

FCC Test Report

FCC ID : TTUBEOPLAYH95
Equipment : Bluetooth Headphone
Brand Name : Bang & Olufsen
Model Name : Beoplay H95
Applicant : Bang & Olufsen A/S
Bang og Olufsen Allé 1, 7600 Struer, Denmark
Manufacturer : Bang & Olufsen A/S
Bang og Olufsen Allé 1, 7600 Struer, Denmark
Standard : 47 CFR FCC Part 15.247

The product was received on Dec. 26, 2019, and testing was started from Jan. 17, 2020 and completed on Jan. 21, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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TEL : 886-3-3273456
FAX : 886-3-3270973
Report Template No.: HE1-C9 Ver3.6
FCC ID: TTUBEOPLAYH95

Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	20dB Bandwidth	PASS	-
3.2	15.247(a)	Carrier Frequency Separation	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(a)	Number of Hopping Frequencies and Hopping Bandedge	PASS	-
3.5	15.247(a)	Time of Occupancy (Dwell Time)	PASS	-
3.6	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.7	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:

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

Comments and explanations:

None

Reviewed by: Sam Tsai

Report Producer: Ann Hou

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.	Brand	Model Name	Antenna Type	Connector
1	DongGuan AEON TECH.,LTD	C4230-510001-A	FPC Antenn	N/A

Ant.	Port	Gain (dBi)
		BT
1	1	1.61

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 Host system / Battery		
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint	<input type="checkbox"/> Point-to-point	
AFH Function	<input checked="" type="checkbox"/> Non-AFH	<input checked="" type="checkbox"/> AFH	
<p>Note.</p> <p>Non-AFH: DH5 Packet permit maximum $1600 / 79 / 6 = 3.37$ hops per second in each channel (5 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times $3.37 \times 1.185 = 4$ within 1.185 seconds.</p> <p>AFH: DH5 Packet permit maximum $800 / 20 / 6 = 6.67$ hops per second in each channel (5 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times $13.33 \times 8 = 106.6$ within 8 seconds.</p> <p>Under the above conditions, Non-AFH Mode configuration was found to be the worst case and measured during the test.</p>			
Type of EUT			
<input checked="" type="checkbox"/>	Stand-alone		
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.:	...	
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.:	...	
<input type="checkbox"/>	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-BR(1Mbps)	0.774	1.11	2.893m	1k
BT-EDR(2Mbps)	0.766	1.16	2.9m	1k
BT-EDR(3Mbps)	0.788	1.03	2.9m	1k

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

1.2 Testing Applied Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ KDB 558074 D01 v05r02
- ♦ ANSI C63.10-2013
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	22.1~23.8°C / 44~48%	21/Jan/2020
RF Conducted	TH01-HY	Andy Lee	20.5~25.8°C / 62.5~65.9%	17/Jan/2020
Radiated	03CH02-HY	Daniel Lin	18.2~21.5°C / 46.7~54.2%	20/Jan/2020~ 21/Jan/2020

1.4 Measurement Uncertainty

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

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

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	3.7V

2.2 Test Channel Mode




Test Software	N/A
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Mode	Power Setting
BT-BR(1Mbps)	-
2402MHz	8.-3.0
2440MHz	8.-3.0
2480MHz	8.-3.0
BT-EDR(2Mbps)	-
2402MHz	8.-3.0
2440MHz	8.-3.0
2480MHz	8.-3.0
BT-EDR(3Mbps)	-
2402MHz	8.-3.0
2440MHz	8.-3.0
2480MHz	8.-3.0

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	USB mode

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

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	USB mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT			V

2.4 Accessories and Support Equipment

Accessories				
Battery	Brand Name	Synergy	Model Name	AHB723938PCT
	Power Rating	3.7Vdc, 1110mAh	Type	Lithium-ion Polymer Battery Pack
USB Cable	Brand Name	Bang & Olufsen	Model Name	4021XW01855ZAU
	Signal Line	1.2 meter, D-shielded cable, w/o ferrite core		
Audio Cable	Brand Name	Bang & Olufsen	Model Name	4021XW01856ZAS
	Signal Line	1.2 meter, non-shielded cable, w/o ferrite core		

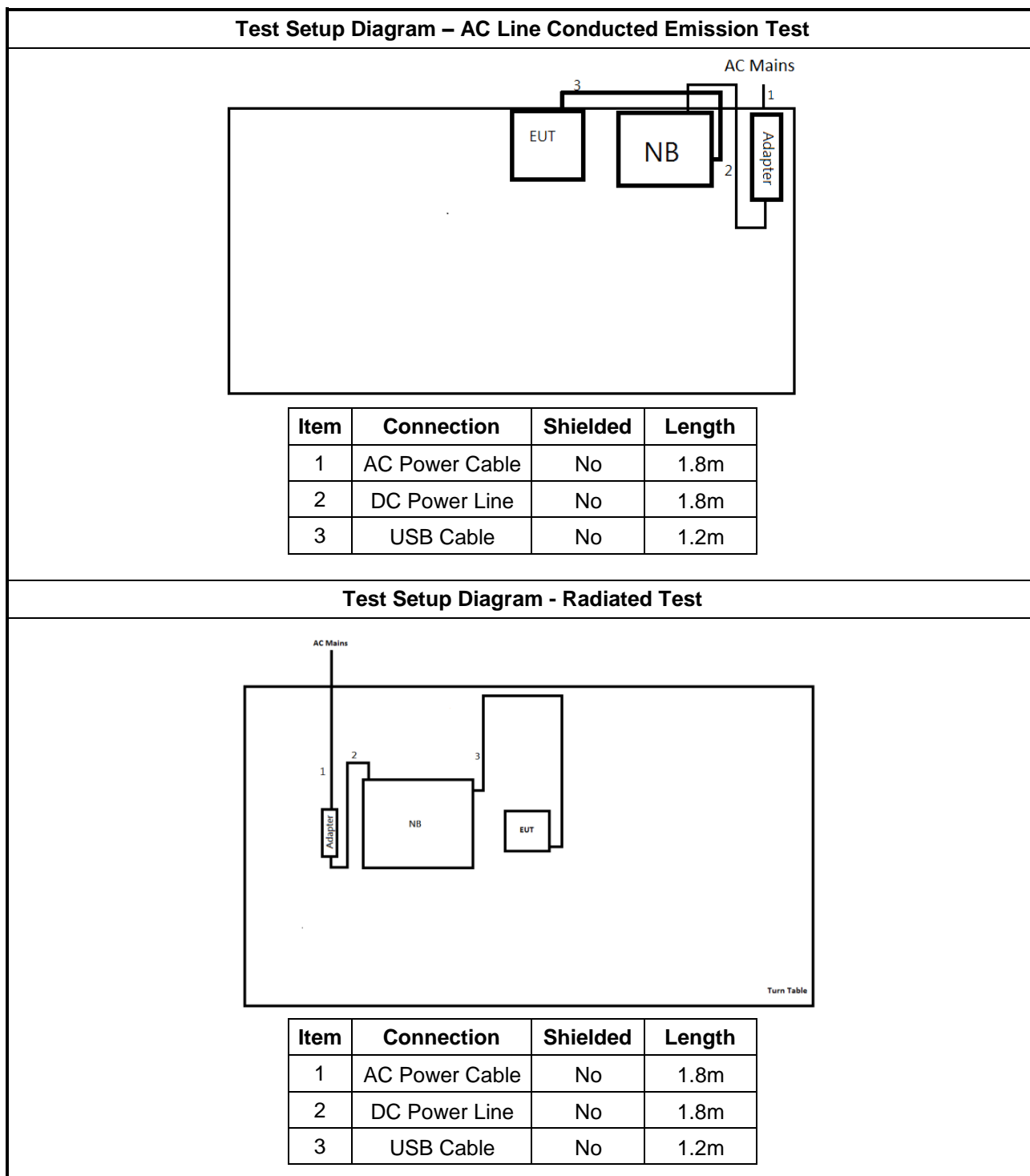
Reminder: Regarding to more detail and other information, please refer to user manual.

Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	ACER	ZQS	N/A
2	Adapter For Notebook	Lite ON	PA-1900-34	N/A

Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	ACER	ZQS	DoC
2	Adapter For Notebook	Lite ON	PA-1900-34	DoC
3	DC Power Supply	GW	GPS-3030DD	N/A

Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	ACER	ZQS	N/A
2	Adapter For Notebook	Lite ON	PA-1900-34	N/A

2.5 Test Setup Diagram



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.		

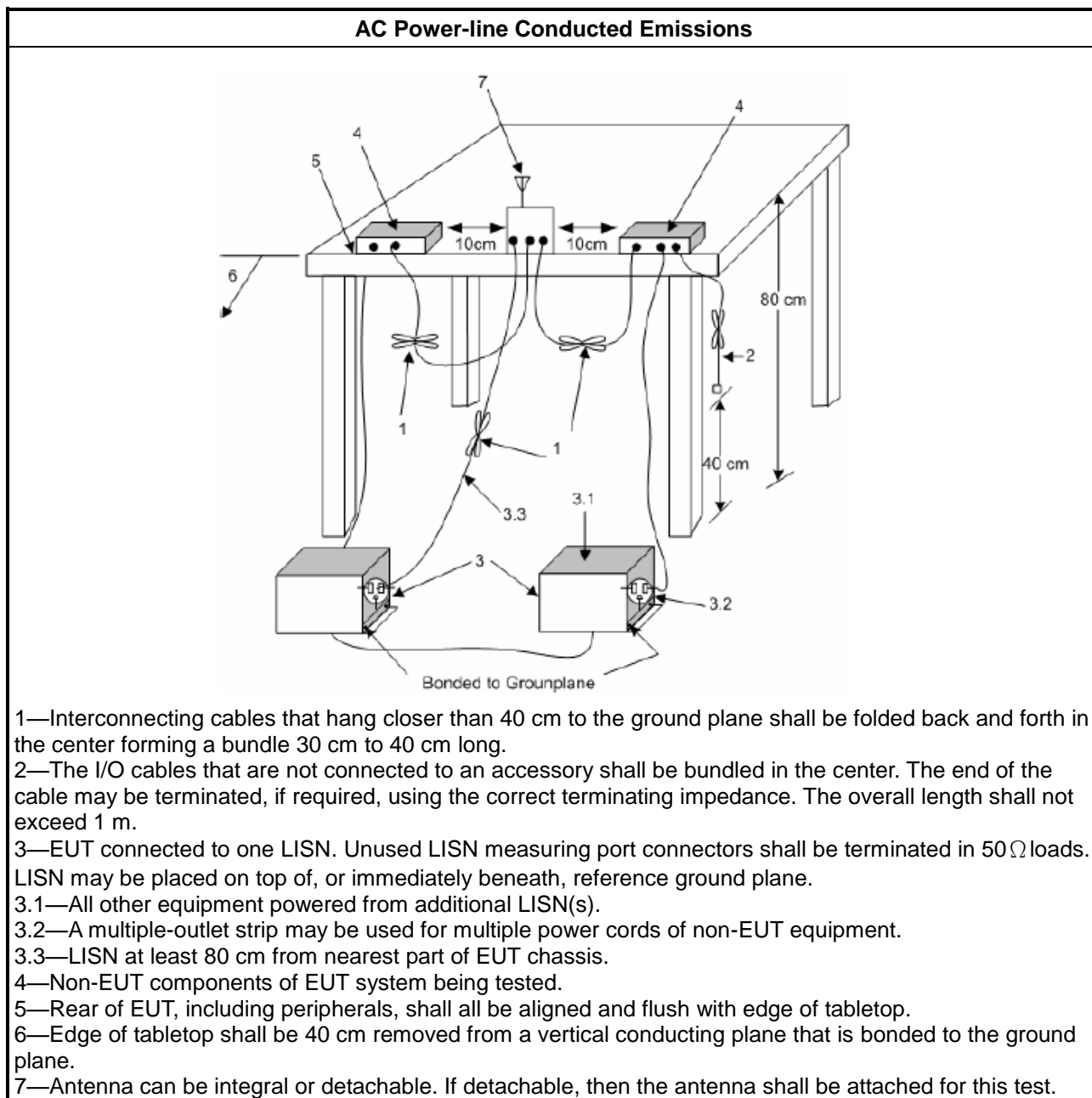
3.1.2 Measuring Instruments

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 foray power-line conducted emissions.

3.1.4 Test Setup



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	
<ul style="list-style-type: none"> 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	<ul style="list-style-type: none"> $75 > N \geq 15$ and $ChS \geq MAX$ (20 dB bandwidth 2/3, 25 kHz).
N: Number of Hopping Frequencies; ChS: Hopping Channel Separation	

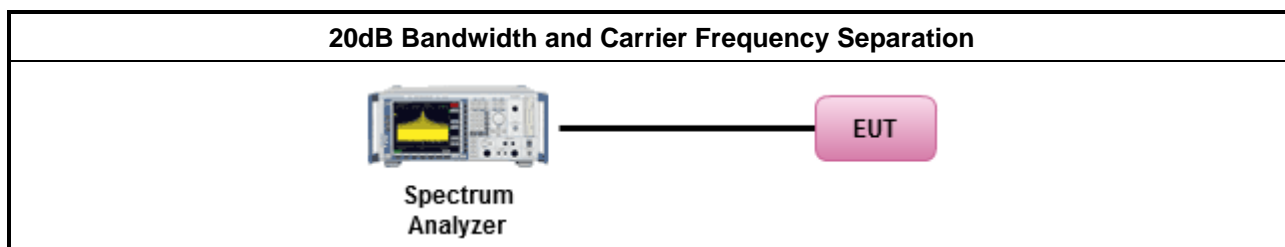
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 6.9.2 for 20 dB bandwidth measurement.
<ul style="list-style-type: none"> 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"> 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
N: Number of Hopping Frequencies	

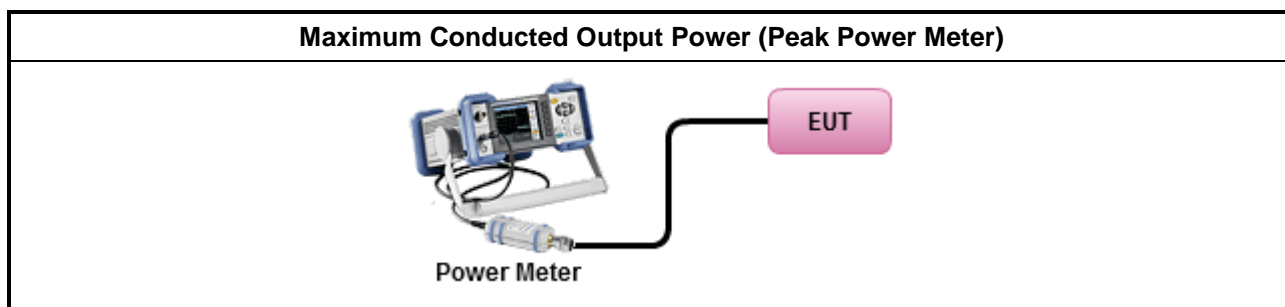
3.3.2 Measuring Instruments

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	
<ul style="list-style-type: none"> 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> $N \geq 75$ and $ChS \geq MAX$ (20 dB bandwidth, 25 kHz).
	<ul style="list-style-type: none"> $75 > N \geq 15$ 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

