

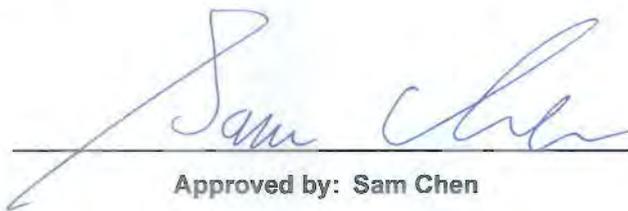


RADIO TEST REPORT

FCC ID : 2AYRA-03734
Equipment : AX5400 Dual-band Mesh Router
Brand Name : LINKSYS
Model Name : MR5500, MR55MS, MR55EC, MR55WH
Applicant : Linksys USA, Inc.
12045 East Waterfront Drive
Playa Vista, CA 90094, United States.
Standard : 47 CFR FCC Part 15.247

The product was received on Apr. 14, 2021, and testing was started from Apr. 14, 2021 and completed on May 24, 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: 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 H. Test Photos

Photographs of EUT v01



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	20dB Bandwidth	PASS	-
3.2	15.247(a)	Carrier Frequency Separation	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(a)	Number of Hopping Frequencies and Hopping 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 $\pi/4$ -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 Holder	Model Name	Antenna Type	Connector	Gain (dBi)
	2.4GHz	5GHz	Bluetooth					
1	-	1	-	Signal Plus Technology Co., Ltd.	6239F00007	Dipole	I-PEX	Note
2	-	2	-	Signal Plus Technology Co., Ltd.	6239F00006	Dipole	I-PEX	
3	1	3	-	Signal Plus Technology Co., Ltd.	6239F00007	Dipole	I-PEX	
4	2	4	-	Signal Plus Technology Co., Ltd.	6239F00006	Dipole	I-PEX	
5	-	-	1	Signal Plus Technology Co., Ltd.	6239F00005	PIFA	N/A	

Note:

Ant.	Port			Antenna Gain (dBi)			
	2.4GHz	5GHz	Bluetooth	2.4 GHz	5GHz Band 1	5GHz Band 4	Bluetooth
1	-	1	-	-	2.21	3.09	-
2	-	2	-	-	1.80	2.76	-
3	1	3	-	2.52	1.5	3.45	-
4	2	4	-	2.25	1.04	2.37	-
5	-	-	1	-	-	-	4

Directional Gain (dBi)			
4T1S		4T4S	
5GHz Band 1	5GHz Band 4	5GHz Band 1	5GHz Band 4
6.02	7.72	0.62	1.8

Note: The above information was declared by manufacturer.

WLAN 2.4GHz: Maximum Directional Gain following KDB662911 D01

WLAN 5GHz: Maximum Directional Gain following KDB662911 D0

For 2.4GHz function:

For IEEE 802.11b/g/n/VHT/ax (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 (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For Bluetooth Function:

For Bluetooth mode (1TX/1RX)

Only Port 1 can be use as transmit and receive 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	2.889m	1k
BT-EDR(2Mbps)	0.76	1.19	2.889m	1k
BT-EDR(3Mbps)	0.785	1.05	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	tftpd32 \ DOS [ver 6.1.7601] \ QSPT Configuration 2.7 Build 496 Spin 1

1.1.5 Table for Multiple Listing

The brand/model names in the following table are all refer to the identical product.

Brand Name	Model Name	Description
LINKSYS	MR5500	All the models are identical, the difference model served as marketing strategy.
	MR55MS	
	MR55EC	
	MR55WH	

Note 1: From the above models, model: MR5500 was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.



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	TH01-CB	Owen Hsu	23.9-25.4 / 57-61	Apr. 27, 2021 ~ May 24, 2021
Radiated<1GHz	03CH05-CB	Eason Chen	21.2-22.3 / 55-57	Apr. 14, 2021 ~ May 24, 2021
Radiated>1GHz	03CH01-CB	son Chen	20.8-21.9 / 56-58	Apr. 14, 2021 ~ May 24, 2021
AC Conduction	CO02-CB	Zack Kuo	21~22 / 57~59	Apr. 23, 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 Date: Before May 08, 2021

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.0 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.9 dB	Confidence levels of 95%
Conducted Emission	2.8 dB	Confidence levels of 95%
Output Power Measurement	1.4 dB	Confidence levels of 95%
Power Density Measurement	2.8 dB	Confidence levels of 95%
Bandwidth Measurement	0.4%	Confidence levels of 95%

Test Date: After May 07, 2021

Test Items	Uncertainty	Remark
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	8
BT-EDR(2Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	9
BT-EDR(3Mbps)	-
2402MHz	9
2440MHz	9
2480MHz	9



2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	EUT + Adapter 1
2	EUT + Adapter 2
For operating mode 2 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 Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case were found at Y axis for WLAN 2.4GH, Z axis for WLAN 5GHz and Bluetooth. So the measurement will follow this same test configuration.
1	EUT in Y axis + WLAN 2.4GHz + Adapter 1
2	EUT in Y axis + WLAN 2.4GHz + Adapter 2
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3~4 will follow this same test mode.	
3	EUT in Z axis + WLAN 5GHz + Adapter 1
4	EUT in Z axis + Bluetooth + Adapter 1
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 Y axis and Z axis position and the worst case was found at Z axis. So the measurement will follow this same test configuration.
1	EUT in Z axis

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+ WLAN 5GHz
Refer to Sporton Test Report No.: FA140727 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

For CTX Mode:
The EUT was programmed to be in continuously transmitting mode.

For Normal Link:
During the test, the EUT operation to normal function.



2.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter 1	Ktec	KSA-24W-120200HU	INPUT: 100-240V~50/60Hz, 0.6A OUTPUT: 12V, 2.0A
Adapter 2	MOSO	MSA-C2000IC12.0-24P-US	INPUT: 100-240V~50/60Hz, 0.7A max OUTPUT: 12V, 2.0A
Others			
RJ-45 cable*1, non-shielded, 0.9m			

2.5 Support Equipment

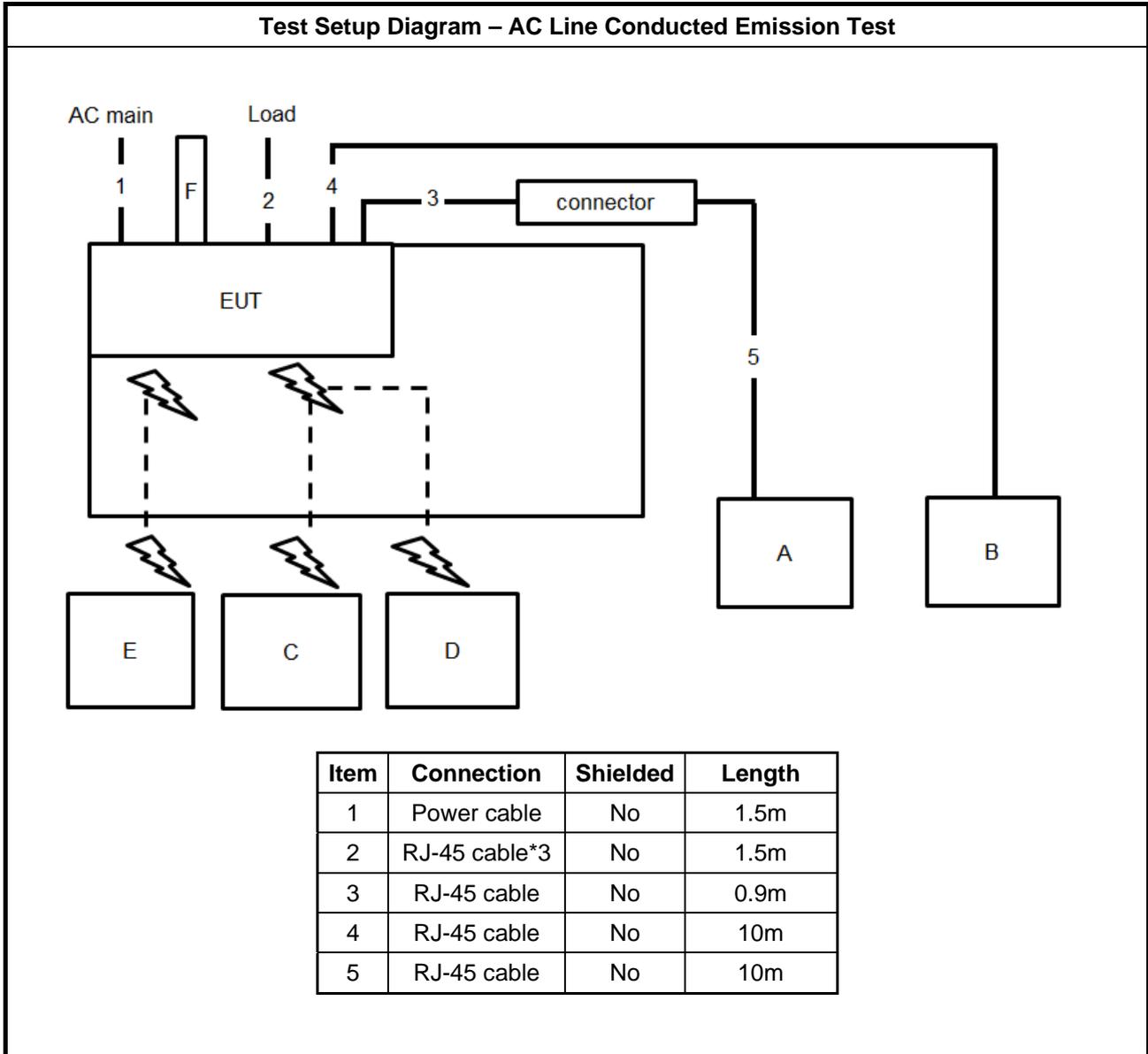
For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	WAN NB	DELL	E6430	N/A
B	LAN NB	DELL	E6430	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	iPad	Apple	A1430	N/A
F	Flash disk3.0	Transcend	JetFlash-700	N/A

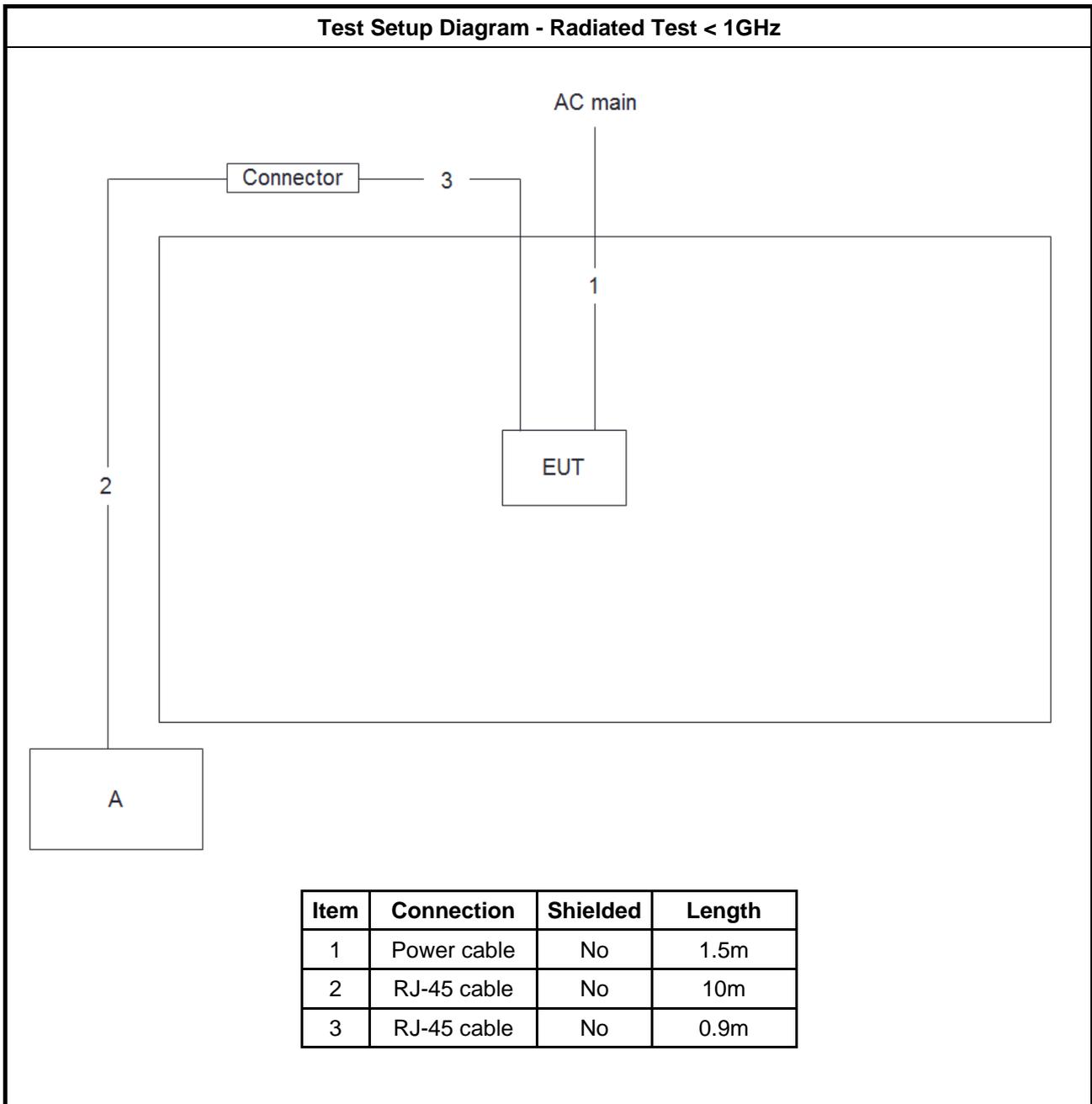
For Radiated and RF Conducted:

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

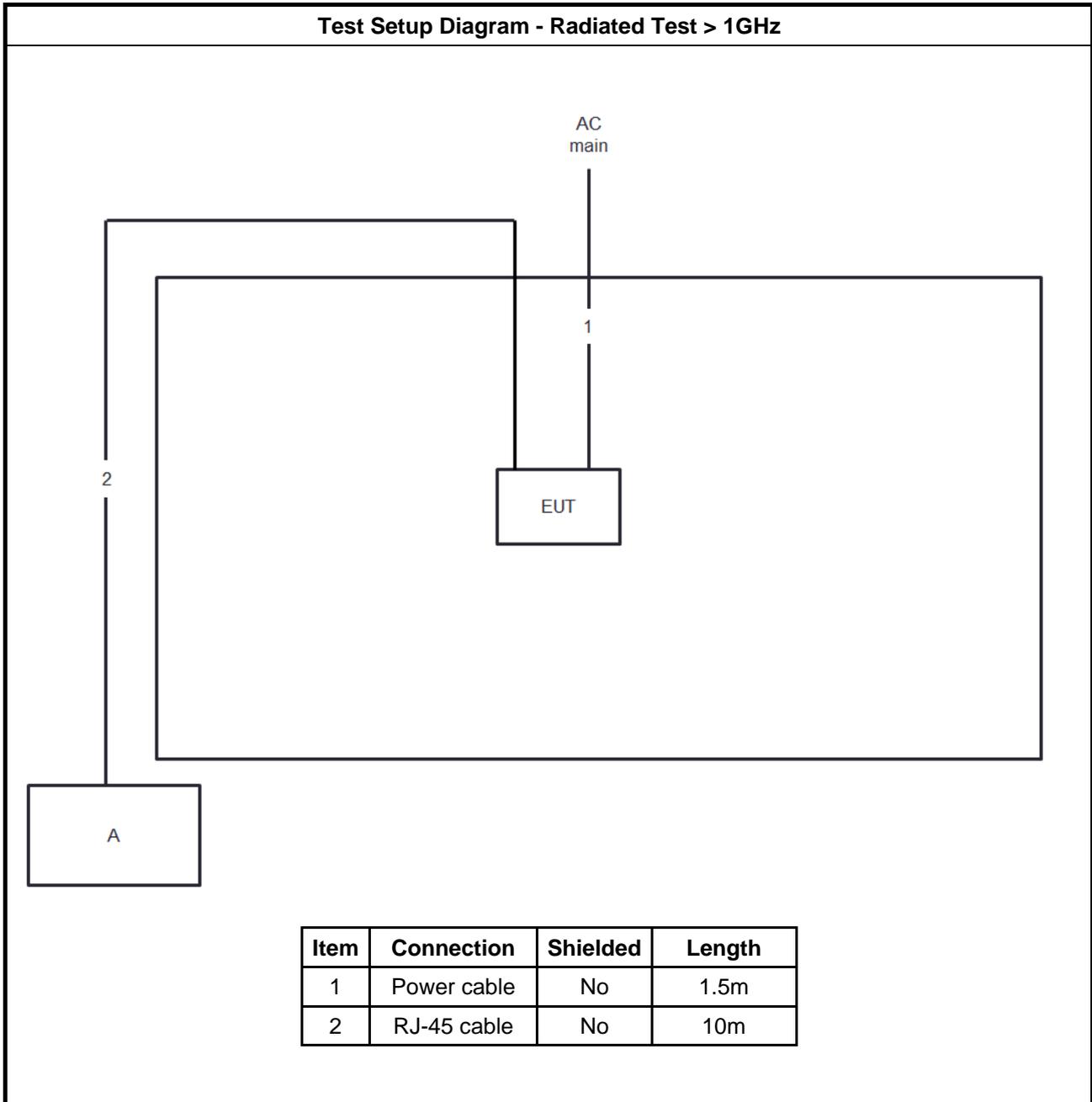
2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz



Test Setup Diagram - Radiated Test > 1GHz





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.

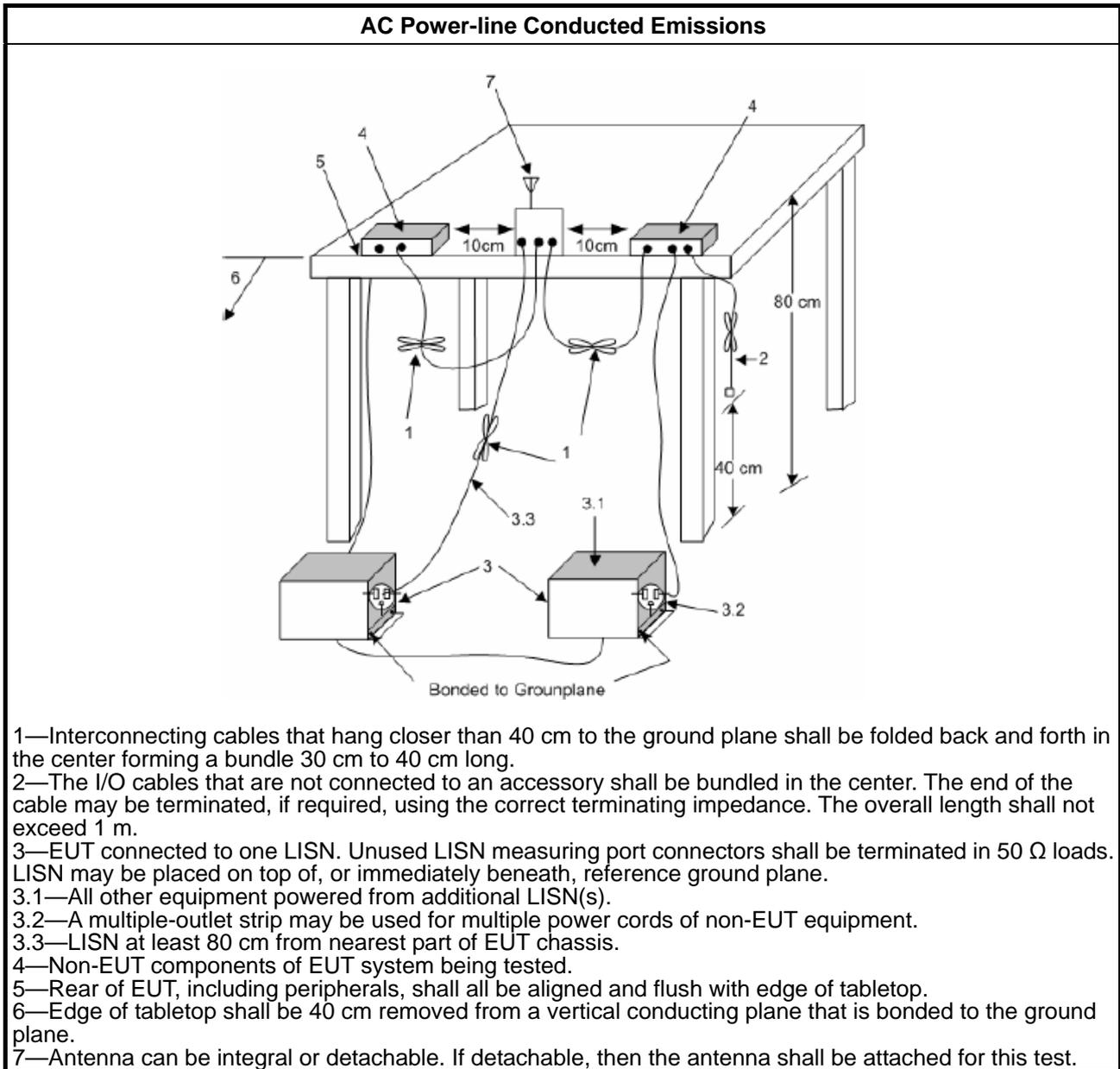
3.1.2 Measuring Instruments

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:

- 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:	
	▪ $N \geq 50$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth \leq 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪ 2400-2483.5 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
▪ 5725-5850 MHz Band:	
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth \leq 1 MHz.
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

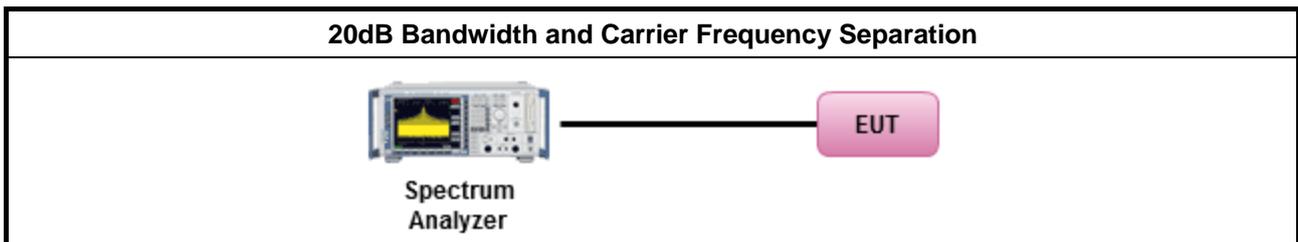
3.2.2 Measuring Instruments

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	
<ul style="list-style-type: none"> ▪ 902-928 MHz Band: 	
	<ul style="list-style-type: none"> ▪ $N \geq 50$; Power 30dBm; EIRP 36dBm
	<ul style="list-style-type: none"> ▪ $50 > N \geq 25$; Power 23.98dBm; EIRP 29.98dBm
<ul style="list-style-type: none"> ▪ 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> ▪ $N \geq 75$; Power 30dBm; EIRP 36dBm
	<ul style="list-style-type: none"> ▪ $75 > N \geq 15$; Power 21dBm; EIRP 27dBm
<ul style="list-style-type: none"> ▪ 5725-5850 MHz Band: 	
	<ul style="list-style-type: none"> ▪ $N \geq 75$; Power 30dBm; EIRP 36dBm
N: Number of Hopping Frequencies	

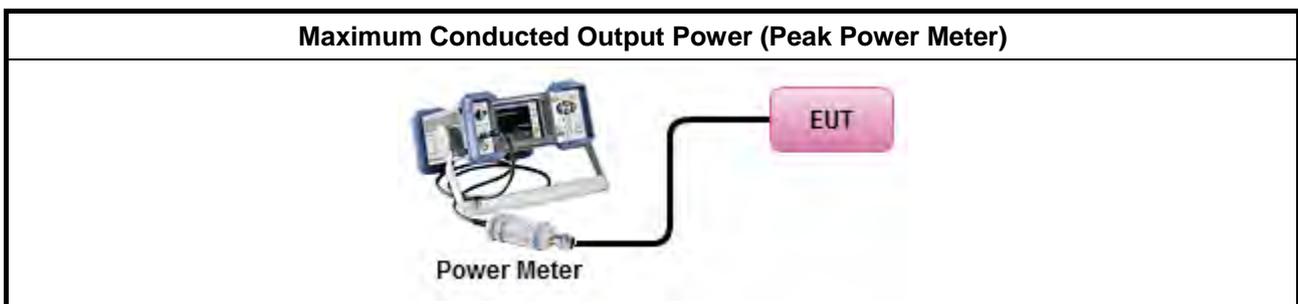
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Number of Hopping Frequencies and Hopping Bandedge

3.4.1 Number of Hopping Frequencies Limit

Number of Hopping Frequencies Limit	
▪	902-928 MHz Band:
	▪ $N \geq 50$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth \leq 250 kHz.
	▪ $50 > N \geq 25$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz); 20 dB bandwidth $>$ 250 kHz.
▪	2400-2483.5 MHz Band:
	▪ $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	▪ $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
▪	5725-5850 MHz Band:
	▪ $N \geq 75$ and $ChS \geq MAX$ (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

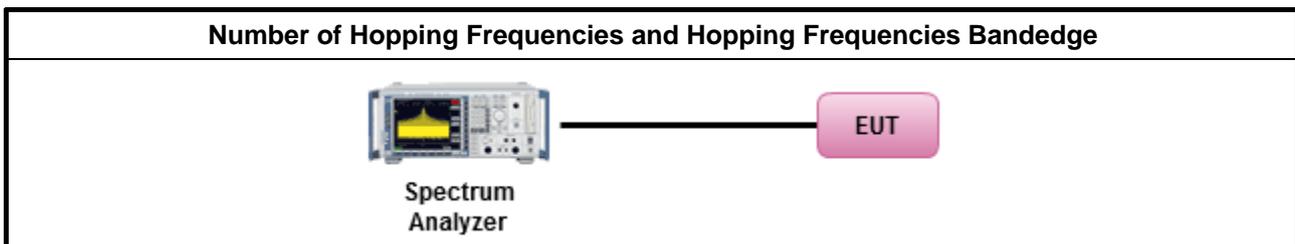
3.4.3 Measuring Instruments

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	
<ul style="list-style-type: none"> 902-928 MHz Band: 	
	<ul style="list-style-type: none"> N ≥ 50; 0.4s in 20s period
	<ul style="list-style-type: none"> 50 > N ≥ 25; 0.4s in 10s period
<ul style="list-style-type: none"> 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> N ≥ 75; 0.4s in N x 0.4 period
	<ul style="list-style-type: none"> 75 > N ≥ 15; 0.4s in N x 0.4 period
<ul style="list-style-type: none"> 5725-5850 MHz Band: 	
	<ul style="list-style-type: none"> N ≥ 75; 0.4s in 30s period
N: Number of Hopping Frequencies	

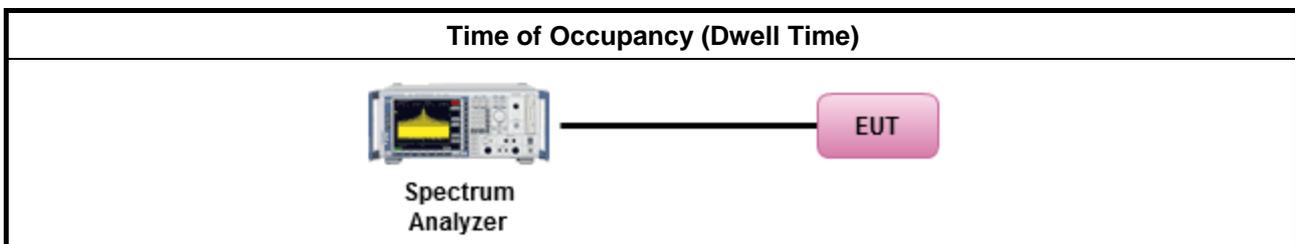
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 7.8.4 for dwell time measurement. 	
<ul style="list-style-type: none"> Bluetooth ACL packets can be 1, 3, or 5 time slots. Following as dwell time. Operate DH5 at maximum dwell time and maximum duty cycle. 	
	<ul style="list-style-type: none"> The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and maximum duty cycle. A maximum length packet has duration of 5 time slots. The hopping rate is 1600 hops/second so the maximum dwell time is 5/1600 seconds, or 3.125ms. DH5 Packet permit maximum 1600 / 79 / 6 = 3.37 hops per second in each channel.

