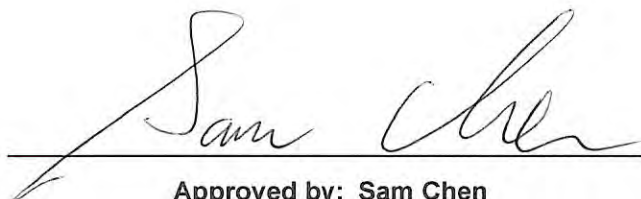


RADIO TEST REPORT

FCC ID : O6ZP21KW
Equipment : Wireless Streaming Device
Brand Name : DIRECTV
Model Name : P21KW-500
Applicant : HUMAX Co., Ltd.
HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu ,
Yongin-si, Gyeonggi-do, South Korea
Manufacturer : HUMAX Co., Ltd.
HUMAX BLDG., 2, Yeongmun-ro, Cheoin-gu ,
Yongin-si, Gyeonggi-do, South Korea
Standard : 47 CFR FCC Part 15.247

The product was received on Oct. 11, 2022, and testing was started from Oct. 13, 2022 and completed on Nov. 30, 2022. 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: Sam Chen

Sporton International Inc. Hsinchu Laboratory

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



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Appendix I. Test Photos

Photographs of EUT v02



TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A10_5 Ver1.3



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:

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

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: Vicky Huang**



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(3Mbps)	1	1TX
2.4-2.4835GHz	BT-EDR(2Mbps)	1	1TX

Note:

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

1.1.2 Antenna Information

Ant.	Port			Brand	Model Name	Antenna Type	Connector	Gain (dBi)
	2.4GHz	5GHz	Bluetooth					
0	1	1	1	Galtronics	DB1	PCB	N/A	Note1
1	2	2	-	Galtronics	DB2	PCB	N/A	

Note1:

Ant.	Antenna Gain (dBi)					
	WLAN 2.4GHz	WLAN 5GHz UNII 1	WLAN 5GHz UNII 2A	WLAN 5GHz UNII 2C	WLAN 5GHz UNII 3	Bluetooth
1	4.471	3.208	3.208	3.937	3.684	4.471
2	2.976	3.4	3.783	4.269	3.872	-

Note1: The above information was declared by manufacturer.

Note2: Directional gain information

	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{an}} \left[\sum_{k=1}^{N_{ant}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$
BF	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{an}} \left[\sum_{k=1}^{N_{ant}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{an}} \left[\sum_{k=1}^{N_{ant}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{an}} \left[\sum_{k=1}^{N_{ant}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2))^2 / N_{ANT}] \Rightarrow 10 \log[(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}]$$

Where ;

G1 = Ant 1 Gain ; G2 = Ant 2 Gain

(NSS1)

2.4GHz DG = 6.766 dBi

5 GHz U-NII-1 DG = 6.315 dBi

5 GHz U-NII-2A DG = 6.511 dBi

5 GHz U-NII-2C DG = 7.115 dBi

5 GHz U-NII-3 DG = 6.789 dBi

**For 2.4GHz function:****For IEEE 802.11b/g/n/ax mode (2TX/2RX):**

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:**For IEEE 802.11a/n/ac/ax mode (2TX/2RX)**

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

Port 1 and Port 2 could transmit/receive simultaneously.

For Bluetooth function**For Bluetooth mode (1TX/1RX):**

Only Port 1 can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-BR(1Mbps)	0.759	1.2	2.888m	1k
BT-EDR(3Mbps)	0.796	0.99	2.893m	1k
BT-EDR(2Mbps)	0.796	0.99	2.889m	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	TeraTerm v4.75



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 15.247

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	TH03-CB	Owen Hsu	23.5~24.1 / 52~59	Oct. 15, 2022~ Oct. 17, 2022
Radiated (below 1GHz)	03CH05-CB	RJ Huang	22.4~24.4 / 56~60	Oct. 27, 2022~ Nov. 30, 2022
Radiated (above 1GHz)	03CH03-CB	RJ Huang	23.1~23.6 / 56~60	Oct. 13, 2022~ Oct. 27, 2022
Radiated (co-location)	03CH05-CB	RJ Huang	22.4~24.4 / 56~60	Oct. 13, 2022~ Oct. 27, 2022
AC Conduction	CO02-CB	Elvin Yeh	22~24 / 58~61	Oct. 28, 2022



1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.7 dB	Confidence levels of 95%
Conducted Emission	3.2 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.2 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	0x09
2440MHz	0x09
2480MHz	0x09
BT-EDR(2Mbps)	-
2402MHz	0x09
2440MHz	0x09
2480MHz	0x09
BT-EDR(3Mbps)	-
2402MHz	0x09
2440MHz	0x09
2480MHz	0x09

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	WLAN 2.4G
2	WLAN 5G
3	Bluetooth
For operating mode 1 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
The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Z axis from Emissions in Restricted Frequency Bands above 1GHz. So the measurement will follow this same test configuration.	
1	EUT at Z-axis+WLAN 2.4G
2	EUT at Z-axis+WLAN 5G
3	EUT at Z-axis+Bluetooth
For operating mode 3 is the worst case and it was record in this test report.	



Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position. The worst case was found at X axis for bandedge, Z axis for harmonic, so it was selected to perform test and its test result was written in the report.	
1	EUT in X axis for bandedge / EUT in Z axis for harmonic

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	CTX
1	WLAN 5GHz+Bluetooth
Refer to Appendix H for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 5GHz+Bluetooth
Refer to Sporton Test Report No.: FA2O0619 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter	HONOTO	EPS21R0-500	INPUT: 100-240V ~ 50/60Hz, Max.0.3A OUTPUT: 5V, 1.5A, 7.5W



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Test fixture	HUMAX	N/A	N/A
B	Test fixture	HUMAX	N/A	N/A
C	SIO BOX	HUMAX	N/A	N/A
D	USB TO LAN Dongle	ASUSTOR	AS-U2.5G2	N/A
E	LAN & RS232 NB	DELL	FS-108	N/A

For Radiated below 1GHz:

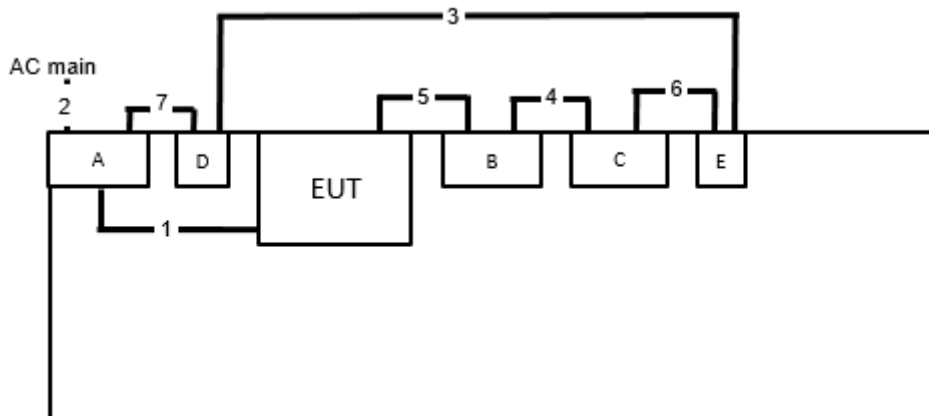
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Fixture	HUMAX	P21KW USB Adapter B/D REV.:02	N/A

For Radiated above 1GHz and RF Conducted:

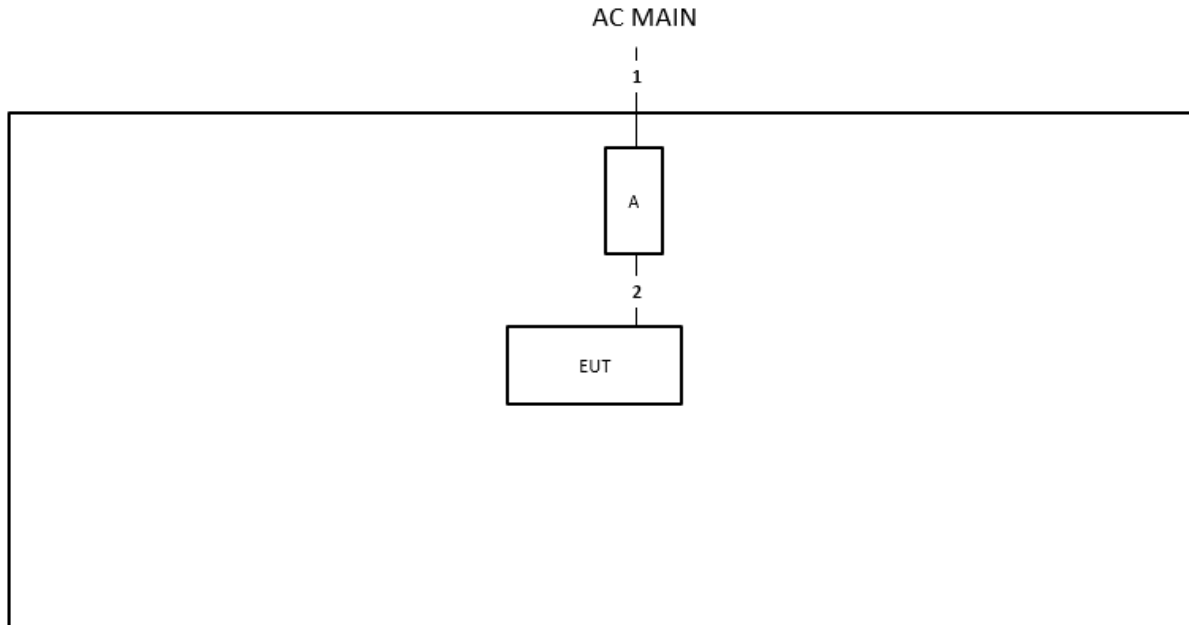
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Fixture	HUMAX	P21KW USB Adapter B/D REV.:02	N/A
B	USB to LAN HUB	TOTOLINK	U1003	N/A
C	NB	DELL	E4300	N/A

2.6 Test Setup Diagram

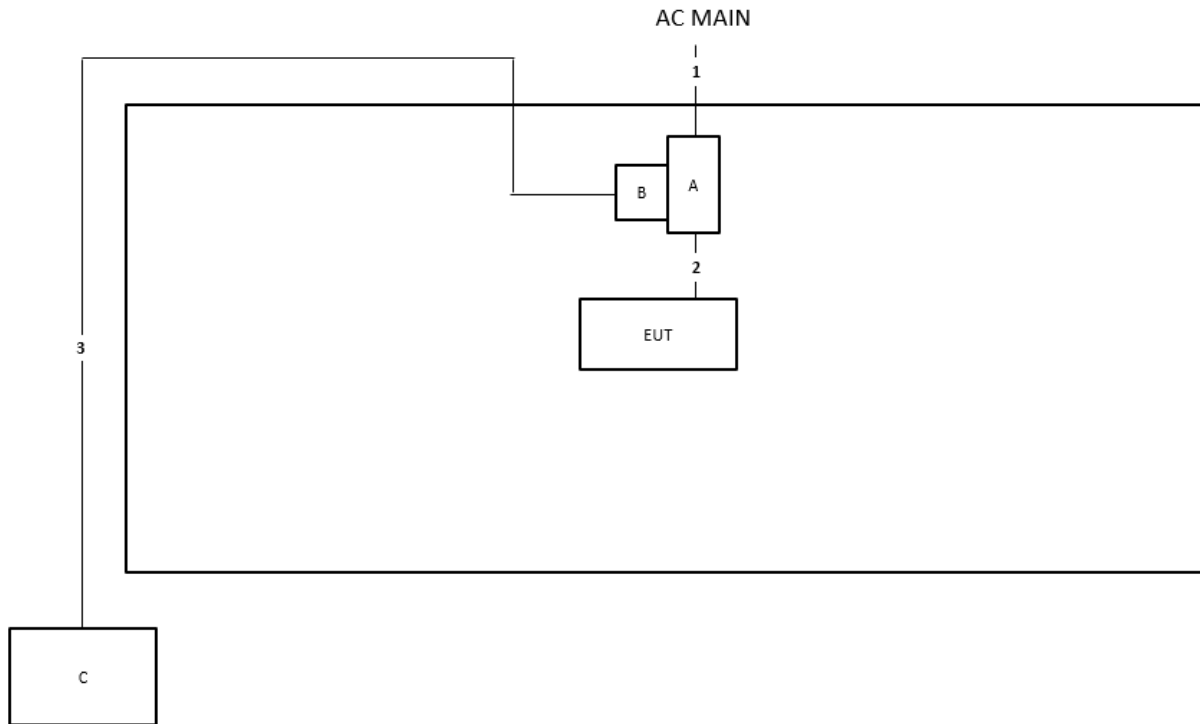
Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length
1	USB Cable(Type C) cable	Yes	0.25m
2	AC power cable	Yes	1.8m
3	Cat5e RJ-45 cable	No	1.5m
4	Flexible flat cable	No	0.5m
5	Flexible flat cable	No	0.25m
6	RS232 cable	No	1.7m
7	USB Cable(Type C) cable	Yes	0.1m

Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	Type-C cable	Yes	0.3m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	Type-C cable	Yes	0.3m
3	RJ-45 cable	No	10m

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.

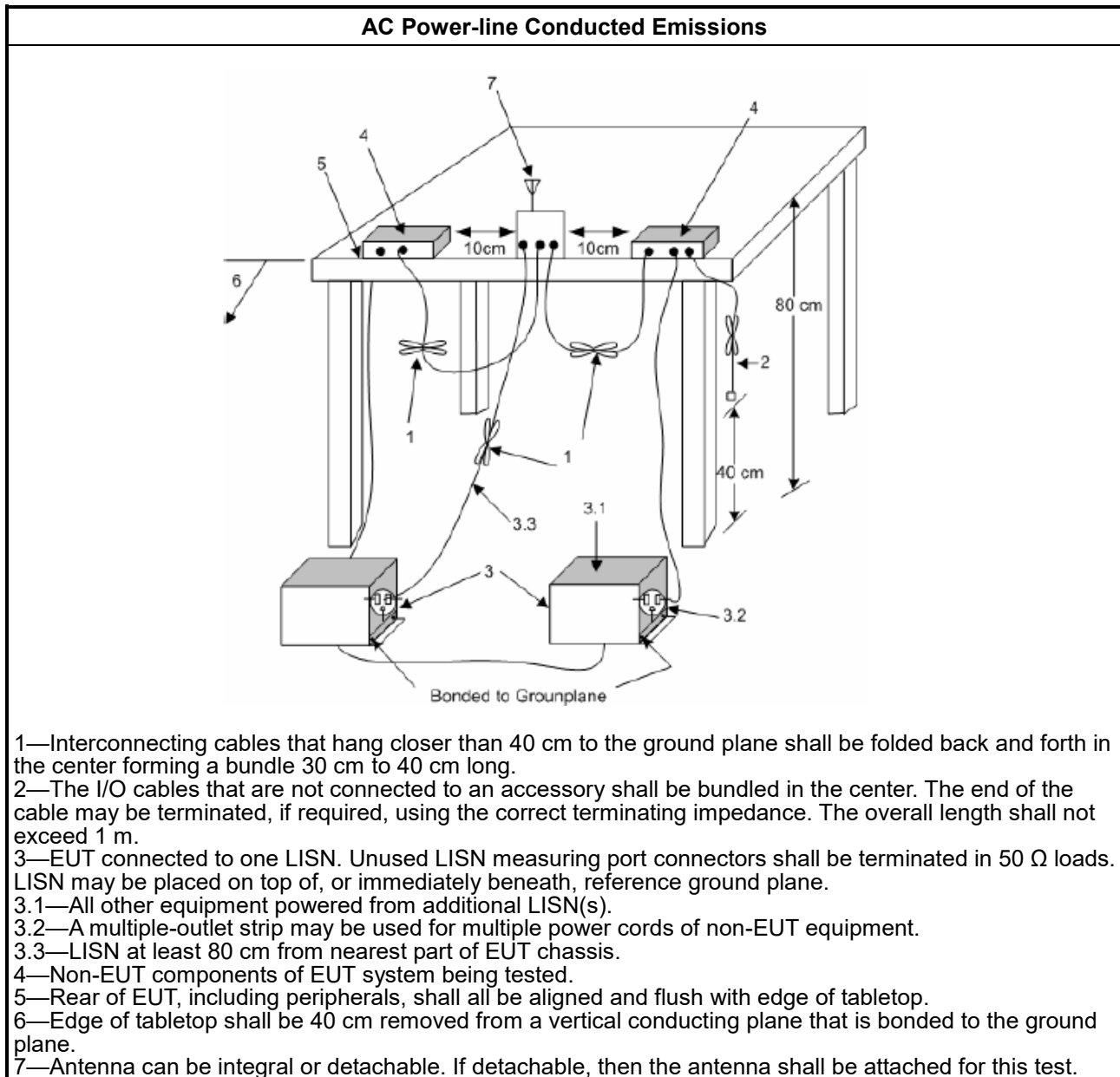
3.1.2 Measuring Instruments

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



1.1.1. Measurement Results Calculation

The measured Level is calculated using:

- Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- 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:	
	▪ $N \geq 50$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth \leq 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq \text{MAX}$ (20 dB bandwidth 2/3, 25 kHz).
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth \leq 1 MHz.
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

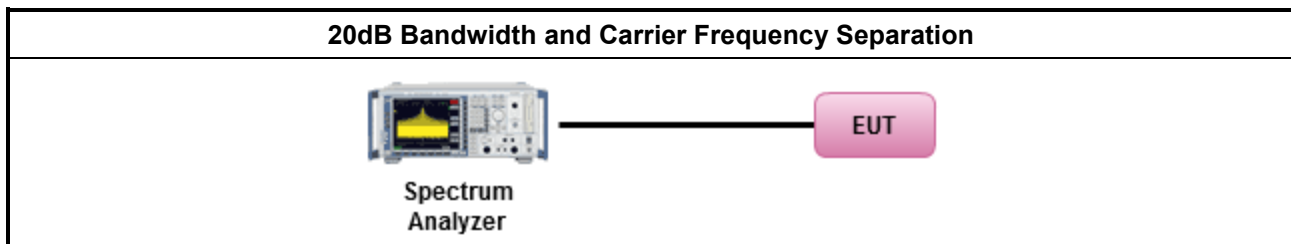
3.2.2 Measuring Instruments

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



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	

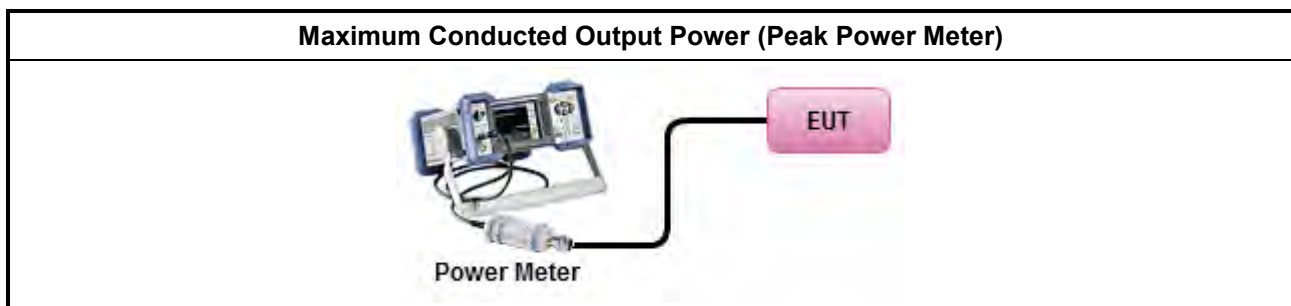
3.3.2 Measuring Instruments

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



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:	
	▪ $N \geq 50$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth \leq 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq \text{MAX}$ (20 dB bandwidth 2/3, 25 kHz).
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq \text{MAX}$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth \leq 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

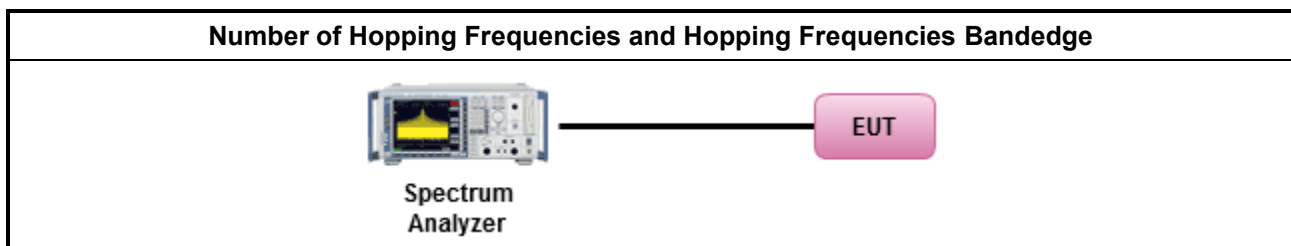
3.4.3 Measuring Instruments

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



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:	
	▪ $N \geq 50$; 0.4s in 20s period
	▪ $50 > N \geq 25$; 0.4s in 10s period
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$; 0.4s in $N \times 0.4$ period
	▪ $75 > N \geq 15$; 0.4s in $N \times 0.4$ period
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$; 0.4s in 30s period
N: Number of Hopping Frequencies	

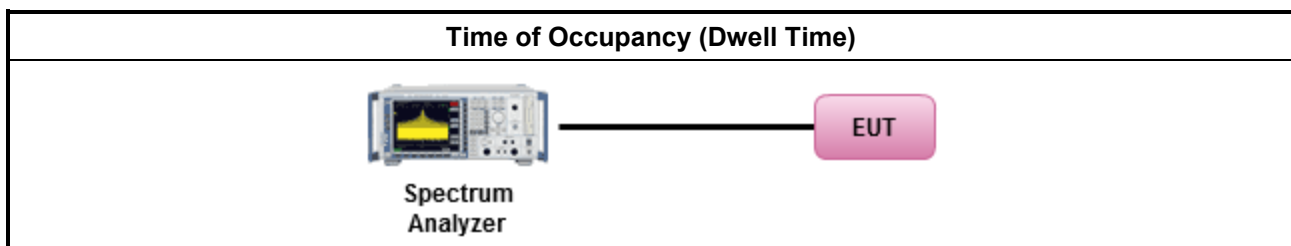
3.5.2 Measuring Instruments

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



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.	

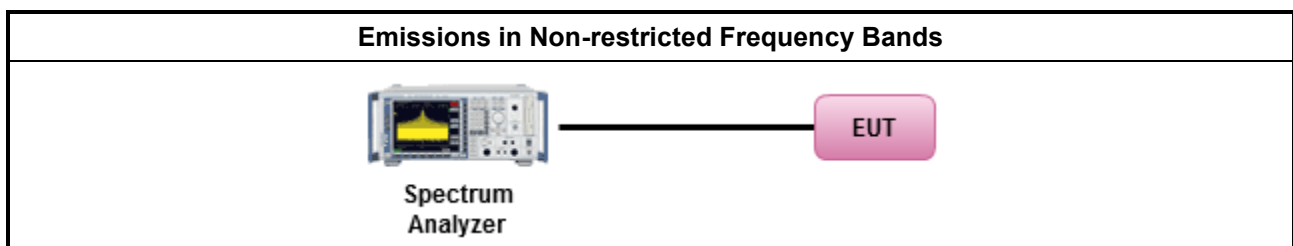
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix F

3.7 Emissions in Restricted Frequency Bands

3.7.1 Emissions in Restricted Frequency Bands Limit

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

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

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

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

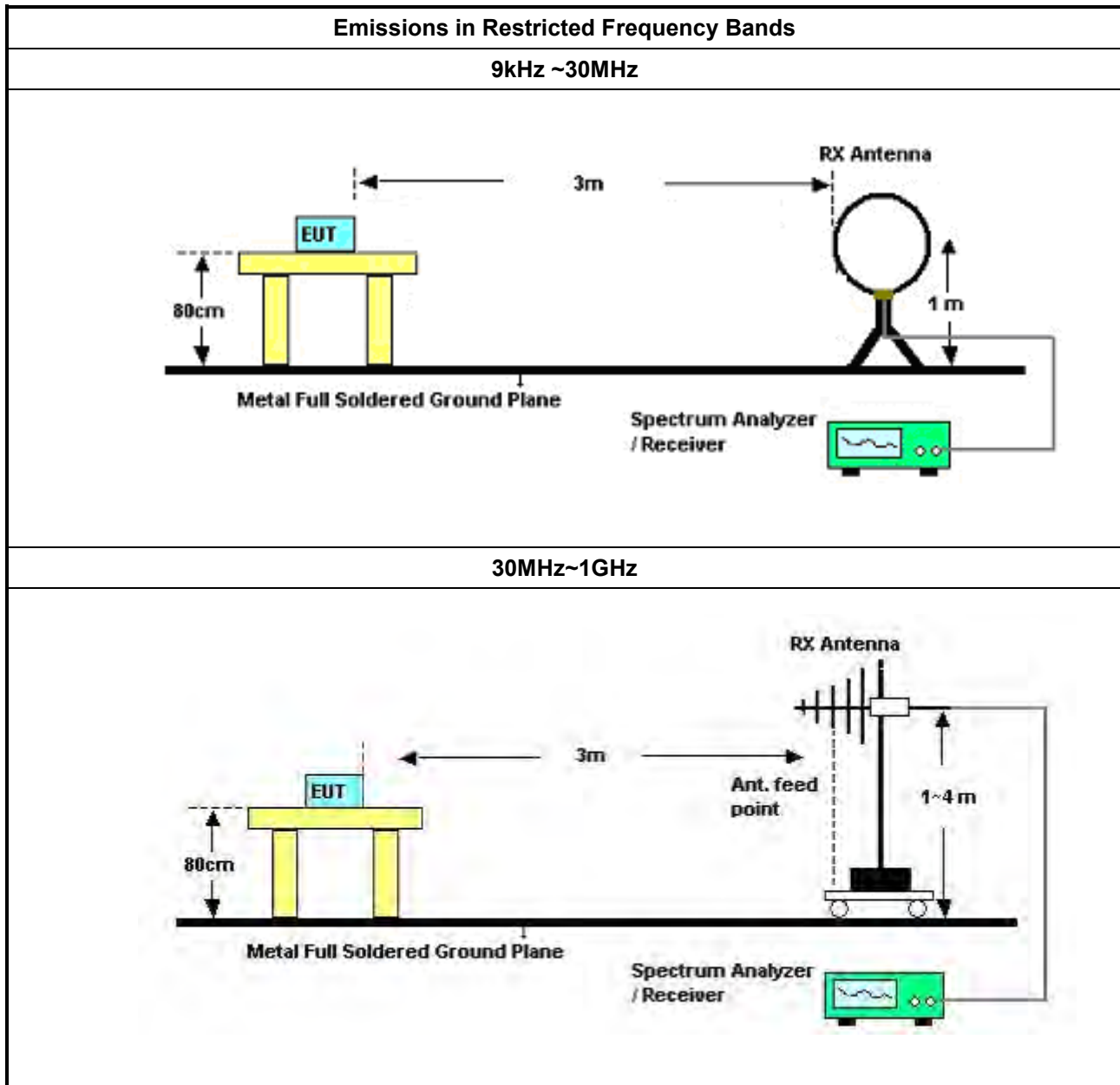
3.7.2 Measuring Instruments

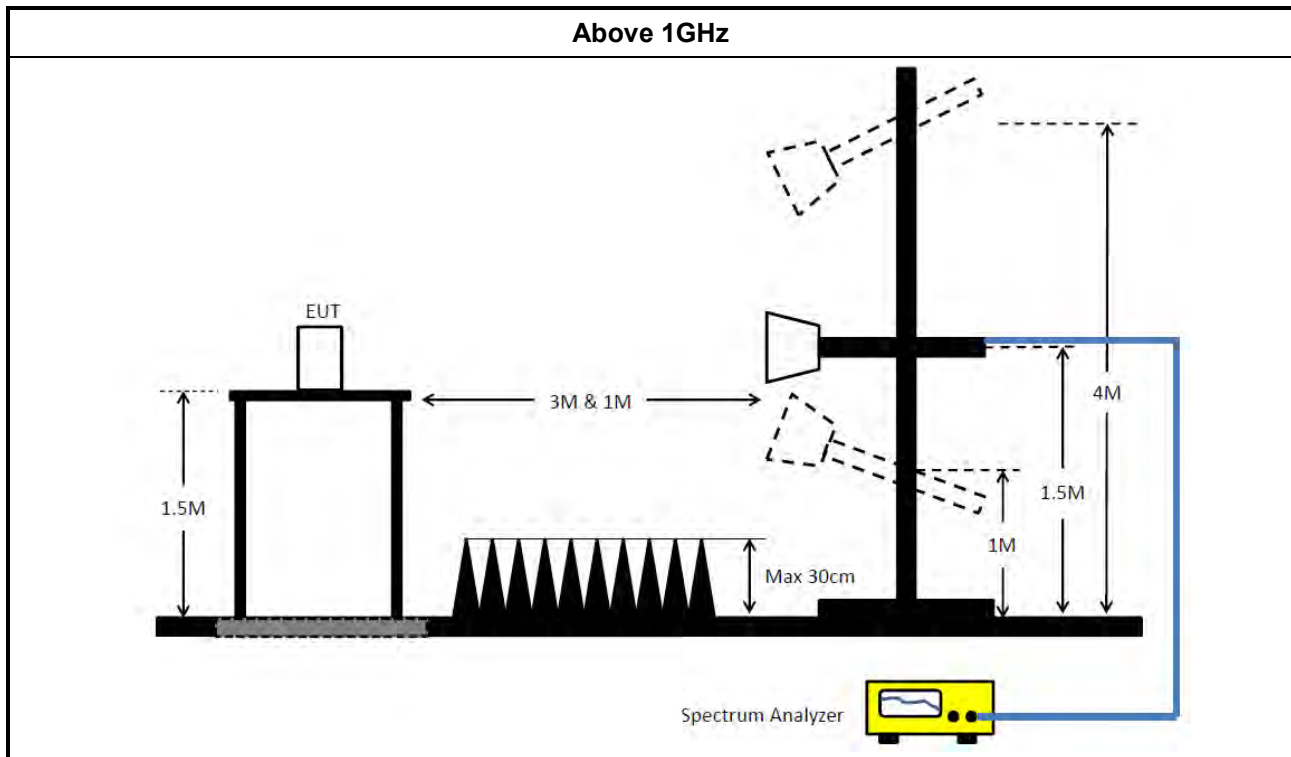
Refer a test equipment and calibration data table in this test report.

