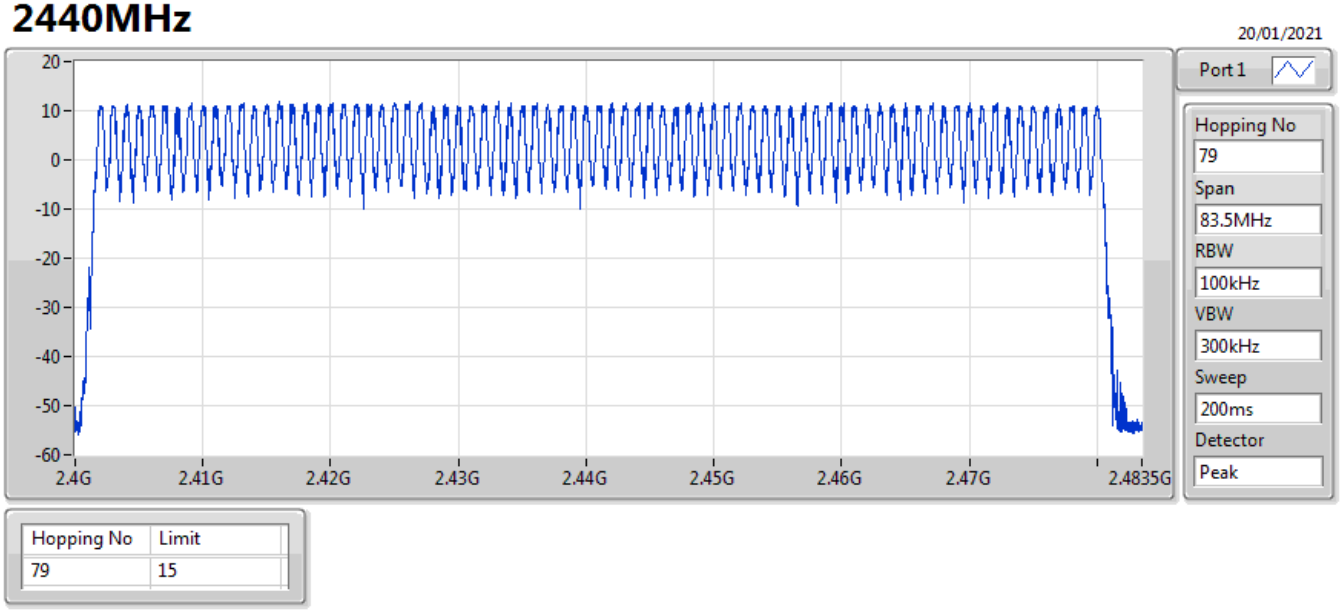
Result

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

BT-BR(1Mbps)

2440MHz

Hopping Ch

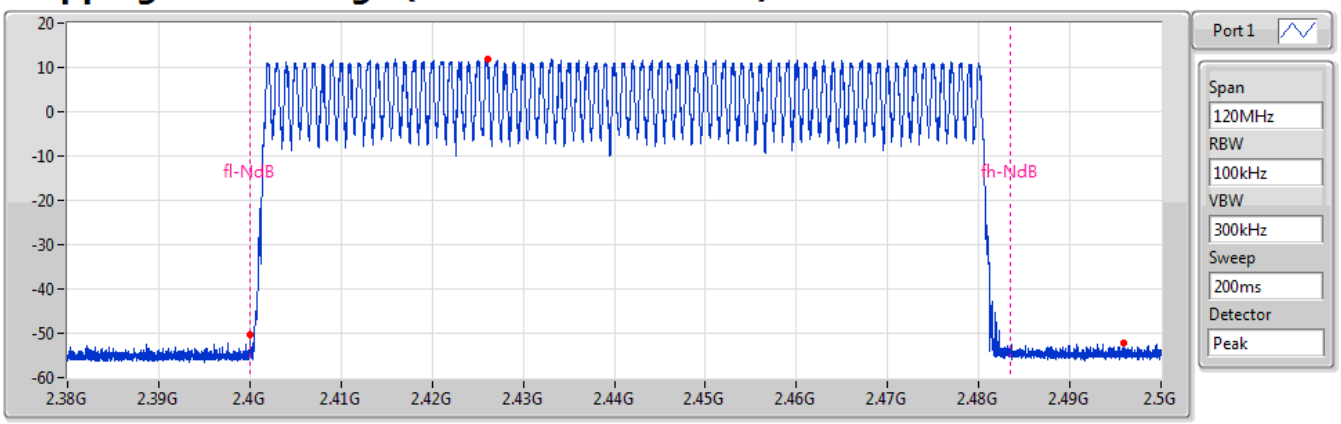


Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

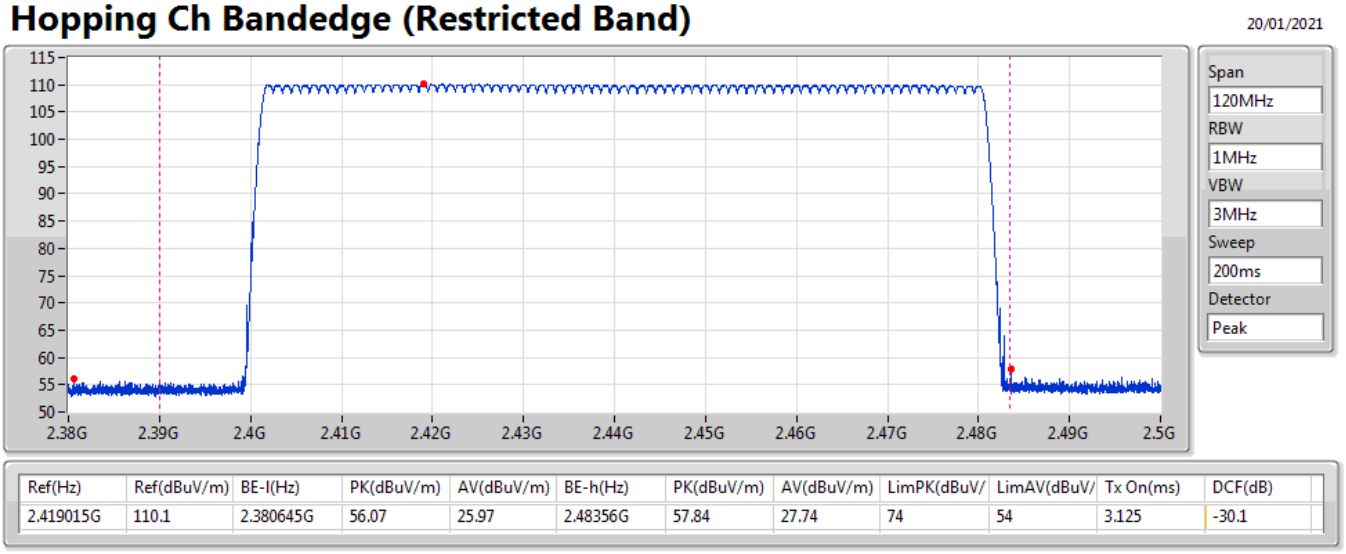


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-8.16	2.42617G	11.84	2.399965G	-50.19	2.49586G	-52.25

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

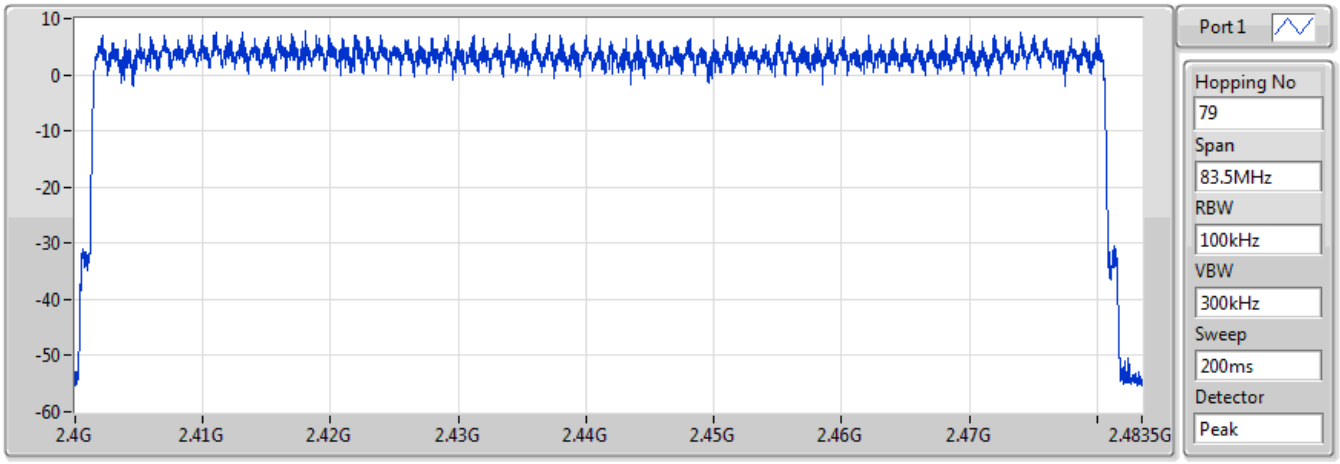


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.419015G	110.1	2.380645G	56.07	25.97	2.48356G	57.84	27.74	74	54	3.125	-30.1

BT-EDR(2Mbps)

2440MHz

Hopping Ch

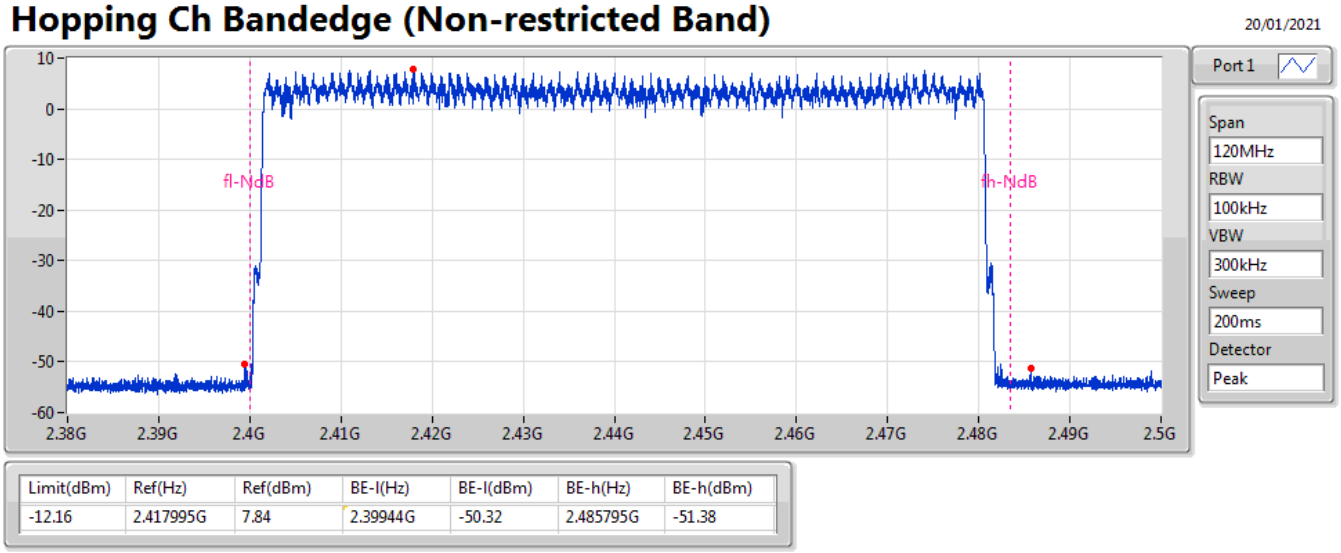


Hopping No	Limit
79	15

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

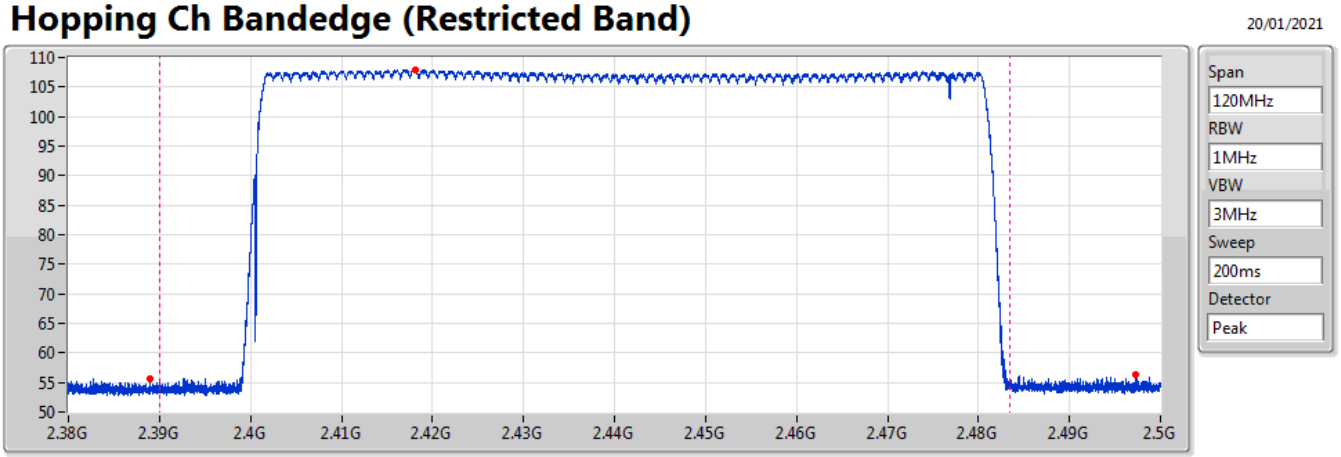


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.16	2.417995G	7.84	2.39944G	-50.32	2.485795G	-51.38

BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

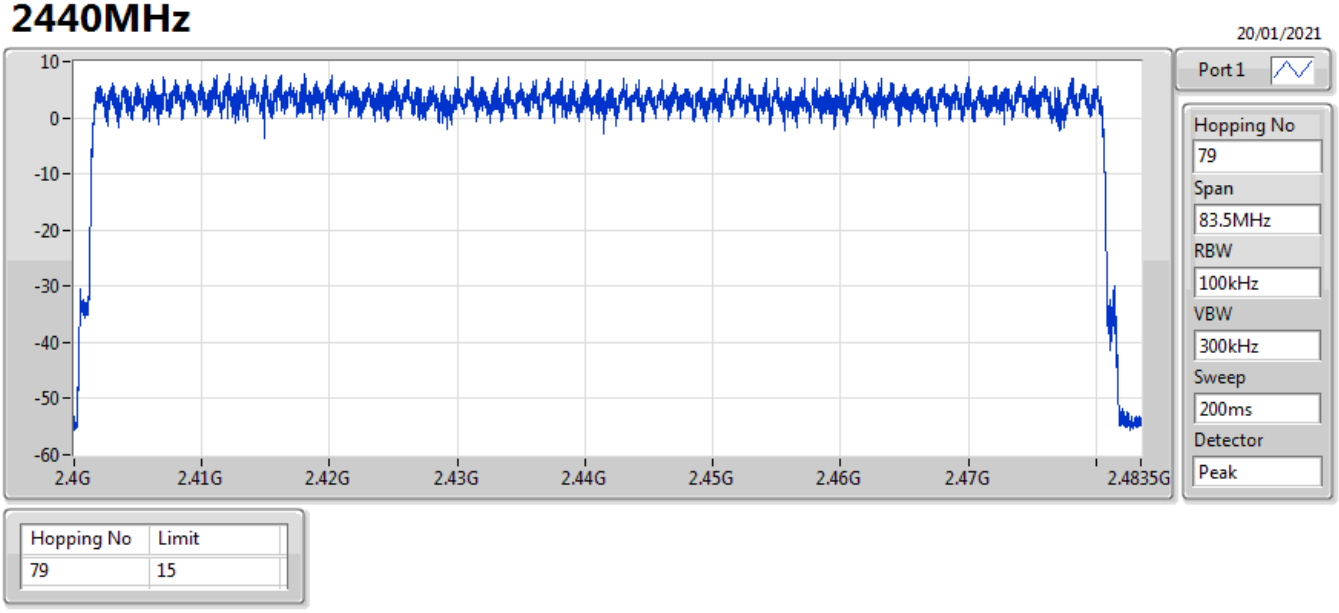


Ref(Hz)	Ref(dBuV/m)	BE-l(Hz)	PK(dBuV/m)	AV(dBuV/m)	BE-h(Hz)	PK(dBuV/m)	AV(dBuV/m)	LimPK(dBuV/	LimAV(dBuV/	Tx On(ms)	DCF(dB)
2.418115G	107.9	2.388955G	55.63	25.53	2.49724G	56.26	26.16	74	54	3.125	-30.1

BT-EDR(3Mbps)

2440MHz

Hopping Ch

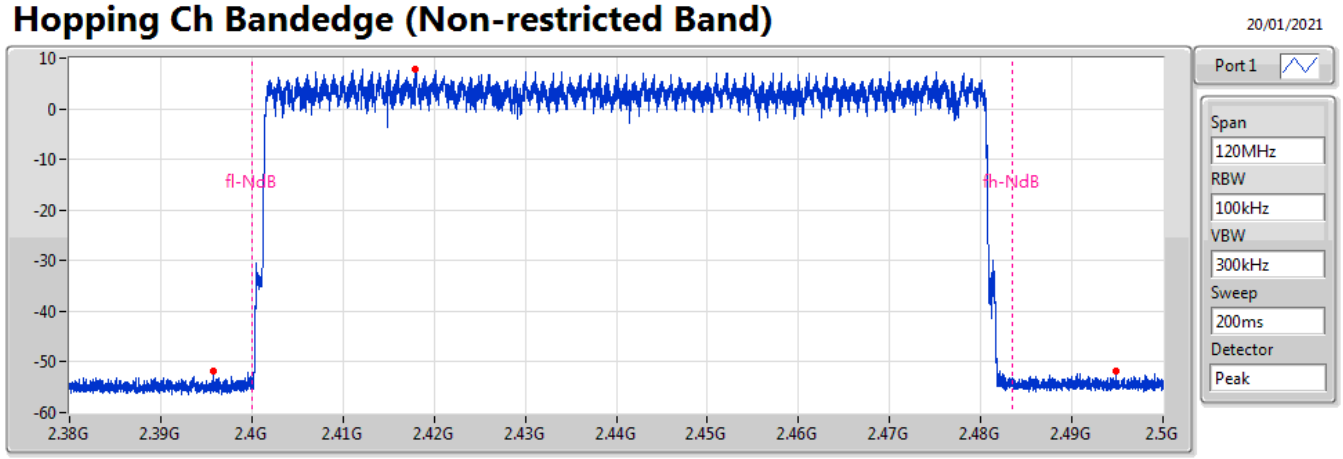


Hopping No	Limit
79	15

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

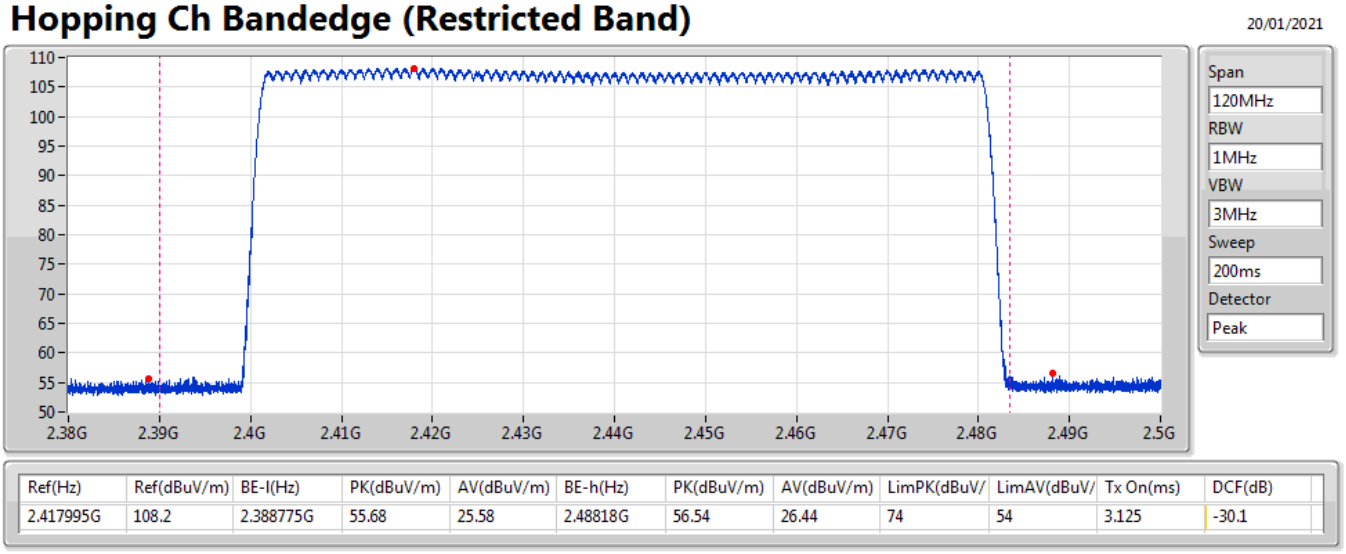


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-12.22	2.417995G	7.78	2.395765G	-51.81	2.49487G	-51.73

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)
2.417995G	108.2	2.388775G	55.68	25.58	2.48818G	56.54	26.44	74	54	3.125	-30.1

Summary

Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.15395m
BT-EDR(2Mbps)	308.42045m
BT-EDR(3Mbps)	308.58035m

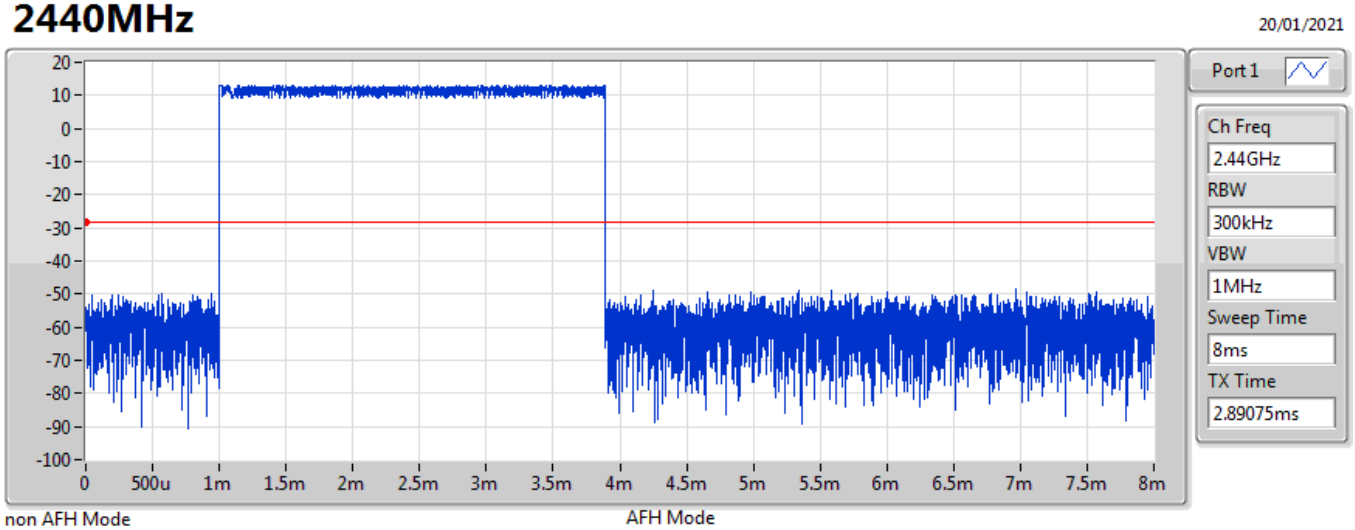
Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.15395m	400m	2.89075m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.42045m	400m	2.89325m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.58035m	400m	2.89475m

BT-BR(1Mbps)

Dwell

2440MHz



non AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.15395m	400m	2.89075m

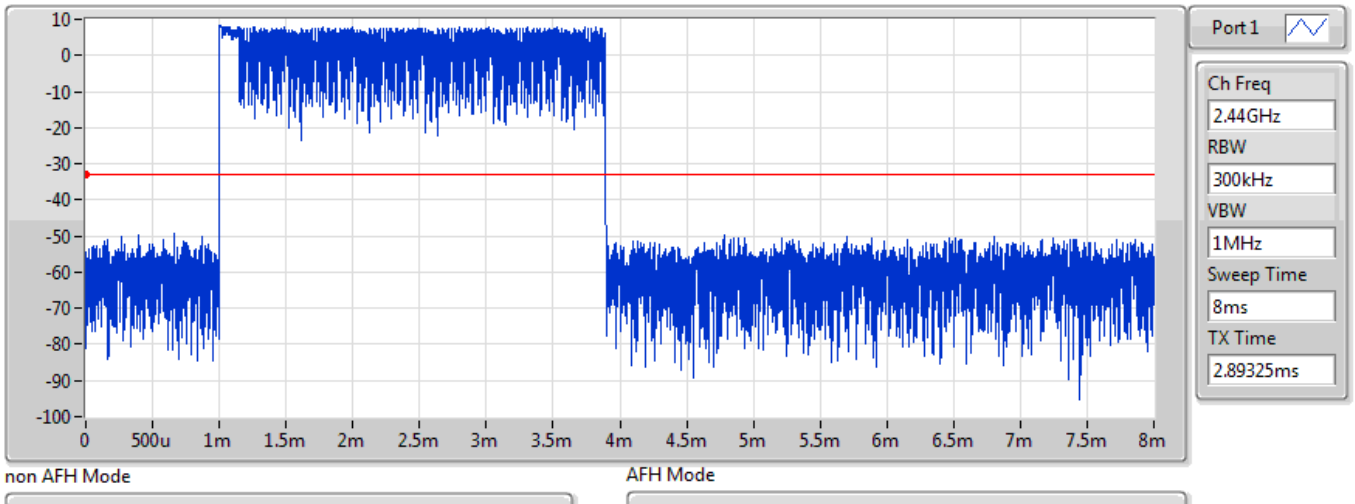
AFH Mode

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

BT-EDR(2Mbps)