3.5.4 Test Setup



3.5.5 Test Result of Time of Occupancy (Dwell Time)

Refer as Appendix E

3.6 Emissions in Non-restricted Frequency Bands

3.6.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (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.

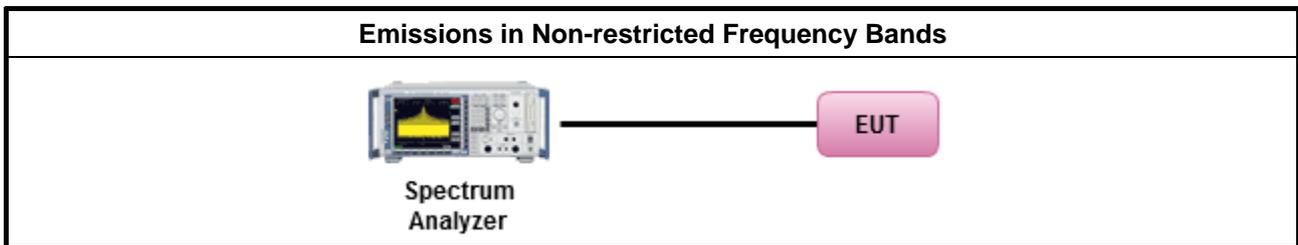
3.6.2 Measuring Instruments

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.

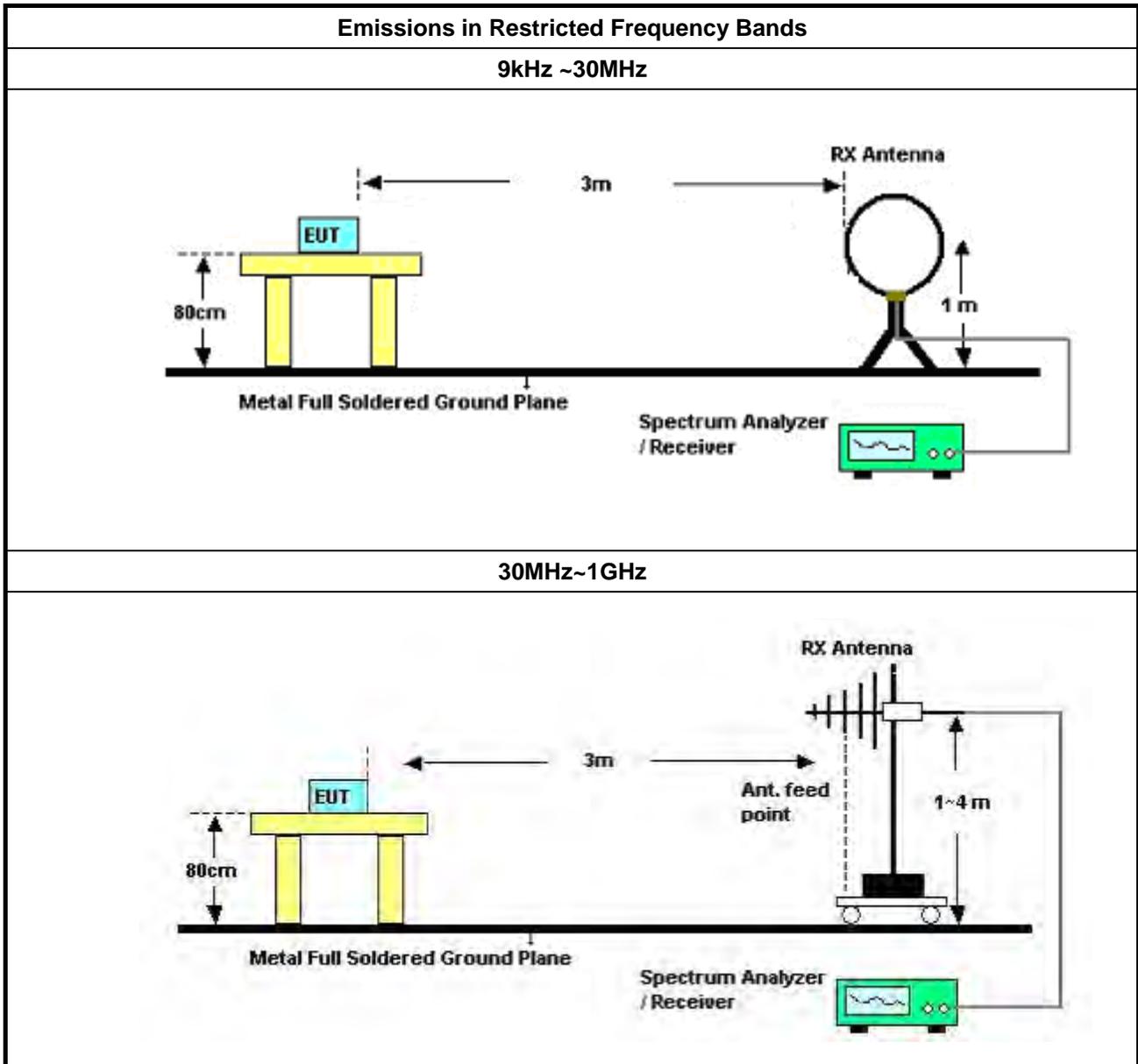
3.7.2 Measuring Instruments

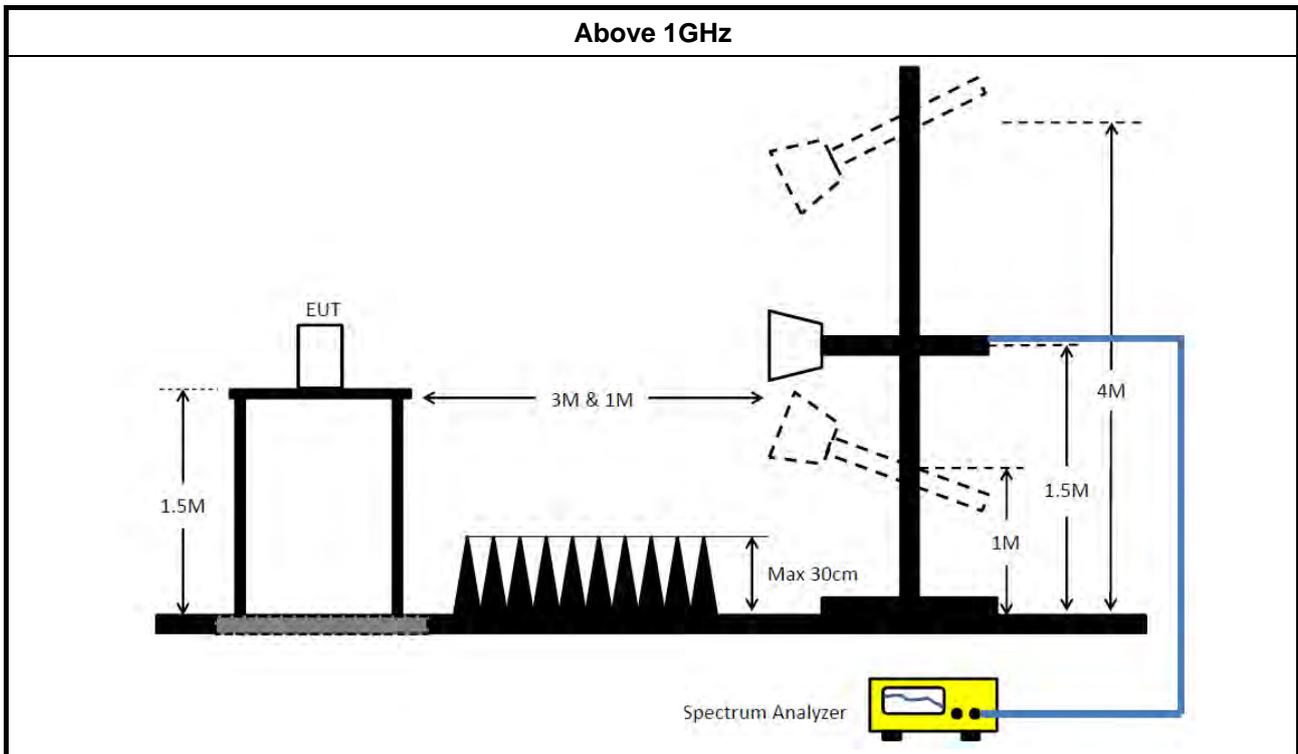
Refer a test equipment and calibration data table in this test report.

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. 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





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)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Mar. 18, 2021	Mar. 17, 2022	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 10, 2020	Aug. 09, 2021	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 26, 2021	Mar. 25, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 28, 2020	Apr. 27, 2021	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 27, 2021	Apr. 26, 2022	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Nov. 10, 2020	Nov. 09, 2021	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESR7	102171	9kHz ~ 26GHz	Jul. 01, 2020	Jun. 30, 2021	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 05, 2020	Oct. 04, 2021	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	03CH01-CB	1GHz ~18GHz 3m	May 29, 2020	May 28, 2021	Radiation (03CH01-CB)
Horn Antenna	ETS-LINDGRE N	3115	00075790	750MHz ~ 18GHz	Nov. 06, 2020	Nov. 05, 2021	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2020	Jul. 20, 2021	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 07, 2021	Jan. 06, 2022	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 08, 2020	Jul. 07, 2021	Radiation (03CH01-CB)
Signal Analyzer	R&S	FSV40	101903	9kHz ~ 40GHz	Mar. 22, 2021	Mar. 21, 2022	Radiation (03CH01-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	May 03, 2021	May 02, 2023	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 05, 2020	May 04, 2021	Conducted (TH01-CB)
Signal Analyzer	R&S	FSV40	101903	9kHz ~ 40GHz	Mar. 22, 2021	Mar. 21, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
Cable	Woken	RG402	low Cable-30	9 kHz ~ 1 GHz	Apr. 06, 2021	Apr. 05, 2022	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 23, 2021	Feb. 22, 2022	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 23, 2021	Feb. 22, 2022	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)

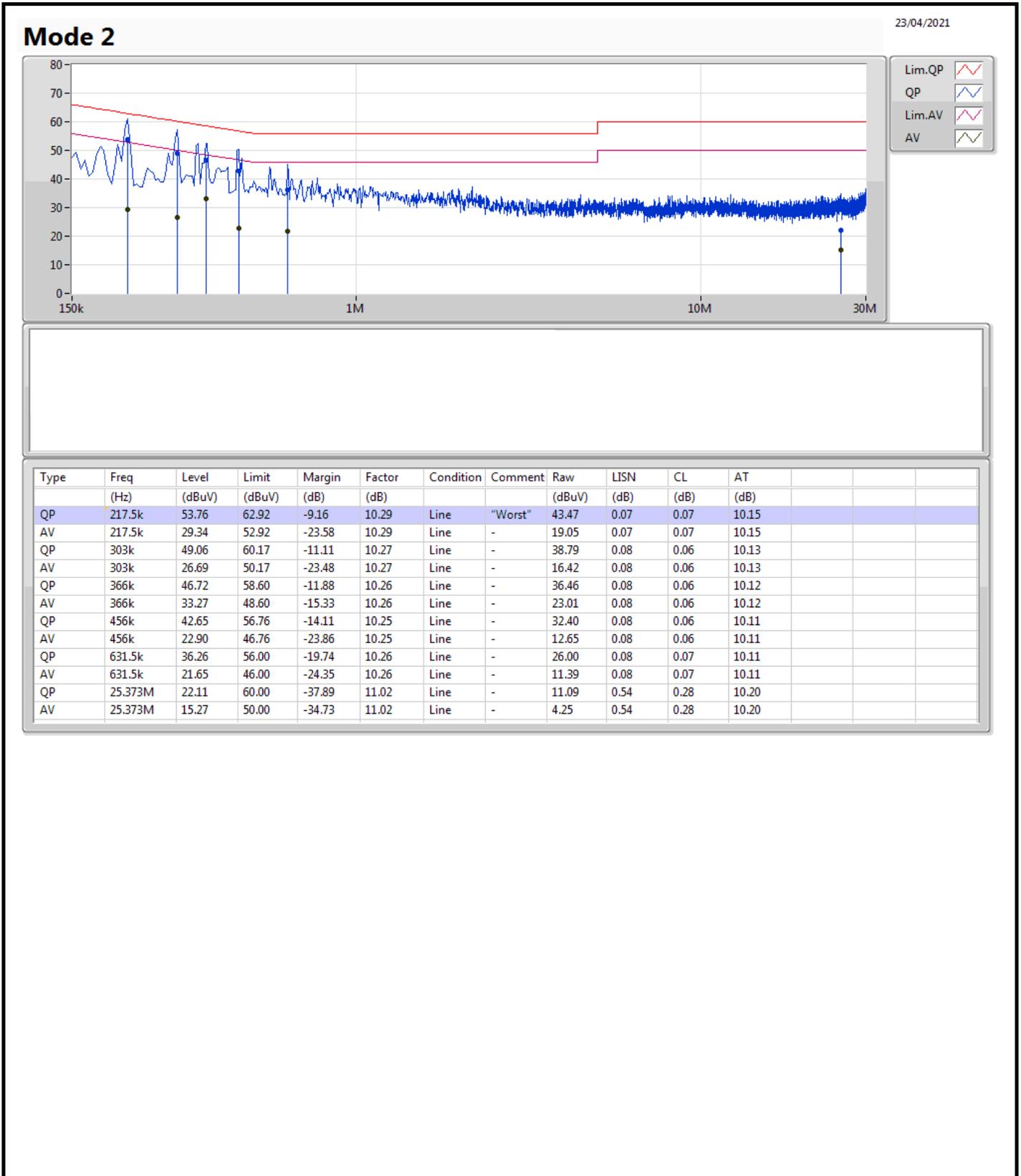
Note: Calibration Interval of instruments listed above is one year.

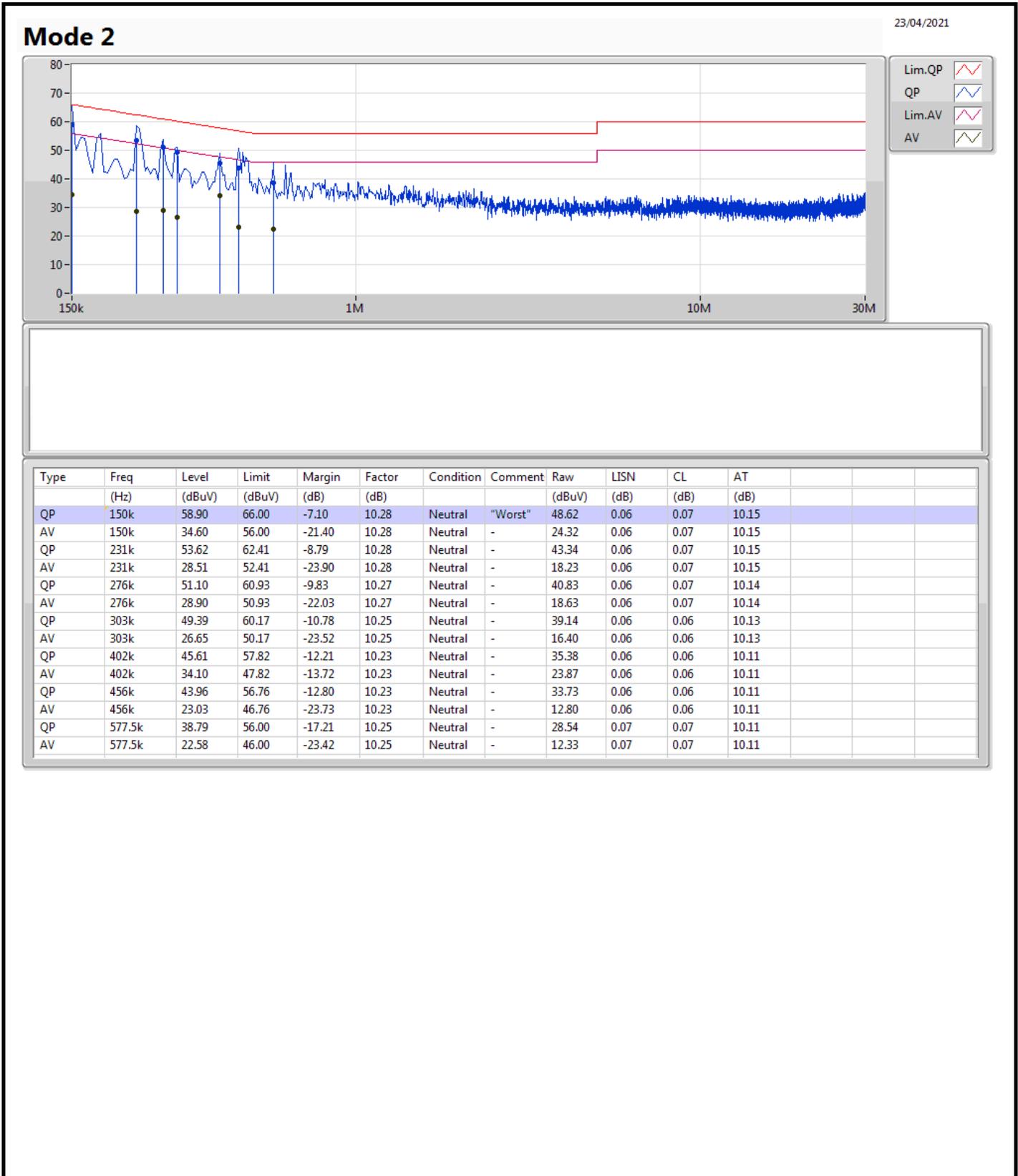
N.C.R. means Non-Calibration required.



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	QP	150k	58.90	66.00	-7.10	Neutral







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)	916.25k	842.079k	842KF1D	876.25k	834.583k
BT-EDR(2Mbps)	1.255M	1.192M	1M19G1D	1.254M	1.189M
BT-EDR(3Mbps)	1.258M	1.203M	1M20G1D	1.249M	1.197M

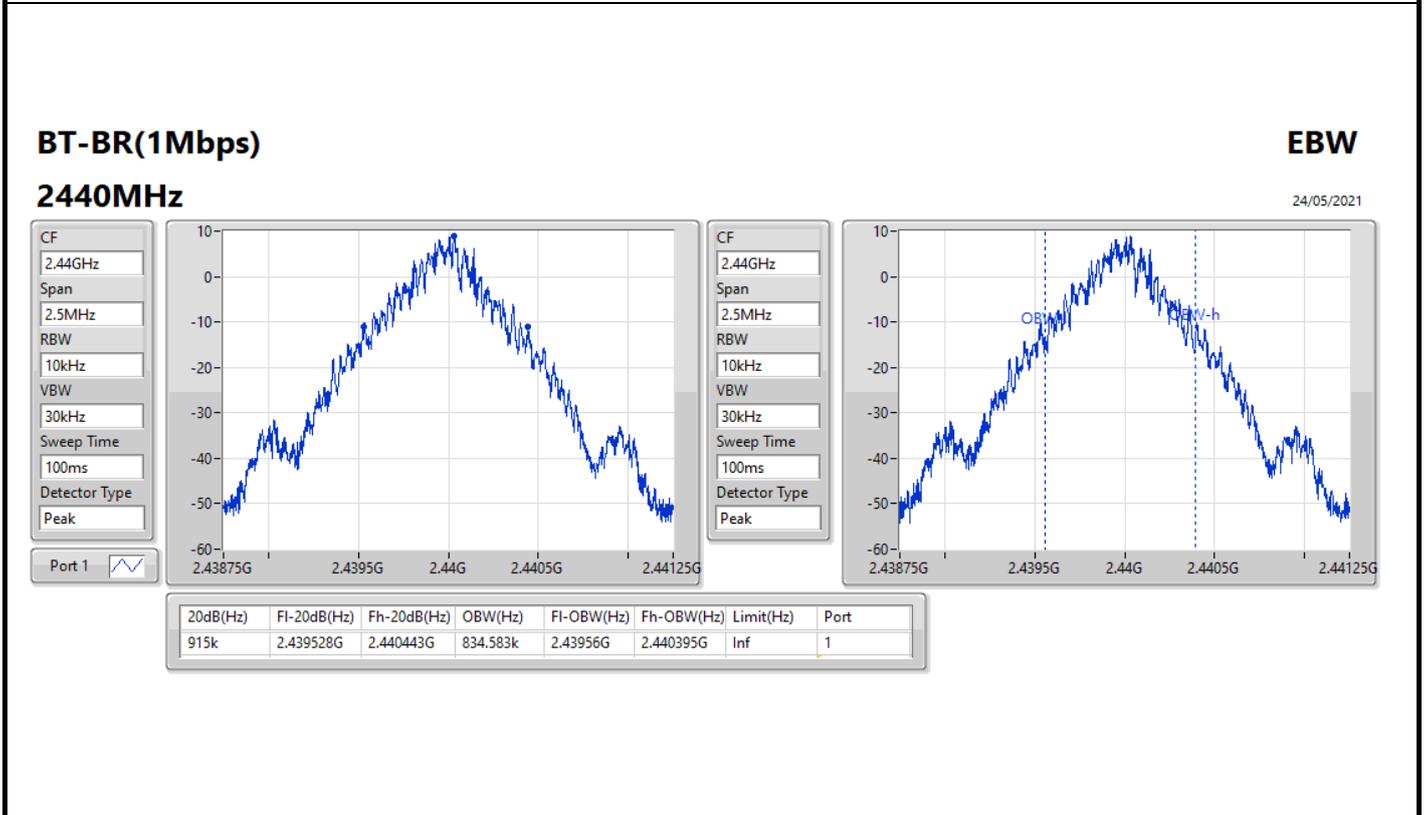
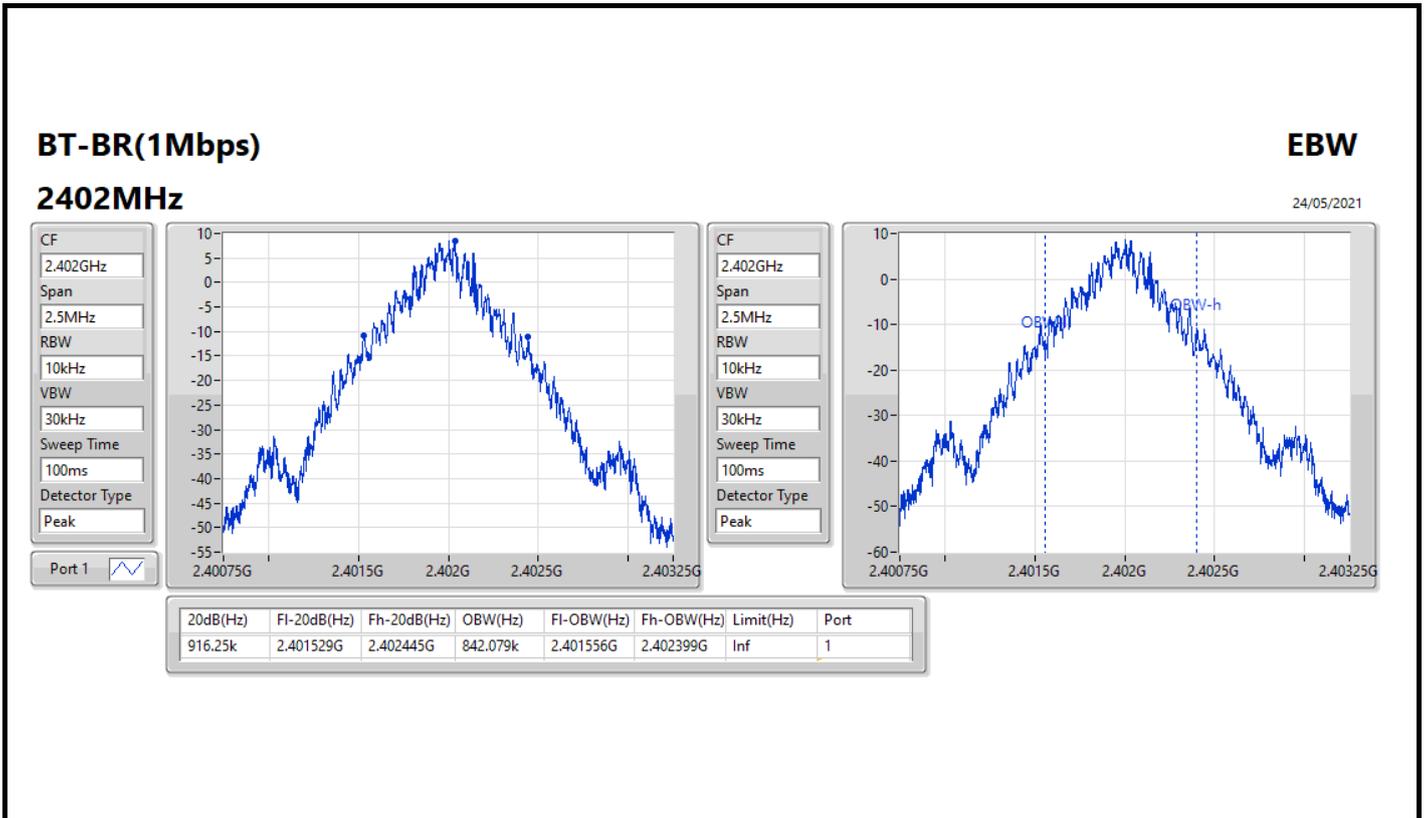
Max-N dB = Maximum 20dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;

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	916.25k	842.079k
2440MHz	Pass	Inf	915k	834.583k
2480MHz	Pass	Inf	876.25k	837.081k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.254M	1.189M
2440MHz	Pass	Inf	1.255M	1.189M
2480MHz	Pass	Inf	1.255M	1.192M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.249M	1.202M
2440MHz	Pass	Inf	1.249M	1.197M
2480MHz	Pass	Inf	1.258M	1.203M

