

NCC Test Report

Equipment : True wireless headphones
Brand Name : URBANEARS
Model Name : Urbanears Luma
Applicant : 百滋國際股份有限公司
台北市松山區寶清街 17 號 5 樓之 1
Manufacturer : Zound Industries International AB
Room 411-412, 4th Floor, Main Building, No. 99 Qiao Cheng
East Road, Nanshan District, Shenzhen City, China
Standard : LP0002 Section 3.10 (2018-01-10)

The product was received on Jun. 05, 2020, and testing was started from Sep. 09, 2020 and completed on Sep. 15, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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History of this test report

[illegible]

Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	3.10.1.4	Antenna Requirement	PASS	-
3.1	2.3	AC Power-line Conducted Emissions	PASS	-
3.2	3.10.1.6	20dB Bandwidth	PASS	-
3.2	3.10.1.6	Carrier Frequency Separation	PASS	-
3.3	3.10.1.2	Maximum Conducted Output Power	PASS	-
3.4	3.10.1.6	Number of Hopping Frequencies and Hopping Bandedge	PASS	-
3.5	3.10.1.6	Time of Occupancy (Dwell Time)	PASS	-
3.6	3.10.1.5	Emissions in Non-restricted Frequency Bands	PASS	-
3.7	3.10.1.5	Emissions in Restricted Frequency Bands	PASS	-
3.8	2.11	Receiver Radiated Unwanted Emissions	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Sam Tsai

Report Producer: Yunha Liou

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	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	Unictron	AA055	Chip	N/A	1

Note 1: The EUT has one antenna.

For BT function:

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

Ant. 1 (port 1) could transmit/receive.

1.1.3 EUT Information

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

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq$ 1/T
BT-BR(1Mbps)	0.769	1.14	2.913m	1k
BT-EDR(2Mbps)	0.762	1.18	2.919m	1k
BT-EDR(3Mbps)	0.763	1.17	2.919m	1k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.2 Testing Applied Standards

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

- ♦ LP0002 (2018-01-10)
- ♦ ANSI C63.10-2013
- ♦ ANSI C63.4-2014

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

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward	22.8~23.6°C / 56~60%	15/Sep/2020
RF Conducted	TH07-HY	Gary	23.5~26.9°C / 65~69%	15/Sep/2020
Radiated	03CH09-HY	Lego	22.5~24.5°C / 53~60%	09/Sep/2020~14/Sep/2020

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	110V

2.2 Test Channel Mode

Test Software Version	BlueTest3
-----------------------	-----------

Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	7,0
2440MHz	7,0
2480MHz	7,0
BT-EDR(2Mbps)	-
2402MHz	7,0
2440MHz	7,0
2480MHz	7,0
BT-EDR(3Mbps)	-
2402MHz	7,0
2440MHz	7,0
2480MHz	4,1

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	1. Test Fixture mode; CTX
	2. Test Fixture mode; CRX
	3. Adapter Charging mode; Normal

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

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands Receiver Radiated Spurious Emissions		
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	1. Test Fixture mode; CTX /CRX		
	2. Adapter Charging mode; Normal		
Operating Mode > 1GHz	1. Test Fixture mode; CTX /CRX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

2.4 Accessories

Accessories				
USB cable	Brand Name	URBANEARS	Model Name	USB-C charging cable
	Signal Line	0.15 meter, non-shielded cable, w/o ferrite core		
Battery	Brand Name	VDL	Model Name	1054
Charging Case	Brand Name	URBANEARS	Model Name	Luma Charging Case

Reminder: Regarding to more detail and other information, please refer to user manual.

2.5 Support Equipment

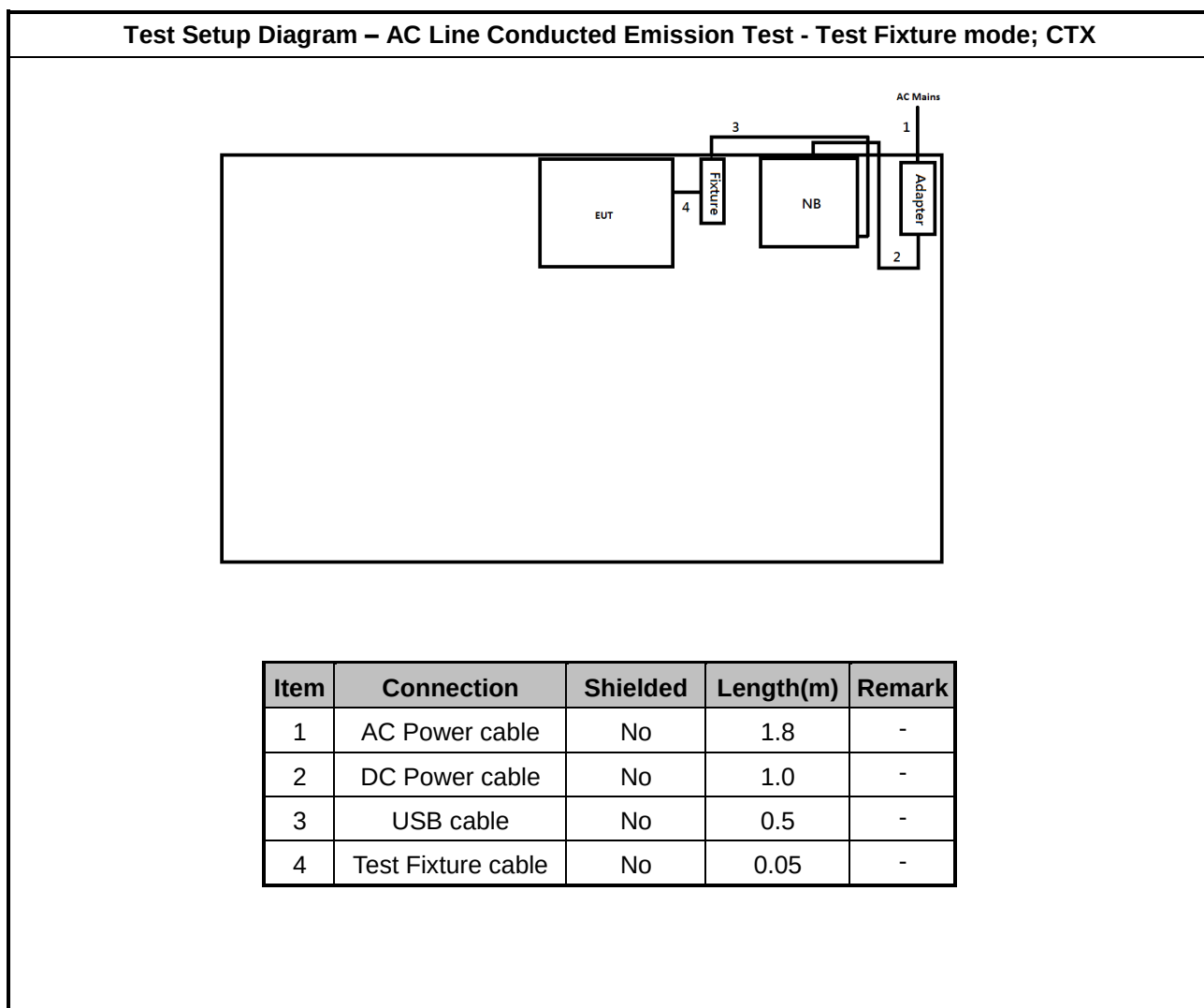
Support Equipment – AC Conduction / Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	Acer	ZQS	-	-
2	AC Adapter	Chicony	A10-090P3A	-	-
3	AC Power Cable for NB	Power sync	PW-GPC180-3	-	-
4	Mouse(USB)	lenovo	MOGOUO	-	-
5	iPod	Apple	A1199	-	-
6	30-pin to USB Original Cable	Apple	MA591GC	-	-
7	USB cable	Sony	UC-E6	-	-
8	AC Adapter	Apple	A1357	-	-
9	Test Fixture	IHX	316	-	Note 1

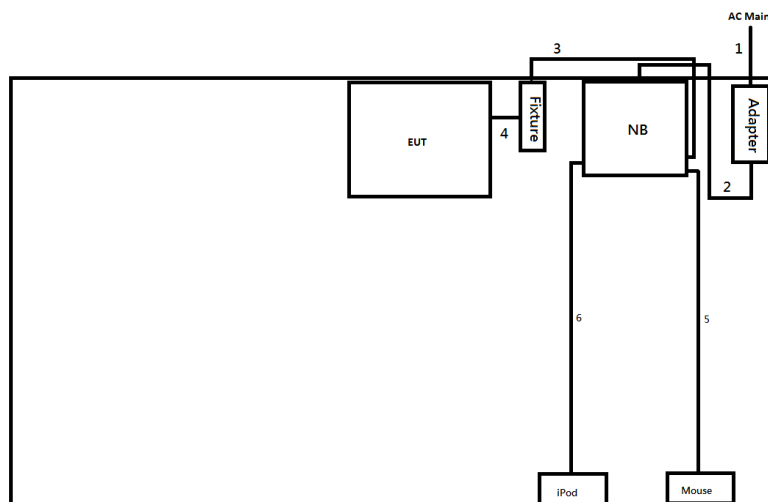
Note: No.9 was provided by customer. The applicant has signed the recognizance that the equipment will not be sold with the accessory.

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	Acer	ZQS	-	-
2	AC Adapter	Chicony	A10-090P3A	-	-
3	Test Fixture	IHX	316	-	Note 1

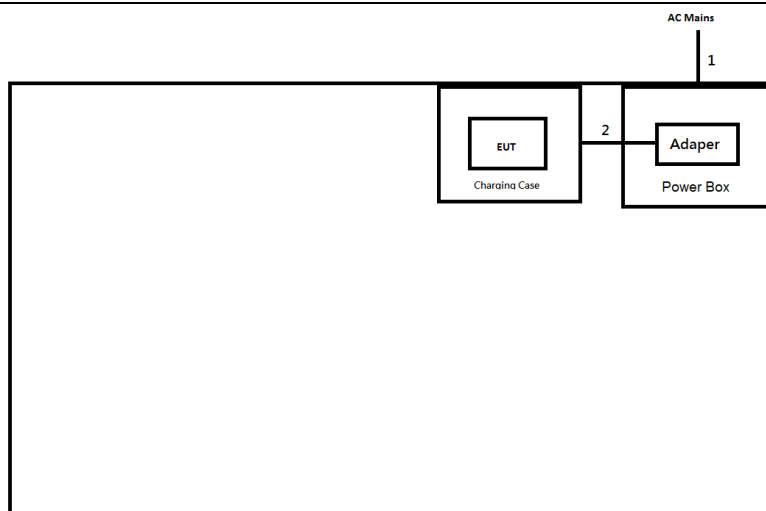
Note: No.3 was provided by customer. The applicant has signed the recognizance that the equipment will not be sold with the accessory.

2.6 Test Setup Diagram

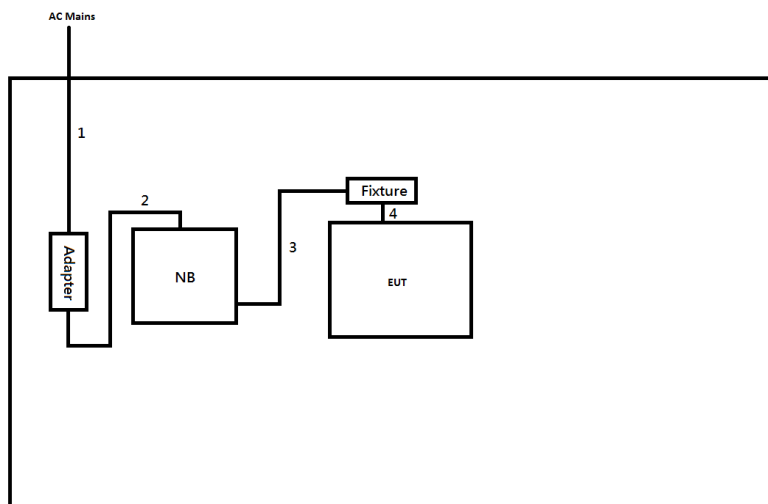


Test Setup Diagram – AC Line Conducted Emission Test -Test Fixture mode; CRX


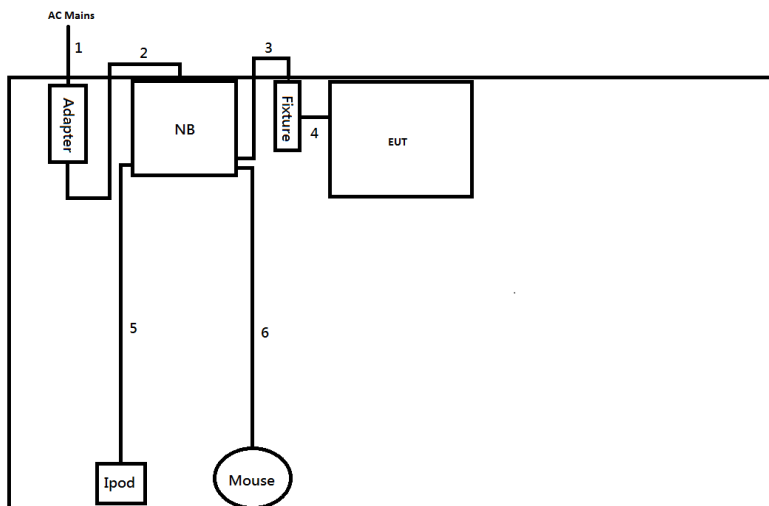
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.0	-
3	USB cable	No	0.5	-
4	Test Fixture cable	No	0.05	-
5	USB Cable	No	1.2	-
6	30-pin to USB Original Cable	No	1.0	-

Test Setup Diagram – AC Line Conducted Emission Test - Adapter Charging Mode; Normal


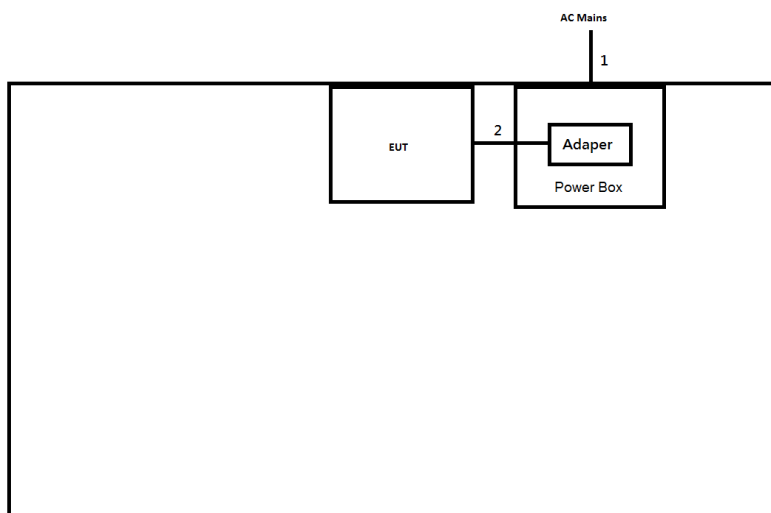
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	USB cable	No	0.15	-

Test Setup Diagram - Radiated Test - Test Fixture mode; CTX


Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.0	-
3	USB cable	No	0.5	-
4	Test Fixture cable	No	0.05	-

Test Setup Diagram - Radiated Test - Test Fixture mode; CRX


Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.0	-
3	USB cable	No	0.5	-
4	Test Fixture cable	No	0.05	-
5	30-pin to USB Original Cable	No	1.0	-
6	USB cable	No	1.2	-

Test Setup Diagram - Radiated Test - Adapter Charging mode; Normal


Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	USB cable	No	0.15	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

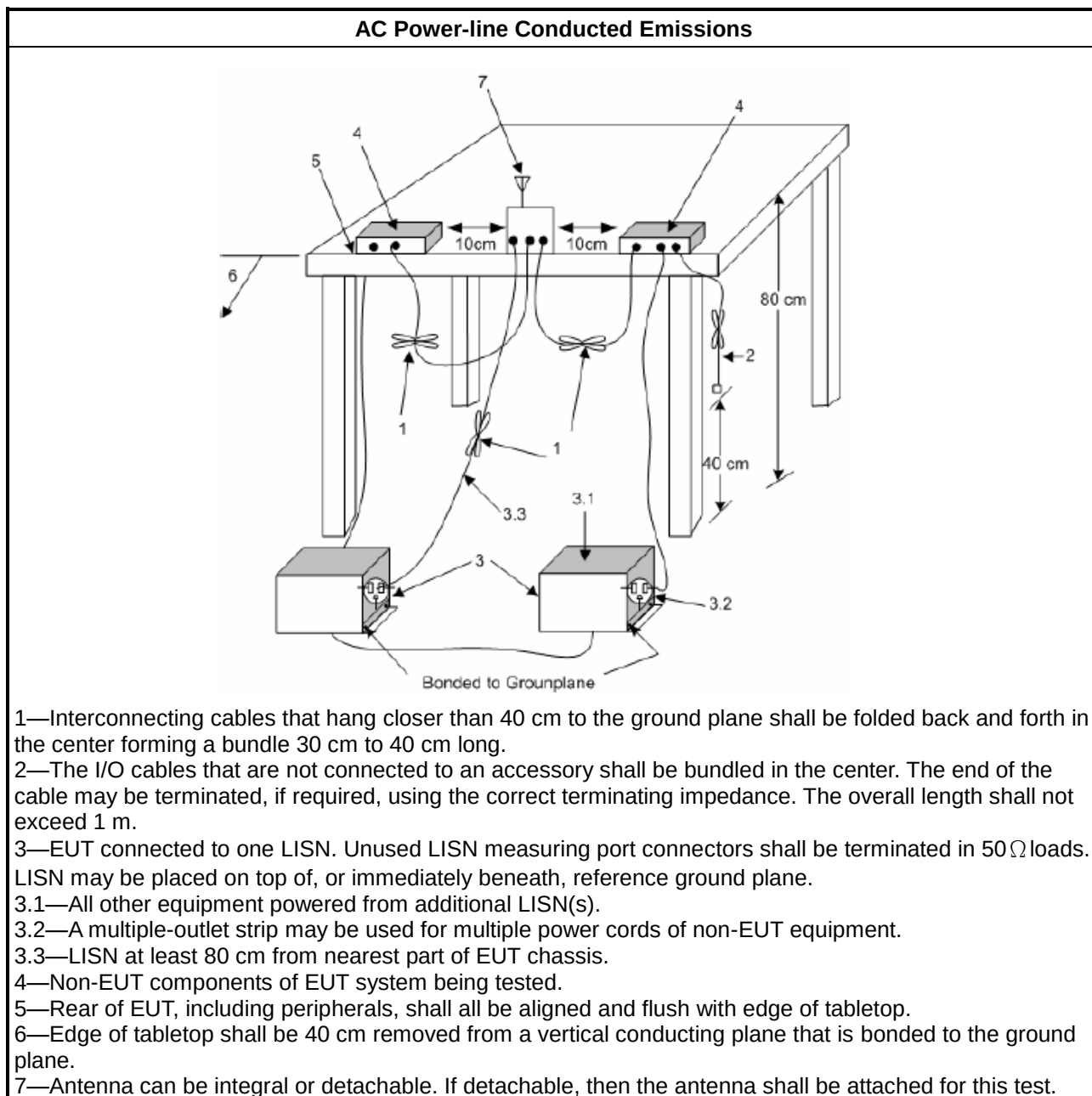
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.5 Test Setup



3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 20dB Bandwidth and Carrier Frequency Separation

3.2.1 20dB Bandwidth and Carrier Frequency Separation Limit

20dB Bandwidth and Carrier Frequency Separation Limit for Frequency Hopping Systems	
2400-2483.5 MHz Band:	
	$N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	$75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

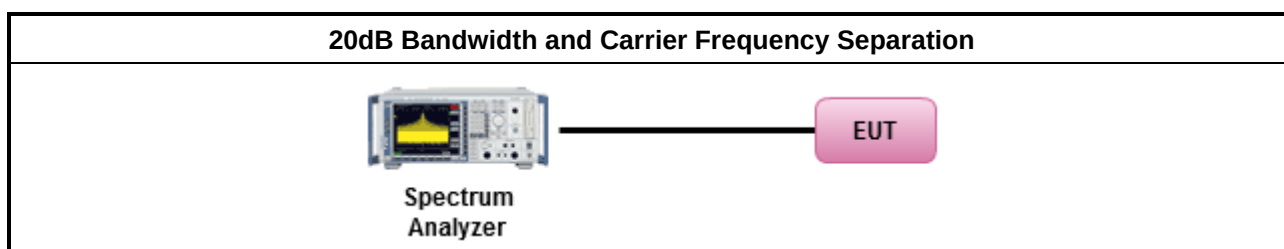
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of 20dB Bandwidth

Refer as Appendix B

3.2.6 Test Result of Carrier Frequency Separation

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
2400-2483.5 MHz Band:	
	$N \geq 75$; Power 30dBm; EIRP 36dBm
	$75 > N \geq 15$; Power 21dBm; EIRP 27dBm
N: Number of Hopping Frequencies	

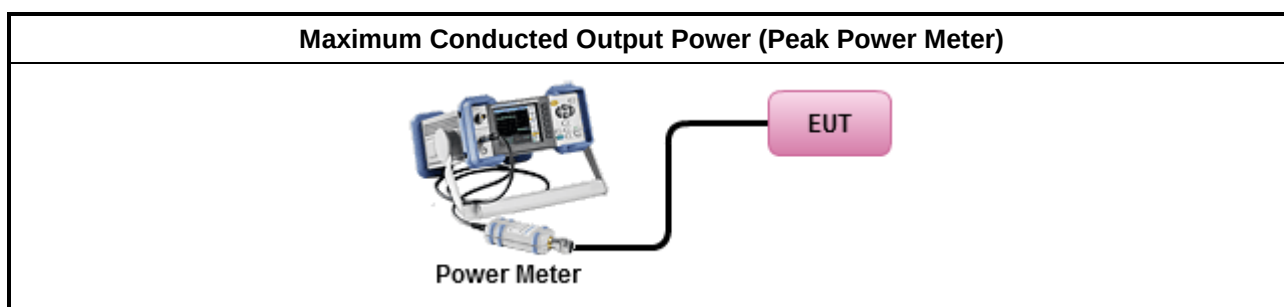
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Number of Hopping Frequencies and Hopping Bandedge

3.4.1 Number of Hopping Frequencies Limit

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

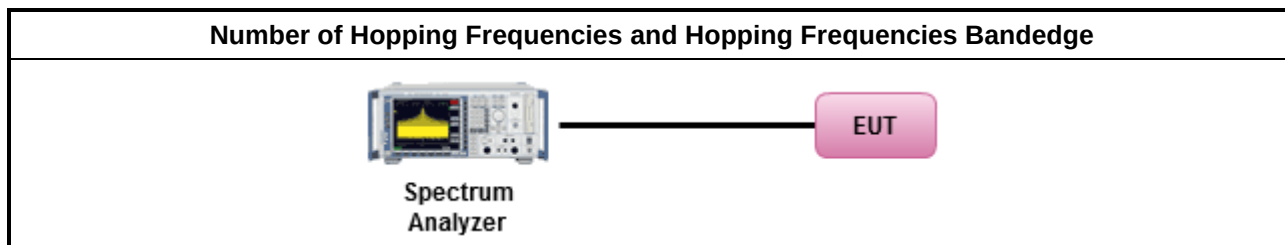
3.4.3 Measuring Instruments

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

Time of Occupancy (Dwell Time) Limit for Frequency Hopping Systems	
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
N: Number of Hopping Frequencies	

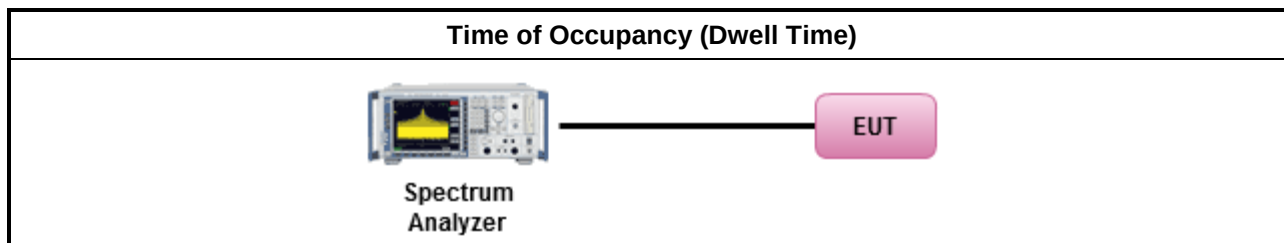
3.5.2 Measuring Instruments

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

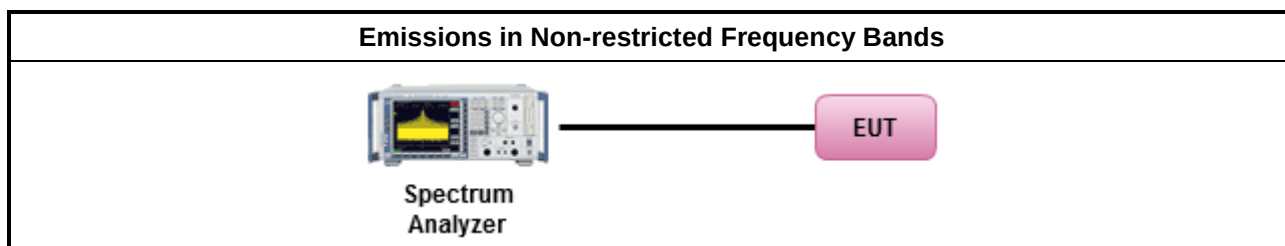
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



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

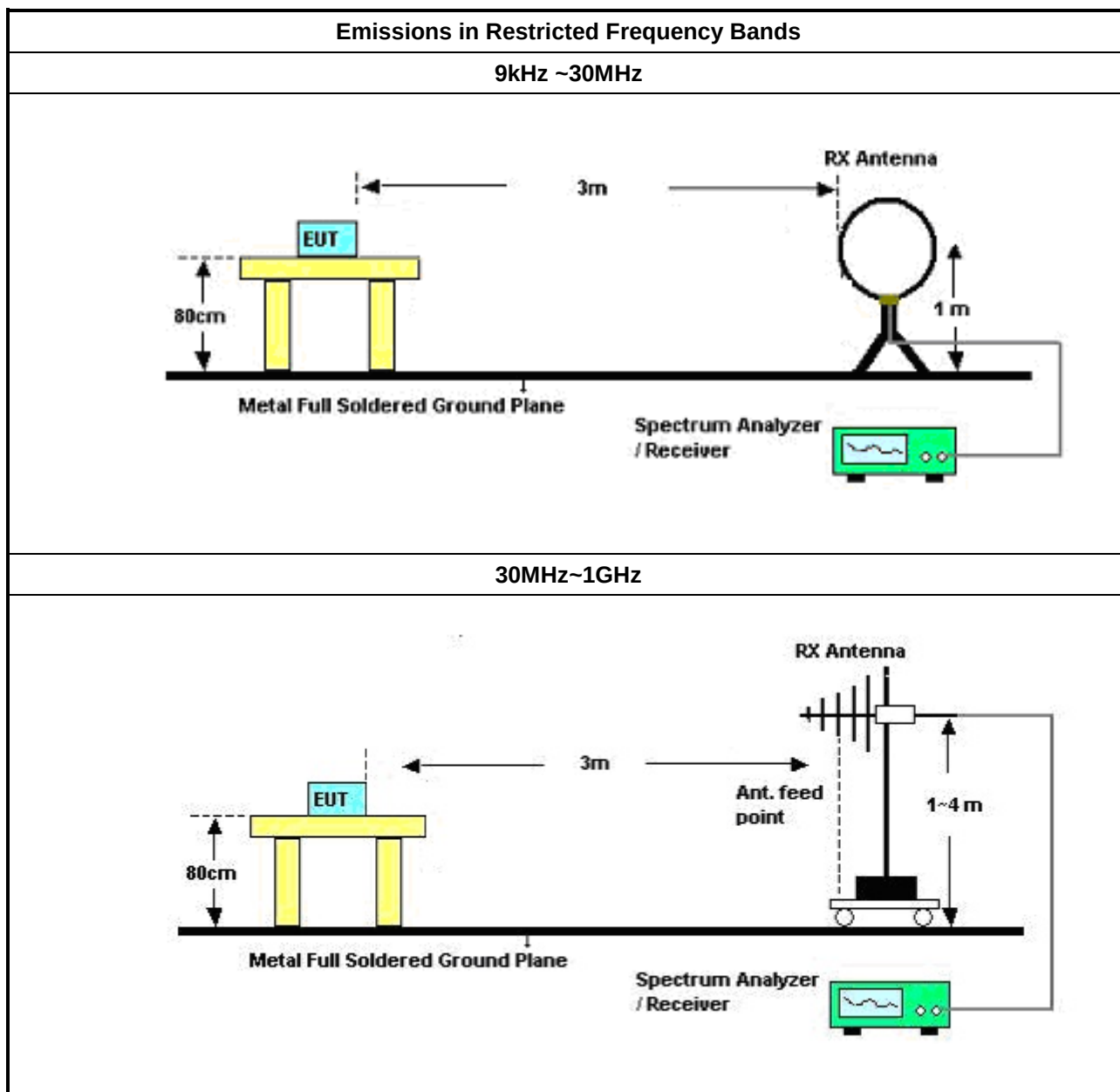
Test Method	
The average emission levels shall be measured in [hopping duty factor].	
Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.
KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.	
	Based on LP0002 5.5.2: measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

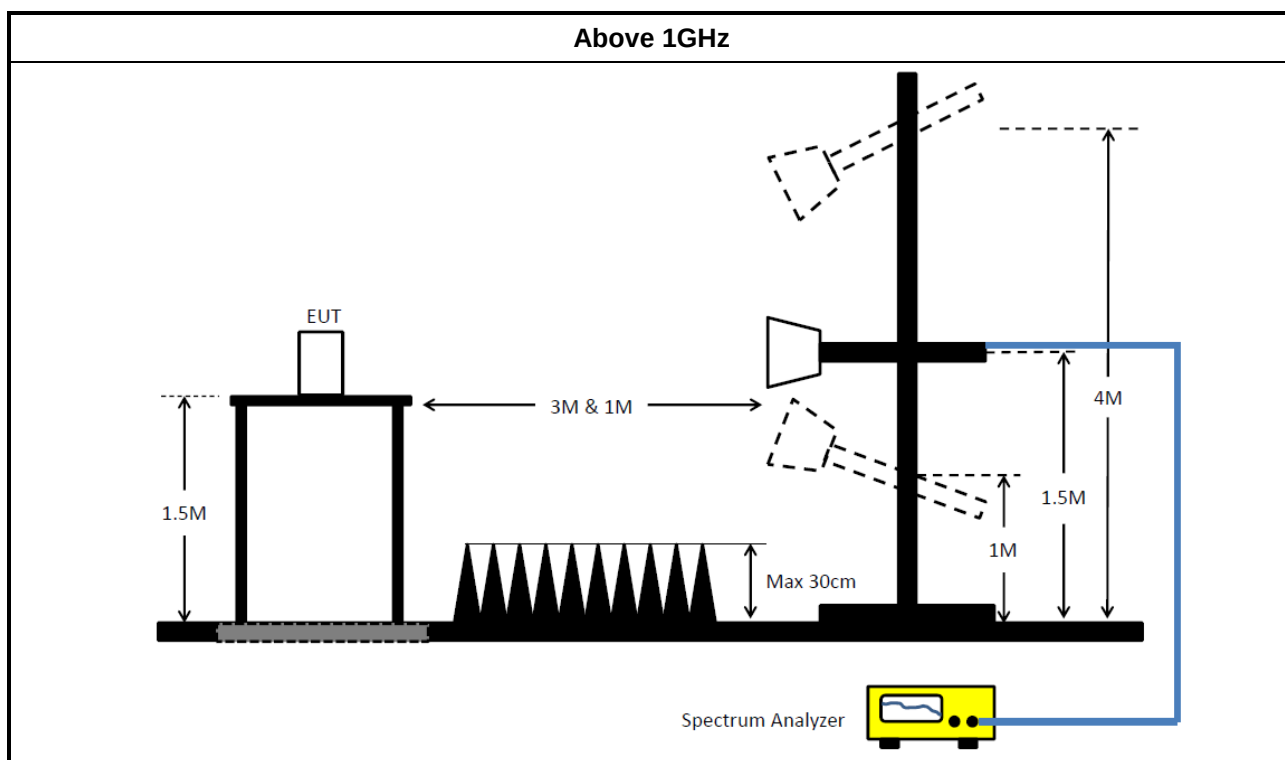
3.7.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.7.5 Test Setup





3.7.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.7.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G

3.8 Receiver Radiated Spurious Emissions

3.8.1 Receiver in Radiated Spurious Emissions Limit

Restricted Spurious 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.