Dwell

2440MHz



non AFH Mode

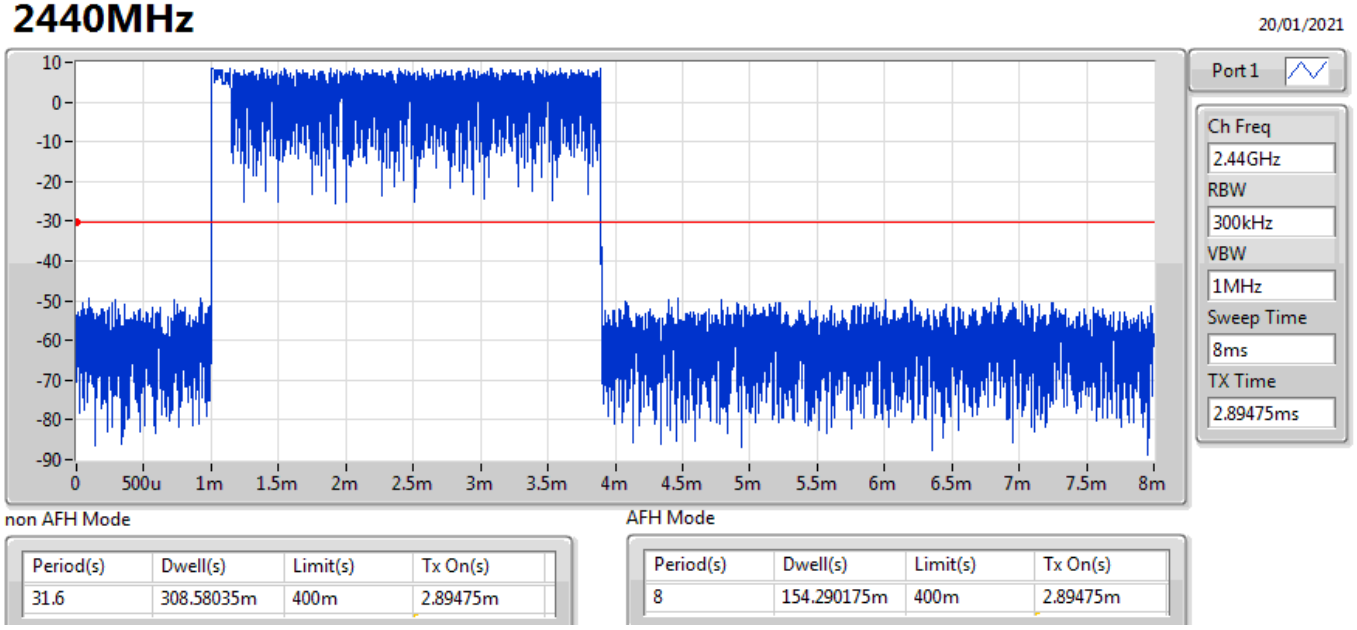
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.42045m	400m	2.89325m

AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.210225m	400m	2.89325m

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

2440MHz



non AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.58035m	400m	2.89475m

AFH Mode

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.290175m	400m	2.89475m

Summary

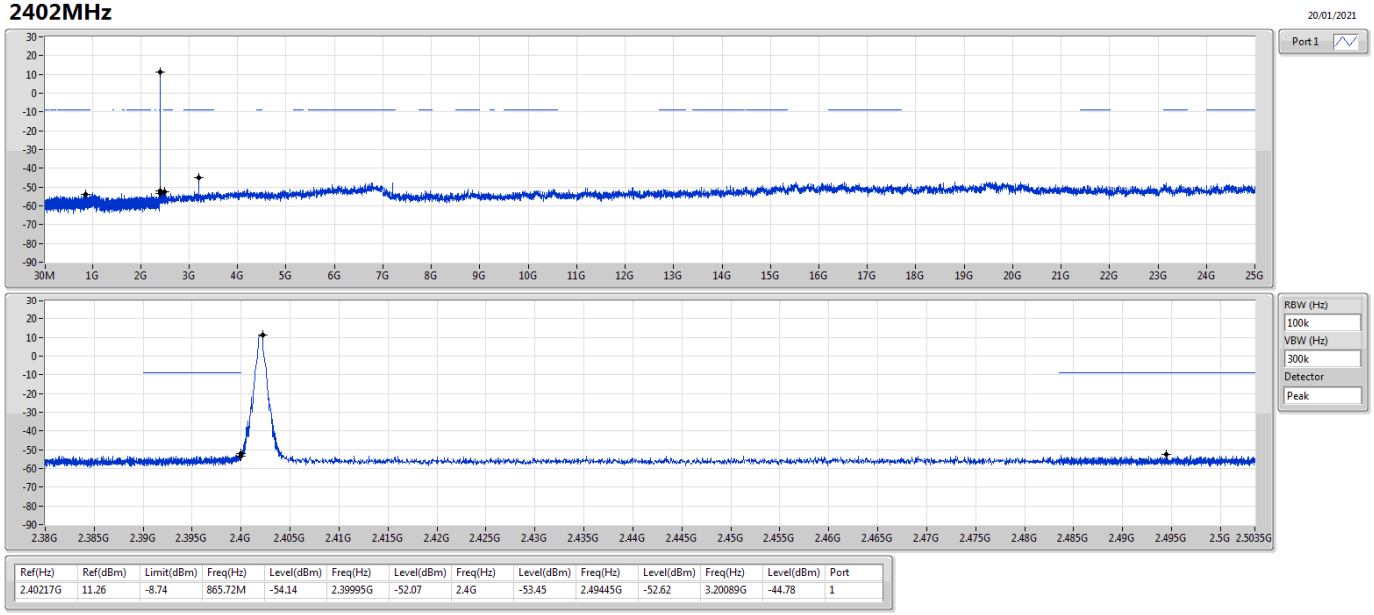
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.48008G	10.85	-9.15	1.65326G	-50.95	2.39894G	-53.09	2.4835G	-55.65	2.48373G	-52.51	3.30494G	-44.10	1
BT-EDR(2Mbps)	Pass	2.47995G	6.50	-13.50	2.06686G	-47.77	2.3948G	-52.69	2.4835G	-55.74	2.49091G	-52.31	3.30494G	-42.52	1
BT-EDR(3Mbps)	Pass	2.4802G	7.13	-12.87	2.06686G	-47.35	2.39694G	-53.24	2.4835G	-56.86	2.50319G	-51.37	3.30494G	-43.44	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	2.40217G	11.26	-8.74	865.72M	-54.14	2.39995G	-52.07	2.4G	-53.45	2.49445G	-52.62	3.20089G	-44.78	1
2440MHz	Pass	2.44016G	11.67	-8.33	1.62683G	-51.79	2.39022G	-53.00	2.4835G	-55.17	2.49179G	-52.00	3.25151G	-44.83	1
2480MHz	Pass	2.48008G	10.85	-9.15	1.65326G	-50.95	2.39894G	-53.09	2.4835G	-55.65	2.48373G	-52.51	3.30494G	-44.10	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40209G	6.50	-13.50	2.00165G	-51.54	2.3995G	-49.61	2.4835G	-53.85	2.49266G	-52.75	3.20089G	-41.39	1
2440MHz	Pass	2.43991G	6.32	-13.68	2.03338G	-48.18	2.39843G	-53.41	2.4G	-55.96	2.48733G	-52.33	3.25151G	-41.50	1
2480MHz	Pass	2.47995G	6.50	-13.50	2.06686G	-47.77	2.3948G	-52.69	2.4835G	-55.74	2.49091G	-52.31	3.30494G	-42.52	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	7.34	-12.66	2.00165G	-51.29	2.39954G	-50.25	2.4G	-52.59	2.4947G	-52.26	3.20089G	-41.58	1
2440MHz	Pass	2.44G	6.97	-13.03	2.03338G	-50.74	2.39942G	-53.40	2.4835G	-56.44	2.49317G	-52.49	3.25151G	-41.68	1
2480MHz	Pass	2.4802G	7.13	-12.87	2.06686G	-47.35	2.39694G	-53.24	2.4835G	-56.86	2.50319G	-51.37	3.30494G	-43.44	1

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

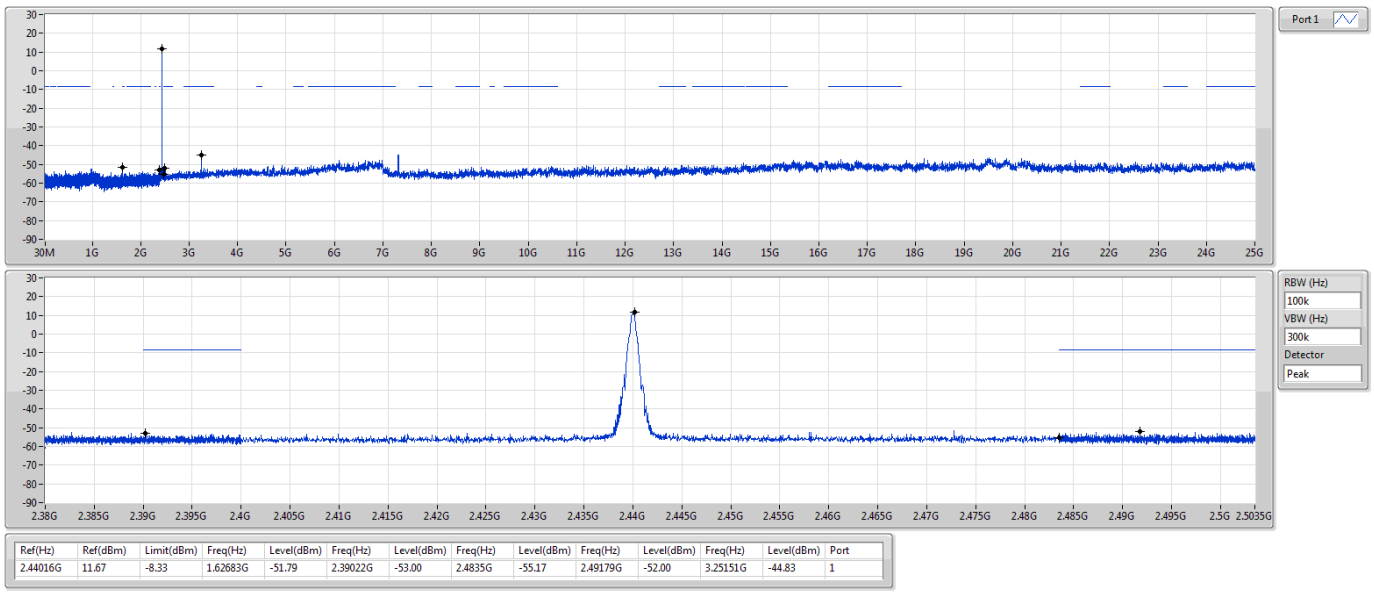
2402MHz



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
2.40217G	11.26	-8.74	865.72M	-54.14	2.39995G	-52.07	2.4G	-53.45	2.49445G	-52.62	3.20089G	-44.78	1

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

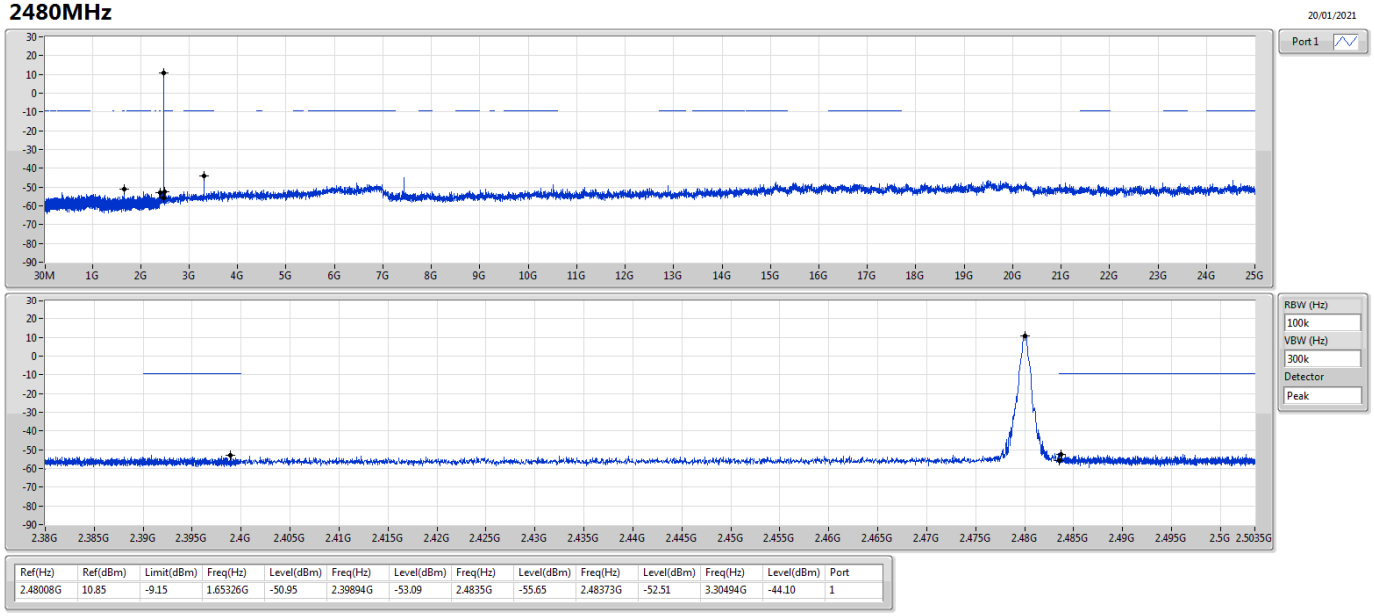
2440MHz



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	11.67	-8.33	1.62683G	-51.79	2.39022G	-53.00	2.4835G	-55.17	2.49179G	-52.00	3.25151G	-44.83	1