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



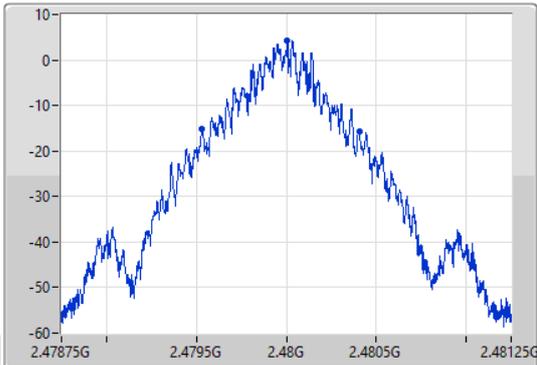
BT-BR(1Mbps)

EBW

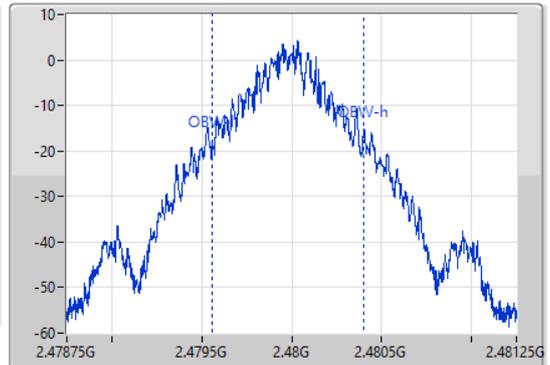
2480MHz

24/05/2021

CF
2.48GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.48GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
876.25k	2.47953G	2.480406G	837.081k	2.47956G	2.480397G	Inf	1

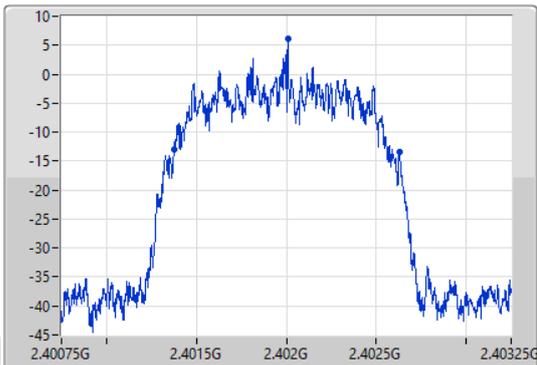
BT-EDR(2Mbps)

EBW

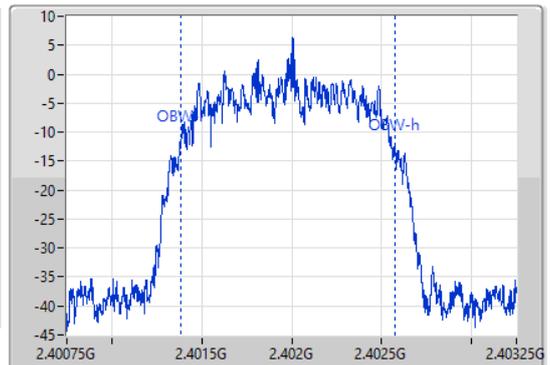
2402MHz

24/05/2021

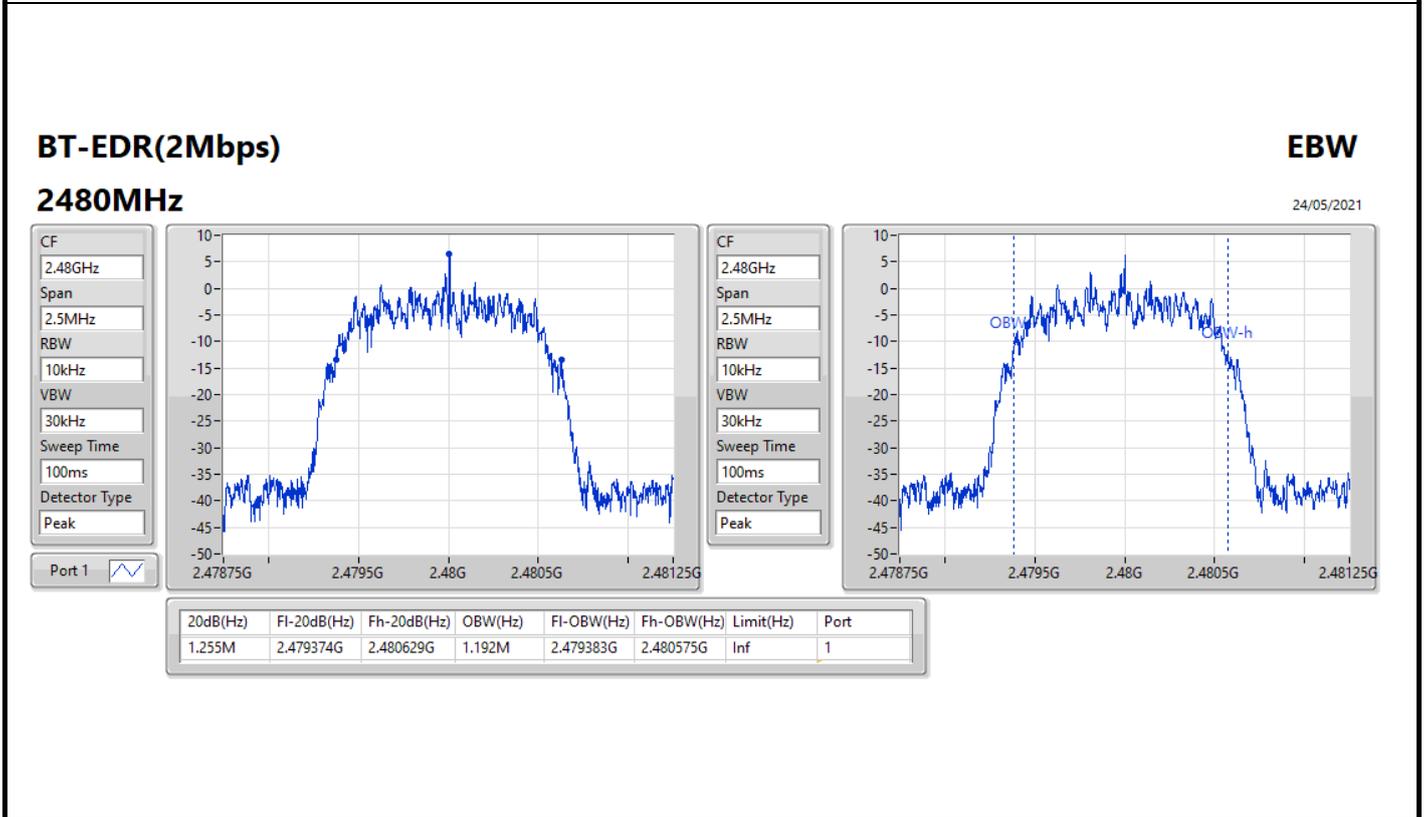
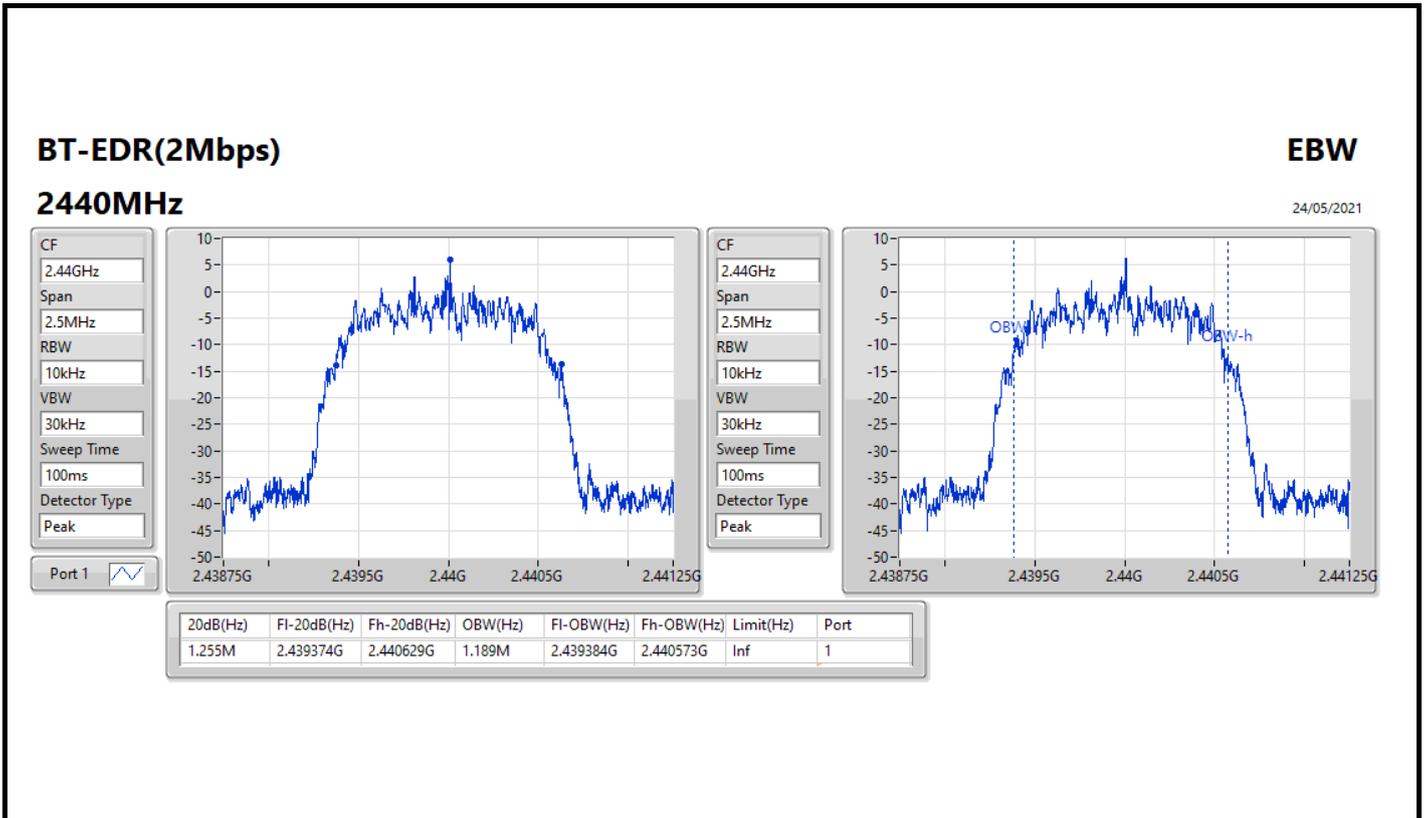
CF
2.402GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.402GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.254M	2.401375G	2.402629G	1.189M	2.401384G	2.402573G	Inf	1



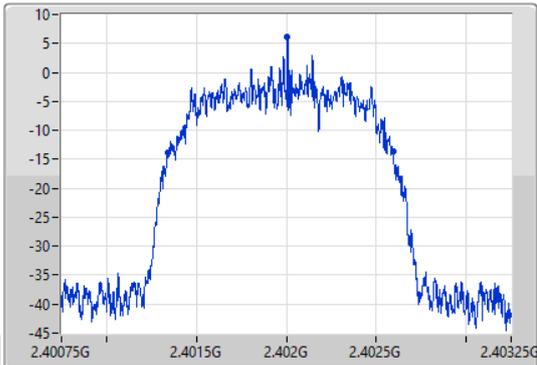
BT-EDR(3Mbps)

EBW

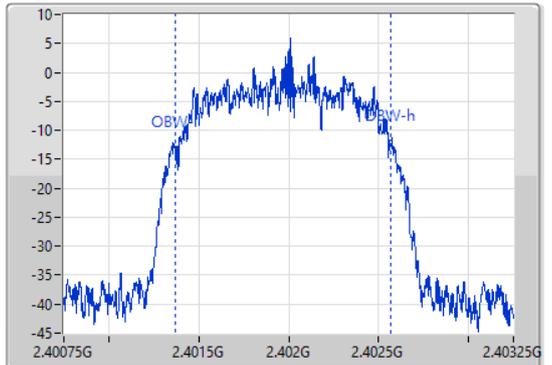
2402MHz

24/05/2021

CF
2.402GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak
Port 1



CF
2.402GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.249M	2.401345G	2.402594G	1.202M	2.401369G	2.402571G	Inf	1

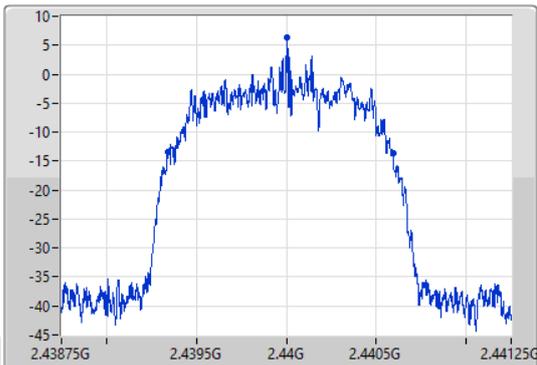
BT-EDR(3Mbps)

EBW

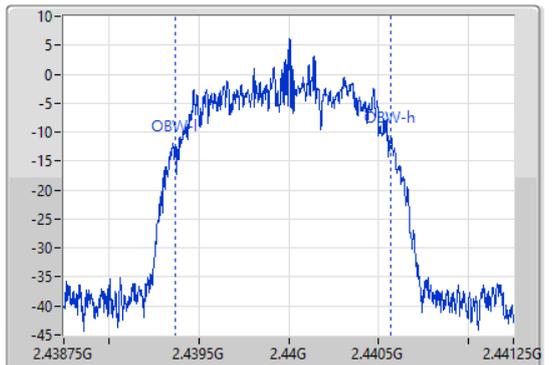
2440MHz

24/05/2021

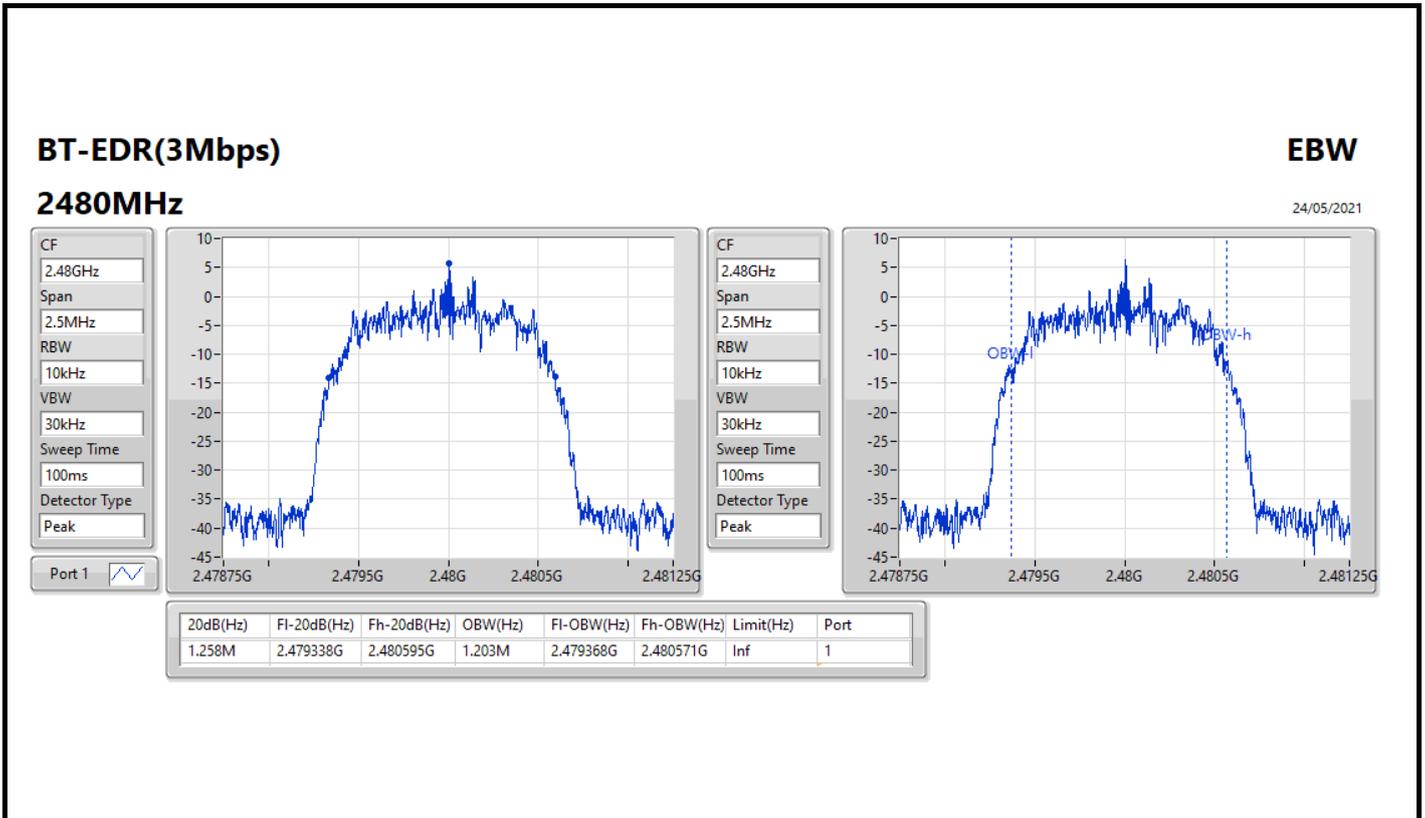
CF
2.44GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak
Port 1



CF
2.44GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.249M	2.439345G	2.440594G	1.197M	2.439372G	2.440568G	Inf	1



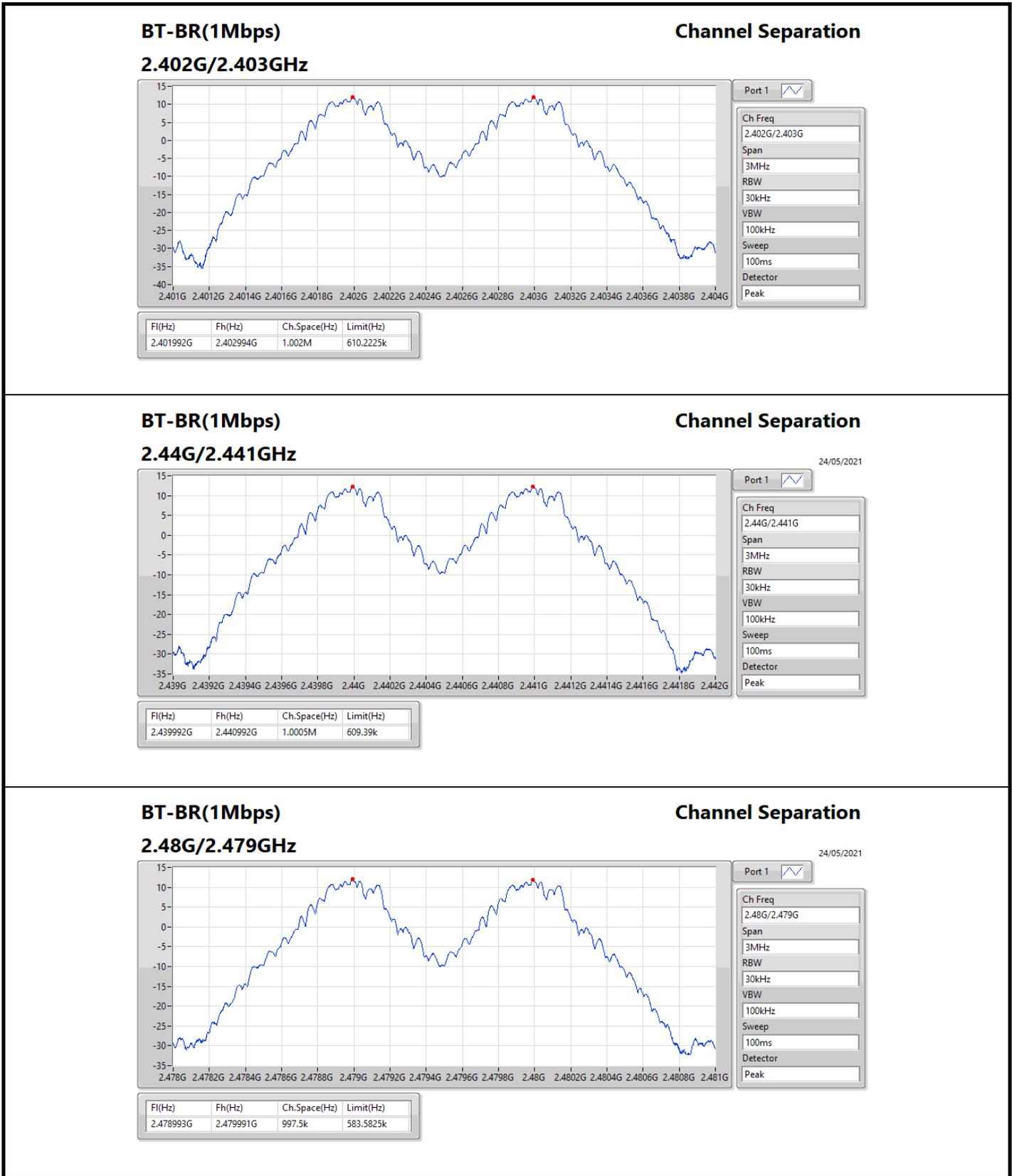


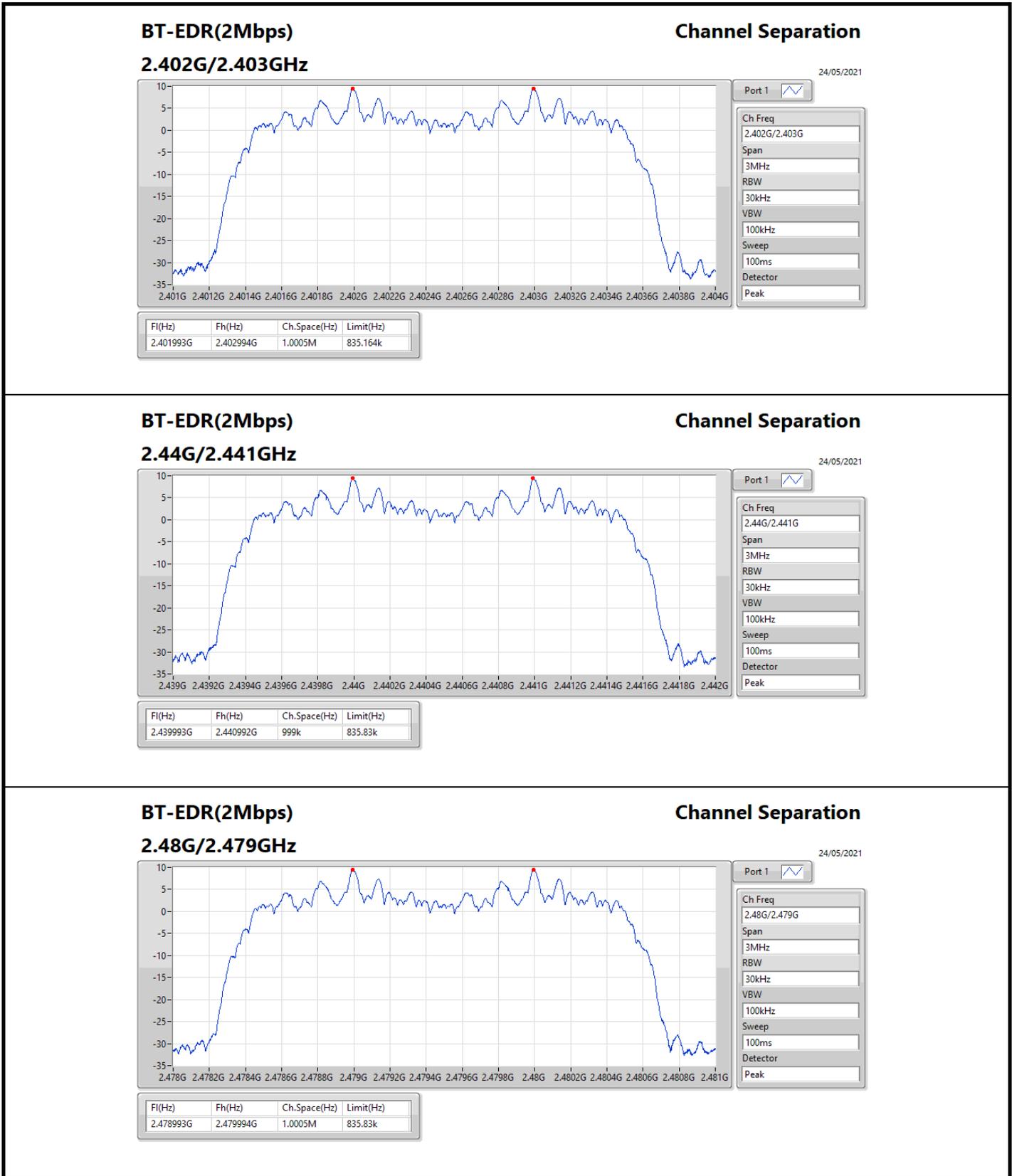
Summary

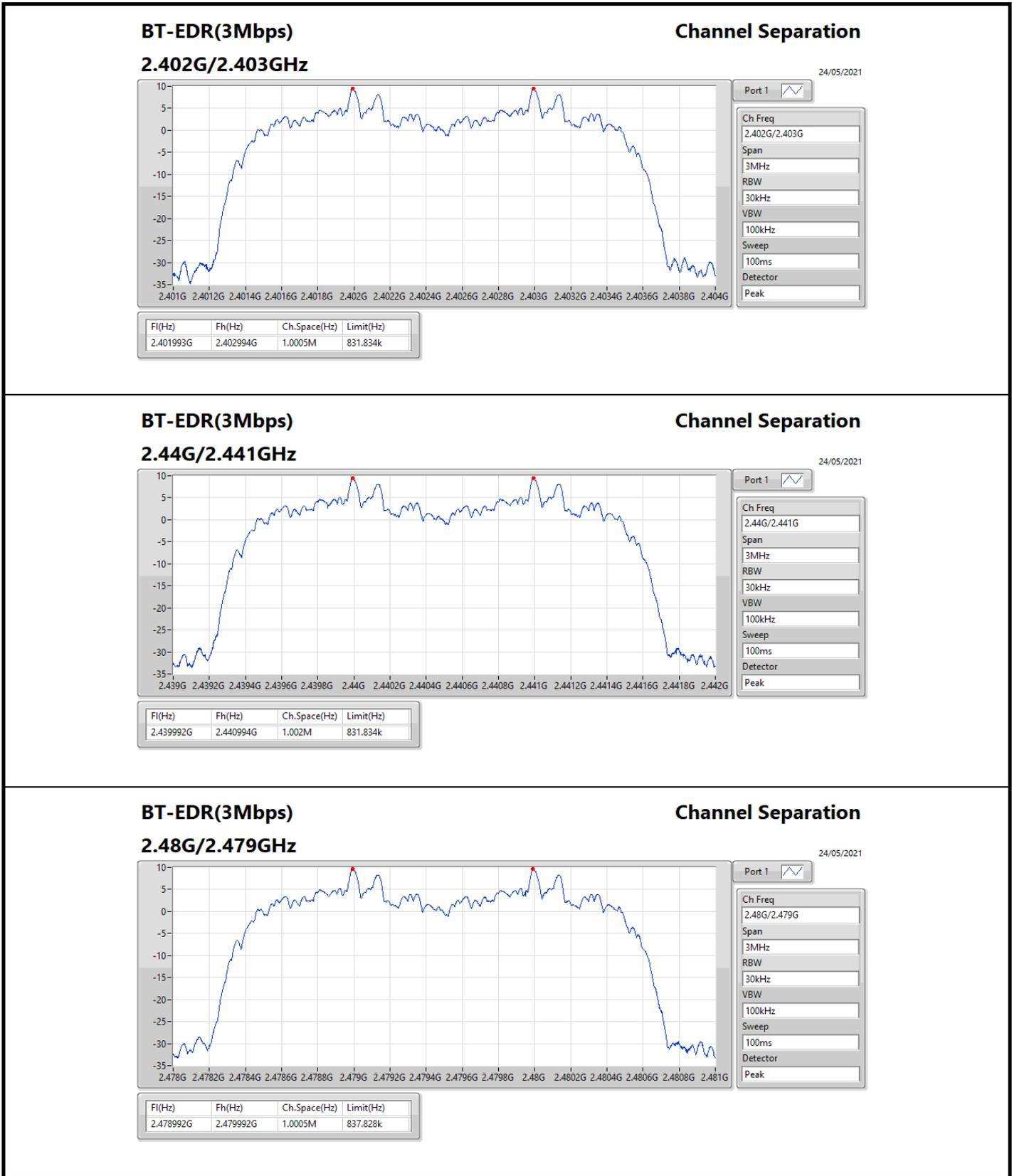
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.002M	997.5k
BT-EDR(2Mbps)	1.0005M	999k
BT-EDR(3Mbps)	1.002M	1.0005M