3.7.3 Test Procedures

Test Method	
<ul style="list-style-type: none">▪ The average emission levels shall be measured in [hopping duty factor].	
<ul style="list-style-type: none">▪ Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
<ul style="list-style-type: none">▪ For the transmitter unwanted emissions shall be measured using following options below:	
	<ul style="list-style-type: none">▪ Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	<ul style="list-style-type: none">▪ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	<ul style="list-style-type: none">▪ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.

3.7.4 Test Setup





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	Jan. 07, 2022	Jan. 06, 2023	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Dec. 22, 2021	Dec. 21, 2022	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	May 06, 2022	May 05, 2023	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 18, 2022	Oct. 17, 2023	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Oct. 18, 2022	Oct. 17, 2023	Conduction (CO02-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 03, 2022	Aug. 02, 2023	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	May 14, 2022	May 13, 2023	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 25, 2022	Mar. 24, 2023	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 26, 2022	Apr. 25, 2023	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Mar. 14, 2022	Mar. 13, 2023	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 17, 2022	Jun. 16, 2023	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 05, 2022	May 04, 2023	Radiation (03CH03-CB)
Horn Antenna	ETS-Lindgren	3115	6821	750MHz~18GHz	Jan. 21, 2022	Jan. 20, 2023	Radiation (03CH03-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jul. 01, 2022	Jun. 30, 2023	Radiation (03CH03-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 20, 2022	Jul. 19, 2023	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 10, 2022	Jun. 09, 2023	Radiation (03CH03-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Jan. 07, 2022	Jan. 06, 2023	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1531344	300MHz~40GHz	Jul. 31, 2022	Jul. 30, 2023	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1728002	300MHz~40GHz	Jul. 31, 2022	Jul. 30, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-11	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-12	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-13	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 GHz –26.5 GHz	Oct. 04, 2022	Oct. 03, 2023	Conducted (TH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH03-CB)

Note: Calibration Interval of instruments listed above is one year.
NCR means Non-Calibration required.



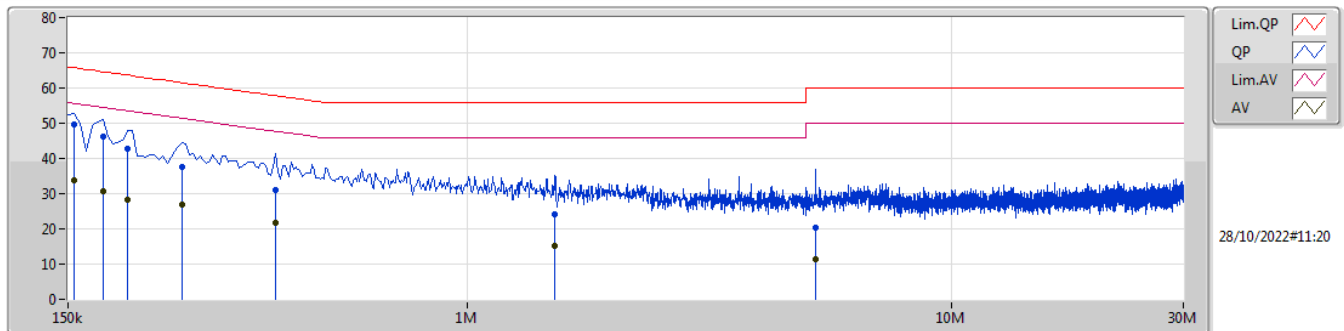
Conducted Emissions at Powerline

Appendix A

Summary

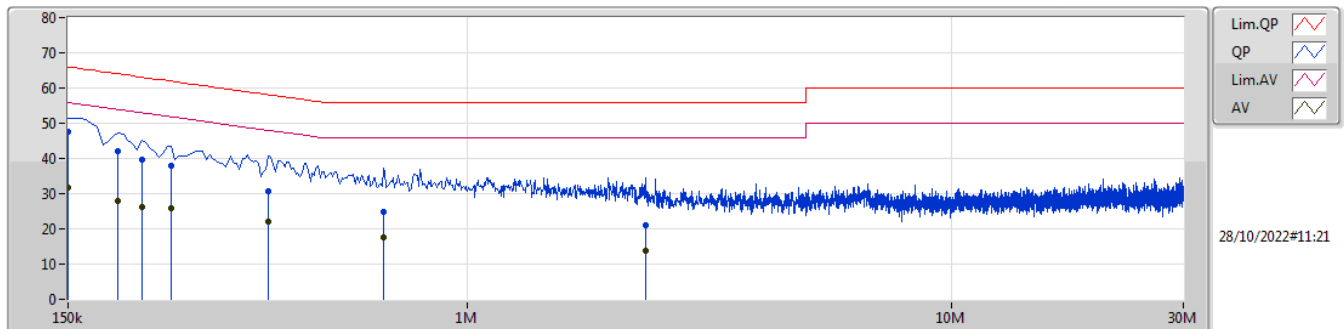
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	154.5k	49.76	65.75	-15.99	Line

Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	154.5k	49.76	65.75	-15.99	10.29	Line	"Worst"	39.47	0.12	0.08	10.09						
AV	154.5k	33.72	55.75	-22.03	10.29	Line	-	23.43	0.12	0.08	10.09						
QP	177k	46.22	64.62	-18.40	10.29	Line	-	35.93	0.12	0.10	10.07						
AV	177k	30.80	54.62	-23.82	10.29	Line	-	20.51	0.12	0.10	10.07						
QP	199.5k	42.90	63.63	-20.73	10.29	Line	-	32.61	0.12	0.11	10.06						
AV	199.5k	28.30	53.63	-25.33	10.29	Line	-	18.01	0.12	0.11	10.06						
QP	258k	37.68	61.49	-23.81	10.28	Line	-	27.40	0.12	0.12	10.04						
AV	258k	26.79	51.49	-24.70	10.28	Line	-	16.51	0.12	0.12	10.04						
QP	402k	31.12	57.82	-26.70	10.28	Line	-	20.84	0.12	0.15	10.01						
AV	402k	21.88	47.82	-25.94	10.28	Line	-	11.60	0.12	0.15	10.01						
QP	1.518M	23.99	56.00	-32.01	10.21	Line	-	13.78	0.16	0.19	9.86						
AV	1.518M	15.29	46.00	-30.71	10.21	Line	-	5.08	0.16	0.19	9.86						
QP	5.24M	20.29	60.00	-39.71	10.32	Line	-	9.97	0.26	0.20	9.86						
AV	5.24M	11.34	50.00	-38.66	10.32	Line	-	1.02	0.26	0.20	9.86						

Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	150k	47.49	66.00	-18.51	10.33	Neutral	"Worst"	37.16	0.16	0.08	10.09						
AV	150k	31.76	56.00	-24.24	10.33	Neutral	-	21.43	0.16	0.08	10.09						
QP	190.5k	42.12	64.01	-21.89	10.34	Neutral	-	31.78	0.16	0.11	10.07						
AV	190.5k	27.76	54.01	-26.25	10.34	Neutral	-	17.42	0.16	0.11	10.07						
QP	213k	39.58	63.09	-23.51	10.33	Neutral	-	29.25	0.16	0.11	10.06						
AV	213k	26.15	53.09	-26.94	10.33	Neutral	-	15.82	0.16	0.11	10.06						
QP	244.5k	38.00	61.95	-23.95	10.33	Neutral	-	27.67	0.16	0.12	10.05						
AV	244.5k	25.74	51.95	-26.21	10.33	Neutral	-	15.41	0.16	0.12	10.05						
QP	388.5k	30.78	58.10	-27.32	10.32	Neutral	-	20.46	0.16	0.15	10.01						
AV	388.5k	22.10	48.10	-26.00	10.32	Neutral	-	11.78	0.16	0.15	10.01						
QP	672k	24.71	56.00	-31.29	10.29	Neutral	-	14.42	0.17	0.17	9.95						
AV	672k	17.73	46.00	-28.27	10.29	Neutral	-	7.44	0.17	0.17	9.95						
QP	2.328M	21.14	56.00	-34.86	10.22	Neutral	-	10.92	0.20	0.19	9.83						
AV	2.328M	13.94	46.00	-32.06	10.22	Neutral	-	3.72	0.20	0.19	9.83						

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)	983.75k	885.807k	886KF1D	921.25k	884.558k
BT-EDR(2Mbps)	1.339M	1.228M	1M23G1D	1.336M	1.226M
BT-EDR(3Mbps)	1.333M	1.227M	1M23G1D	1.313M	1.224M

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

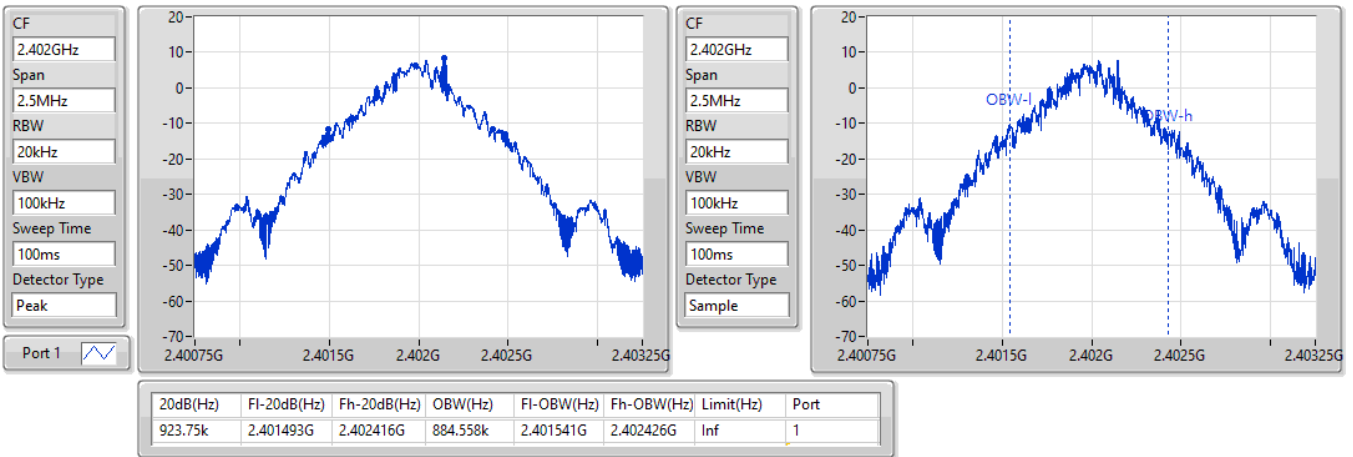
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	923.75k	884.558k
2440MHz	Pass	Inf	983.75k	884.558k
2480MHz	Pass	Inf	921.25k	885.807k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.339M	1.226M
2440MHz	Pass	Inf	1.339M	1.227M
2480MHz	Pass	Inf	1.336M	1.228M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.313M	1.226M
2440MHz	Pass	Inf	1.333M	1.227M
2480MHz	Pass	Inf	1.313M	1.224M

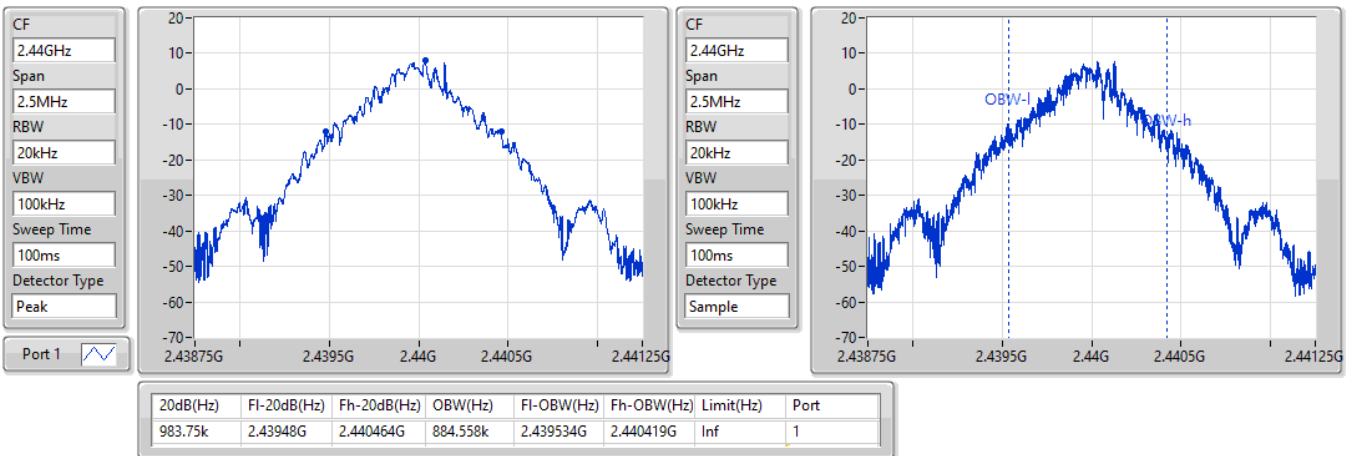
Port X-N dB = Port X 20dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

BT-BR(1Mbps)
2402MHz
EBW-FS

20/10/2022

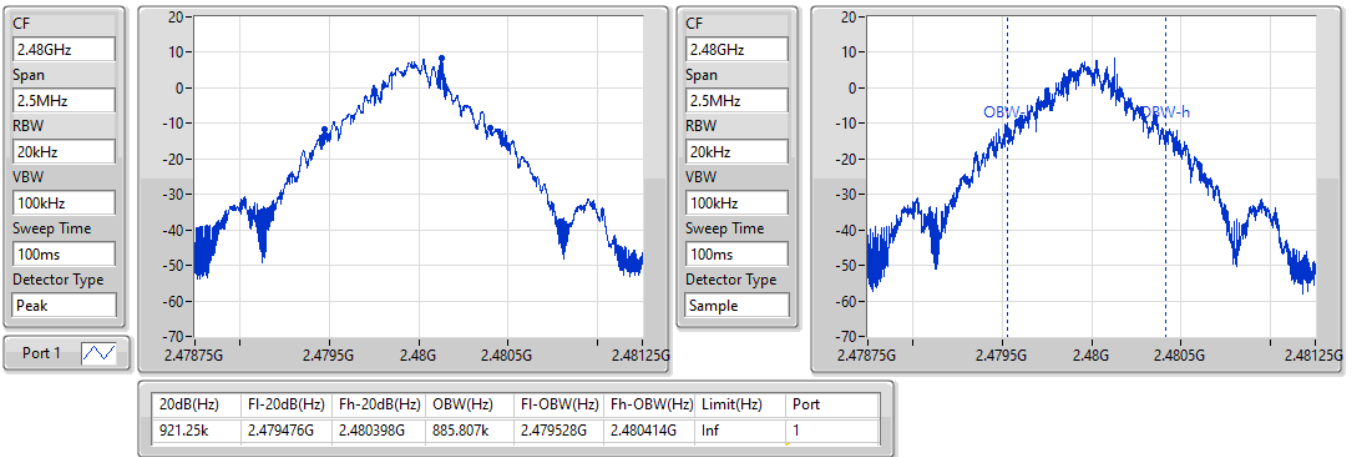

BT-BR(1Mbps)
2440MHz
EBW-FS

20/10/2022

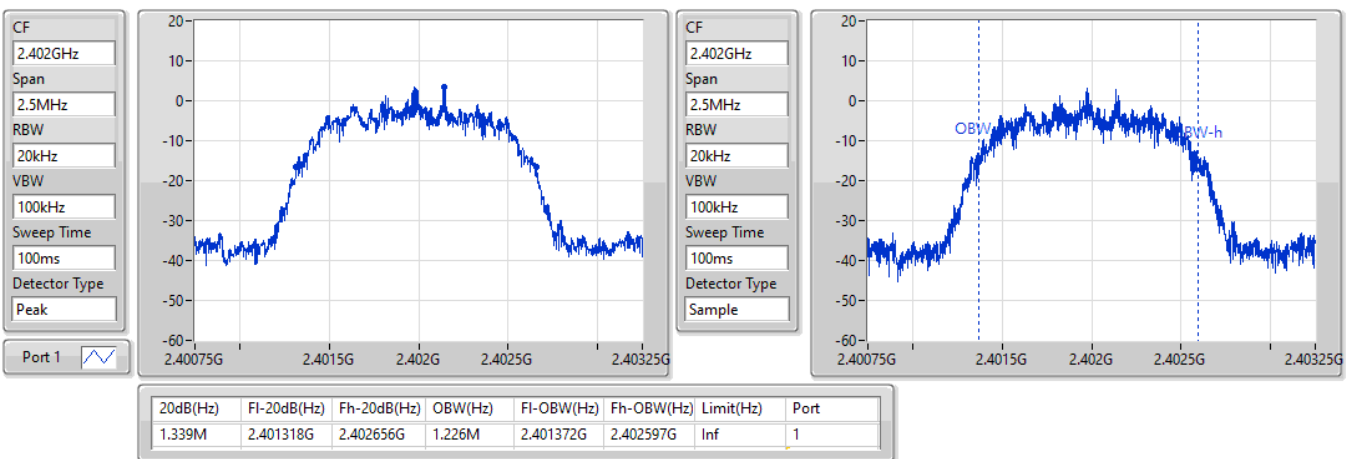


BT-BR(1Mbps)
EBW-FS
2480MHz

20/10/2022

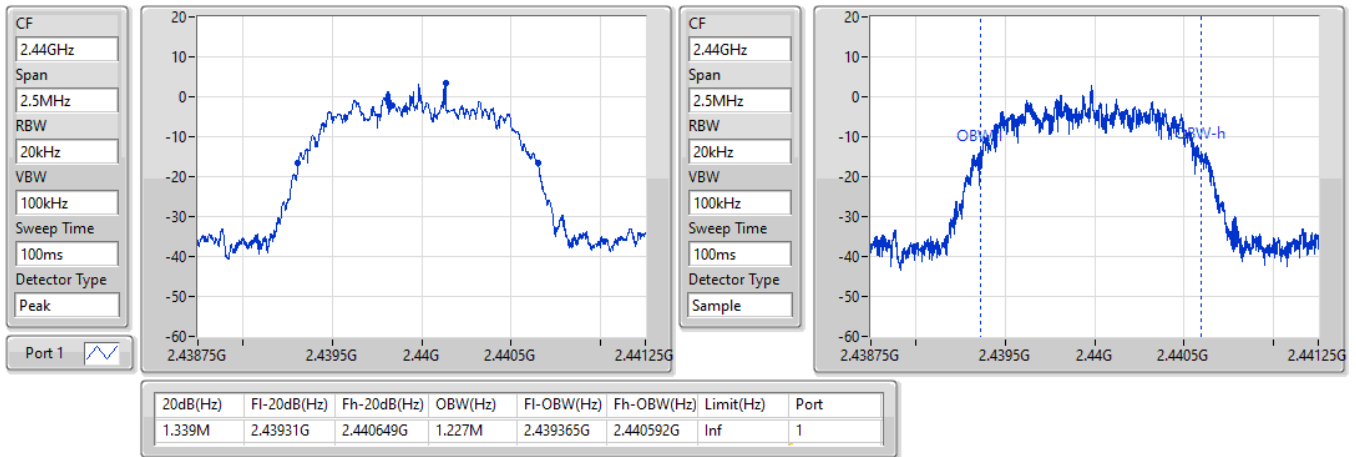

BT-EDR(2Mbps)
EBW-FS
2402MHz

17/10/2022

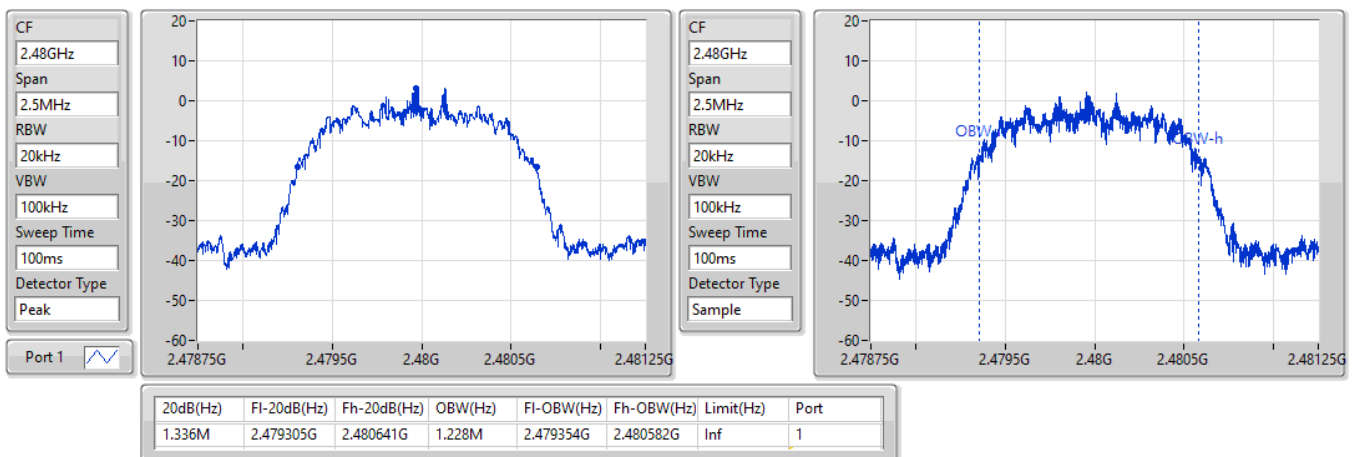


BT-EDR(2Mbps)
EBW-FS
2440MHz

17/10/2022

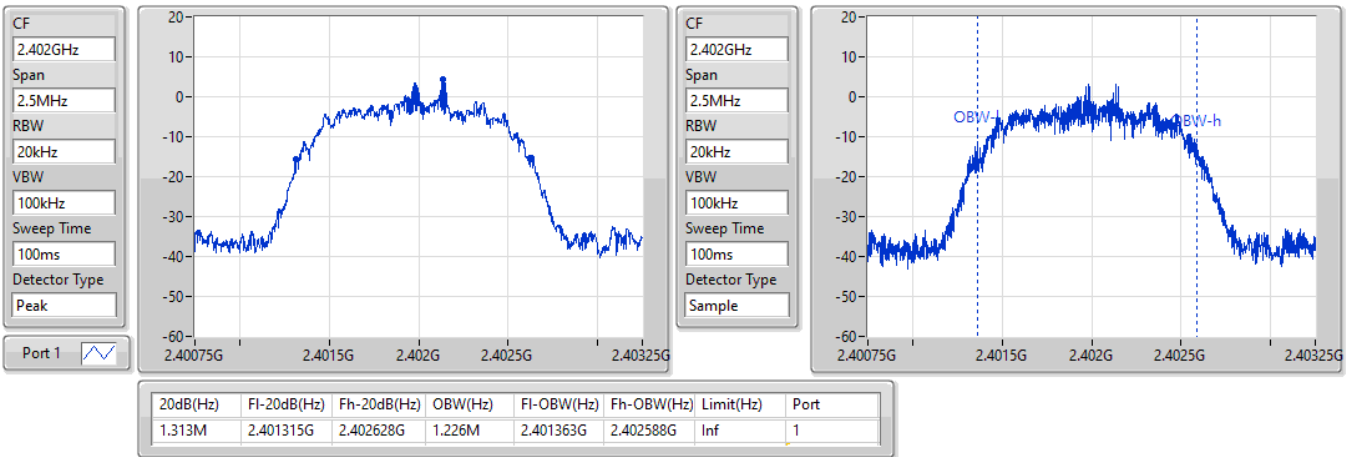

BT-EDR(2Mbps)
EBW-FS
2480MHz

17/10/2022

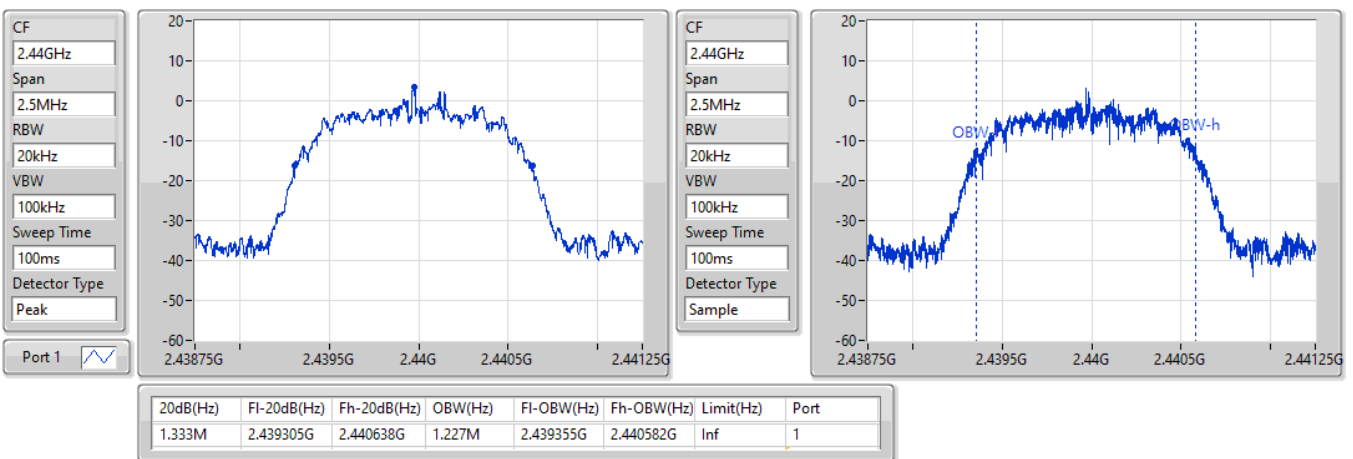


BT-EDR(3Mbps)
EBW-FS
2402MHz

17/10/2022

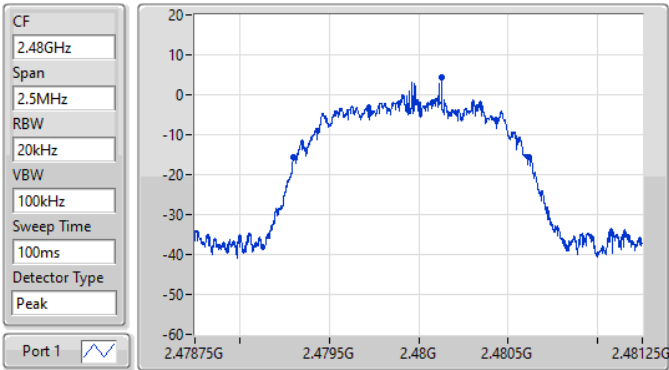

BT-EDR(3Mbps)
EBW-FS
2440MHz

17/10/2022



BT-EDR(3Mbps)