3.8.2 Measuring Instruments

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

3.8.3 Test Procedures

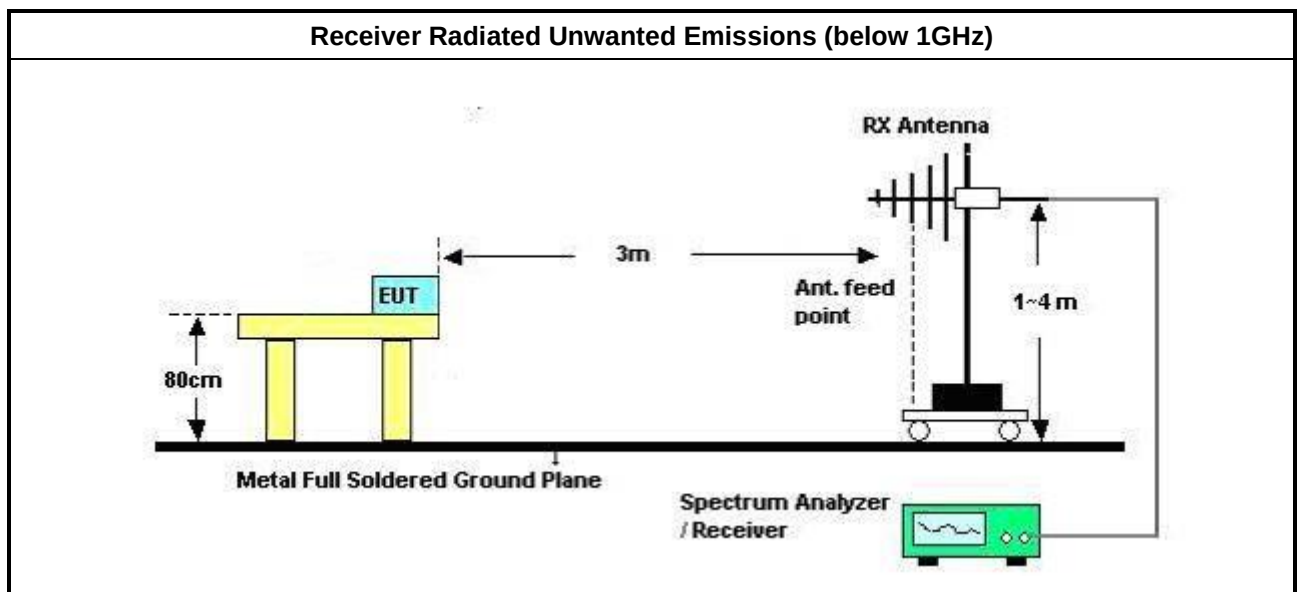
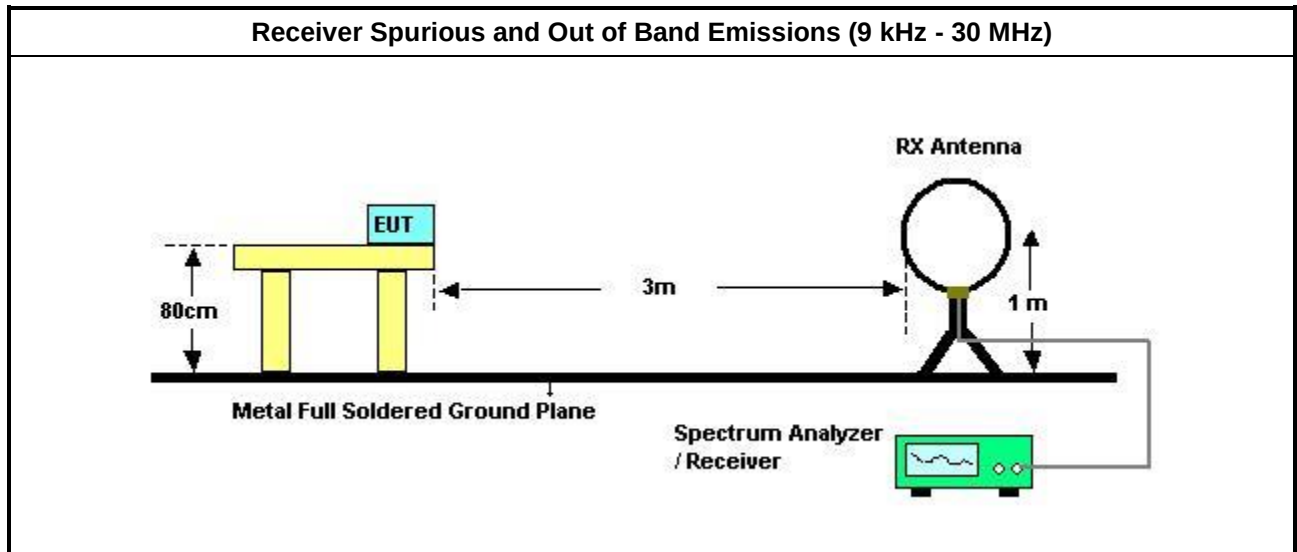
Test Method	
☒	The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is higher, to at least 3 times the highest tuneable or local oscillator frequency, whichever is higher, without exceeding 40 GHz.
☒	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).
☒	For radiated measurement, refer as ANSI C63.4, clause 8.3.
☒	Refer as ANSI C63.4, clause 8.3.1.1 and 8.3.2.1 for radiated emissions from below 30 MHz.
☒	Refer as ANSI C63.4, clause 8.3.1.1 and 8.3.2.1 for radiated emissions from 30 MHz-1 GHz. For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the QP-Limit so that the QP level does not need to be reported in addition.
☒	Refer as ANSI C63.4, clause 8.3.1.2 and 8.3.2.2 for radiated emissions from above 1 GHz. For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
☒	All amplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value has no need to be reported.

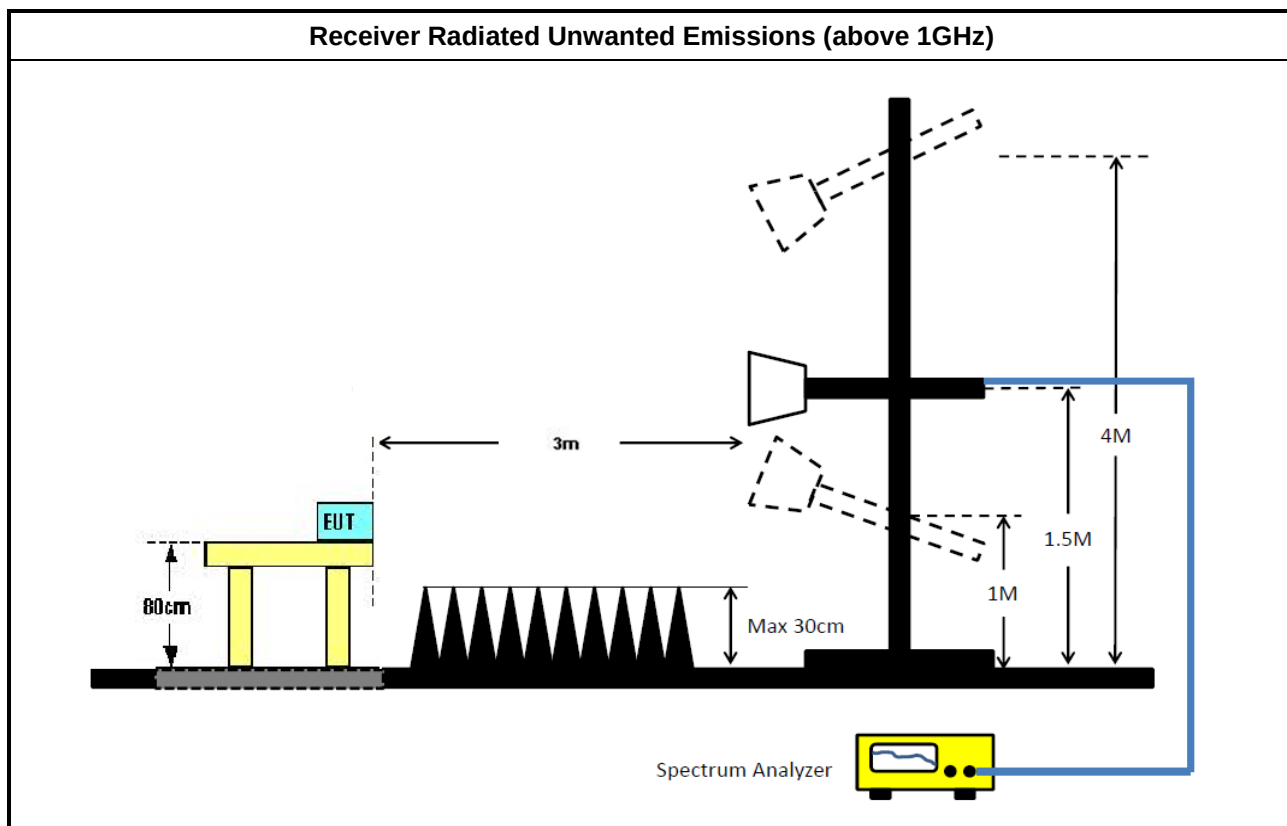
3.8.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.8.5 Test Setup





3.8.6 Receiver Radiated Unwanted Emissions (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.8.7 Test Result of Receiver Radiated Unwanted Emissions

Refer as Appendix H

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	05/Nov/2019	04/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	31/Aug/2020	30/Aug/2021
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	24/Sep/2019	23/Sep/2020

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSP 40	100305	9kHz ~ 40GHz	10/Mar/2020	09/Mar/2021
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	25/Nov/2019	24/Nov/2020
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	25/Nov/2019	24/Nov/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz ~ 40GHz	12/Nov/2018	11/Nov/2020

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz 3m	27/Mar/2020	26/Mar/2021
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz 3m	19/Mar/2020	18/Mar/2021
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	17/Aug/2020	16/Aug/2021
Amplifier	EMC	EMC9135	980232	9kHz ~ 1GHz	14/Apr/2020	13/Apr/2021
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	24/Jun/2020	23/Jun/2021
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D&MT J6102-05	35418 & 3	30MHz ~ 1GHz	30/Sep/2019	29/Sep/2020
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz ~ 18GHz	28/May/2020	27/May/2021
RF Cable-low	Jye Bao	RG142	CB031+3245 30/4	9kHz ~ 30MHz	03/Sep/2020	02/Sep/2021
RF Cable-low	Jye Bao	RG142	CB031+3245 30/4	30MHz ~ 1GHz	12/Feb/2020	11/Feb/2021
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX104	324530/4+17 173/4	1GHz ~ 40GHz	12/Feb/2020	11/Feb/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz ~ 40GHz	13/Mar/2020	12/Mar/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	16/Mar/2020	15/Mar/2021
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	371.231k	35.48	48.47	-12.99	Neutral
Mode 2	Pass	AV	368.279k	34.57	48.54	-13.97	Neutral

Mode Configure

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	150k	28.26	66.00	-37.74	Line	-
Mode 1	Pass	AV	150k	23.71	56.00	-32.29	Line	-
Mode 1	Pass	QP	369.752k	36.32	58.50	-22.18	Line	-
Mode 1	Pass	AV	369.752k	35.46	48.50	-13.04	Line	"Worst"
Mode 1	Pass	QP	678.32k	17.61	56.00	-38.39	Line	-
Mode 1	Pass	AV	678.32k	15.24	46.00	-30.76	Line	-
Mode 1	Pass	QP	1.962M	22.48	56.00	-33.52	Line	-
Mode 1	Pass	AV	1.962M	18.57	46.00	-27.43	Line	-
Mode 1	Pass	QP	3.686M	24.71	56.00	-31.29	Line	-
Mode 1	Pass	AV	3.686M	19.53	46.00	-26.47	Line	-
Mode 1	Pass	QP	16.668M	23.39	60.00	-36.61	Line	-
Mode 1	Pass	AV	16.668M	19.12	50.00	-30.88	Line	-
Mode 1	Pass	QP	155.487k	31.43	65.69	-34.26	Neutral	-
Mode 1	Pass	AV	155.487k	26.47	55.69	-29.22	Neutral	-
Mode 1	Pass	QP	371.231k	37.30	58.47	-21.17	Neutral	-
Mode 1	Pass	AV	371.231k	35.48	48.47	-12.99	Neutral	"Worst"
Mode 1	Pass	QP	587.518k	20.53	56.00	-35.47	Neutral	-
Mode 1	Pass	AV	587.518k	16.78	46.00	-29.22	Neutral	-
Mode 1	Pass	QP	2.05M	24.51	56.00	-31.49	Neutral	-
Mode 1	Pass	AV	2.05M	20.92	46.00	-25.08	Neutral	-
Mode 1	Pass	QP	3.499M	23.36	56.00	-32.64	Neutral	-
Mode 1	Pass	AV	3.499M	19.18	46.00	-26.82	Neutral	-
Mode 1	Pass	QP	16.936M	22.68	60.00	-37.32	Neutral	-
Mode 1	Pass	AV	16.936M	18.58	50.00	-31.42	Neutral	-
Mode 2	Pass	QP	155.487k	30.69	65.69	-35.00	Line	-
Mode 2	Pass	AV	155.487k	27.64	55.69	-28.05	Line	-
Mode 2	Pass	QP	223.595k	30.07	62.69	-32.62	Line	-
Mode 2	Pass	AV	223.595k	24.25	52.69	-28.44	Line	-
Mode 2	Pass	QP	374.207k	34.91	58.41	-23.50	Line	-
Mode 2	Pass	AV	374.207k	30.95	48.41	-17.46	Line	"Worst"
Mode 2	Pass	QP	2.074M	22.08	56.00	-33.92	Line	-
Mode 2	Pass	AV	2.074M	18.02	46.00	-27.98	Line	-
Mode 2	Pass	QP	3.627M	22.62	56.00	-33.38	Line	-
Mode 2	Pass	AV	3.627M	19.10	46.00	-26.90	Line	-
Mode 2	Pass	QP	16.734M	23.66	60.00	-36.34	Line	-
Mode 2	Pass	AV	16.734M	19.26	50.00	-30.74	Line	-
Mode 2	Pass	QP	152.414k	31.32	65.87	-34.55	Neutral	-
Mode 2	Pass	AV	152.414k	27.10	55.87	-28.77	Neutral	-
Mode 2	Pass	QP	368.279k	36.15	58.54	-22.39	Neutral	-
Mode 2	Pass	AV	368.279k	34.57	48.54	-13.97	Neutral	"Worst"
Mode 2	Pass	QP	670.245k	15.93	56.00	-40.07	Neutral	-
Mode 2	Pass	AV	670.245k	13.18	46.00	-32.82	Neutral	-
Mode 2	Pass	QP	2.543M	22.94	56.00	-33.06	Neutral	-



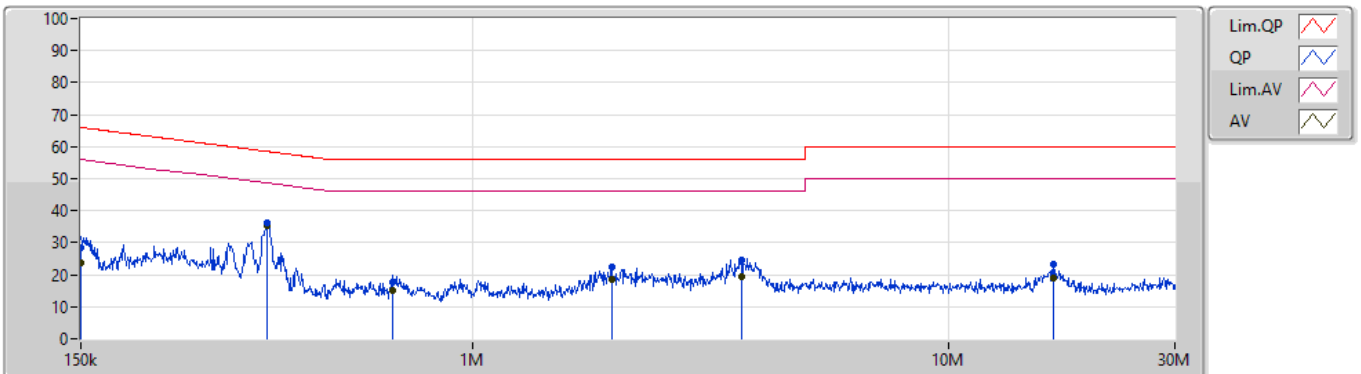
AC Power-line Conducted Emissions_Test fixture mode

Appendix A.1

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 2	Pass	AV	2.543M	19.04	46.00	-26.96	Neutral	-
Mode 2	Pass	QP	3.882M	22.84	56.00	-33.16	Neutral	-
Mode 2	Pass	AV	3.882M	19.13	46.00	-26.87	Neutral	-
Mode 2	Pass	QP	17.346M	21.35	60.00	-38.65	Neutral	-
Mode 2	Pass	AV	17.346M	17.60	50.00	-32.40	Neutral	-

Conducted Emissions at Powerline_Mode 1

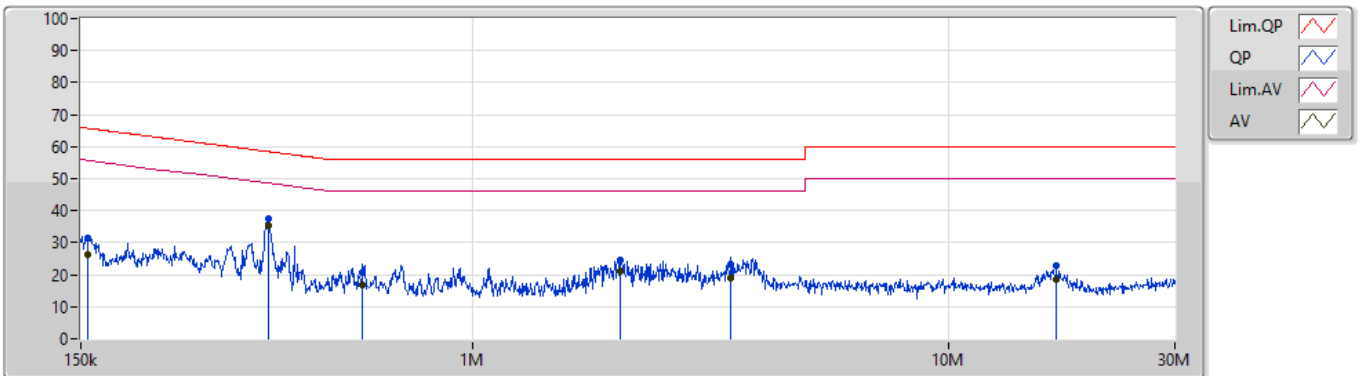
15/09/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	150k	28.26	66.00	-37.74	19.54	Line	-	8.72	9.66	0.01	9.87			
AV	150k	23.71	56.00	-32.29	19.54	Line	-	4.17	9.66	0.01	9.87			
QP	369.752k	36.32	58.50	-22.18	19.53	Line	-	16.79	9.64	0.02	9.87			
AV	369.752k	35.46	48.50	-13.04	19.53	Line	"Worst"	15.93	9.64	0.02	9.87			
QP	678.32k	17.61	56.00	-38.39	19.55	Line	-	-1.94	9.64	0.04	9.87			
AV	678.32k	15.24	46.00	-30.76	19.55	Line	-	-4.31	9.64	0.04	9.87			
QP	1.962M	22.48	56.00	-33.52	19.60	Line	-	2.88	9.65	0.08	9.87			
AV	1.962M	18.57	46.00	-27.43	19.60	Line	-	-1.03	9.65	0.08	9.87			
QP	3.686M	24.71	56.00	-31.29	19.66	Line	-	5.05	9.66	0.12	9.88			
AV	3.686M	19.53	46.00	-26.47	19.66	Line	-	-0.13	9.66	0.12	9.88			
QP	16.668M	23.39	60.00	-36.61	19.79	Line	-	3.60	9.65	0.26	9.88			
AV	16.668M	19.12	50.00	-30.88	19.79	Line	-	-0.67	9.65	0.26	9.88			

Conducted Emissions at Powerline_Mode 1

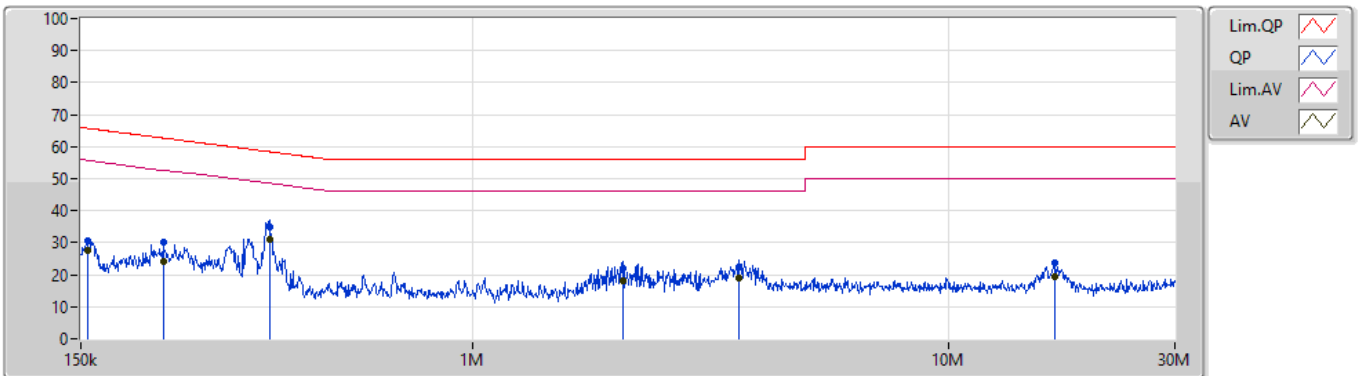
15/09/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	155.487k	31.43	65.69	-34.26	19.53	Neutral	-	11.90	9.65	0.01	9.87			
AV	155.487k	26.47	55.69	-29.22	19.53	Neutral	-	6.94	9.65	0.01	9.87			
QP	371.231k	37.30	58.47	-21.17	19.52	Neutral	-	17.78	9.63	0.02	9.87			
AV	371.231k	35.48	48.47	-12.99	19.52	Neutral	"Worst"	15.96	9.63	0.02	9.87			
QP	587.518k	20.53	56.00	-35.47	19.53	Neutral	-	1.00	9.63	0.03	9.87			
AV	587.518k	16.78	46.00	-29.22	19.53	Neutral	-	-2.75	9.63	0.03	9.87			
QP	2.05M	24.51	56.00	-31.49	19.60	Neutral	-	4.91	9.65	0.08	9.87			
AV	2.05M	20.92	46.00	-25.08	19.60	Neutral	-	1.32	9.65	0.08	9.87			
QP	3.499M	23.36	56.00	-32.64	19.65	Neutral	-	3.71	9.66	0.11	9.88			
AV	3.499M	19.18	46.00	-26.82	19.65	Neutral	-	-0.47	9.66	0.11	9.88			
QP	16.936M	22.68	60.00	-37.32	19.87	Neutral	-	2.81	9.72	0.27	9.88			
AV	16.936M	18.58	50.00	-31.42	19.87	Neutral	-	-1.29	9.72	0.27	9.88			

Conducted Emissions at Powerline_Mode 2

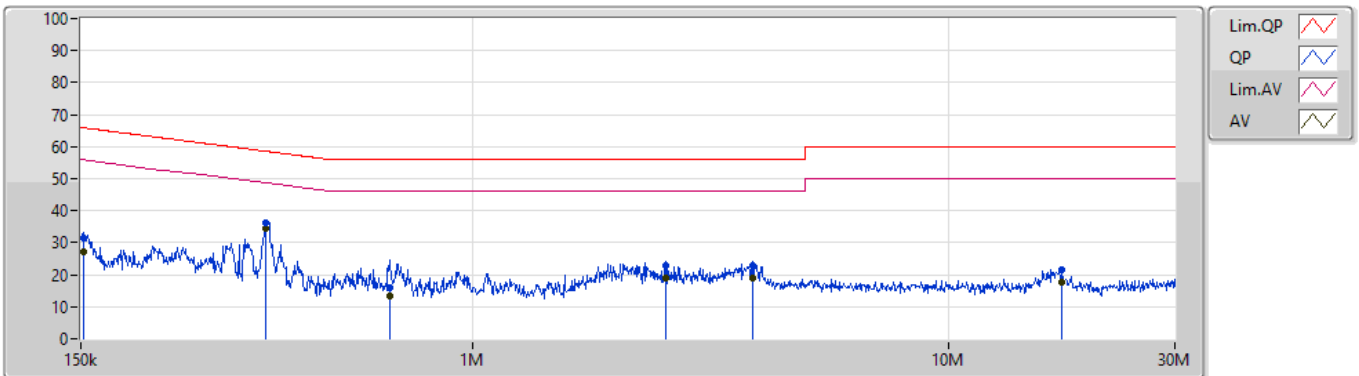
15/09/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	155.487k	30.69	65.69	-35.00	19.54	Line	-	11.15	9.66	0.01	9.87			
AV	155.487k	27.64	55.69	-28.05	19.54	Line	-	8.10	9.66	0.01	9.87			
QP	223.595k	30.07	62.69	-32.62	19.53	Line	-	10.54	9.65	0.01	9.87			
AV	223.595k	24.25	52.69	-28.44	19.53	Line	-	4.72	9.65	0.01	9.87			
QP	374.207k	34.91	58.41	-23.50	19.53	Line	-	15.38	9.64	0.02	9.87			
AV	374.207k	30.95	48.41	-17.46	19.53	Line	"Worst"	11.42	9.64	0.02	9.87			
QP	2.074M	22.08	56.00	-33.92	19.60	Line	-	2.48	9.65	0.08	9.87			
AV	2.074M	18.02	46.00	-27.98	19.60	Line	-	-1.58	9.65	0.08	9.87			
QP	3.627M	22.62	56.00	-33.38	19.65	Line	-	2.97	9.66	0.11	9.88			
AV	3.627M	19.10	46.00	-26.90	19.65	Line	-	-0.55	9.66	0.11	9.88			
QP	16.734M	23.66	60.00	-36.34	19.80	Line	-	3.86	9.65	0.27	9.88			
AV	16.734M	19.26	50.00	-30.74	19.80	Line	-	-0.54	9.65	0.27	9.88			

Conducted Emissions at Powerline_Mode 2

15/09/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	152.414k	31.32	65.87	-34.55	19.53	Neutral	-	11.79	9.65	0.01	9.87			
AV	152.414k	27.10	55.87	-28.77	19.53	Neutral	-	7.57	9.65	0.01	9.87			
QP	368.279k	36.15	58.54	-22.39	19.52	Neutral	-	16.63	9.63	0.02	9.87			
AV	368.279k	34.57	48.54	-13.97	19.52	Neutral	"Worst"	15.05	9.63	0.02	9.87			
QP	670.245k	15.93	56.00	-40.07	19.54	Neutral	-	-3.61	9.63	0.04	9.87			
AV	670.245k	13.18	46.00	-32.82	19.54	Neutral	-	-6.36	9.63	0.04	9.87			
QP	2.543M	22.94	56.00	-33.06	19.61	Neutral	-	3.33	9.65	0.09	9.87			
AV	2.543M	19.04	46.00	-26.96	19.61	Neutral	-	-0.57	9.65	0.09	9.87			
QP	3.882M	22.84	56.00	-33.16	19.66	Neutral	-	3.18	9.66	0.12	9.88			
AV	3.882M	19.13	46.00	-26.87	19.66	Neutral	-	-0.53	9.66	0.12	9.88			
QP	17.346M	21.35	60.00	-38.65	19.88	Neutral	-	1.47	9.72	0.27	9.89			
AV	17.346M	17.60	50.00	-32.40	19.88	Neutral	-	-2.28	9.72	0.27	9.89			

**Summary**

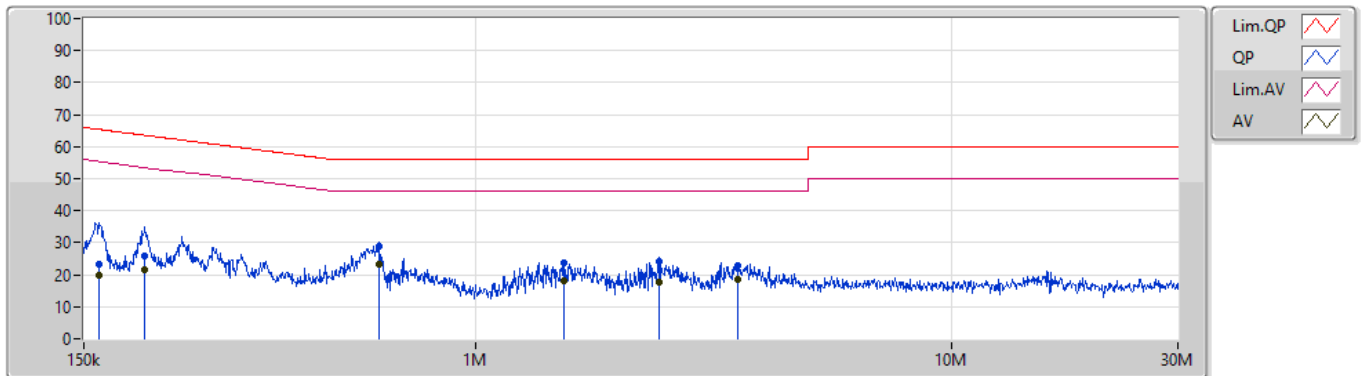
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 3	Pass	AV	592.227k	25.06	46.00	-20.94	Neutral

Mode Configure

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 3	Pass	QP	161.82k	23.36	65.37	-42.01	Line	-
Mode 3	Pass	AV	161.82k	19.77	55.37	-35.60	Line	-
Mode 3	Pass	QP	201.551k	26.04	63.55	-37.51	Line	-
Mode 3	Pass	AV	201.551k	21.40	53.55	-32.15	Line	-
Mode 3	Pass	QP	628.773k	28.87	56.00	-27.13	Line	-
Mode 3	Pass	AV	628.773k	23.30	46.00	-22.70	Line	"Worst"
Mode 3	Pass	QP	1.538M	23.53	56.00	-32.47	Line	-
Mode 3	Pass	AV	1.538M	17.98	46.00	-28.02	Line	-
Mode 3	Pass	QP	2.433M	23.99	56.00	-32.01	Line	-
Mode 3	Pass	AV	2.433M	17.63	46.00	-28.37	Line	-
Mode 3	Pass	QP	3.57M	22.63	56.00	-33.37	Line	-
Mode 3	Pass	AV	3.57M	18.34	46.00	-27.66	Line	-
Mode 3	Pass	QP	178.803k	33.40	64.55	-31.15	Neutral	-
Mode 3	Pass	AV	178.803k	30.14	54.55	-24.41	Neutral	-
Mode 3	Pass	QP	213.989k	31.16	63.06	-31.90	Neutral	-
Mode 3	Pass	AV	213.989k	26.87	53.06	-26.19	Neutral	-
Mode 3	Pass	QP	592.227k	33.63	56.00	-22.37	Neutral	-
Mode 3	Pass	AV	592.227k	25.06	46.00	-20.94	Neutral	"Worst"
Mode 3	Pass	QP	1.519M	27.38	56.00	-28.62	Neutral	-
Mode 3	Pass	AV	1.519M	18.86	46.00	-27.14	Neutral	-
Mode 3	Pass	QP	2.414M	25.81	56.00	-30.19	Neutral	-
Mode 3	Pass	AV	2.414M	17.64	46.00	-28.36	Neutral	-
Mode 3	Pass	QP	3.686M	23.56	56.00	-32.44	Neutral	-
Mode 3	Pass	AV	3.686M	18.12	46.00	-27.88	Neutral	-

Conducted Emissions at Powerline

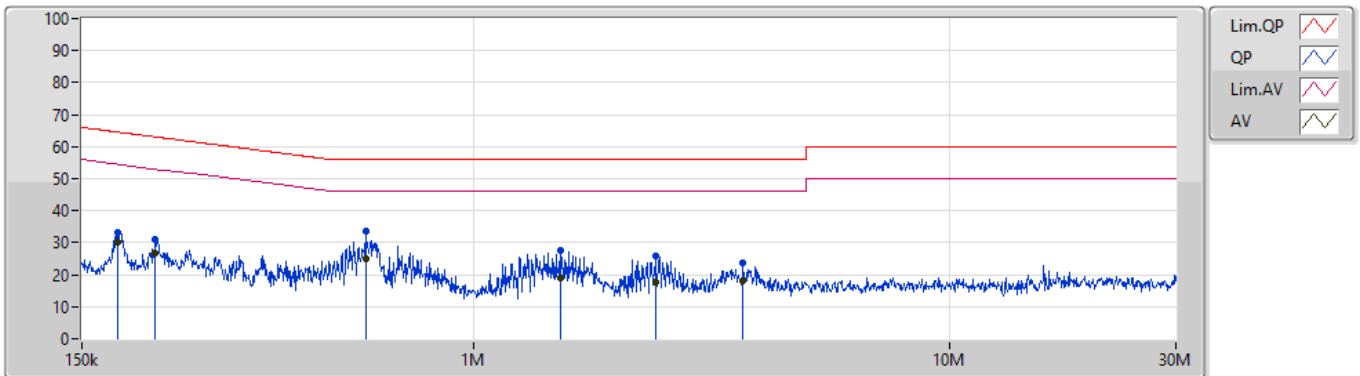
15/09/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	161.82k	23.36	65.37	-42.01	19.54	Line	-	3.82	9.66	0.01	9.87			
AV	161.82k	19.77	55.37	-35.60	19.54	Line	-	0.23	9.66	0.01	9.87			
QP	201.551k	26.04	63.55	-37.51	19.53	Line	-	6.51	9.65	0.01	9.87			
AV	201.551k	21.40	53.55	-32.15	19.53	Line	-	1.87	9.65	0.01	9.87			
QP	628.773k	28.87	56.00	-27.13	19.54	Line	-	9.33	9.64	0.03	9.87			
AV	628.773k	23.30	46.00	-22.70	19.54	Line	"Worst"	3.76	9.64	0.03	9.87			
QP	1.538M	23.53	56.00	-32.47	19.59	Line	-	3.94	9.65	0.07	9.87			
AV	1.538M	17.98	46.00	-28.02	19.59	Line	-	-1.61	9.65	0.07	9.87			
QP	2.433M	23.99	56.00	-32.01	19.61	Line	-	4.38	9.65	0.09	9.87			
AV	2.433M	17.63	46.00	-28.37	19.61	Line	-	-1.98	9.65	0.09	9.87			
QP	3.57M	22.63	56.00	-33.37	19.65	Line	-	2.98	9.66	0.11	9.88			
AV	3.57M	18.34	46.00	-27.66	19.65	Line	-	-1.31	9.66	0.11	9.88			

Conducted Emissions at Powerline

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Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	178.803k	33.40	64.55	-31.15	19.52	Neutral	-	13.88	9.64	0.01	9.87			
AV	178.803k	30.14	54.55	-24.41	19.52	Neutral	-	10.62	9.64	0.01	9.87			
QP	213.989k	31.16	63.06	-31.90	19.52	Neutral	-	11.64	9.64	0.01	9.87			
AV	213.989k	26.87	53.06	-26.19	19.52	Neutral	-	7.35	9.64	0.01	9.87			
QP	592.227k	33.63	56.00	-22.37	19.53	Neutral	-	14.10	9.63	0.03	9.87			
AV	592.227k	25.06	46.00	-20.94	19.53	Neutral	"Worst"	5.53	9.63	0.03	9.87			
QP	1.519M	27.38	56.00	-28.62	19.58	Neutral	-	7.80	9.64	0.07	9.87			
AV	1.519M	18.86	46.00	-27.14	19.58	Neutral	-	-0.72	9.64	0.07	9.87			
QP	2.414M	25.81	56.00	-30.19	19.61	Neutral	-	6.20	9.65	0.09	9.87			
AV	2.414M	17.64	46.00	-28.36	19.61	Neutral	-	-1.97	9.65	0.09	9.87			
QP	3.686M	23.56	56.00	-32.44	19.66	Neutral	-	3.90	9.66	0.12	9.88			
AV	3.686M	18.12	46.00	-27.88	19.66	Neutral	-	-1.54	9.66	0.12	9.88			

**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-BR(1Mbps)	955k	869k	869KF1D	952.5k	865k
BT-EDR(2Mbps)	1.344M	1.231M	1M23G1D	1.341M	1.226M
BT-EDR(3Mbps)	1.315M	1.235M	1M24G1D	1.285M	1.226M