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.401992G	2.402994G	1.002M	610.2225k
2440MHz	Pass	2.439992G	2.440992G	1.0005M	609.39k
2480MHz	Pass	2.478993G	2.479991G	997.5k	583.5825k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401993G	2.402994G	1.0005M	835.164k
2440MHz	Pass	2.439993G	2.440992G	999k	835.83k
2480MHz	Pass	2.478993G	2.479994G	1.0005M	835.83k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401993G	2.402994G	1.0005M	831.834k
2440MHz	Pass	2.439992G	2.440994G	1.002M	831.834k
2480MHz	Pass	2.478992G	2.479992G	1.0005M	837.828k









Summary

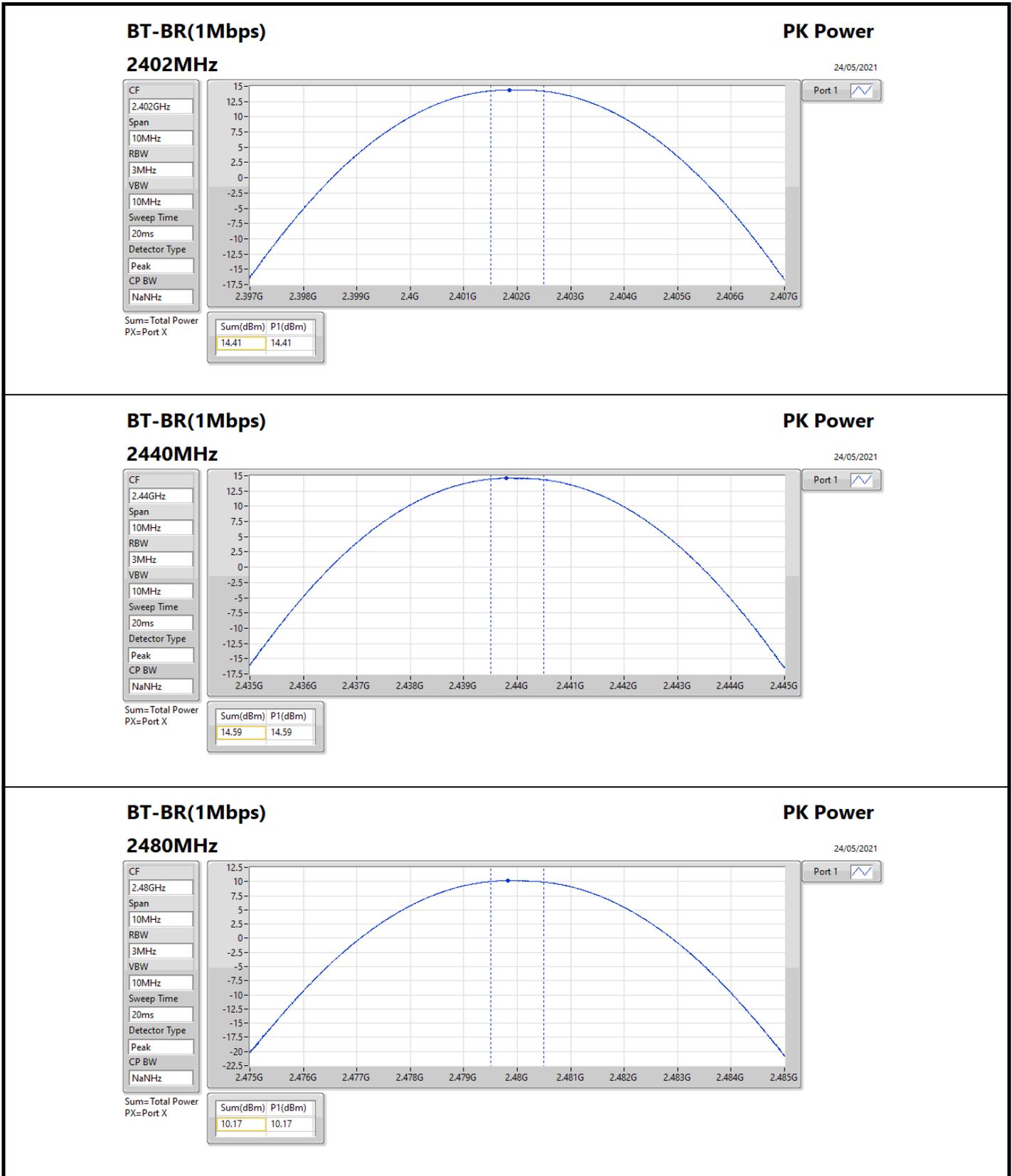
Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	14.59	0.02877
BT-EDR(2Mbps)	13.48	0.02228
BT-EDR(3Mbps)	13.94	0.02477

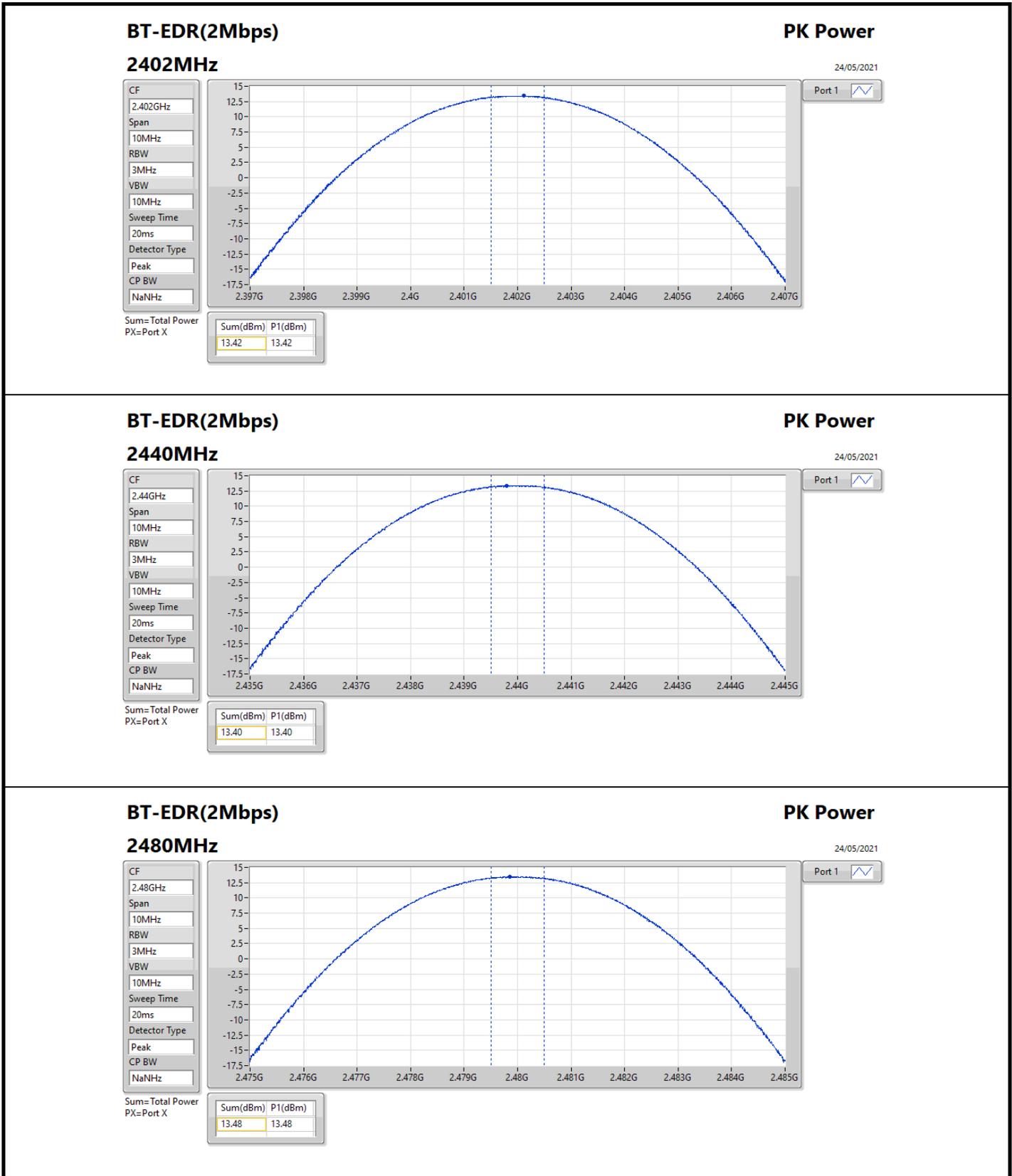


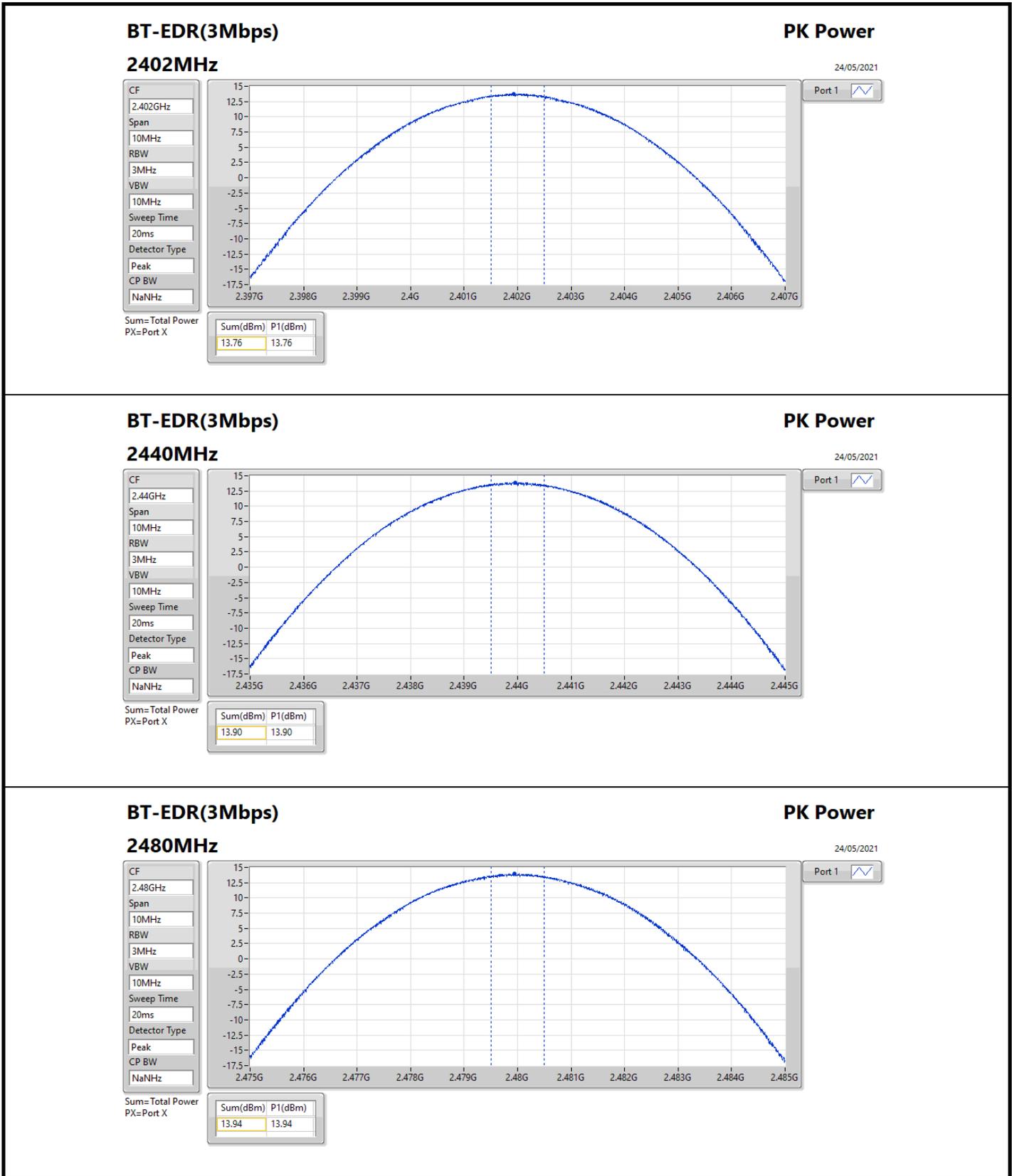
Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	14.41	21.00
2440MHz	Pass	4.00	14.59	21.00
2480MHz	Pass	4.00	10.17	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	13.42	21.00
2440MHz	Pass	4.00	13.40	21.00
2480MHz	Pass	4.00	13.48	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	4.00	13.76	21.00
2440MHz	Pass	4.00	13.90	21.00
2480MHz	Pass	4.00	13.94	21.00

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









Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	14.27	0.02673
BT-EDR(2Mbps)	11.11	0.01291
BT-EDR(3Mbps)	11.14	0.01300



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	14.16	21.00
2440MHz	Pass	4.00	14.27	21.00
2480MHz	Pass	4.00	9.95	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	11.04	21.00
2440MHz	Pass	4.00	11.10	21.00
2480MHz	Pass	4.00	11.11	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	4.00	10.97	21.00
2440MHz	Pass	4.00	11.11	21.00
2480MHz	Pass	4.00	11.14	21.00

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



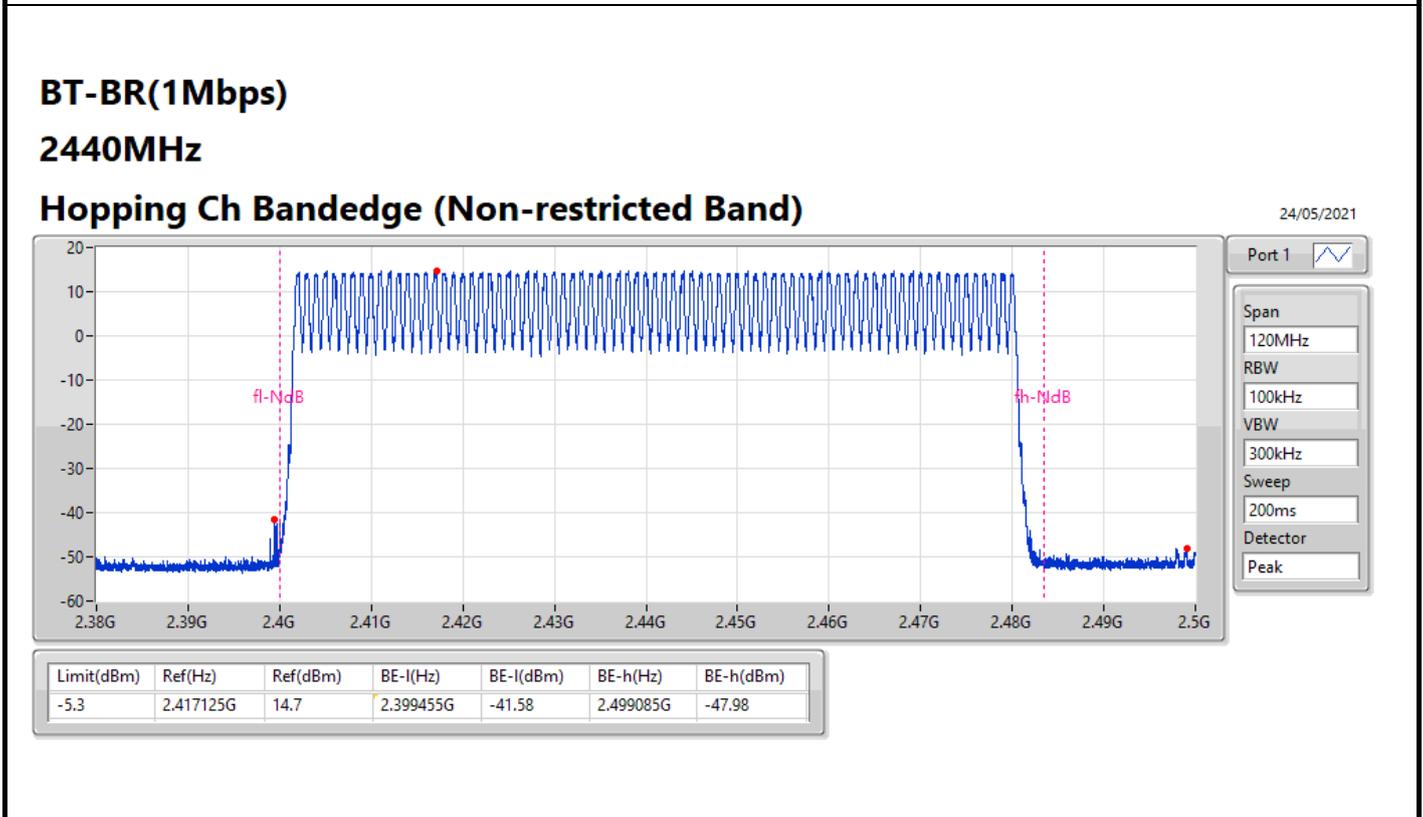
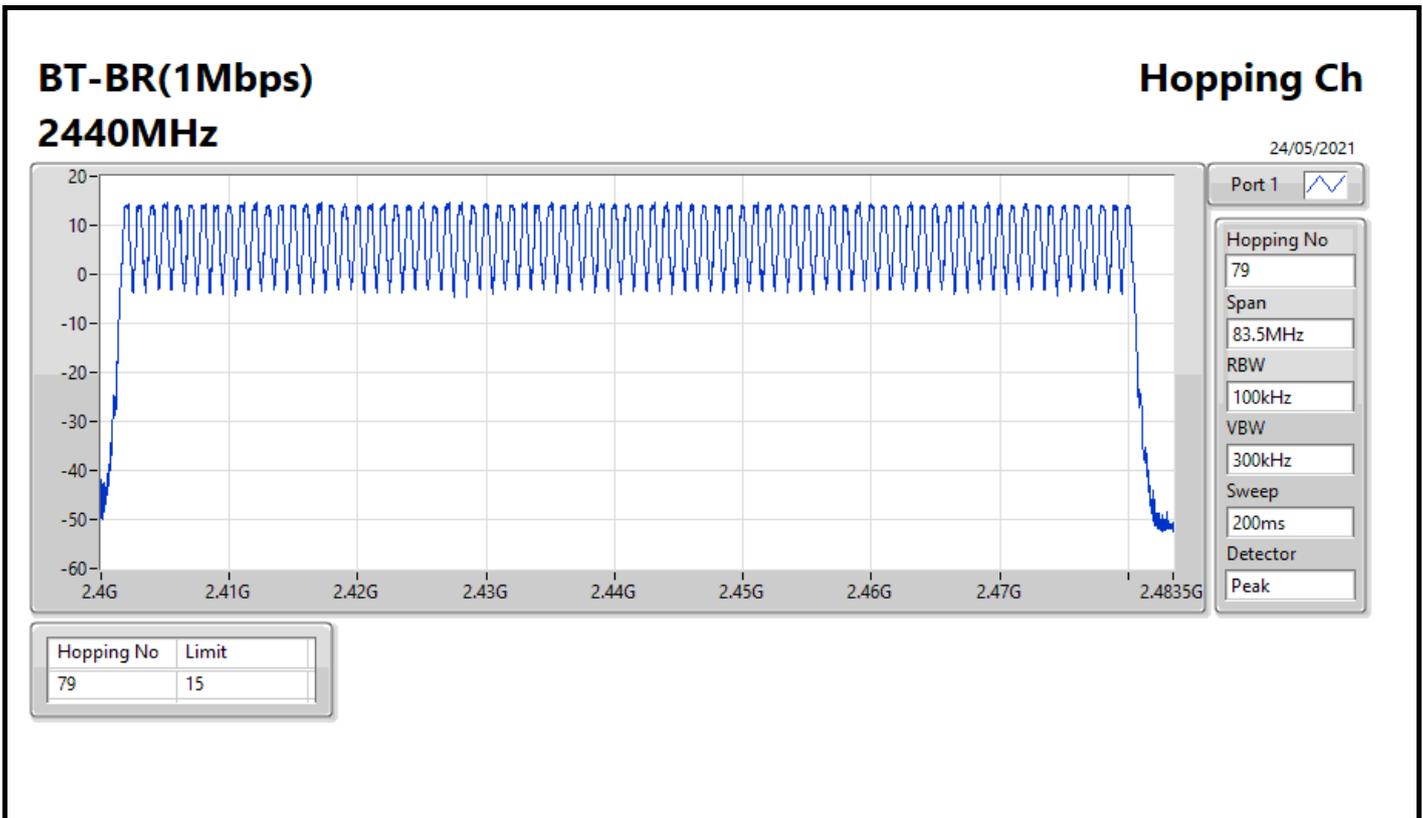
Summary

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



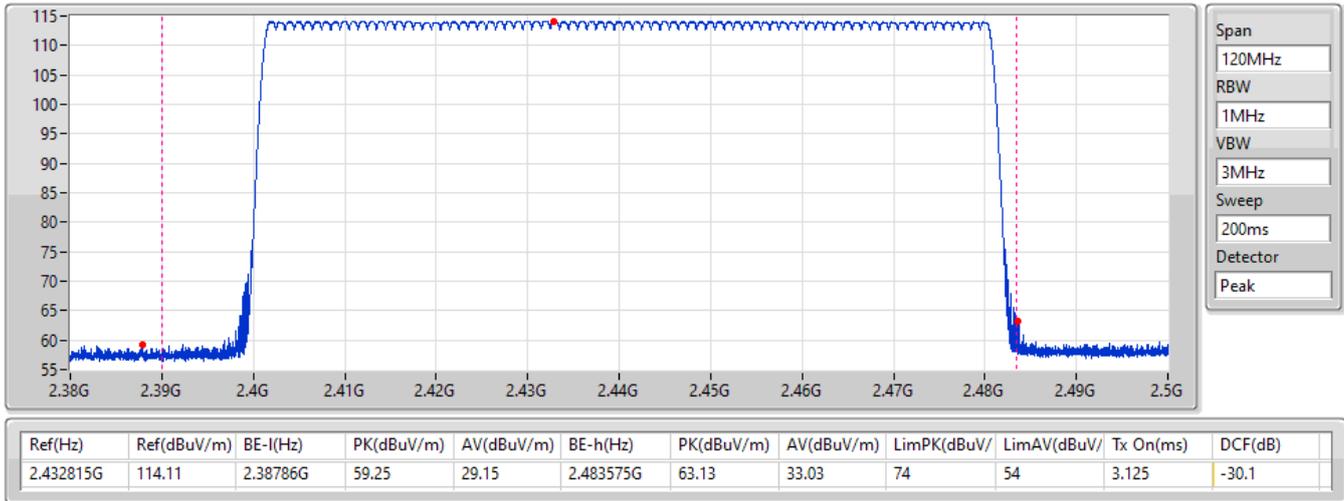
Result

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



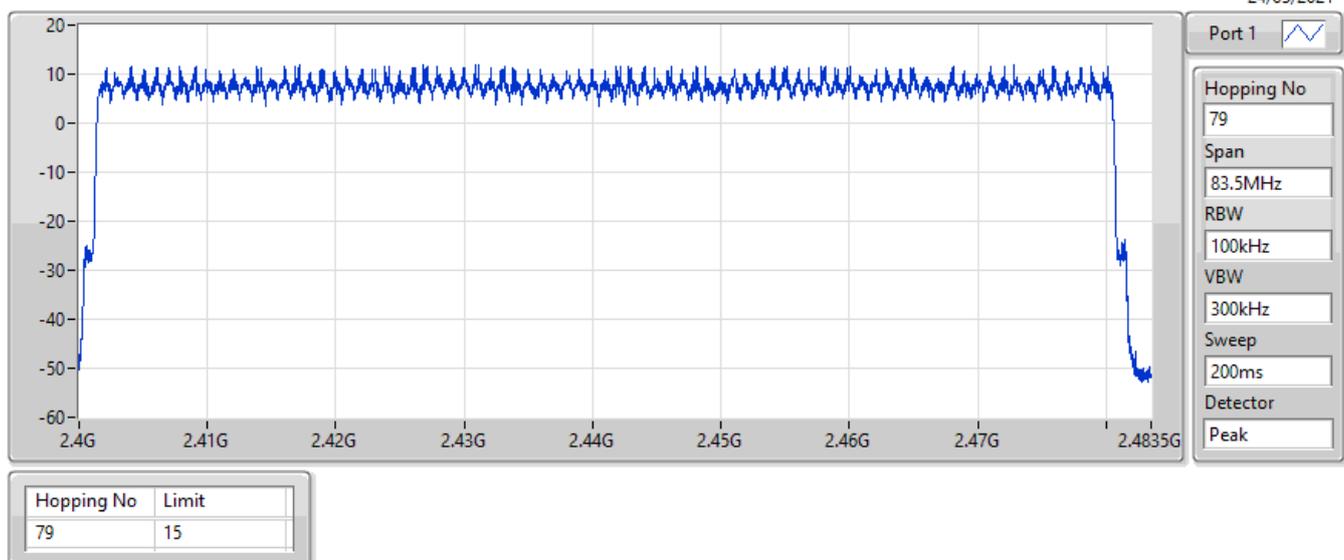
BT-BR(1Mbps)
2440MHz
Hopping Ch Bandedge (Restricted Band)