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

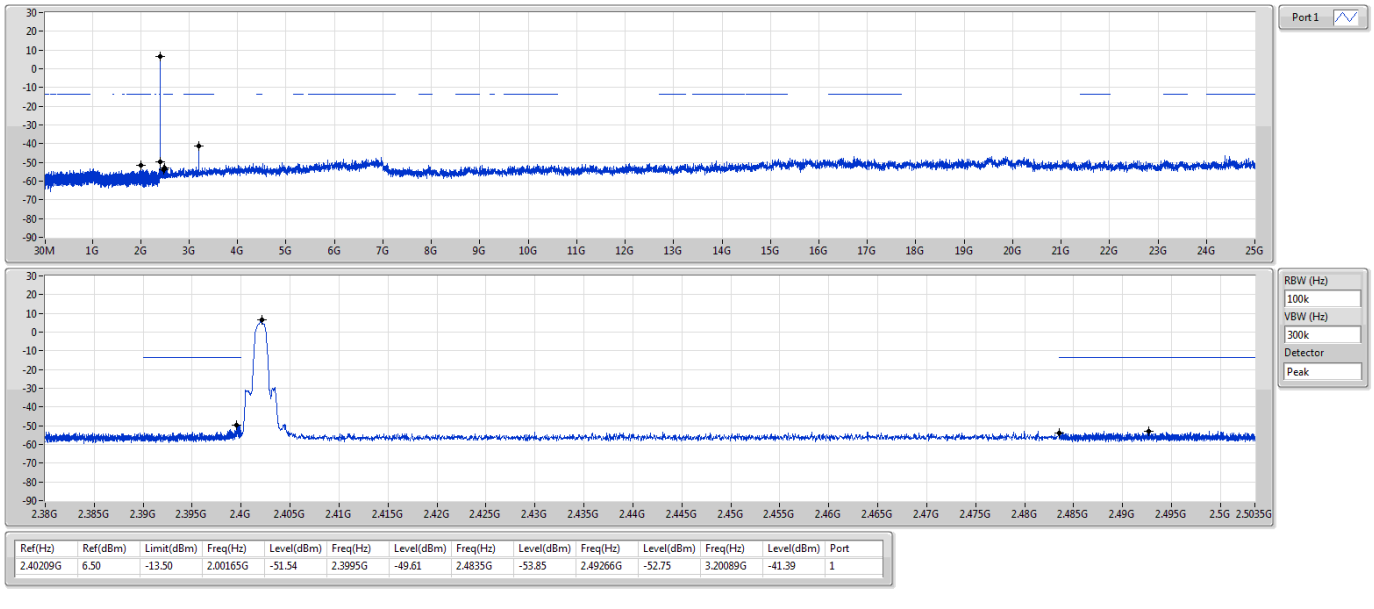
2480MHz



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
2.48008G	10.85	-9.15	1.65326G	-50.95	2.39894G	-53.09	2.4835G	-55.65	2.48373G	-52.51	3.30494G	-44.10	1

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

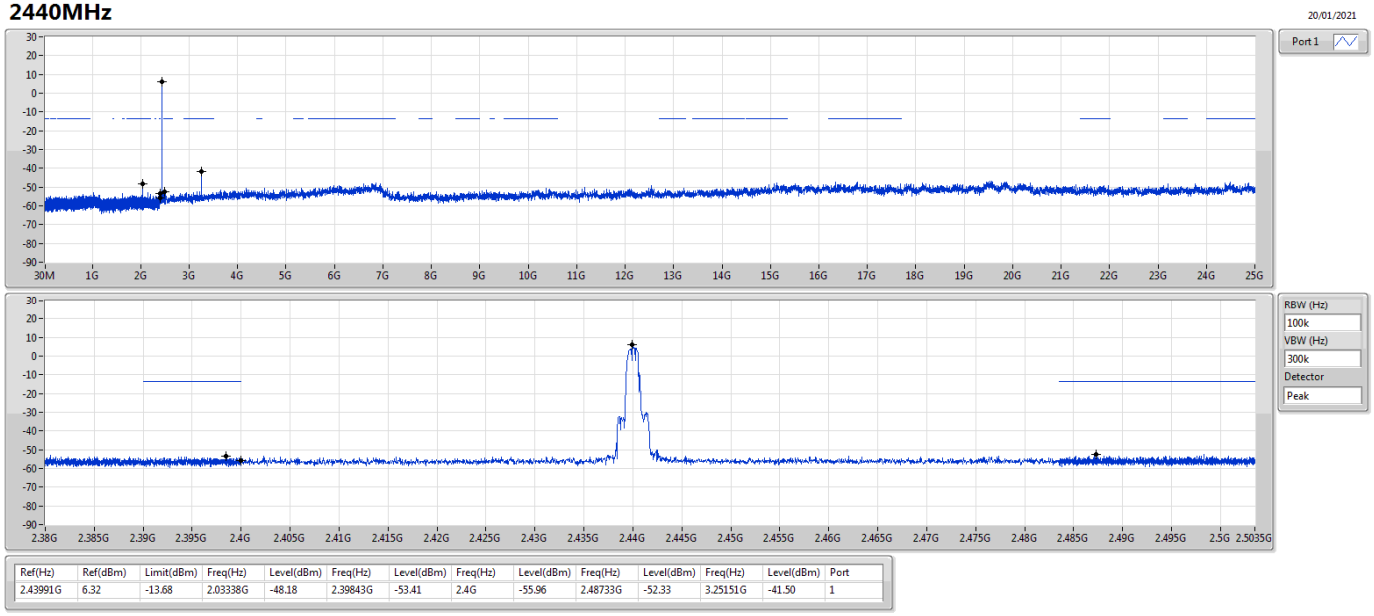
2402MHz



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
2.40209G	6.50	-13.50	2.00165G	-51.54	2.3995G	-49.61	2.4835G	-53.85	2.49266G	-52.75	3.20089G	-41.39	1

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

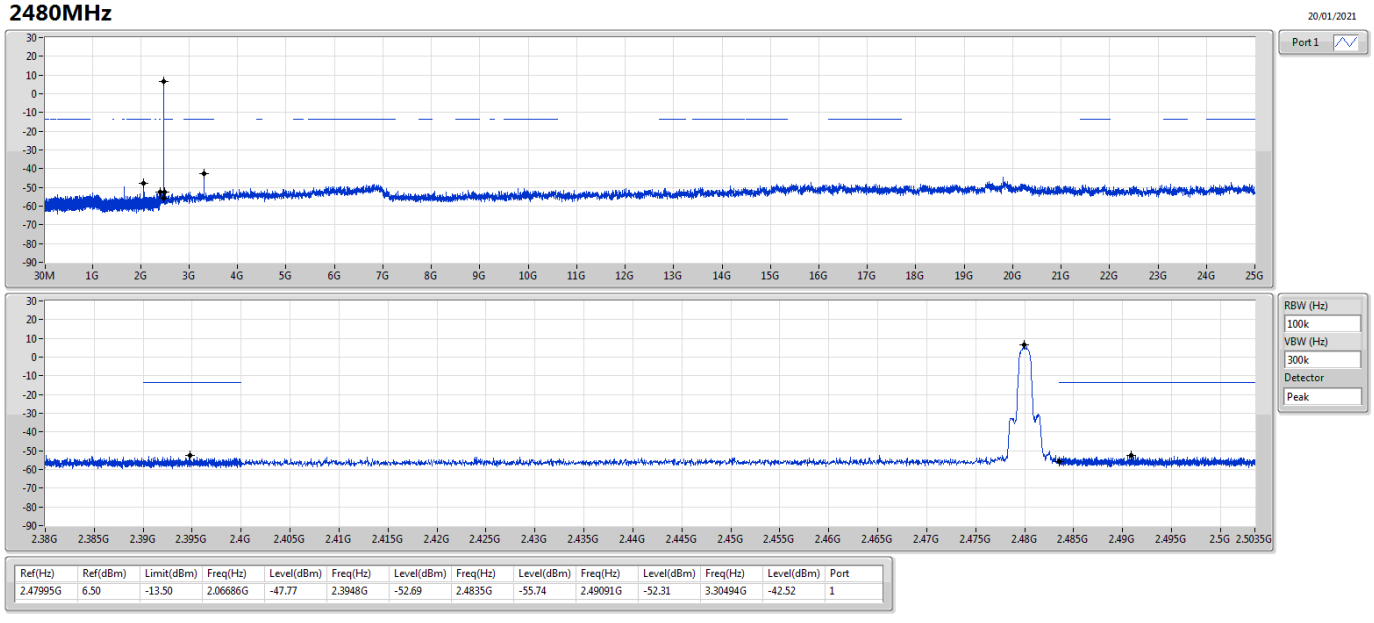
2440MHz



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
2.43991G	6.32	-13.68	2.03338G	-48.18	2.39843G	-53.41	2.4G	-55.96	2.48733G	-52.33	3.25151G	-41.50	1

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

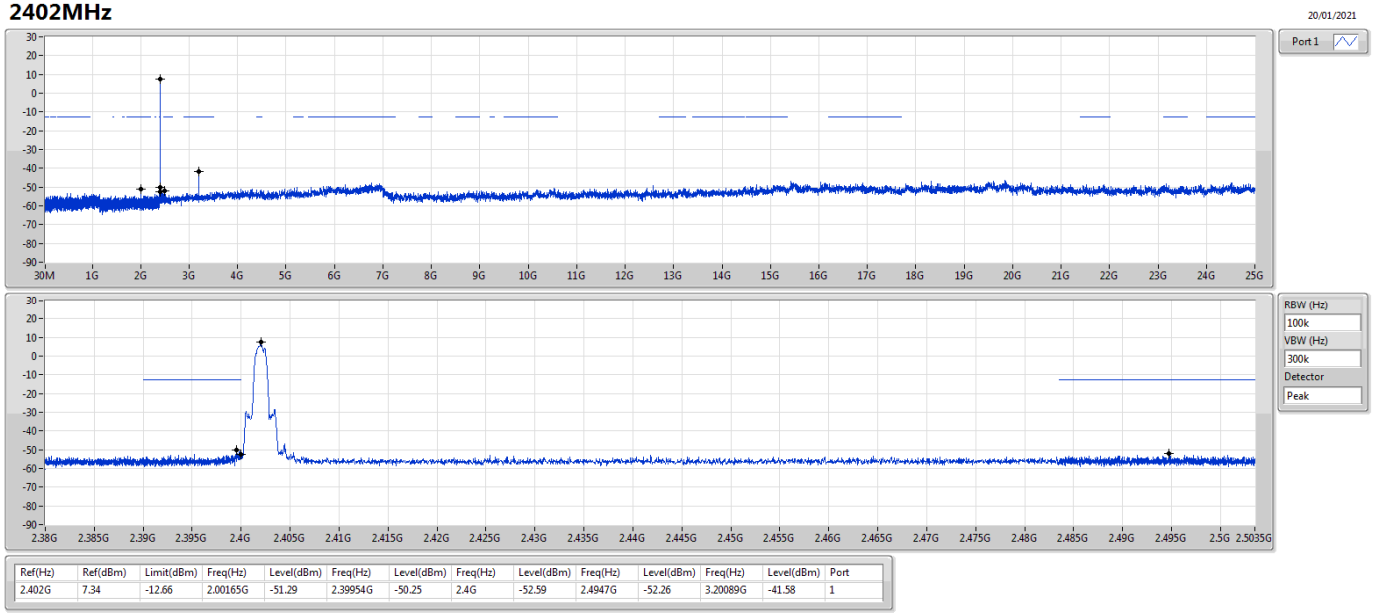
2480MHz



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
2.47995G	6.50	-13.50	2.06686G	-47.77	2.3948G	-52.69	2.4835G	-55.74	2.49091G	-52.31	3.30494G	-42.52	1

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

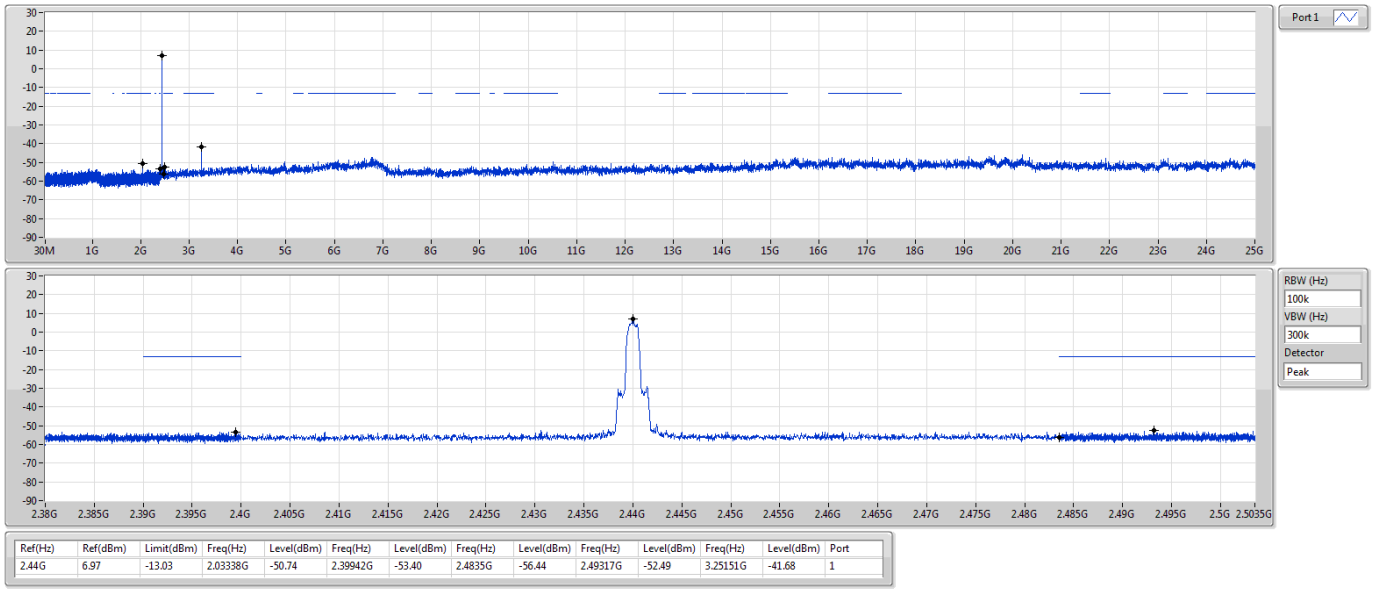
2402MHz



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
2.402G	7.34	-12.66	2.00165G	-51.29	2.39954G	-50.25	2.4G	-52.59	2.4947G	-52.26	3.20089G	-41.58	1