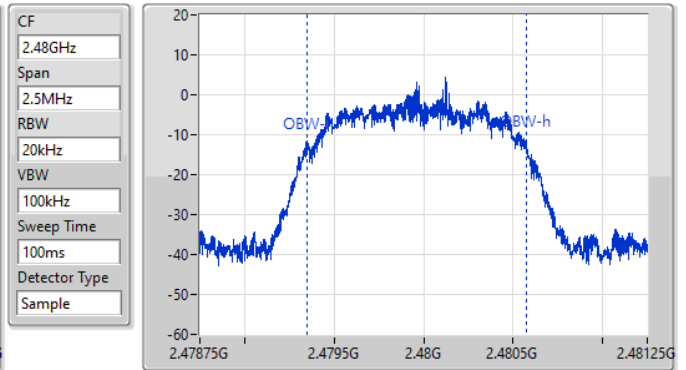
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.313M	2.479301G	2.480614G	1.224M	2.479348G	2.480572G	Inf	1

EBW-FS

17/10/2022



Summary

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

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402137G	2.403138G	1.0005M	648.5175k
2440MHz	Pass	2.44013G	2.44113G	1.0005M	657.675k
2480MHz	Pass	2.479122G	2.480124G	1.002M	616.05k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401984G	2.402985G	1.0005M	891.774k
2440MHz	Pass	2.439977G	2.440977G	1.0005M	891.774k
2480MHz	Pass	2.478971G	2.479971G	1.0005M	889.776k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402137G	2.403138G	1.0005M	874.458k
2440MHz	Pass	2.44013G	2.44113G	1.0005M	887.778k
2480MHz	Pass	2.479122G	2.480124G	1.002M	874.458k

BT-BR(1Mbps)

2.402G/2.403GHz

Channel Separation-FS

17/10/2022



BT-BR(1Mbps)

2.44G/2.441GHz

Channel Separation-FS

17/10/2022



BT-BR(1Mbps)

2.48G/2.479GHz

Channel Separation-FS

17/10/2022

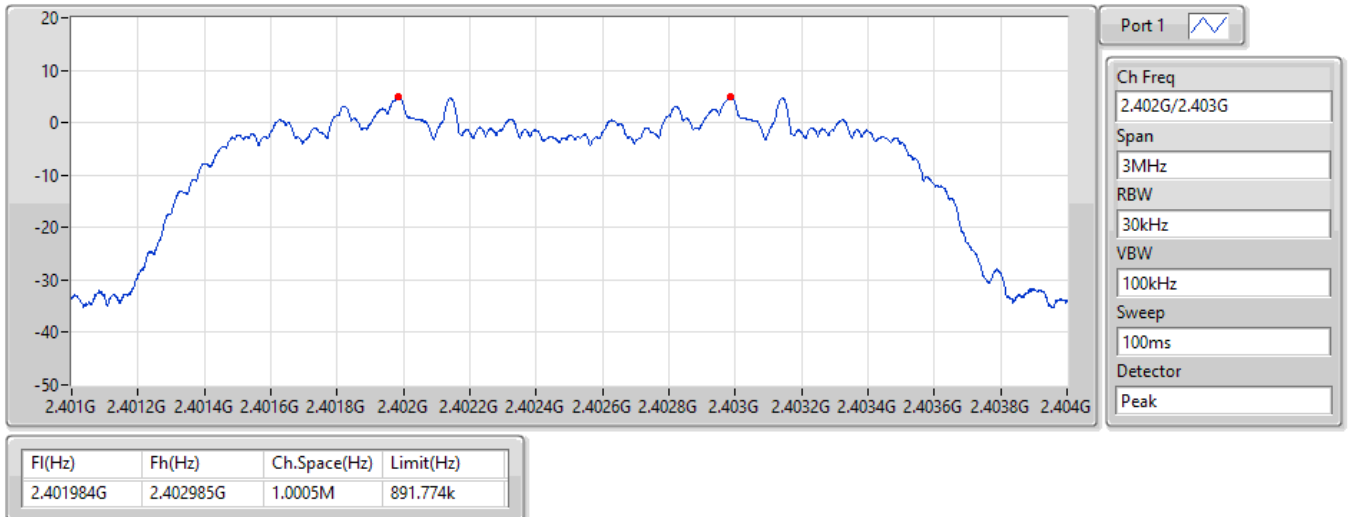


BT-EDR(2Mbps)

2.402G/2.403GHz

Channel Separation-FS

17/10/2022

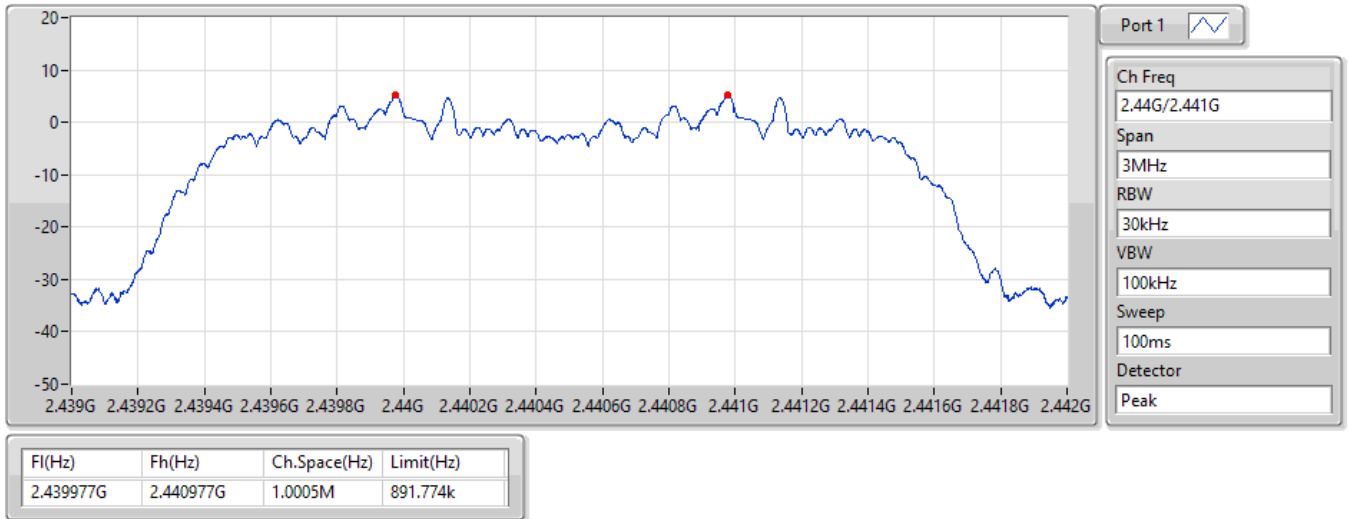


BT-EDR(2Mbps)

2.44G/2.441GHz

Channel Separation-FS

17/10/2022

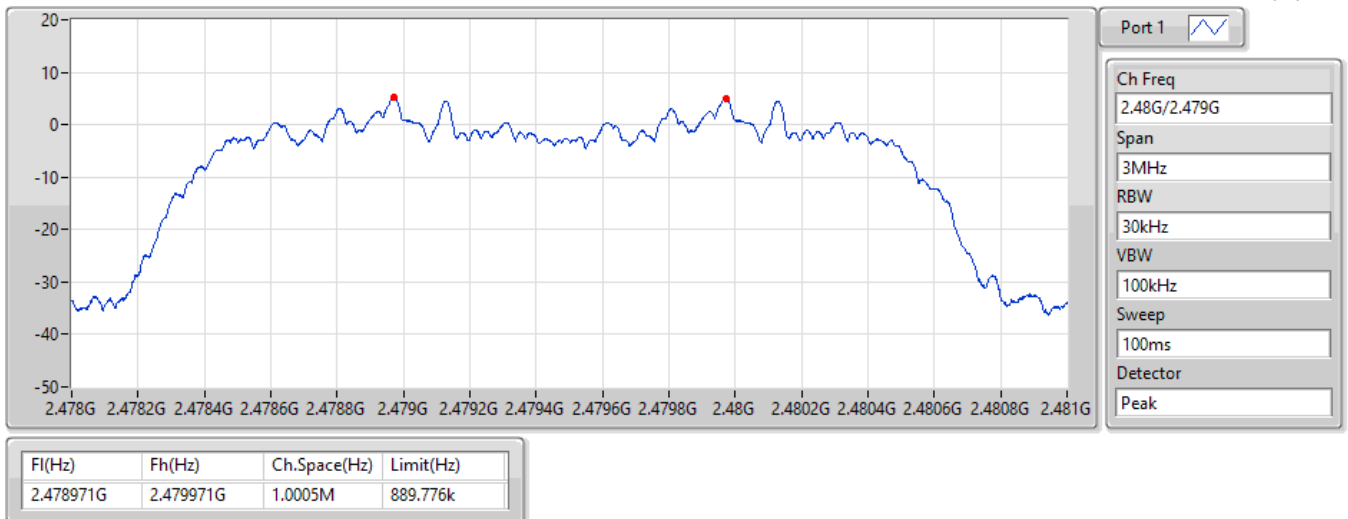


BT-EDR(2Mbps)

2.48G/2.479GHz

Channel Separation-FS

17/10/2022

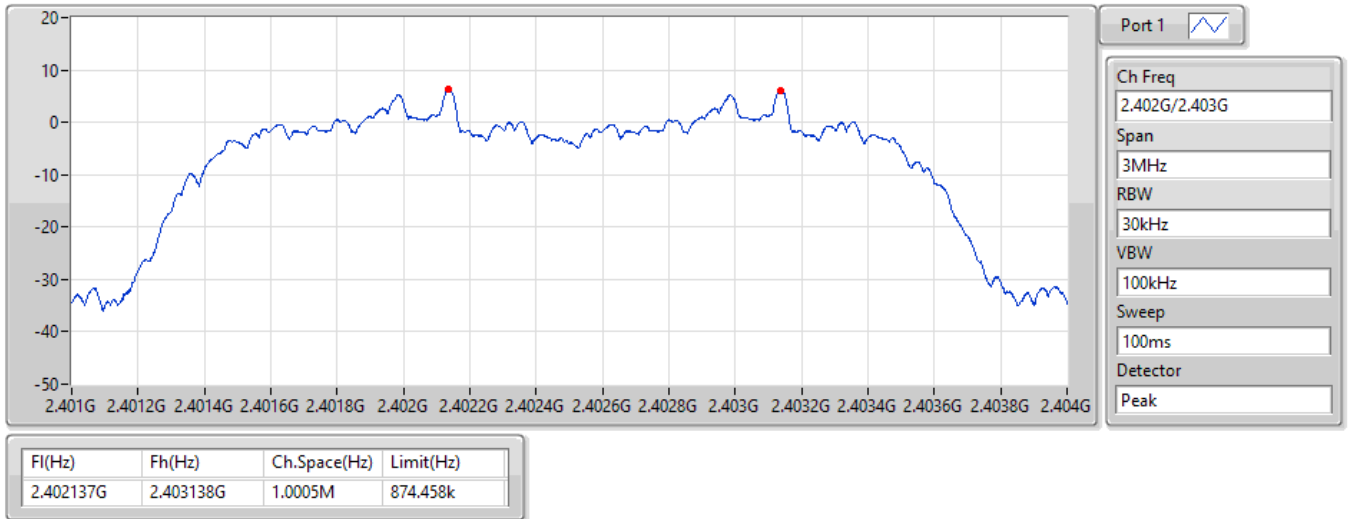


BT-EDR(3Mbps)

2.402G/2.403GHz

Channel Separation-FS

17/10/2022

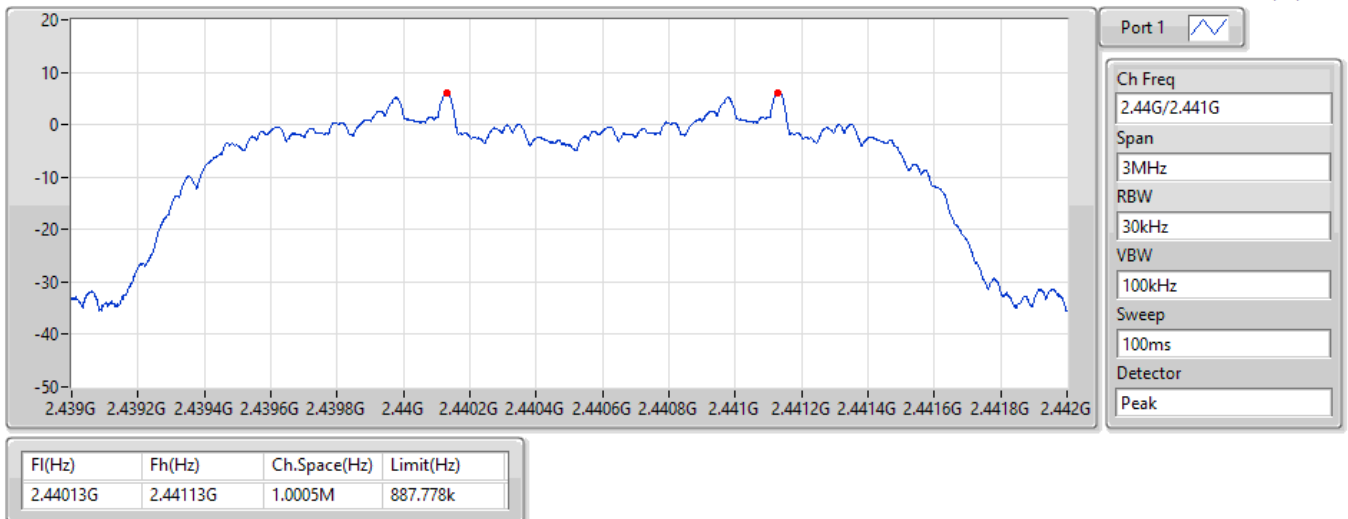


BT-EDR(3Mbps)

2.44G/2.441GHz

Channel Separation-FS

17/10/2022

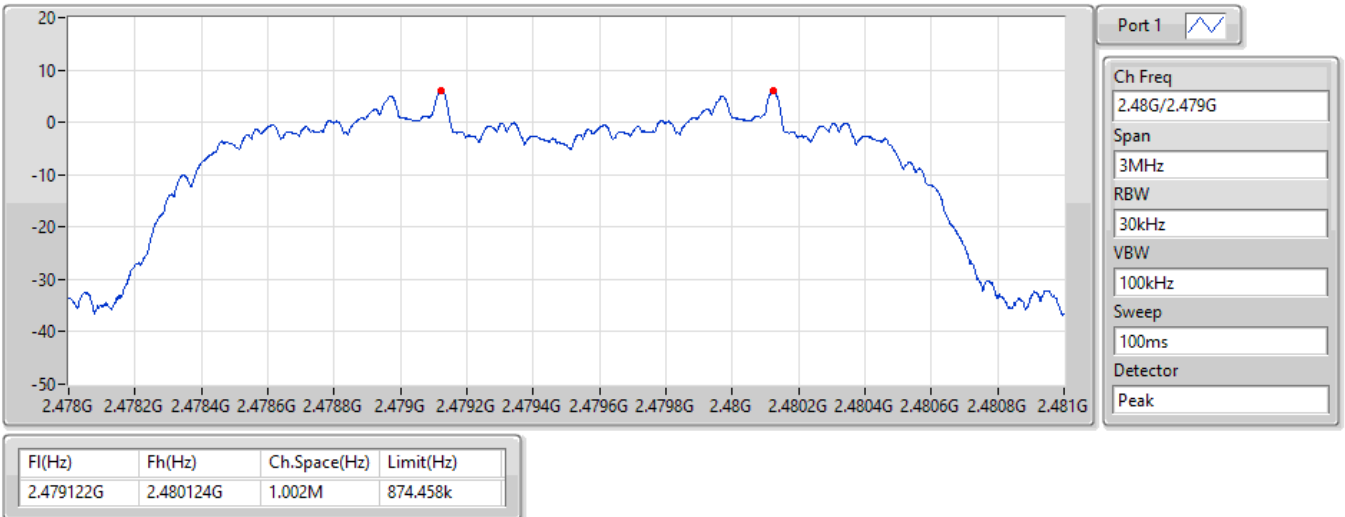


BT-EDR(3Mbps)

2.48G/2.479GHz

Channel Separation-FS

17/10/2022





Average Power-FHSS

Appendix C.1

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.13	0.01297
BT-EDR(2Mbps)	7.20	0.00525
BT-EDR(3Mbps)	7.17	0.00521



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	4.471	10.84	21.00
2440MHz	Pass	4.471	11.06	21.00
2480MHz	Pass	4.471	11.13	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	4.471	7.20	21.00
2440MHz	Pass	4.471	7.11	21.00
2480MHz	Pass	4.471	6.94	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	4.471	7.17	21.00
2440MHz	Pass	4.471	7.12	21.00
2480MHz	Pass	4.471	6.93	21.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.40	0.01380
BT-EDR(2Mbps)	9.54	0.00899
BT-EDR(3Mbps)	9.95	0.00989

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	4.471	11.29	21.00
2440MHz	Pass	4.471	11.33	21.00
2480MHz	Pass	4.471	11.40	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	4.471	9.54	21.00
2440MHz	Pass	4.471	9.45	21.00
2480MHz	Pass	4.471	9.35	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	4.471	9.94	21.00
2440MHz	Pass	4.471	9.95	21.00
2480MHz	Pass	4.471	9.82	21.00

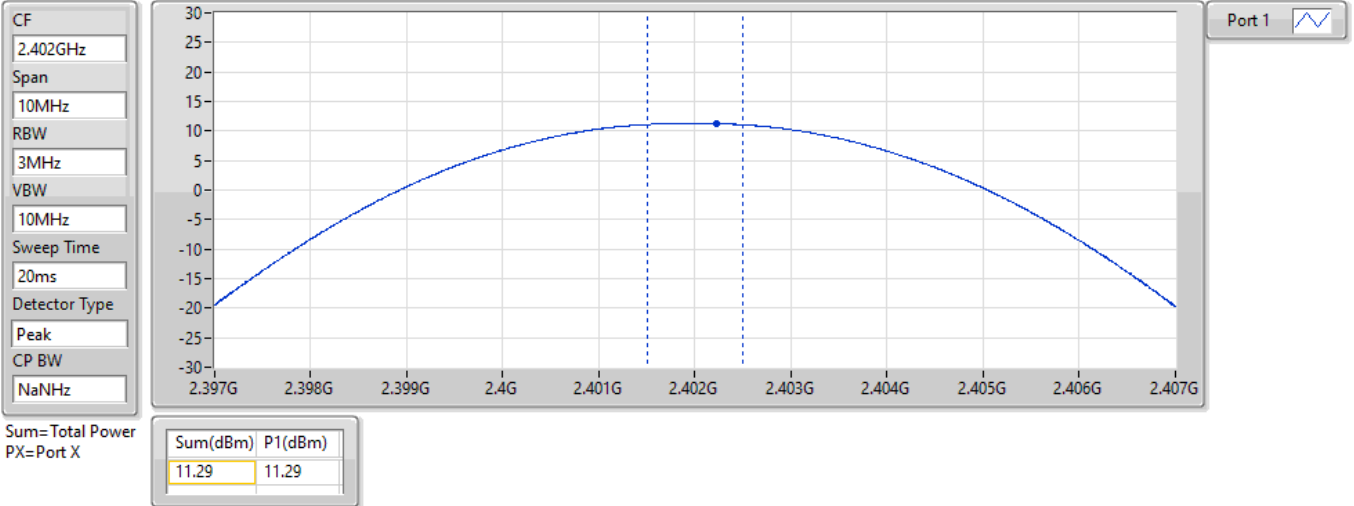
DG = Directional Gain; Port X = Port X output power

BT-BR(1Mbps)

PK Power-FS

2402MHz

17/10/2022

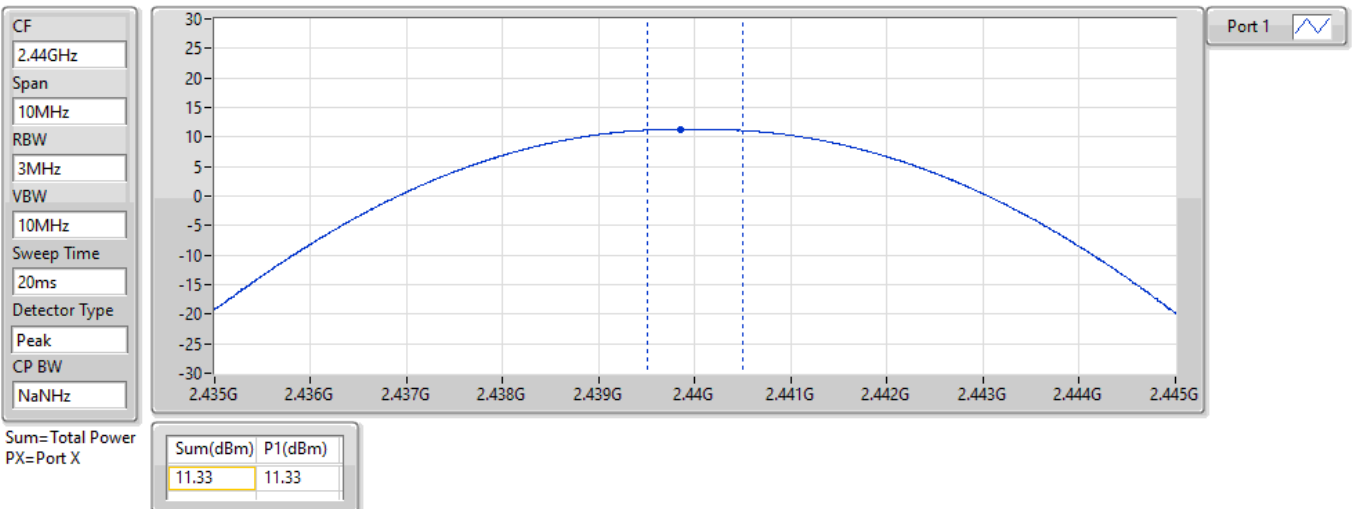


BT-BR(1Mbps)

PK Power-FS

2440MHz

20/10/2022

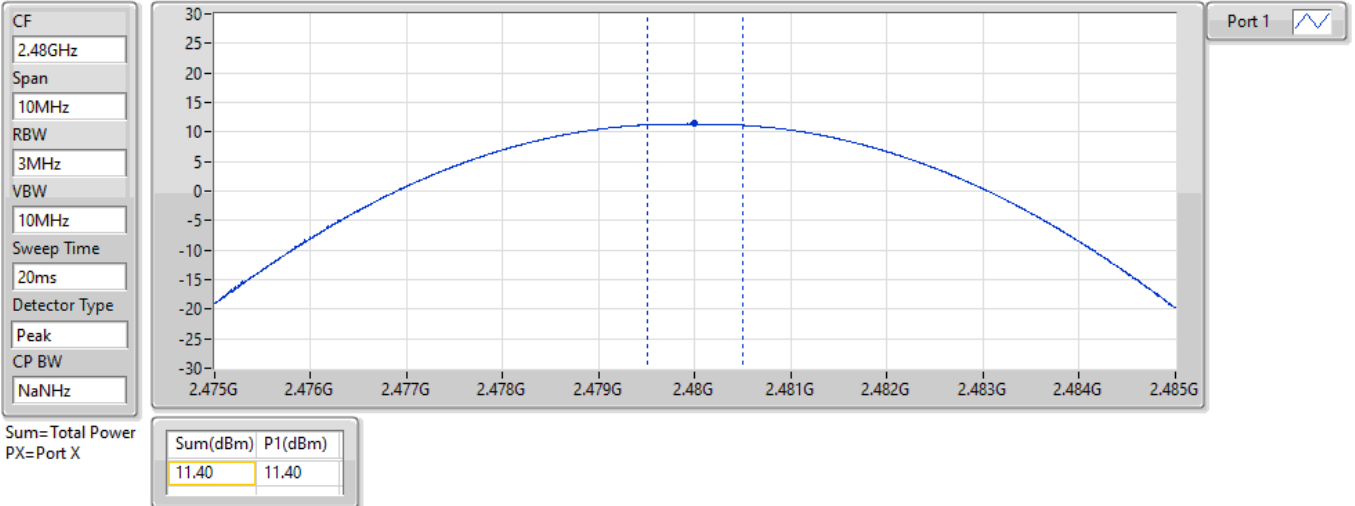


BT-BR(1Mbps)