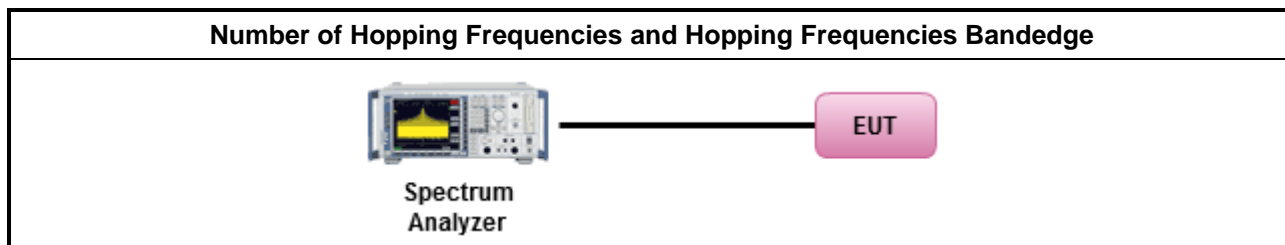
3.4.3 Measuring Instruments

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

3.4.4 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 7.8.3 for number of hopping frequencies measurement.
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> 2400-2483.5 MHz Band: 	
	<ul style="list-style-type: none"> $N \geq 75$; 0.4s in $N \times 0.4$ period
	<ul style="list-style-type: none"> $75 > N \geq 15$; 0.4s in $N \times 0.4$ period
N: Number of Hopping Frequencies	

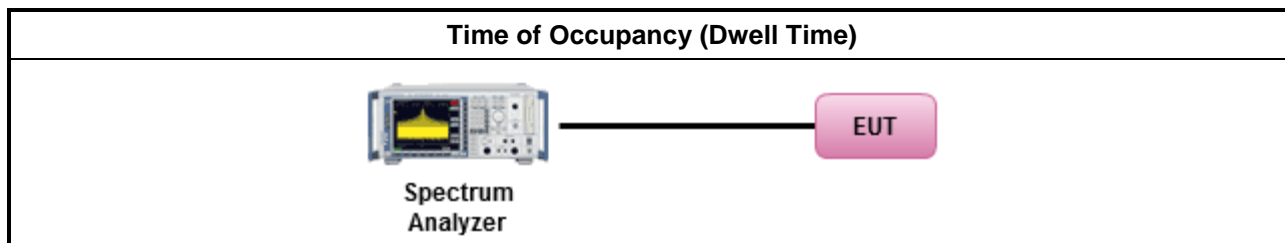
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
<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 (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.	

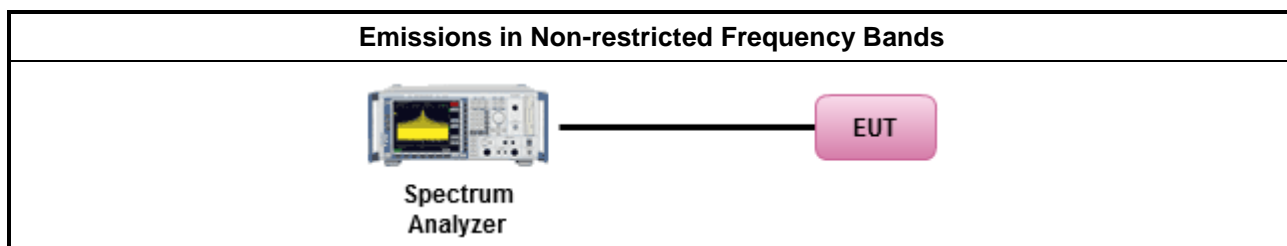
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

Test Method
<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.

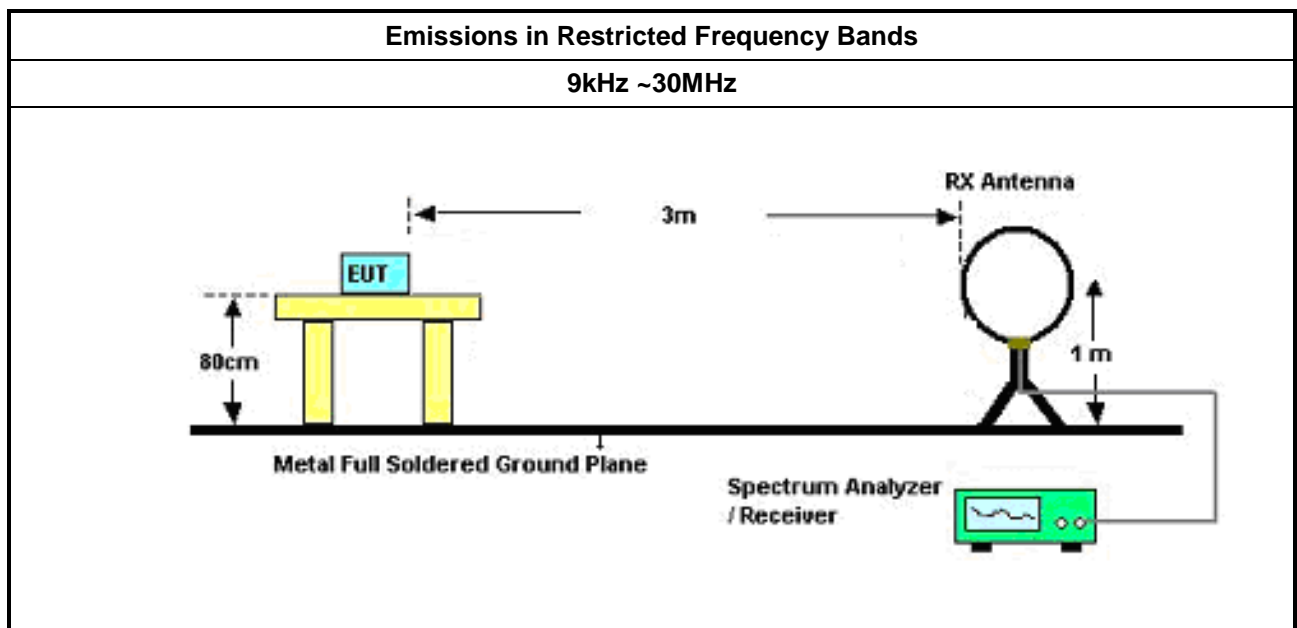
3.7.2 Measuring Instruments

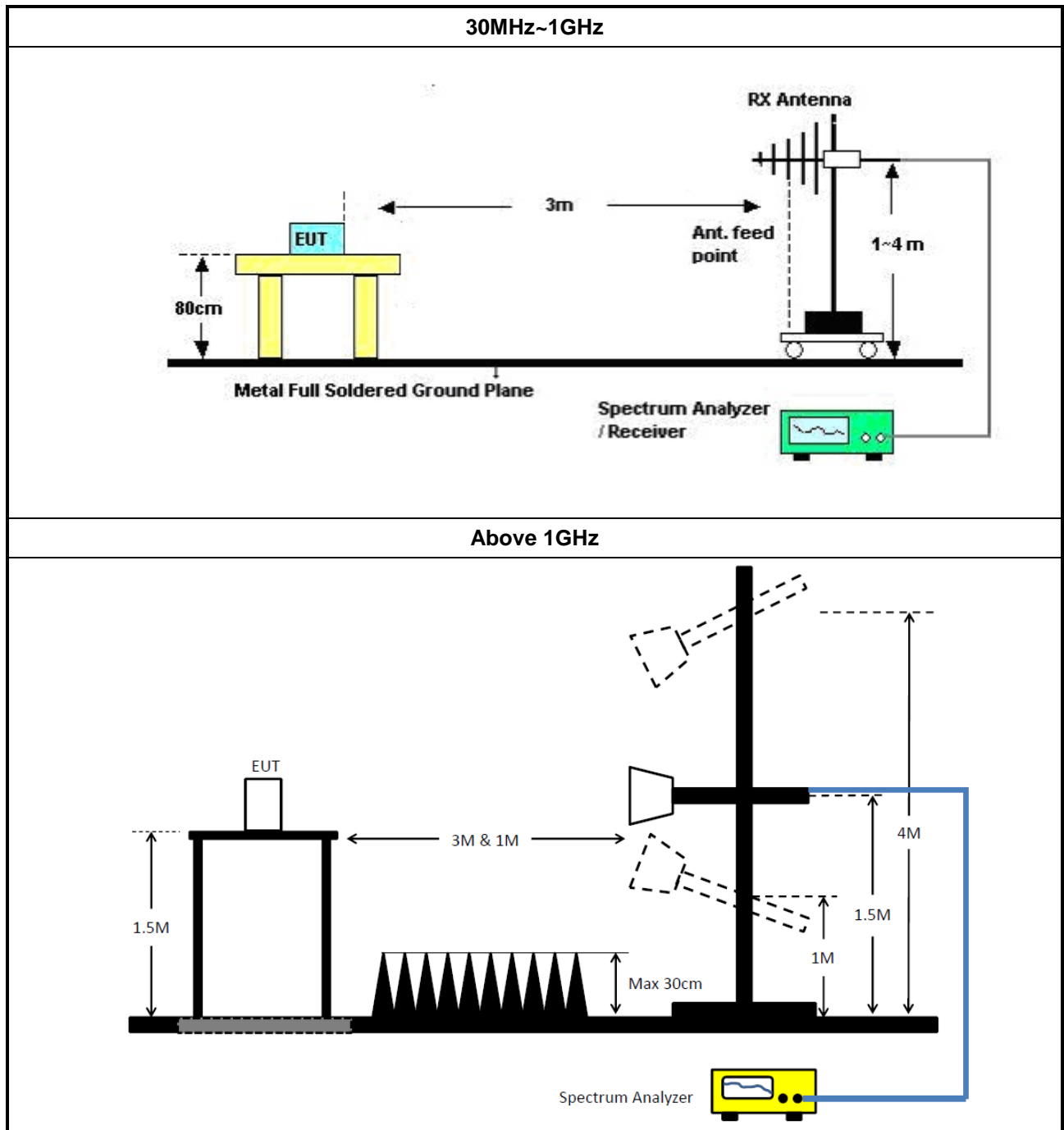
Refer a test equipment and calibration data table in this test report.