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

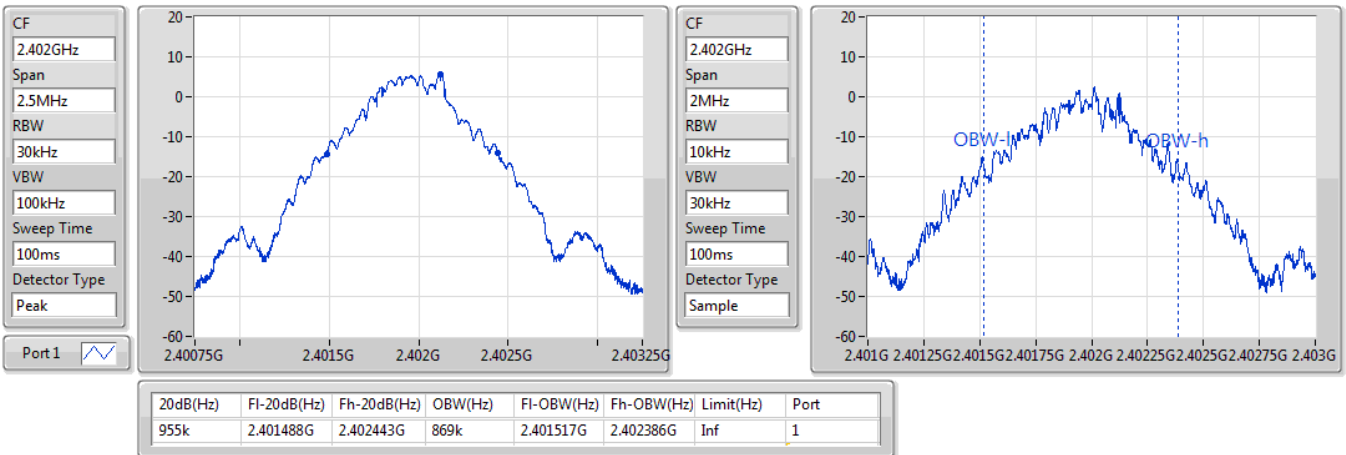
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	955k	869k
2440MHz	Pass	Inf	952.5k	865k
2480MHz	Pass	Inf	953.75k	868k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.344M	1.231M
2440MHz	Pass	Inf	1.343M	1.231M
2480MHz	Pass	Inf	1.341M	1.226M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.313M	1.226M
2440MHz	Pass	Inf	1.315M	1.227M
2480MHz	Pass	Inf	1.285M	1.235M

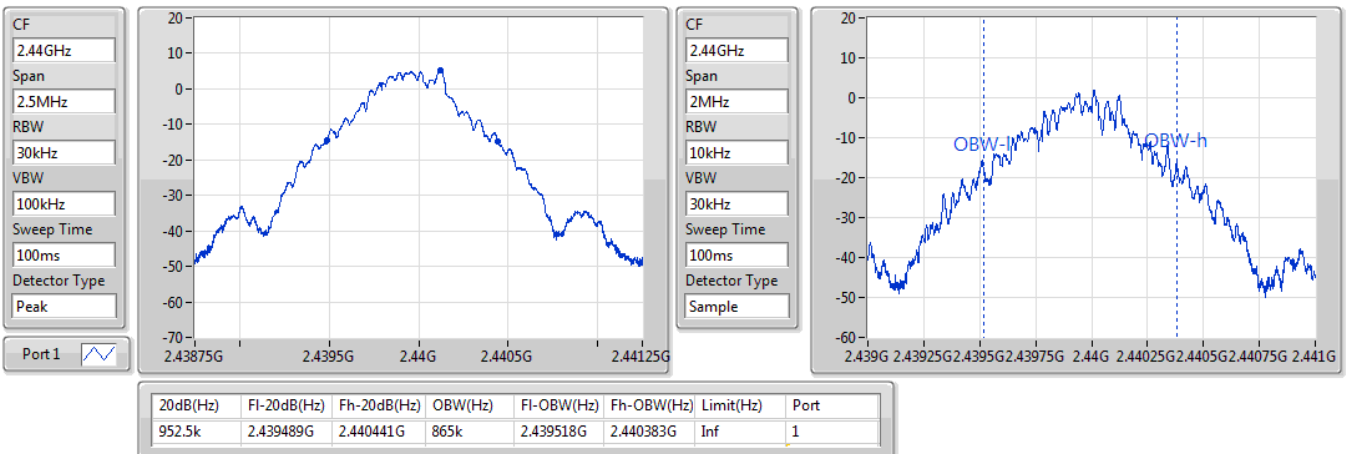
Port X-N dB = Port X 20dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

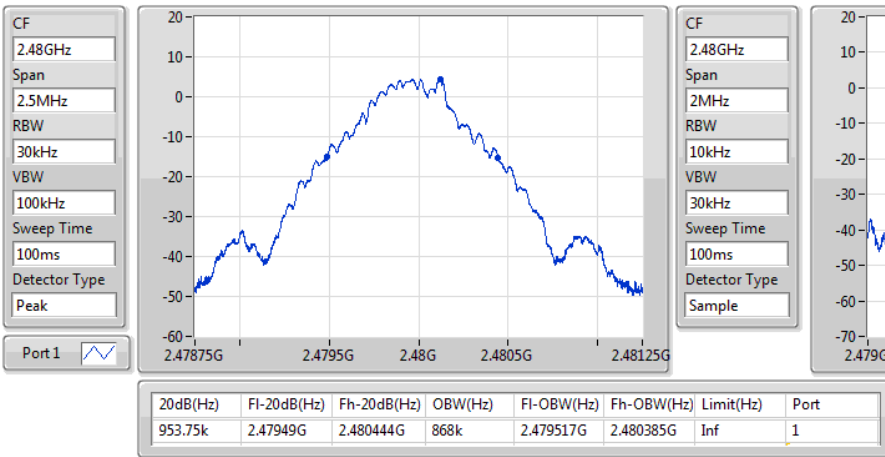
BT-BR(1Mbps)
2402MHz
EBW-FS

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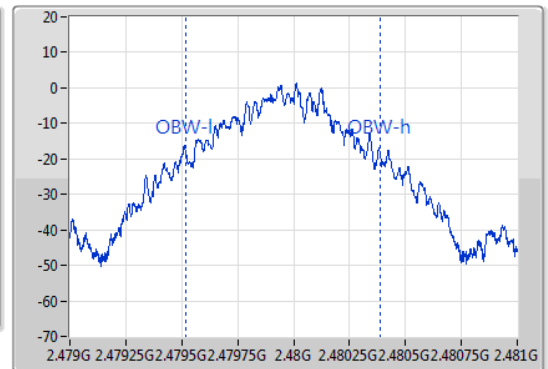
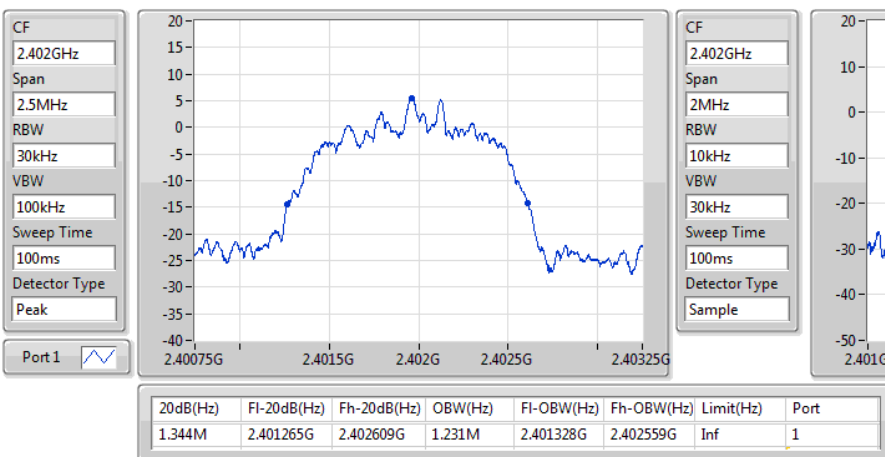

BT-BR(1Mbps)
2440MHz
EBW-FS

15/09/2020

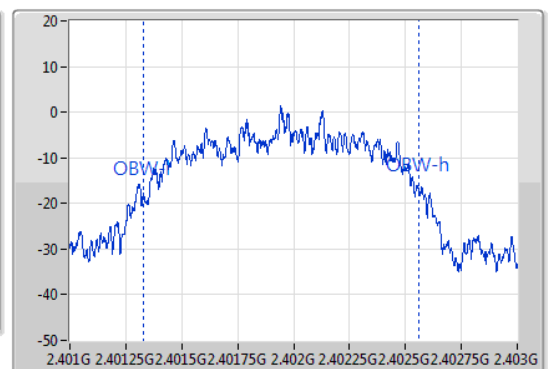


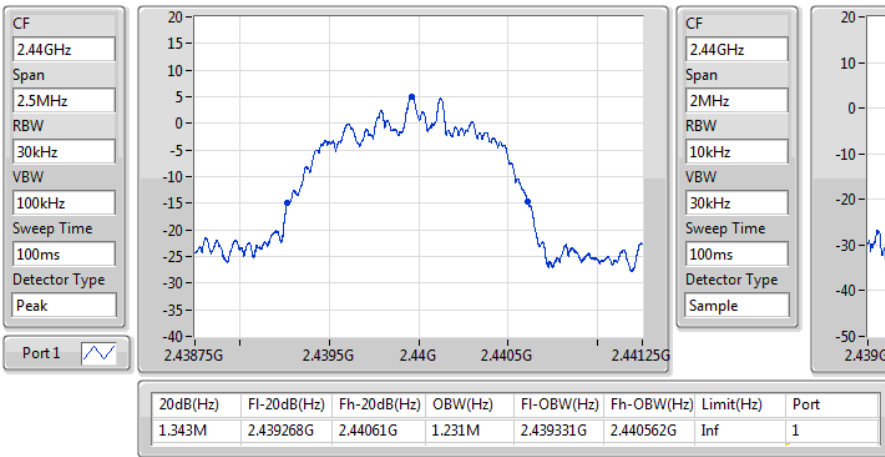
BT-BR(1Mbps)
2480MHz

EBW-FS

15/09/2020

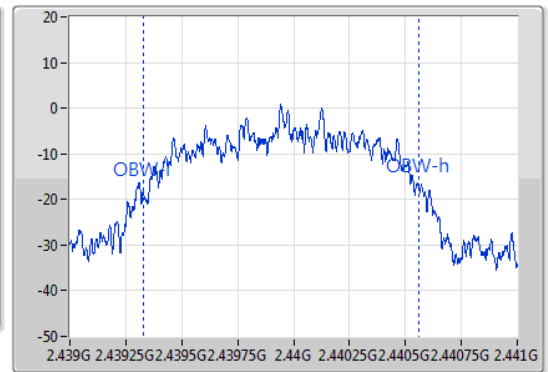
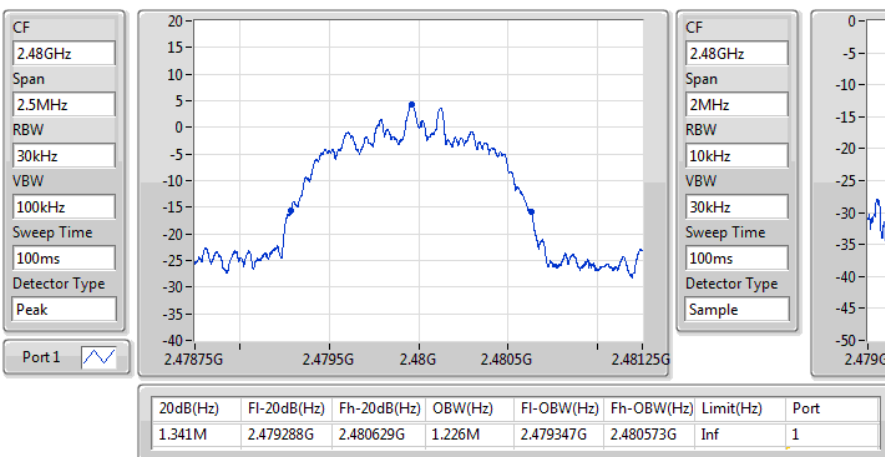

BT-EDR(2Mbps)
2402MHz

EBW-FS

15/09/2020

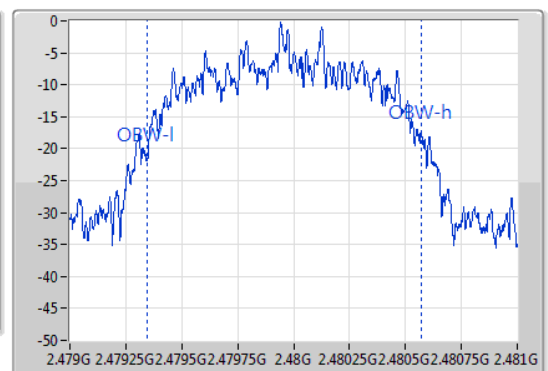


BT-EDR(2Mbps)
2440MHz

EBW-FS

15/09/2020

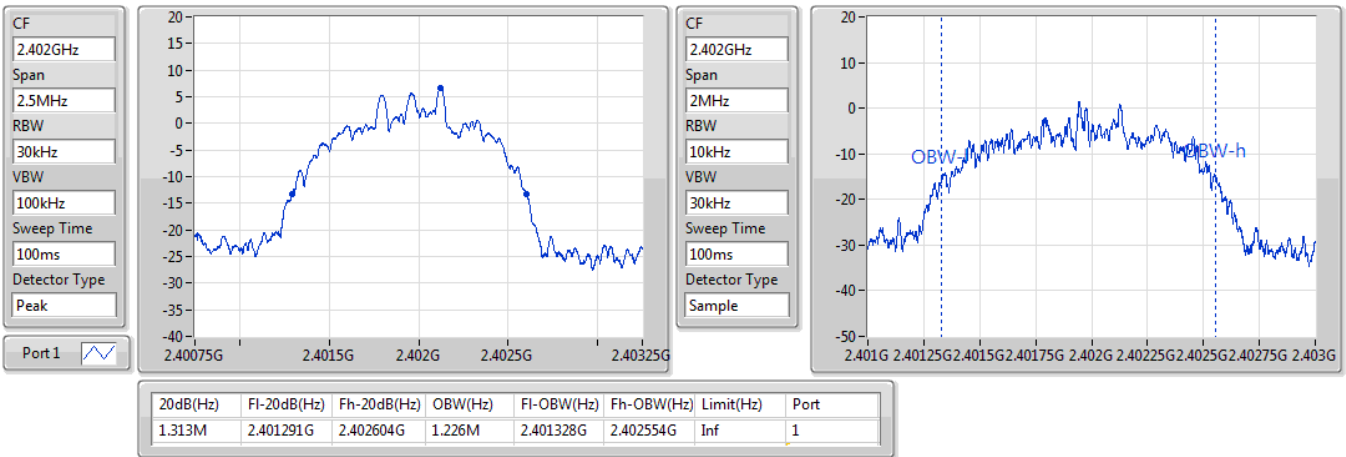

BT-EDR(2Mbps)
2480MHz

EBW-FS

15/09/2020

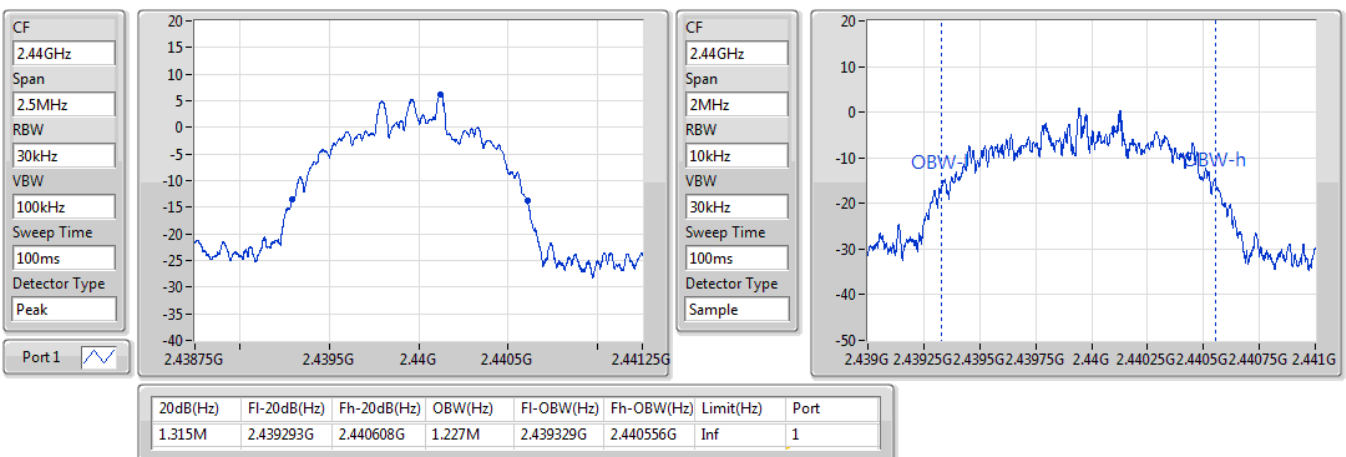


BT-EDR(3Mbps)
EBW-FS
2402MHz

15/09/2020

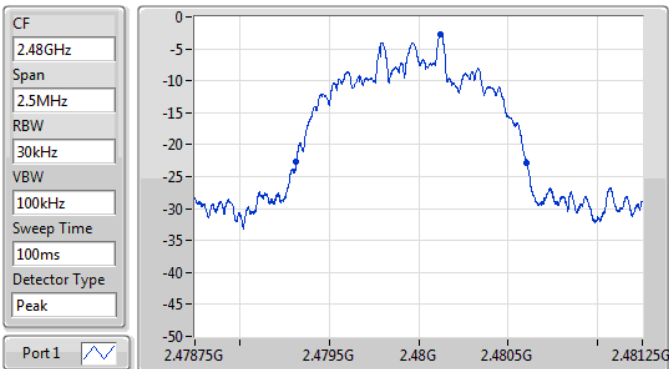

BT-EDR(3Mbps)
EBW-FS
2440MHz

15/09/2020



BT-EDR(3Mbps)

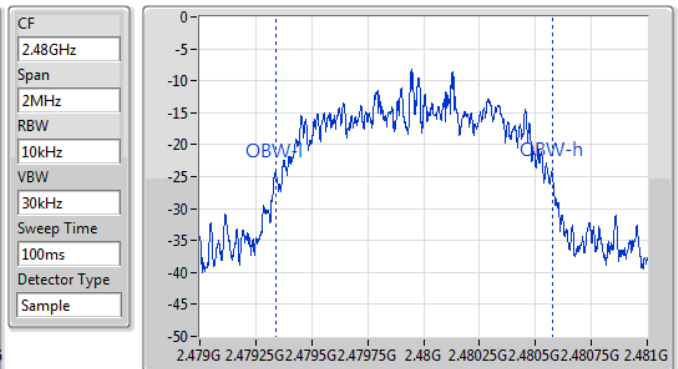
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.285M	2.479318G	2.480603G	1.235M	2.479341G	2.480576G	Inf	1

EBW-FS

15/09/2020





Summary

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	999k	997.5k
BT-EDR(2Mbps)	1.005M	997.5k
BT-EDR(3Mbps)	1.002M	1.0005M

Result

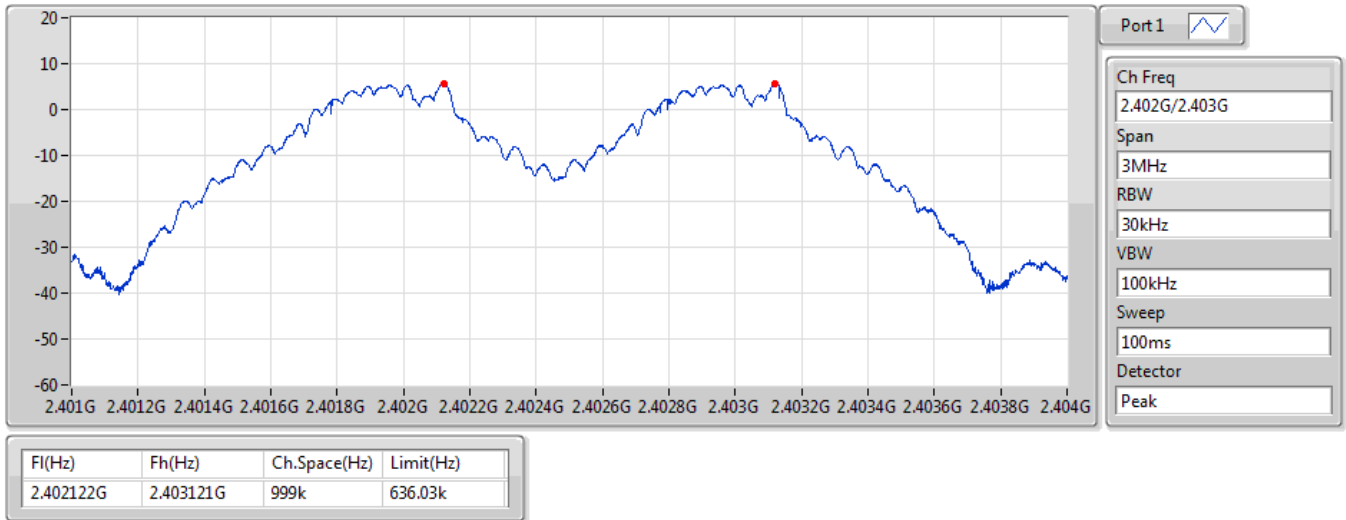
Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402122G	2.403121G	999k	636.03k
2440MHz	Pass	2.440124G	2.441121G	997.5k	634.365k
2480MHz	Pass	2.479122G	2.480121G	999k	635.1975k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.40196G	2.402959G	999k	895.104k
2440MHz	Pass	2.43996G	2.440958G	997.5k	894.438k
2480MHz	Pass	2.478956G	2.479961G	1.005M	893.106k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401959G	2.402959G	1.0005M	874.458k
2440MHz	Pass	2.439957G	2.440959G	1.002M	875.79k
2480MHz	Pass	2.478959G	2.479961G	1.002M	855.81k

BT-BR(1Mbps)

2.402G/2.403GHz

Channel Separation-FS

15/09/2020

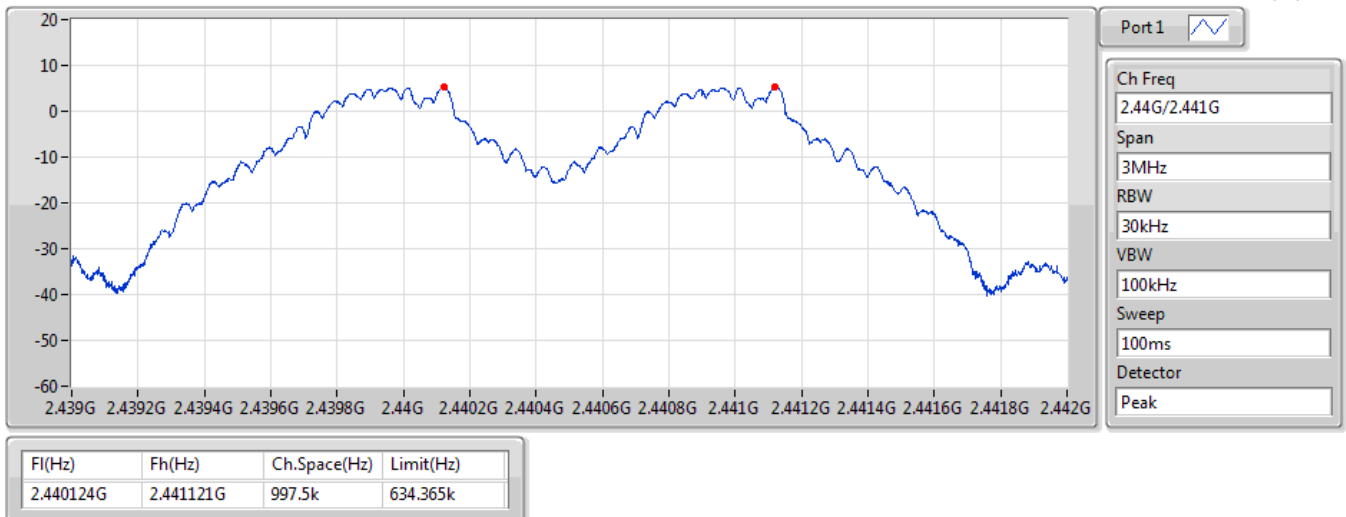


BT-BR(1Mbps)

2.44G/2.441GHz

Channel Separation-FS

15/09/2020

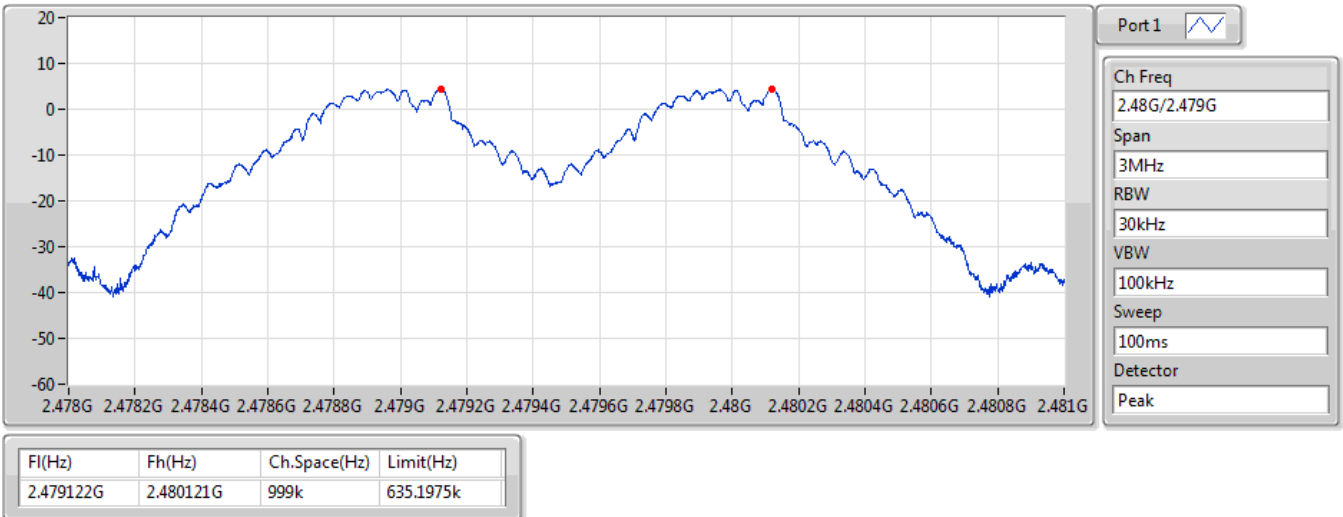


BT-BR(1Mbps)

2.48G/2.479GHz

Channel Separation-FS

15/09/2020

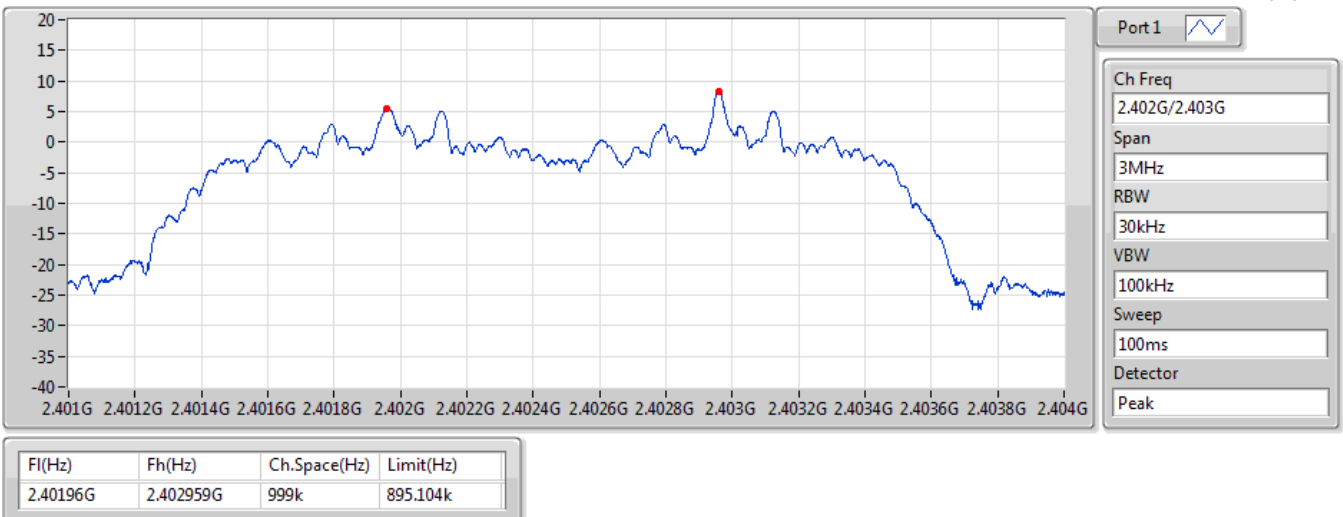


BT-EDR(2Mbps)

2.402G/2.403GHz

Channel Separation-FS

15/09/2020

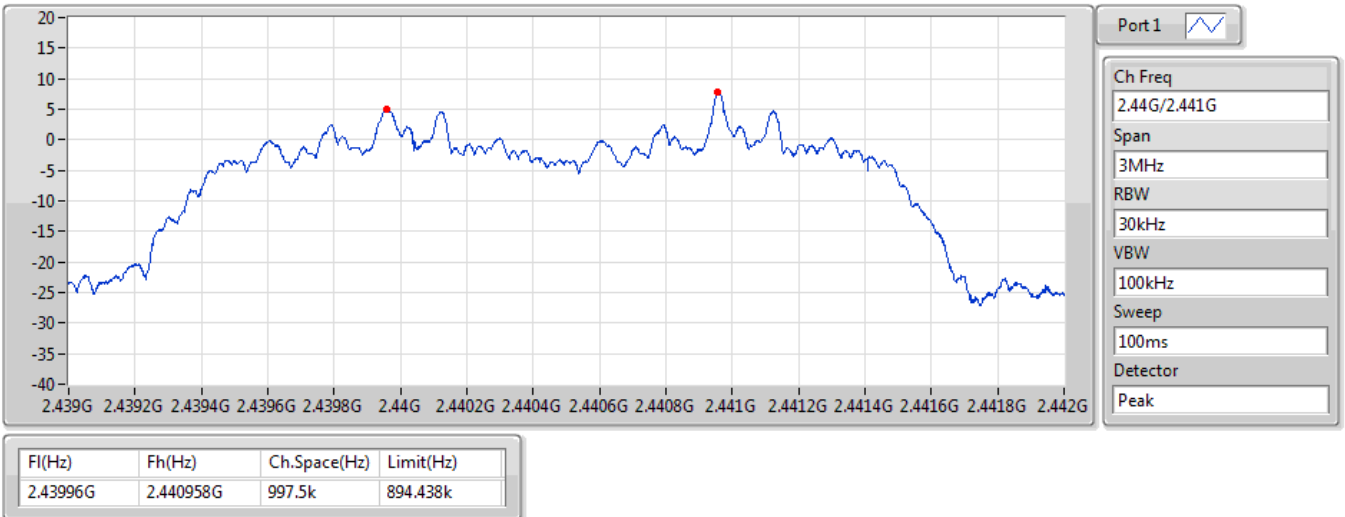


BT-EDR(2Mbps)

2.44G/2.441GHz

Channel Separation-FS

15/09/2020

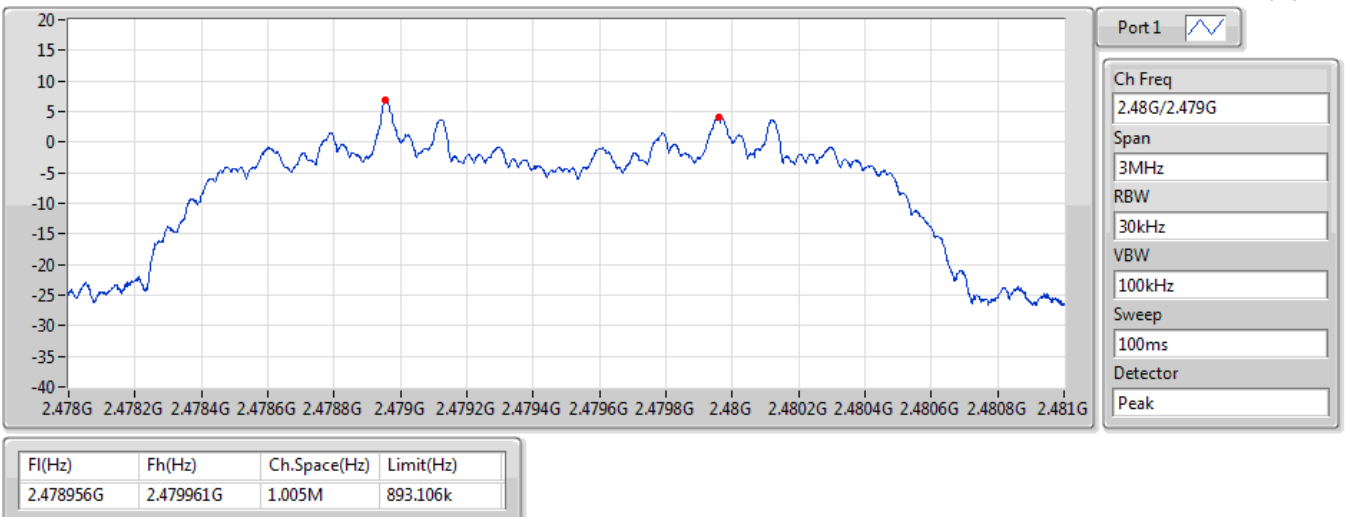


BT-EDR(2Mbps)

2.48G/2.479GHz

Channel Separation-FS

15/09/2020

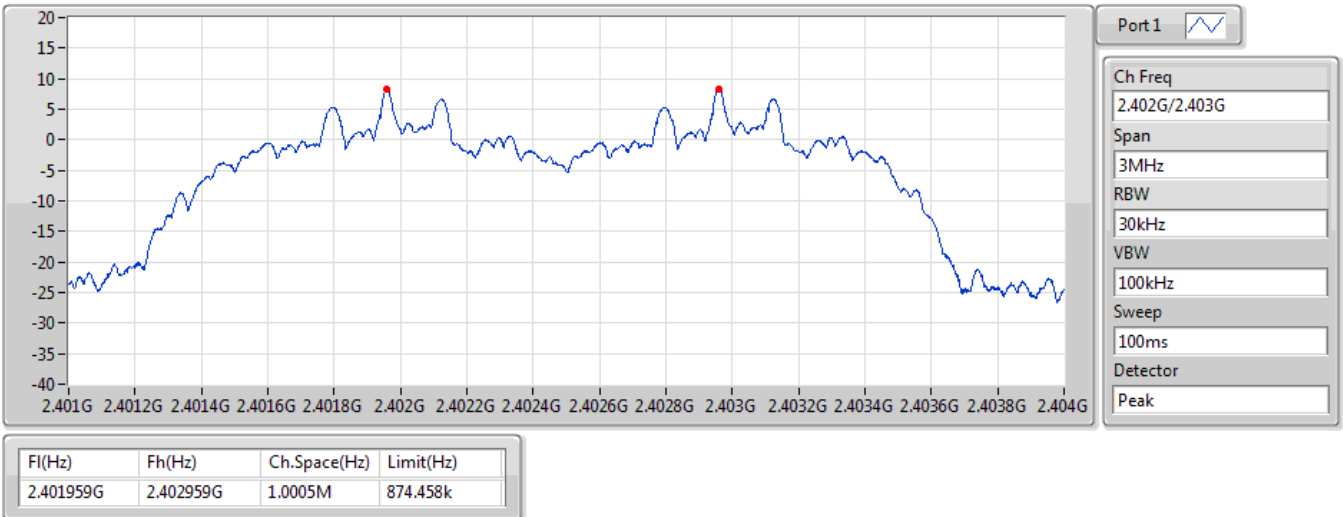


BT-EDR(3Mbps)