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

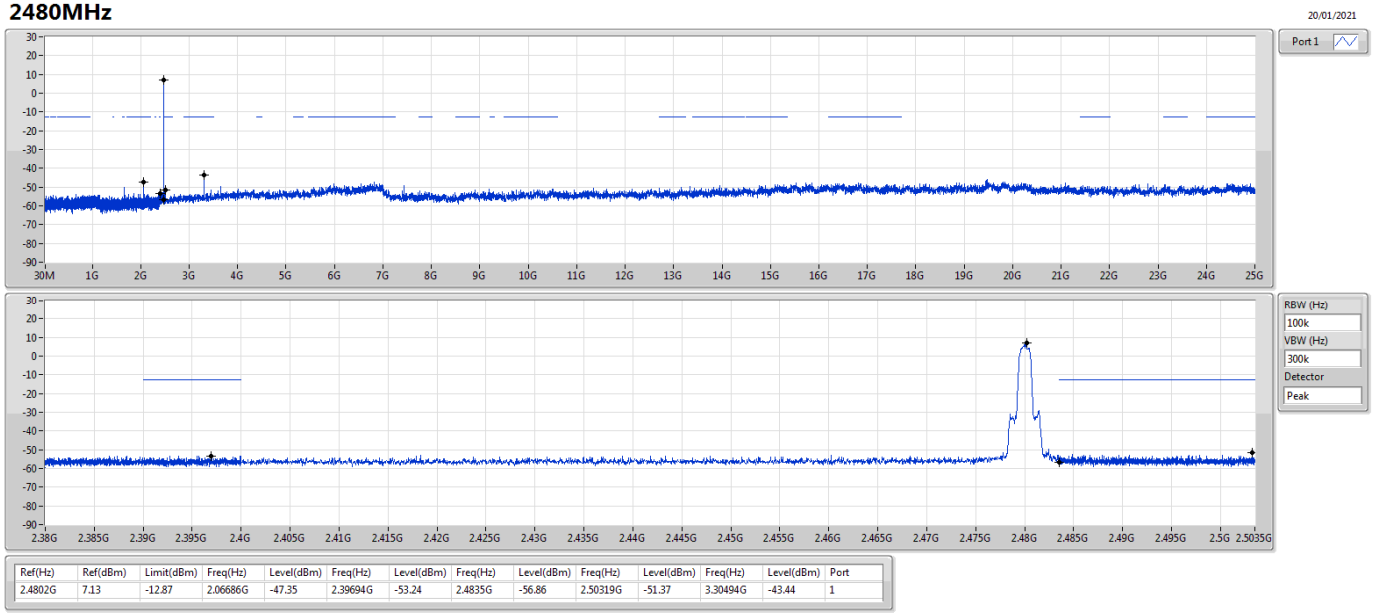
2440MHz



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
2.44G	6.97	-13.03	2.03338G	-50.74	2.39942G	-53.40	2.4835G	-56.44	2.49317G	-52.49	3.25151G	-41.68	1

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

2480MHz



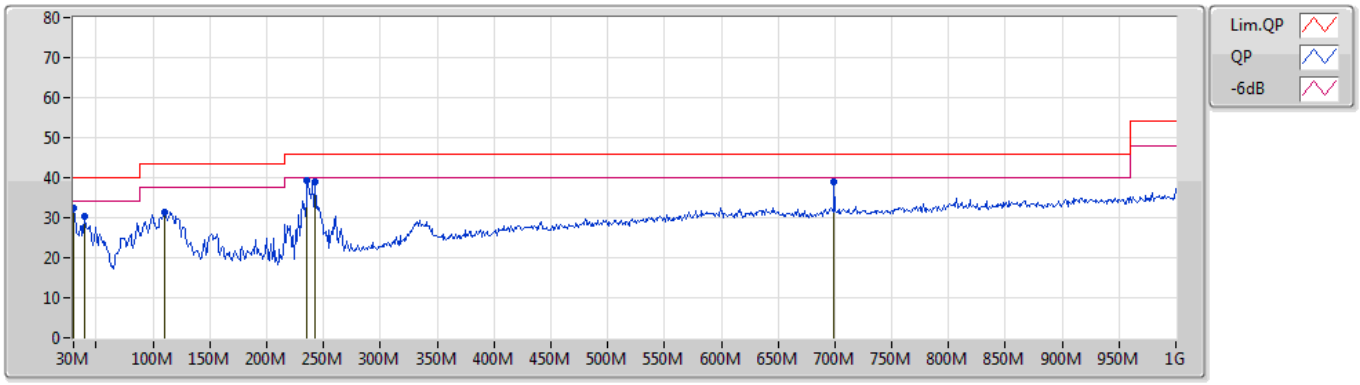
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4802G	7.13	-12.87	2.06686G	-47.35	2.39694G	-53.24	2.4835G	-56.86	2.50319G	-51.37	3.30494G	-43.44	1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 2	Pass	QP	239.52M	42.94	46.00	-3.06	Horizontal

Mode 2

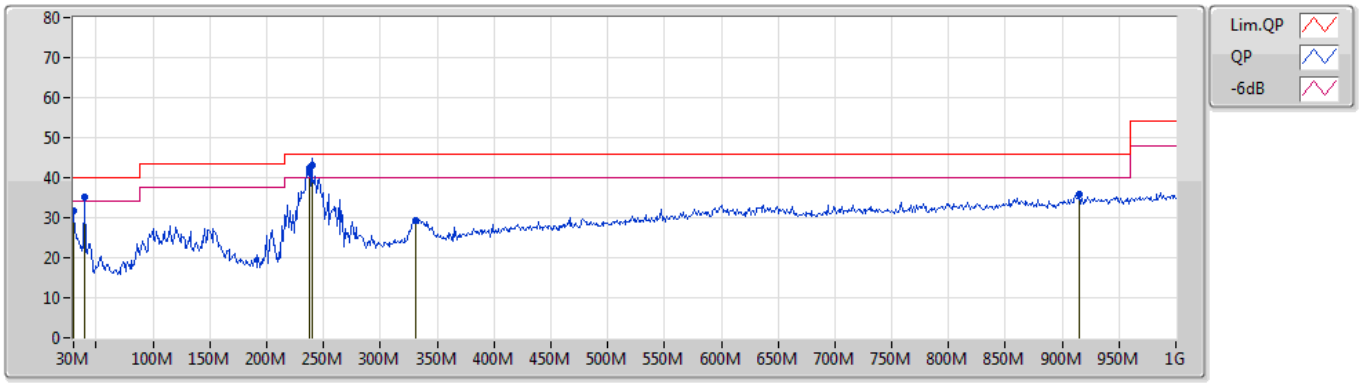
09/03/2021



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/m)	(dB/m)	(dB)	(dB)
PK	30M	32.49	40.00	-7.51	-7.58	3	Vertical	20	1.00	-	40.07	23.79	1.00	32.37
PK	39.7M	30.26	40.00	-9.74	-12.79	3	Vertical	262	3.00	-	43.05	18.49	1.09	32.37
PK	109.54M	31.22	43.50	-12.28	-12.54	3	Vertical	189	1.25	-	43.76	17.87	1.90	32.31
PK	235.64M	39.33	46.00	-6.67	-12.69	3	Vertical	223	1.00	"Worst"	52.02	16.71	2.81	32.21
PK	242.43M	39.00	46.00	-7.00	-11.91	3	Vertical	240	1.00	-	50.91	17.44	2.85	32.20
PK	699.3M	38.89	46.00	-7.11	-1.43	3	Vertical	227	1.00	-	40.32	25.46	5.10	31.99

Mode 2

09/03/2021



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/m)	(dB/m)	(dB)	(dB)
PK	30M	31.82	40.00	-8.18	-7.58	3	Horizontal	314	1.50	-	39.40	23.79	1.00	32.37
PK	39.7M	35.15	40.00	-4.85	-12.79	3	Horizontal	309	1.25	-	47.94	18.49	1.09	32.37
PK	237.58M	42.43	46.00	-3.57	-12.44	3	Horizontal	299	1.25	-	54.87	16.93	2.83	32.20
QP	239.52M	42.94	46.00	-3.06	-12.20	3	Horizontal	281	1.00	"Worst"	55.14	17.16	2.84	32.20
PK	331.67M	29.34	46.00	-16.66	-9.06	3	Horizontal	233	1.00	-	38.40	19.72	3.35	32.13
PK	915.61M	35.75	46.00	-10.25	1.46	3	Horizontal	303	2.00	-	34.29	26.67	5.96	31.17

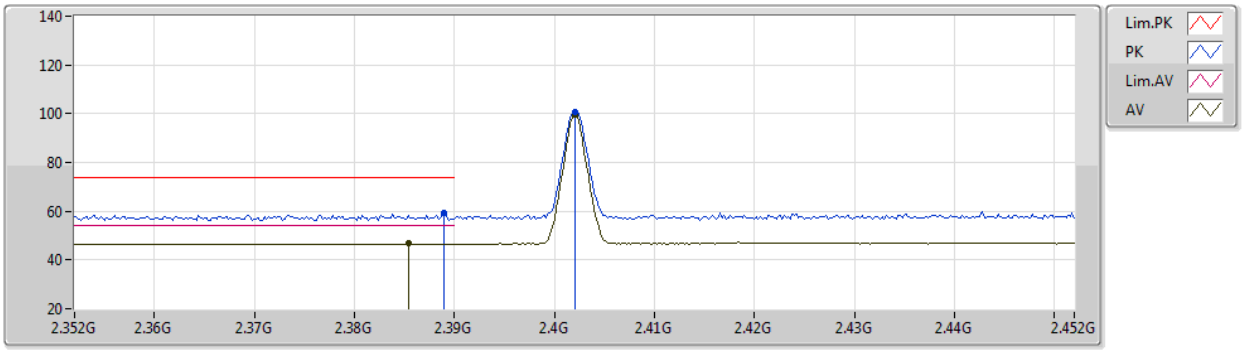
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	AV	2.4835G	48.19	54.00	-5.81	3	Horizontal	242	1.05	-

BT-BR(1Mbps)

2402MHz_TX

19/01/2021



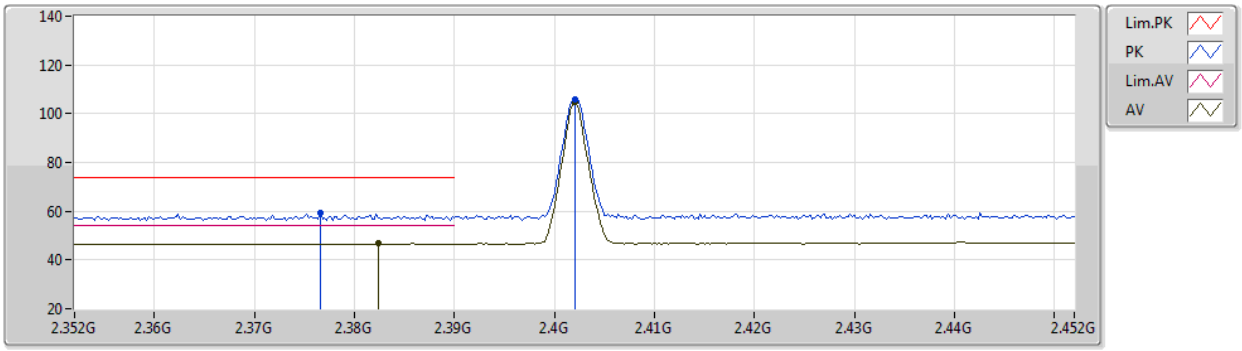
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.389G	59.33	74.00	-14.67	28.62	3	Vertical	226	1.19	-	28.30	2.41	-
AV	2.3854G	46.71	54.00	-7.29	16.00	3	Vertical	226	1.19	-	28.30	2.41	-
PK	2.402G	100.68	Inf	-Inf	69.98	3	Vertical	226	1.19	-	28.30	2.40	-
AV	2.402G	99.54	Inf	-Inf	68.84	3	Vertical	226	1.19	-	28.30	2.40	-

BT-BR(1Mbps)

2402MHz_TX

19/01/2021



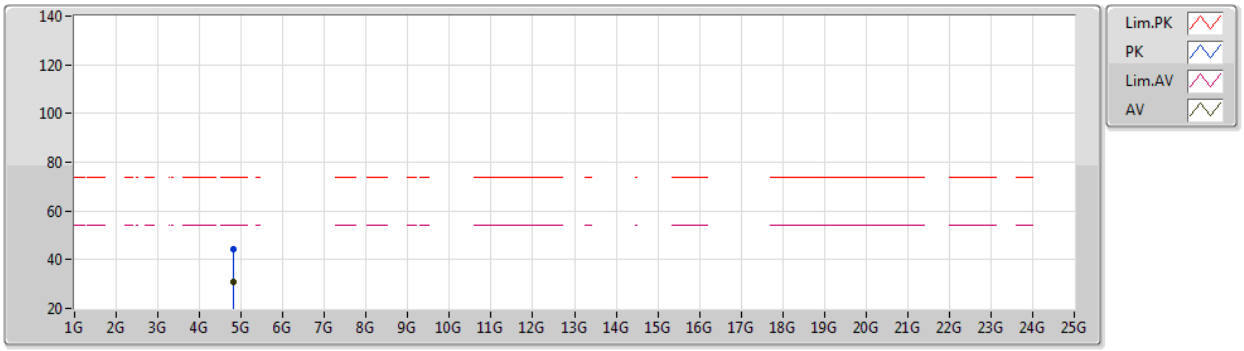
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3766G	59.14	74.00	-14.86	28.43	3	Horizontal	202	1.00	-	28.30	2.41	-
AV	2.3824G	46.70	54.00	-7.30	15.99	3	Horizontal	202	1.00	-	28.30	2.41	-
PK	2.402G	105.74	Inf	-Inf	75.04	3	Horizontal	202	1.00	-	28.30	2.40	-
AV	2.402G	104.62	Inf	-Inf	73.92	3	Horizontal	202	1.00	-	28.30	2.40	-