24/05/2021



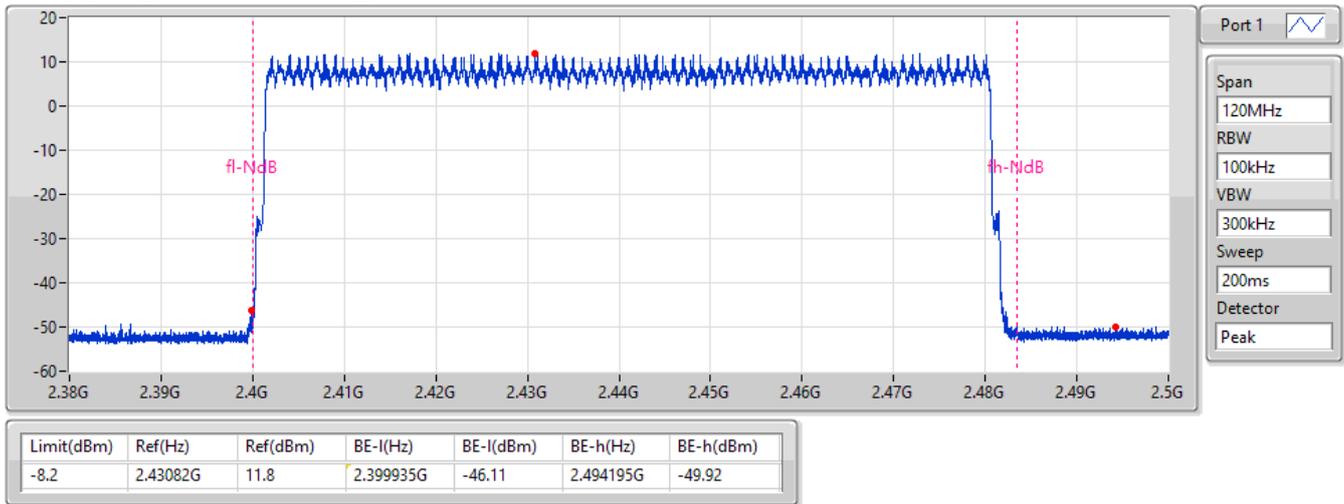
BT-EDR(2Mbps) **Hopping Ch**
2440MHz

24/05/2021



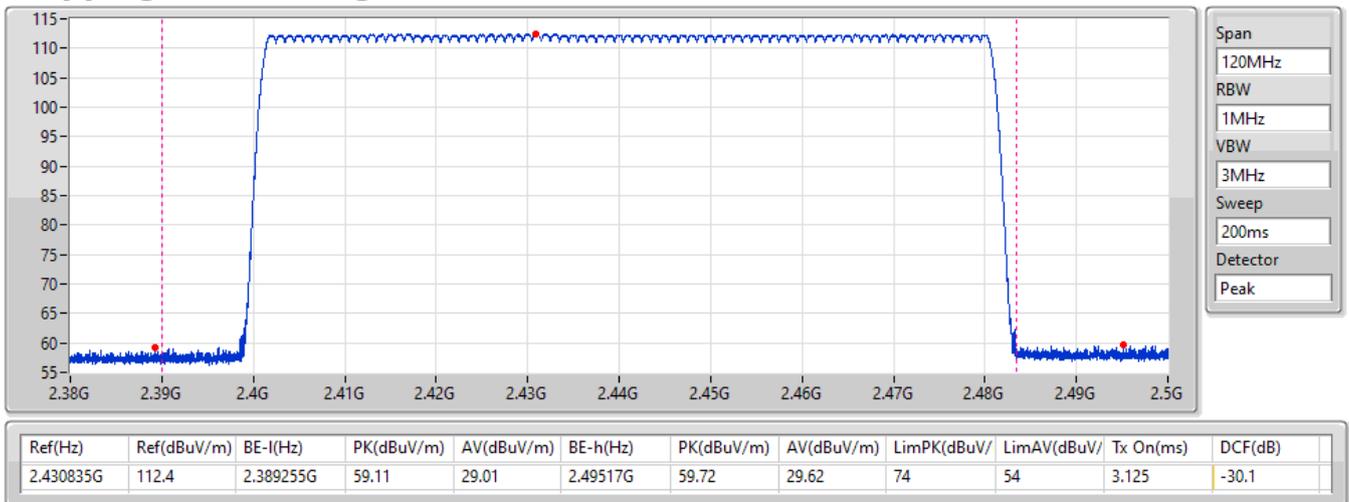
BT-EDR(2Mbps)
2440MHz
Hopping Ch Bandedge (Non-restricted Band)

24/05/2021



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

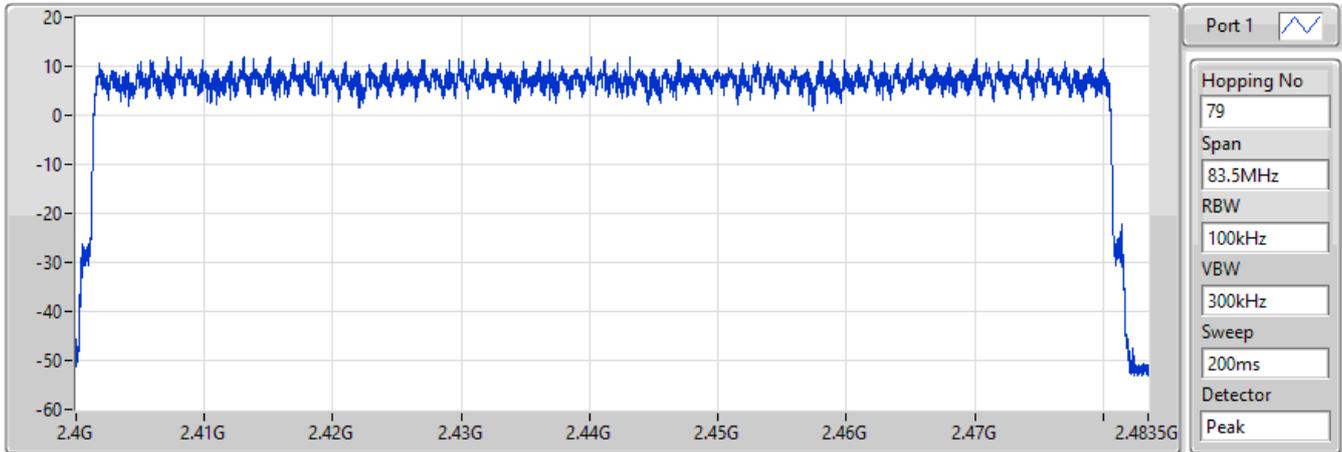
24/05/2021



BT-EDR(3Mbps)
2440MHz

Hopping Ch

24/05/2021

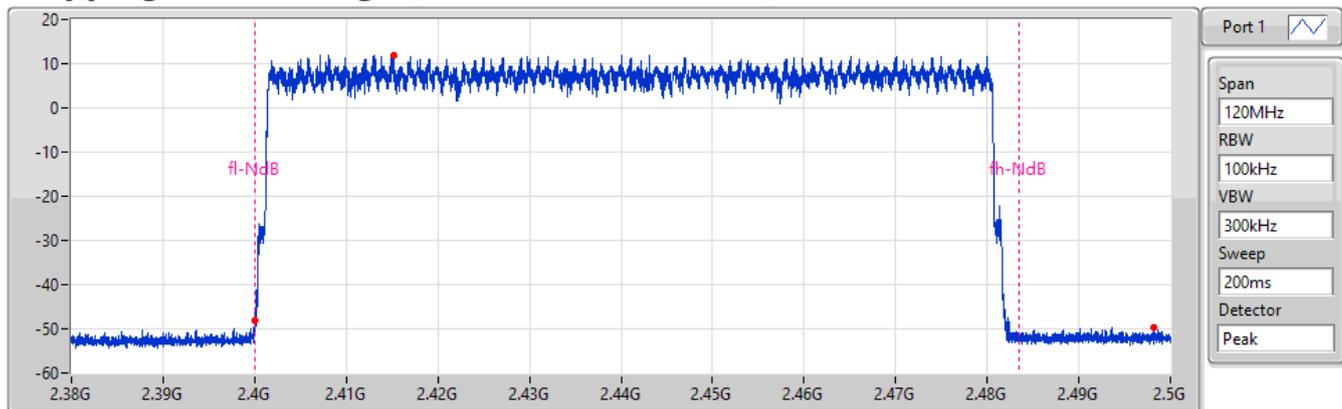


Hopping No	Limit
79	15

BT-EDR(3Mbps)
2440MHz

Hopping Ch Bandedge (Non-restricted Band)

24/05/2021



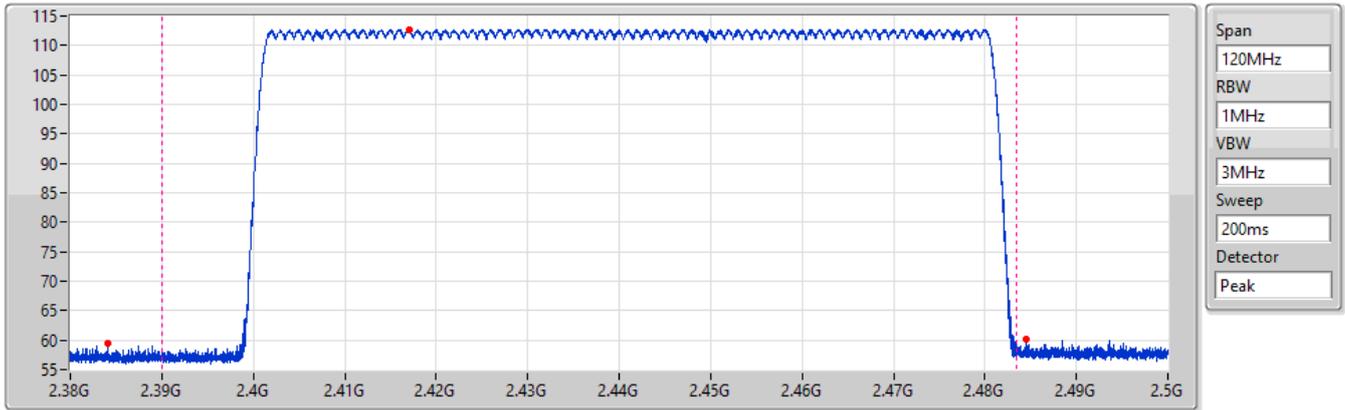
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-8.04	2.41513G	11.96	2.399995G	-48.15	2.49811G	-49.75

BT-EDR(3Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

24/05/2021



Span
120MHz

RBW
1MHz

VBW
3MHz

Sweep
200ms

Detector
Peak

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)
2.41699G	112.77	2.38405G	59.44	29.34	2.484505G	60.09	29.99	74	54	3.125	-30.1



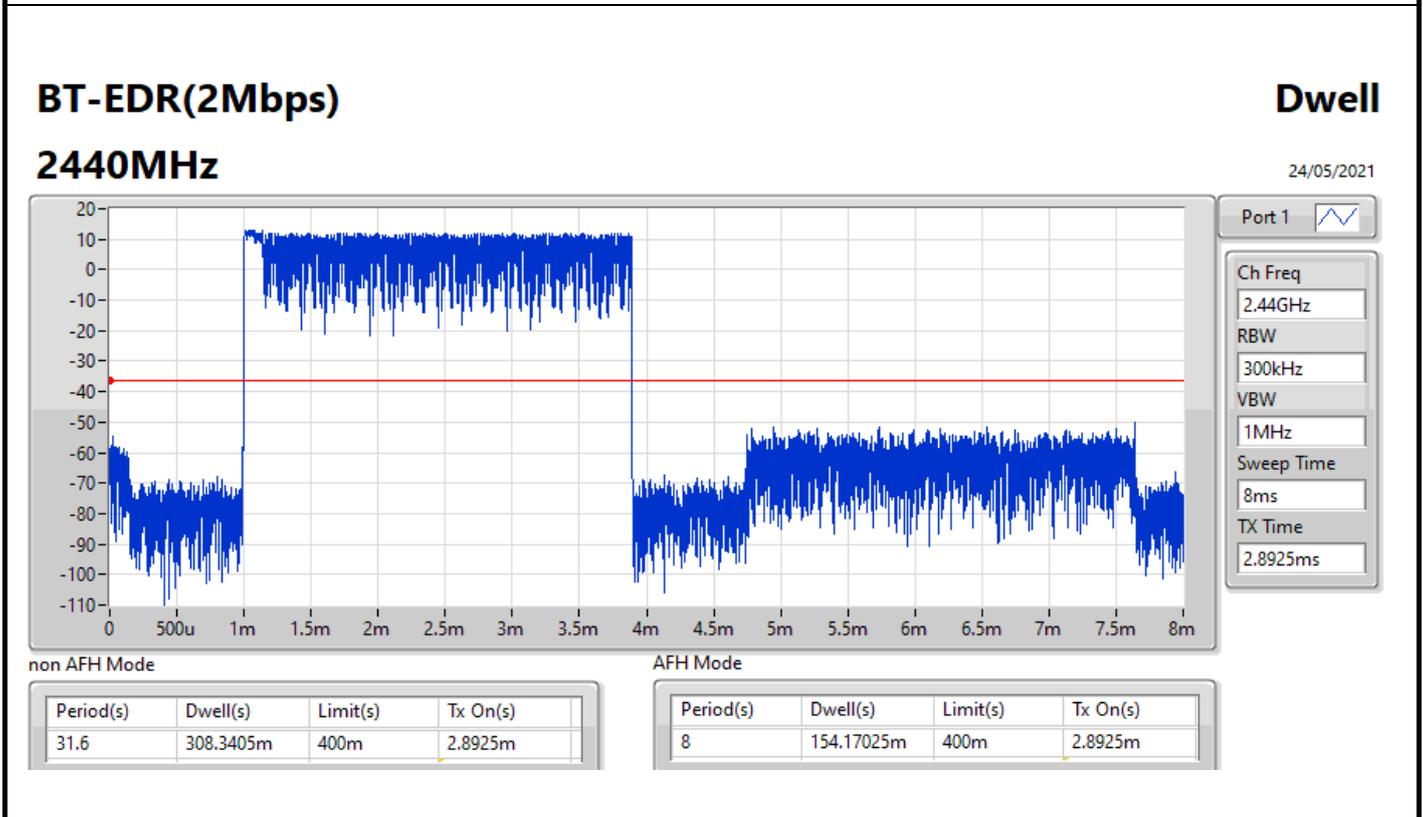
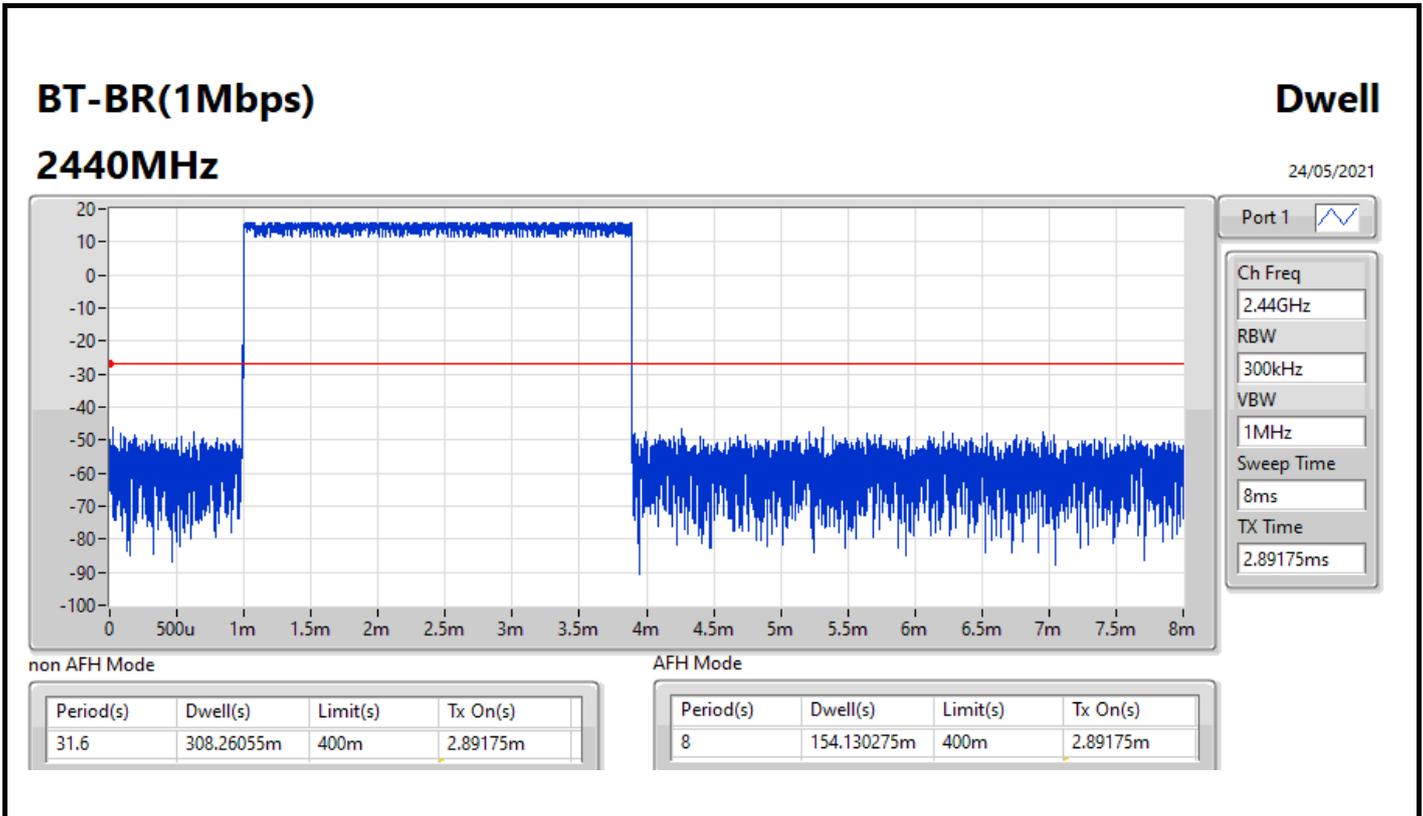
Summary

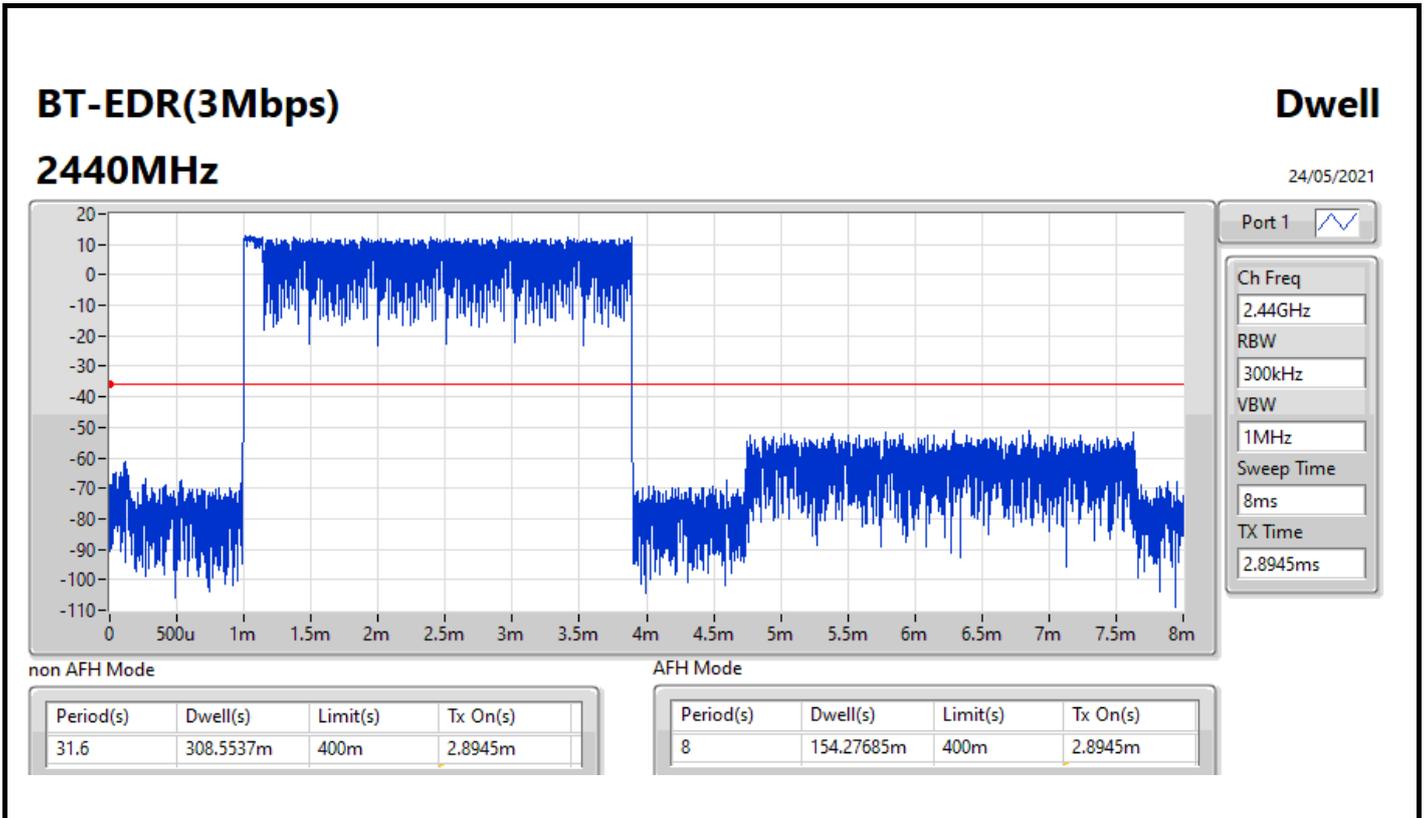
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.26055m
BT-EDR(2Mbps)	308.3405m
BT-EDR(3Mbps)	308.5537m



Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.26055m	400m	2.89175m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.3405m	400m	2.8925m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.5537m	400m	2.8945m







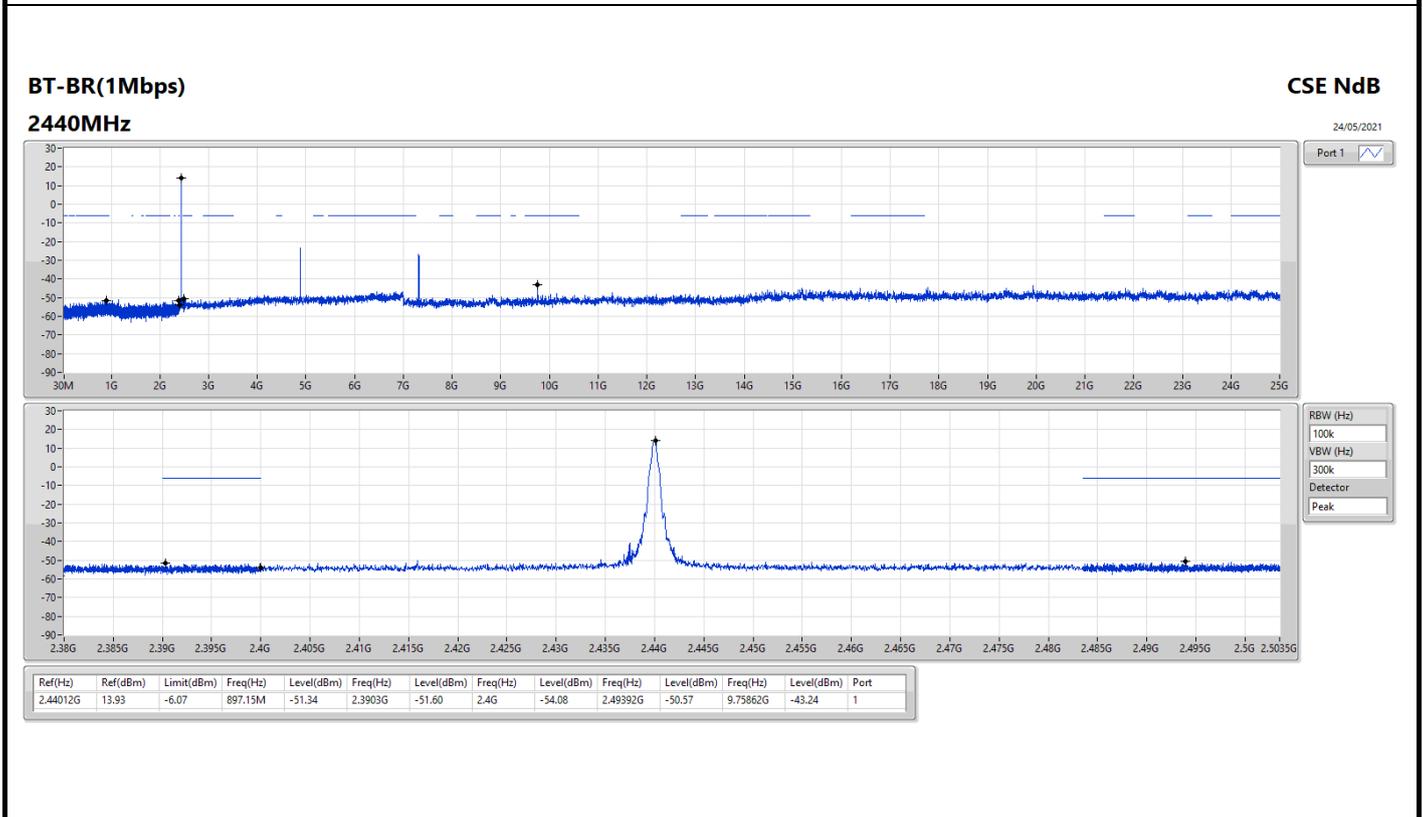
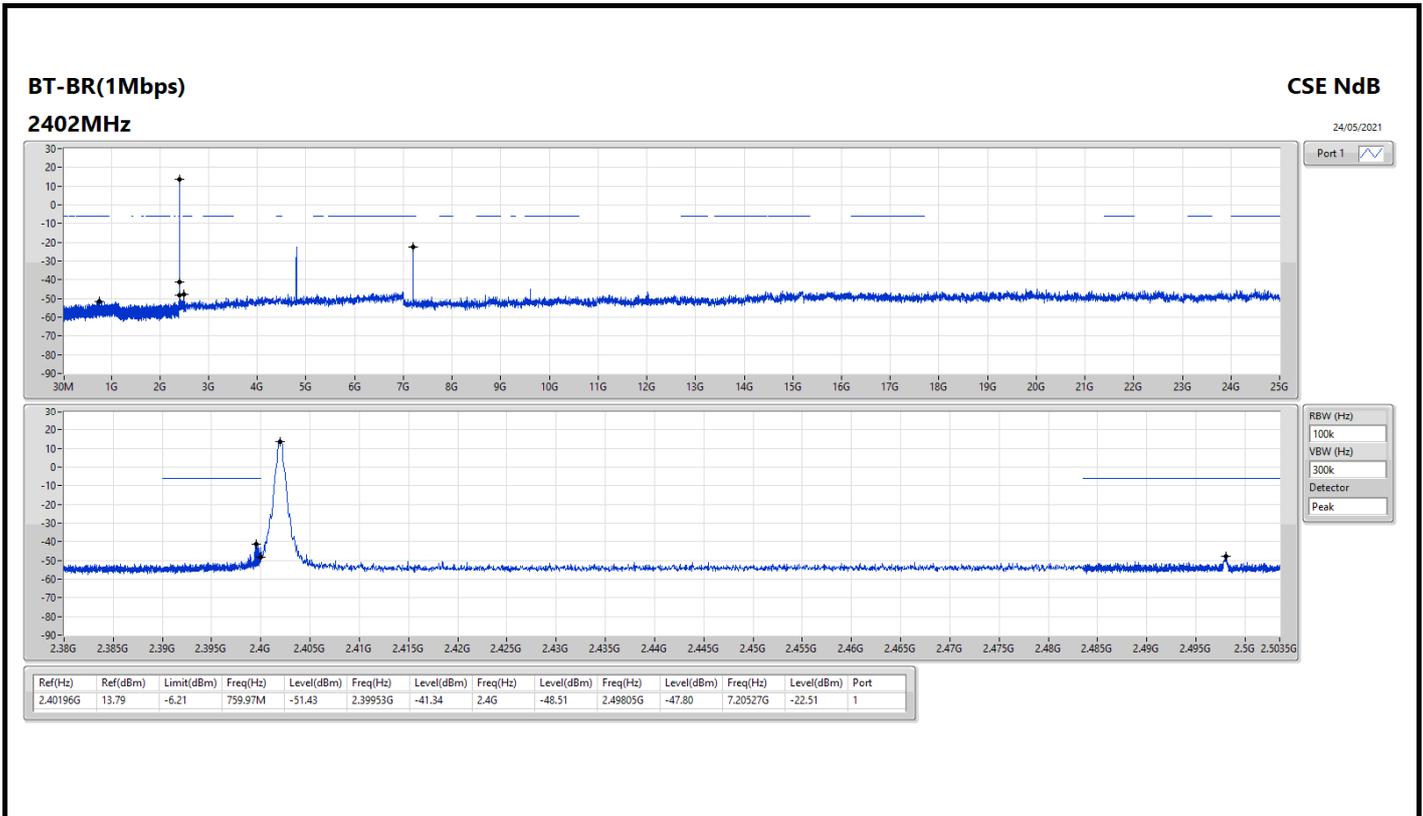
Summary