2.402G/2.403GHz

Channel Separation-FS

15/09/2020

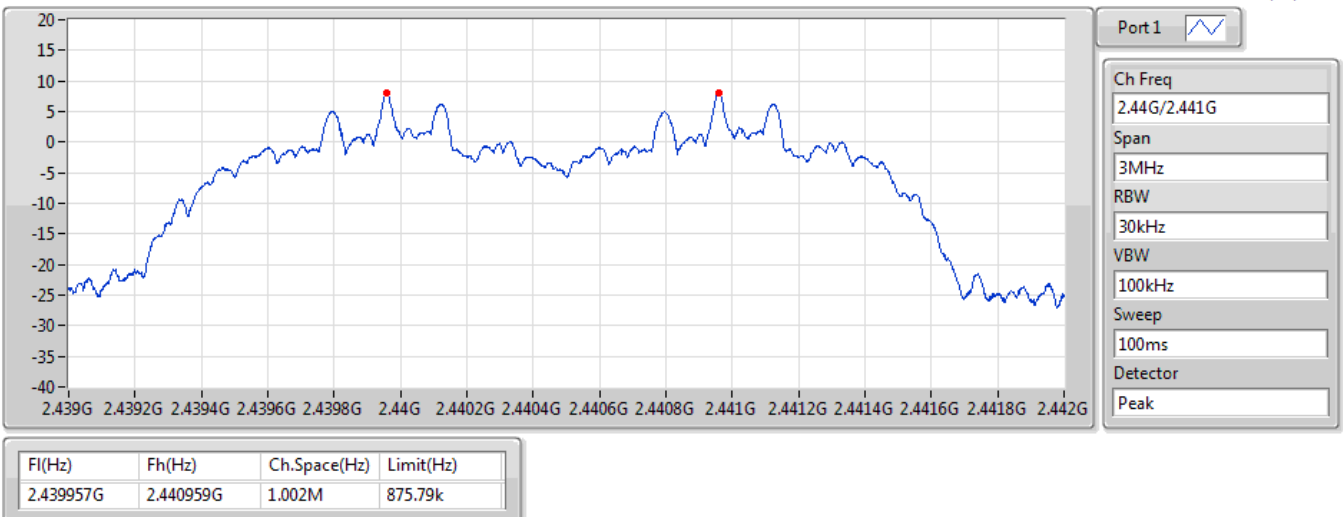


BT-EDR(3Mbps)

2.44G/2.441GHz

Channel Separation-FS

15/09/2020

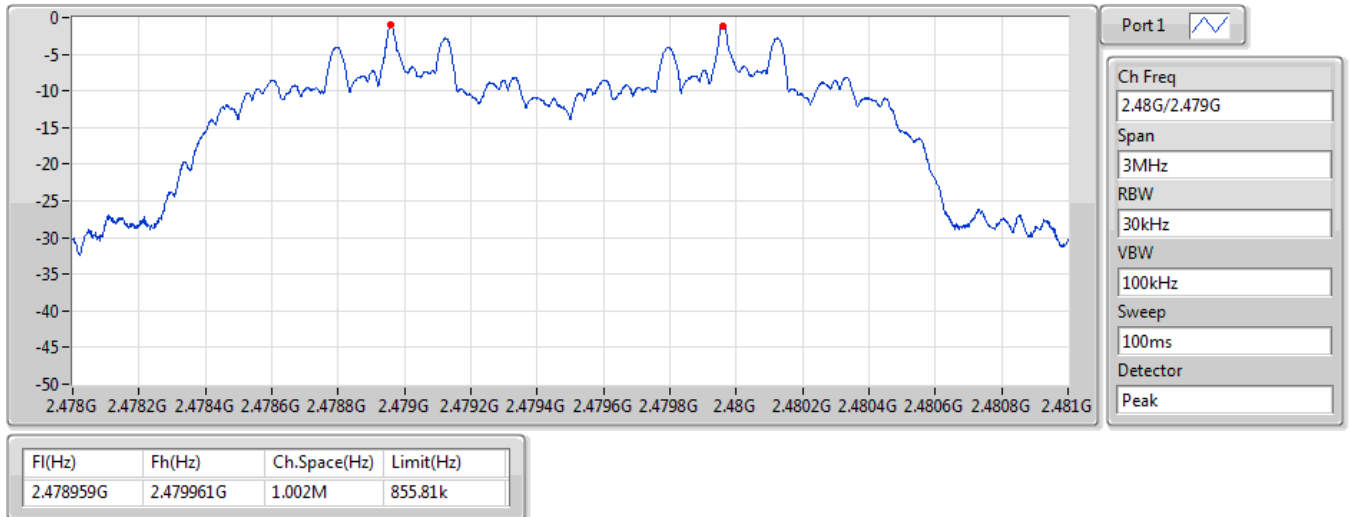


BT-EDR(3Mbps)

2.48G/2.479GHz

Channel Separation-FS

15/09/2020





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	8.44	0.00698
BT-EDR(2Mbps)	8.98	0.00791
BT-EDR(3Mbps)	9.10	0.00813

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.50	8.44	21.00
2440MHz	Pass	2.50	7.98	21.00
2480MHz	Pass	2.50	7.11	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.50	8.98	21.00
2440MHz	Pass	2.50	8.51	21.00
2480MHz	Pass	2.50	7.46	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.50	9.10	21.00
2440MHz	Pass	2.50	8.65	21.00
2480MHz	Pass	2.50	3.29	21.00

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



Average Power-FHSS

Appendix C.2

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	8.24	0.00667
BT-EDR(2Mbps)	7.75	0.00596
BT-EDR(3Mbps)	7.90	0.00617

**Result**

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	2.50	8.24	21.00
2440MHz	Pass	2.50	7.80	21.00
2480MHz	Pass	2.50	6.85	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	2.50	7.75	21.00
2440MHz	Pass	2.50	7.33	21.00
2480MHz	Pass	2.50	6.35	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	2.50	7.90	21.00
2440MHz	Pass	2.50	7.47	21.00
2480MHz	Pass	2.50	-0.97	21.00

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



Summary

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

Result

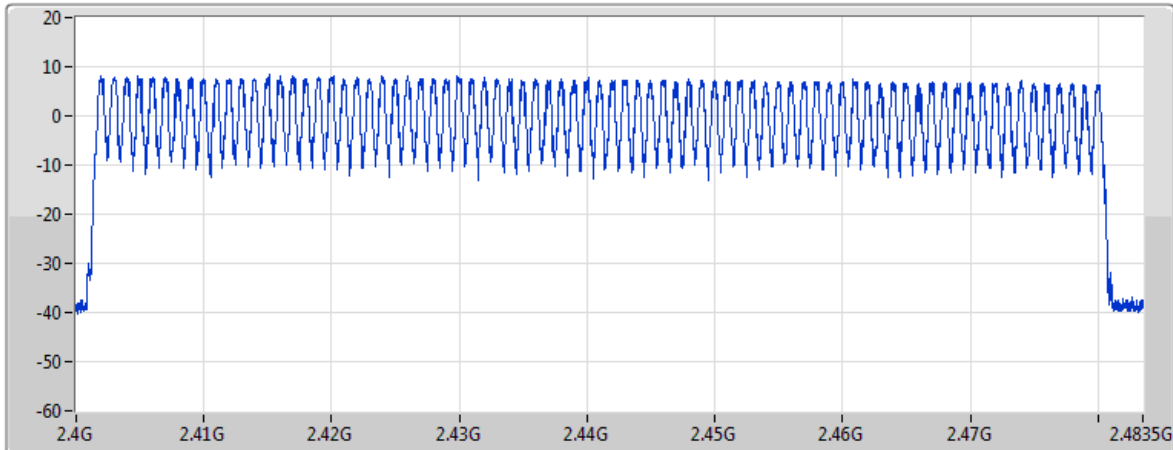
Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2440MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2440MHz	Pass	79	15

BT-BR(1Mbps)

2440MHz

Hopping-FS

15/09/2020



Port 1 

Hopping No
79

Span
83.5MHz

RBW
100kHz

VBW
300kHz

Sweep
200ms

Detector
Peak

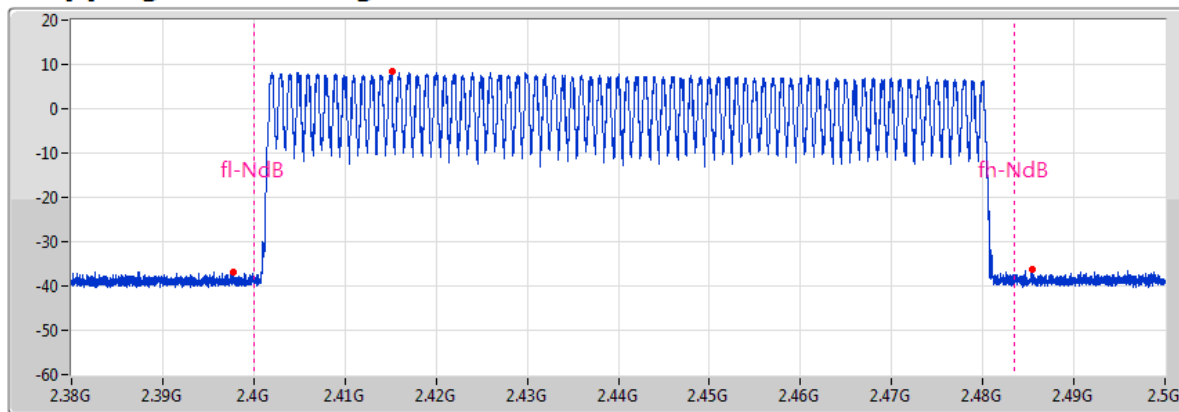
Hopping No	Limit
79	15

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

15/09/2020



Port 1 

Span
120MHz

RBW
100kHz

VBW
300kHz

Sweep
200ms

Detector
Peak

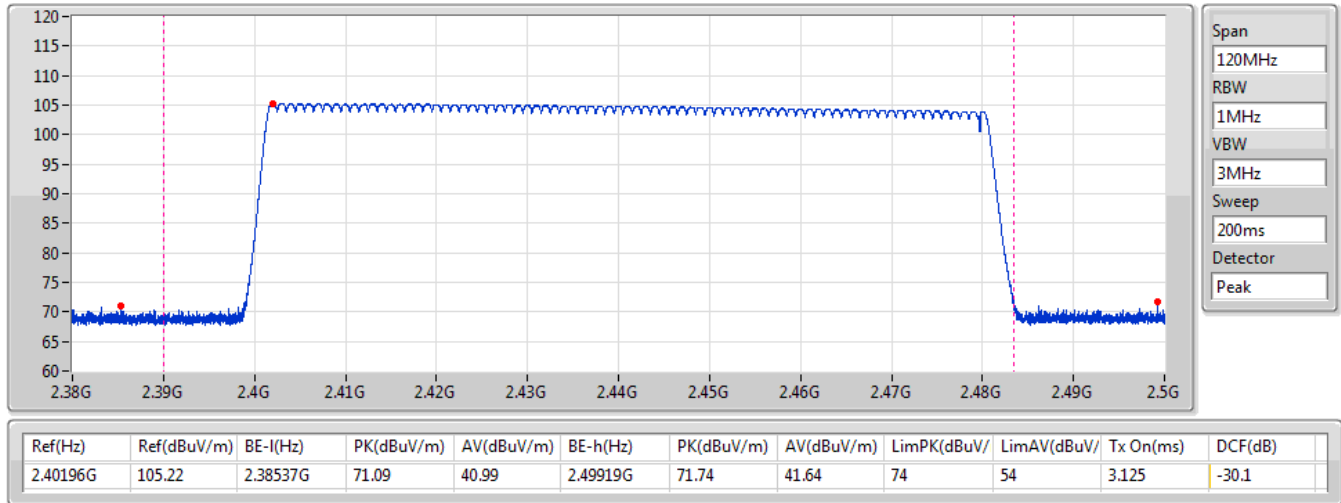
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-11.66	2.41513G	8.34	2.39773G	-36.99	2.48548G	-36.33

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

15/09/2020

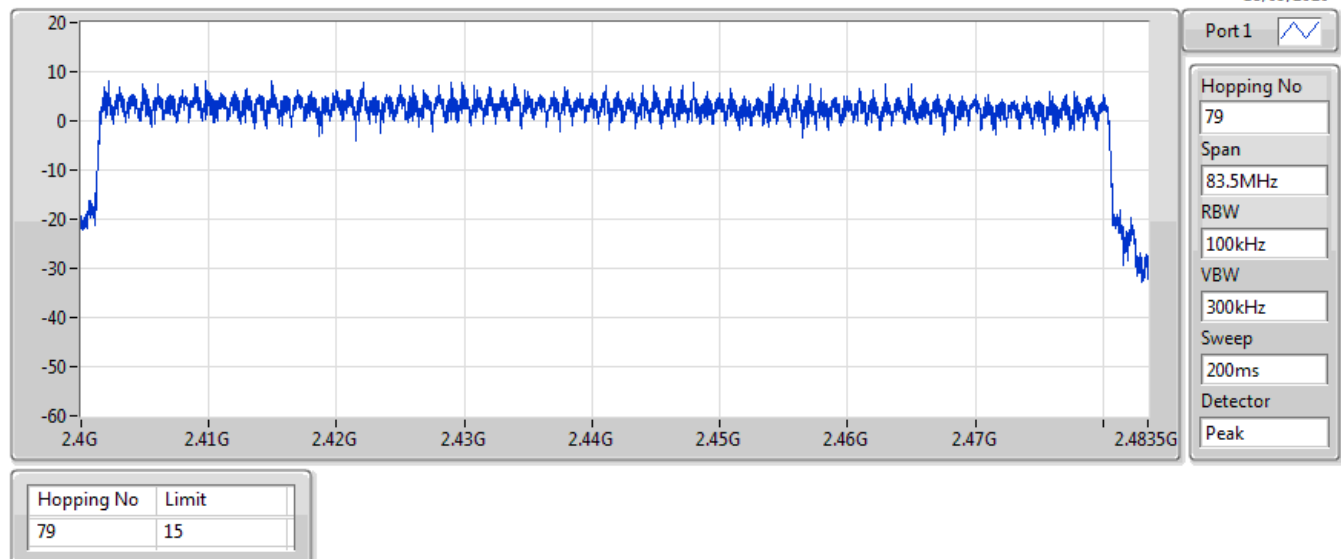


BT-EDR(2Mbps)

2440MHz

Hopping-FS

15/09/2020

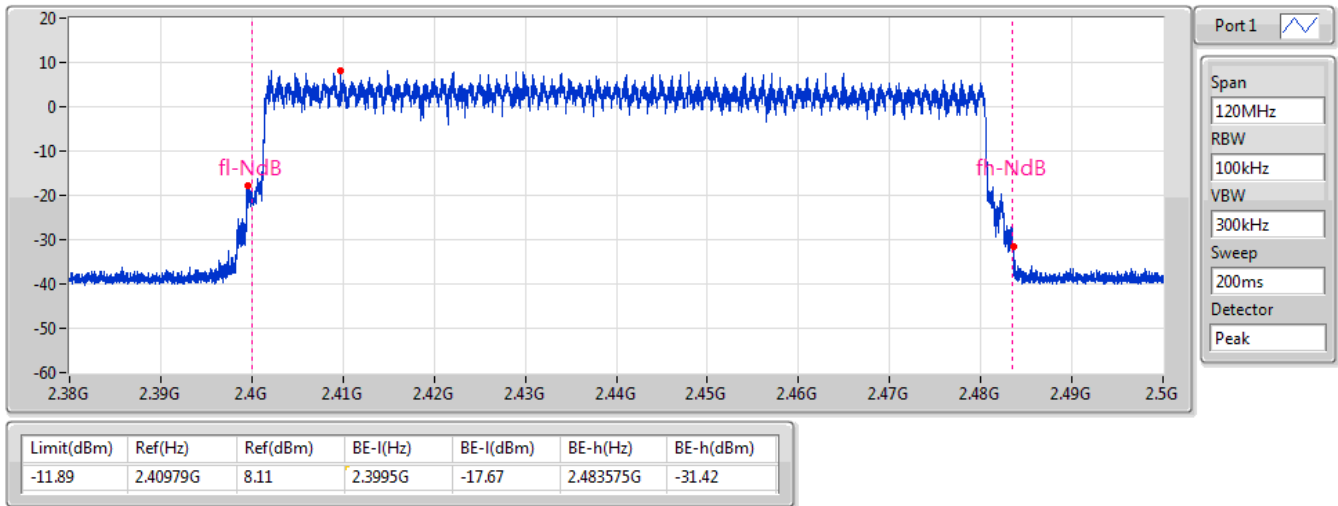


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

15/09/2020

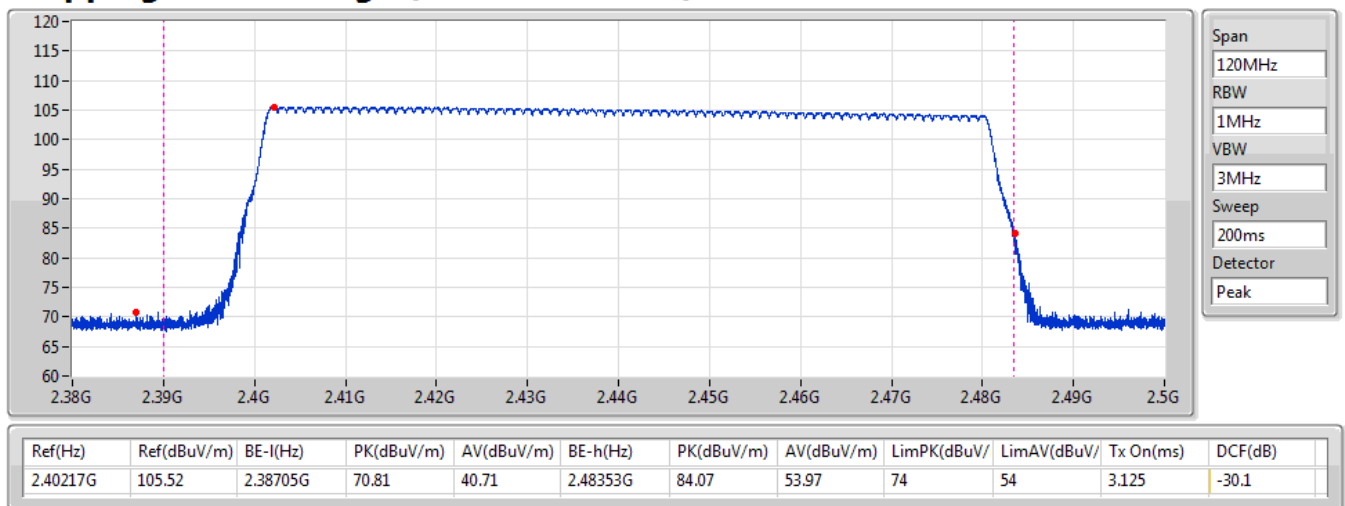


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

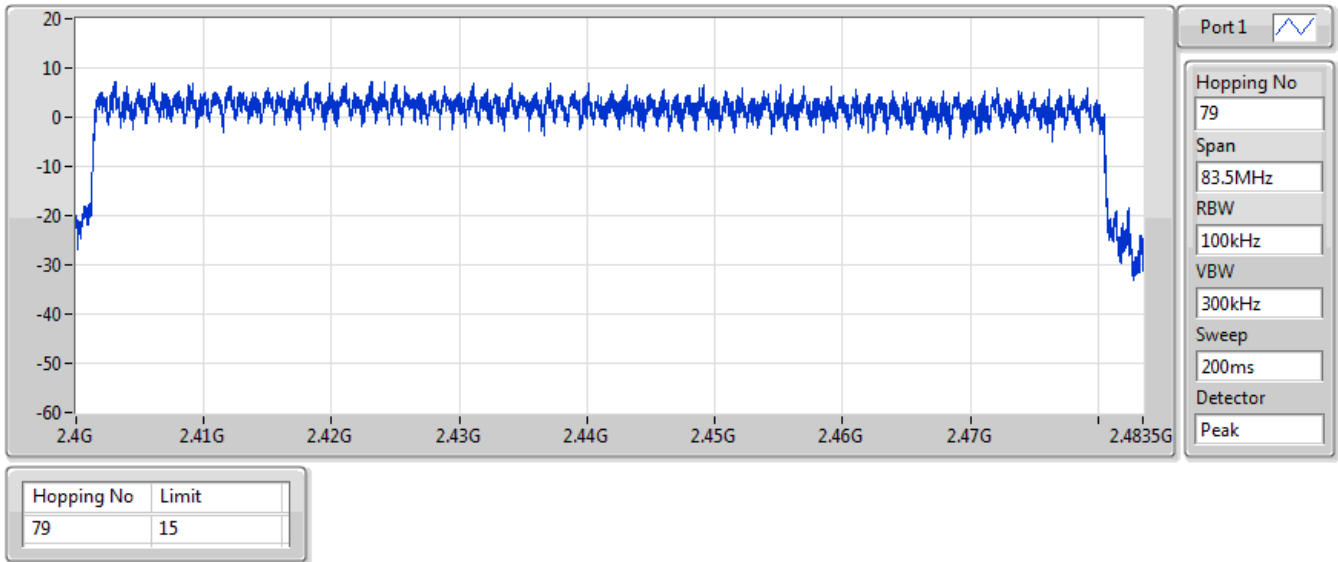
15/09/2020



BT-EDR(3Mbps) 2440MHz

Hopping-FS

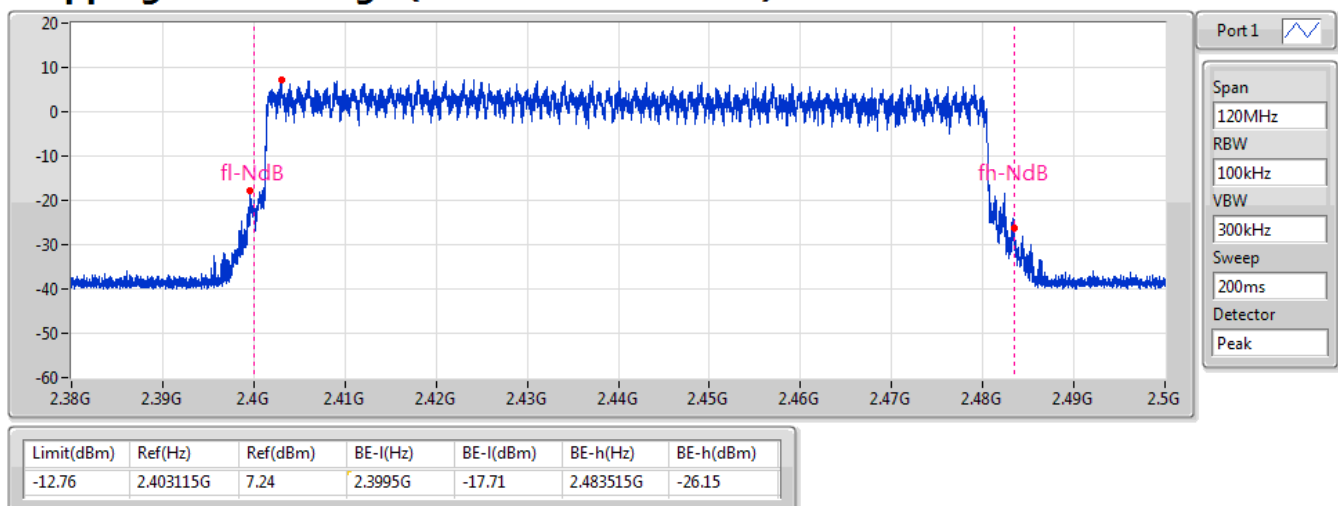
15/09/2020



BT-EDR(3Mbps) 2440MHz

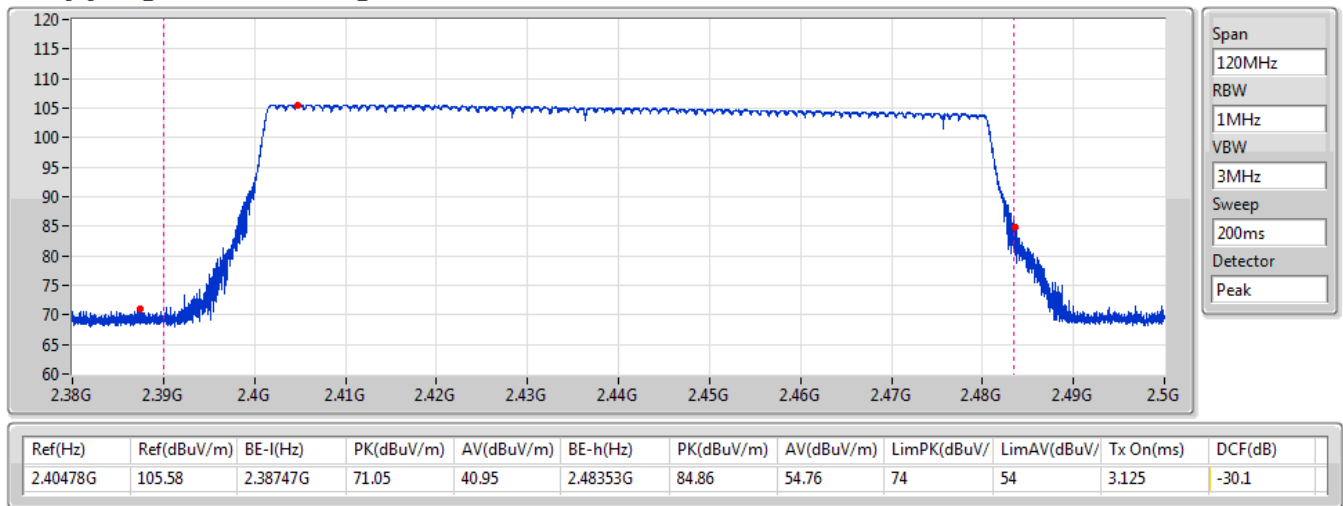
Hopping Ch Bandedge (Non-restricted Band)

15/09/2020



BT-EDR(3Mbps)**2440MHz****Hopping Ch Bandedge (Restricted Band)**

15/09/2020





Summary

Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.2872m_DH5
BT-EDR(2Mbps)	309.0334m_DH5
BT-EDR(3Mbps)	309.2466m_DH5

Result

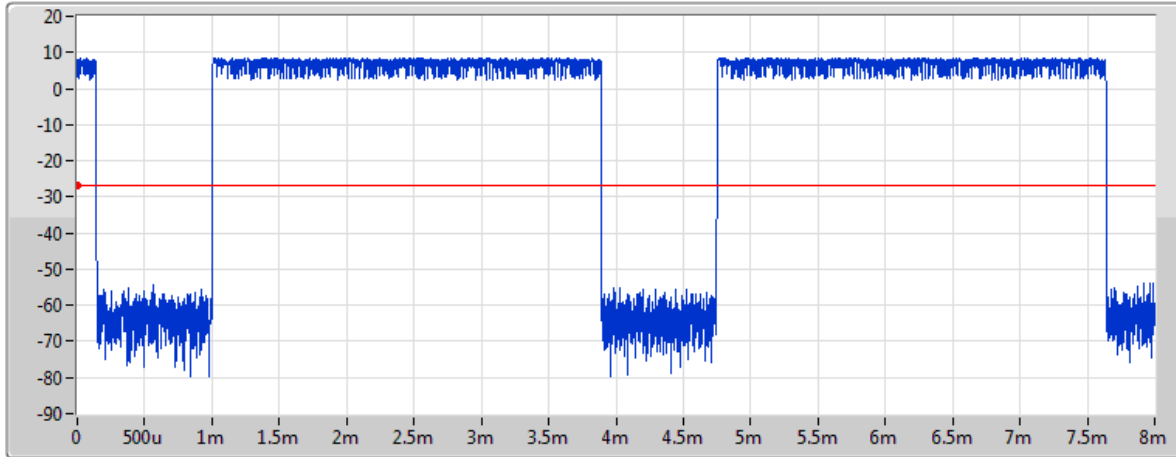
Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	308.2872m_DH5	400m	2.892m
2440MHz	Pass	8	154.1436m_DH5-AFH	400m	2.892m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.0334m_DH5	400m	2.899m
2440MHz	Pass	8	154.5167m_DH5-AFH	400m	2.899m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz	Pass	31.6	309.2466m_DH5	400m	2.901m
2440MHz	Pass	8	154.6233m_DH5-AFH	400m	2.901m

BT-BR(1Mbps)

2440MHz

Dwell-FS

15/09/2020



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.892ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	308.2872m_DH5	400m	2.892m

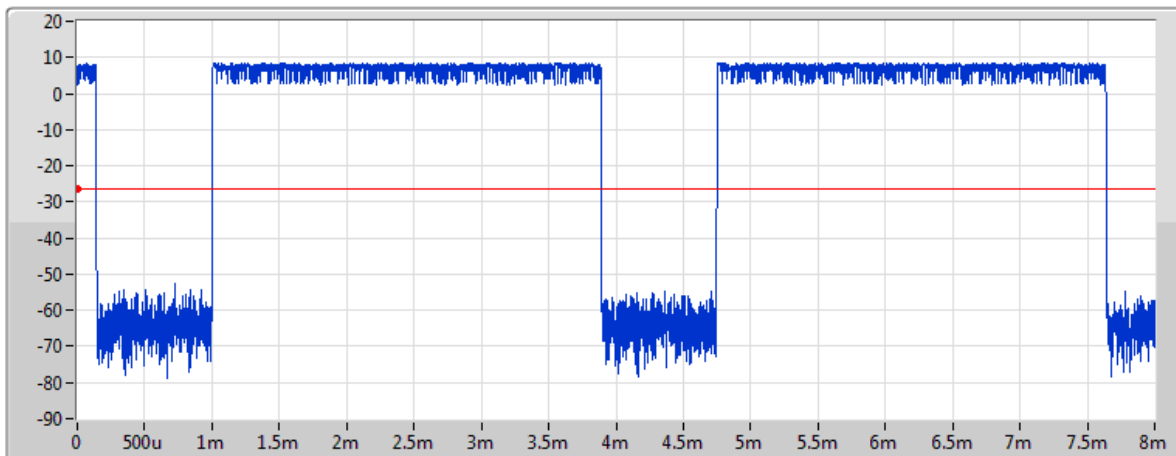
DH5

BT-BR(1Mbps)

2440MHz

Dwell-FS

15/09/2020



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.892ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.1436m_DH5-AFH	400m	2.892m

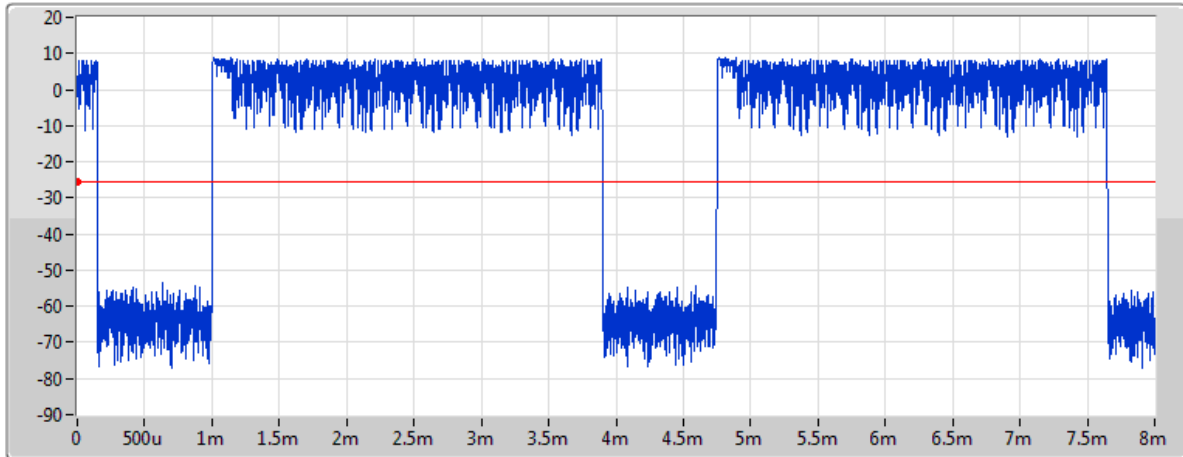
DH5-AFH

BT-EDR(2Mbps)

2440MHz

Dwell-FS

15/09/2020



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.899ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	309.0334m_DH5	400m	2.899m

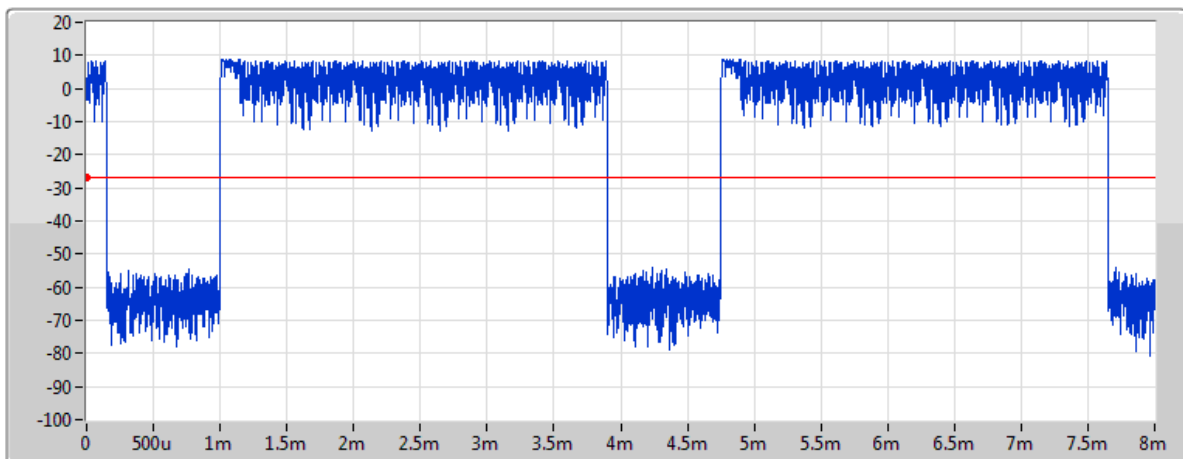
DH5

BT-EDR(2Mbps)