BT-BR(1Mbps)

2402MHz_TX

19/01/2021



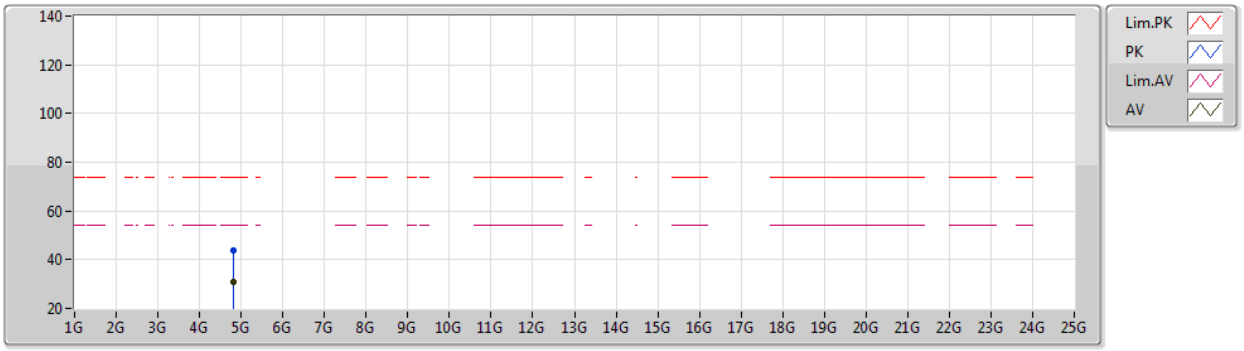
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.81072G	44.46	74.00	-29.54	38.69	3	Vertical	86	1.80	-	32.84	4.70	31.77
AV	4.8056G	31.03	54.00	-22.97	25.28	3	Vertical	86	1.80	-	32.82	4.70	31.77

BT-BR(1Mbps)

2402MHz_TX

19/01/2021



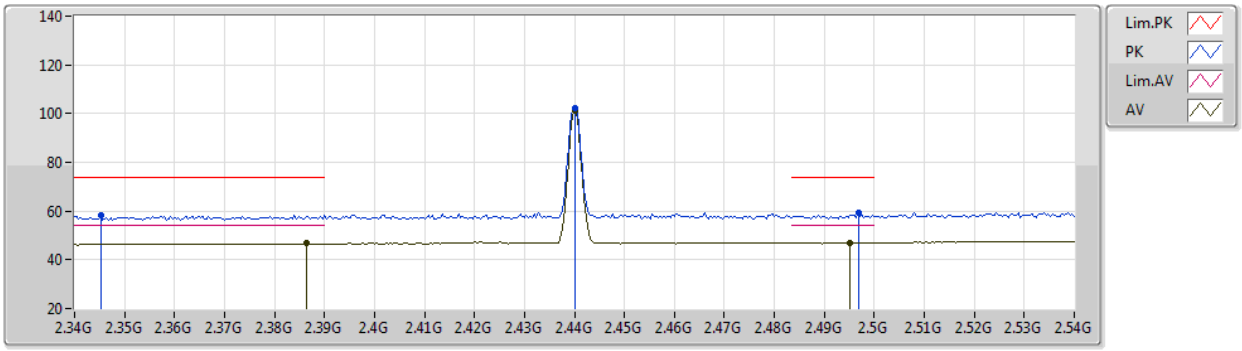
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80928G	43.90	74.00	-30.10	38.13	3	Horizontal	67	1.80	-	32.84	4.70	31.77
AV	4.814G	31.09	54.00	-22.91	25.30	3	Horizontal	67	1.80	-	32.86	4.70	31.77

BT-BR(1Mbps)

2440MHz_TX

19/01/2021



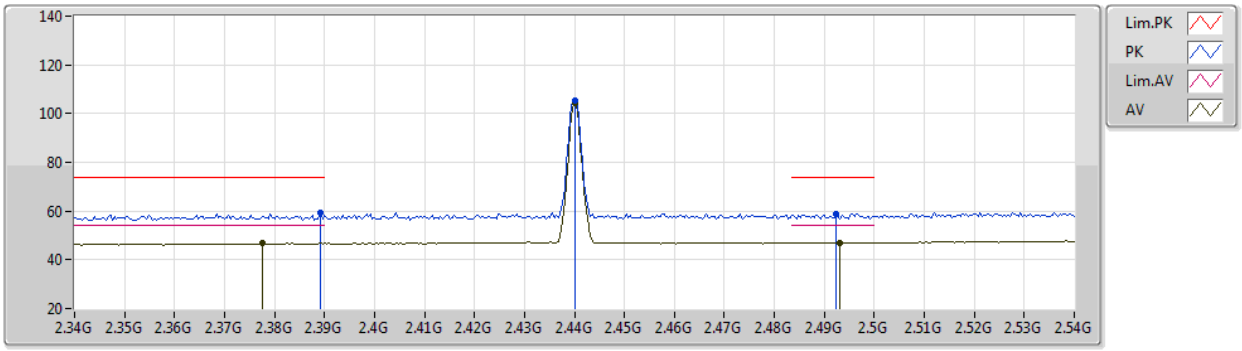
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3452G	58.32	74.00	-15.68	27.62	3	Vertical	17	1.00	-	28.27	2.43	-
AV	2.3864G	46.64	54.00	-7.36	15.93	3	Vertical	17	1.00	-	28.30	2.41	-
PK	2.44G	102.05	Inf	-Inf	71.25	3	Vertical	17	1.00	-	28.38	2.42	-
AV	2.44G	101.15	Inf	-Inf	70.35	3	Vertical	17	1.00	-	28.38	2.42	-
PK	2.4968G	59.19	74.00	-14.81	28.15	3	Vertical	17	1.00	-	28.59	2.45	-
AV	2.4952G	47.14	54.00	-6.86	16.11	3	Vertical	17	1.00	-	28.58	2.45	-

BT-BR(1Mbps)

2440MHz_TX

19/01/2021



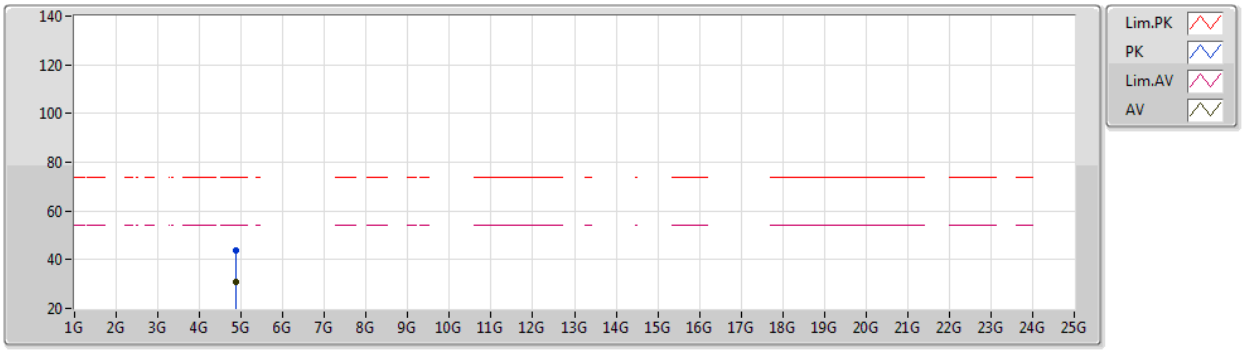
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3892G	59.23	74.00	-14.77	28.52	3	Horizontal	200	1.00	-	28.30	2.41	-
AV	2.3776G	46.70	54.00	-7.30	15.99	3	Horizontal	200	1.00	-	28.30	2.41	-
PK	2.44G	105.27	Inf	-Inf	74.47	3	Horizontal	200	1.00	-	28.38	2.42	-
AV	2.44G	104.37	Inf	-Inf	73.57	3	Horizontal	200	1.00	-	28.38	2.42	-
PK	2.4924G	59.00	74.00	-15.00	27.98	3	Horizontal	200	1.00	-	28.57	2.45	-
AV	2.4932G	47.04	54.00	-6.96	16.02	3	Horizontal	200	1.00	-	28.57	2.45	-

BT-BR(1Mbps)

2440MHz_TX

19/01/2021



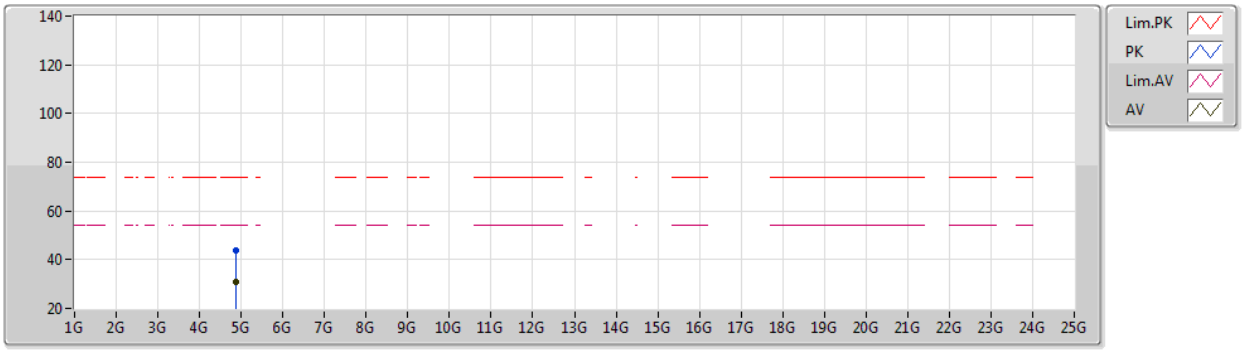
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87856G	44.00	74.00	-30.00	37.99	3	Vertical	263	1.80	-	33.11	4.70	31.80
AV	4.87168G	30.96	54.00	-23.04	24.96	3	Vertical	263	1.80	-	33.09	4.70	31.79

BT-BR(1Mbps)

2440MHz_TX

19/01/2021



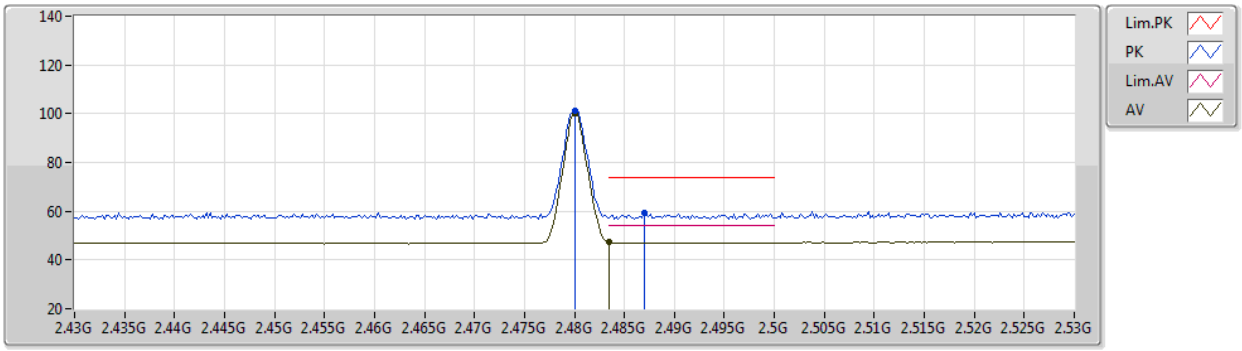
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88424G	44.00	74.00	-30.00	37.96	3	Horizontal	83	1.80	-	33.14	4.70	31.80
AV	4.8754G	30.74	54.00	-23.26	24.74	3	Horizontal	83	1.80	-	33.10	4.70	31.80

BT-BR(1Mbps)

2480MHz_TX

19/01/2021



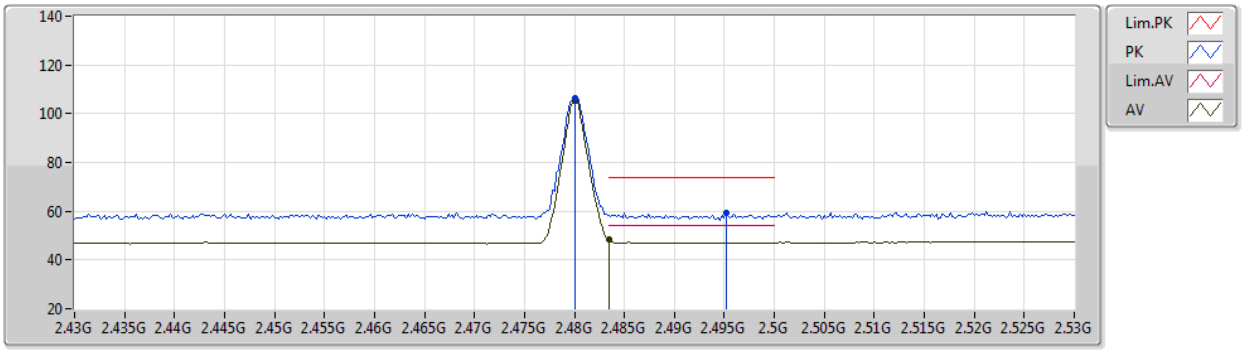
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	101.14	Inf	-Inf	70.18	3	Vertical	220	1.77	-	28.52	2.44	-
AV	2.48G	100.01	Inf	-Inf	69.05	3	Vertical	220	1.77	-	28.52	2.44	-
PK	2.487G	59.44	74.00	-14.56	28.45	3	Vertical	220	1.77	-	28.55	2.44	-
AV	2.4835G	47.40	54.00	-6.60	16.43	3	Vertical	220	1.77	-	28.53	2.44	-