3.7.3 Test Procedures

Test Method	
	▪ The average emission levels shall be measured in [hopping duty factor].
	▪ Refer as ANSI C63.10; clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	▪ For the transmitter unwanted emissions shall be measured using following options below:
	▪ Refer as ANSI C63.10, clause 4.1.4.2.1 QP value.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak.
	▪ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of hopping pulsed emissions.
	▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	▪ Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

3.7.4 Test Setup





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

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

3.7.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix G

4 Test Equipment and Calibration Data

Instrument for AC Conduction

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

NCR : Non-Calibration Require

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
USB Wideband Power Sensor	Agilent	U2021XA	MY54320011	50MHz~18GHz	03/Sep/2019	03/Sep/2020
USB Wideband Power Sensor	Agilent	U2021XA	MY54320013	50MHz~18GHz	03/Sep/2019	03/Sep/2020
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2020	09/Jan/2021
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2020	09/Jan/2021
Cable 1.5m	HUBER	MY33066/4	RF Cable - 30	30MHz ~18G	10/Jan/2020	09/Jan/2021
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020
TEMP & humidity Chamber	GIANT FORCE	GTH-225-40-C P-AR	MAA1311-008	-40~100℃ 10~98%RH	25/Jun/2019	24/Jun/2020

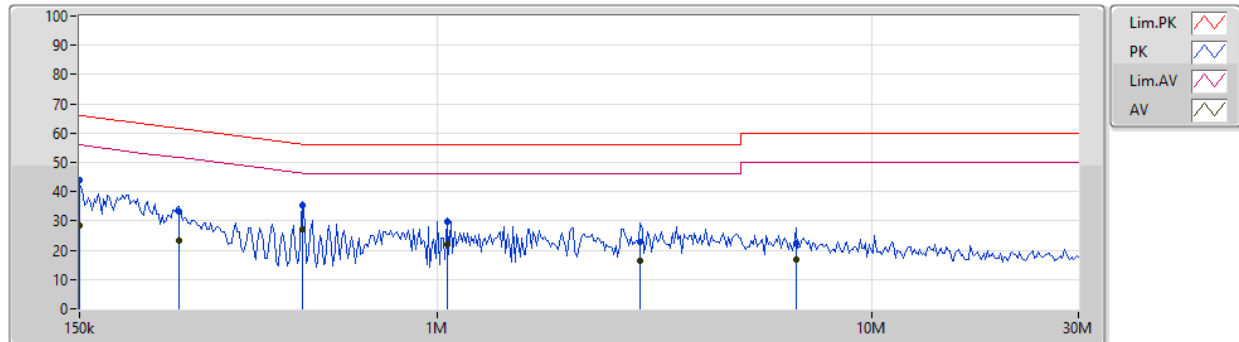
Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	29/Aug/2019	28/Aug/2020
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz 3m	29/Aug/2019	28/Aug/2020
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	02/Jul/2019	01/Jul/2020
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	16/Oct/2019	15/Oct/2020
Spectrum Analyzer	Rohde & Schwarz	FSV40	101500	10Hz - 40GHz	15/Aug/2019	14/Aug/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Mar/2019	25/Mar/2020
RF Cable-high 6m	SUHNER	SUCOFLEX104	10567868 / SN805193/4	1GHz~40GHz	09/Apr/2019	08/Apr/2020
RF Cable-high 7m	SUHNER	SUCOFLEX104	10567868 / SN805192/4	1GHz~40GHz	09/Apr/2019	08/Apr/2020
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112D / MTJ6102-05	2723 / 2	30MHz ~ 2GHz	09/Sep/2019	08/Sep/2020
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 01543	1GHz ~ 18GHz	03/Jun/2019	02/Jun/2020

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	USB mode		

22/01/2020

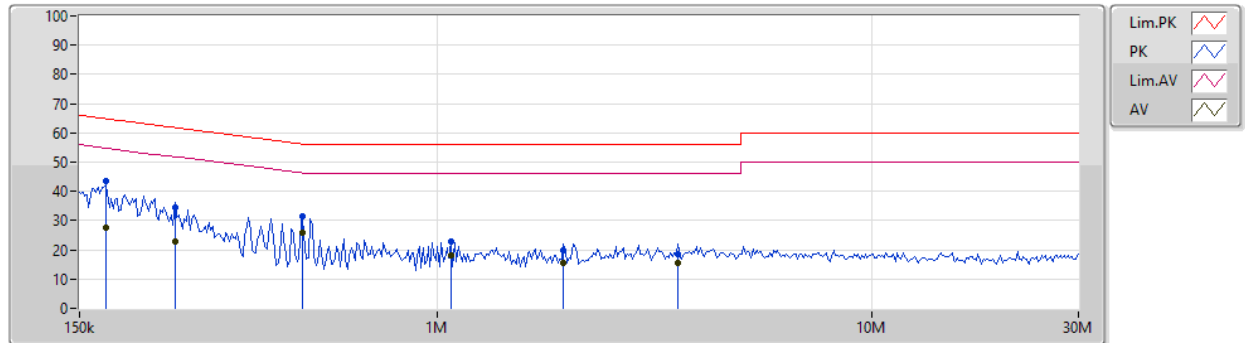


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	150k	43.96	66.00	-22.04	19.63	Neutral	-	24.33	9.65	0.11	9.87			
AV	150k	28.28	56.00	-27.72	19.63	Neutral	-	8.65	9.65	0.11	9.87			
QP	254.17k	33.28	61.62	-28.34	19.63	Neutral	-	13.65	9.64	0.12	9.87			
AV	254.17k	23.09	51.62	-28.53	19.63	Neutral	-	3.46	9.64	0.12	9.87			
QP	490.156k	35.47	56.17	-20.70	19.63	Neutral	-	15.84	9.63	0.13	9.87			
AV	490.156k	27.13	46.17	-19.04	19.63	Neutral	"Worst"	7.50	9.63	0.13	9.87			
QP	1.055M	29.90	56.00	-26.10	19.62	Neutral	-	10.28	9.63	0.11	9.88			
AV	1.055M	21.99	46.00	-24.01	19.62	Neutral	-	2.37	9.63	0.11	9.88			
QP	2.939M	23.03	56.00	-32.97	19.71	Neutral	-	3.32	9.66	0.17	9.88			
AV	2.939M	16.54	46.00	-29.46	19.71	Neutral	-	-3.17	9.66	0.17	9.88			
QP	6.712M	22.47	60.00	-37.53	19.79	Neutral	-	2.68	9.68	0.23	9.88			
AV	6.712M	16.94	50.00	-33.06	19.79	Neutral	-	-2.85	9.68	0.23	9.88			