PK Power-FS

2480MHz

20/10/2022

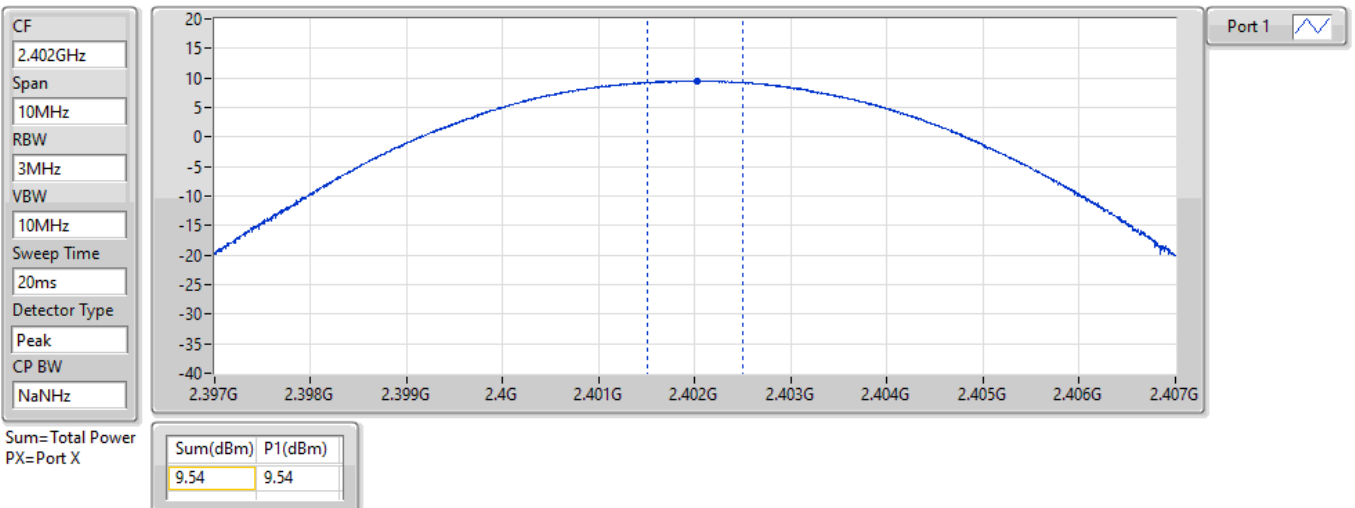


BT-EDR(2Mbps)

PK Power-FS

2402MHz

17/10/2022

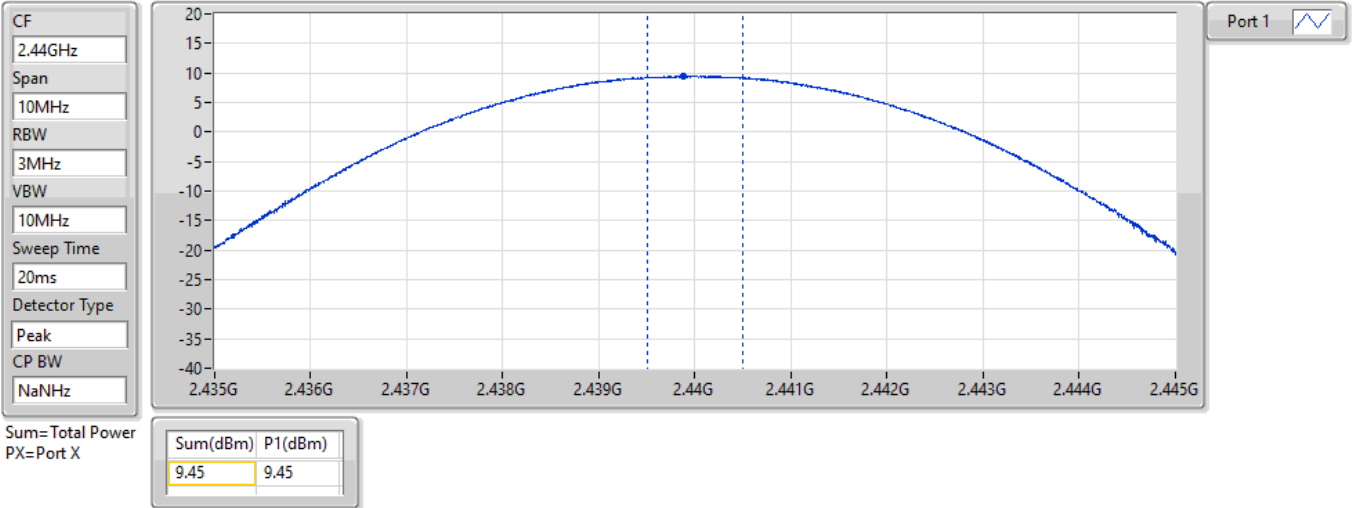


BT-EDR(2Mbps)

PK Power-FS

2440MHz

17/10/2022

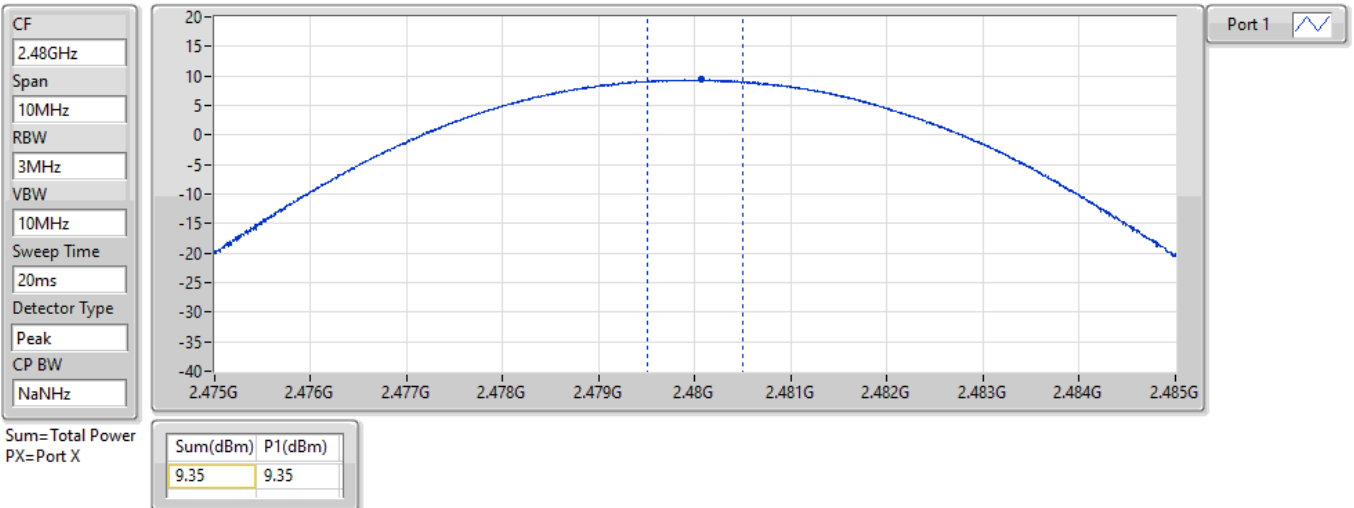


BT-EDR(2Mbps)

PK Power-FS

2480MHz

17/10/2022

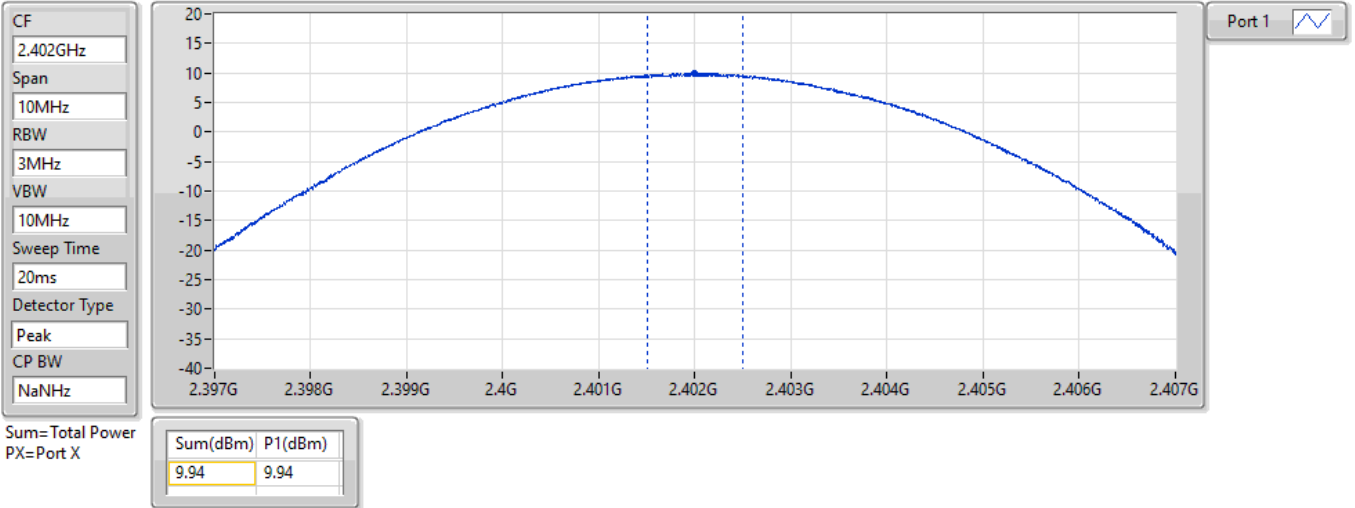


BT-EDR(3Mbps)

PK Power-FS

2402MHz

17/10/2022

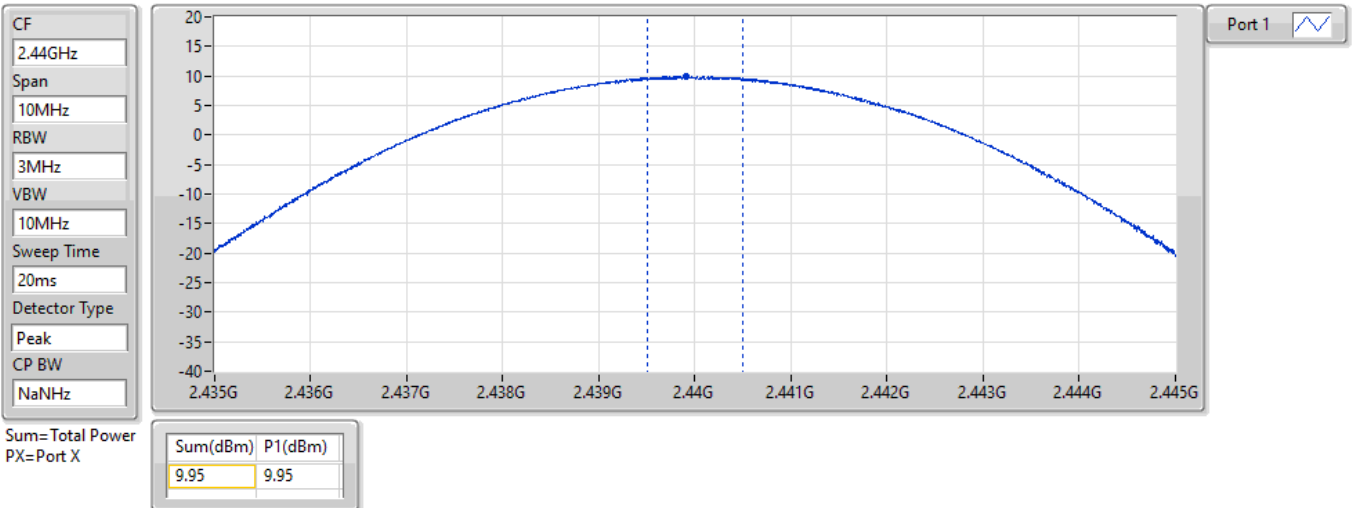


BT-EDR(3Mbps)

PK Power-FS

2440MHz

17/10/2022

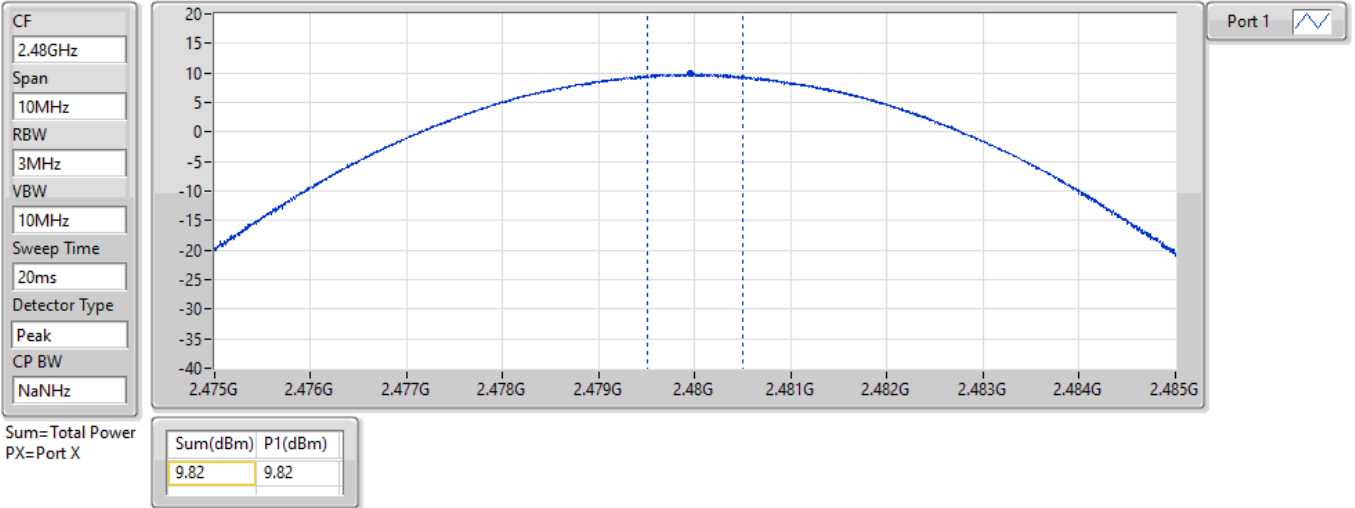


BT-EDR(3Mbps)

PK Power-FS

2480MHz

17/10/2022





Summary

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

Result

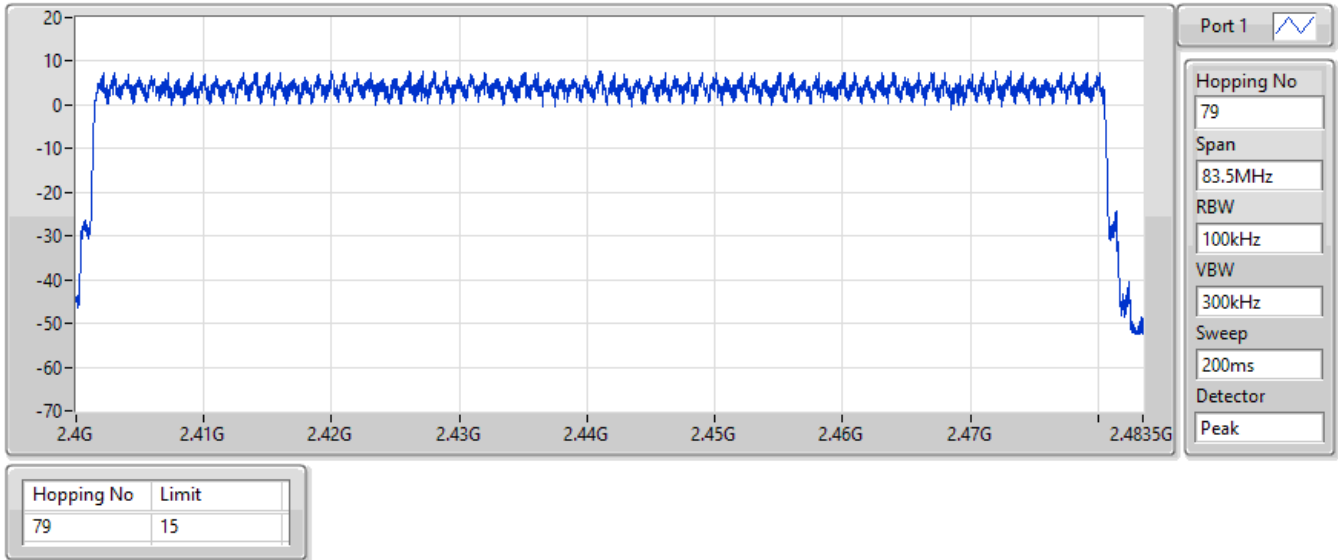
Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2440MHz	Pass	79	15

BT-BR(1Mbps)

2440MHz

Hopping-FS

17/10/2022

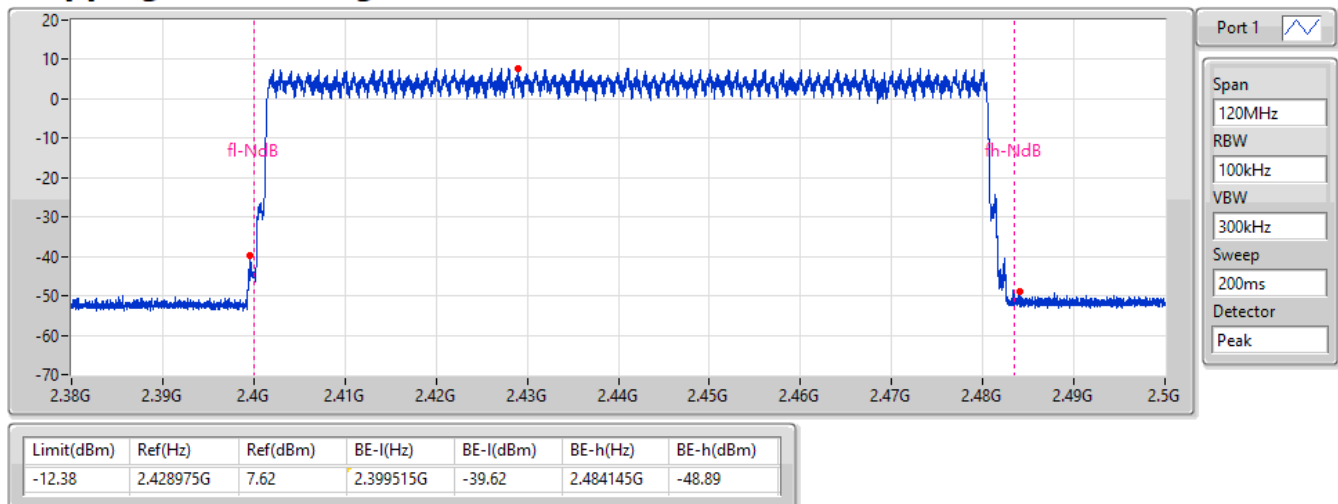


BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

17/10/2022

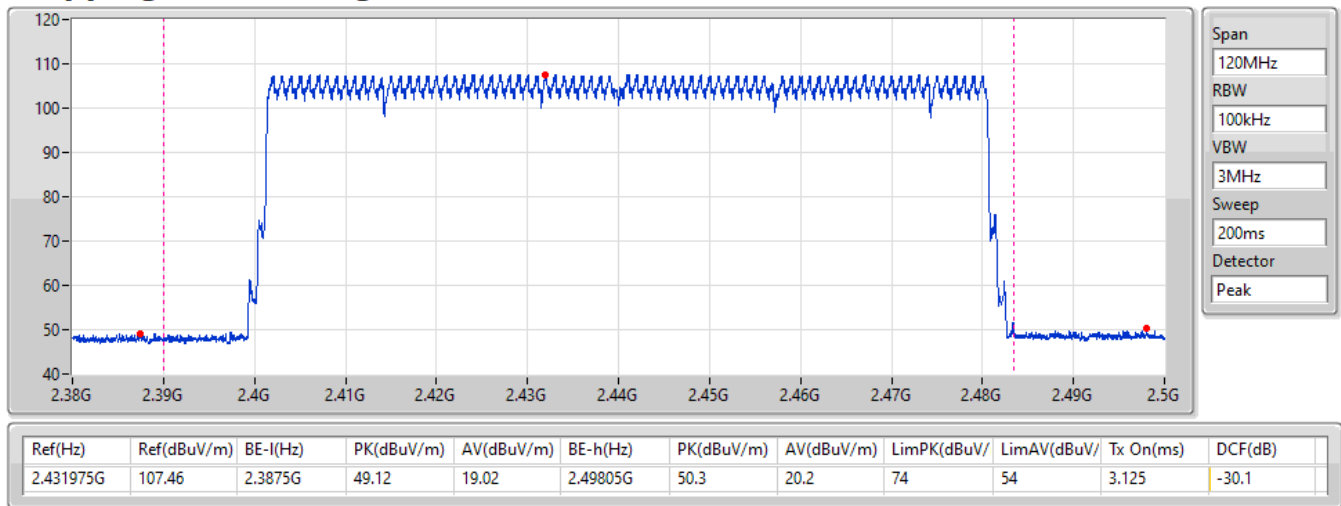


BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

17/10/2022

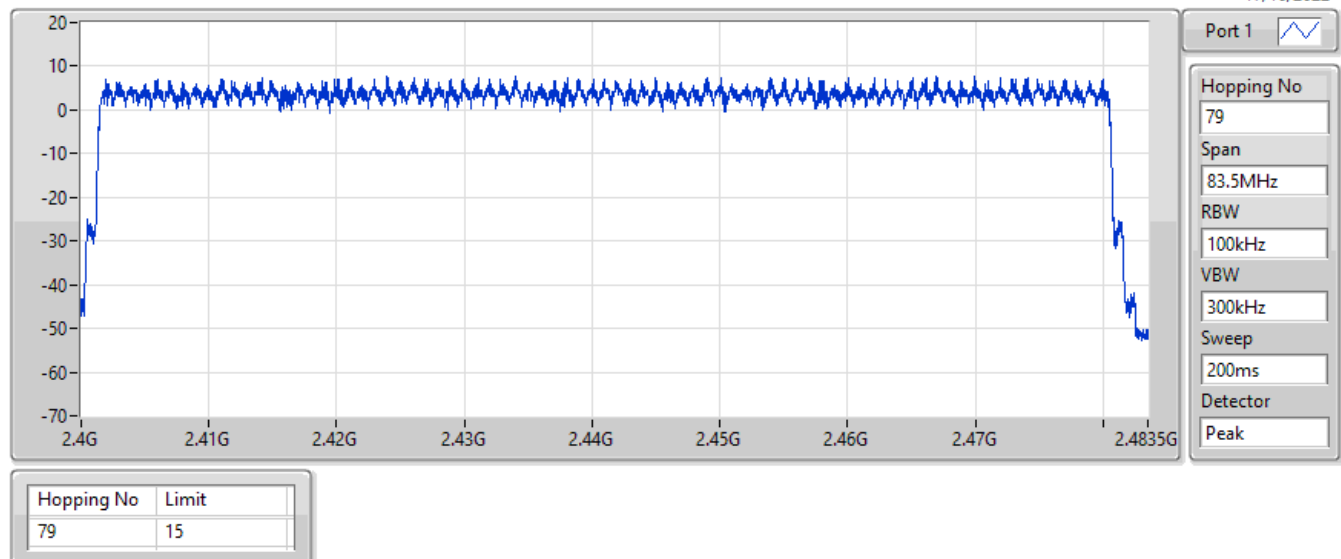


BT-EDR(2Mbps)