2440MHz

Dwell-FS

15/09/2020



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.899ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.5167m_DH5-AFH	400m	2.899m

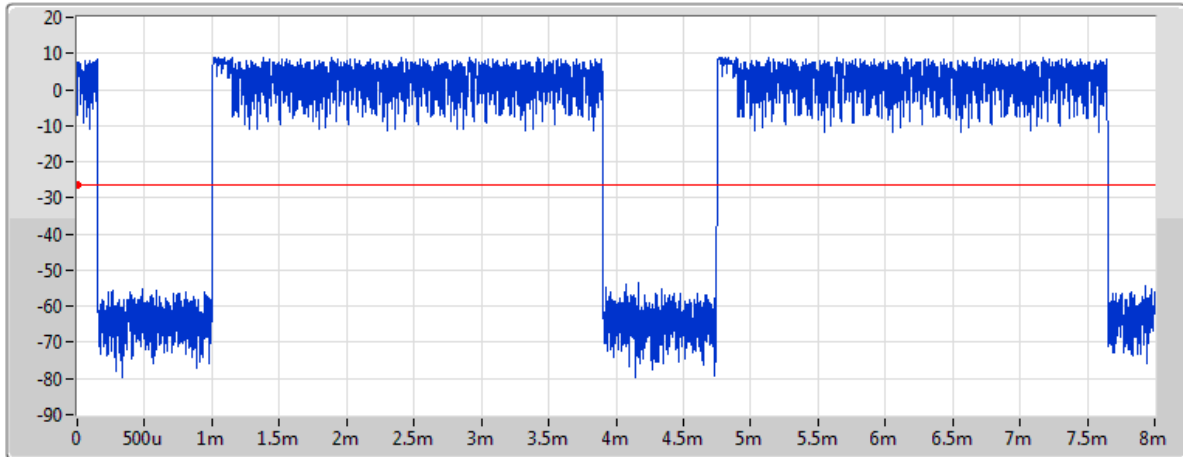
DH5-AFH

BT-EDR(3Mbps)

2440MHz

Dwell-FS

15/09/2020



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.901ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	309.2466m_DH5	400m	2.901m

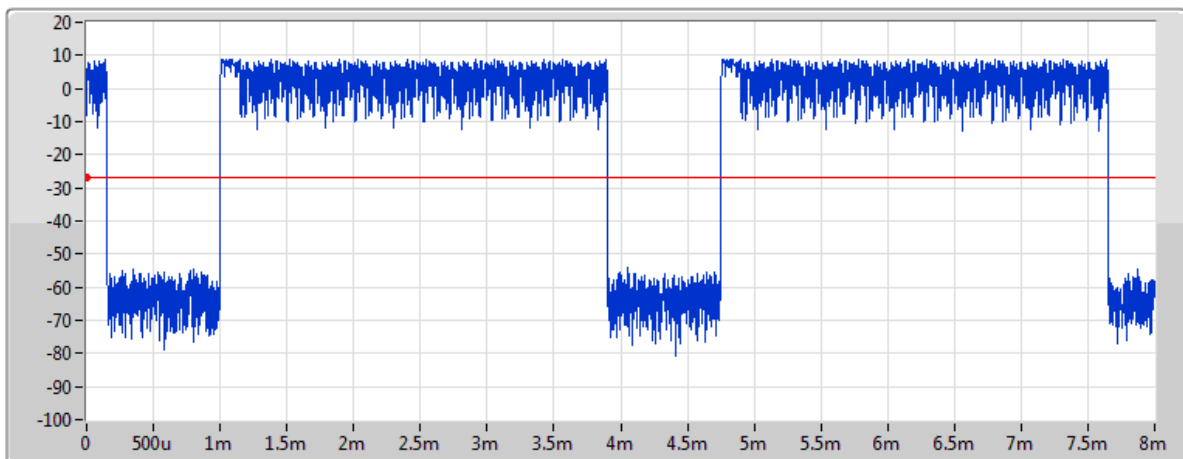
DH5

BT-EDR(3Mbps)

2440MHz

Dwell-FS

15/09/2020



Port 1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.901ms

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.6233m_DH5-AFH	400m	2.901m

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	2.48016G	6.89	-13.11	1.91029G	-45.16	2.3972G	-44.33	2.4G	-46.73	2.50213G	-43.27	21.91517G	-35.34	1
BT-EDR(2Mbps)	Pass	2.40209G	8.06	-11.94	1.71554G	-43.63	2.39951G	-17.83	2.4G	-19.42	2.48394G	-44.18	21.84205G	-34.82	1
BT-EDR(3Mbps)	Pass	2.40196G	8.10	-11.90	2.02016G	-44.98	2.39965G	-17.47	2.4G	-20.77	2.50133G	-44.26	22.00797G	-34.90	1

Result

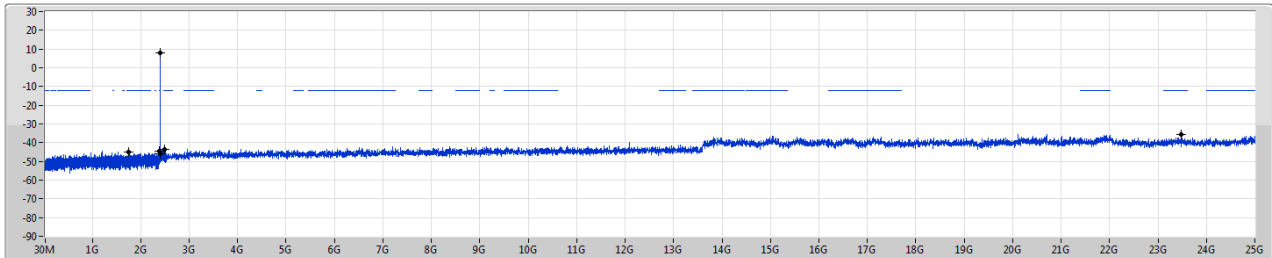
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40196G	7.74	-12.26	1.75696G	-44.97	2.39188G	-44.34	2.4G	-46.00	2.49726G	-43.36	23.47305G	-35.82	1
2440MHz	Pass	2.43995G	6.79	-13.21	1.82246G	-45.32	2.39081G	-44.04	2.4835G	-46.93	2.48754G	-44.00	21.83362G	-35.17	1
2480MHz	Pass	2.48016G	6.89	-13.11	1.91029G	-45.16	2.3972G	-44.33	2.4G	-46.73	2.50213G	-43.27	21.91517G	-35.34	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40209G	8.06	-11.94	1.71554G	-43.63	2.39951G	-17.83	2.4G	-19.42	2.48394G	-44.18	21.84205G	-34.82	1
2440MHz	Pass	2.44012G	7.45	-12.55	2.12884G	-45.42	2.39702G	-44.20	2.4G	-47.02	2.49149G	-44.12	21.94048G	-34.26	1
2480MHz	Pass	2.48016G	6.67	-13.33	1.87152G	-44.92	2.39971G	-44.74	2.4835G	-25.62	2.48351G	-30.25	24.80034G	-35.62	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40196G	8.10	-11.90	2.02016G	-44.98	2.39965G	-17.47	2.4G	-20.77	2.50133G	-44.26	22.00797G	-34.90	1
2440MHz	Pass	2.44012G	7.94	-12.06	1.84802G	-45.15	2.39827G	-44.99	2.4835G	-48.21	2.4837G	-44.18	21.95172G	-34.94	1
2480MHz	Pass	2.47983G	-1.17	-21.17	2.07068G	-44.90	2.39383G	-43.78	2.4835G	-39.82	2.48351G	-38.74	21.85611G	-34.97	1

BT-BR(1Mbps)

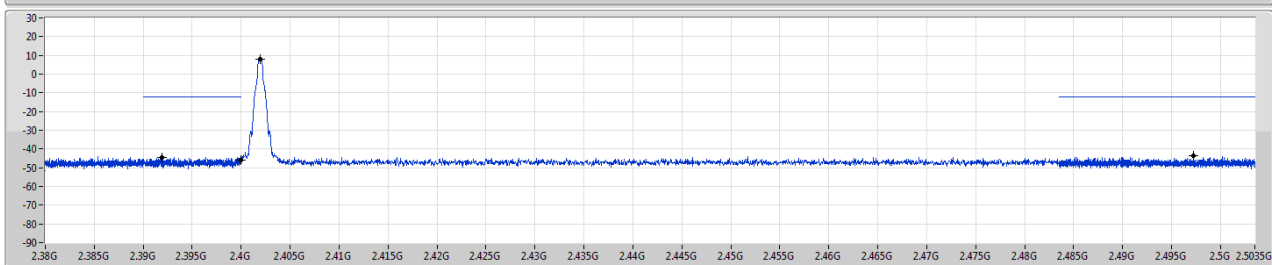
CSENdB-FS

2402MHz

15/09/2020



Port1



RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

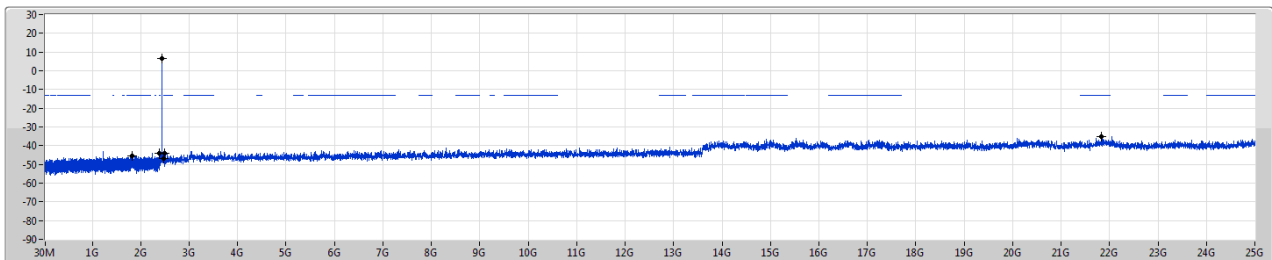
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
240196G	7.74	-12.26	1.75696G	-44.97	2.39188G	-44.34	2.4G	-46.00	2.49726G	-43.36	23.47305G	-35.82	1

BT-BR(1Mbps)

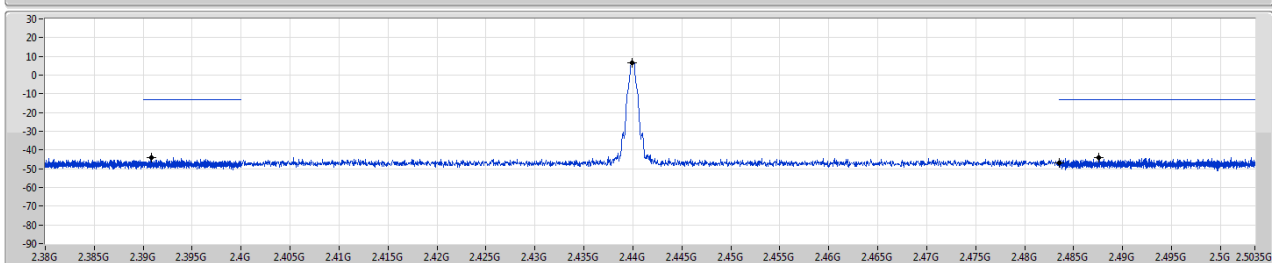
CSENdB-FS

2440MHz

15/09/2020



Port1



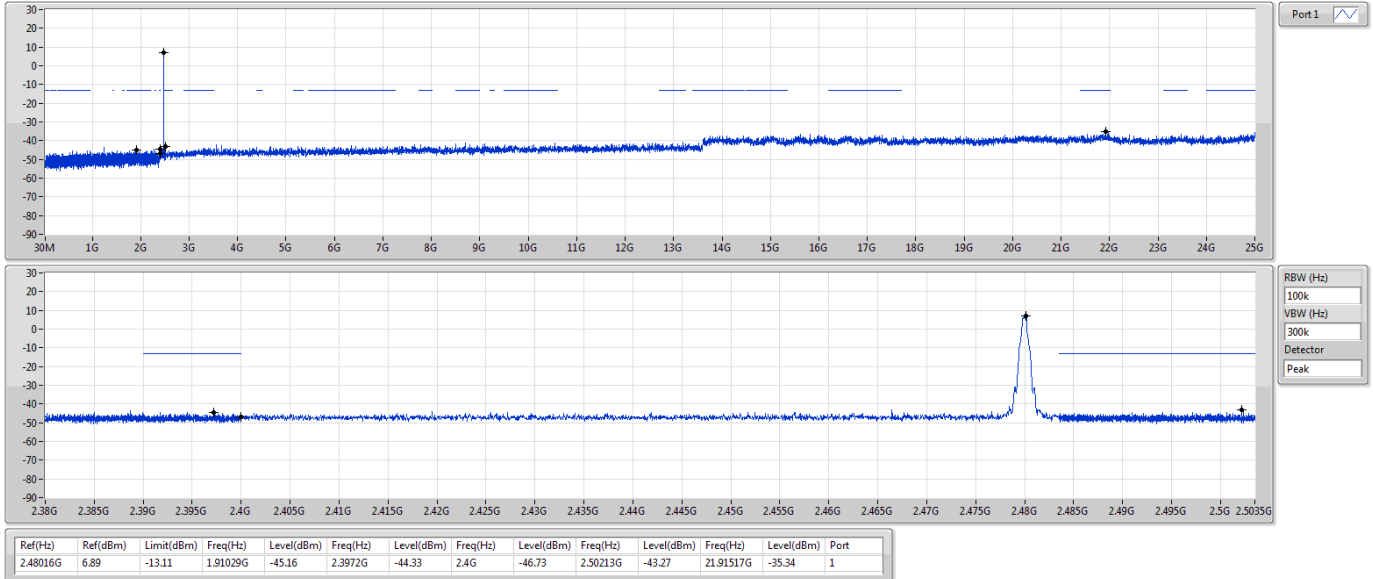
RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

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
243995G	6.79	-13.21	1.82246G	-45.32	2.39081G	-44.04	2.4835G	-46.93	2.48754G	-44.00	21.83362G	-35.17	1

BT-BR(1Mbps)

CSEndB-FS

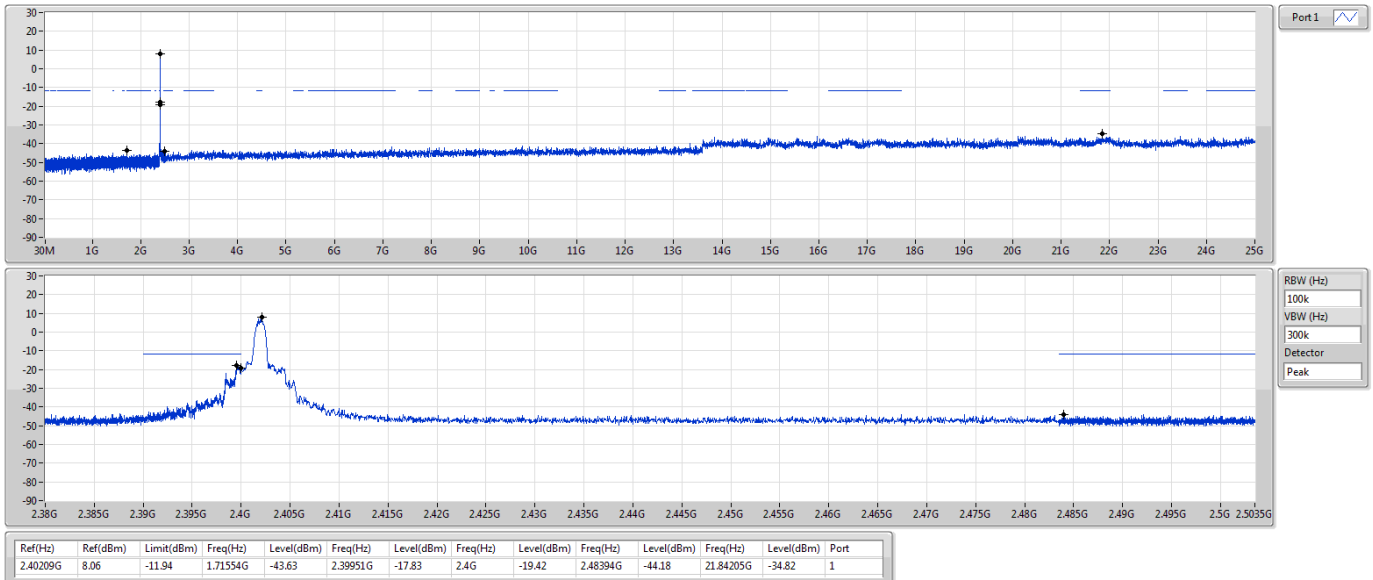
2480MHz



BT-EDR(2Mbps)

CSEndB-FS

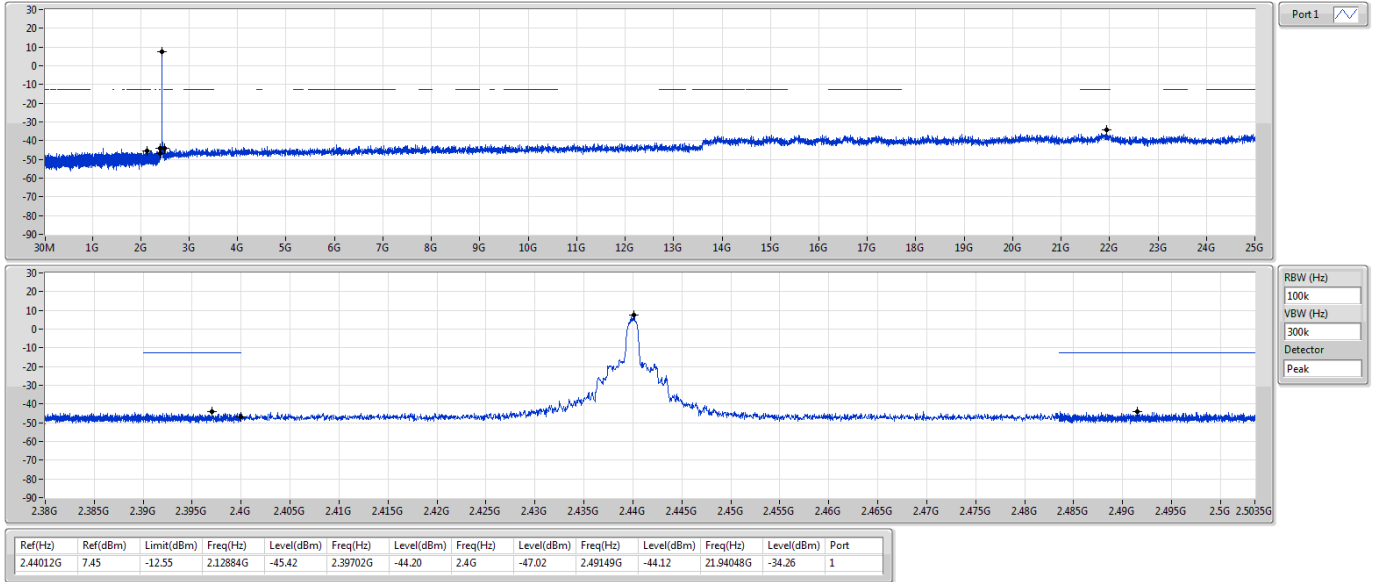
2402MHz



BT-EDR(2Mbps)

CSEndB-FS

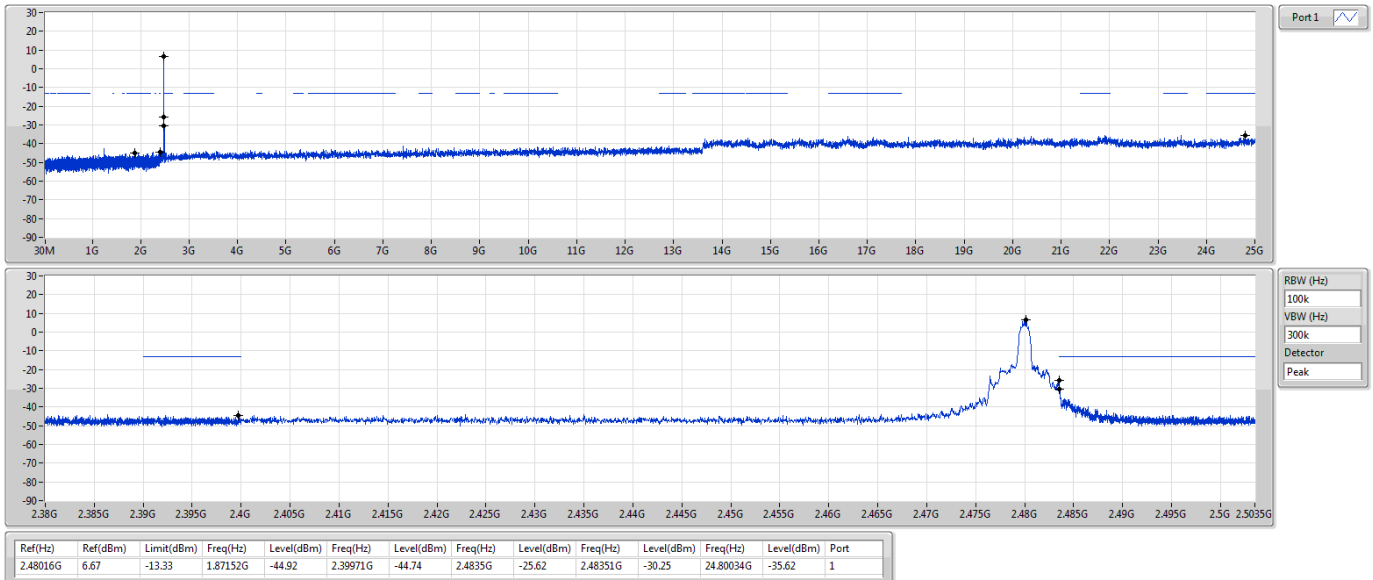
2440MHz



BT-EDR(2Mbps)

CSEndB-FS

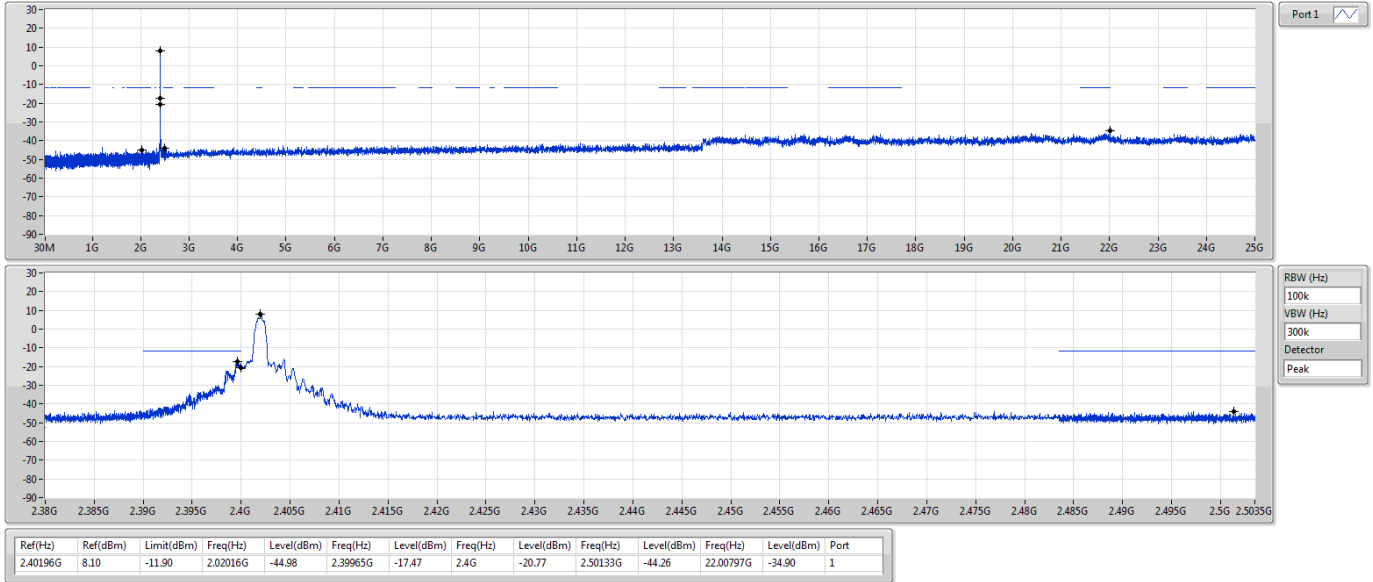
2480MHz



BT-EDR(3Mbps)

CSEndB-FS

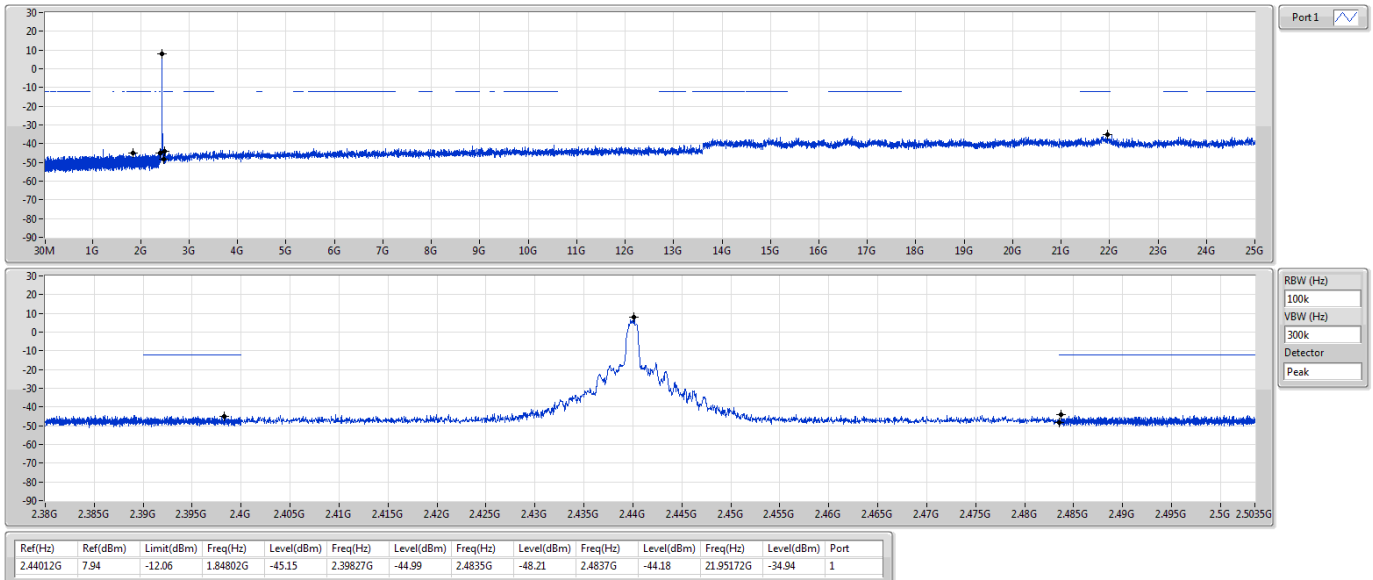
2402MHz



BT-EDR(3Mbps)

CSEndB-FS

2440MHz

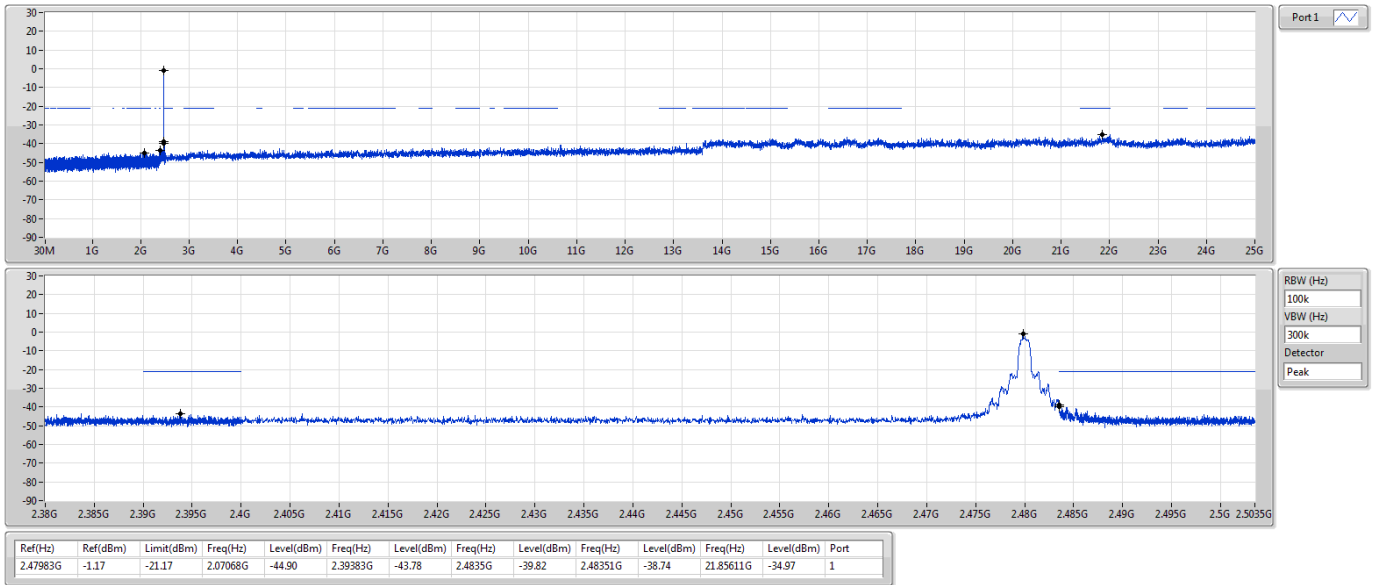


BT-EDR(3Mbps)

CSEn dB-FS

2480MHz

15/09/2020





Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	293.84M	39.79	46.00	-6.21	3	Horizontal	360	1.00	-

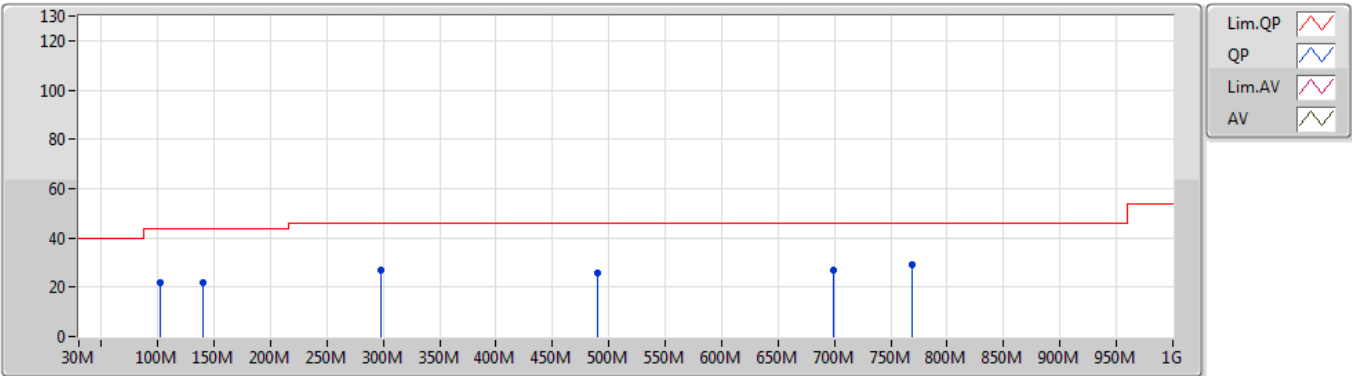
**Result**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	101.78M	21.83	43.50	-21.67	3	Vertical	0	1.00	-
2440MHz	Pass	PK	140.58M	21.95	43.50	-21.55	3	Vertical	0	1.00	-
2440MHz	Pass	PK	297.72M	27.08	46.00	-18.92	3	Vertical	0	1.00	-
2440MHz	Pass	PK	489.78M	25.72	46.00	-20.28	3	Vertical	0	1.00	-
2440MHz	Pass	PK	699.3M	26.92	46.00	-19.08	3	Vertical	0	1.00	-
2440MHz	Pass	PK	769.14M	29.27	46.00	-16.73	3	Vertical	0	1.00	-
2440MHz	Pass	PK	74.62M	26.21	40.00	-13.79	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	163.86M	23.85	43.50	-19.65	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	231.76M	27.33	46.00	-18.67	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	293.84M	39.79	46.00	-6.21	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	390.84M	29.99	46.00	-16.01	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	747.8M	36.46	46.00	-9.54	3	Horizontal	360	1.00	-

BT-BR(1Mbps)

14/09/2020

2440MHz_Test Fixture

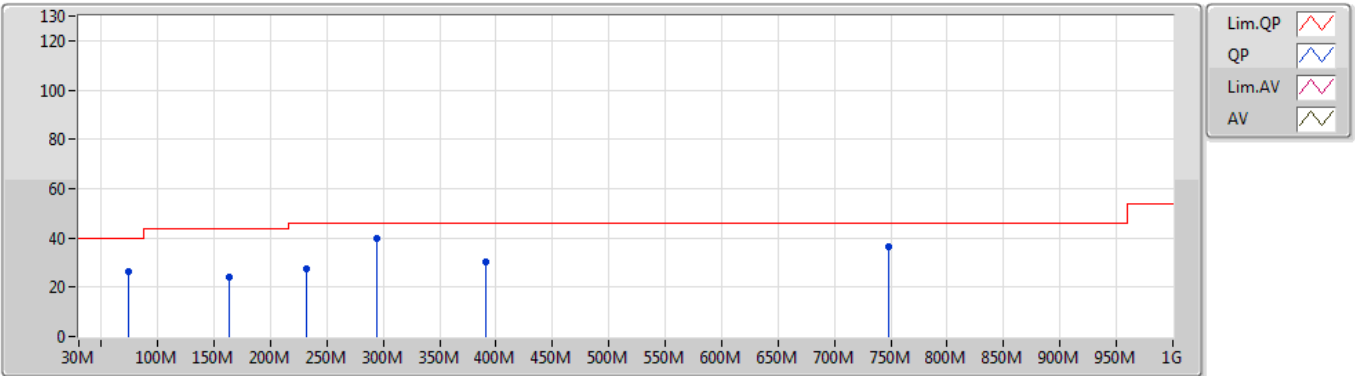


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	101.78M	21.83	43.50	-21.67	-20.47	3	Vertical	0	1.00	-	42.30	15.28	0.80	36.55
PK	140.58M	21.95	43.50	-21.55	-18.95	3	Vertical	0	1.00	-	40.90	16.50	0.90	36.35
PK	297.72M	27.08	46.00	-18.92	-16.72	3	Vertical	0	1.00	-	43.80	18.23	1.40	36.35
PK	489.78M	25.72	46.00	-20.28	-12.21	3	Vertical	0	1.00	-	37.93	22.83	1.88	36.92
PK	699.3M	26.92	46.00	-19.08	-9.38	3	Vertical	0	1.00	-	36.30	25.49	2.40	37.27
PK	769.14M	29.27	46.00	-16.73	-7.64	3	Vertical	0	1.00	-	36.91	27.14	2.54	37.32