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	USB mode		

22/01/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	172.421k	43.55	64.83	-21.28	19.64	Line	-	23.91	9.66	0.11	9.87			
AV	172.421k	27.47	54.83	-27.36	19.64	Line	-	7.83	9.66	0.11	9.87			
QP	249.162k	34.52	61.79	-27.27	19.64	Line	-	14.88	9.65	0.12	9.87			
AV	249.162k	22.90	51.79	-28.89	19.64	Line	-	3.26	9.65	0.12	9.87			
QP	490.156k	31.56	56.17	-24.61	19.64	Line	-	11.92	9.64	0.13	9.87			
AV	490.156k	25.94	46.17	-20.23	19.64	Line	"Worst"	6.30	9.64	0.13	9.87			
QP	1.076M	22.87	56.00	-33.13	19.63	Line	-	3.24	9.64	0.11	9.88			
AV	1.076M	18.24	46.00	-27.76	19.63	Line	-	-1.39	9.64	0.11	9.88			
QP	1.954M	19.71	56.00	-36.29	19.67	Line	-	0.04	9.65	0.15	9.87			
AV	1.954M	15.42	46.00	-30.58	19.67	Line	-	-4.25	9.65	0.15	9.87			
QP	3.586M	18.63	56.00	-37.37	19.72	Line	-	-1.09	9.66	0.18	9.88			
AV	3.586M	15.51	46.00	-30.49	19.72	Line	-	-4.21	9.66	0.18	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)	938.75k	874.563k	875KF1D	936.25k	873.563k
BT-EDR(2Mbps)	1.325M	1.197M	1M20G1D	1.325M	1.195M
BT-EDR(3Mbps)	1.315M	1.205M	1M21G1D	1.314M	1.202M

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

Min-N dB = Minimum 20dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

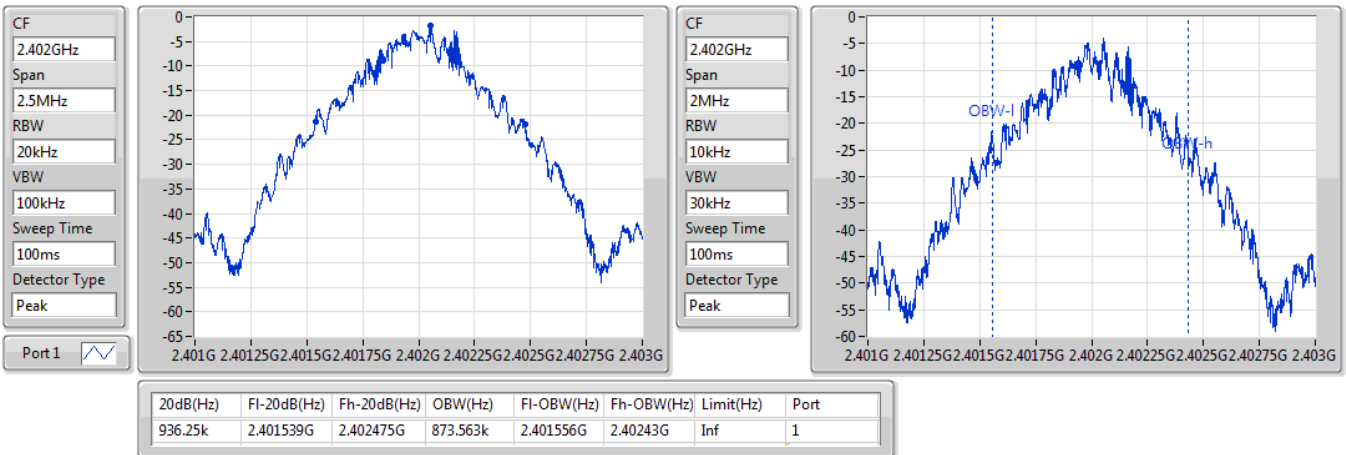
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	936.25k	873.563k
2440MHz_TnomVnom	Pass	Inf	938.75k	874.563k
2480MHz_TnomVnom	Pass	Inf	936.25k	873.563k
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	1.325M	1.195M
2440MHz_TnomVnom	Pass	Inf	1.325M	1.197M
2480MHz_TnomVnom	Pass	Inf	1.325M	1.197M
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	Inf	1.314M	1.202M
2440MHz_TnomVnom	Pass	Inf	1.315M	1.205M
2480MHz_TnomVnom	Pass	Inf	1.314M	1.205M

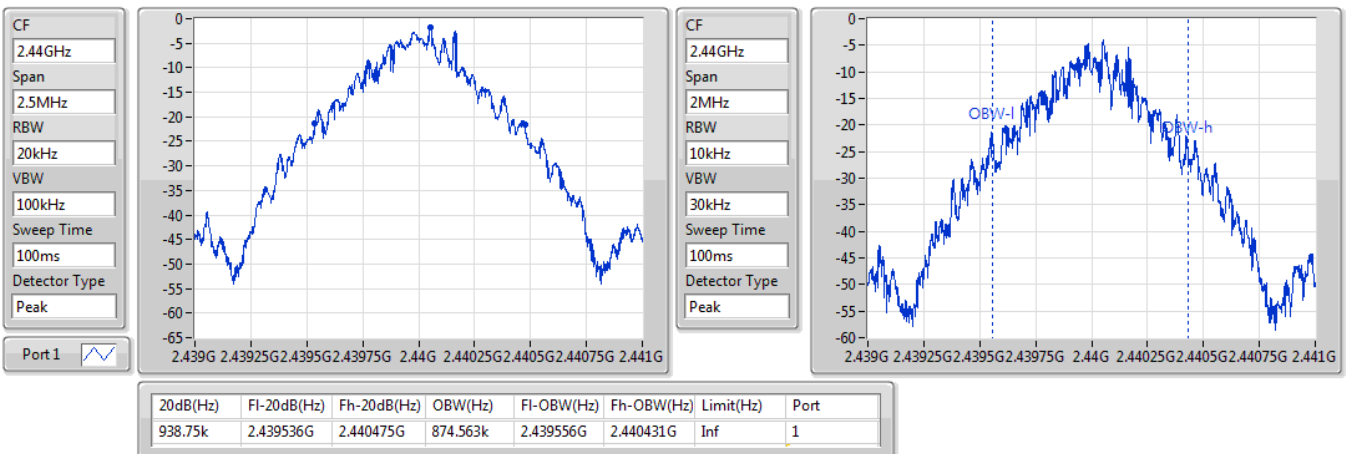
Port X-N dB = Port X 20dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-BR(1Mbps)
2402MHz
EBW