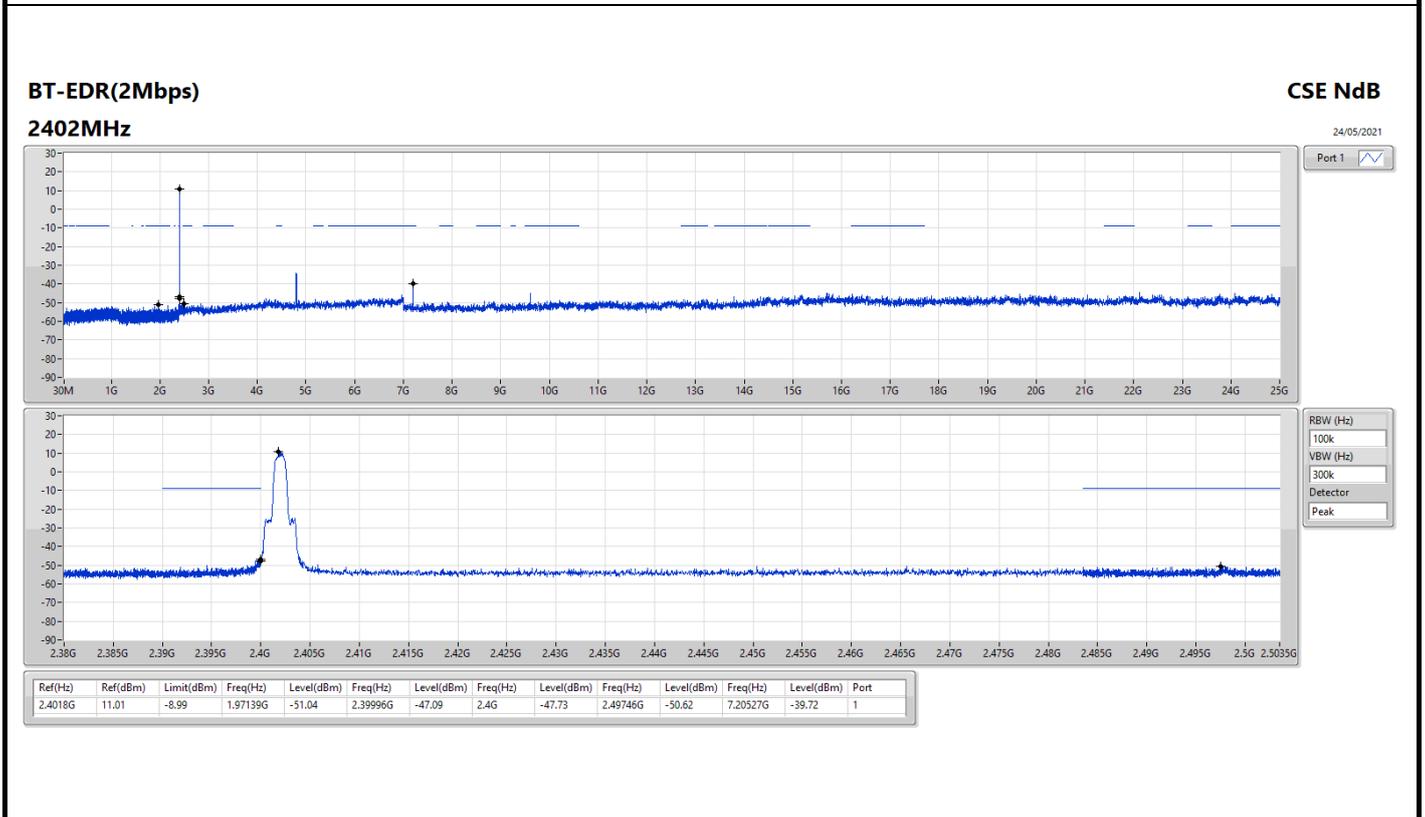
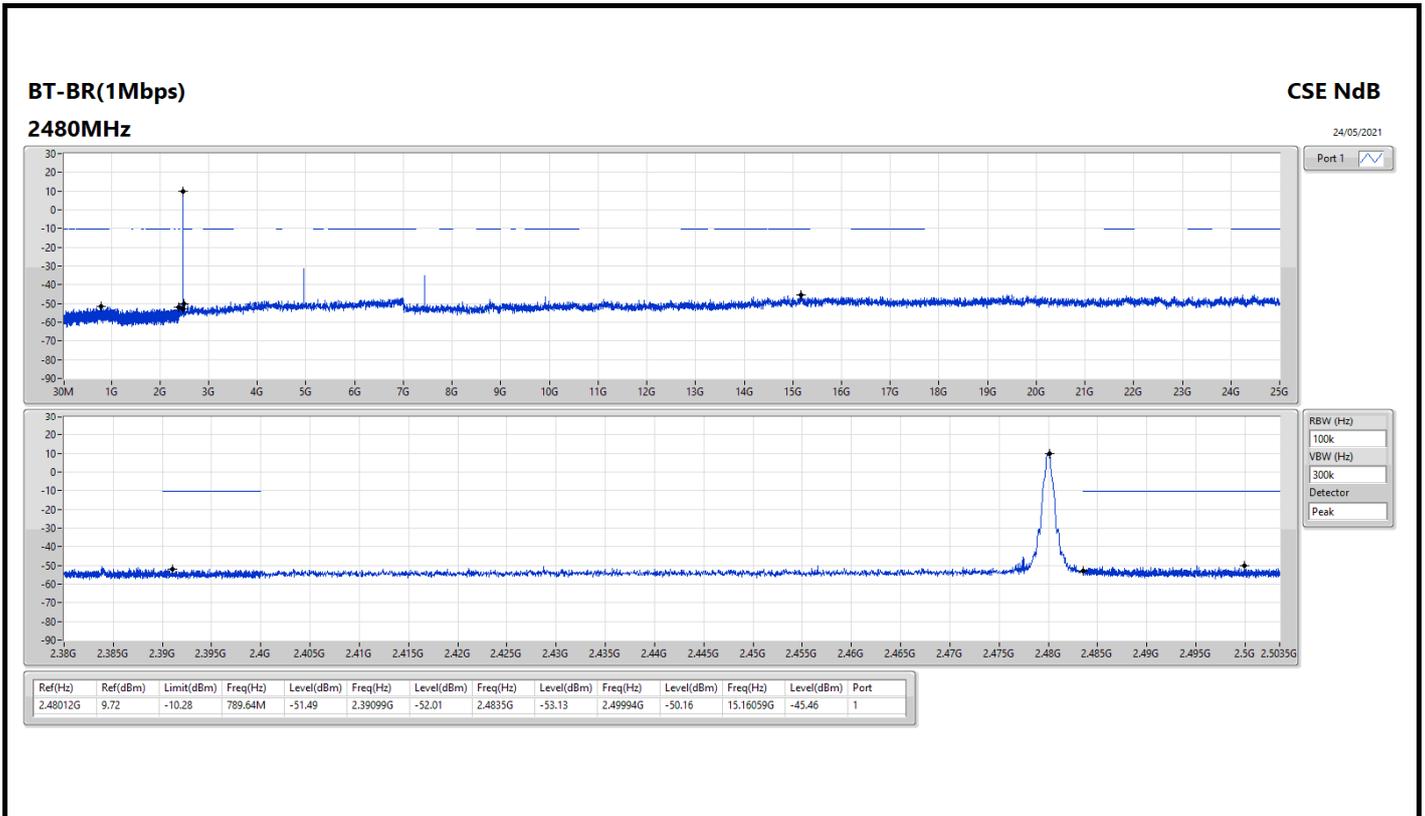
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Port								
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.40196G	13.79	-6.21	759.97M	-51.43	2.39953G	-41.34	2.4G	-48.51	2.49805G	-47.80	7.20527G	-22.51	1
BT-EDR(2Mbps)	Pass	2.4018G	11.01	-8.99	1.97139G	-51.04	2.39996G	-47.09	2.4G	-47.73	2.49746G	-50.62	7.20527G	-39.72	1
BT-EDR(3Mbps)	Pass	2.40184G	11.06	-8.94	647.46M	-51.65	2.4G	-45.43	2.4G	-48.40	2.49848G	-49.53	7.20527G	-39.29	1

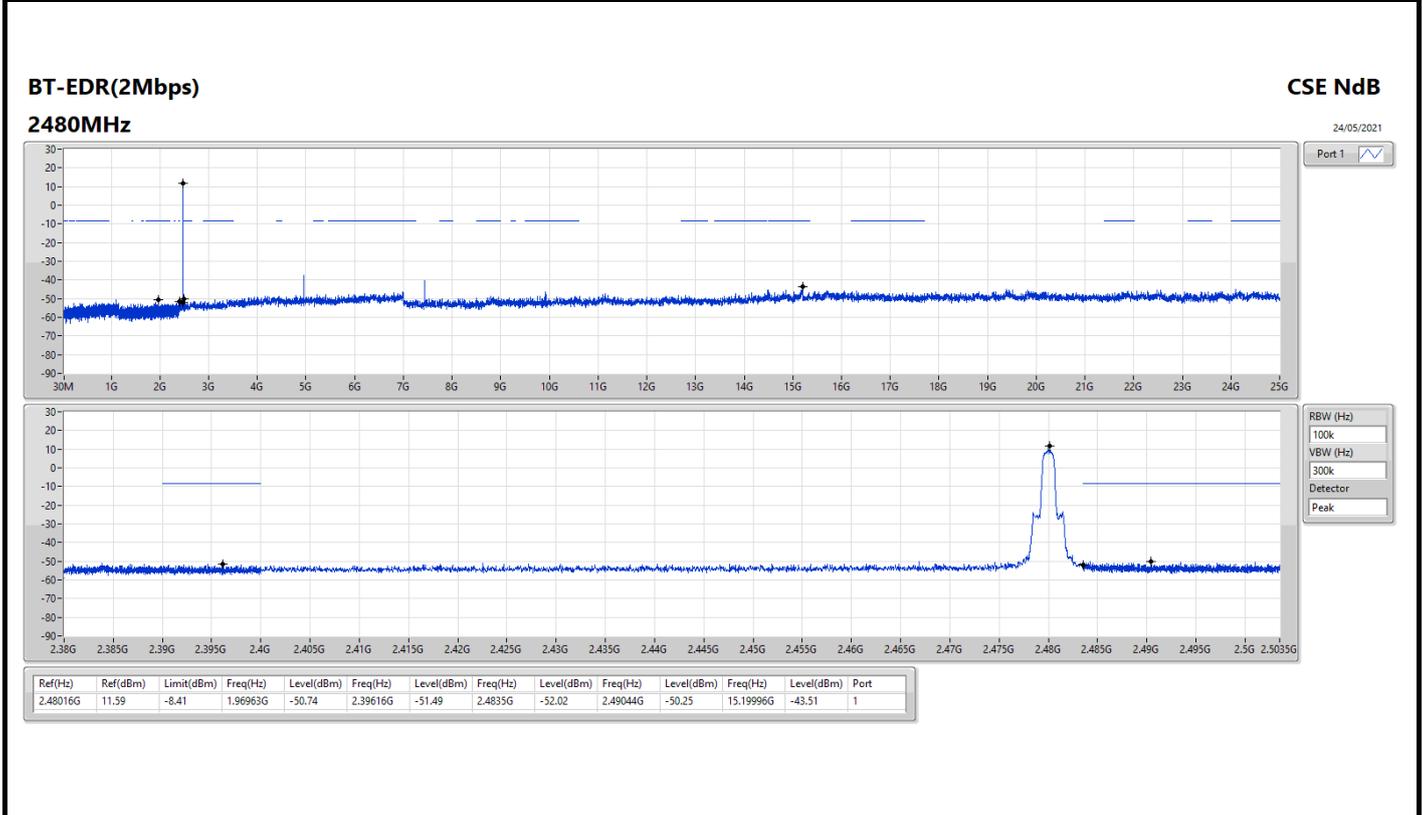
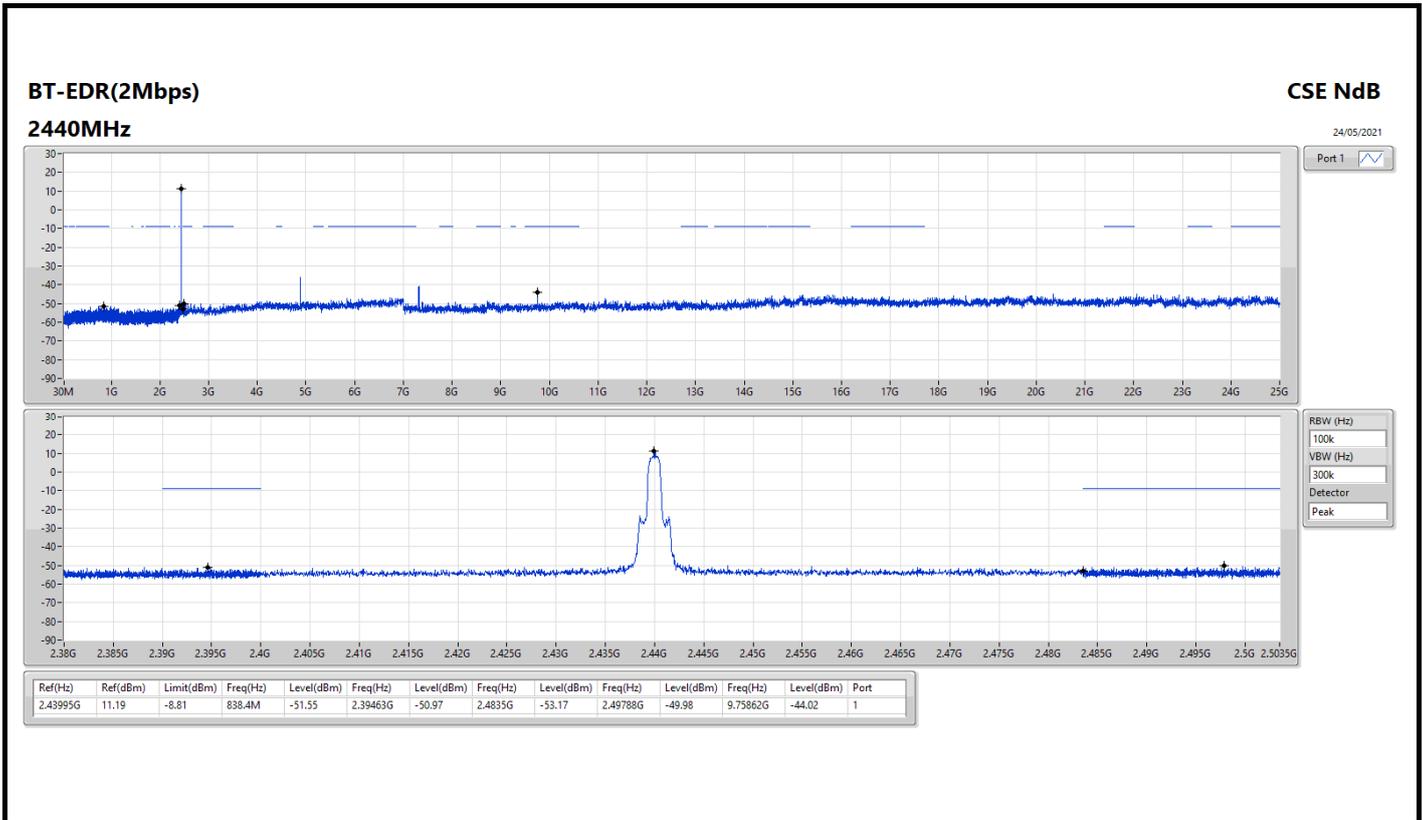


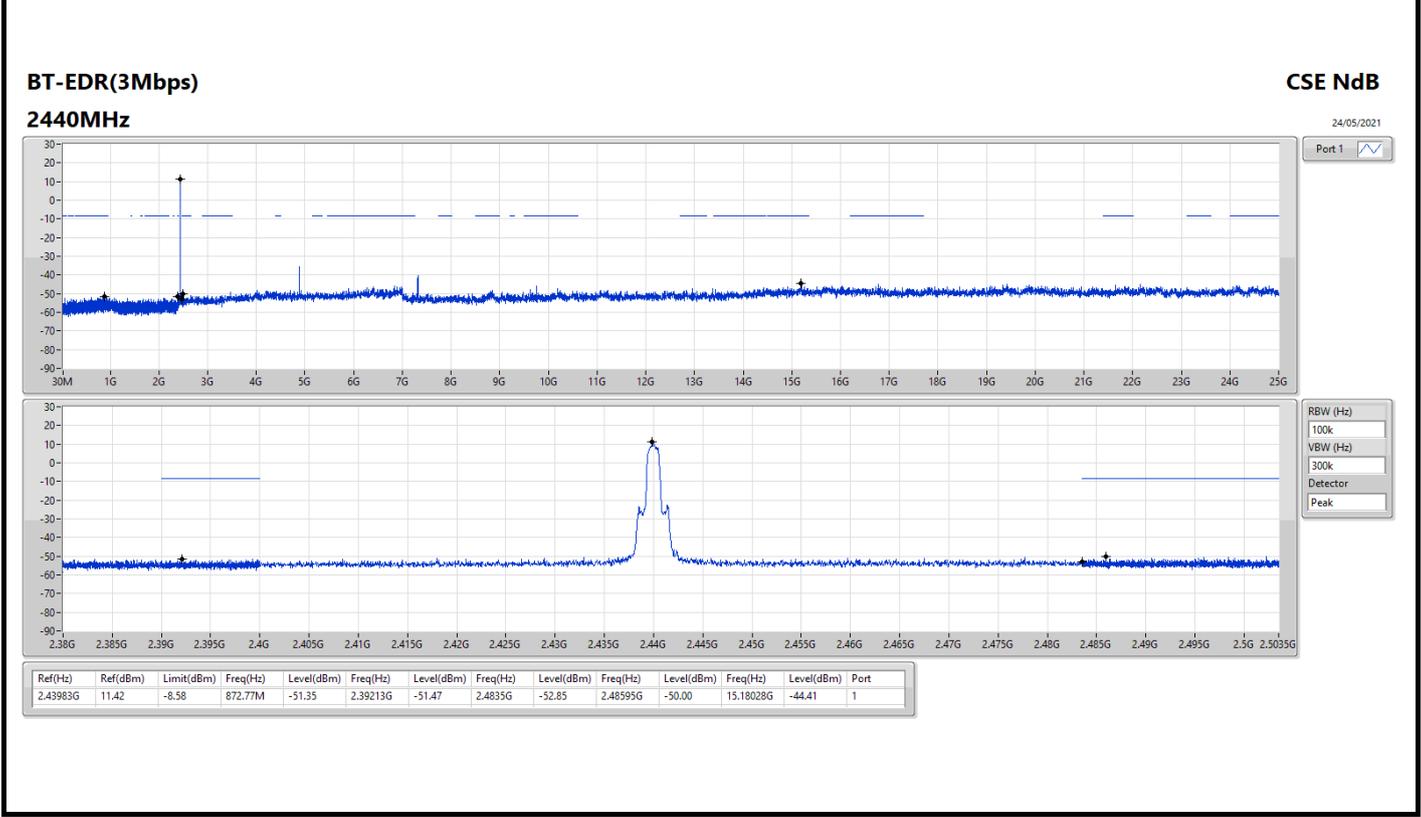
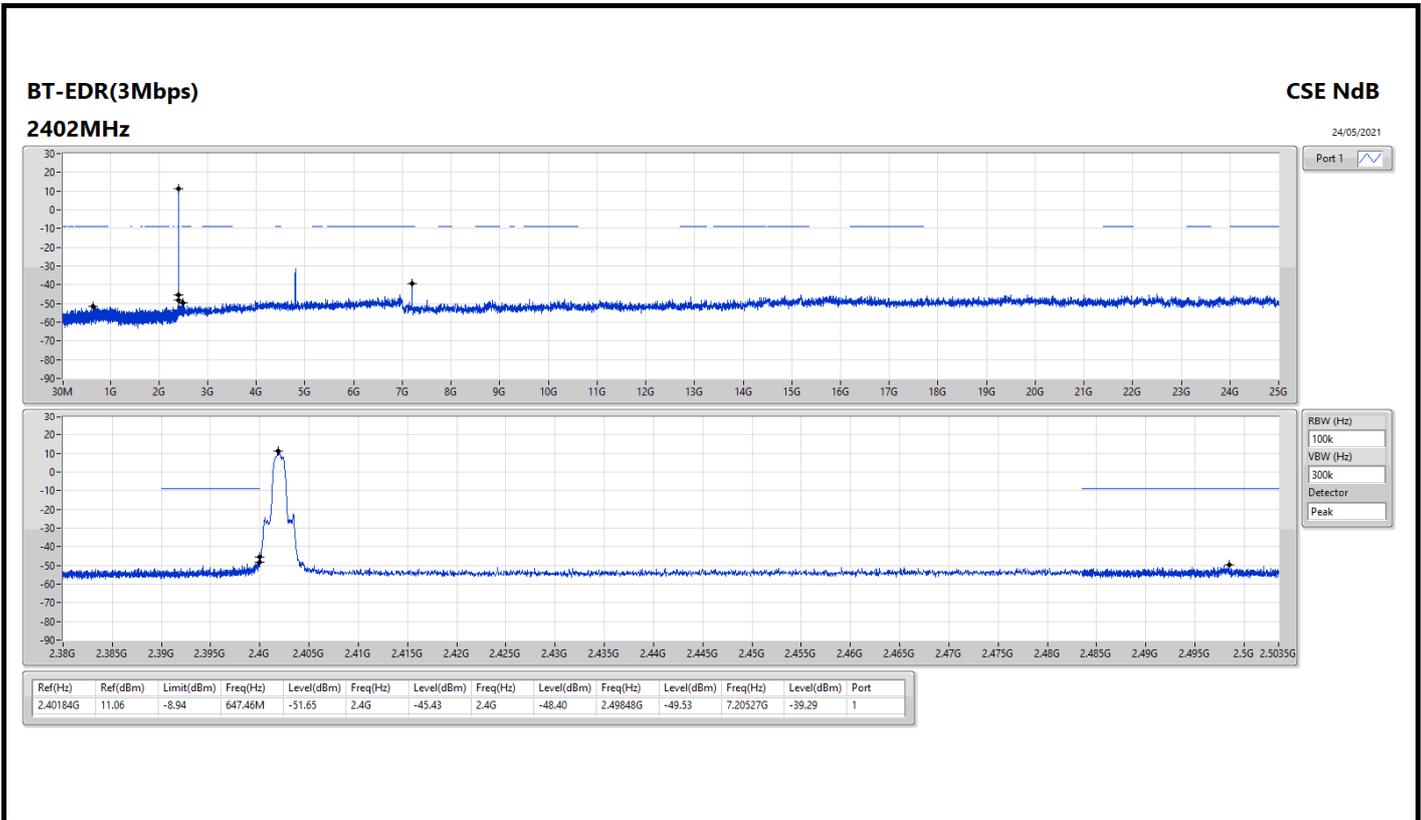
Result