BT-BR(1Mbps)

14/09/2020

2440MHz_Test Fixture



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	74.62M	26.21	40.00	-13.79	-24.39	3	Horizontal	360	1.00	-	50.60	11.72	0.69	36.80
PK	163.86M	23.85	43.50	-19.65	-19.96	3	Horizontal	360	1.00	-	43.81	15.35	1.02	36.33
PK	231.76M	27.33	46.00	-18.67	-19.67	3	Horizontal	360	1.00	-	47.00	15.44	1.23	36.34
PK	293.84M	39.79	46.00	-6.21	-16.77	3	Horizontal	360	1.00	-	56.56	18.20	1.39	36.36
PK	390.84M	29.99	46.00	-16.01	-14.25	3	Horizontal	360	1.00	-	44.24	20.52	1.66	36.43
PK	747.8M	36.46	46.00	-9.54	-7.64	3	Horizontal	360	1.00	-	44.10	27.06	2.50	37.20



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	4.88015G	65.49	74.00	-8.51	3	Vertical	25	2.06	-
BT-EDR(3Mbps)	Pass	PK	2.4835G	73.73	74.00	-0.27	3	Vertical	57	1.33	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3852G	35.48	54.00	-18.52	3	Vertical	98	2.08	-
2402MHz	Pass	AV	2.402G	82.36	Inf	-Inf	3	Vertical	98	2.08	-
2402MHz	Pass	PK	2.3852G	57.98	74.00	-16.02	3	Vertical	98	2.08	-
2402MHz	Pass	PK	2.402G	104.86	Inf	-Inf	3	Vertical	98	2.08	-
2402MHz	Pass	AV	2.3818G	34.17	54.00	-19.83	3	Horizontal	206	1.80	-
2402MHz	Pass	AV	2.4022G	77.94	Inf	-Inf	3	Horizontal	206	1.80	-
2402MHz	Pass	PK	2.3818G	56.67	74.00	-17.33	3	Horizontal	206	1.80	-
2402MHz	Pass	PK	2.4022G	100.44	Inf	-Inf	3	Horizontal	206	1.80	-
2402MHz	Pass	AV	4.80367G	42.05	54.00	-11.95	3	Vertical	356	2.07	-
2402MHz	Pass	PK	4.80367G	64.55	74.00	-9.45	3	Vertical	356	2.07	-
2402MHz	Pass	AV	4.80368G	41.54	54.00	-12.46	3	Horizontal	159	1.06	-
2402MHz	Pass	PK	4.80368G	64.04	74.00	-9.96	3	Horizontal	159	1.06	-
2440MHz	Pass	AV	2.3556G	33.80	54.00	-20.20	3	Vertical	98	1.90	-
2440MHz	Pass	AV	2.44G	80.89	Inf	-Inf	3	Vertical	98	1.90	-
2440MHz	Pass	AV	2.4908G	34.23	54.00	-19.77	3	Vertical	98	1.90	-
2440MHz	Pass	PK	2.3556G	56.30	74.00	-17.70	3	Vertical	98	1.90	-
2440MHz	Pass	PK	2.44G	103.39	Inf	-Inf	3	Vertical	98	1.90	-
2440MHz	Pass	PK	2.4908G	56.73	74.00	-17.27	3	Vertical	98	1.90	-
2440MHz	Pass	AV	2.372G	33.99	54.00	-20.01	3	Horizontal	206	1.80	-
2440MHz	Pass	AV	2.44G	76.63	Inf	-Inf	3	Horizontal	206	1.80	-
2440MHz	Pass	AV	2.4976G	34.06	54.00	-19.94	3	Horizontal	206	1.80	-
2440MHz	Pass	PK	2.372G	56.49	74.00	-17.51	3	Horizontal	206	1.80	-
2440MHz	Pass	PK	2.44G	99.13	Inf	-Inf	3	Horizontal	206	1.80	-
2440MHz	Pass	PK	2.4976G	56.56	74.00	-17.44	3	Horizontal	206	1.80	-
2440MHz	Pass	AV	4.88015G	42.99	54.00	-11.01	3	Vertical	25	2.06	-
2440MHz	Pass	AV	7.3195G	40.40	54.00	-13.60	3	Vertical	199	2.32	-
2440MHz	Pass	PK	4.88015G	65.49	74.00	-8.51	3	Vertical	25	2.06	-
2440MHz	Pass	PK	7.3195G	62.90	74.00	-11.10	3	Vertical	199	2.32	-
2440MHz	Pass	AV	4.87949G	41.15	54.00	-12.85	3	Horizontal	161	1.25	-
2440MHz	Pass	AV	7.31947G	40.94	54.00	-13.06	3	Horizontal	208	2.07	-
2440MHz	Pass	PK	4.87949G	63.65	74.00	-10.35	3	Horizontal	161	1.25	-
2440MHz	Pass	PK	7.31947G	63.44	74.00	-10.56	3	Horizontal	208	2.07	-
2480MHz	Pass	AV	2.48G	81.05	Inf	-Inf	3	Vertical	58	1.03	-
2480MHz	Pass	AV	2.4848G	35.92	54.00	-18.08	3	Vertical	58	1.03	-
2480MHz	Pass	PK	2.48G	103.55	Inf	-Inf	3	Vertical	58	1.03	-
2480MHz	Pass	PK	2.4848G	58.42	74.00	-15.58	3	Vertical	58	1.03	-
2480MHz	Pass	AV	2.4798G	76.13	Inf	-Inf	3	Horizontal	207	1.80	-
2480MHz	Pass	AV	2.4852G	38.72	54.00	-15.28	3	Horizontal	207	1.80	-
2480MHz	Pass	PK	2.4798G	98.63	Inf	-Inf	3	Horizontal	207	1.80	-
2480MHz	Pass	PK	2.4852G	61.22	74.00	-12.78	3	Horizontal	207	1.80	-
2480MHz	Pass	AV	4.96026G	42.80	54.00	-11.20	3	Vertical	345	2.00	-
2480MHz	Pass	AV	7.44043G	40.07	54.00	-13.93	3	Vertical	211	1.51	-
2480MHz	Pass	PK	4.96026G	65.30	74.00	-8.70	3	Vertical	345	2.00	-
2480MHz	Pass	PK	7.44043G	62.57	74.00	-11.43	3	Vertical	211	1.51	-
2480MHz	Pass	AV	4.96029G	40.02	54.00	-13.98	3	Horizontal	162	1.68	-
2480MHz	Pass	AV	7.44015G	39.46	54.00	-14.54	3	Horizontal	205	2.04	-
2480MHz	Pass	PK	4.96029G	62.52	74.00	-11.48	3	Horizontal	162	1.68	-
2480MHz	Pass	PK	7.44015G	61.96	74.00	-12.04	3	Horizontal	205	2.04	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3898G	38.08	54.00	-15.92	3	Vertical	57	1.09	-
2402MHz	Pass	AV	2.4022G	83.21	Inf	-Inf	3	Vertical	57	1.09	-
2402MHz	Pass	PK	2.3898G	60.58	74.00	-13.42	3	Vertical	57	1.09	-
2402MHz	Pass	PK	2.4022G	105.71	Inf	-Inf	3	Vertical	57	1.09	-
2402MHz	Pass	AV	2.389G	34.78	54.00	-19.22	3	Horizontal	207	1.66	-
2402MHz	Pass	AV	2.4018G	77.91	Inf	-Inf	3	Horizontal	207	1.66	-
2402MHz	Pass	PK	2.389G	57.28	74.00	-16.72	3	Horizontal	207	1.66	-
2402MHz	Pass	PK	2.4018G	100.41	Inf	-Inf	3	Horizontal	207	1.66	-
2402MHz	Pass	AV	4.80357G	41.78	54.00	-12.22	3	Vertical	313	1.82	-
2402MHz	Pass	PK	4.80357G	64.28	74.00	-9.72	3	Vertical	313	1.82	-
2402MHz	Pass	AV	4.80338G	40.78	54.00	-23.22	3	Horizontal	18	1.80	-



RSE TX above 1GHz

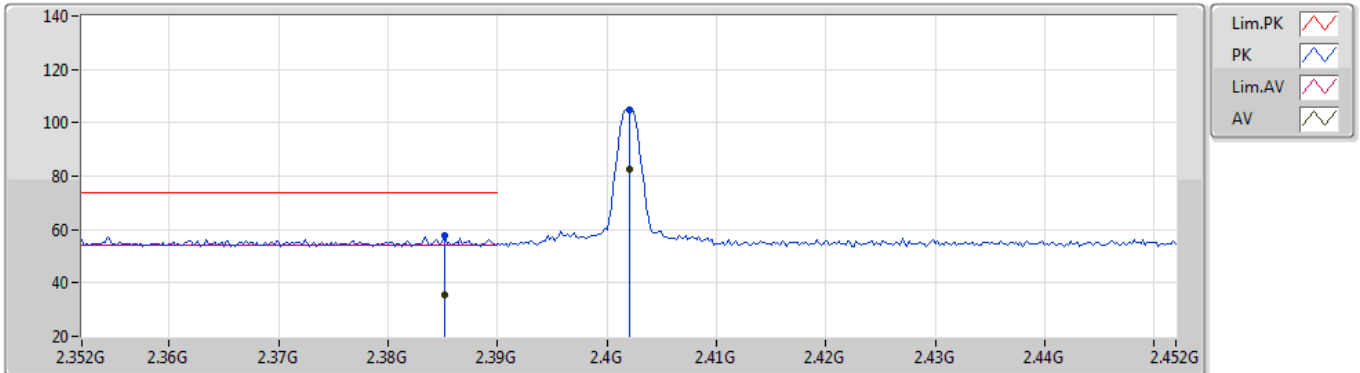
Appendix G.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2402MHz	Pass	PK	4.80338G	63.28	74.00	-20.72	3	Horizontal	18	1.80	-
2440MHz	Pass	AV	2.354G	34.99	54.00	-19.01	3	Vertical	60	1.26	-
2440MHz	Pass	AV	2.4404G	81.74	Inf	-Inf	3	Vertical	60	1.26	-
2440MHz	Pass	AV	2.4835G	33.75	54.00	-20.25	3	Vertical	60	1.26	-
2440MHz	Pass	PK	2.354G	57.49	74.00	-16.51	3	Vertical	60	1.26	-
2440MHz	Pass	PK	2.4404G	104.24	Inf	-Inf	3	Vertical	60	1.26	-
2440MHz	Pass	PK	2.4835G	56.25	74.00	-17.75	3	Vertical	60	1.26	-
2440MHz	Pass	AV	2.3856G	33.70	54.00	-20.30	3	Horizontal	208	1.50	-
2440MHz	Pass	AV	2.44G	77.54	Inf	-Inf	3	Horizontal	208	1.50	-
2440MHz	Pass	AV	2.4872G	33.52	54.00	-20.48	3	Horizontal	208	1.50	-
2440MHz	Pass	PK	2.3856G	56.20	74.00	-17.80	3	Horizontal	208	1.50	-
2440MHz	Pass	PK	2.44G	100.04	Inf	-Inf	3	Horizontal	208	1.50	-
2440MHz	Pass	PK	2.4872G	56.02	74.00	-17.98	3	Horizontal	208	1.50	-
2440MHz	Pass	AV	4.87963G	43.09	54.00	-10.91	3	Vertical	26	2.07	-
2440MHz	Pass	AV	7.32044G	40.22	54.00	-13.78	3	Vertical	214	1.60	-
2440MHz	Pass	PK	4.87963G	65.59	74.00	-8.41	3	Vertical	26	2.07	-
2440MHz	Pass	PK	7.32044G	62.72	74.00	-11.28	3	Vertical	214	1.60	-
2440MHz	Pass	AV	4.87967G	41.67	54.00	-12.33	3	Horizontal	159	1.26	-
2440MHz	Pass	AV	7.31966G	41.05	54.00	-12.95	3	Horizontal	206	2.08	-
2440MHz	Pass	PK	4.87967G	64.17	74.00	-9.83	3	Horizontal	159	1.26	-
2440MHz	Pass	PK	7.31966G	63.55	74.00	-10.45	3	Horizontal	206	2.08	-
2480MHz	Pass	AV	2.48G	76.80	Inf	-Inf	3	Vertical	57	1.33	-
2480MHz	Pass	AV	2.4835G	51.23	54.00	-2.77	3	Vertical	57	1.33	-
2480MHz	Pass	PK	2.48G	99.30	Inf	-Inf	3	Vertical	57	1.33	-
2480MHz	Pass	PK	2.4835G	73.73	74.00	-0.27	3	Vertical	57	1.33	-
2480MHz	Pass	AV	2.48G	72.20	Inf	-Inf	3	Horizontal	208	1.61	-
2480MHz	Pass	AV	2.4835G	46.29	54.00	-7.71	3	Horizontal	208	1.61	-
2480MHz	Pass	PK	2.48G	94.70	Inf	-Inf	3	Horizontal	208	1.61	-
2480MHz	Pass	PK	2.4835G	68.79	74.00	-5.21	3	Horizontal	208	1.61	-
2480MHz	Pass	AV	4.96019G	39.70	54.00	-14.30	3	Vertical	343	1.99	-
2480MHz	Pass	AV	7.44039G	37.87	54.00	-16.13	3	Vertical	213	1.59	-
2480MHz	Pass	PK	4.96019G	62.20	74.00	-11.80	3	Vertical	343	1.99	-
2480MHz	Pass	PK	7.44039G	60.37	74.00	-13.63	3	Vertical	213	1.59	-
2480MHz	Pass	AV	4.96023G	38.64	54.00	-15.36	3	Horizontal	157	1.45	-
2480MHz	Pass	AV	7.43936G	37.92	54.00	-16.08	3	Horizontal	206	2.07	-
2480MHz	Pass	PK	4.96023G	61.14	74.00	-12.86	3	Horizontal	157	1.45	-
2480MHz	Pass	PK	7.43936G	60.42	74.00	-13.58	3	Horizontal	206	2.07	-

BT-BR(1Mbps)

08/09/2020

2402MHz_TX

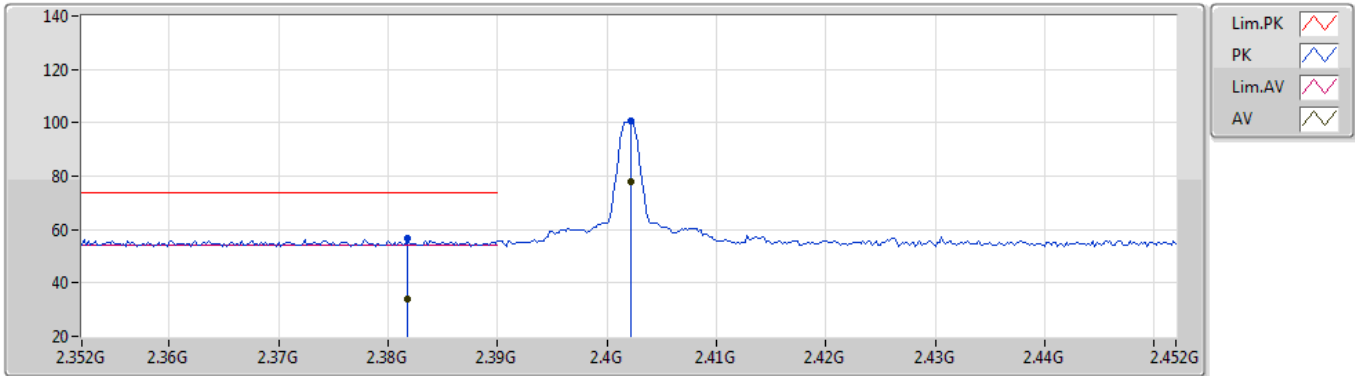


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3852G	35.48	54.00	-18.52	31.54	3	Vertical	98	2.08	-	3.94	27.66	3.88	-
AV	2.402G	82.36	Inf	-Inf	31.50	3	Vertical	98	2.08	-	50.86	27.60	3.90	-
PK	2.3852G	57.98	74.00	-16.02	31.54	3	Vertical	98	2.08	-	26.44	27.66	3.88	-
PK	2.402G	104.86	Inf	-Inf	31.50	3	Vertical	98	2.08	-	73.36	27.60	3.90	-

BT-BR(1Mbps)

08/09/2020

2402MHz_TX

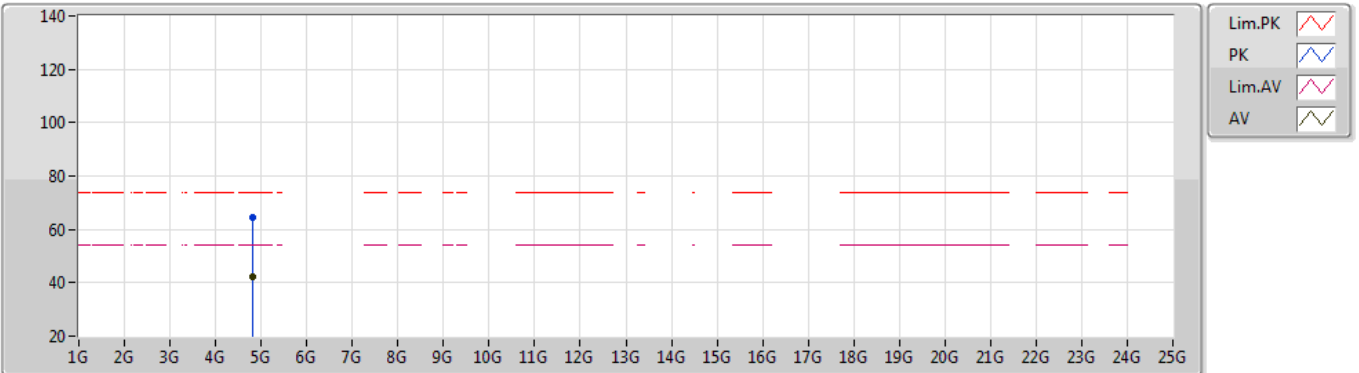


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3818G	34.17	54.00	-19.83	31.54	3	Horizontal	206	1.80	-	2.63	27.67	3.87	-
AV	2.4022G	77.94	Inf	-Inf	31.50	3	Horizontal	206	1.80	-	46.44	27.60	3.90	-
PK	2.3818G	56.67	74.00	-17.33	31.54	3	Horizontal	206	1.80	-	25.13	27.67	3.87	-
PK	2.4022G	100.44	Inf	-Inf	31.50	3	Horizontal	206	1.80	-	68.94	27.60	3.90	-

BT-BR(1Mbps)

09/09/2020

2402MHz_TX

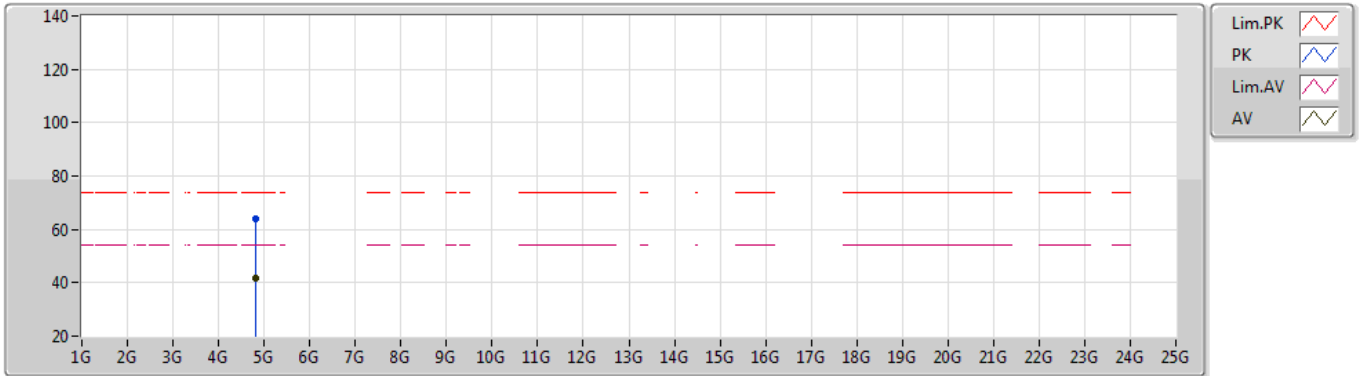


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80367G	42.05	54.00	-11.95	1.48	3	Vertical	356	2.07	-	40.57	31.11	5.30	34.93
PK	4.80367G	64.55	74.00	-9.45	1.48	3	Vertical	356	2.07	-	63.07	31.11	5.30	34.93

BT-BR(1Mbps)

09/09/2020

2402MHz_TX

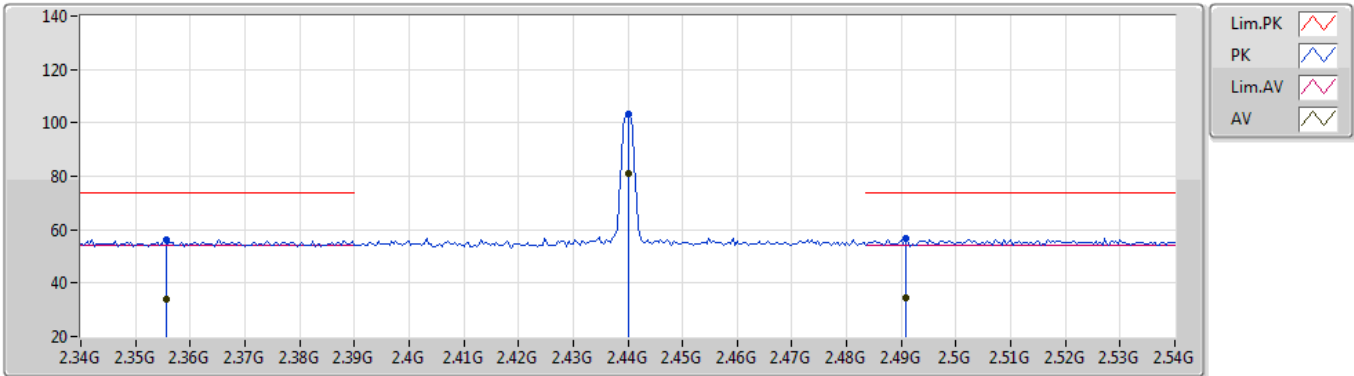


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80368G	41.54	54.00	-12.46	1.48	3	Horizontal	159	1.06	-	40.06	31.11	5.30	34.93
PK	4.80368G	64.04	74.00	-9.96	1.48	3	Horizontal	159	1.06	-	62.56	31.11	5.30	34.93

BT-BR(1Mbps)

08/09/2020

2440MHz_TX

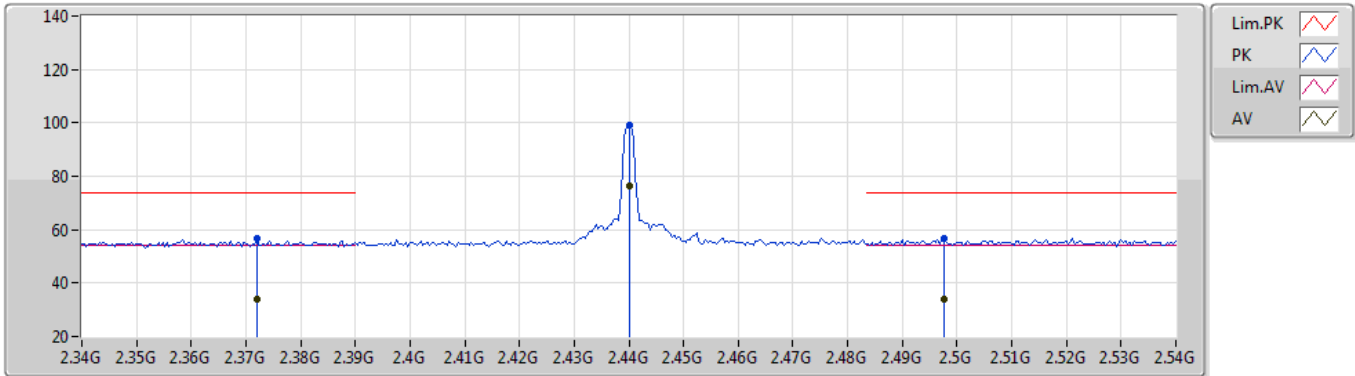


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3556G	33.80	54.00	-20.20	31.61	3	Vertical	98	1.90	-	2.19	27.78	3.83	-
AV	2.44G	80.89	Inf	-Inf	31.56	3	Vertical	98	1.90	-	49.33	27.60	3.96	-
AV	2.4908G	34.23	54.00	-19.77	31.64	3	Vertical	98	1.90	-	2.59	27.60	4.04	-
PK	2.3556G	56.30	74.00	-17.70	31.61	3	Vertical	98	1.90	-	24.69	27.78	3.83	-
PK	2.44G	103.39	Inf	-Inf	31.56	3	Vertical	98	1.90	-	71.83	27.60	3.96	-
PK	2.4908G	56.73	74.00	-17.27	31.64	3	Vertical	98	1.90	-	25.09	27.60	4.04	-

BT-BR(1Mbps)

2440MHz_TX

08/09/2020

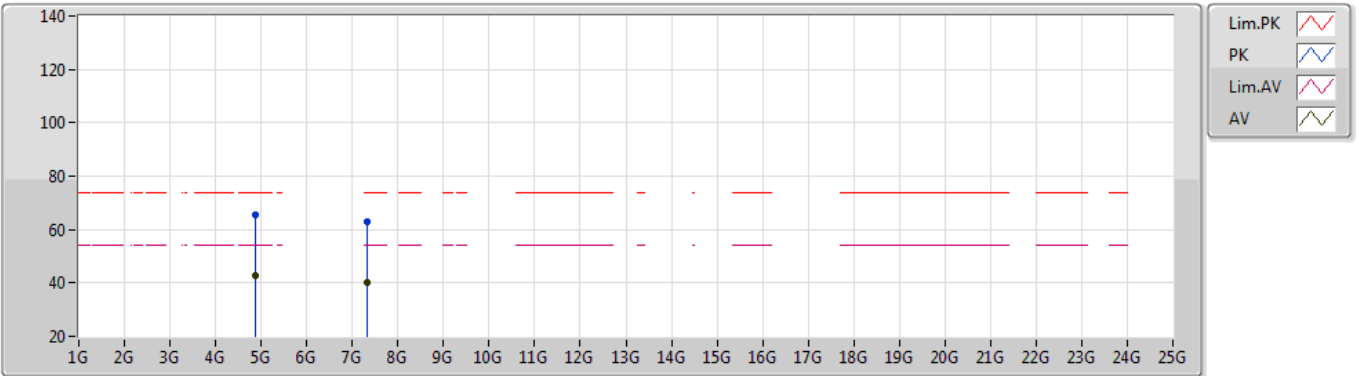


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.372G	33.99	54.00	-20.01	31.57	3	Horizontal	206	1.80	-	2.42	27.71	3.86	-
AV	2.44G	76.63	Inf	-Inf	31.56	3	Horizontal	206	1.80	-	45.07	27.60	3.96	-
AV	2.4976G	34.06	54.00	-19.94	31.65	3	Horizontal	206	1.80	-	2.41	27.60	4.05	-
PK	2.372G	56.49	74.00	-17.51	31.57	3	Horizontal	206	1.80	-	24.92	27.71	3.86	-
PK	2.44G	99.13	Inf	-Inf	31.56	3	Horizontal	206	1.80	-	67.57	27.60	3.96	-
PK	2.4976G	56.56	74.00	-17.44	31.65	3	Horizontal	206	1.80	-	24.91	27.60	4.05	-

BT-BR(1Mbps)

09/09/2020

2440MHz_TX

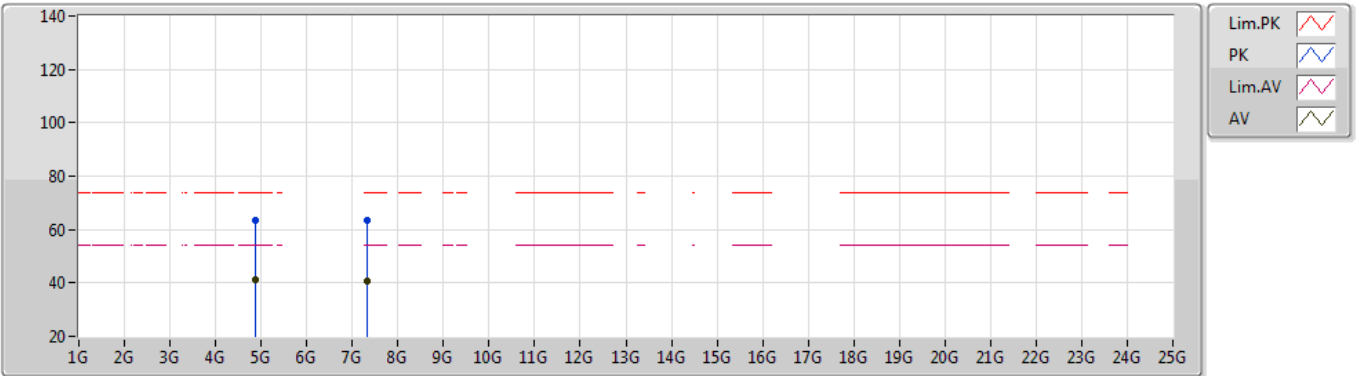


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.88015G	42.99	54.00	-11.01	1.65	3	Vertical	25	2.06	-	41.34	31.24	5.34	34.93
AV	7.3195G	40.40	54.00	-13.60	8.18	3	Vertical	199	2.32	-	32.22	36.56	6.80	35.18
PK	4.88015G	65.49	74.00	-8.51	1.65	3	Vertical	25	2.06	-	63.84	31.24	5.34	34.93
PK	7.3195G	62.90	74.00	-11.10	8.18	3	Vertical	199	2.32	-	54.72	36.56	6.80	35.18

BT-BR(1Mbps)

09/09/2020

2440MHz_TX

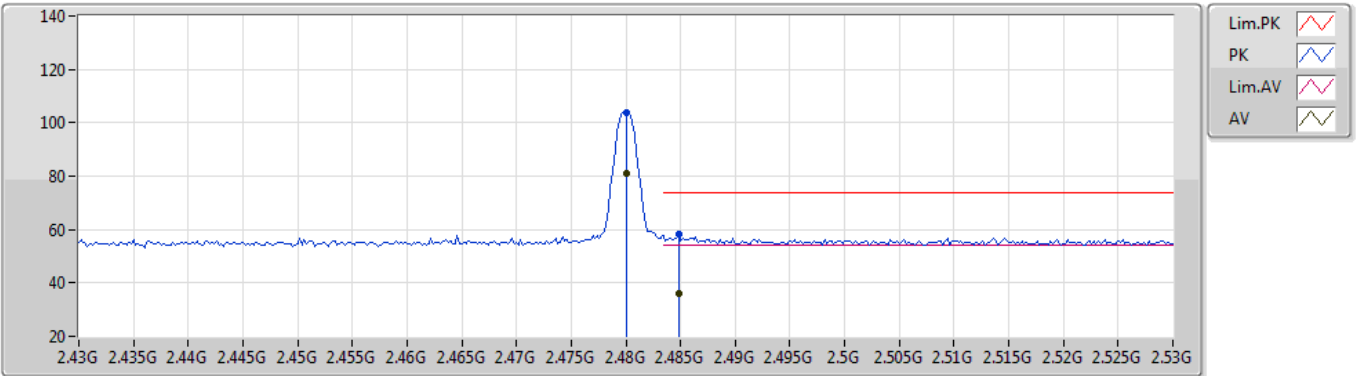


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87949G	41.15	54.00	-12.85	1.65	3	Horizontal	161	1.25	-	39.50	31.24	5.34	34.93
AV	7.31947G	40.94	54.00	-13.06	8.18	3	Horizontal	208	2.07	-	32.76	36.56	6.80	35.18
PK	4.87949G	63.65	74.00	-10.35	1.65	3	Horizontal	161	1.25	-	62.00	31.24	5.34	34.93
PK	7.31947G	63.44	74.00	-10.56	8.18	3	Horizontal	208	2.07	-	55.26	36.56	6.80	35.18

BT-BR(1Mbps)

2480MHz_TX

08/09/2020

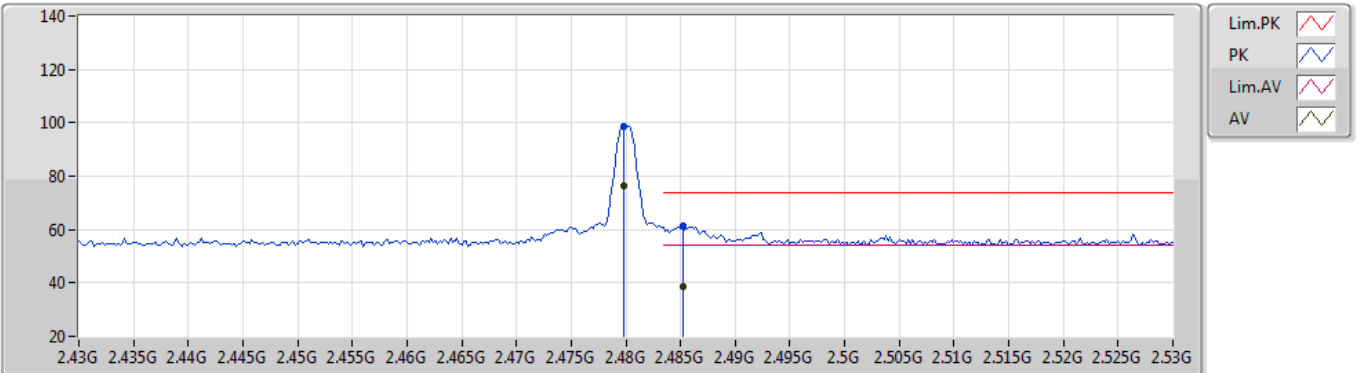


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	81.05	Inf	-Inf	31.62	3	Vertical	58	1.03	-	49.43	27.60	4.02	-
AV	2.4848G	35.92	54.00	-18.08	31.63	3	Vertical	58	1.03	-	4.29	27.60	4.03	-
PK	2.48G	103.55	Inf	-Inf	31.62	3	Vertical	58	1.03	-	71.93	27.60	4.02	-
PK	2.4848G	58.42	74.00	-15.58	31.63	3	Vertical	58	1.03	-	26.79	27.60	4.03	-