17/01/2020

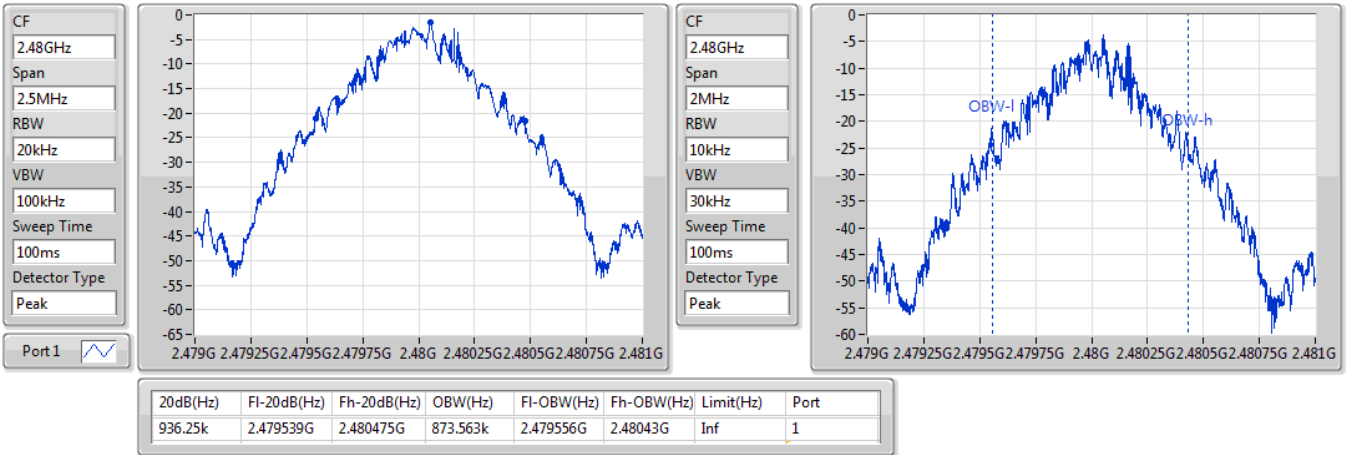

BT-BR(1Mbps)
2440MHz
EBW

17/01/2020

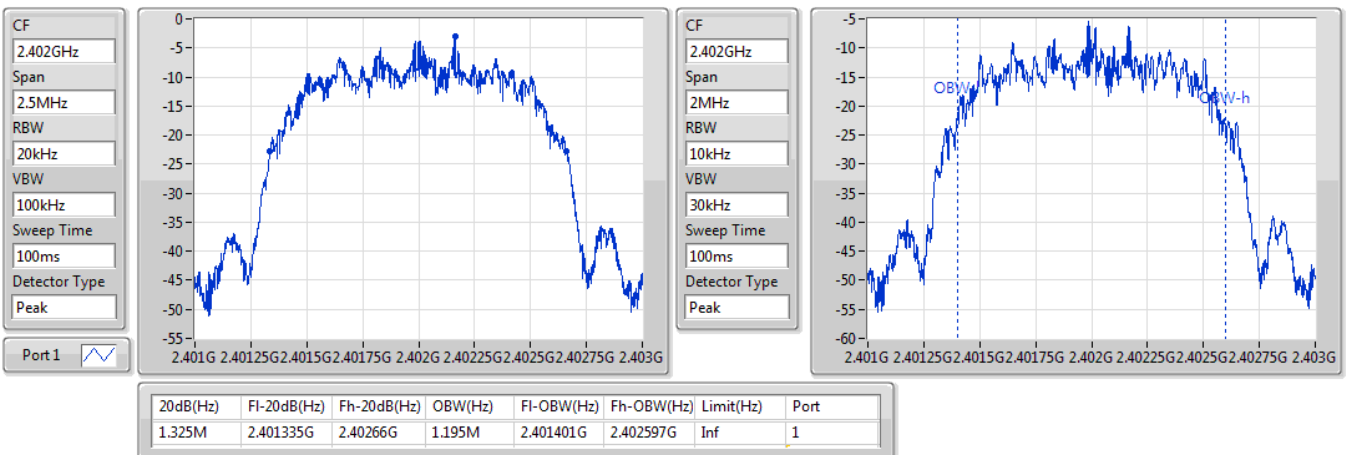


BT-BR(1Mbps)
EBW
2480MHz

17/01/2020

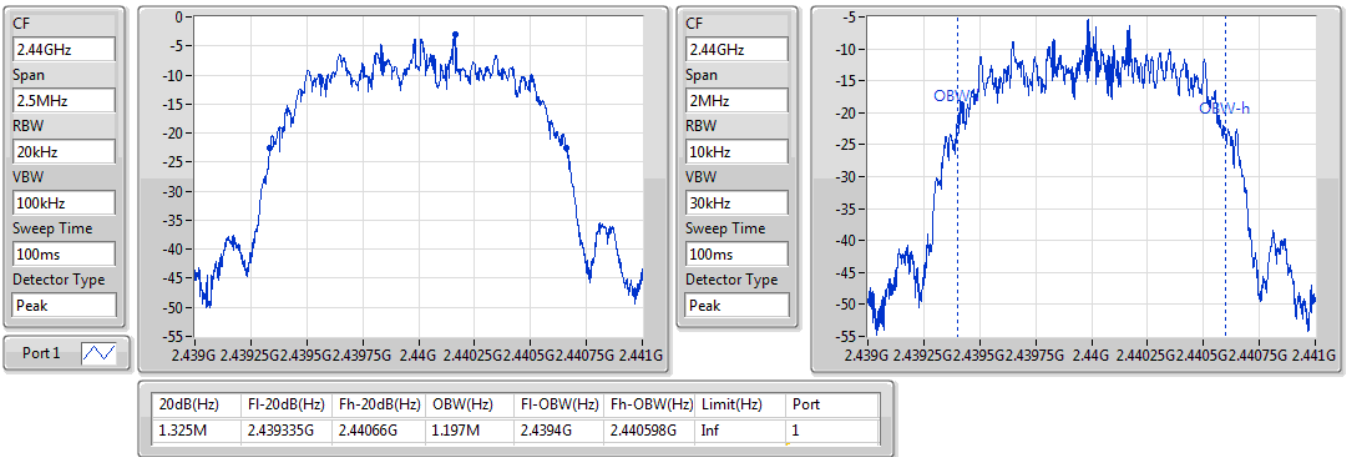

BT-EDR(2Mbps)
EBW
2402MHz

17/01/2020

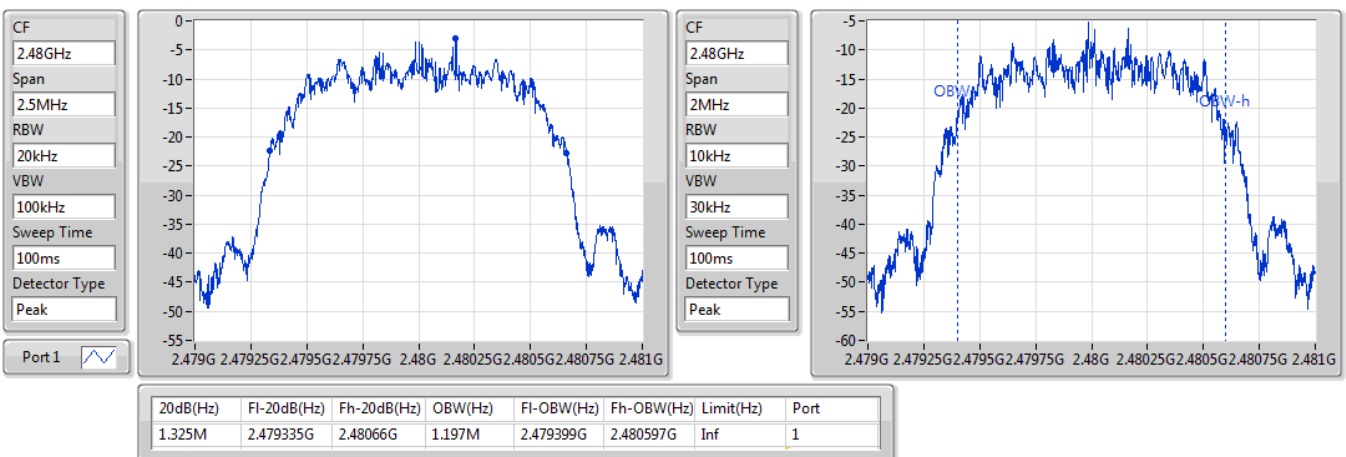


BT-EDR(2Mbps)
2440MHz
EBW

17/01/2020

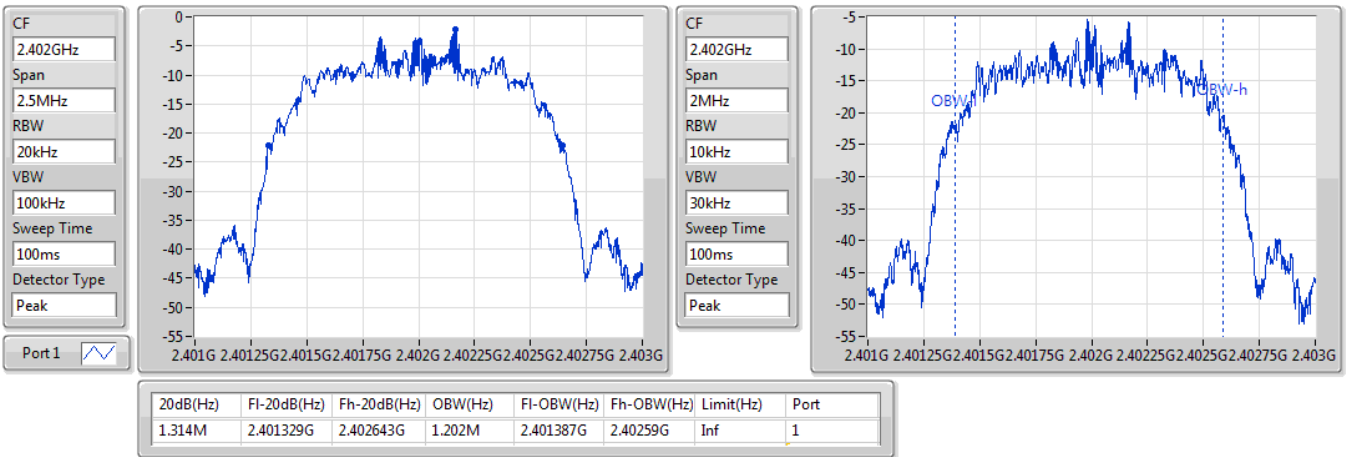

BT-EDR(2Mbps)
2480MHz
EBW

17/01/2020

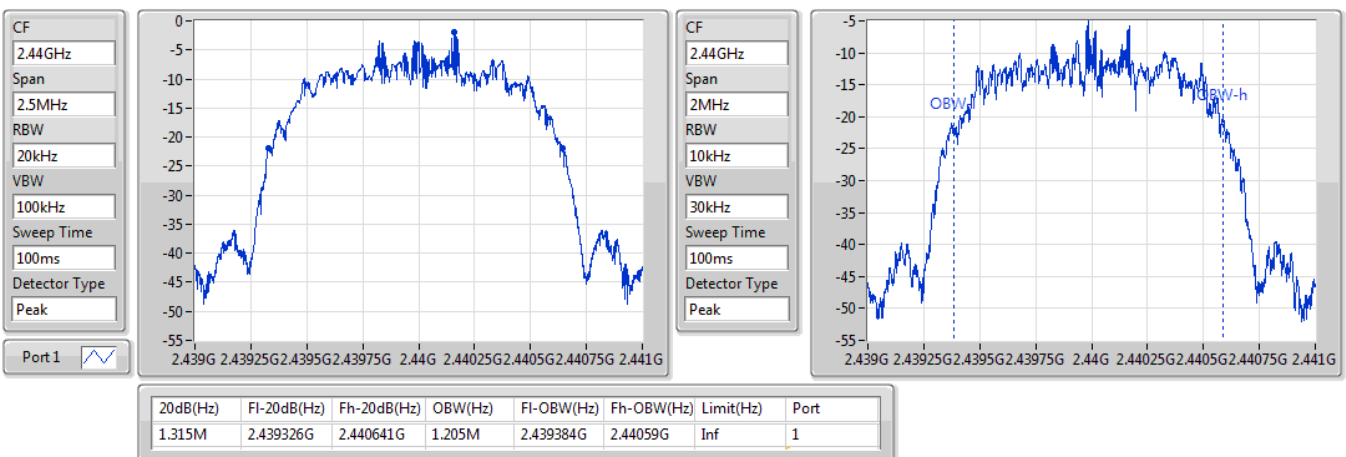


BT-EDR(3Mbps)
EBW
2402MHz

17/01/2020


BT-EDR(3Mbps)
EBW
2440MHz

17/01/2020

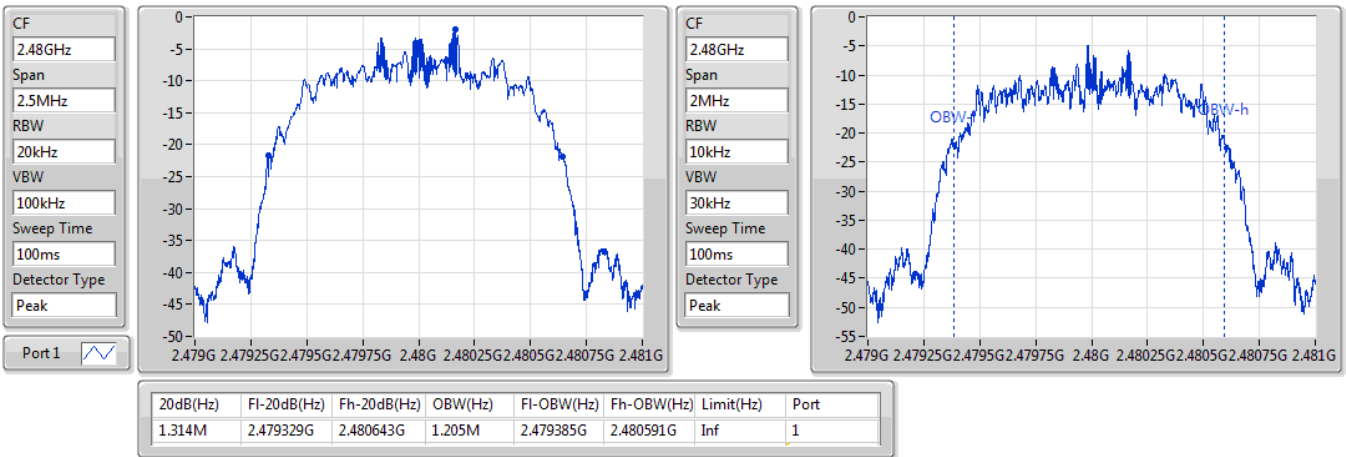


BT-EDR(3Mbps)

2480MHz

EBW

17/01/2020





Summary

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.0005M	1.0005M
BT-EDR(2Mbps)	1.0035M	999k
BT-EDR(3Mbps)	1.002M	1.0005M