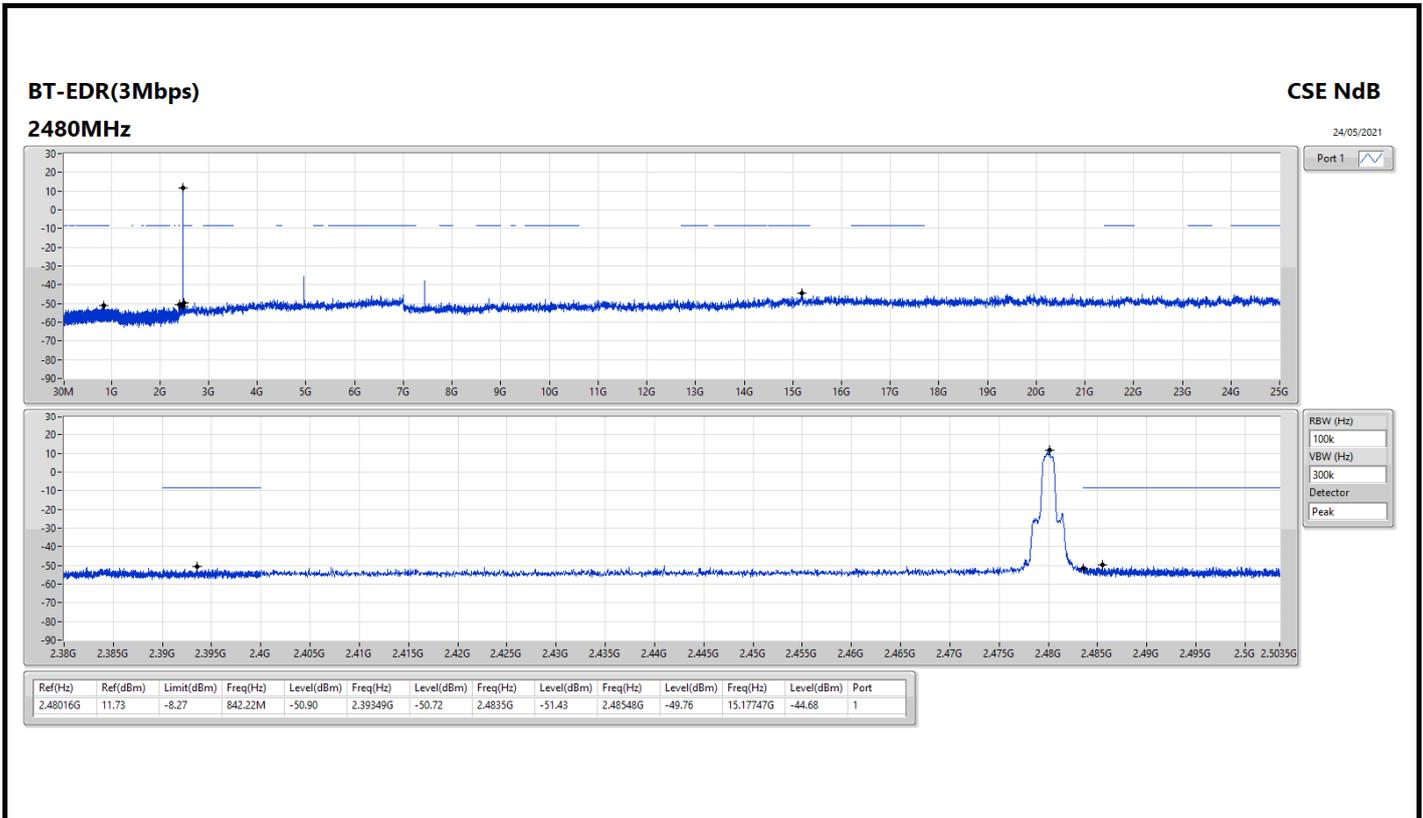
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Port								
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40196G	13.79	-6.21	759.97M	-51.43	2.39953G	-41.34	2.4G	-48.51	2.49805G	-47.80	7.20527G	-22.51	1
2440MHz	Pass	2.44012G	13.93	-6.07	897.15M	-51.34	2.3903G	-51.60	2.4G	-54.08	2.49392G	-50.57	9.75862G	-43.24	1
2480MHz	Pass	2.48012G	9.72	-10.28	789.64M	-51.49	2.39099G	-52.01	2.4835G	-53.13	2.49994G	-50.16	15.16059G	-45.46	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.4018G	11.01	-8.99	1.97139G	-51.04	2.39996G	-47.09	2.4G	-47.73	2.49746G	-50.62	7.20527G	-39.72	1
2440MHz	Pass	2.43995G	11.19	-8.81	838.4M	-51.55	2.39463G	-50.97	2.4835G	-53.17	2.49788G	-49.98	9.75862G	-44.02	1
2480MHz	Pass	2.48016G	11.59	-8.41	1.96963G	-50.74	2.39616G	-51.49	2.4835G	-52.02	2.49044G	-50.25	15.19996G	-43.51	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	11.06	-8.94	647.46M	-51.65	2.4G	-45.43	2.4G	-48.40	2.49848G	-49.53	7.20527G	-39.29	1
2440MHz	Pass	2.43983G	11.42	-8.58	872.77M	-51.35	2.39213G	-51.47	2.4835G	-52.85	2.48595G	-50.00	15.18028G	-44.41	1
2480MHz	Pass	2.48016G	11.73	-8.27	842.22M	-50.90	2.39349G	-50.72	2.4835G	-51.43	2.48548G	-49.76	15.17747G	-44.68	1







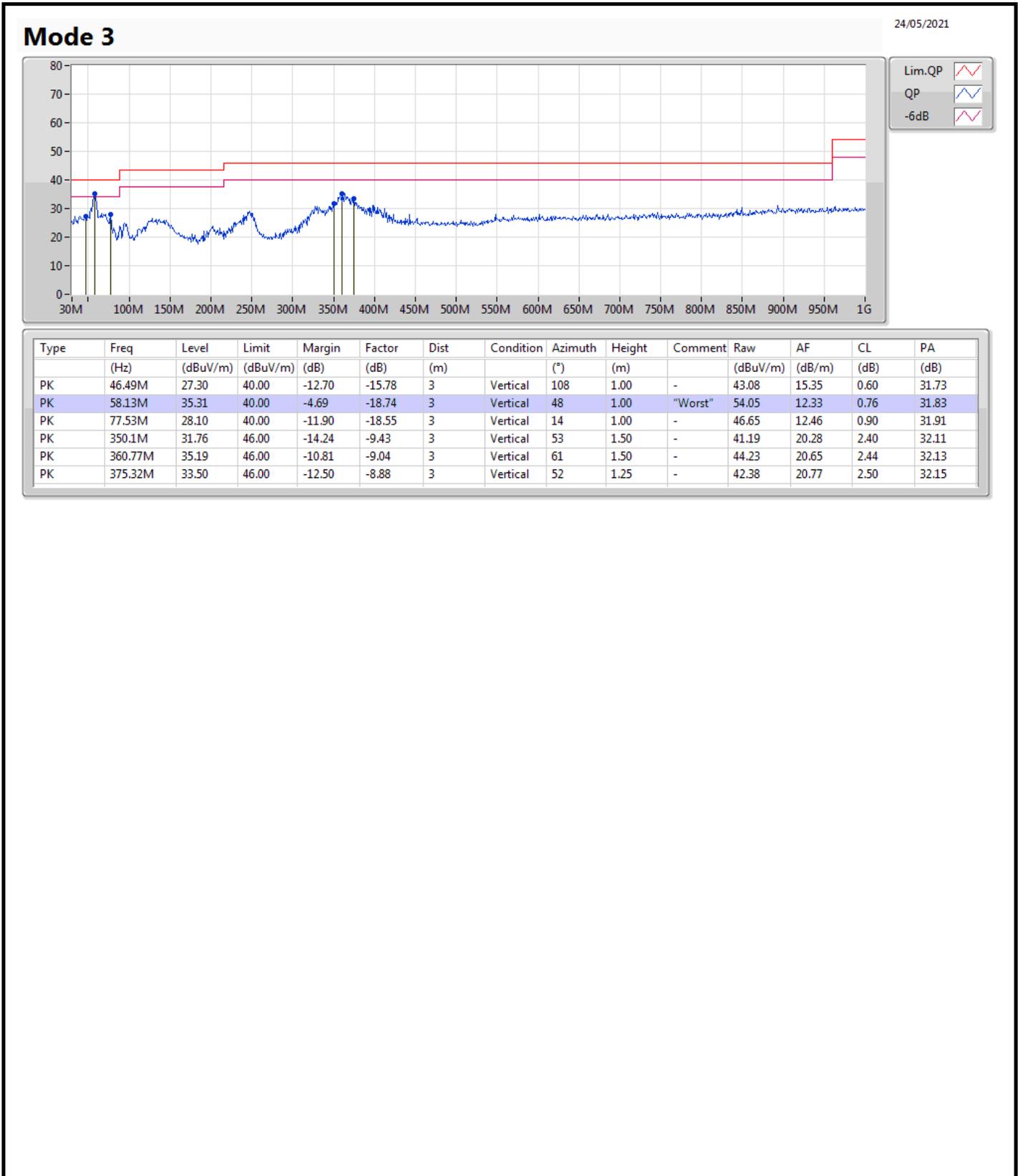


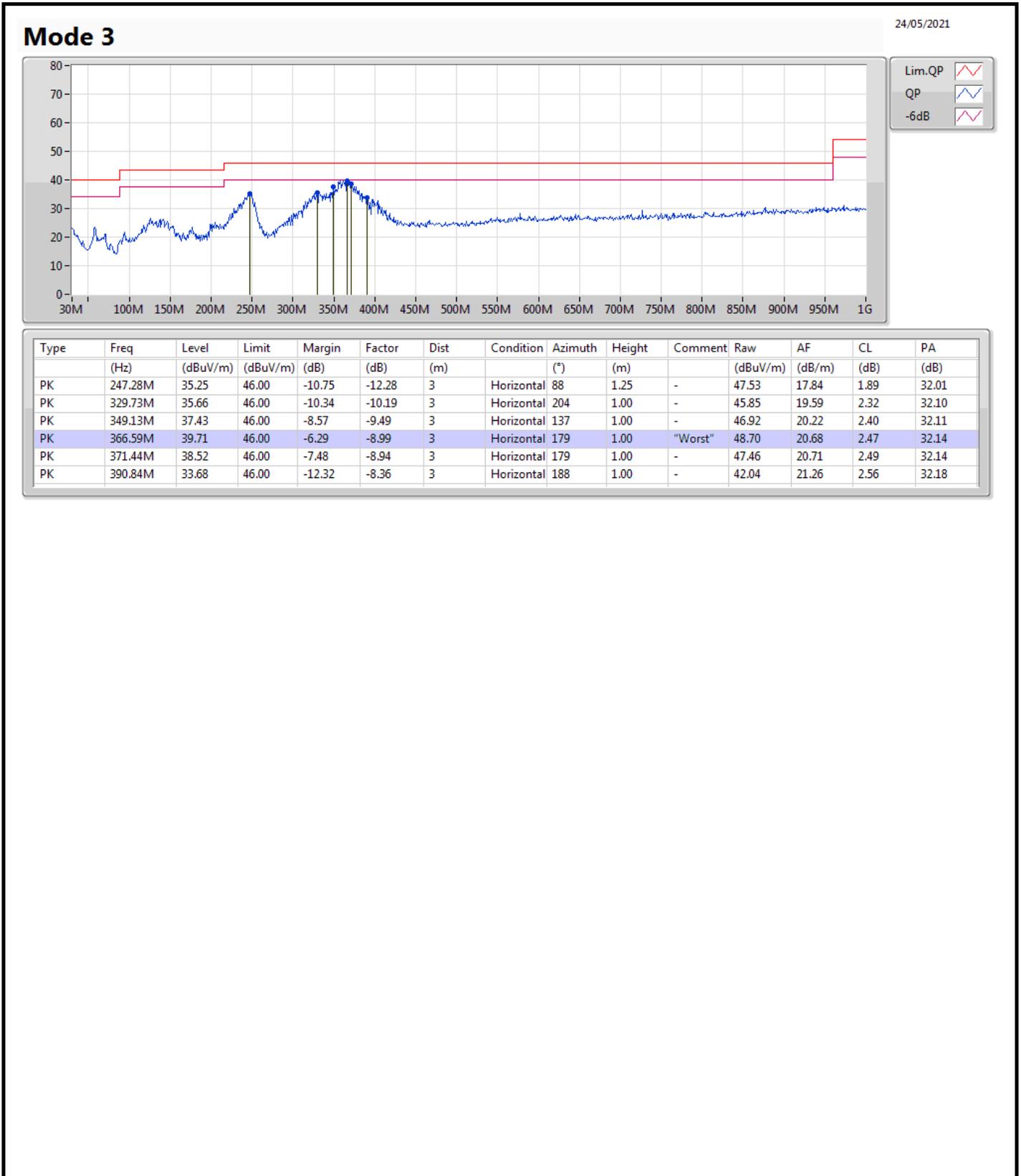




Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 3	Pass	PK	58.13M	35.31	40.00	-4.69	Vertical







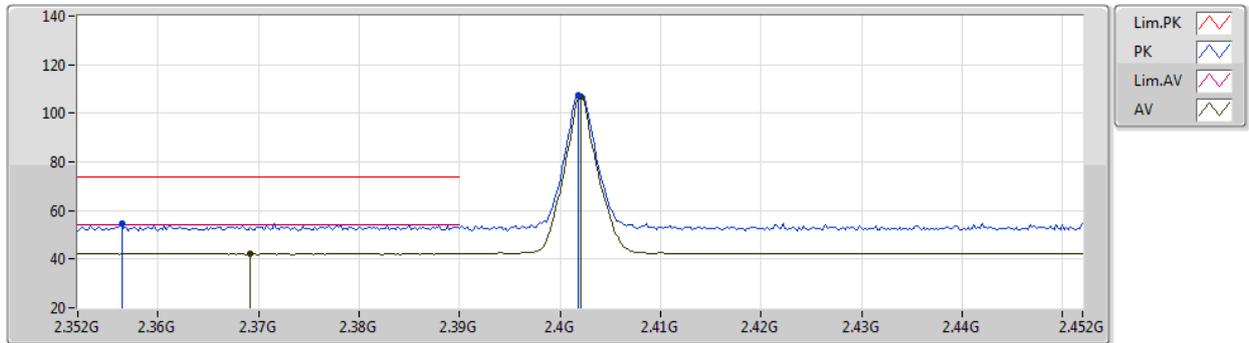
Summary

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	4.80393G	53.10	54.00	-0.90	3	Vertical	326	2.03	-

BT-BR(1Mbps)

21/05/2021

2402MHz_TX



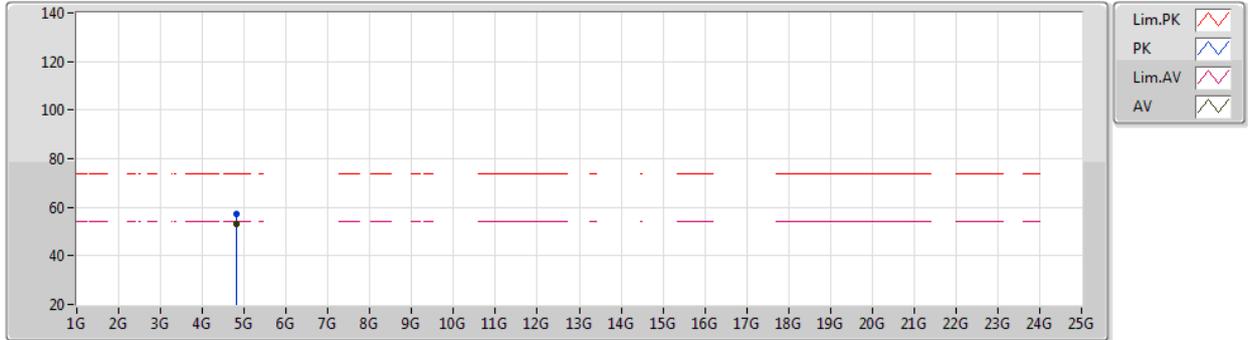
EUT_Z_1TX
Setting 9
01-C-K-5

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	2.3564G	54.60	74.00	-19.40	25.13	3	Vertical	359	1.64	-	27.31	2.16	-
AV	2.3692G	42.35	54.00	-11.65	12.84	3	Vertical	359	1.64	-	27.34	2.17	-
PK	2.4018G	107.54	Inf	-Inf	77.94	3	Vertical	359	1.64	-	27.40	2.20	-
AV	2.402G	106.69	Inf	-Inf	77.09	3	Vertical	359	1.64	-	27.40	2.20	-

BT-BR(1Mbps)

21/05/2021

2402MHz_TX



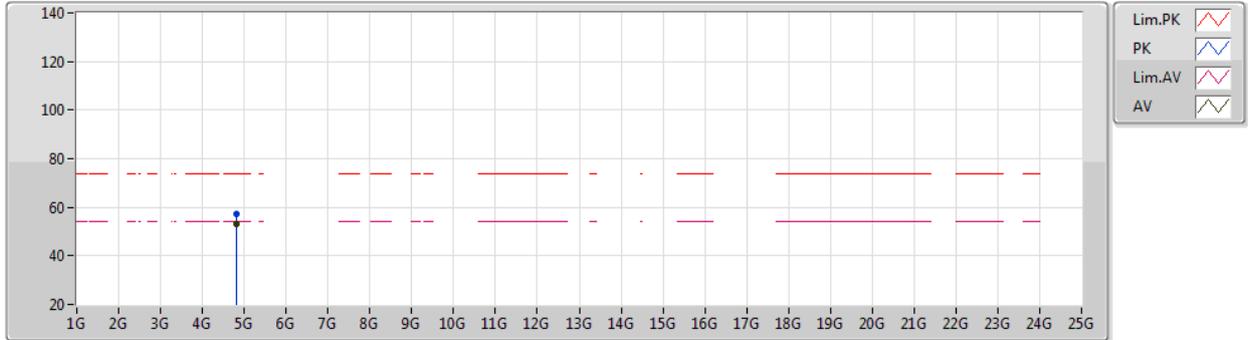
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Setting 9
01-C-K-5

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	4.80351G	57.26	74.00	-16.74	53.13	3	Vertical	326	2.03	-	32.12	5.00	32.99
AV	4.80393G	53.10	54.00	-0.90	48.97	3	Vertical	326	2.03	-	32.12	5.00	32.99

BT-BR(1Mbps)

21/05/2021

2402MHz_TX



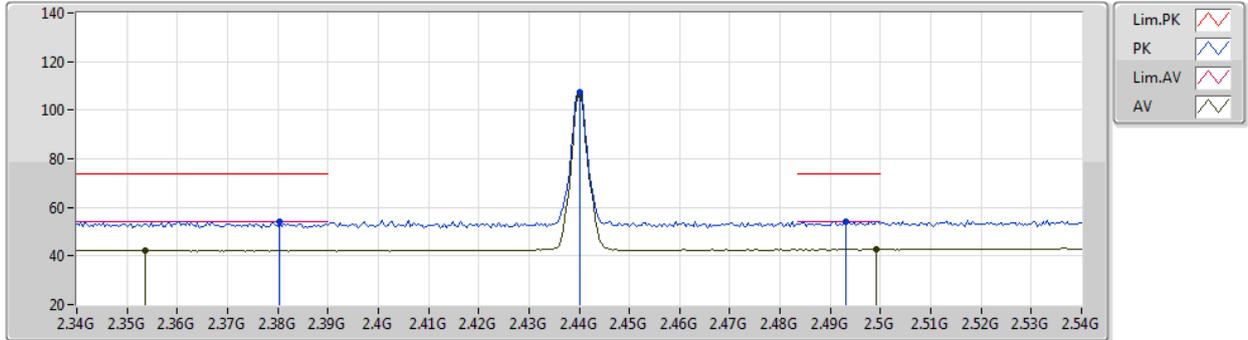
EUT Z_1TX
Setting 9
01-C-K-5

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	4.80368G	57.15	74.00	-16.85	53.02	3	Horizontal	97	1.20	-	32.12	5.00	32.99
AV	4.80393G	53.05	54.00	-0.95	48.92	3	Horizontal	97	1.20	-	32.12	5.00	32.99

BT-BR(1Mbps)

21/05/2021

2440MHz_TX



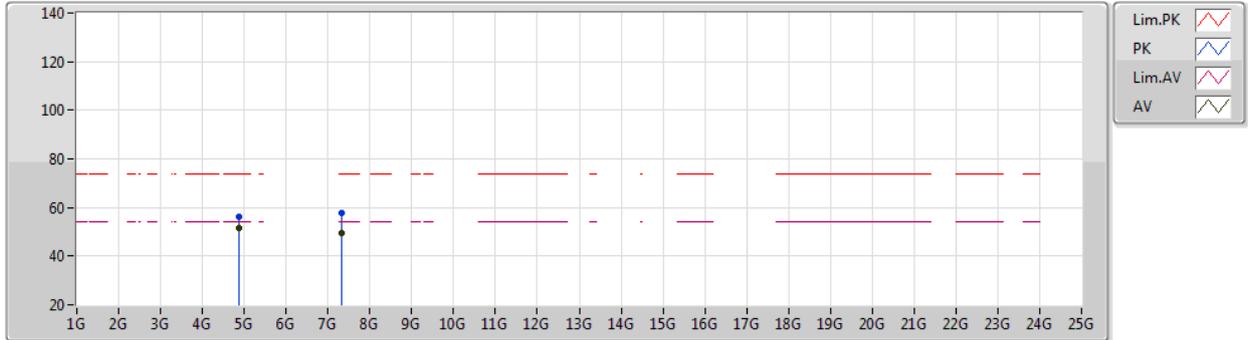
EUT Z_1TX
Setting 9
01-C-K-5

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	2.3804G	54.15	74.00	-19.85	24.61	3	Vertical	271	2.70	-	27.36	2.18	-
AV	2.3536G	42.41	54.00	-11.59	12.95	3	Vertical	271	2.70	-	27.31	2.15	-
PK	2.44G	107.43	Inf	-Inf	77.71	3	Vertical	271	2.70	-	27.48	2.24	-
AV	2.44G	106.61	Inf	-Inf	76.89	3	Vertical	271	2.70	-	27.48	2.24	-
PK	2.4932G	54.21	74.00	-19.79	24.16	3	Vertical	271	2.70	-	27.76	2.29	-
AV	2.4992G	42.75	54.00	-11.25	12.65	3	Vertical	271	2.70	-	27.80	2.30	-

BT-BR(1Mbps)

21/05/2021

2440MHz_TX



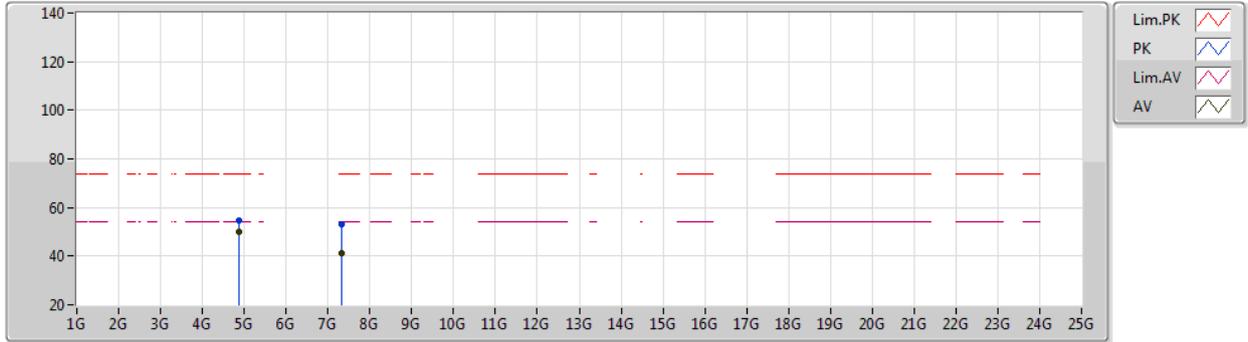
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Setting 9
01-C-K-5

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	4.87968G	56.07	74.00	-17.93	51.55	3	Vertical	350	1.24	-	32.46	5.04	32.98
AV	4.87997G	51.57	54.00	-2.43	47.05	3	Vertical	350	1.24	-	32.46	5.04	32.98
PK	7.31938G	57.64	74.00	-16.36	47.22	3	Vertical	360	1.00	-	37.18	6.32	33.08
AV	7.31994G	49.62	54.00	-4.38	39.19	3	Vertical	360	1.00	-	37.18	6.32	33.07

BT-BR(1Mbps)

21/05/2021

2440MHz_TX



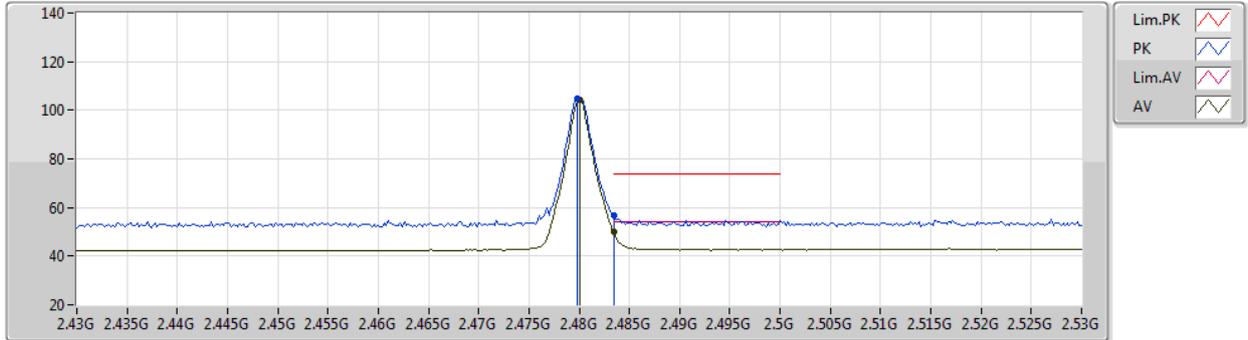
EUT_Z_1TX
Setting 9
01-C-K-5

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	4.87964G	54.74	74.00	-19.26	50.22	3	Horizontal	121	2.75	-	32.46	5.04	32.98
AV	4.87989G	50.14	54.00	-3.86	45.62	3	Horizontal	121	2.75	-	32.46	5.04	32.98
PK	7.32001G	53.34	74.00	-20.66	42.91	3	Horizontal	71	2.69	-	37.18	6.32	33.07
AV	7.31998G	41.29	54.00	-12.71	30.86	3	Horizontal	71	2.69	-	37.18	6.32	33.07

BT-BR(1Mbps)

21/05/2021

2480MHz_TX



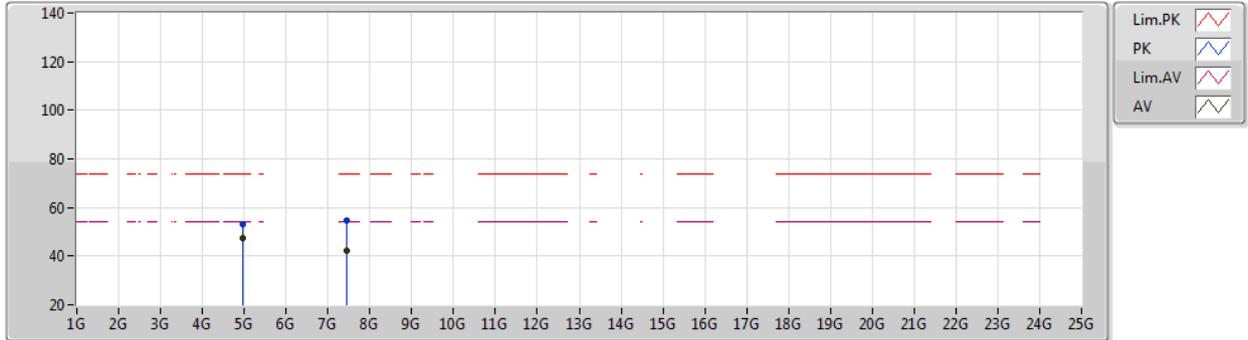
EUT_Z_1TX
Setting 8
01-C-K-5

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	2.4798G	104.96	Inf	-Inf	75.00	3	Vertical	3	1.55	-	27.68	2.28	-
AV	2.48G	104.11	Inf	-Inf	74.15	3	Vertical	3	1.55	-	27.68	2.28	-
PK	2.4835G	56.73	74.00	-17.27	26.75	3	Vertical	3	1.55	-	27.70	2.28	-
AV	2.4835G	49.94	54.00	-4.06	19.96	3	Vertical	3	1.55	-	27.70	2.28	-

BT-BR(1Mbps)