BT-BR(1Mbps)

2480MHz_TX

19/01/2021



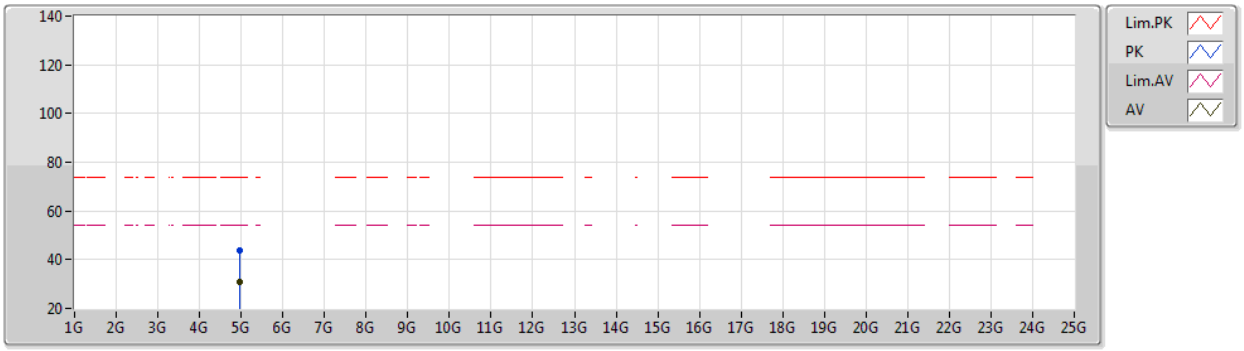
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	106.20	Inf	-Inf	75.24	3	Horizontal	242	1.05	-	28.52	2.44	-
AV	2.48G	105.10	Inf	-Inf	74.14	3	Horizontal	242	1.05	-	28.52	2.44	-
PK	2.4952G	59.40	74.00	-14.60	28.37	3	Horizontal	242	1.05	-	28.58	2.45	-
AV	2.4835G	48.19	54.00	-5.81	17.22	3	Horizontal	242	1.05	-	28.53	2.44	-

BT-BR(1Mbps)

2480MHz_TX

19/01/2021



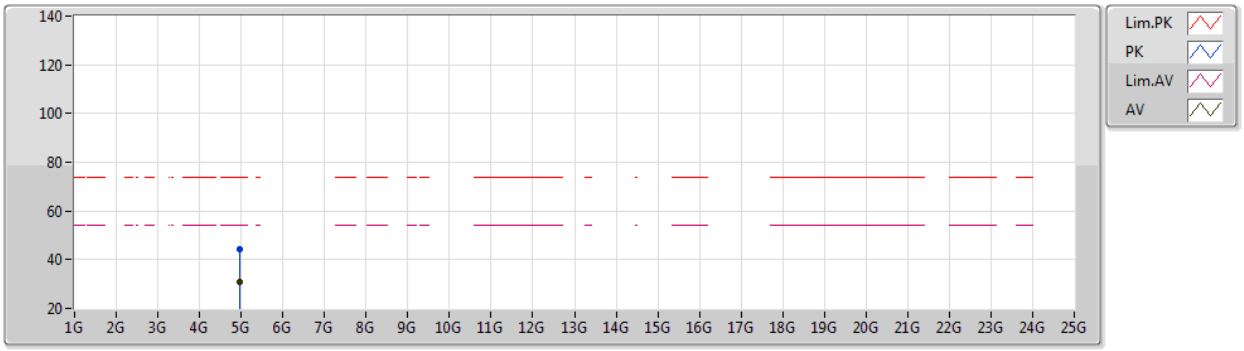
EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95895G	43.88	74.00	-30.12	37.79	3	Vertical	174	1.80	-	33.22	4.70	31.83
AV	4.9577G	30.99	54.00	-23.01	24.89	3	Vertical	174	1.80	-	33.22	4.70	31.82

BT-BR(1Mbps)

2480MHz_TX

19/01/2021



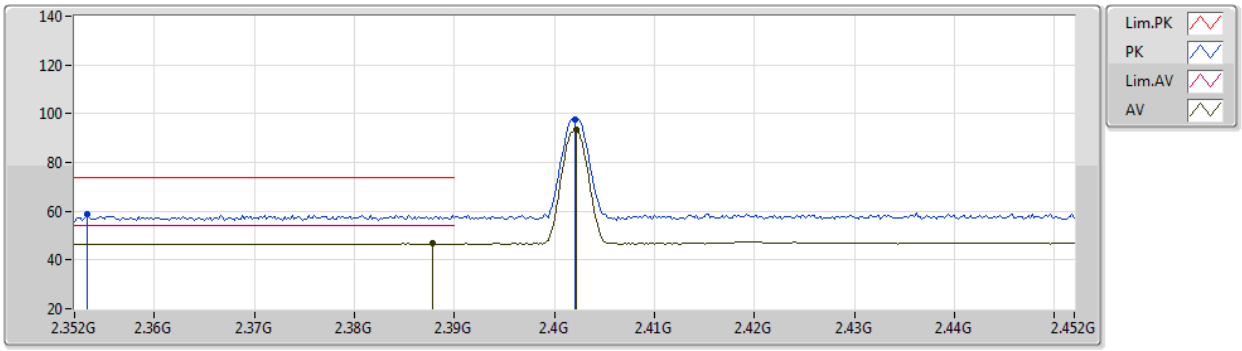
EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.96171G	44.39	74.00	-29.61	38.30	3	Horizontal	278	1.80	-	33.22	4.70	31.83
AV	4.95854G	30.77	54.00	-23.23	24.68	3	Horizontal	278	1.80	-	33.22	4.70	31.83

BT-EDR(3Mbps)

19/01/2021

2402MHz_TX



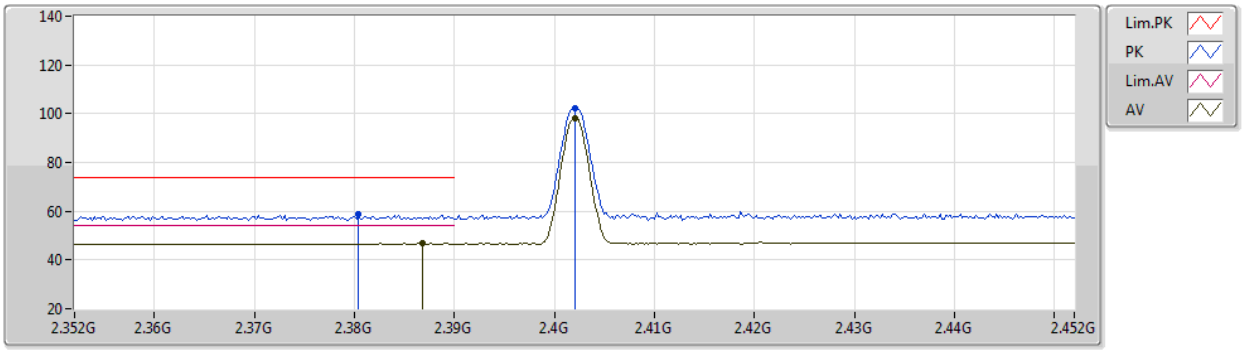
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3532G	58.64	74.00	-15.36	27.92	3	Vertical	22	1.16	-	28.30	2.42	-
AV	2.3878G	46.79	54.00	-7.21	16.08	3	Vertical	22	1.16	-	28.30	2.41	-
PK	2.402G	97.84	Inf	-Inf	67.14	3	Vertical	22	1.16	-	28.30	2.40	-
AV	2.4022G	93.28	Inf	-Inf	62.58	3	Vertical	22	1.16	-	28.30	2.40	-

BT-EDR(3Mbps)

19/01/2021

2402MHz_TX



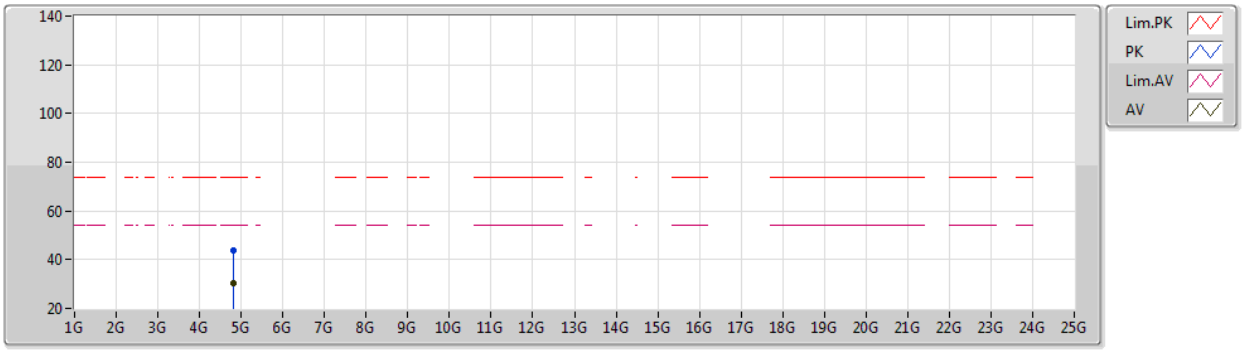
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3804G	58.88	74.00	-15.12	28.17	3	Horizontal	205	1.21	-	28.30	2.41	-
AV	2.3868G	46.71	54.00	-7.29	16.00	3	Horizontal	205	1.21	-	28.30	2.41	-
PK	2.402G	102.26	Inf	-Inf	71.56	3	Horizontal	205	1.21	-	28.30	2.40	-
AV	2.402G	98.12	Inf	-Inf	67.42	3	Horizontal	205	1.21	-	28.30	2.40	-

BT-EDR(3Mbps)

2402MHz_TX

19/01/2021



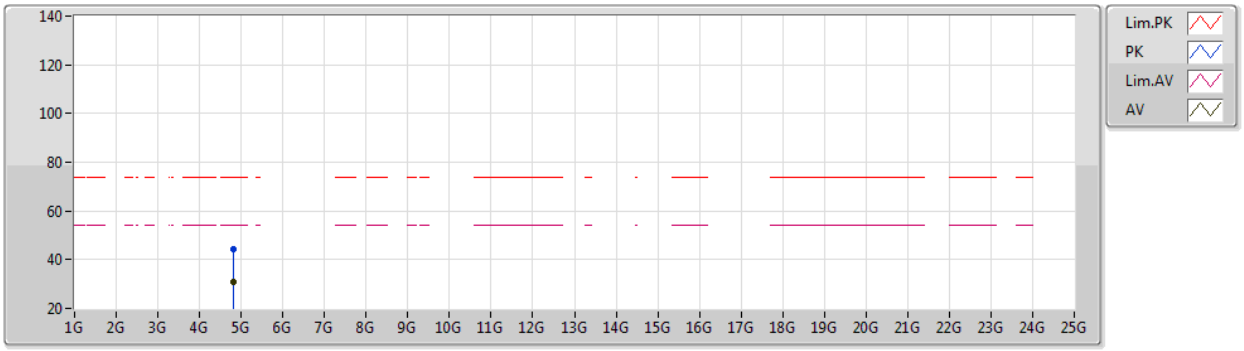
EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80419G	43.69	74.00	-30.31	37.94	3	Vertical	146	1.80	-	32.82	4.70	31.77
AV	4.80486G	30.51	54.00	-23.49	24.76	3	Vertical	146	1.80	-	32.82	4.70	31.77

BT-EDR(3Mbps)

2402MHz_TX

19/01/2021



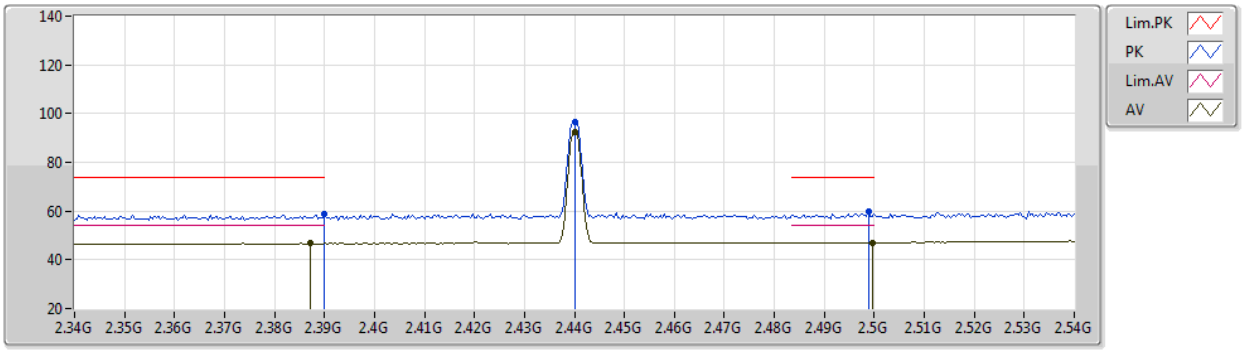
EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80273G	44.23	74.00	-29.77	38.49	3	Horizontal	90	1.80	-	32.81	4.70	31.77
AV	4.80595G	30.68	54.00	-23.32	24.93	3	Horizontal	90	1.80	-	32.82	4.70	31.77

BT-EDR(3Mbps)