BT-BR(1Mbps)

2480MHz_TX

08/09/2020

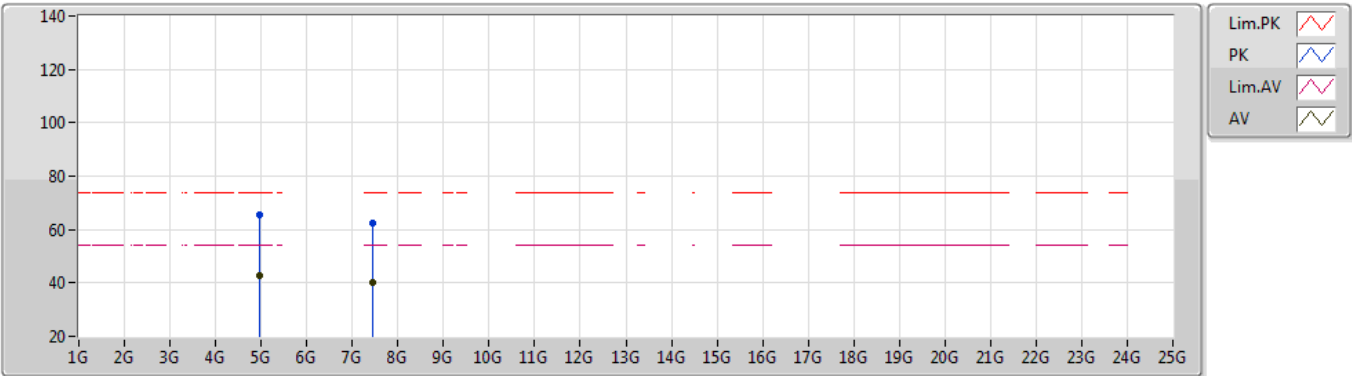


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.4798G	76.13	Inf	-Inf	31.62	3	Horizontal	207	1.80	-	44.51	27.60	4.02	-
AV	2.4852G	38.72	54.00	-15.28	31.63	3	Horizontal	207	1.80	-	7.09	27.60	4.03	-
PK	2.4798G	98.63	Inf	-Inf	31.62	3	Horizontal	207	1.80	-	67.01	27.60	4.02	-
PK	2.4852G	61.22	74.00	-12.78	31.63	3	Horizontal	207	1.80	-	29.59	27.60	4.03	-

BT-BR(1Mbps)

09/09/2020

2480MHz_TX

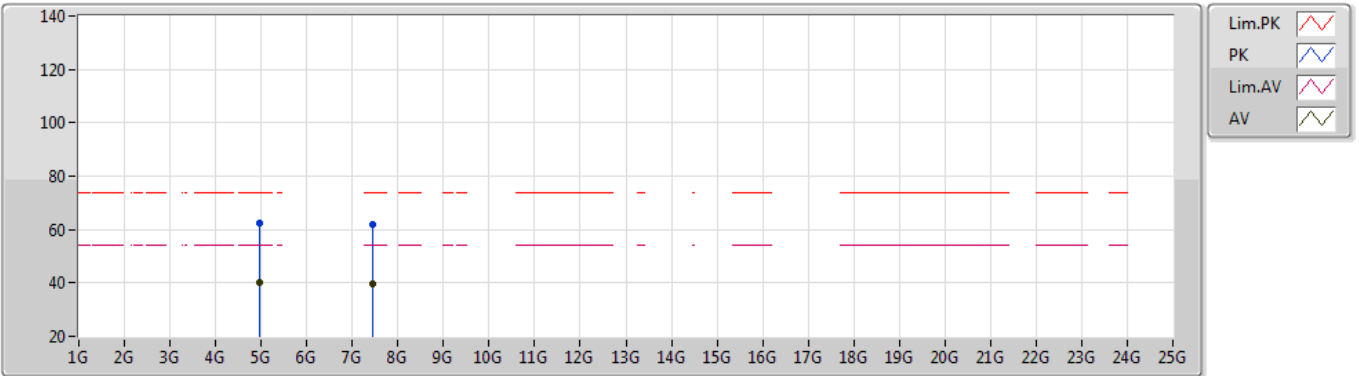


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96026G	42.80	54.00	-11.20	1.86	3	Vertical	345	2.00	-	40.94	31.42	5.38	34.94
AV	7.44043G	40.07	54.00	-13.93	8.21	3	Vertical	211	1.51	-	31.86	36.56	6.82	35.17
PK	4.96026G	65.30	74.00	-8.70	1.86	3	Vertical	345	2.00	-	63.44	31.42	5.38	34.94
PK	7.44043G	62.57	74.00	-11.43	8.21	3	Vertical	211	1.51	-	54.36	36.56	6.82	35.17

BT-BR(1Mbps)

09/09/2020

2480MHz_TX

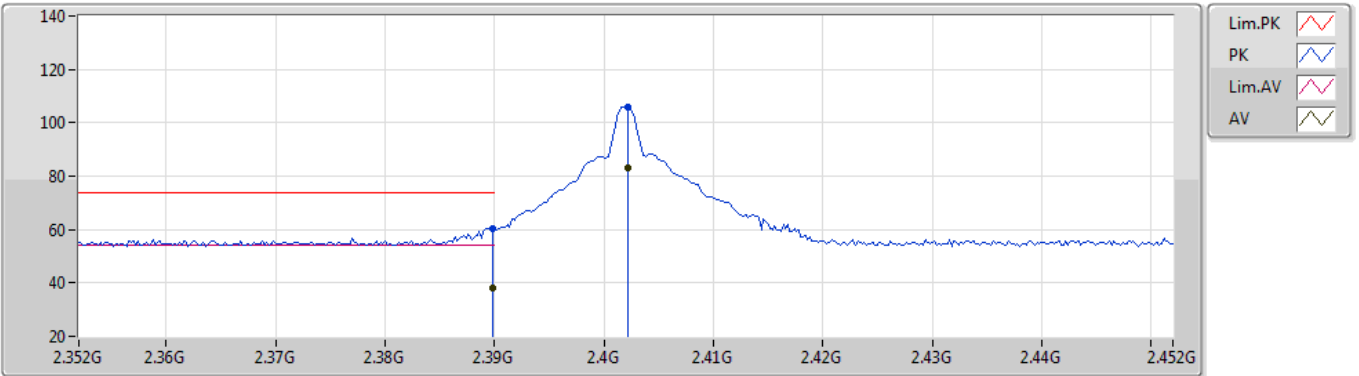


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96029G	40.02	54.00	-13.98	1.86	3	Horizontal	162	1.68	-	38.16	31.42	5.38	34.94
AV	7.44015G	39.46	54.00	-14.54	8.21	3	Horizontal	205	2.04	-	31.25	36.56	6.82	35.17
PK	4.96029G	62.52	74.00	-11.48	1.86	3	Horizontal	162	1.68	-	60.66	31.42	5.38	34.94
PK	7.44015G	61.96	74.00	-12.04	8.21	3	Horizontal	205	2.04	-	53.75	36.56	6.82	35.17

BT-EDR(3Mbps)

08/09/2020

2402MHz_TX

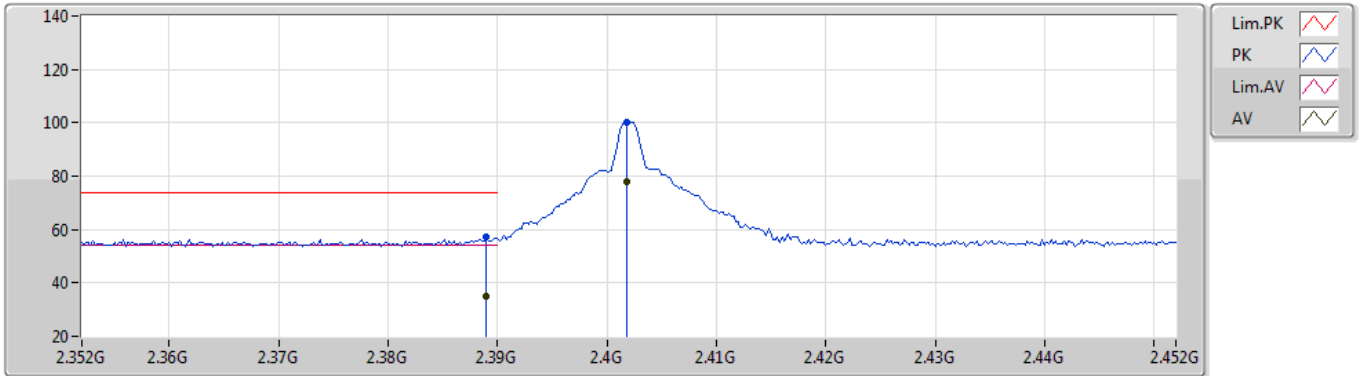


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3898G	38.08	54.00	-15.92	31.52	3	Vertical	57	1.09	-	6.56	27.64	3.88	-
AV	2.4022G	83.21	Inf	-Inf	31.50	3	Vertical	57	1.09	-	51.71	27.60	3.90	-
PK	2.3898G	60.58	74.00	-13.42	31.52	3	Vertical	57	1.09	-	29.06	27.64	3.88	-
PK	2.4022G	105.71	Inf	-Inf	31.50	3	Vertical	57	1.09	-	74.21	27.60	3.90	-

BT-EDR(3Mbps)

08/09/2020

2402MHz_TX

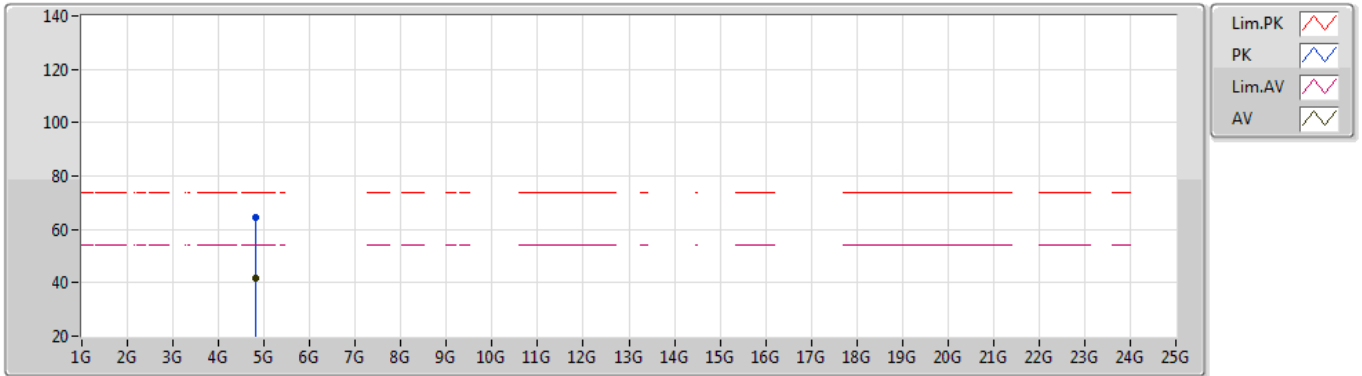


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.389G	34.78	54.00	-19.22	31.52	3	Horizontal	207	1.66	-	3.26	27.64	3.88	-
AV	2.4018G	77.91	Inf	-Inf	31.50	3	Horizontal	207	1.66	-	46.41	27.60	3.90	-
PK	2.389G	57.28	74.00	-16.72	31.52	3	Horizontal	207	1.66	-	25.76	27.64	3.88	-
PK	2.4018G	100.41	Inf	-Inf	31.50	3	Horizontal	207	1.66	-	68.91	27.60	3.90	-

BT-EDR(3Mbps)

09/09/2020

2402MHz_TX

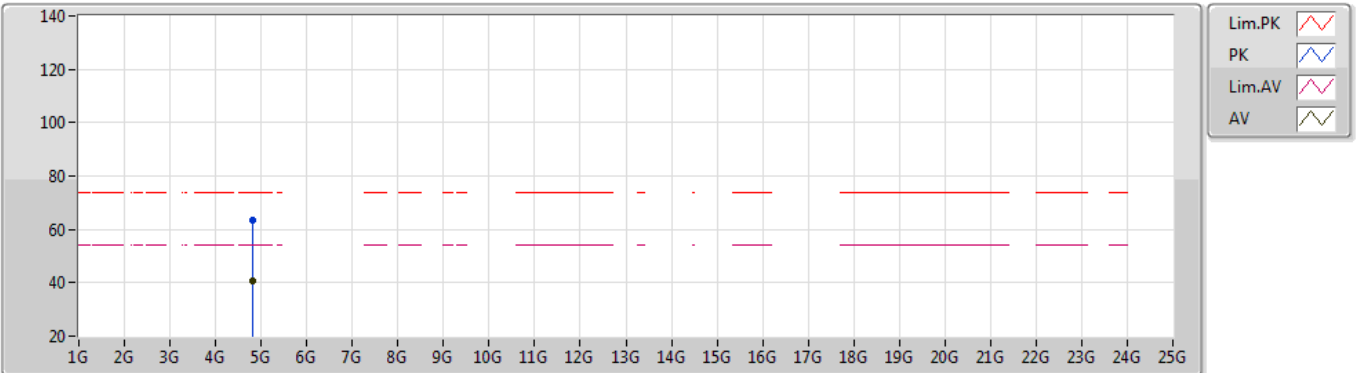


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80357G	41.78	54.00	-12.22	1.48	3	Vertical	313	1.82	-	40.30	31.11	5.30	34.93
PK	4.80357G	64.28	74.00	-9.72	1.48	3	Vertical	313	1.82	-	62.80	31.11	5.30	34.93

BT-EDR(3Mbps)

09/09/2020

2402MHz_TX

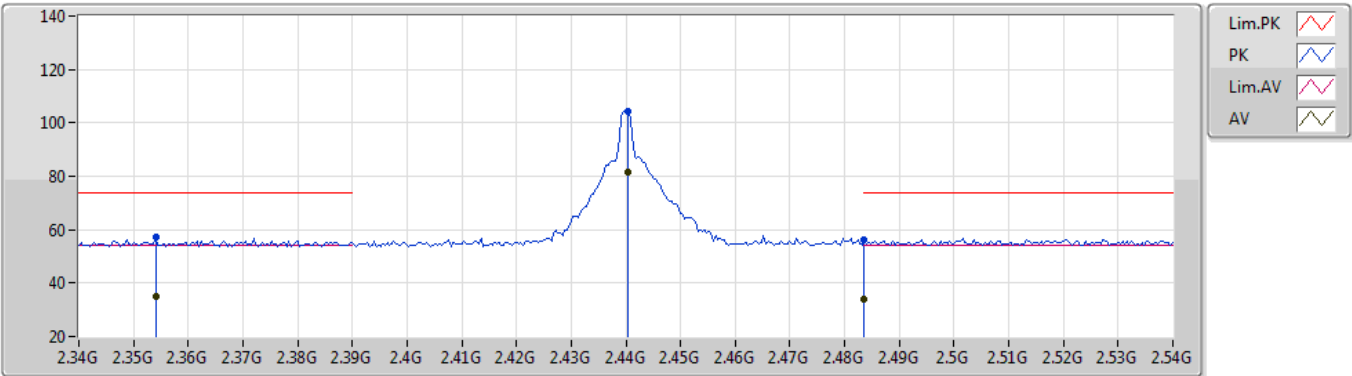


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80338G	40.78	54.00	-23.22	1.48	3	Horizontal	18	1.80	-	29.30	31.11	5.30	34.93
PK	4.80338G	63.28	74.00	-20.72	1.48	3	Horizontal	18	1.80	-	51.80	31.11	5.30	34.93

BT-EDR(3Mbps)

08/09/2020

2440MHz_TX

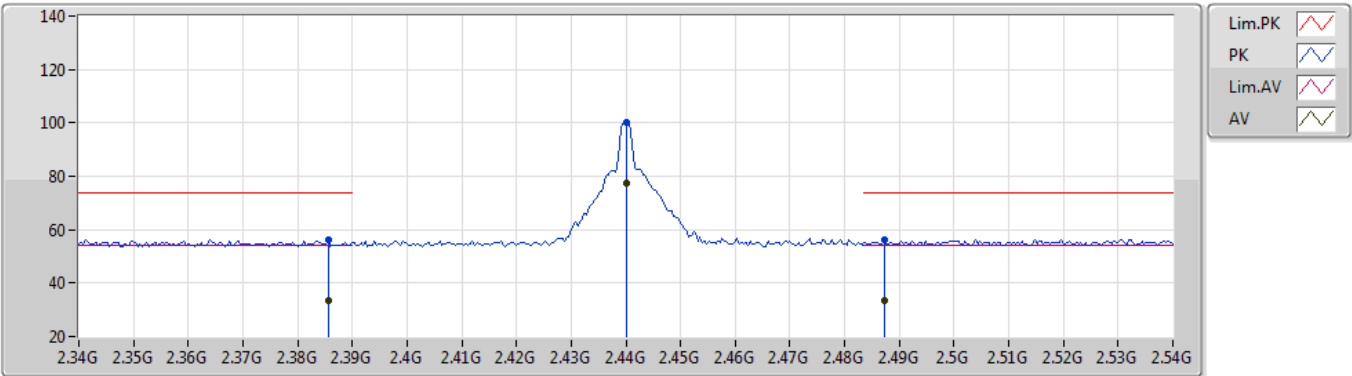


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.354G	34.99	54.00	-19.01	31.61	3	Vertical	60	1.26	-	3.38	27.78	3.83	-
AV	2.4404G	81.74	Inf	-Inf	31.56	3	Vertical	60	1.26	-	50.18	27.60	3.96	-
AV	2.4835G	33.75	54.00	-20.25	31.63	3	Vertical	60	1.26	-	2.12	27.60	4.03	-
PK	2.354G	57.49	74.00	-16.51	31.61	3	Vertical	60	1.26	-	25.88	27.78	3.83	-
PK	2.4404G	104.24	Inf	-Inf	31.56	3	Vertical	60	1.26	-	72.68	27.60	3.96	-
PK	2.4835G	56.25	74.00	-17.75	31.63	3	Vertical	60	1.26	-	24.62	27.60	4.03	-

BT-EDR(3Mbps)

2440MHz_TX

08/09/2020

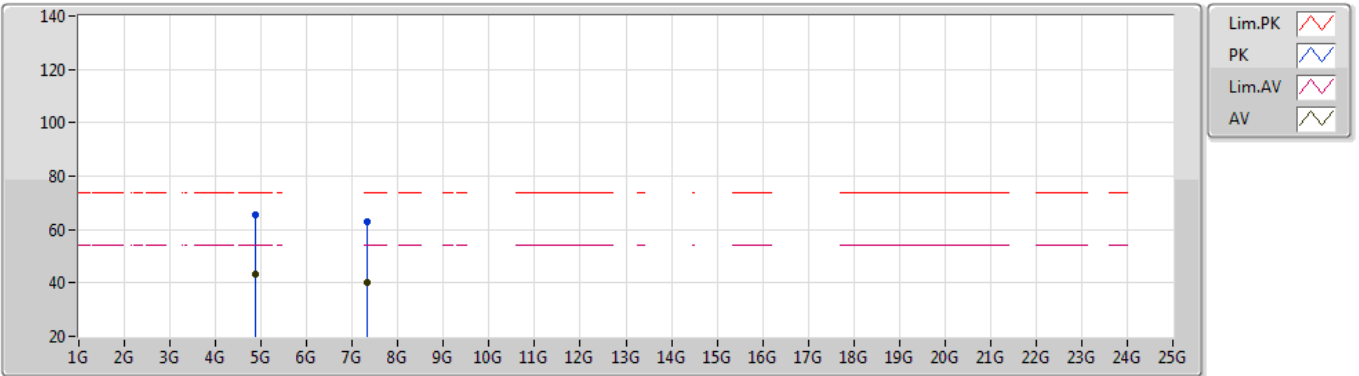


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3856G	33.70	54.00	-20.30	31.54	3	Horizontal	208	1.50	-	2.16	27.66	3.88	-
AV	2.44G	77.54	Inf	-Inf	31.56	3	Horizontal	208	1.50	-	45.98	27.60	3.96	-
AV	2.4872G	33.52	54.00	-20.48	31.63	3	Horizontal	208	1.50	-	1.89	27.60	4.03	-
PK	2.3856G	56.20	74.00	-17.80	31.54	3	Horizontal	208	1.50	-	24.66	27.66	3.88	-
PK	2.44G	100.04	Inf	-Inf	31.56	3	Horizontal	208	1.50	-	68.48	27.60	3.96	-
PK	2.4872G	56.02	74.00	-17.98	31.63	3	Horizontal	208	1.50	-	24.39	27.60	4.03	-

BT-EDR(3Mbps)

09/09/2020

2440MHz_TX

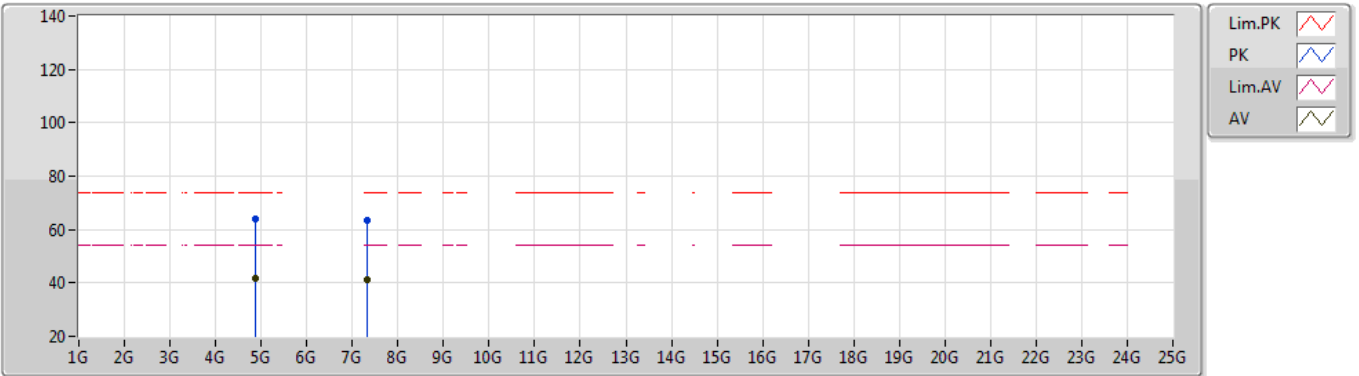


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87963G	43.09	54.00	-10.91	1.65	3	Vertical	26	2.07	-	41.44	31.24	5.34	34.93
AV	7.32044G	40.22	54.00	-13.78	8.18	3	Vertical	214	1.60	-	32.04	36.56	6.80	35.18
PK	4.87963G	65.59	74.00	-8.41	1.65	3	Vertical	26	2.07	-	63.94	31.24	5.34	34.93
PK	7.32044G	62.72	74.00	-11.28	8.18	3	Vertical	214	1.60	-	54.54	36.56	6.80	35.18

BT-EDR(3Mbps)

09/09/2020

2440MHz_TX

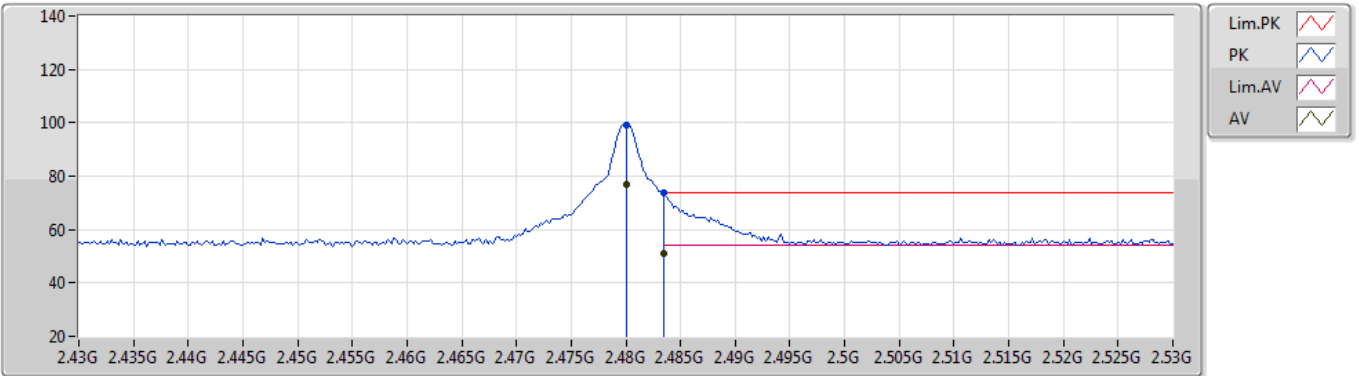


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87967G	41.67	54.00	-12.33	1.65	3	Horizontal	159	1.26	-	40.02	31.24	5.34	34.93
AV	7.31966G	41.05	54.00	-12.95	8.18	3	Horizontal	206	2.08	-	32.87	36.56	6.80	35.18
PK	4.87967G	64.17	74.00	-9.83	1.65	3	Horizontal	159	1.26	-	62.52	31.24	5.34	34.93
PK	7.31966G	63.55	74.00	-10.45	8.18	3	Horizontal	206	2.08	-	55.37	36.56	6.80	35.18

BT-EDR(3Mbps)

08/09/2020

2480MHz_TX

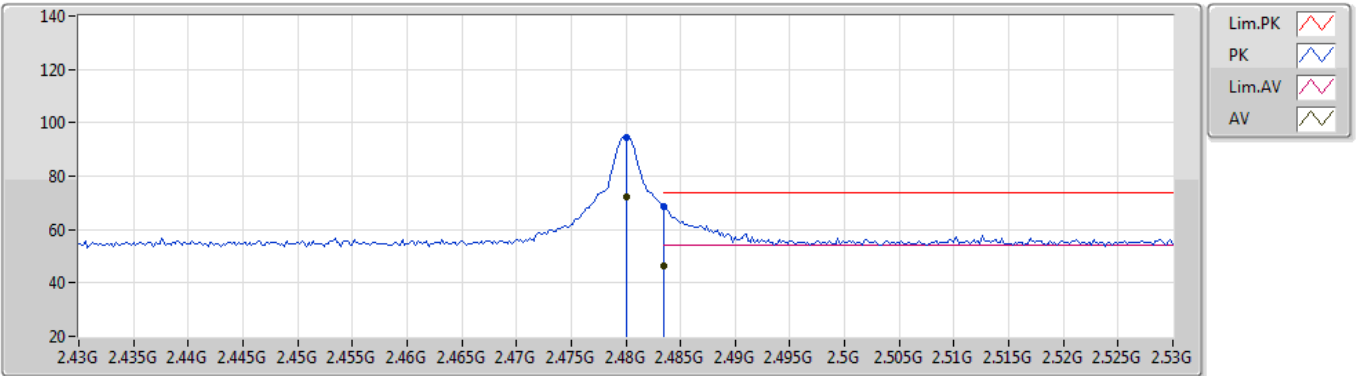


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	76.80	Inf	-Inf	31.62	3	Vertical	57	1.33	-	45.18	27.60	4.02	-
AV	2.4835G	51.23	54.00	-2.77	31.63	3	Vertical	57	1.33	-	19.60	27.60	4.03	-
PK	2.48G	99.30	Inf	-Inf	31.62	3	Vertical	57	1.33	-	67.68	27.60	4.02	-
PK	2.4835G	73.73	74.00	-0.27	31.63	3	Vertical	57	1.33	-	42.10	27.60	4.03	-

BT-EDR(3Mbps)

08/09/2020

2480MHz_TX

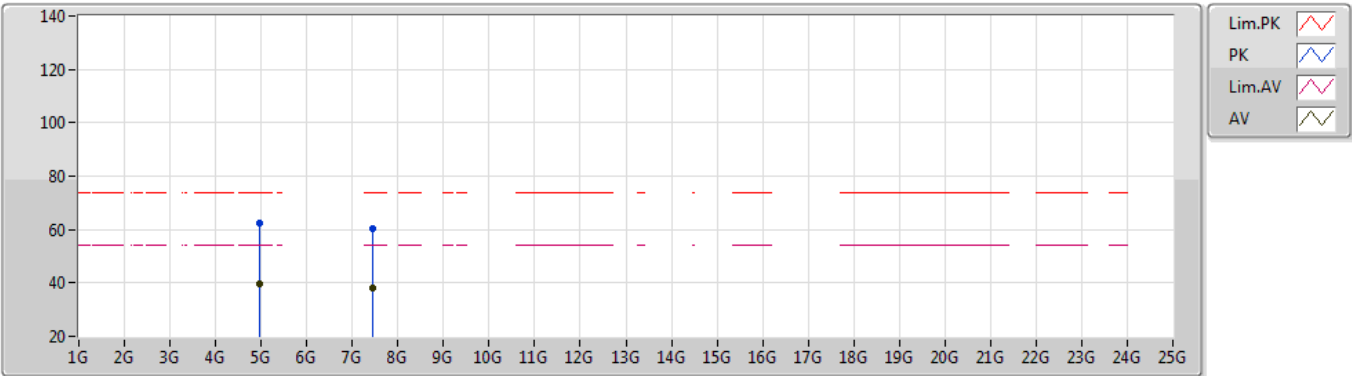


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	72.20	Inf	-Inf	31.62	3	Horizontal	208	1.61	-	40.58	27.60	4.02	-
AV	2.4835G	46.29	54.00	-7.71	31.63	3	Horizontal	208	1.61	-	14.66	27.60	4.03	-
PK	2.48G	94.70	Inf	-Inf	31.62	3	Horizontal	208	1.61	-	63.08	27.60	4.02	-
PK	2.4835G	68.79	74.00	-5.21	31.63	3	Horizontal	208	1.61	-	37.16	27.60	4.03	-

BT-EDR(3Mbps)

09/09/2020

2480MHz_TX

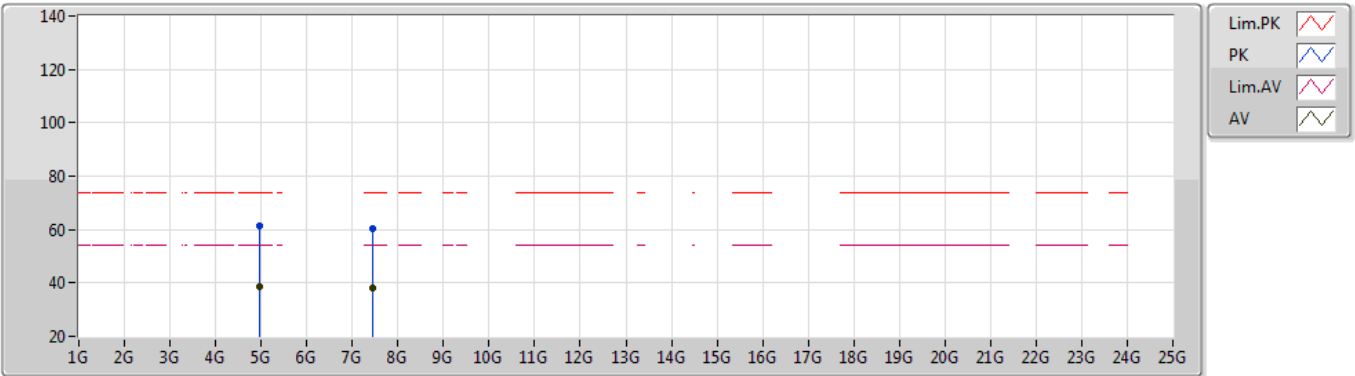


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96019G	39.70	54.00	-14.30	1.86	3	Vertical	343	1.99	-	37.84	31.42	5.38	34.94
AV	7.44039G	37.87	54.00	-16.13	8.21	3	Vertical	213	1.59	-	29.66	36.56	6.82	35.17
PK	4.96019G	62.20	74.00	-11.80	1.86	3	Vertical	343	1.99	-	60.34	31.42	5.38	34.94
PK	7.44039G	60.37	74.00	-13.63	8.21	3	Vertical	213	1.59	-	52.16	36.56	6.82	35.17

BT-EDR(3Mbps)

09/09/2020

2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96023G	38.64	54.00	-15.36	1.86	3	Horizontal	157	1.45	-	36.78	31.42	5.38	34.94
AV	7.43936G	37.92	54.00	-16.08	8.21	3	Horizontal	206	2.07	-	29.71	36.56	6.82	35.17
PK	4.96023G	61.14	74.00	-12.86	1.86	3	Horizontal	157	1.45	-	59.28	31.42	5.38	34.94
PK	7.43936G	60.42	74.00	-13.58	8.21	3	Horizontal	206	2.07	-	52.21	36.56	6.82	35.17



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	747.8M	39.26	46.00	-6.74	3	Vertical	0	1.00	-

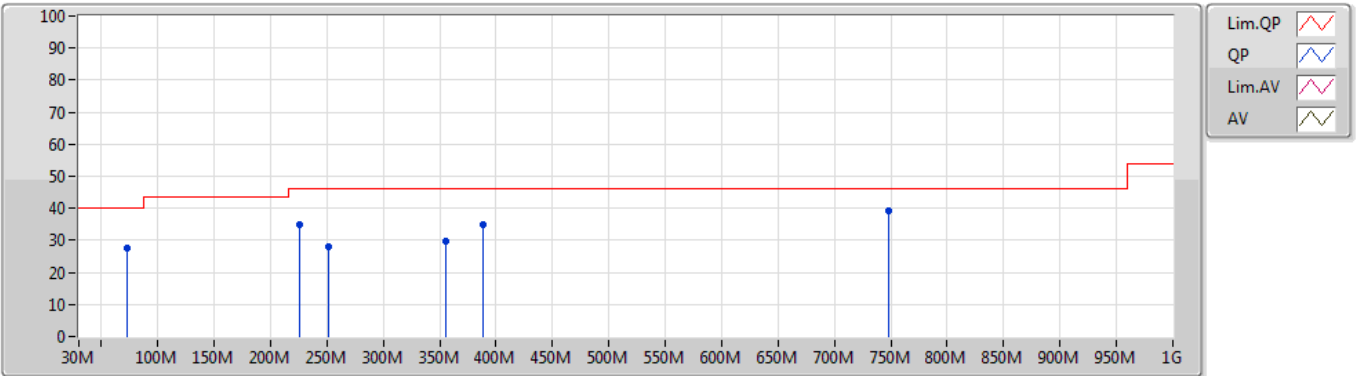
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	72.68M	27.78	40.00	-12.22	3	Vertical	0	1.00	-
2440MHz	Pass	PK	225.94M	34.89	46.00	-11.11	3	Vertical	0	1.00	-
2440MHz	Pass	PK	251.16M	27.94	46.00	-18.06	3	Vertical	0	1.00	-
2440MHz	Pass	PK	355.92M	29.70	46.00	-16.30	3	Vertical	0	1.00	-
2440MHz	Pass	PK	388.9M	34.97	46.00	-11.03	3	Vertical	0	1.00	-
2440MHz	Pass	PK	747.8M	39.26	46.00	-6.74	3	Vertical	0	1.00	-
2440MHz	Pass	PK	74.62M	26.71	40.00	-13.29	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	183.26M	24.55	43.50	-18.95	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	266.68M	32.16	46.00	-13.84	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	315.18M	36.41	46.00	-9.59	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	400.54M	27.93	46.00	-18.07	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	747.8M	35.03	46.00	-10.97	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	224M	21.30	46.00	-24.70	3	Vertical	0	1.00	-
2440MHz	Pass	PK	307.42M	25.68	46.00	-20.32	3	Vertical	0	1.00	-
2440MHz	Pass	PK	367.56M	30.30	46.00	-15.70	3	Vertical	0	1.00	-
2440MHz	Pass	PK	394.72M	36.55	46.00	-9.45	3	Vertical	0	1.00	-
2440MHz	Pass	PK	559.62M	30.43	46.00	-15.57	3	Vertical	0	1.00	-
2440MHz	Pass	PK	745.86M	36.49	46.00	-9.51	3	Vertical	0	1.00	-
2440MHz	Pass	PK	70.74M	24.31	40.00	-15.69	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	101.78M	22.47	43.50	-21.03	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	303.54M	27.54	46.00	-18.46	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	353.98M	26.09	46.00	-19.91	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	728.4M	29.46	46.00	-16.54	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	773.02M	28.19	46.00	-17.81	3	Horizontal	360	1.00	-