21/05/2021

2480MHz_TX



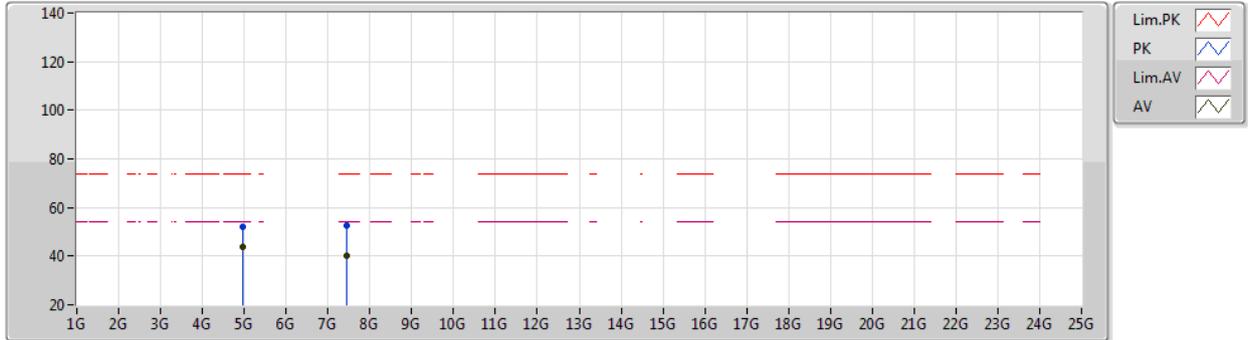
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Setting 8
01-C-K-5

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	4.95971G	53.28	74.00	-20.72	48.39	3	Vertical	354	1.05	-	32.78	5.08	32.97
AV	4.95997G	47.19	54.00	-6.81	42.30	3	Vertical	354	1.05	-	32.78	5.08	32.97
PK	7.43946G	54.77	74.00	-19.23	44.20	3	Vertical	5	1.06	-	37.22	6.38	33.03
AV	7.43977G	42.48	54.00	-11.52	31.91	3	Vertical	5	1.06	-	37.22	6.38	33.03

BT-BR(1Mbps)

21/05/2021

2480MHz_TX



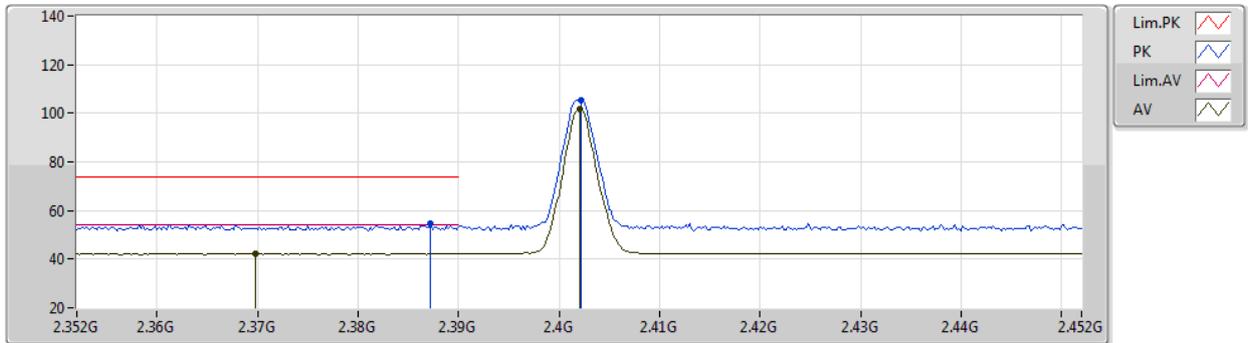
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Setting 8
01-C-K-5

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	4.95954G	51.91	74.00	-22.09	47.02	3	Horizontal	99	1.29	-	32.78	5.08	32.97
AV	4.95999G	44.03	54.00	-9.97	39.14	3	Horizontal	99	1.29	-	32.78	5.08	32.97
PK	7.43814G	52.79	74.00	-21.21	42.22	3	Horizontal	359	1.74	-	37.22	6.38	33.03
AV	7.43795G	39.93	54.00	-14.07	29.36	3	Horizontal	359	1.74	-	37.22	6.38	33.03

BT-EDR(3Mbps)

21/05/2021

2402MHz_TX



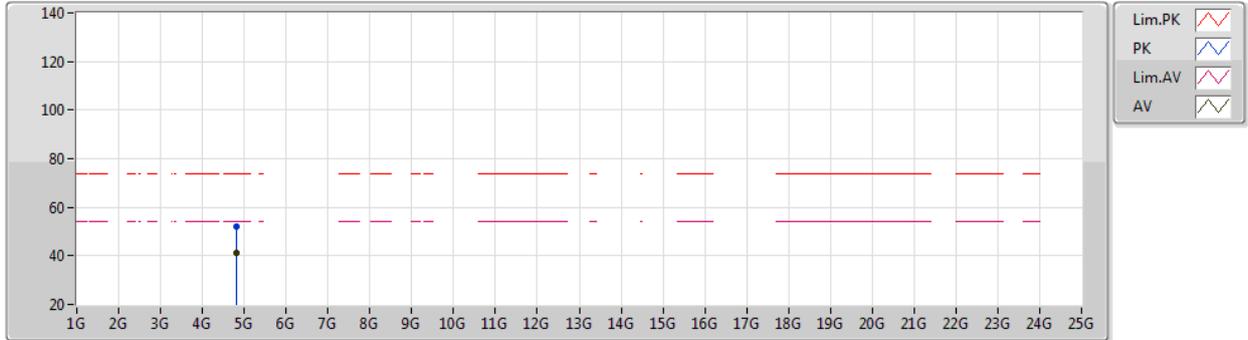
EUT Z_1TX
Setting 9
01-C-K-5

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	2.3872G	54.65	74.00	-19.35	25.09	3	Vertical	0	1.47	-	27.37	2.19	-
AV	2.3698G	42.44	54.00	-11.56	12.93	3	Vertical	0	1.47	-	27.34	2.17	-
PK	2.4022G	105.53	Inf	-Inf	75.93	3	Vertical	0	1.47	-	27.40	2.20	-
AV	2.402G	101.61	Inf	-Inf	72.01	3	Vertical	0	1.47	-	27.40	2.20	-

BT-EDR(3Mbps)

21/05/2021

2402MHz_TX



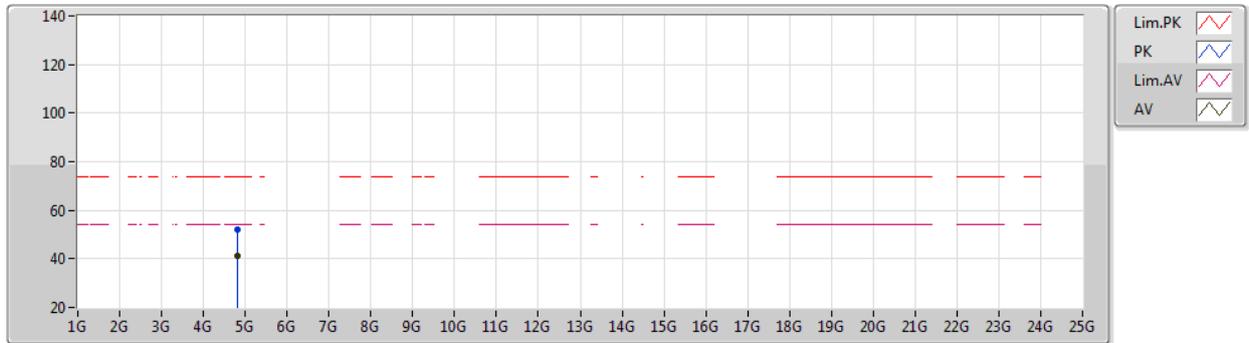
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Setting 9
01-C-K-5

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	4.80401G	51.94	74.00	-22.06	47.81	3	Vertical	327	2.02	-	32.12	5.00	32.99
AV	4.80392G	41.37	54.00	-12.63	37.24	3	Vertical	327	2.02	-	32.12	5.00	32.99

BT-EDR(3Mbps)

21/05/2021

2402MHz_TX



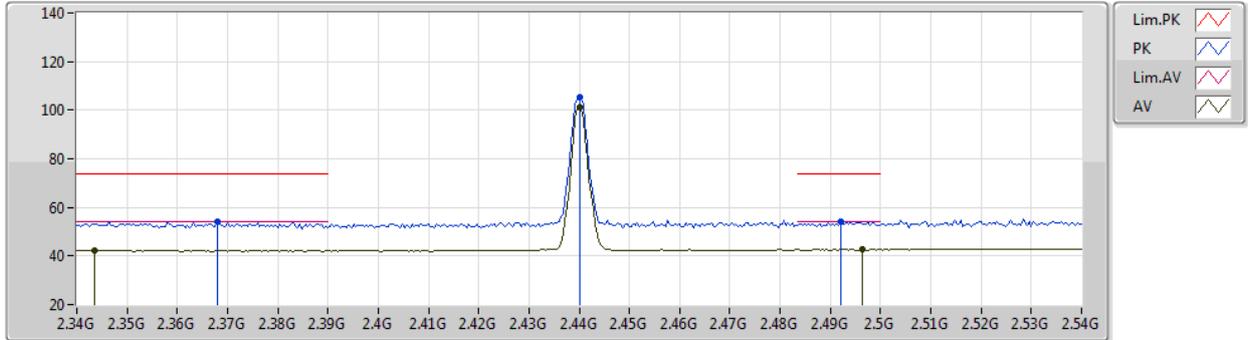
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Setting 9
01-C-K-5

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	4.80405G	52.09	74.00	-21.91	47.96	3	Horizontal	97	1.03	-	32.12	5.00	32.99
AV	4.80398G	40.98	54.00	-13.02	36.85	3	Horizontal	97	1.03	-	32.12	5.00	32.99

BT-EDR(3Mbps)

21/05/2021

2440MHz_TX



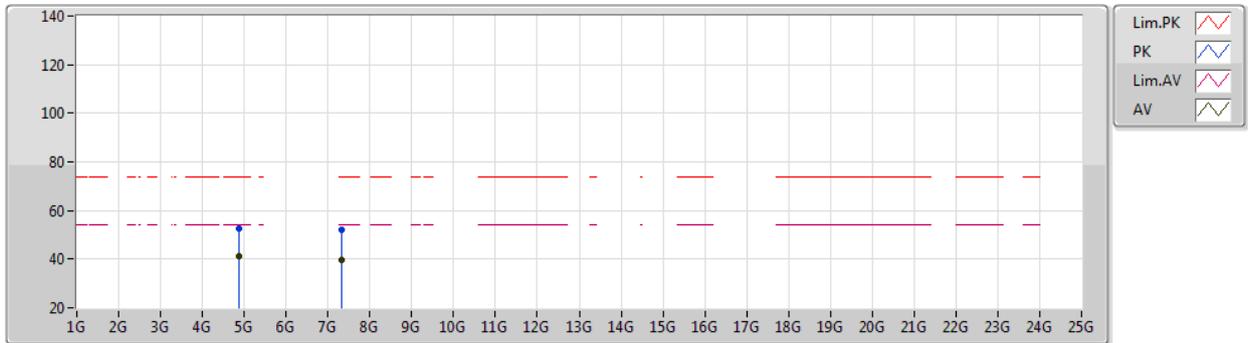
EUT Z_1TX
Setting 9
01-C-K-5

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	2.368G	54.25	74.00	-19.75	24.74	3	Vertical	77	2.42	-	27.34	2.17	-
AV	2.3436G	42.34	54.00	-11.66	12.90	3	Vertical	77	2.42	-	27.30	2.14	-
PK	2.44G	105.15	Inf	-Inf	75.43	3	Vertical	77	2.42	-	27.48	2.24	-
AV	2.44G	101.16	Inf	-Inf	71.44	3	Vertical	77	2.42	-	27.48	2.24	-
PK	2.492G	54.10	74.00	-19.90	24.06	3	Vertical	77	2.42	-	27.75	2.29	-
AV	2.4964G	42.75	54.00	-11.25	12.67	3	Vertical	77	2.42	-	27.78	2.30	-

BT-EDR(3Mbps)

21/05/2021

2440MHz_TX



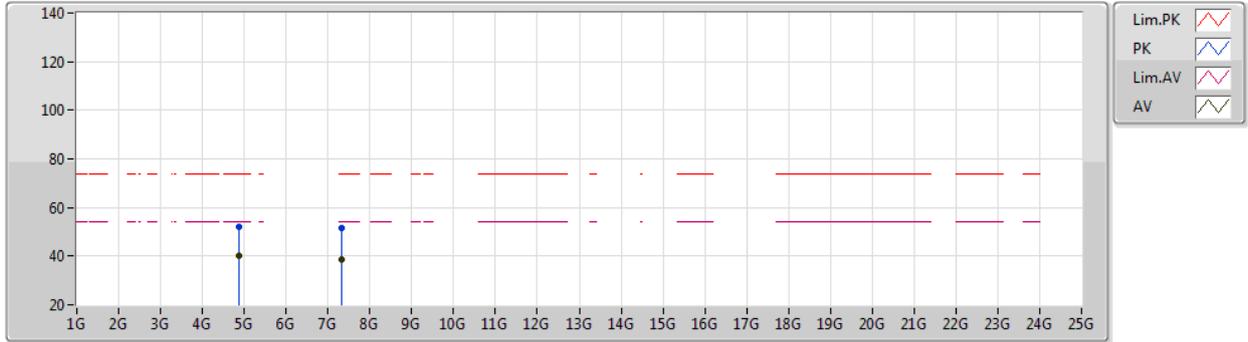
EUT_Z_1TX
Setting 9
01-C-K-5

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	4.87997G	52.63	74.00	-21.37	48.11	3	Vertical	353	1.23	-	32.46	5.04	32.98
AV	4.87995G	41.13	54.00	-12.87	36.61	3	Vertical	353	1.23	-	32.46	5.04	32.98
PK	7.31798G	52.18	74.00	-21.82	41.77	3	Vertical	62	1.53	-	37.17	6.32	33.08
AV	7.32043G	39.46	54.00	-14.54	29.03	3	Vertical	62	1.53	-	37.18	6.32	33.07

BT-EDR(3Mbps)

21/05/2021

2440MHz_TX



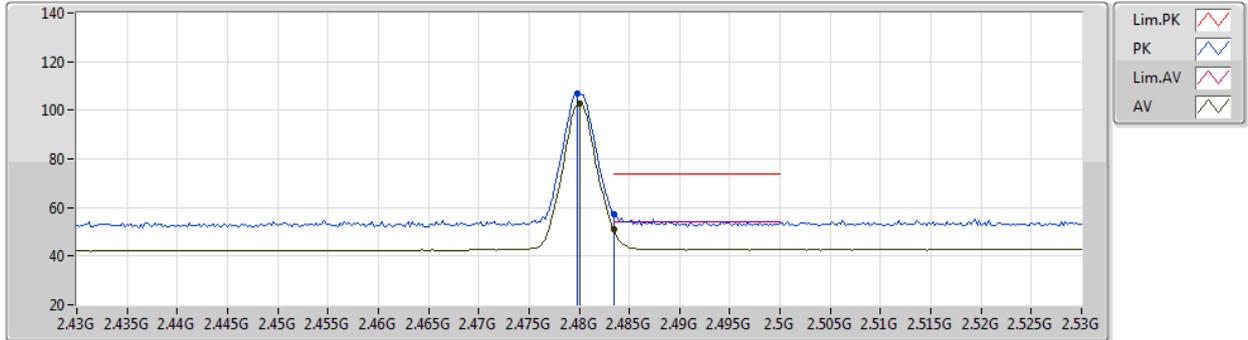
EUT Z_1TX
Setting 9
01-C-K-5

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	4.87999G	51.97	74.00	-22.03	47.45	3	Horizontal	121	2.76	-	32.46	5.04	32.98
AV	4.87991G	39.98	54.00	-14.02	35.46	3	Horizontal	121	2.76	-	32.46	5.04	32.98
PK	7.3218G	51.77	74.00	-22.23	41.33	3	Horizontal	277	1.57	-	37.19	6.32	33.07
AV	7.3175G	38.83	54.00	-15.17	28.42	3	Horizontal	277	1.57	-	37.17	6.32	33.08

BT-EDR(3Mbps)

21/05/2021

2480MHz_TX



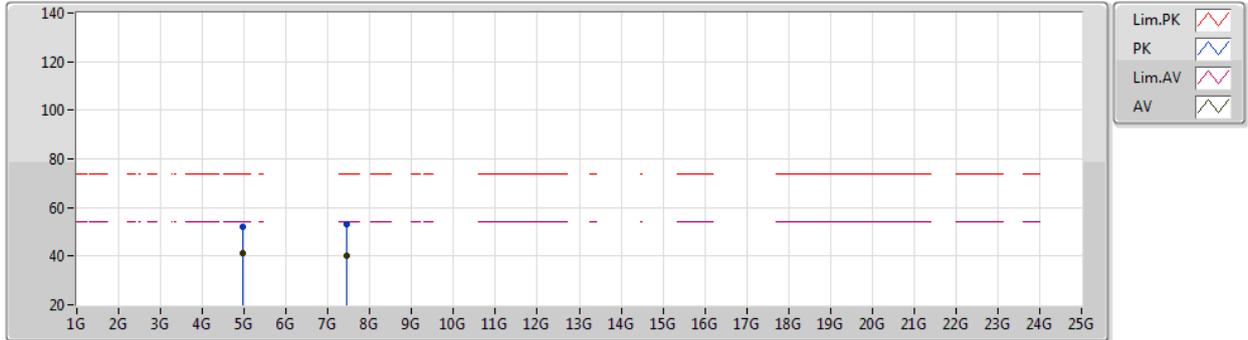
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Setting 9
01-C-K-5

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	2.4798G	106.68	Inf	-Inf	76.72	3	Vertical	359	1.15	-	27.68	2.28	-
AV	2.48G	102.51	Inf	-Inf	72.55	3	Vertical	359	1.15	-	27.68	2.28	-
PK	2.4835G	57.45	74.00	-16.55	27.47	3	Vertical	359	1.15	-	27.70	2.28	-
AV	2.4835G	51.27	54.00	-2.73	21.29	3	Vertical	359	1.15	-	27.70	2.28	-

BT-EDR(3Mbps)

21/05/2021

2480MHz_TX



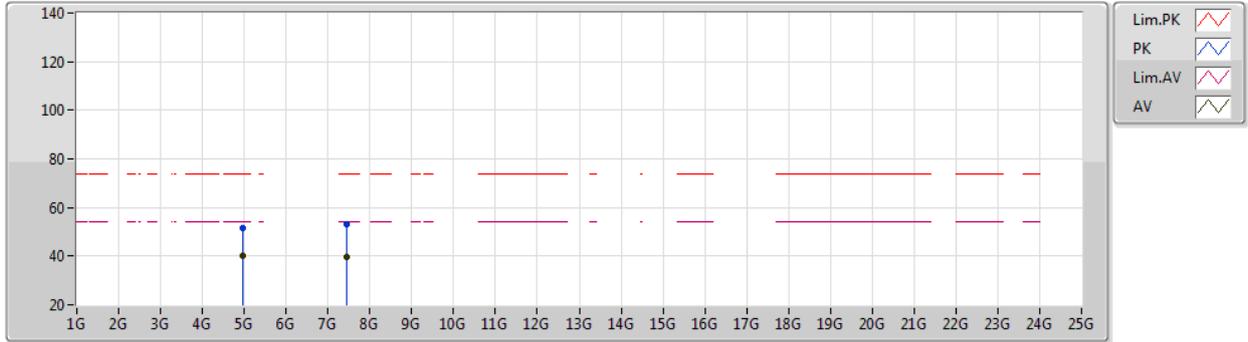
EUT Z_1TX
Setting 9
01-C-K-5

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	4.95933G	52.25	74.00	-21.75	47.36	3	Vertical	351	1.07	-	32.78	5.08	32.97
AV	4.95988G	41.28	54.00	-12.72	36.39	3	Vertical	351	1.07	-	32.78	5.08	32.97
PK	7.44047G	53.26	74.00	-20.74	42.69	3	Vertical	136	1.14	-	37.22	6.38	33.03
AV	7.44006G	40.42	54.00	-13.58	29.85	3	Vertical	136	1.14	-	37.22	6.38	33.03

BT-EDR(3Mbps)

21/05/2021

2480MHz_TX



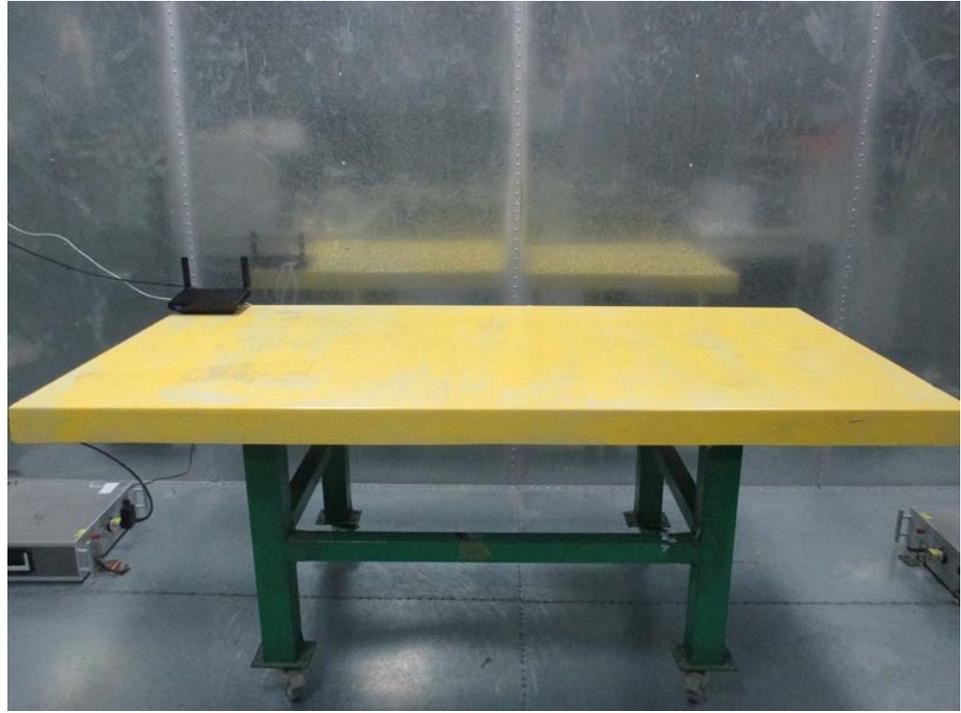
EUT Z_1TX
Setting 9
01-C-K-5

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	4.95992G	51.40	74.00	-22.60	46.51	3	Horizontal	121	2.68	-	32.78	5.08	32.97
AV	4.96005G	40.34	54.00	-13.66	35.45	3	Horizontal	121	2.68	-	32.78	5.08	32.97
PK	7.44189G	52.86	74.00	-21.14	42.29	3	Horizontal	203	1.42	-	37.22	6.38	33.03
AV	7.43779G	39.89	54.00	-14.11	29.32	3	Horizontal	203	1.42	-	37.22	6.38	33.03

1. Photographs of Conducted Emissions Test Configuration

Test Mode: Mode 2

FRONT VIEW



REAR VIEW



2. Photographs of Radiated Emissions Test Configuration

Test Configuration: 30MHz~1GHz / Test Mode: Mode 3

FRONT VIEW

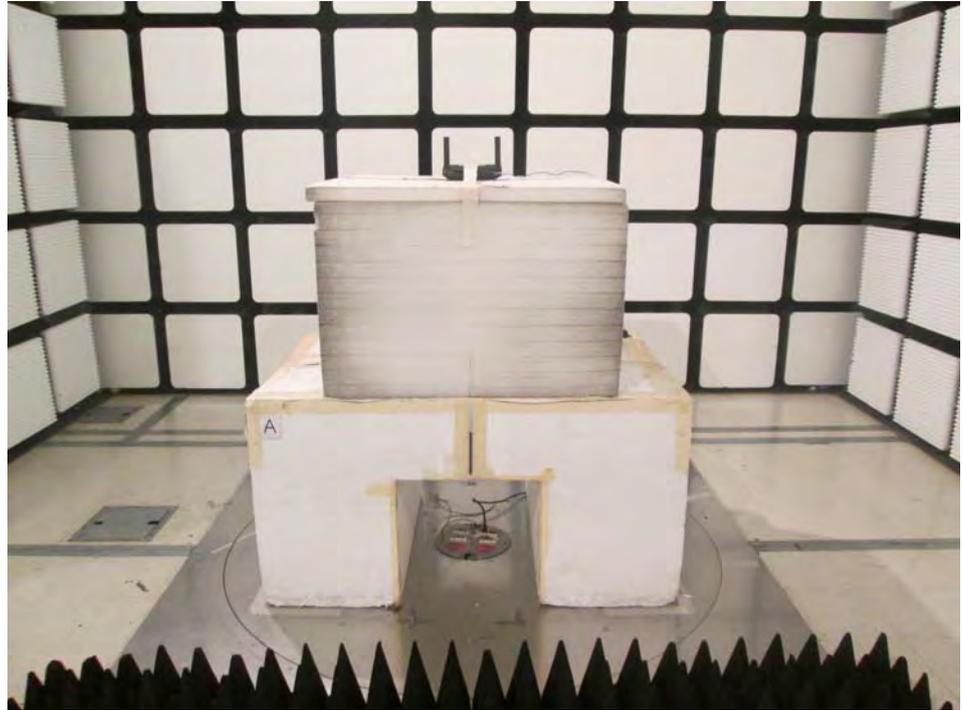


REAR VIEW

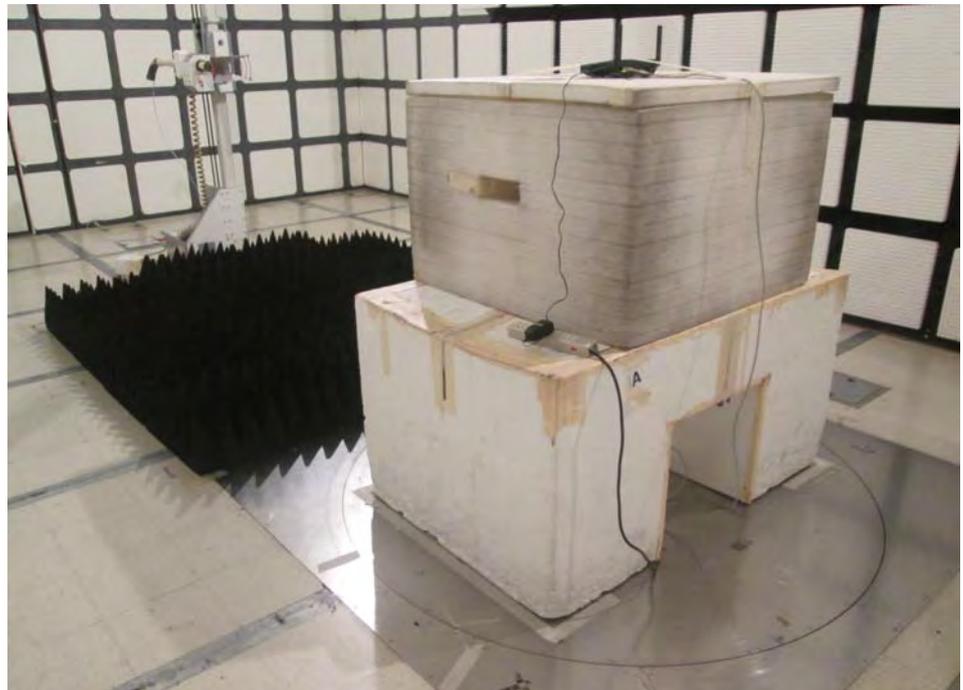


Test Configuration: Above 1GHz

FRONT VIEW



REAR VIEW



————THE END————