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402161G	2.403162G	1.0005M	623.5425k
2440MHz_TnomVnom	Pass	2.440161G	2.441162G	1.0005M	625.2075k
2480MHz_TnomVnom	Pass	2.479161G	2.480162G	1.0005M	623.5425k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402005G	2.403004G	999k	882.45k
2440MHz_TnomVnom	Pass	2.440004G	2.441004G	1.0005M	882.45k
2480MHz_TnomVnom	Pass	2.479002G	2.480006G	1.0035M	882.45k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.40216G	2.40316G	1.0005M	875.124k
2440MHz_TnomVnom	Pass	2.440158G	2.44116G	1.002M	875.79k
2480MHz_TnomVnom	Pass	2.479158G	2.480159G	1.0005M	875.124k

BT-BR(1Mbps)

2.402G/2.403GHz

Channel Separation



BT-BR(1Mbps)

2.44G/2.441GHz

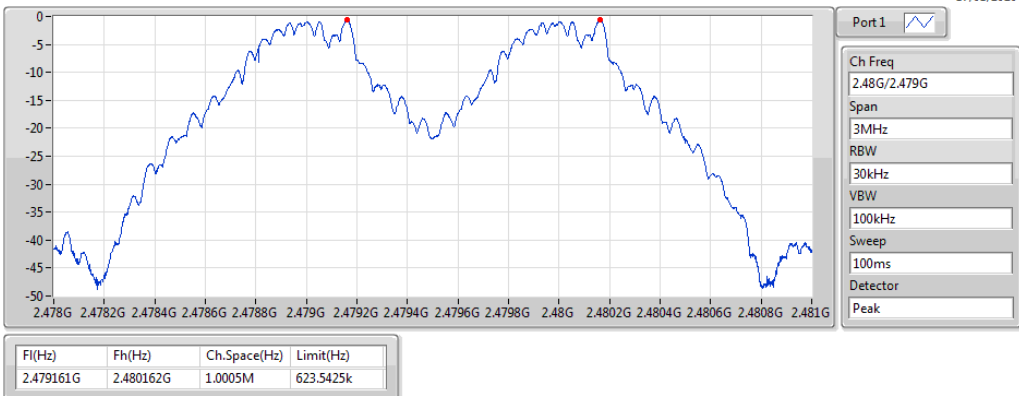
Channel Separation



BT-BR(1Mbps)