2440MHz

Hopping-FS

17/10/2022

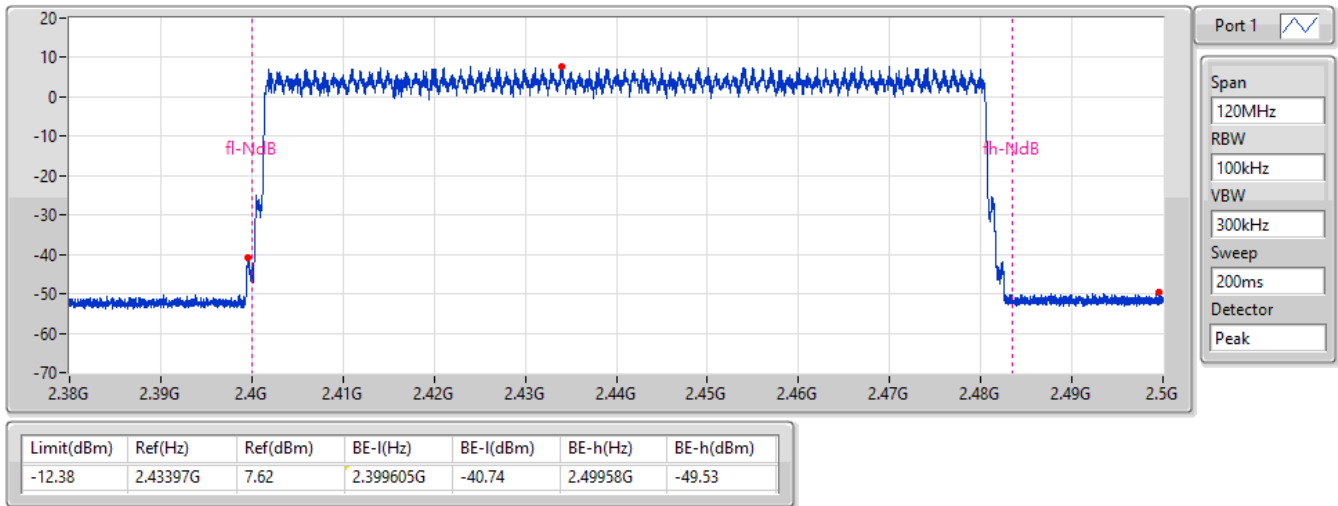


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

17/10/2022

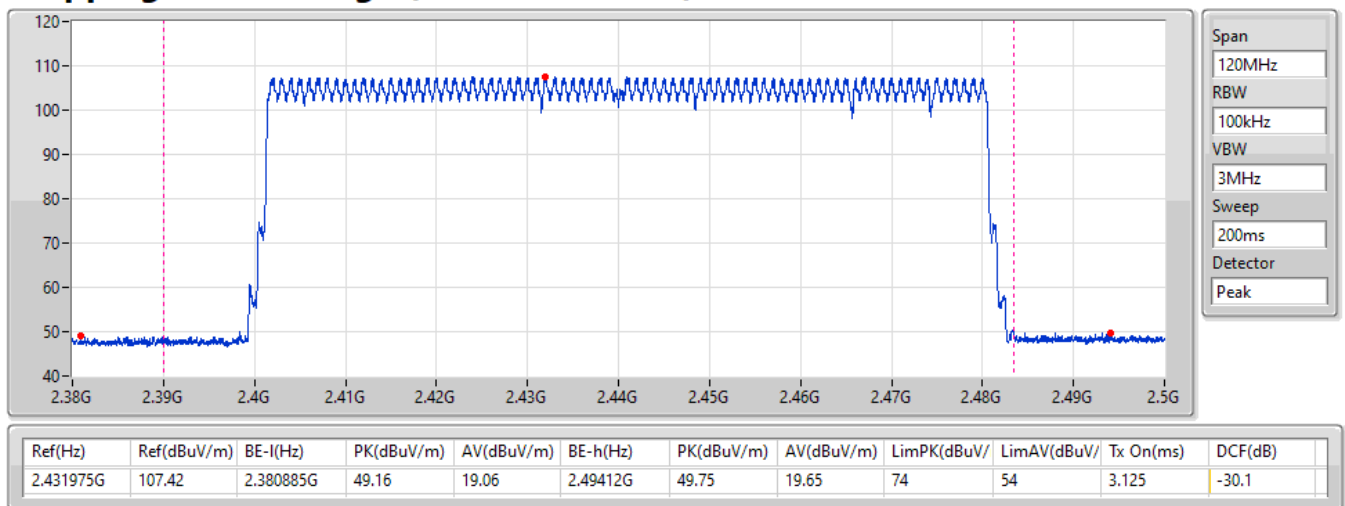


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

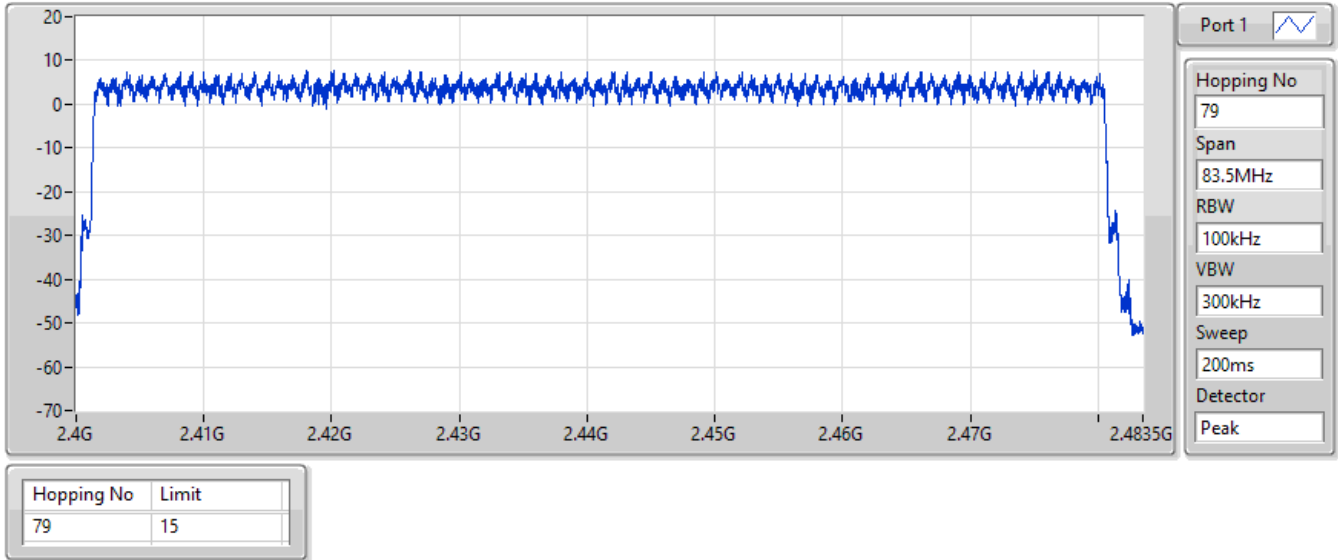
17/10/2022



BT-EDR(3Mbps) 2440MHz

Hopping-FS

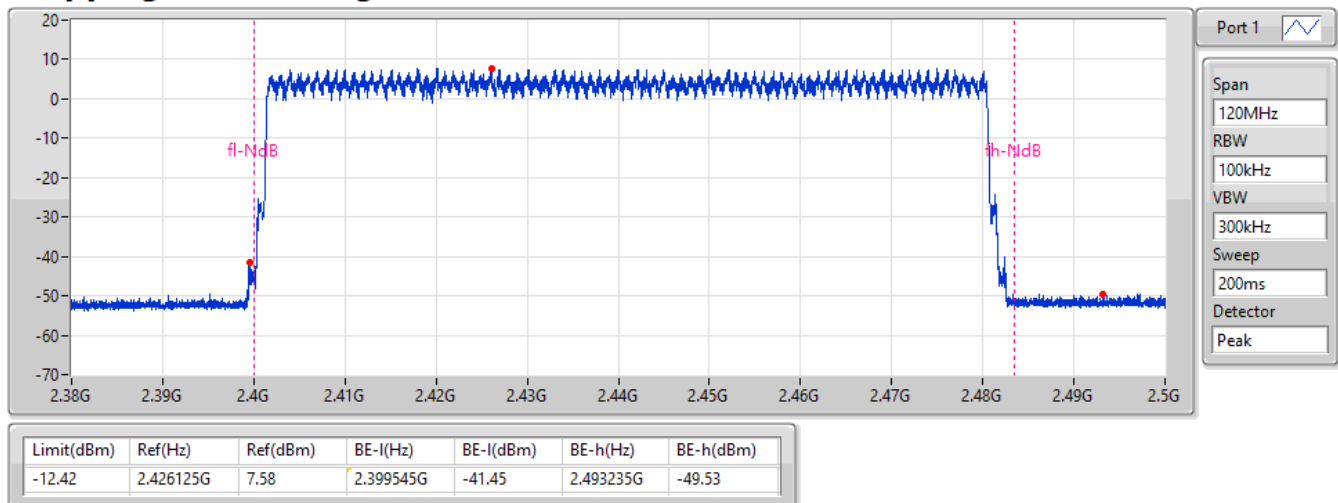
17/10/2022



BT-EDR(3Mbps) 2440MHz

Hopping Ch Bandedge (Non-restricted Band)

17/10/2022

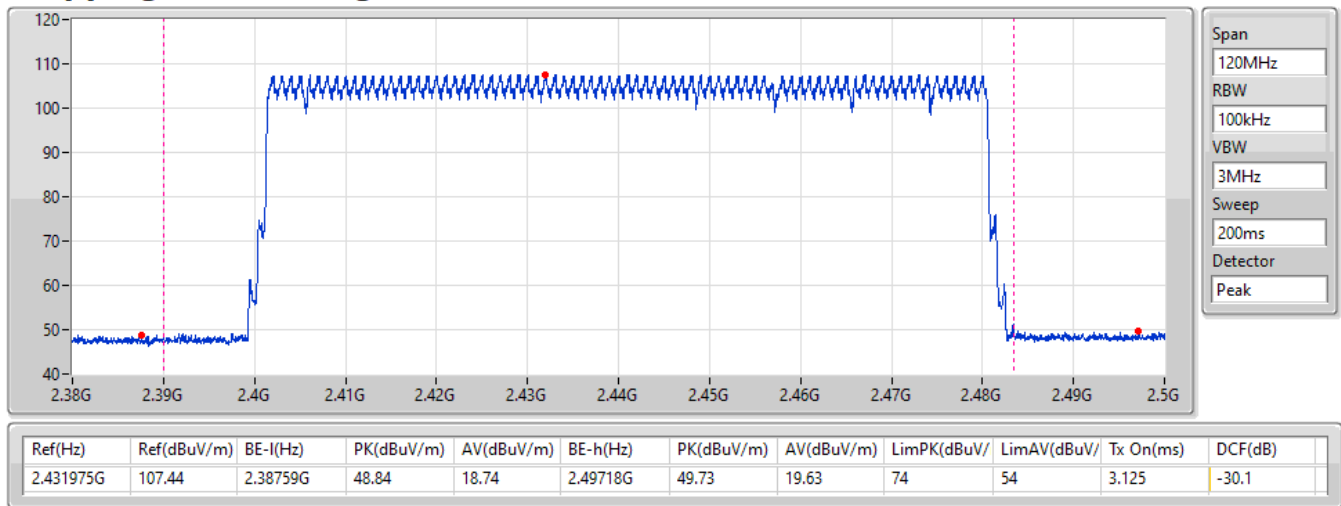


BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

17/10/2022



Summary

Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.5537m_DH5
BT-EDR(2Mbps)	308.42045m_DH5
BT-EDR(3Mbps)	308.6603m_DH5

Result

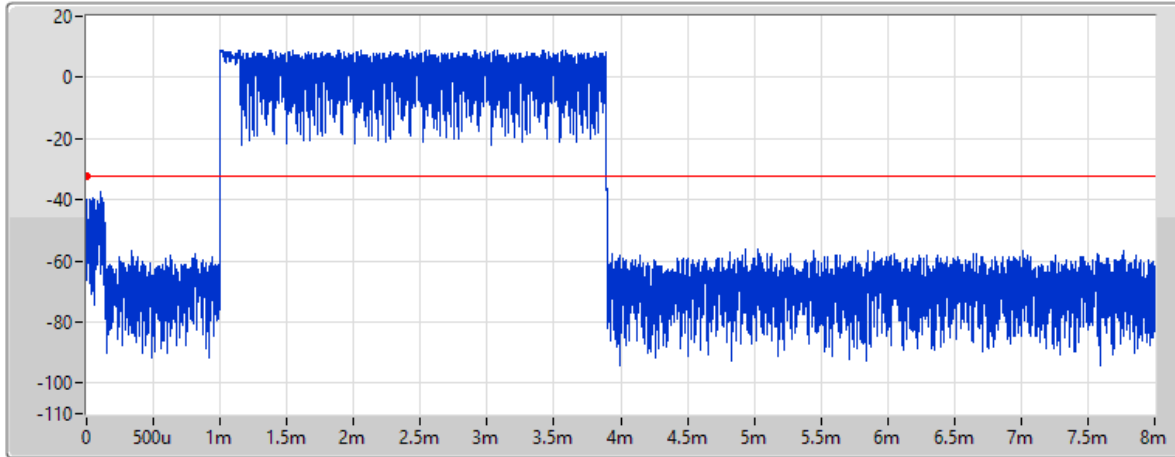
Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.5537m_DH5	400m	2.8945m
2440MHz	Pass	8	154.290175m_DH5-AFH	400m	2.89475m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.42045m_DH5	400m	2.89325m
2440MHz	Pass	8	154.183575m_DH5-AFH	400m	2.89275m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.6603m_DH5	400m	2.8955m
2440MHz	Pass	8	154.4101m_DH5-AFH	400m	2.897m


BT-BR(1Mbps)

Dwell-FS

2440MHz

17/10/2022



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.8945ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.5537m_DH5	400m	2.8945m

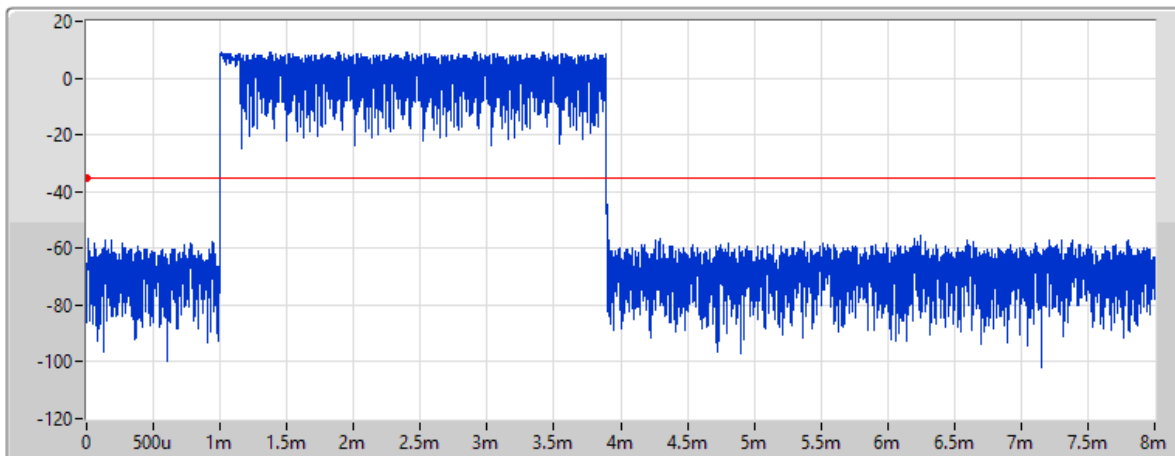
DH5


BT-BR(1Mbps)

Dwell-FS

2440MHz

17/10/2022



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

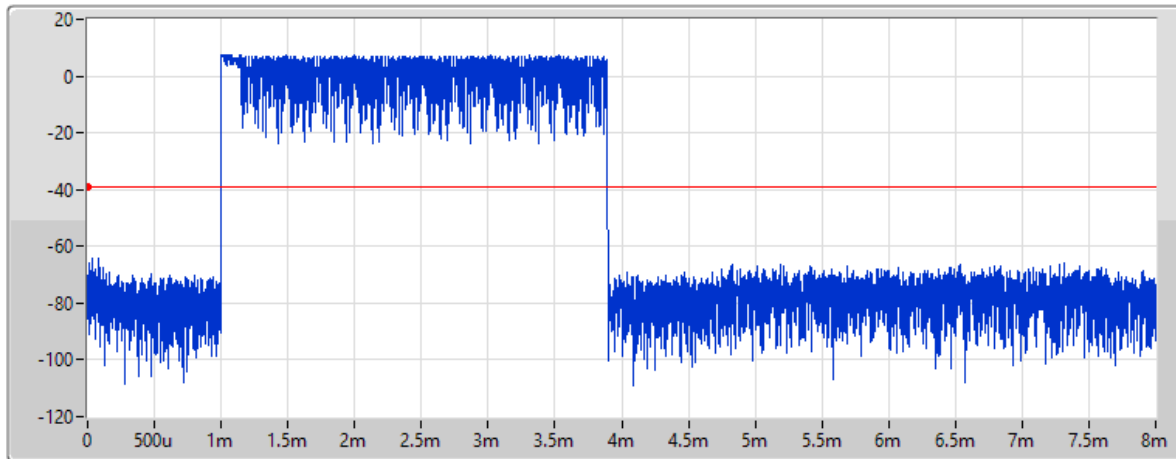
TX Time
2.89475ms


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.290175m_DH5-AFI	400m	2.89475m

DH5-AFH

BT-EDR(2Mbps)

2440MHz



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.89325ms

17/10/2022

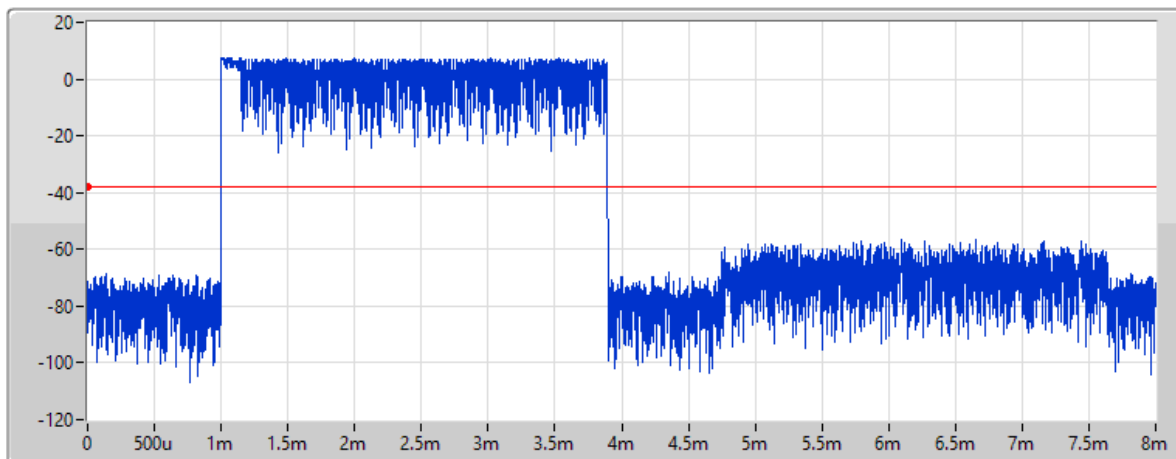
Dwell-FS


Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.42045m_DH5	400m	2.89325m

DH5

BT-EDR(2Mbps)

2440MHz



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.89275ms

17/10/2022

Dwell-FS

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.183575m_DH5-AFI	400m	2.89275m

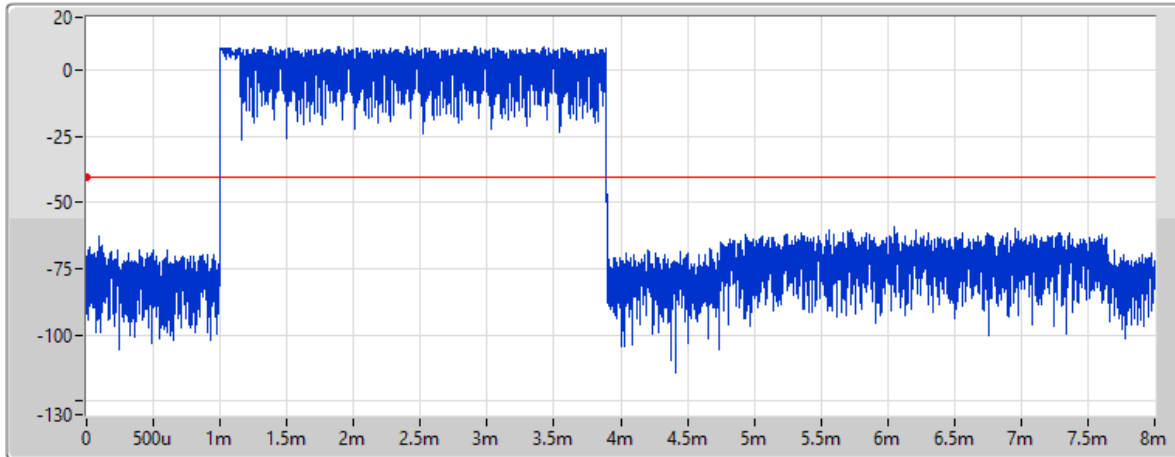
DH5-AFH

BT-EDR(3Mbps)

2440MHz

Dwell-FS

17/10/2022



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.8955ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.6603m_DH5	400m	2.8955m

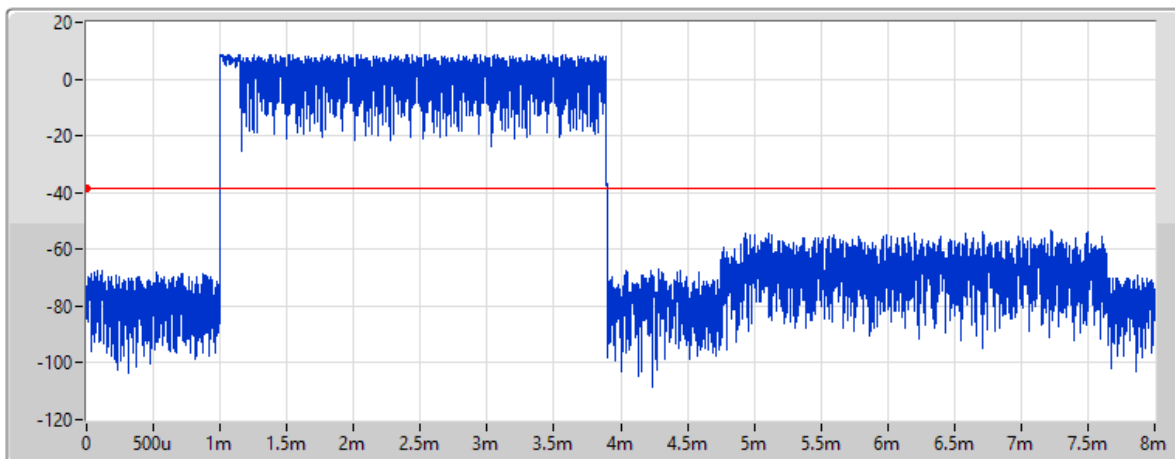
DH5


BT-EDR(3Mbps)

2440MHz

Dwell-FS

17/10/2022



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.897ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.4101m_DH5-AFH	400m	2.897m

DH5-AFH

Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.40196G	10.75	-9.25	753.51M	-52.87	2.39996G	-48.05	2.4G	-52.71	2.48991G	-51.42	24.10576G	-45.10	1
BT-EDR(2Mbps)	Pass	2.40205G	6.61	-13.39	2.09095G	-51.57	2.3995G	-39.07	2.4G	-43.66	2.49459G	-50.30	23.12998G	-43.07	1
BT-EDR(3Mbps)	Pass	2.40188G	6.81	-13.19	2.11269G	-50.58	2.39954G	-39.16	2.4G	-42.99	2.49246G	-50.39	3.20089G	-42.46	1

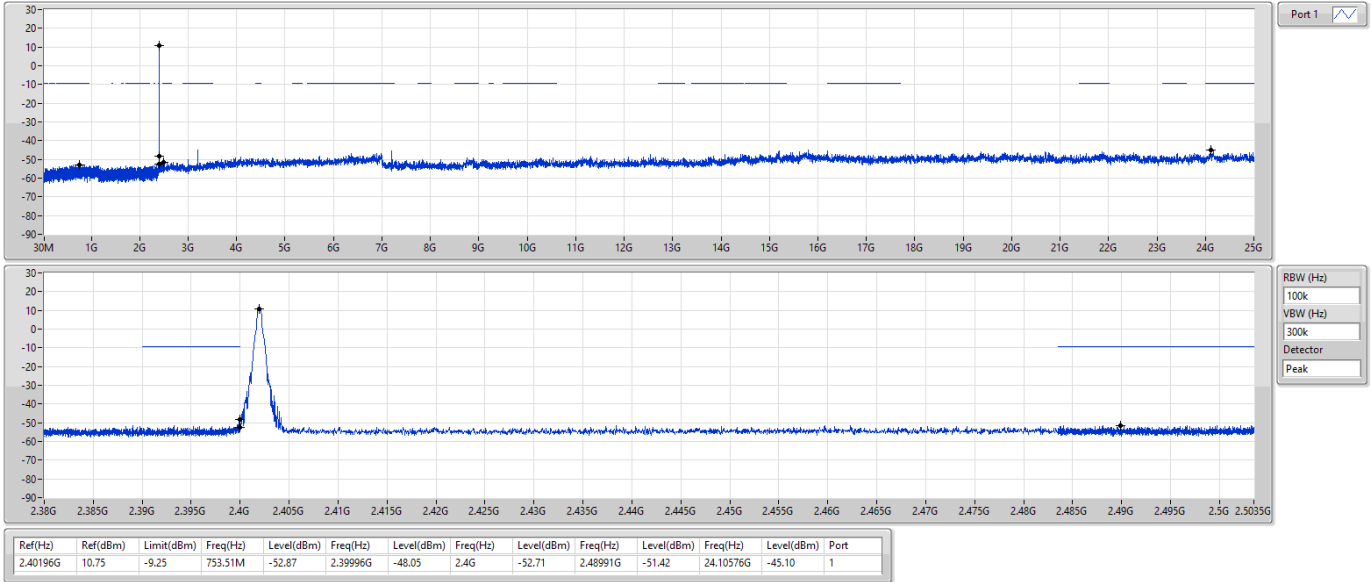
Result

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	2.40196G	10.75	-9.25	753.51M	-52.87	2.39996G	-48.05	2.4G	-52.71	2.48991G	-51.42	24.10576G	-45.10	1
2440MHz	Pass	2.44012G	11.15	-8.85	519.68M	-52.61	2.39804G	-51.52	2.4G	-53.97	2.49876G	-51.01	21.77738G	-45.22	1
2480MHz	Pass	2.48012G	10.99	-9.01	2.30128G	-52.82	2.39107G	-51.37	2.4835G	-55.00	2.48715G	-50.53	24.48539G	-46.10	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40205G	6.61	-13.39	2.09095G	-51.57	2.3995G	-39.07	2.4G	-43.66	2.49459G	-50.30	23.12998G	-43.07	1
2440MHz	Pass	2.44012G	7.10	-12.90	805.5M	-50.16	2.3975G	-51.77	2.4835G	-53.32	2.48377G	-50.50	24.46852G	-43.37	1
2480MHz	Pass	2.47987G	6.48	-13.52	684.77M	-50.06	2.39141G	-50.91	2.4835G	-51.60	2.49101G	-50.49	15.2084G	-44.02	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40188G	6.81	-13.19	2.11269G	-50.58	2.39954G	-39.16	2.4G	-42.99	2.49246G	-50.39	3.20089G	-42.46	1
2440MHz	Pass	2.44012G	7.54	-12.46	950.91M	-51.38	2.39278G	-51.14	2.4835G	-51.39	2.49005G	-50.16	23.47586G	-43.35	1
2480MHz	Pass	2.48012G	7.38	-12.62	2.06686G	-49.82	2.39679G	-51.33	2.4G	-52.41	2.48532G	-49.85	6.95218G	-42.43	1

BT-BR(1Mbps)

CSENdB-FS

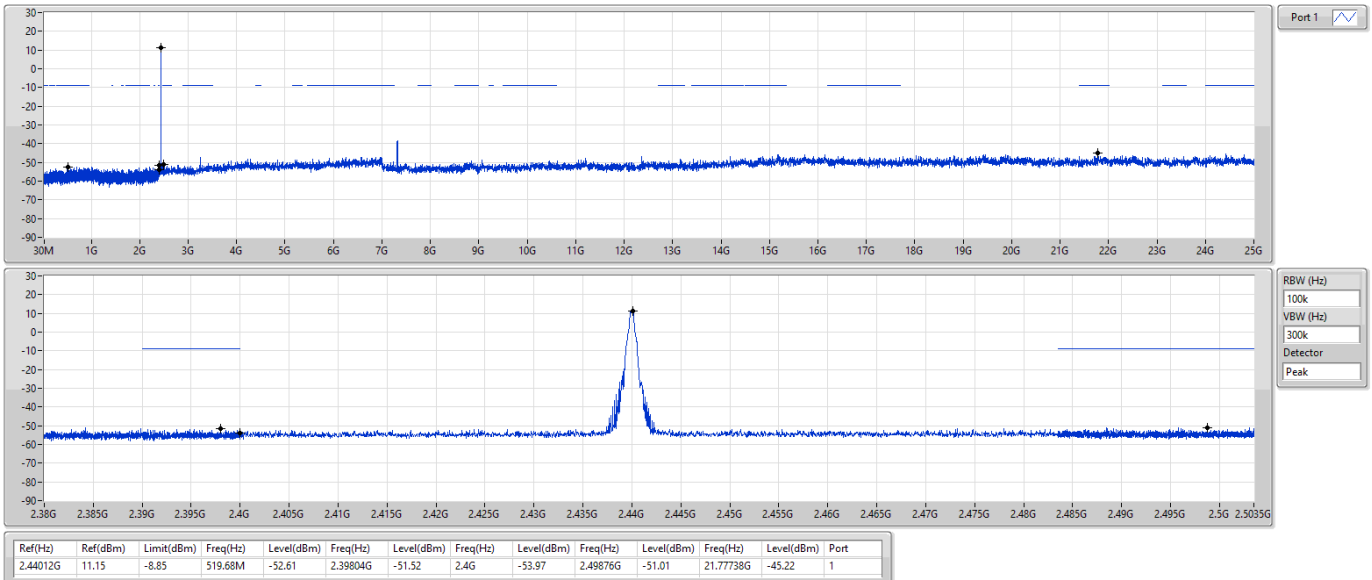
2402MHz



BT-BR(1Mbps)