BT-BR(1Mbps)RX

14/09/2020

2440MHz_Test Fixture

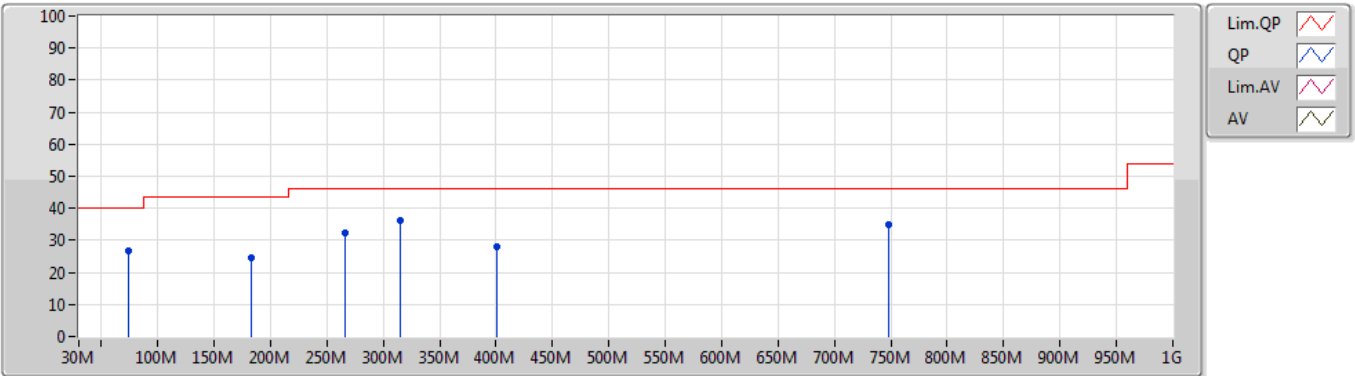


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	72.68M	27.78	40.00	-12.22	-24.76	3	Vertical	0	1.00	-	52.54	11.42	0.65	36.83
PK	225.94M	34.89	46.00	-11.11	-20.31	3	Vertical	0	1.00	-	55.20	14.80	1.20	36.31
PK	251.16M	27.94	46.00	-18.06	-17.36	3	Vertical	0	1.00	-	45.30	17.77	1.30	36.43
PK	355.92M	29.70	46.00	-16.30	-15.35	3	Vertical	0	1.00	-	45.05	19.62	1.52	36.49
PK	388.9M	34.97	46.00	-11.03	-14.35	3	Vertical	0	1.00	-	49.32	20.43	1.66	36.44
PK	747.8M	39.26	46.00	-6.74	-7.64	3	Vertical	0	1.00	-	46.90	27.06	2.50	37.20

BT-BR(1Mbps)RX

14/09/2020

2440MHz_Test Fixture



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	74.62M	26.71	40.00	-13.29	-24.39	3	Horizontal	360	1.00	-	51.10	11.72	0.69	36.80
PK	183.26M	24.55	43.50	-18.95	-21.31	3	Horizontal	360	1.00	-	45.86	13.95	1.10	36.36
PK	266.68M	32.16	46.00	-13.84	-16.10	3	Horizontal	360	1.00	-	48.26	18.97	1.33	36.40
PK	315.18M	36.41	46.00	-9.59	-16.55	3	Horizontal	360	1.00	-	52.96	18.42	1.43	36.40
PK	400.54M	27.93	46.00	-18.07	-13.79	3	Horizontal	360	1.00	-	41.72	20.93	1.70	36.42
PK	747.8M	35.03	46.00	-10.97	-7.64	3	Horizontal	360	1.00	-	42.67	27.06	2.50	37.20



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	3.33G	33.89	54.00	-20.11	3	Vertical	0	1.00	-

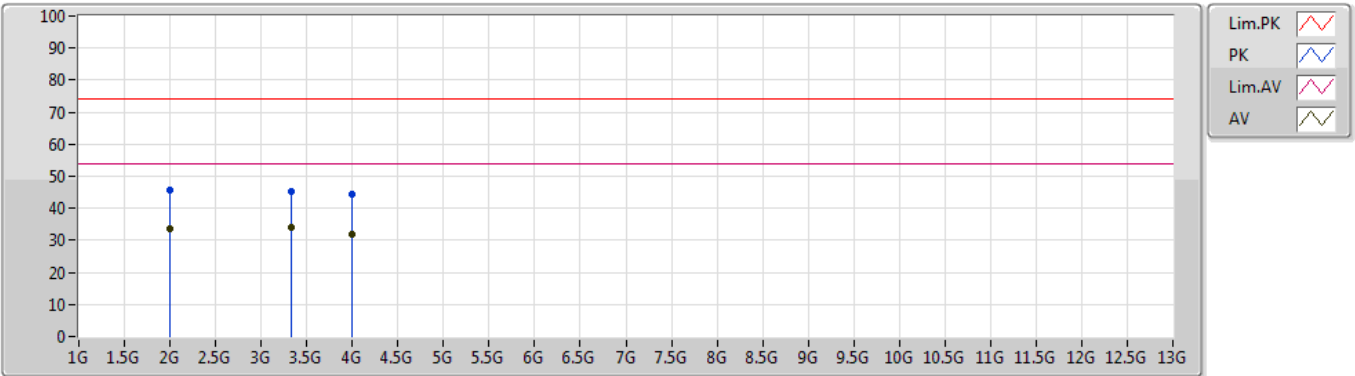
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	AV	2G	33.61	54.00	-20.39	3	Vertical	0	1.00	-
2440MHz	Pass	AV	3.33G	33.89	54.00	-20.11	3	Vertical	0	1.00	-
2440MHz	Pass	AV	3.99G	31.95	54.00	-22.05	3	Vertical	0	1.00	-
2440MHz	Pass	PK	2G	45.77	74.00	-28.23	3	Vertical	0	1.00	-
2440MHz	Pass	PK	3.33G	45.28	74.00	-28.72	3	Vertical	0	1.00	-
2440MHz	Pass	PK	3.99G	44.59	74.00	-29.41	3	Vertical	0	1.00	-
2440MHz	Pass	AV	2G	28.67	54.00	-25.33	3	Horizontal	360	1.00	-
2440MHz	Pass	AV	2.99G	29.81	54.00	-24.19	3	Horizontal	360	1.00	-
2440MHz	Pass	AV	4.45G	31.24	54.00	-22.76	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	2G	40.75	74.00	-33.25	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	2.99G	42.23	74.00	-31.77	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	4.45G	43.68	74.00	-30.32	3	Horizontal	360	1.00	-

BT-BR(1Mbps)RX

14/09/2020

2440MHz_RX

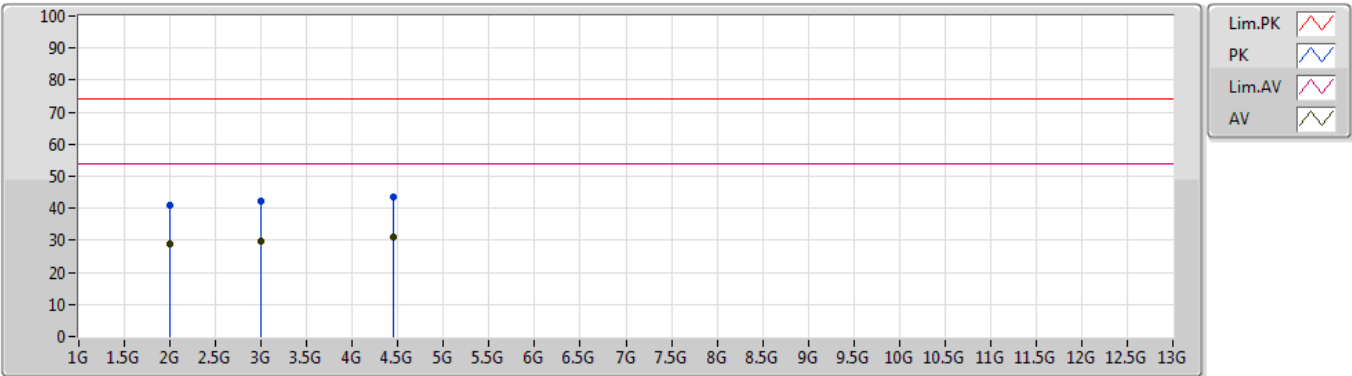


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2G	33.61	54.00	-20.39	-5.17	3	Vertical	0	1.00	-	38.78	26.10	3.40	34.67
AV	3.33G	33.89	54.00	-20.11	-1.93	3	Vertical	0	1.00	-	35.82	28.38	4.80	35.11
AV	3.99G	31.95	54.00	-22.05	-0.30	3	Vertical	0	1.00	-	32.25	29.60	4.90	34.80
PK	2G	45.77	74.00	-28.23	-5.17	3	Vertical	0	1.00	-	50.94	26.10	3.40	34.67
PK	3.33G	45.28	74.00	-28.72	-1.93	3	Vertical	0	1.00	-	47.21	28.38	4.80	35.11
PK	3.99G	44.59	74.00	-29.41	-0.30	3	Vertical	0	1.00	-	44.89	29.60	4.90	34.80

BT-BR(1Mbps)RX

14/09/2020

2440MHz_RX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2G	28.67	54.00	-25.33	-5.17	3	Horizontal	360	1.00	-	33.84	26.10	3.40	34.67
AV	2.99G	29.81	54.00	-24.19	-1.76	3	Horizontal	360	1.00	-	31.57	28.58	4.69	35.03
AV	4.45G	31.24	54.00	-22.76	0.75	3	Horizontal	360	1.00	-	30.49	30.50	5.15	34.90
PK	2G	40.75	74.00	-33.25	-5.17	3	Horizontal	360	1.00	-	45.92	26.10	3.40	34.67
PK	2.99G	42.23	74.00	-31.77	-1.76	3	Horizontal	360	1.00	-	43.99	28.58	4.69	35.03
PK	4.45G	43.68	74.00	-30.32	0.75	3	Horizontal	360	1.00	-	42.93	30.50	5.15	34.90

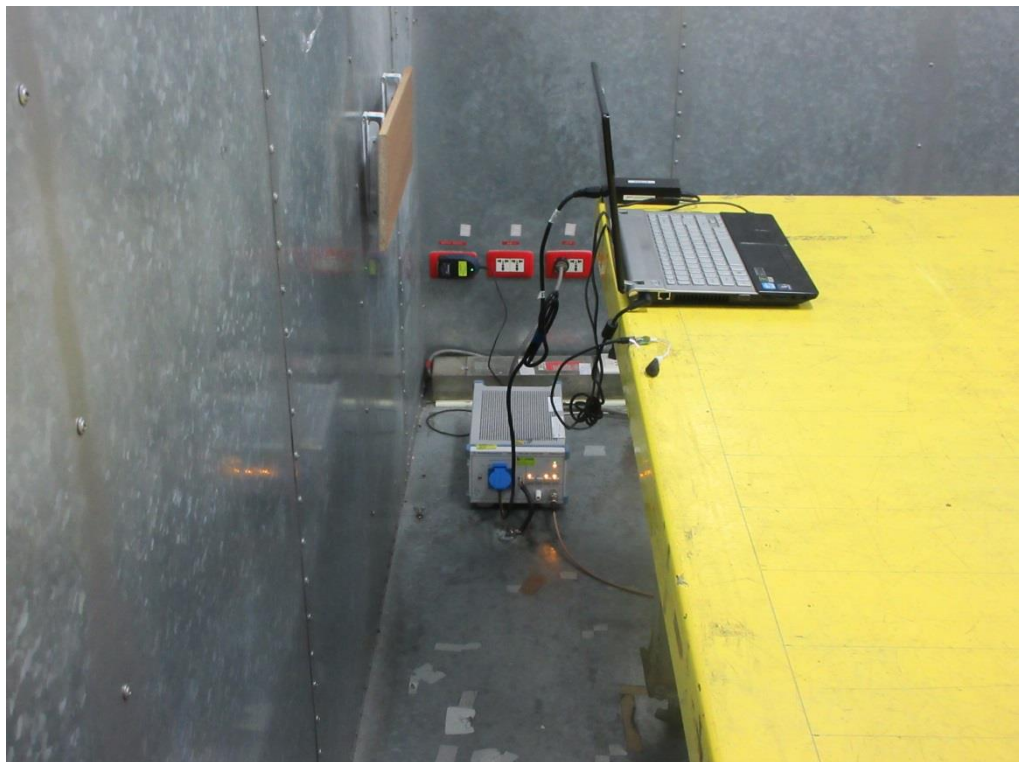
1. Photographs of Conducted Emissions Test Configuration - TX

Test fixture Mode

Front view



Side view



Under table view



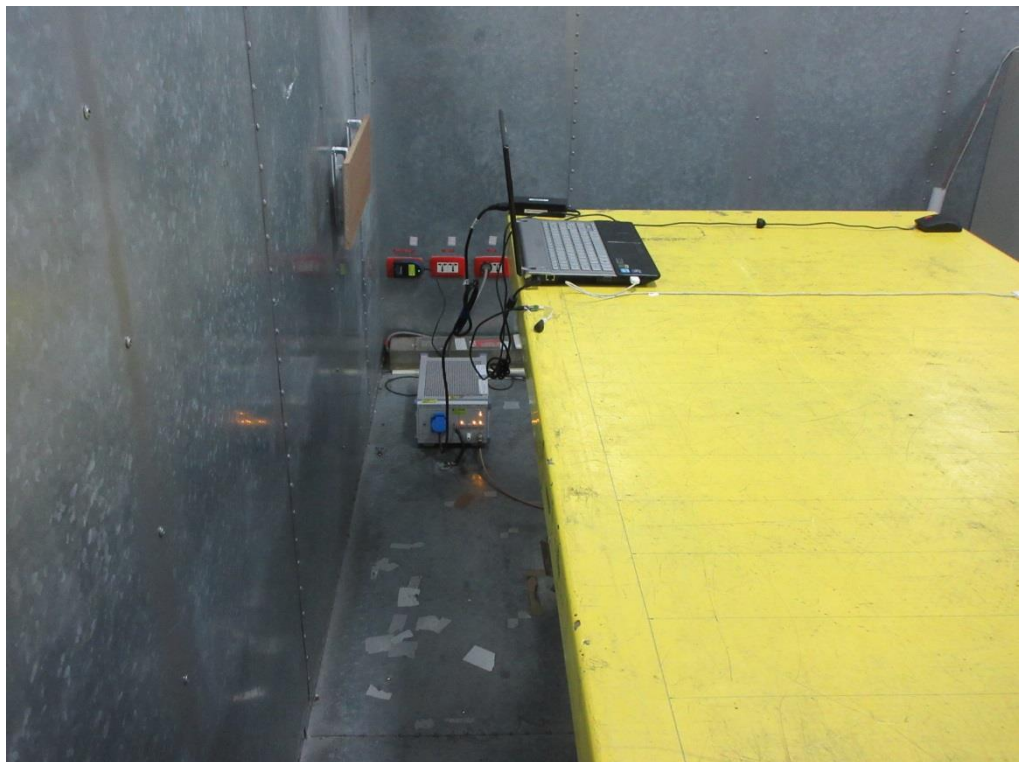
2. Photographs of Conducted Emissions Test Configuration - RX

Test fixture Mode

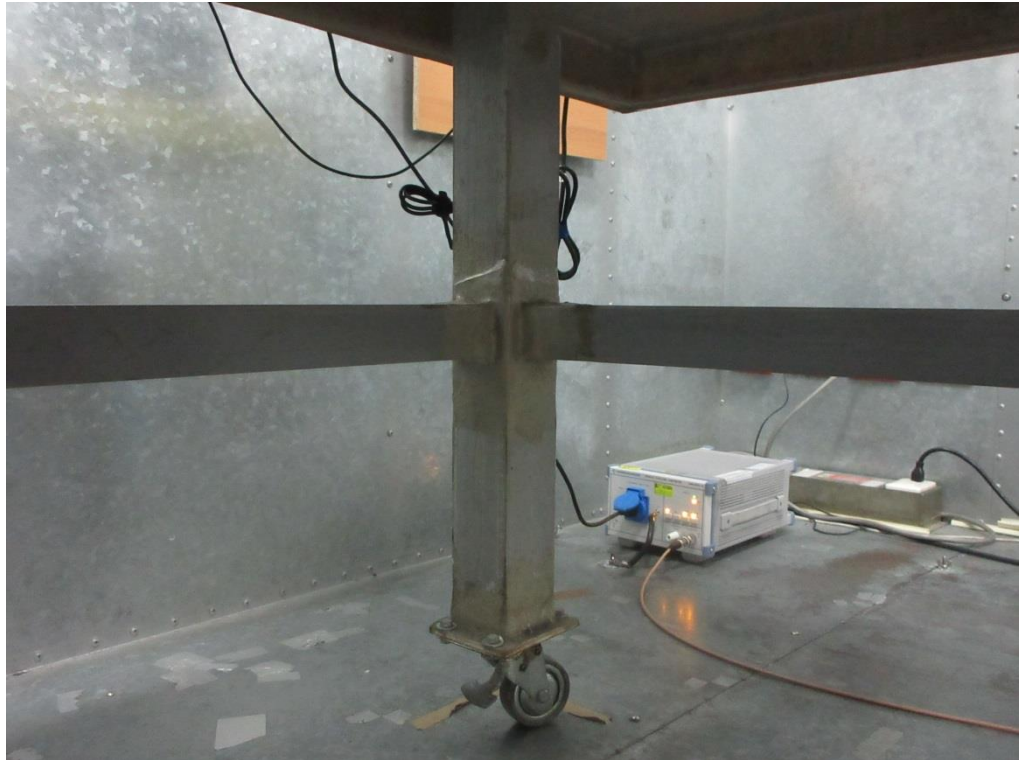
Front view



Side view



Under table view



**Adapter charging
Mode**

Front view



Side view



Under table view

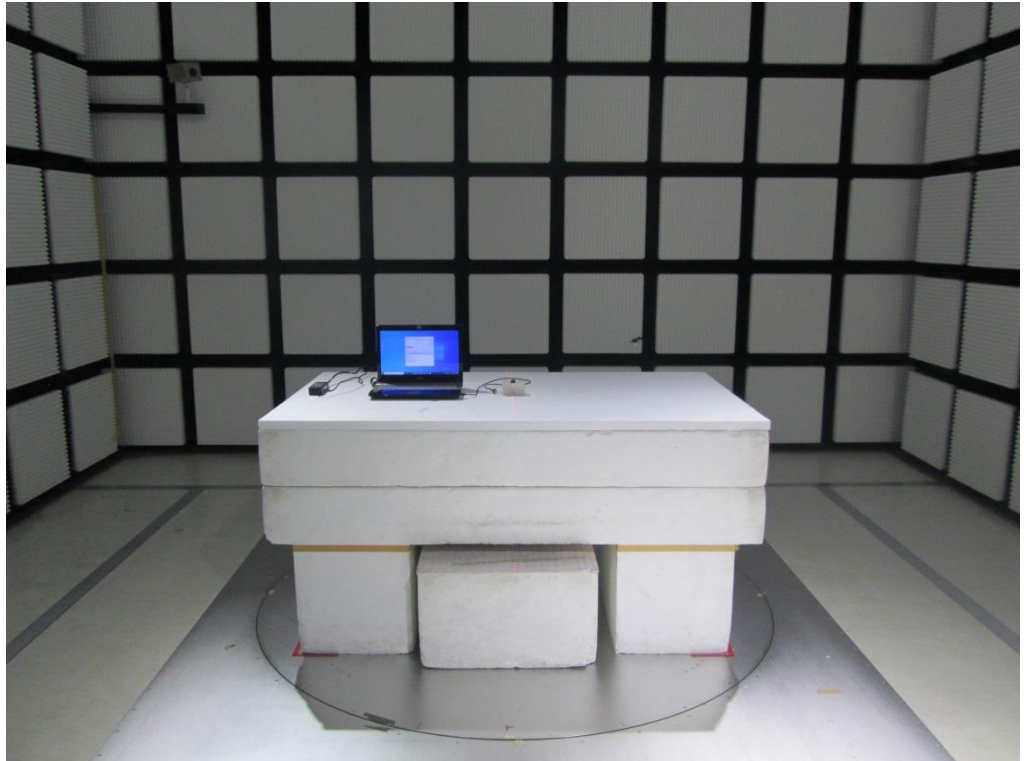


3. Photographs of Radiated Emissions Test Configuration - TX

For radiated emissions 30MHz~1GHz

Test fixture Mode

Front view

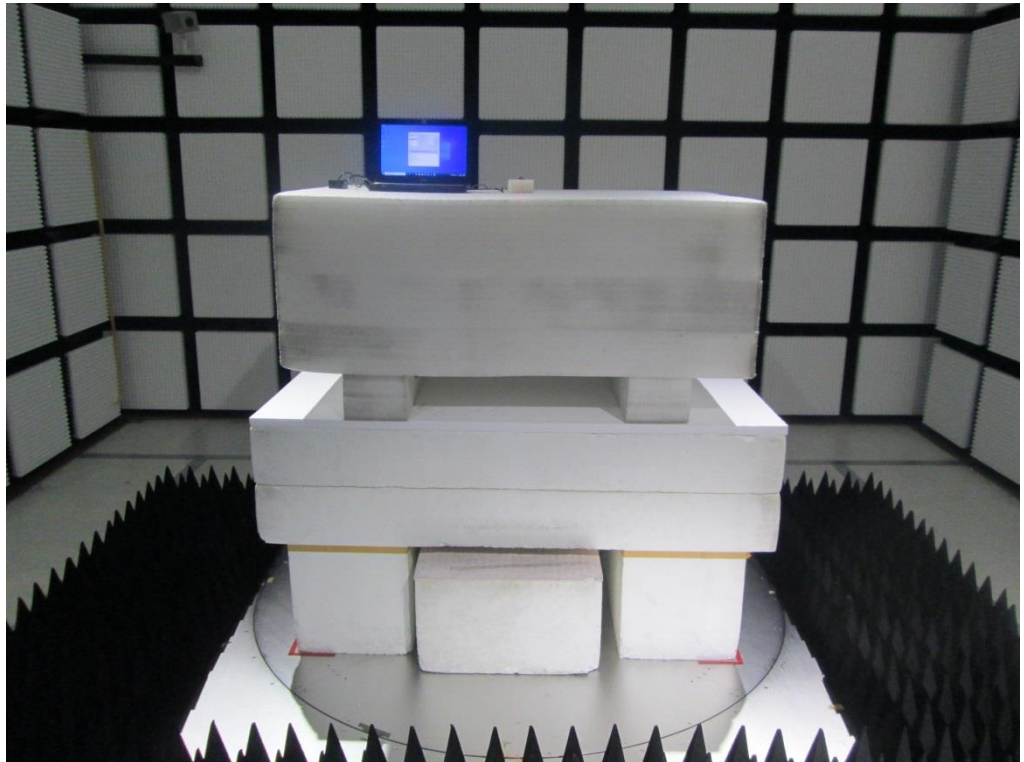


Rear view

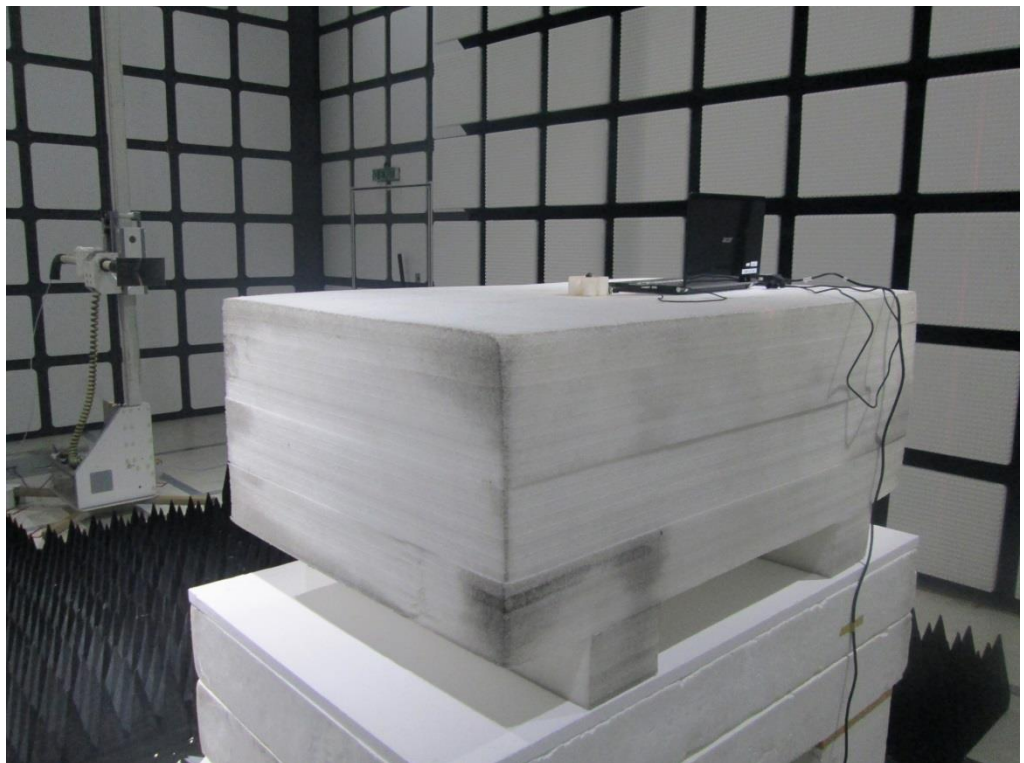


**For radiated emissions above 1GHz
Test fixture Mode**

Front view



Rear view

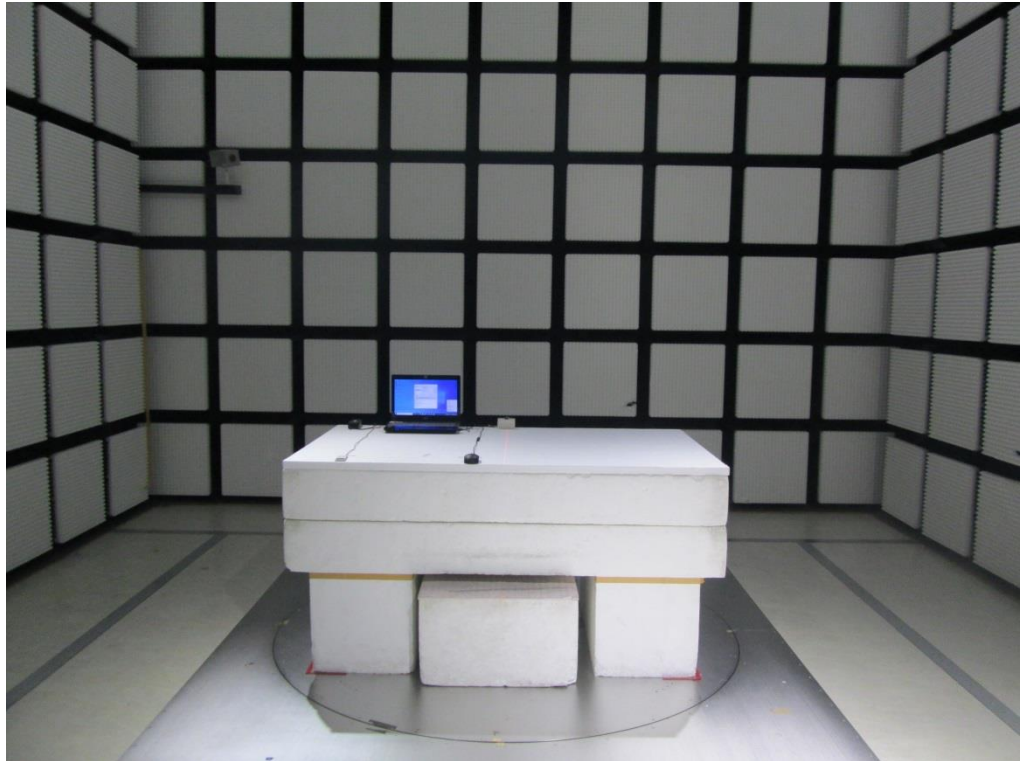


4. Photographs of Radiated Emissions Test Configuration - RX

For radiated emissions 30MHz~1GHz

Test fixture Mode

Front view



Rear view



**Adapter Charging
Mode**

Front view

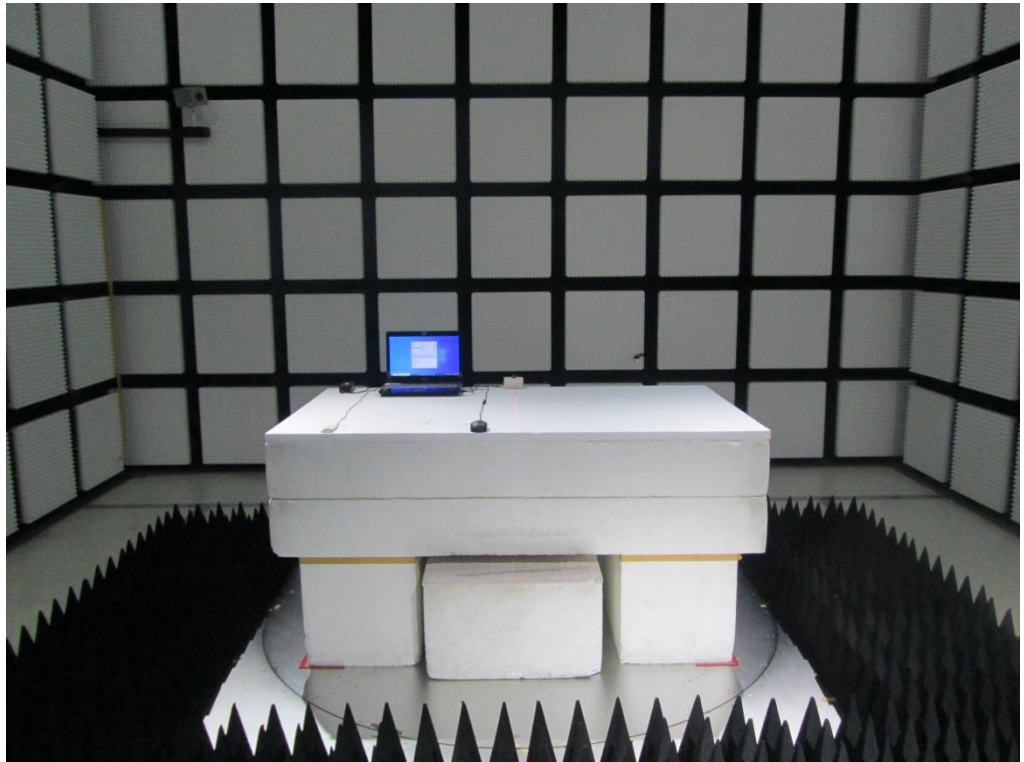


Rear view

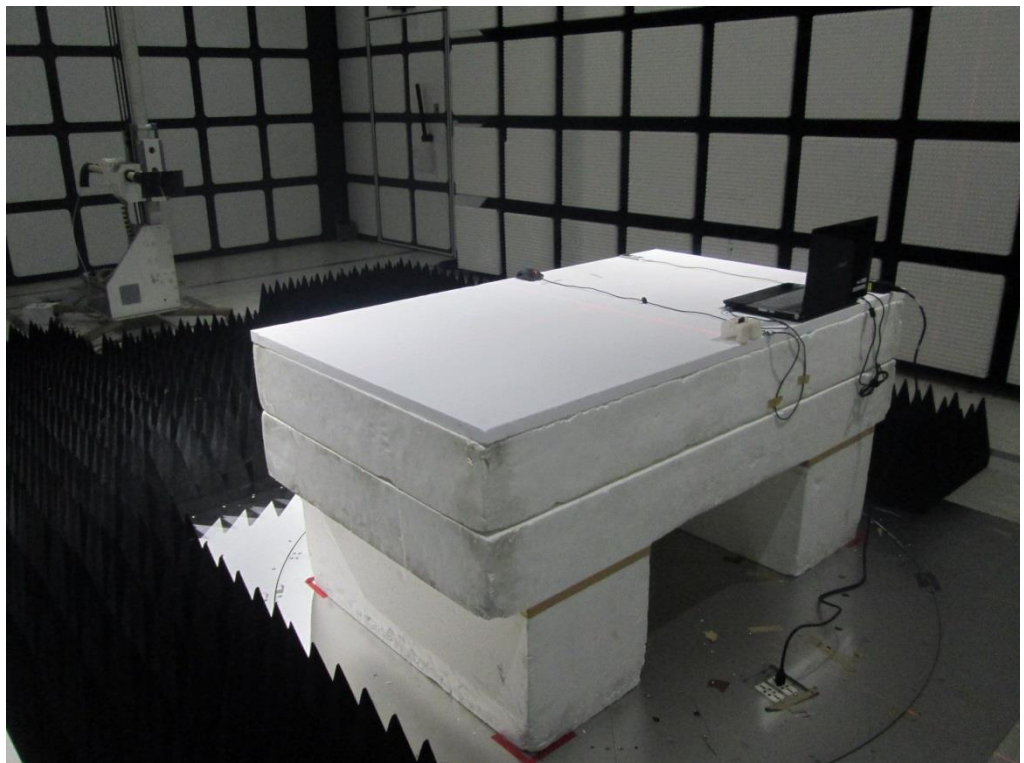


For radiated emissions above 1GHz
Test fixture Mode

Front view



Rear view



————THE END————