2440MHz_TX

19/01/2021



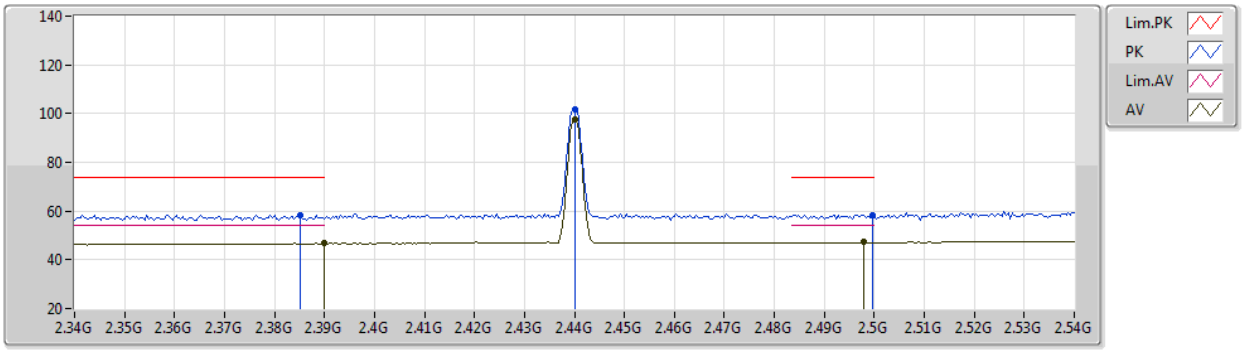
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.39G	58.57	74.00	-15.43	27.86	3	Vertical	223	1.33	-	28.30	2.41	-
AV	2.3872G	46.69	54.00	-7.31	15.98	3	Vertical	223	1.33	-	28.30	2.41	-
PK	2.44G	96.60	Inf	-Inf	65.80	3	Vertical	223	1.33	-	28.38	2.42	-
AV	2.44G	92.62	Inf	-Inf	61.82	3	Vertical	223	1.33	-	28.38	2.42	-
PK	2.4988G	59.68	74.00	-14.32	28.63	3	Vertical	223	1.33	-	28.60	2.45	-
AV	2.4996G	47.04	54.00	-6.96	15.99	3	Vertical	223	1.33	-	28.60	2.45	-

BT-EDR(3Mbps)

2440MHz_TX

19/01/2021



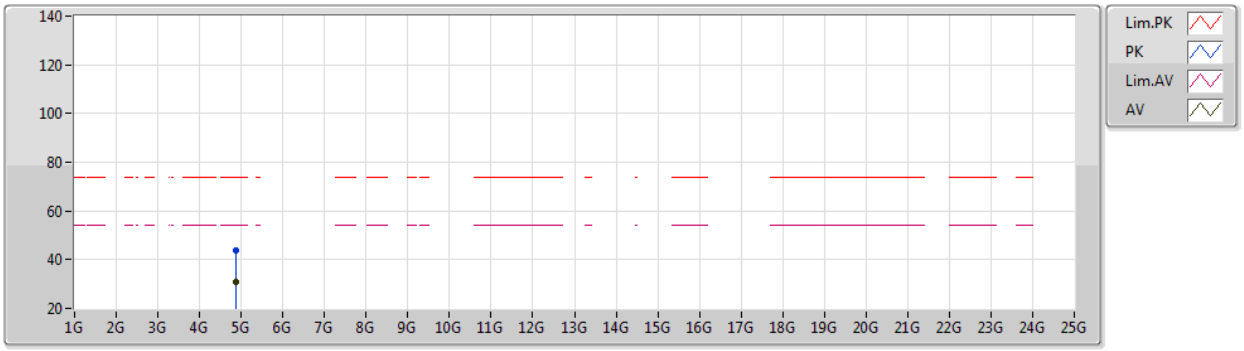
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3852G	58.49	74.00	-15.51	27.78	3	Horizontal	200	1.00	-	28.30	2.41	-
AV	2.39G	46.75	54.00	-7.25	16.04	3	Horizontal	200	1.00	-	28.30	2.41	-
PK	2.44G	101.73	Inf	-Inf	70.93	3	Horizontal	200	1.00	-	28.38	2.42	-
AV	2.44G	97.68	Inf	-Inf	66.88	3	Horizontal	200	1.00	-	28.38	2.42	-
PK	2.4996G	58.51	74.00	-15.49	27.46	3	Horizontal	200	1.00	-	28.60	2.45	-
AV	2.498G	47.17	54.00	-6.83	16.13	3	Horizontal	200	1.00	-	28.59	2.45	-

BT-EDR(3Mbps)

2440MHz_TX

19/01/2021



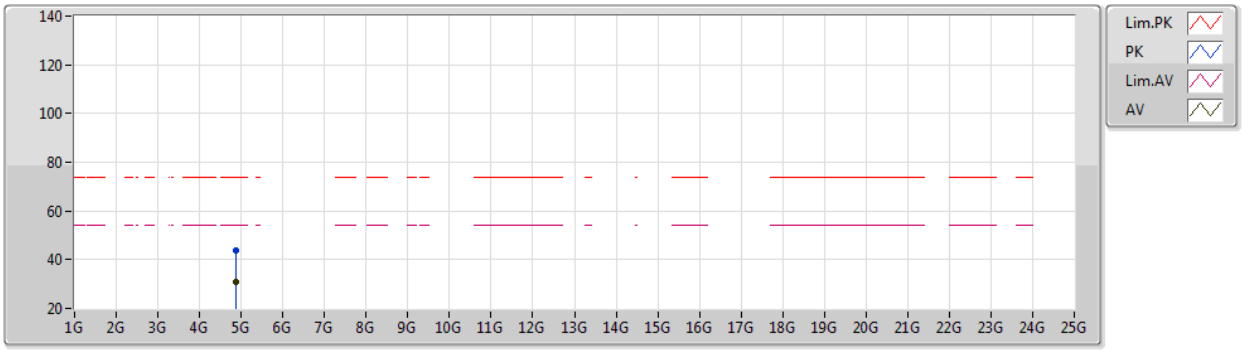
EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87831G	43.70	74.00	-30.30	37.69	3	Vertical	89	1.80	-	33.11	4.70	31.80
AV	4.87886G	30.64	54.00	-23.36	24.62	3	Vertical	89	1.80	-	33.12	4.70	31.80

BT-EDR(3Mbps)

2440MHz_TX

19/01/2021



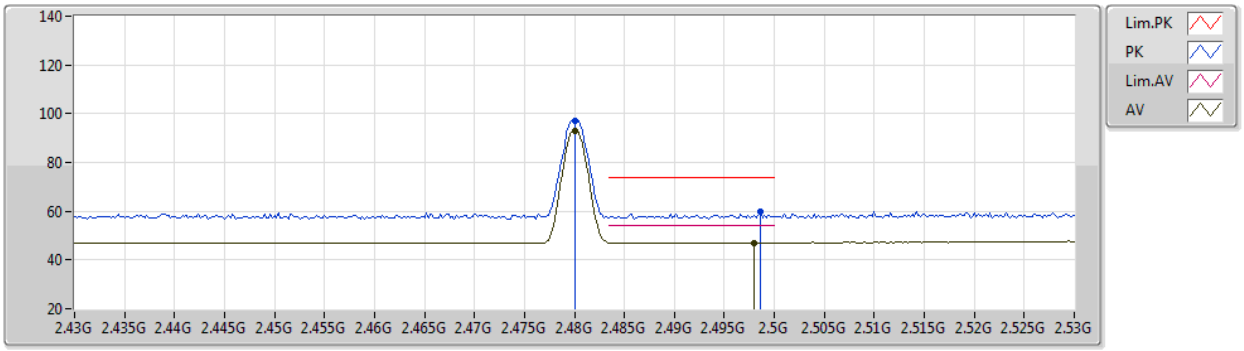
EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88061G	43.94	74.00	-30.06	37.92	3	Horizontal	14	2.87	-	33.12	4.70	31.80
AV	4.8792G	30.88	54.00	-23.12	24.86	3	Horizontal	14	2.87	-	33.12	4.70	31.80

BT-EDR(3Mbps)

2480MHz_TX

19/01/2021



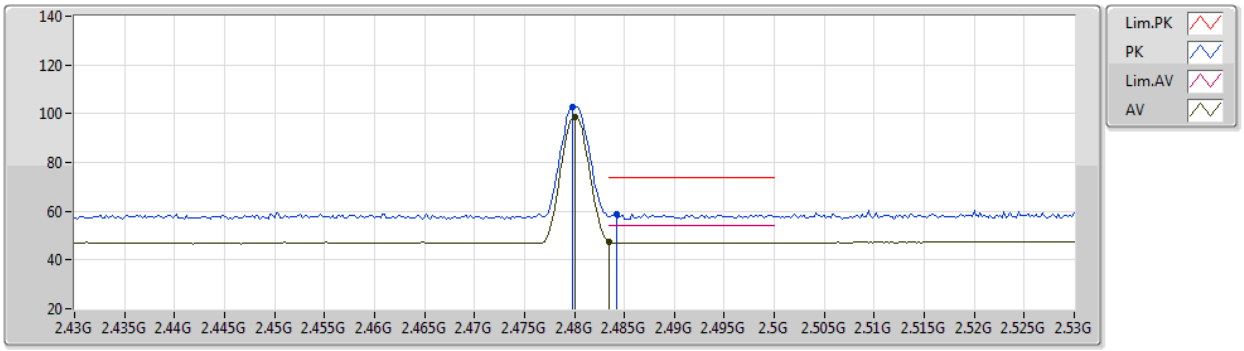
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.48G	97.26	Inf	-Inf	66.30	3	Vertical	219	1.77	-	28.52	2.44	-
AV	2.48G	93.11	Inf	-Inf	62.15	3	Vertical	219	1.77	-	28.52	2.44	-
PK	2.4986G	59.57	74.00	-14.43	28.53	3	Vertical	219	1.77	-	28.59	2.45	-
AV	2.498G	47.15	54.00	-6.85	16.11	3	Vertical	219	1.77	-	28.59	2.45	-

BT-EDR(3Mbps)

2480MHz_TX

19/01/2021



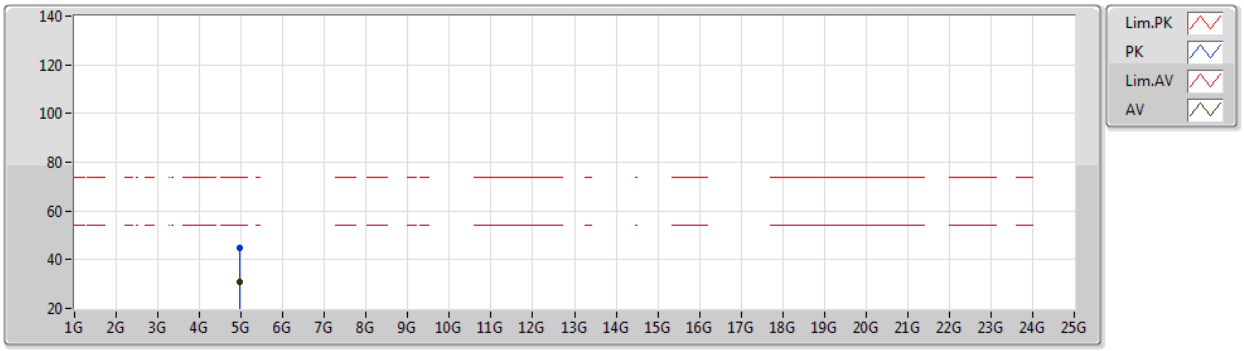
EUT Z_1TX
Setting 12
02-B-R-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4798G	102.61	Inf	-Inf	71.65	3	Horizontal	241	1.04	-	28.52	2.44	-
AV	2.48G	98.38	Inf	-Inf	67.42	3	Horizontal	241	1.04	-	28.52	2.44	-
PK	2.4842G	58.64	74.00	-15.36	27.66	3	Horizontal	241	1.04	-	28.54	2.44	-
AV	2.4835G	47.58	54.00	-6.42	16.61	3	Horizontal	241	1.04	-	28.53	2.44	-

BT-EDR(3Mbps)

2480MHz_TX

19/01/2021



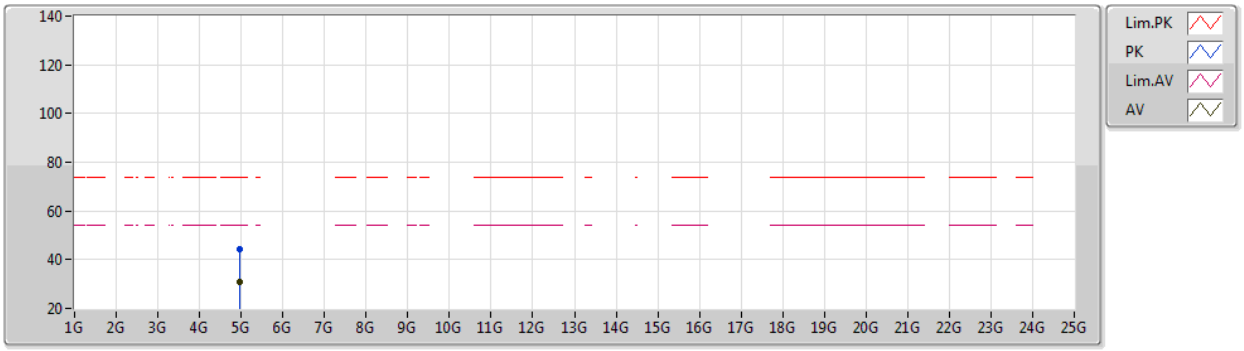
EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.95962G	45.04	74.00	-28.96	38.95	3	Vertical	36	2.19	-	33.22	4.70	31.83
AV	4.95917G	30.72	54.00	-23.28	24.63	3	Vertical	36	2.19	-	33.22	4.70	31.83

BT-EDR(3Mbps)

2480MHz_TX

19/01/2021



EUT Z_1TX
Setting 12
02-B-B-2

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.96074G	44.29	74.00	-29.71	38.20	3	Horizontal	246	1.50	-	33.22	4.70	31.83
AV	4.95908G	30.71	54.00	-23.29	24.62	3	Horizontal	246	1.50	-	33.22	4.70	31.83