CSENdB-FS

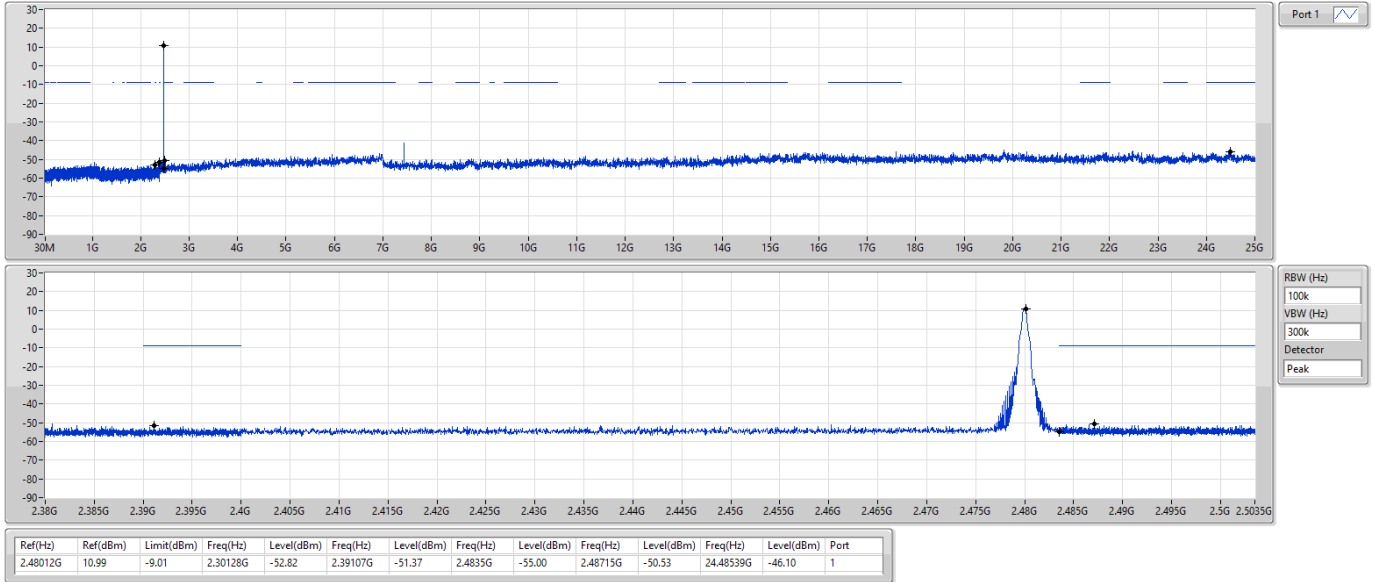
2440MHz



BT-BR(1Mbps)

CSEndB-FS

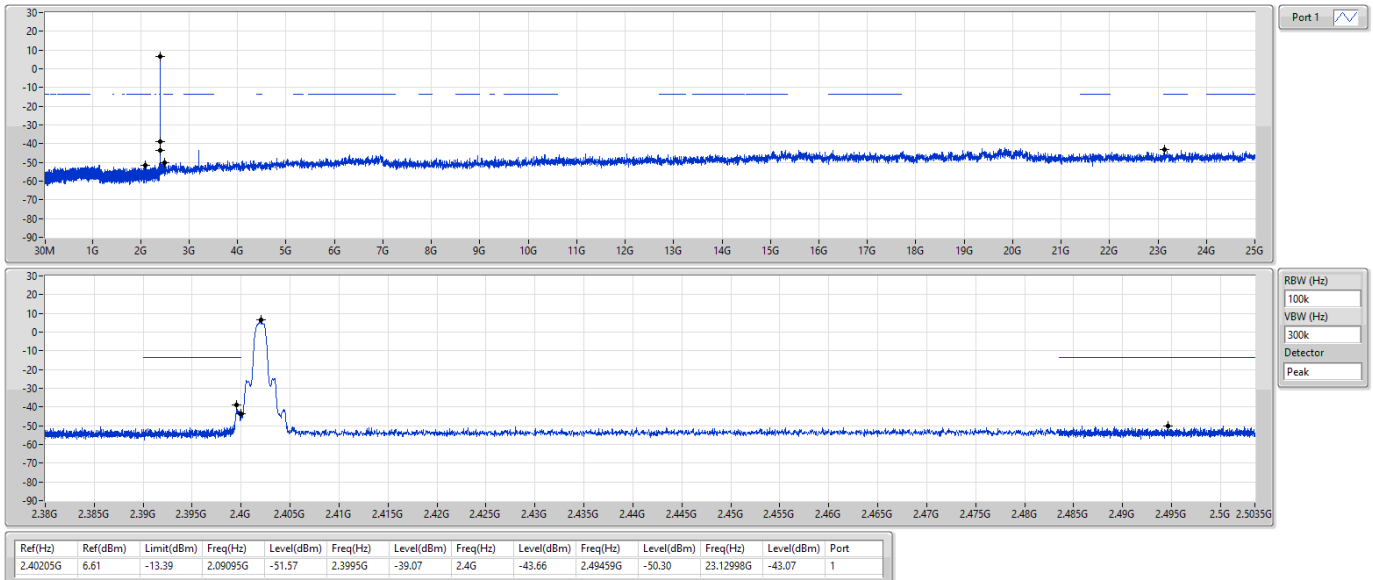
2480MHz



BT-EDR(2Mbps)

CSEndB-FS

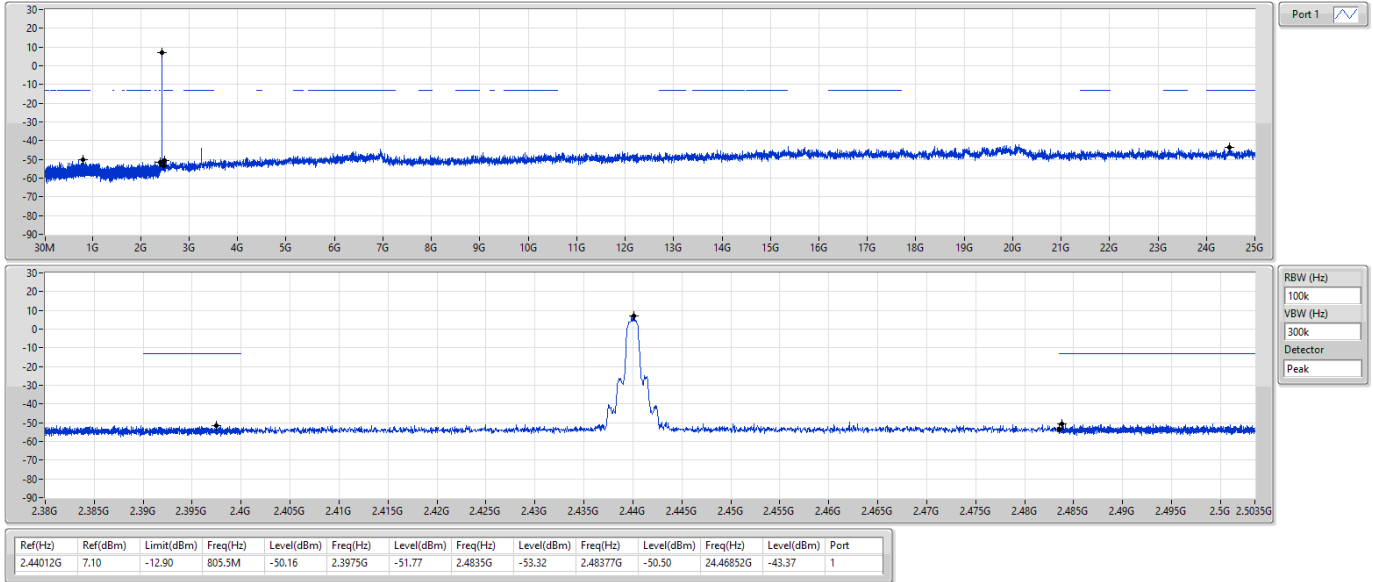
2402MHz



BT-EDR(2Mbps)

CSEndB-FS

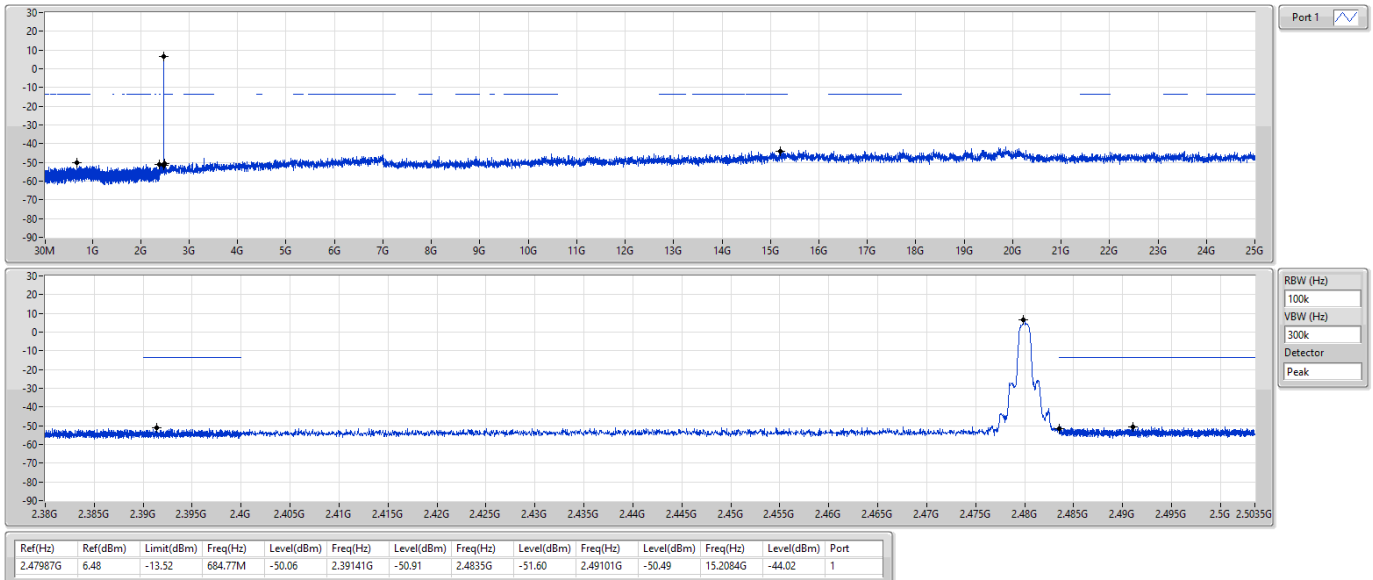
2440MHz



BT-EDR(2Mbps)

CSEndB-FS

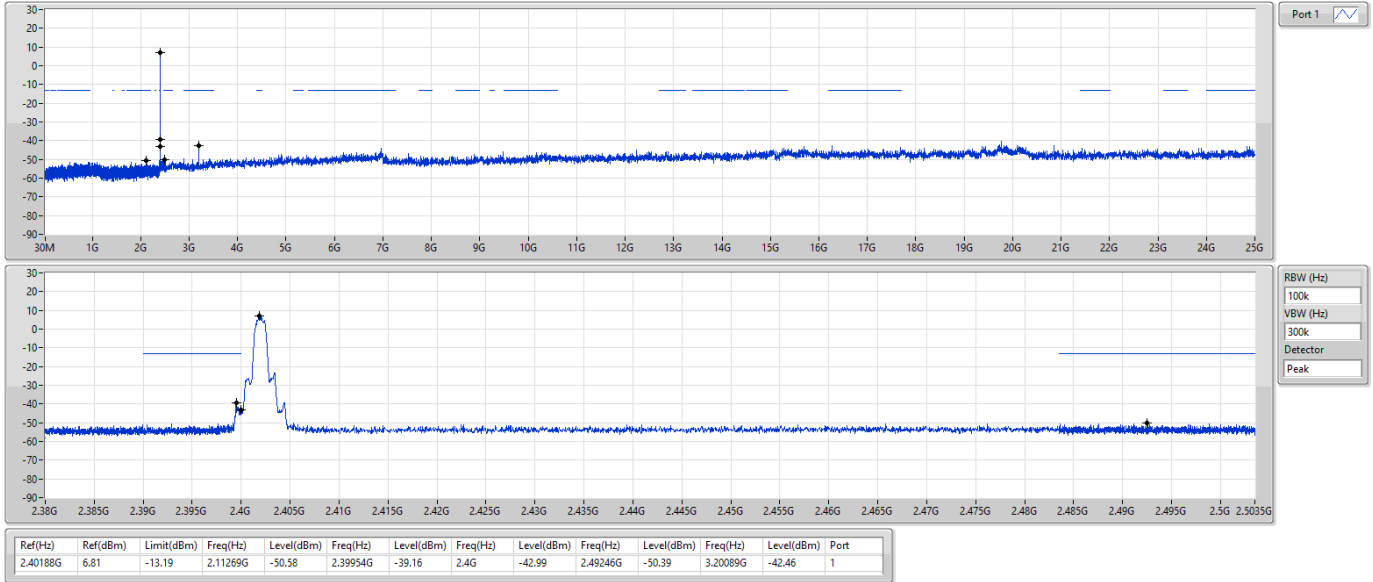
2480MHz



BT-EDR(3Mbps)

CSEndB-FS

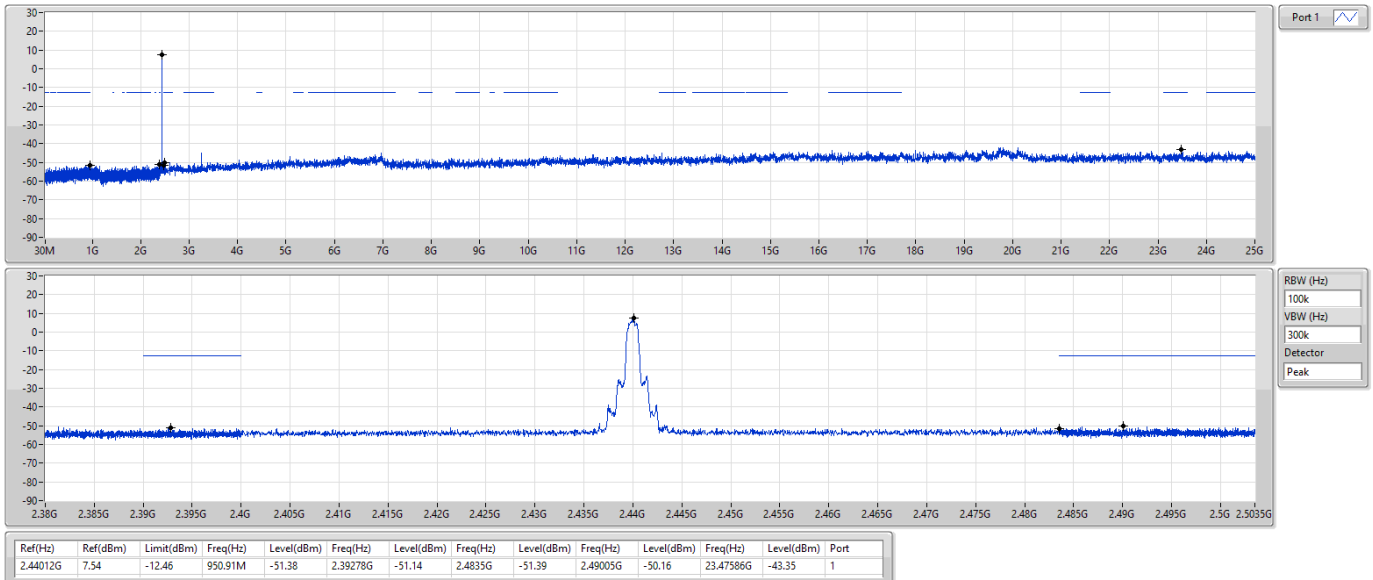
2402MHz



BT-EDR(3Mbps)

CSEndB-FS

2440MHz

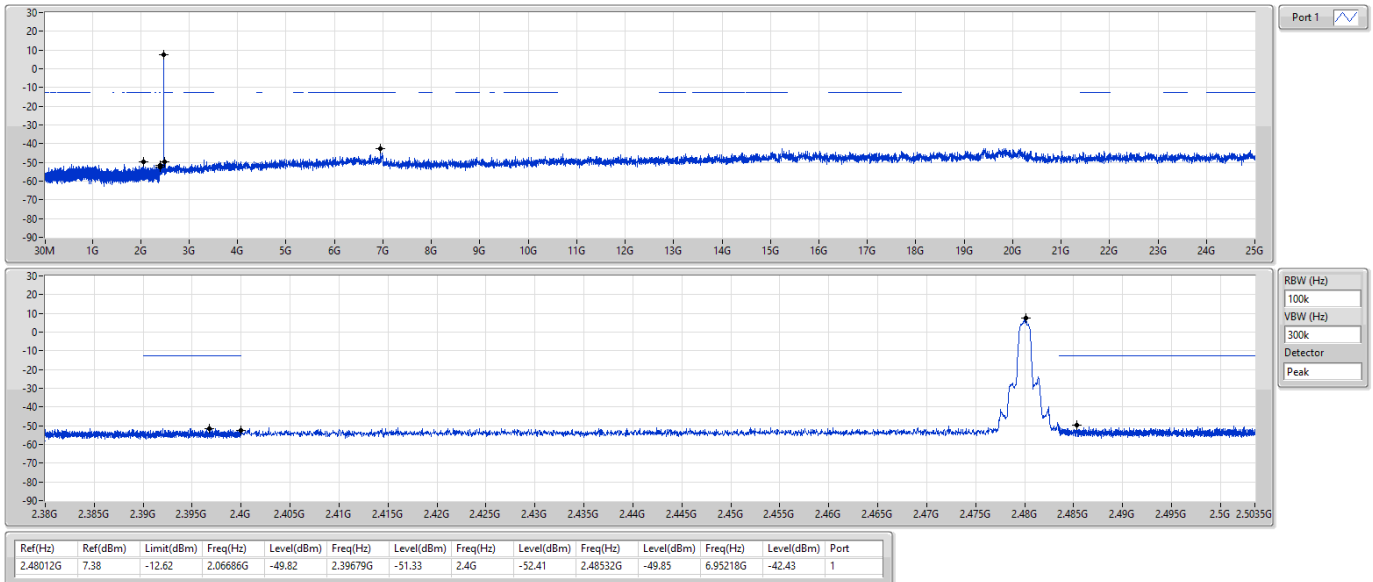


BT-EDR(3Mbps)

CSEndB-FS

2480MHz

17/10/2022





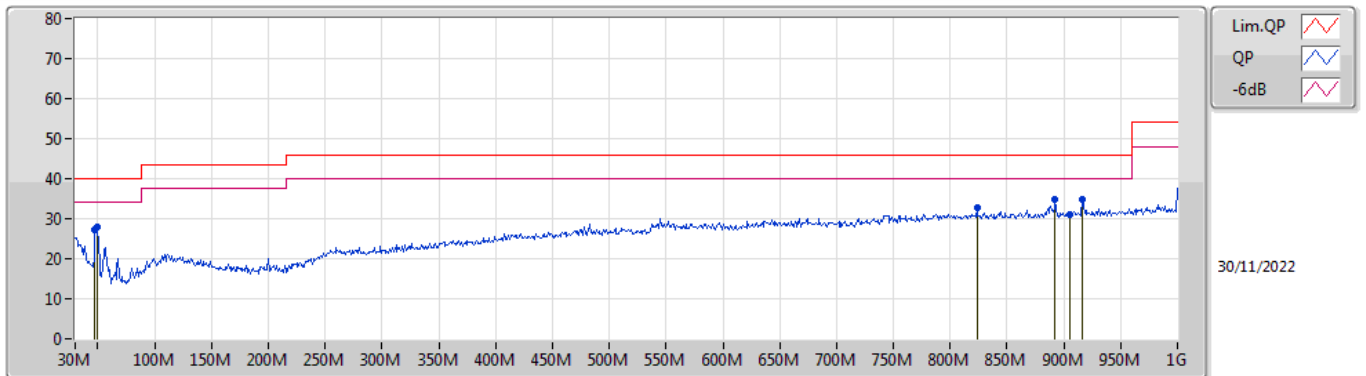
Radiated Emissions below 1GHz

Appendix G.1

Summary

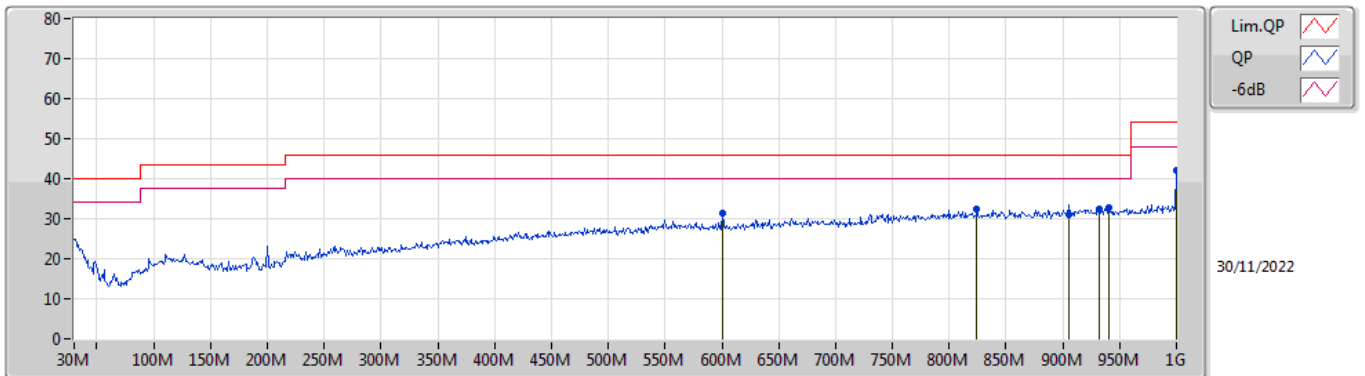
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 3	Pass	PK	892.33M	35.00	46.00	-11.00	Vertical

Mode 3



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	47.46M	27.24	40.00	-12.76	-16.29	3	Vertical	0	1.50	-	43.53	14.91	0.64	31.84
PK	49.4M	27.90	40.00	-12.10	-16.92	3	Vertical	23	1.50	-	44.82	14.28	0.66	31.86
PK	823.46M	32.82	46.00	-13.18	-2.93	3	Vertical	210	1.00	-	35.75	25.58	3.99	32.50
PK	892.33M	35.00	46.00	-11.00	-2.19	3	Vertical	351	1.50	"Worst"	37.19	26.16	4.14	32.49
PK	904.94M	30.91	46.00	-15.09	-2.11	3	Vertical	297	1.50	-	33.02	26.20	4.18	32.49
PK	916.58M	34.99	46.00	-11.01	-2.09	3	Vertical	276	1.00	-	37.08	26.19	4.21	32.49

Mode 3



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	600.36M	31.34	46.00	-14.66	-4.98	3	Horizontal	49	1.50	-	36.32	24.24	3.29	32.51
PK	824.43M	32.29	46.00	-13.71	-2.92	3	Horizontal	139	1.25	-	35.21	25.59	3.99	32.50
PK	904.94M	31.11	46.00	-14.89	-2.11	3	Horizontal	0	1.50	-	33.22	26.20	4.18	32.49
PK	932.1M	32.34	46.00	-13.66	-1.94	3	Horizontal	242	1.00	-	34.28	26.28	4.26	32.48
PK	940.83M	32.60	46.00	-13.40	-1.81	3	Horizontal	160	1.50	"Worst"	34.41	26.38	4.29	32.48
PK	1G	42.14	74.00	-31.86	-0.89	3	Horizontal	134	1.50	-	43.03	27.06	4.39	32.34

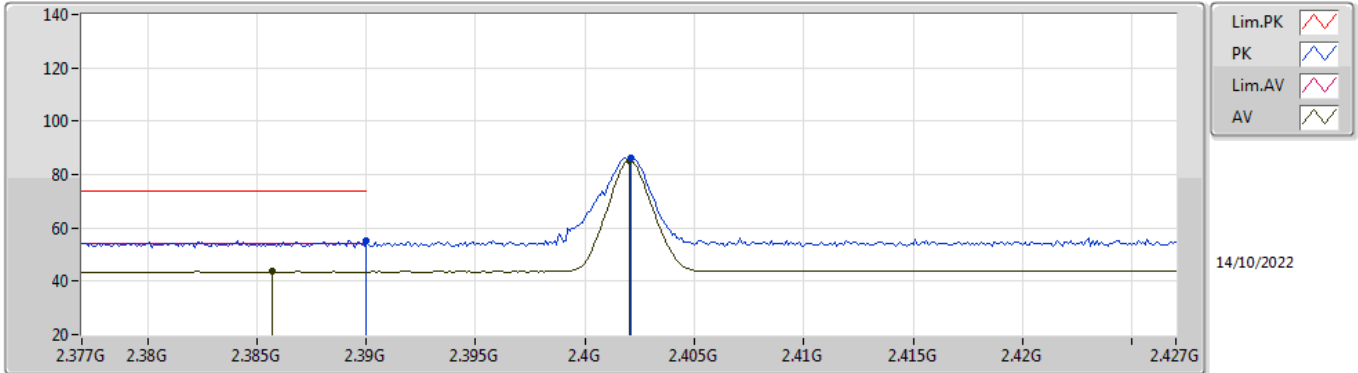


Summary

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	7.43998G	52.72	54.00	-1.28	3	Vertical	189	2.10	-

BT-BR(1Mbps)

2402MHz_TX

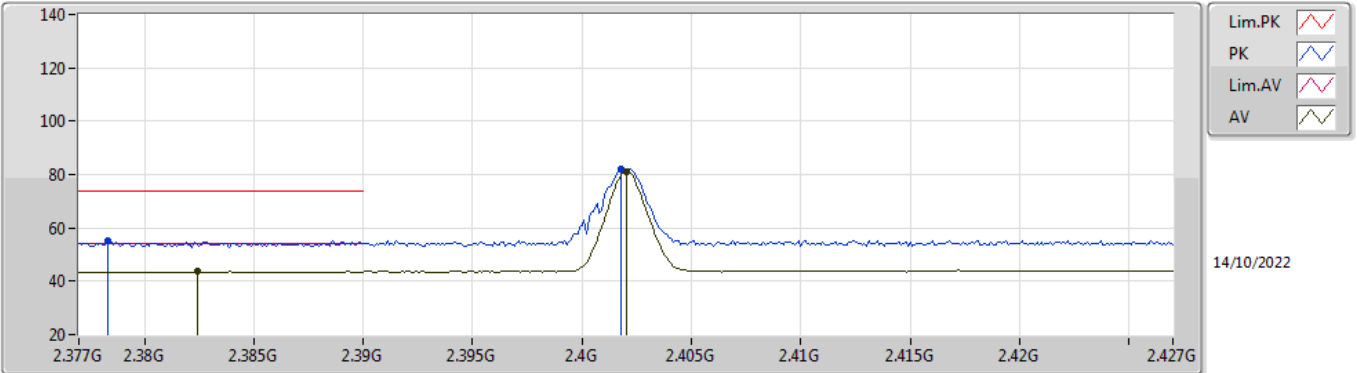


EUT X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.39G	55.26	74.00	-18.74	23.74	3	Vertical	56	1.85	-	27.64	3.88	-	
AV	2.3857G	43.64	54.00	-10.36	12.10	3	Vertical	56	1.85	-	27.66	3.88	-	
PK	2.4021G	85.97	Inf	-Inf	54.47	3	Vertical	56	1.85	-	27.60	3.90	-	
AV	2.402G	85.04	Inf	-Inf	53.54	3	Vertical	56	1.85	-	27.60	3.90	-	

BT-BR(1Mbps)

2402MHz_TX

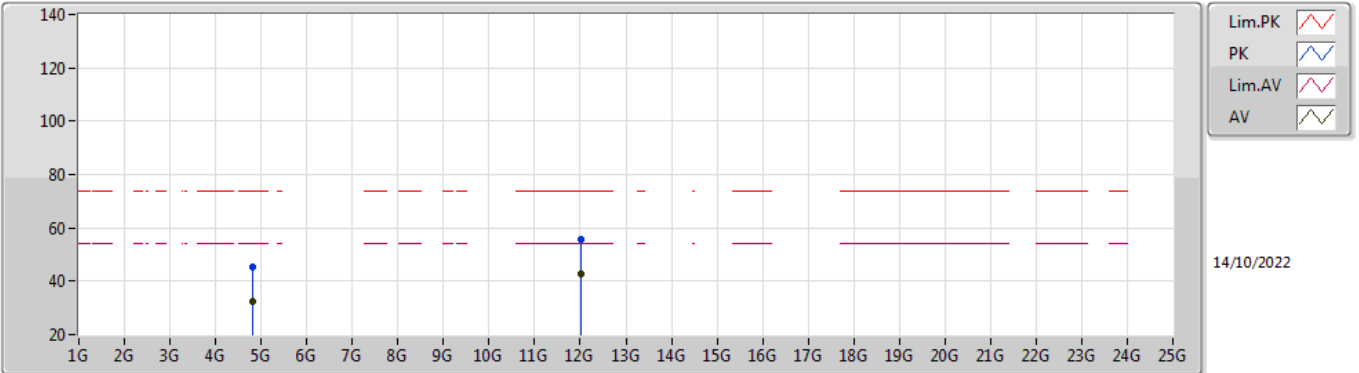


EUT X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3783G	55.17	74.00	-18.83	23.61	3	Horizontal	221	2.25	-	27.69	3.87	-	
AV	2.3824G	43.61	54.00	-10.39	12.07	3	Horizontal	221	2.25	-	27.67	3.87	-	
PK	2.4018G	82.05	Inf	-Inf	50.55	3	Horizontal	221	2.25	-	27.60	3.90	-	
AV	2.402G	80.98	Inf	-Inf	49.48	3	Horizontal	221	2.25	-	27.60	3.90	-	

BT-BR(1Mbps)

2402MHz_TX

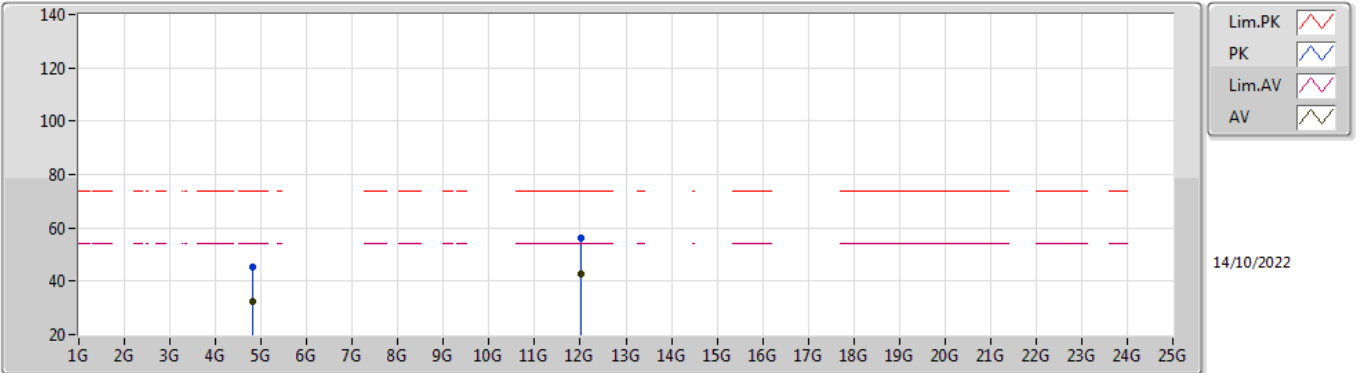


EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.80626G	45.56	74.00	-28.44	41.38	3	Vertical	105	1.77	-	31.31	5.40	32.53	
AV	4.80412G	32.44	54.00	-21.56	28.26	3	Vertical	105	1.77	-	31.31	5.40	32.53	
PK	12.01344G	55.44	74.00	-18.56	42.01	3	Vertical	69	2.35	-	39.11	9.00	34.68	
AV	12.01372G	42.59	54.00	-11.41	29.16	3	Vertical	69	2.35	-	39.11	9.00	34.68	

BT-BR(1Mbps)

2402MHz_TX

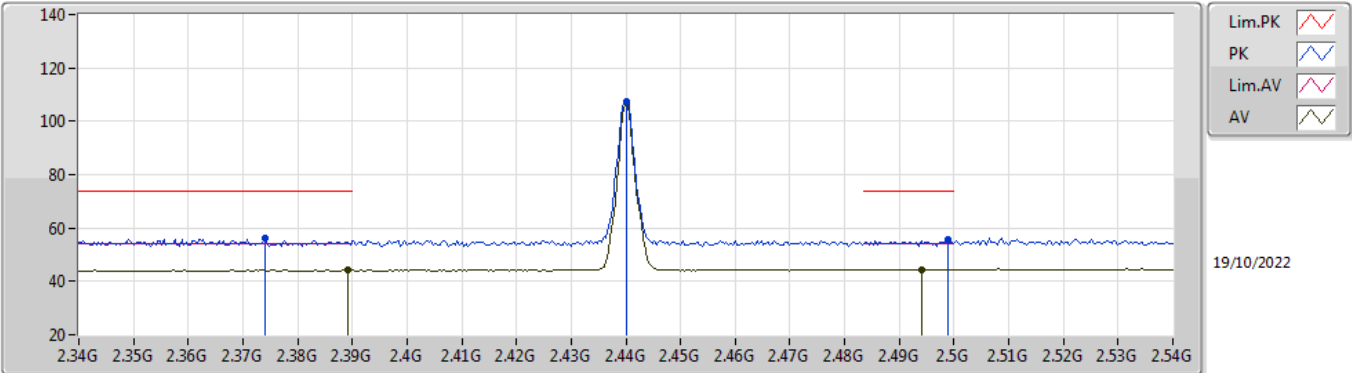


EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.80288G	45.31	74.00	-28.69	41.13	3	Horizontal	40	3.00	-	31.31	5.40	32.53
AV	4.80454G	32.29	54.00	-21.71	28.11	3	Horizontal	40	3.00	-	31.31	5.40	32.53
PK	12.00954G	56.03	74.00	-17.97	42.60	3	Horizontal	236	1.94	-	39.11	9.00	34.68
AV	12.01342G	42.84	54.00	-11.16	29.41	3	Horizontal	236	1.94	-	39.11	9.00	34.68

BT-BR(1Mbps)

2440MHz_TX

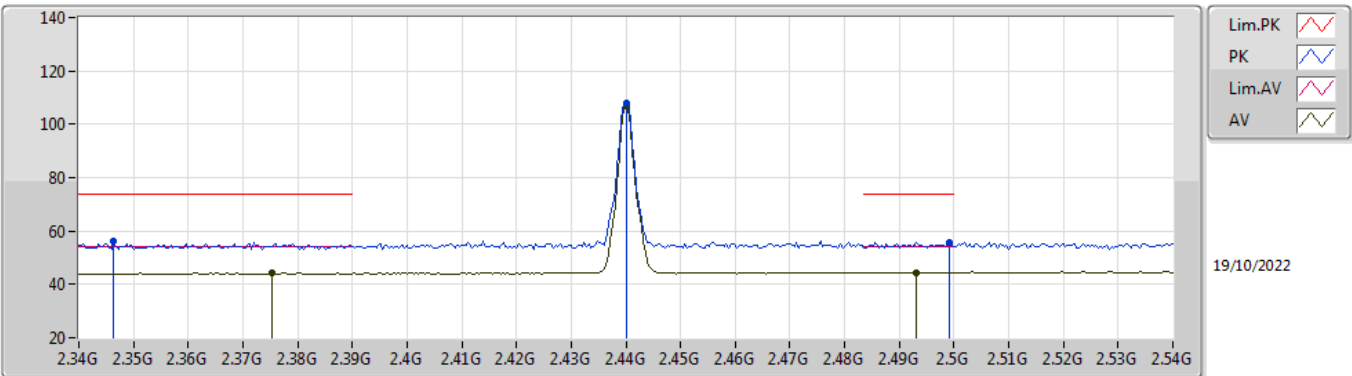


EUT X_1TX
Setting 0x09
02-B-R-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.374G	55.98	74.00	-18.02	24.44	3	Vertical	78	2.56	-	28.35	3.19	-
AV	2.3892G	44.29	54.00	-9.71	12.72	3	Vertical	78	2.56	-	28.38	3.19	-
PK	2.44G	107.62	Inf	-Inf	76.00	3	Vertical	78	2.56	-	28.40	3.22	-
AV	2.44G	106.74	Inf	-Inf	75.12	3	Vertical	78	2.56	-	28.40	3.22	-
PK	2.4988G	55.69	74.00	-18.31	23.84	3	Vertical	78	2.56	-	28.60	3.25	-
AV	2.494G	44.46	54.00	-9.54	12.63	3	Vertical	78	2.56	-	28.58	3.25	-

BT-BR(1Mbps)

2440MHz_TX

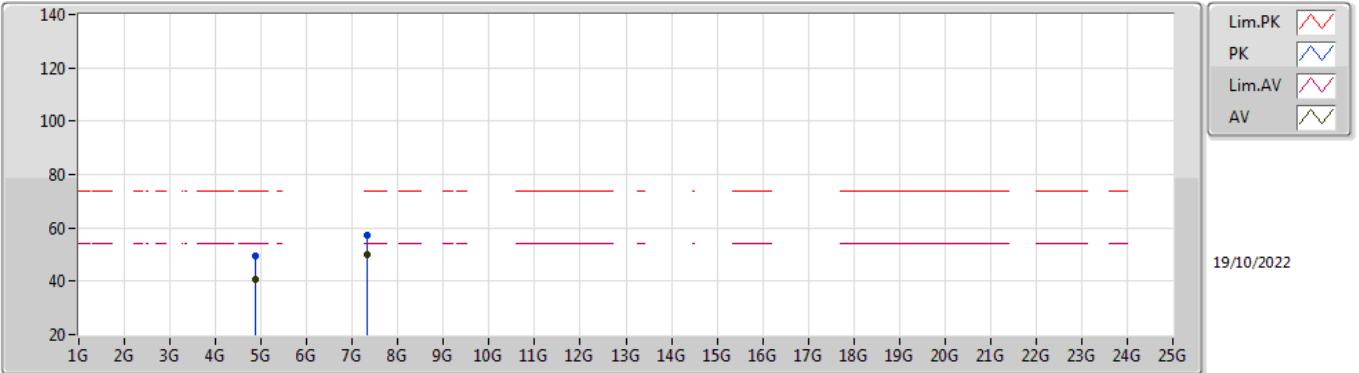


EUT_X_1TX
Setting 0x09
02-B-R-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3464G	56.00	74.00	-18.00	24.54	3	Horizontal	187	2.93	-	28.29	3.17	-
AV	2.3752G	44.22	54.00	-9.78	12.68	3	Horizontal	187	2.93	-	28.35	3.19	-
PK	2.44G	107.90	Inf	-Inf	76.28	3	Horizontal	187	2.93	-	28.40	3.22	-
AV	2.44G	107.04	Inf	-Inf	75.42	3	Horizontal	187	2.93	-	28.40	3.22	-
PK	2.4992G	55.87	74.00	-18.13	24.02	3	Horizontal	187	2.93	-	28.60	3.25	-
AV	2.4932G	44.45	54.00	-9.55	12.63	3	Horizontal	187	2.93	-	28.57	3.25	-

BT-BR(1Mbps)

2440MHz_TX

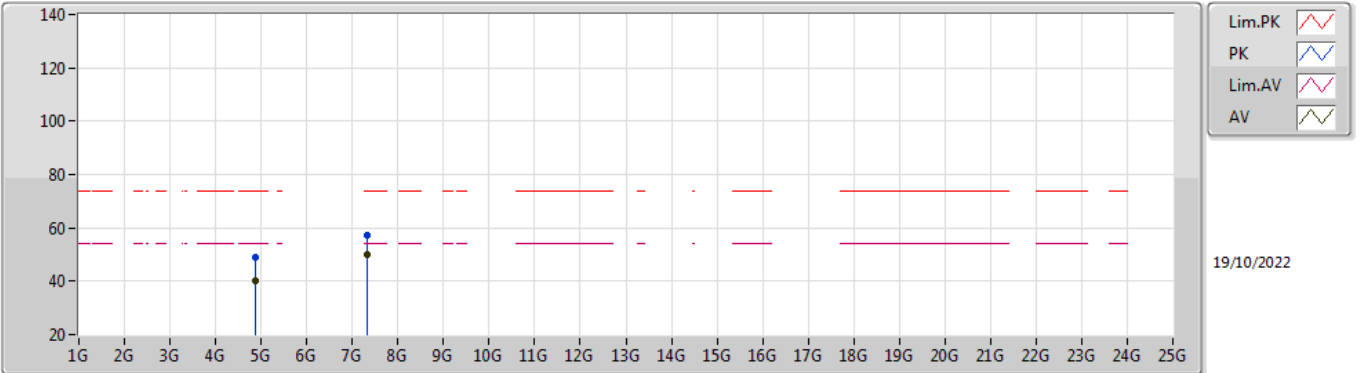


EUT_Z_1TX
Setting 0x09
02-B-R-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.87972G	49.74	74.00	-24.26	41.72	3	Vertical	226	1.79	-	33.16	5.64	30.78	
AV	4.87996G	40.71	54.00	-13.29	32.69	3	Vertical	226	1.79	-	33.16	5.64	30.78	
PK	7.32032G	57.44	74.00	-16.56	46.09	3	Vertical	55	2.21	-	36.44	6.84	31.93	
AV	7.32G	50.09	54.00	-3.91	38.74	3	Vertical	55	2.21	-	36.44	6.84	31.93	

BT-BR(1Mbps)

2440MHz_TX

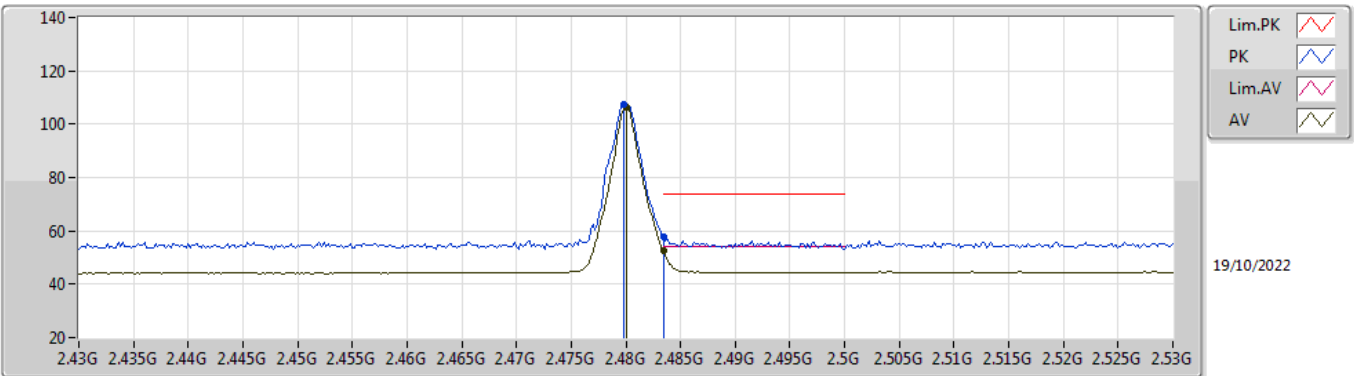


EUT_Z_1TX
Setting 0x09
02-B-R-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87972G	49.07	74.00	-24.93	41.05	3	Horizontal	204	2.59	-	33.16	5.64	30.78
AV	4.87992G	40.00	54.00	-14.00	31.98	3	Horizontal	204	2.59	-	33.16	5.64	30.78
PK	7.32044G	57.10	74.00	-16.90	45.75	3	Horizontal	56	2.22	-	36.44	6.84	31.93
AV	7.32004G	49.92	54.00	-4.08	38.57	3	Horizontal	56	2.22	-	36.44	6.84	31.93

BT-BR(1Mbps)

2480MHz_TX

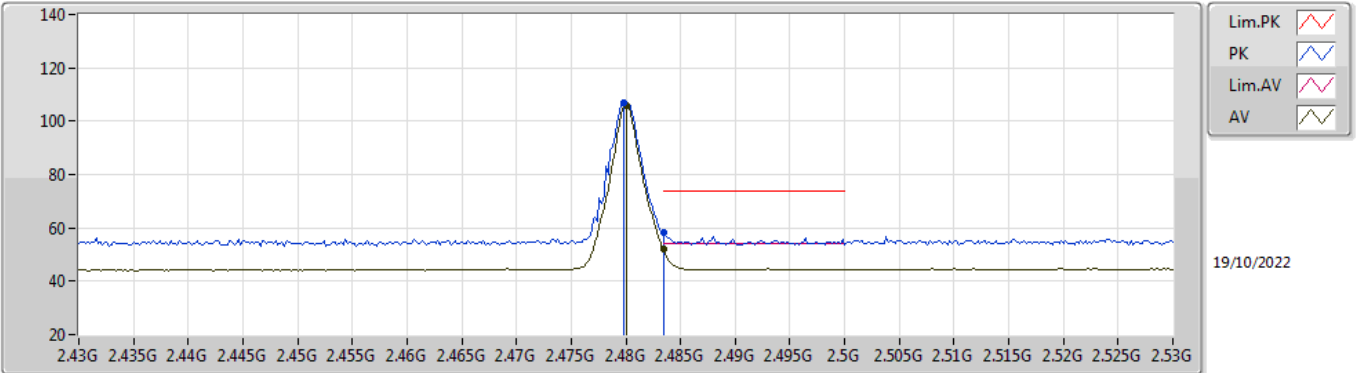


EUT X_1TX
Setting 0x09
02-B-R-5

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	107.27	Inf	-Inf	75.51	3	Vertical	62	2.51	-	28.52	3.24	-	
AV	2.48G	106.38	Inf	-Inf	74.62	3	Vertical	62	2.51	-	28.52	3.24	-	
PK	2.4835G	57.92	74.00	-16.08	26.15	3	Vertical	62	2.51	-	28.53	3.24	-	
AV	2.4835G	52.47	54.00	-1.53	20.70	3	Vertical	62	2.51	-	28.53	3.24	-	

BT-BR(1Mbps)

2480MHz_TX

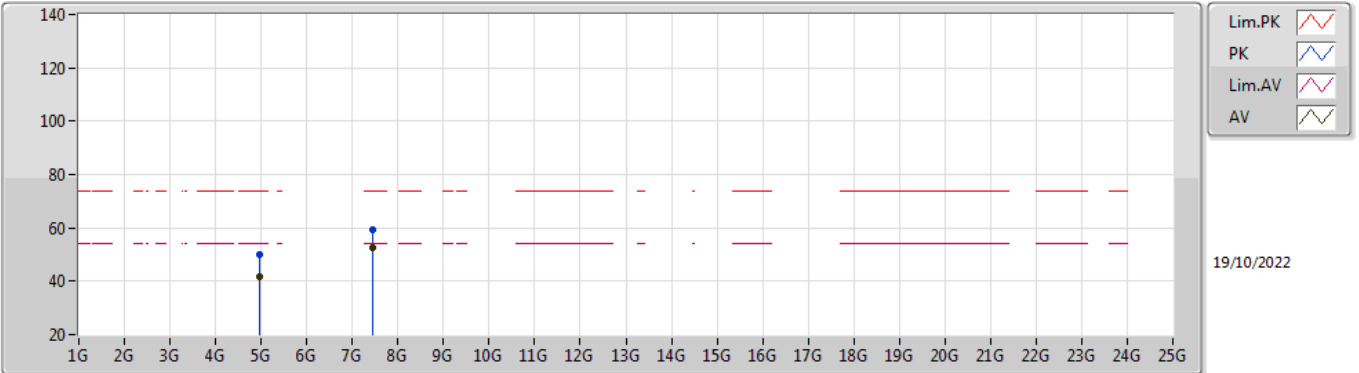


EUT X_1TX
Setting 0x09
02-B-R-5

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	106.85	Inf	-Inf	75.09	3	Horizontal	10	2.10	-	28.52	3.24	-	
AV	2.48G	105.95	Inf	-Inf	74.19	3	Horizontal	10	2.10	-	28.52	3.24	-	
PK	2.4835G	58.02	74.00	-15.98	26.25	3	Horizontal	10	2.10	-	28.53	3.24	-	
AV	2.4835G	52.16	54.00	-1.84	20.39	3	Horizontal	10	2.10	-	28.53	3.24	-	

BT-BR(1Mbps)

2480MHz_TX

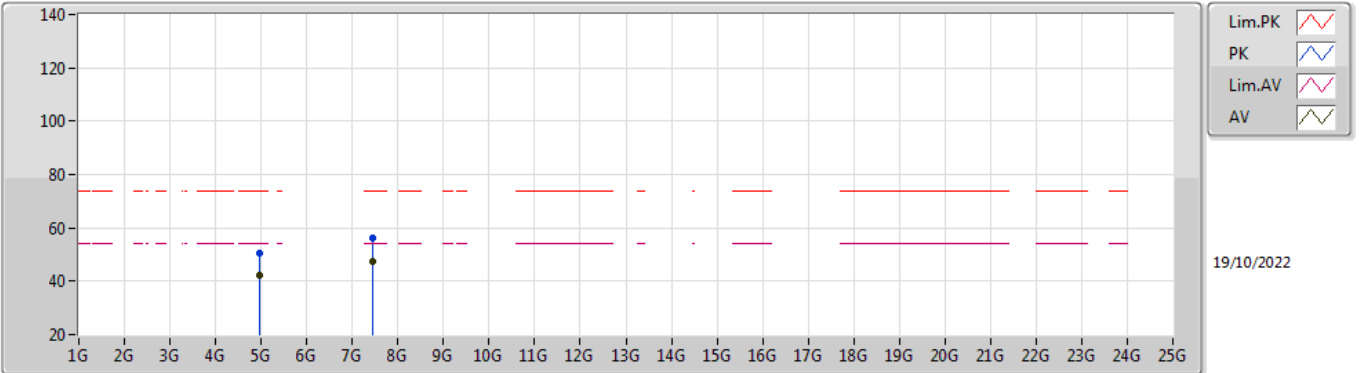


EUT_Z_1TX
Setting 0x09
02-B-R-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.96018G	49.83	74.00	-24.17	41.58	3	Vertical	252	1.77	-	33.32	5.68	30.75	
AV	4.95996G	41.83	54.00	-12.17	33.58	3	Vertical	252	1.77	-	33.32	5.68	30.75	
PK	7.43948G	59.46	74.00	-14.54	48.11	3	Vertical	189	2.10	-	36.50	6.84	31.99	
AV	7.43998G	52.72	54.00	-1.28	41.38	3	Vertical	189	2.10	-	36.50	6.84	32.00	

BT-BR(1Mbps)

2480MHz_TX

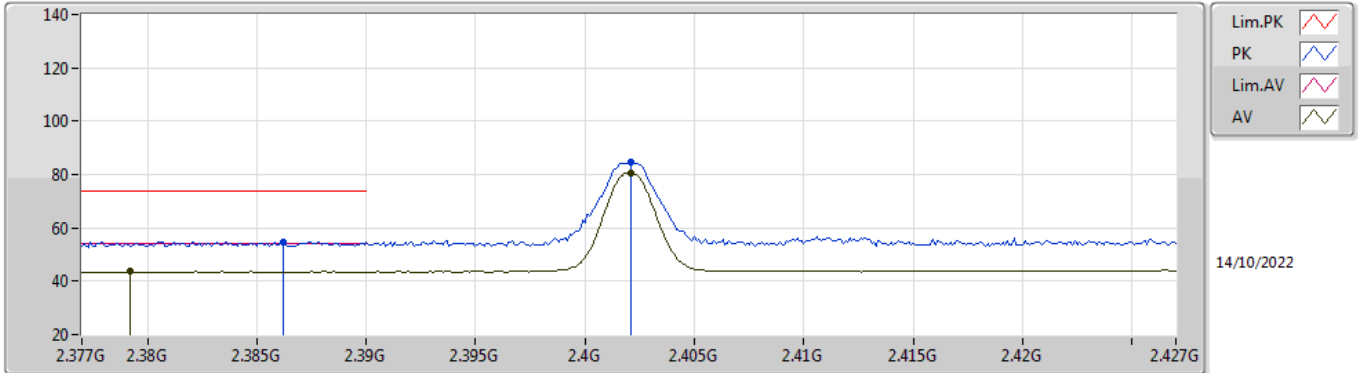


EUT_Z_1TX
Setting 0x09
02-B-R-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.95978G	50.41	74.00	-23.59	42.16	3	Horizontal	194	2.50	-	33.32	5.68	30.75
AV	4.95996G	42.50	54.00	-11.50	34.25	3	Horizontal	194	2.50	-	33.32	5.68	30.75
PK	7.43956G	56.45	74.00	-17.55	45.10	3	Horizontal	52	2.11	-	36.50	6.84	31.99
AV	7.43998G	47.26	54.00	-6.74	35.92	3	Horizontal	52	2.11	-	36.50	6.84	32.00

BT-EDR(3Mbps)

2402MHz_TX

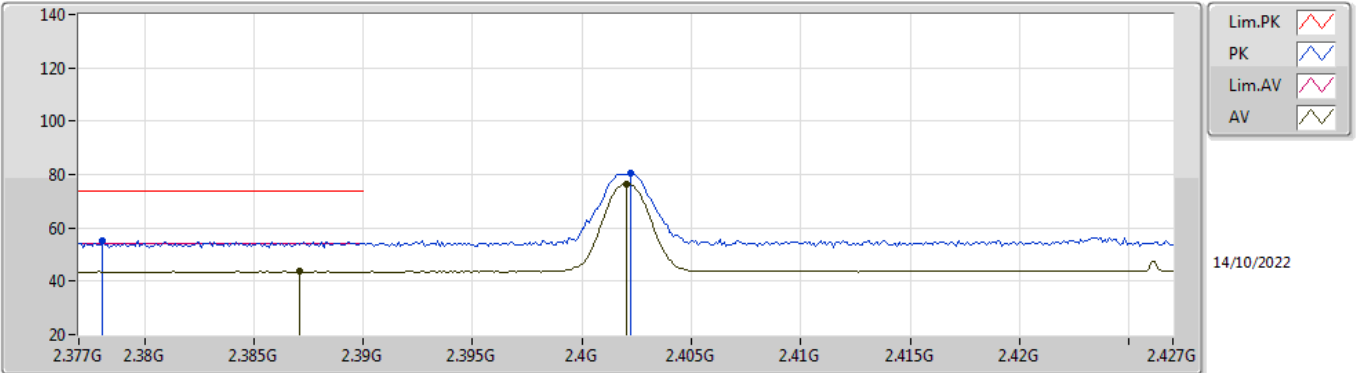


EUT_X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3862G	54.83	74.00	-19.17	23.29	3	Vertical	57	1.85	-	27.66	3.88	-	
AV	2.3792G	43.62	54.00	-10.38	12.07	3	Vertical	57	1.85	-	27.68	3.87	-	
PK	2.4021G	84.50	Inf	-Inf	53.00	3	Vertical	57	1.85	-	27.60	3.90	-	
AV	2.4021G	80.76	Inf	-Inf	49.26	3	Vertical	57	1.85	-	27.60	3.90	-	

BT-EDR(3Mbps)

2402MHz_TX

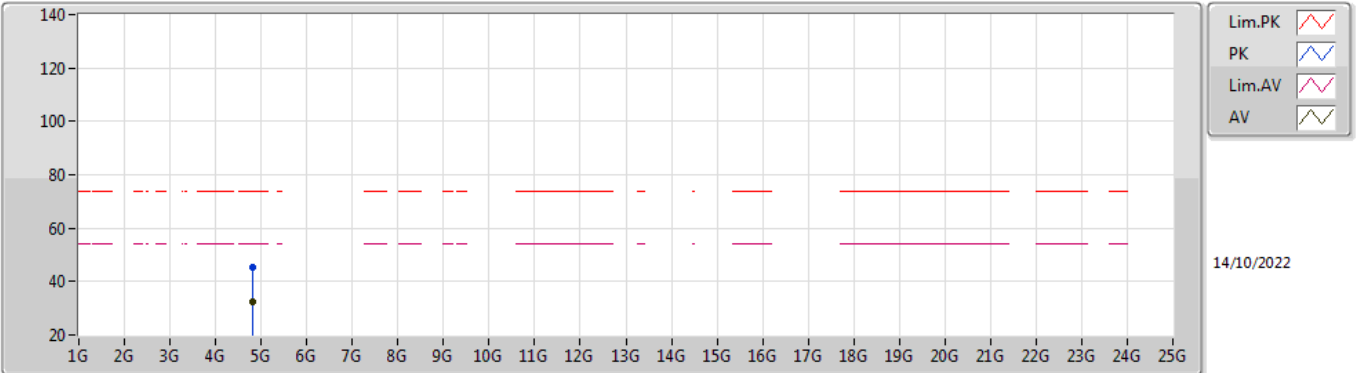


EUT_X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.3781G	55.42	74.00	-18.58	23.86	3	Horizontal	223	2.24	-	27.69	3.87	-	
AV	2.3871G	43.65	54.00	-10.35	12.12	3	Horizontal	223	2.24	-	27.65	3.88	-	
PK	2.4022G	80.37	Inf	-Inf	48.87	3	Horizontal	223	2.24	-	27.60	3.90	-	
AV	2.402G	76.56	Inf	-Inf	45.06	3	Horizontal	223	2.24	-	27.60	3.90	-	

BT-EDR(3Mbps)

2402MHz_TX

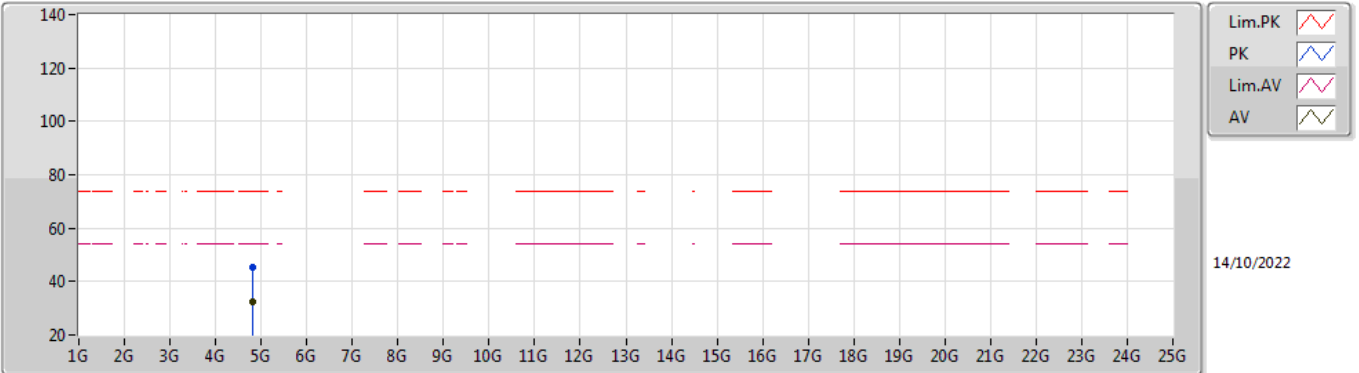


EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.80702G	45.31	74.00	-28.69	41.13	3	Vertical	145	2.77	-	31.31	5.40	32.53
AV	4.8062G	32.53	54.00	-21.47	28.35	3	Vertical	145	2.77	-	31.31	5.40	32.53

BT-EDR(3Mbps)

2402MHz_TX

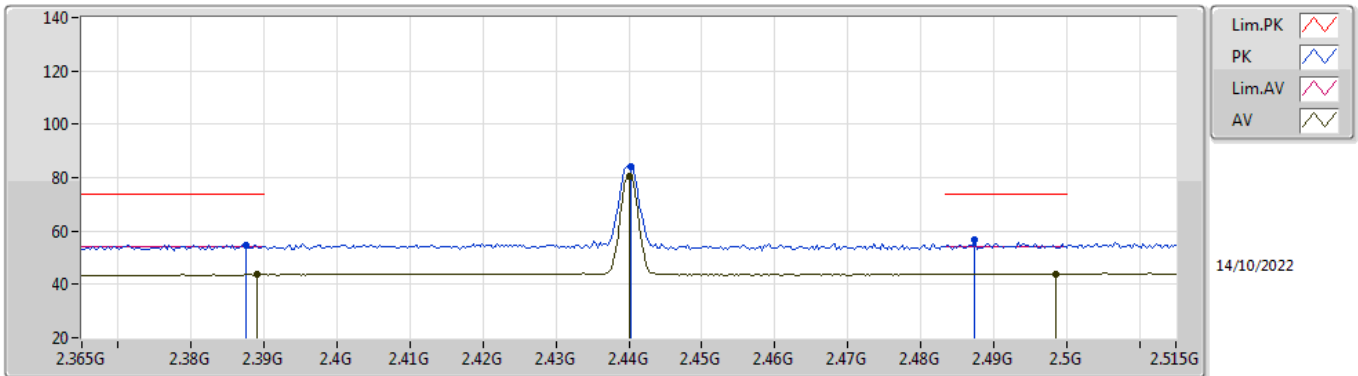


EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.80594G	45.48	74.00	-28.52	41.30	3	Horizontal	232	2.52	-	31.31	5.40	32.53
AV	4.80468G	32.51	54.00	-21.49	28.33	3	Horizontal	232	2.52	-	31.31	5.40	32.53

BT-EDR(3Mbps)

2440MHz_TX

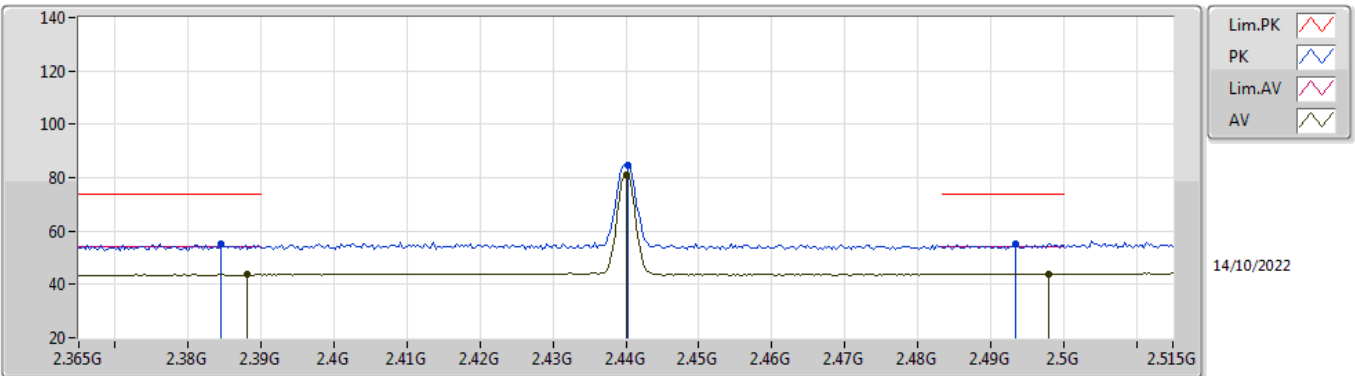


EUT X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3875G	54.86	74.00	-19.14	23.33	3	Vertical	56	1.80	-	27.65	3.88	-
AV	2.389G	43.64	54.00	-10.36	12.12	3	Vertical	56	1.80	-	27.64	3.88	-
PK	2.4403G	84.25	Inf	-Inf	52.71	3	Vertical	56	1.80	-	27.60	3.94	-
AV	2.44G	80.58	Inf	-Inf	49.04	3	Vertical	56	1.80	-	27.60	3.94	-
PK	2.4874G	56.87	74.00	-17.13	25.28	3	Vertical	56	1.80	-	27.60	3.99	-
AV	2.4985G	44.03	54.00	-9.97	12.43	3	Vertical	56	1.80	-	27.60	4.00	-

BT-EDR(3Mbps)

2440MHz_TX

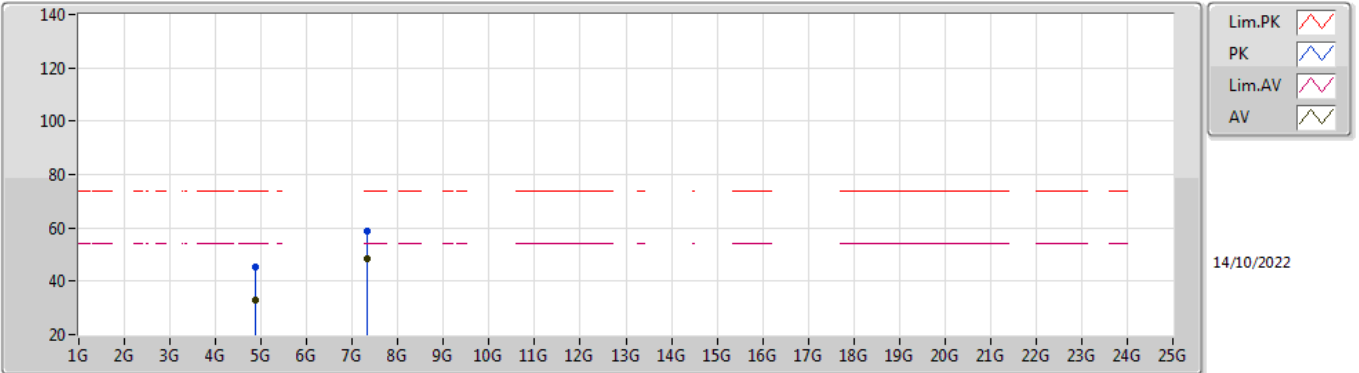


EUT X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3845G	55.10	74.00	-18.90	23.56	3	Horizontal	170	2.88	-	27.66	3.88	-
AV	2.3881G	43.61	54.00	-10.39	12.08	3	Horizontal	170	2.88	-	27.65	3.88	-
PK	2.4403G	84.65	Inf	-Inf	53.11	3	Horizontal	170	2.88	-	27.60	3.94	-
AV	2.44G	80.98	Inf	-Inf	49.44	3	Horizontal	170	2.88	-	27.60	3.94	-
PK	2.4934G	55.20	74.00	-18.80	23.61	3	Horizontal	170	2.88	-	27.60	3.99	-
AV	2.4979G	43.99	54.00	-10.01	12.39	3	Horizontal	170	2.88	-	27.60	4.00	-

BT-EDR(3Mbps)

2440MHz_TX

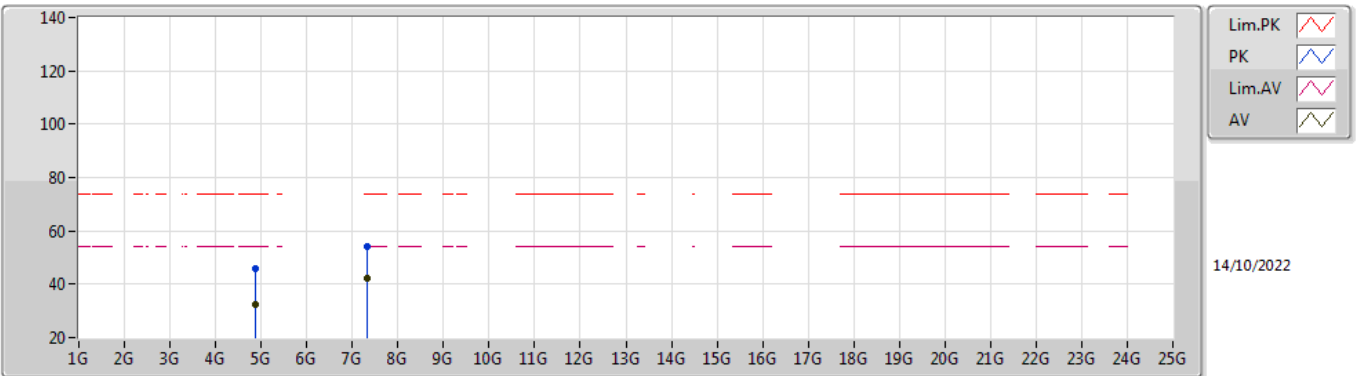


EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.8785G	45.60	74.00	-28.40	41.26	3	Vertical	202	2.95	-	31.40	5.44	32.50	
AV	4.88444G	32.82	54.00	-21.18	28.47	3	Vertical	202	2.95	-	31.40	5.44	32.49	
PK	7.31994G	58.90	74.00	-15.10	48.85	3	Vertical	190.4	2.32	-	36.70	6.80	33.45	
AV	7.32006G	48.54	54.00	-5.46	38.49	3	Vertical	190.4	2.32	-	36.70	6.80	33.45	

BT-EDR(3Mbps)

2440MHz_TX

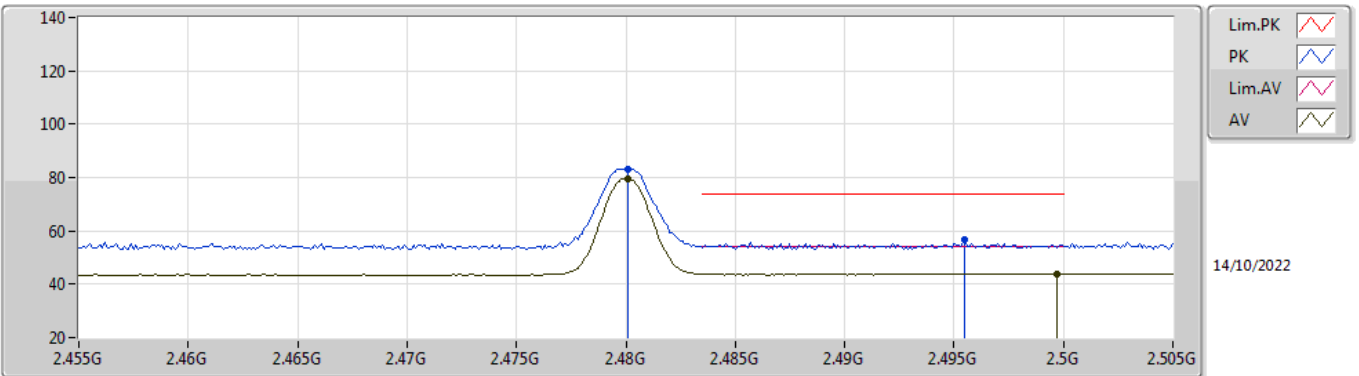


EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.87868G	45.86	74.00	-28.14	41.52	3	Horizontal	99	2.61	-	31.40	5.44	32.50	
AV	4.8842G	32.63	54.00	-21.37	28.28	3	Horizontal	99	2.61	-	31.40	5.44	32.49	
PK	7.31994G	53.99	74.00	-20.01	43.94	3	Horizontal	182	1.80	-	36.70	6.80	33.45	
AV	7.32016G	42.12	54.00	-11.88	32.07	3	Horizontal	182	1.80	-	36.70	6.80	33.45	

BT-EDR(3Mbps)

2480MHz_TX

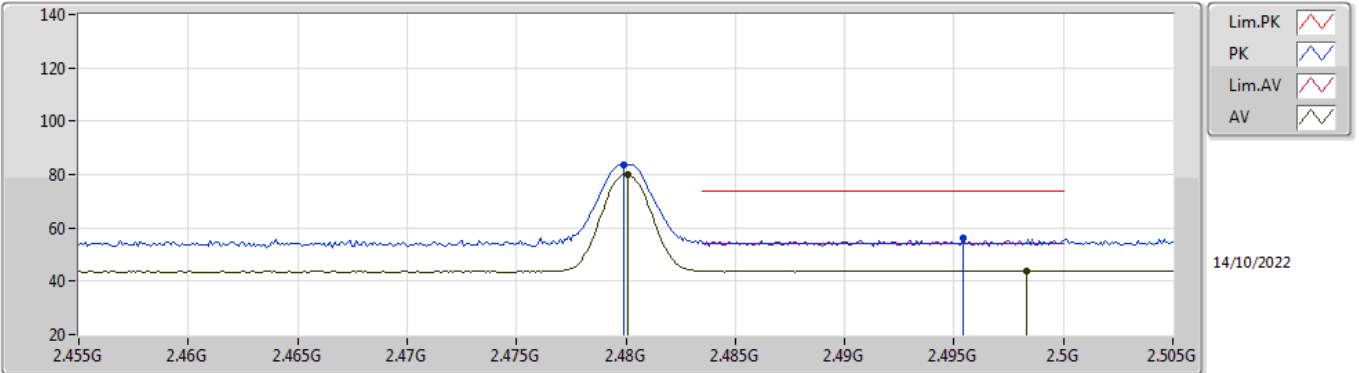


EUT X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.4801G	83.30	Inf	-Inf	51.72	3	Vertical	58	1.37	-	27.60	3.98	-	
AV	2.4801G	79.58	Inf	-Inf	48.00	3	Vertical	58	1.37	-	27.60	3.98	-	
PK	2.4955G	56.49	74.00	-17.51	24.89	3	Vertical	58	1.37	-	27.60	4.00	-	
AV	2.4997G	43.93	54.00	-10.07	12.33	3	Vertical	58	1.37	-	27.60	4.00	-	

BT-EDR(3Mbps)

2480MHz_TX

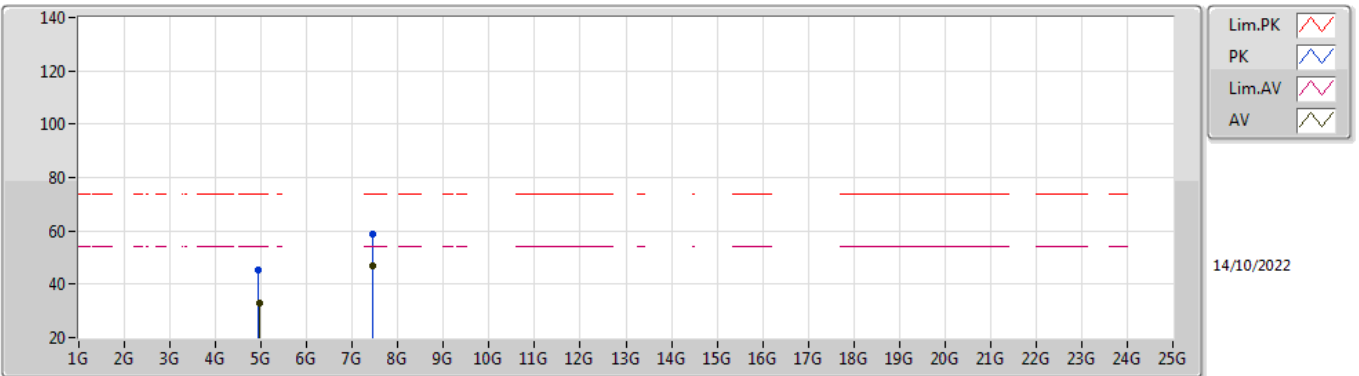


EUT X_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	2.4799G	83.61	Inf	-Inf	52.03	3	Horizontal	166	2.82	-	27.60	3.98	-	
AV	2.4801G	79.87	Inf	-Inf	48.29	3	Horizontal	166	2.82	-	27.60	3.98	-	
PK	2.4954G	56.02	74.00	-17.98	24.42	3	Horizontal	166	2.82	-	27.60	4.00	-	
AV	2.4983G	44.01	54.00	-9.99	12.41	3	Horizontal	166	2.82	-	27.60	4.00	-	

BT-EDR(3Mbps)

2480MHz_TX

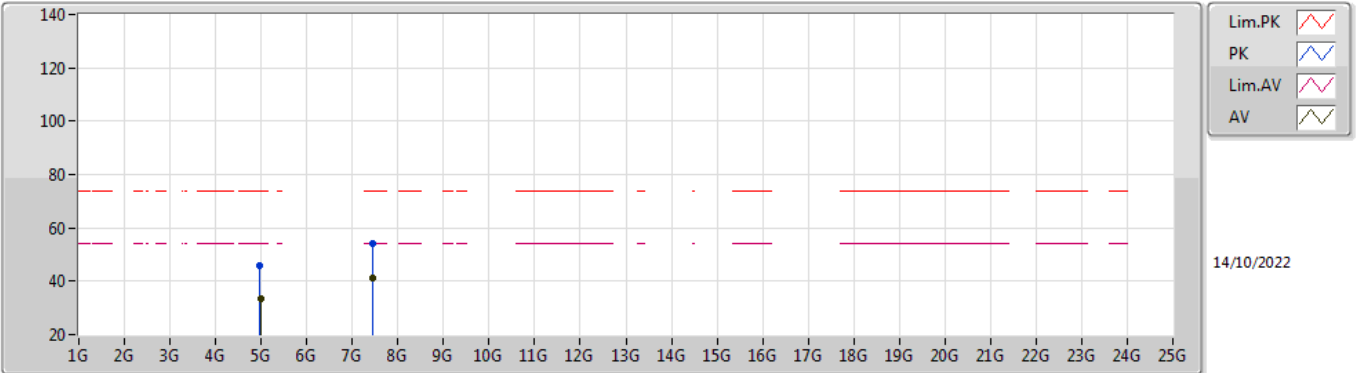


EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.9429G	45.55	74.00	-28.45	41.06	3	Vertical	326	1.15	-	31.49	5.47	32.47	
AV	4.9625G	33.09	54.00	-20.91	28.50	3	Vertical	326	1.15	-	31.57	5.48	32.46	
PK	7.43976G	58.99	74.00	-15.01	49.05	3	Vertical	3	2.22	-	36.70	6.84	33.60	
AV	7.43984G	47.02	54.00	-6.98	37.08	3	Vertical	3	2.22	-	36.70	6.84	33.60	

BT-EDR(3Mbps)

2480MHz_TX



EUT_Z_1TX
Setting 0x09
06-E-S-5

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.967G	45.93	74.00	-28.07	41.31	3	Horizontal	140	2.11	-	31.60	5.48	32.46	
AV	4.9827G	33.29	54.00	-20.71	28.55	3	Horizontal	140	2.11	-	31.70	5.49	32.45	
PK	7.4535G	54.27	74.00	-19.73	44.35	3	Horizontal	240	2.79	-	36.69	6.85	33.62	
AV	7.4604G	41.13	54.00	-12.87	31.22	3	Horizontal	240	2.79	-	36.68	6.86	33.63	



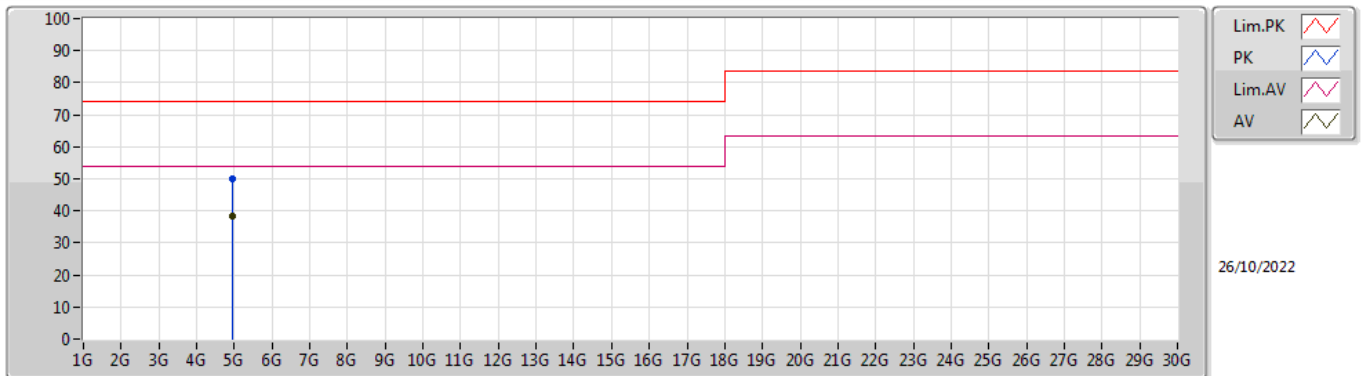
Radiated Emissions Co-location test

Appendix H

Summary

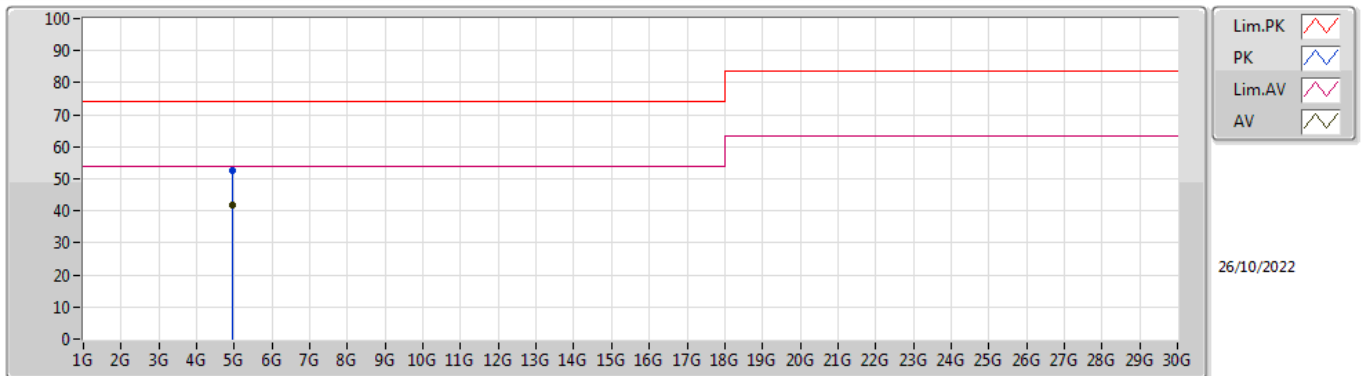
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	AV	4.95976G	41.85	54.00	-12.15	Horizontal

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	4.96652G	49.96	74.00	-24.04	5.14	3	Vertical	178	1.34	-	44.82	32.93	6.07	33.86
AV	4.95996G	38.56	54.00	-15.44	5.12	3	Vertical	178	1.34	"Worst"	33.44	32.92	6.06	33.86

Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	4.95962G	52.58	74.00	-21.42	5.12	3	Horizontal	181	1.92	-	47.46	32.92	6.06	33.86
AV	4.95976G	41.85	54.00	-12.15	5.12	3	Horizontal	181	1.92	"Worst"	36.73	32.92	6.06	33.86