2.48G/2.479GHz

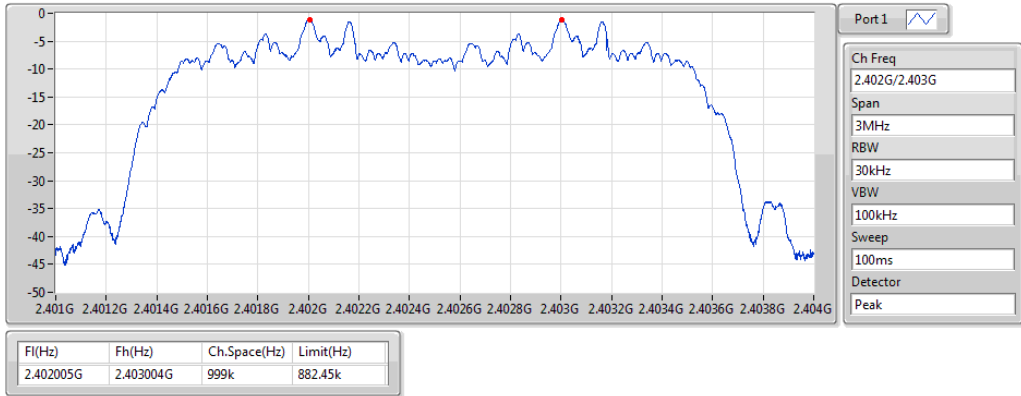
Channel Separation



BT-EDR(2Mbps)

2.402G/2.403GHz

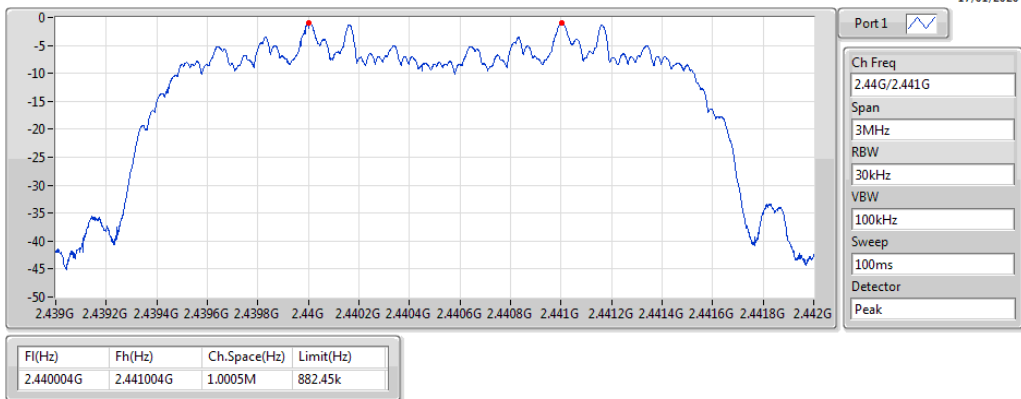
Channel Separation



BT-EDR(2Mbps)

2.44G/2.441GHz

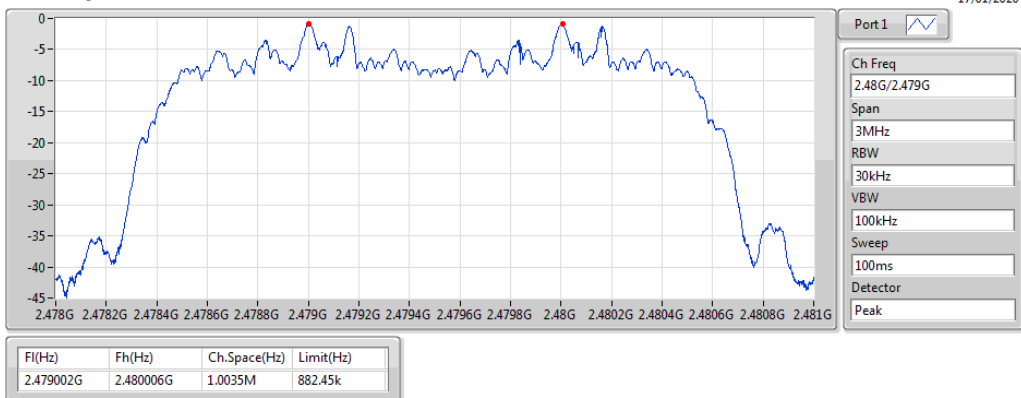
Channel Separation



BT-EDR(2Mbps)

2.48G/2.479GHz

Channel Separation

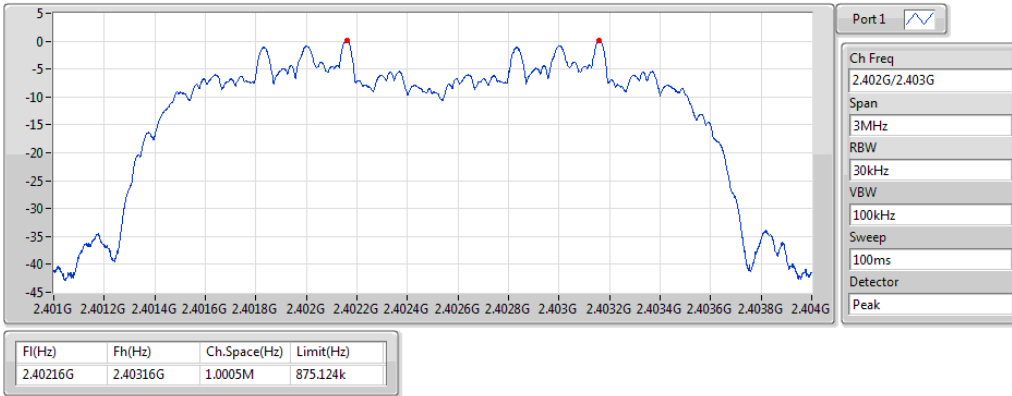


BT-EDR(3Mbps)

2.402G/2.403GHz

Channel Separation

17/01/2020

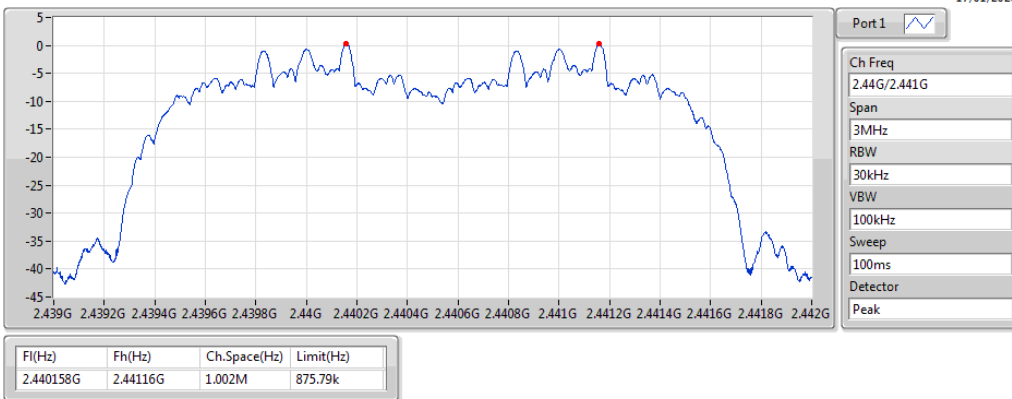


BT-EDR(3Mbps)

2.44G/2.441GHz

Channel Separation

17/01/2020

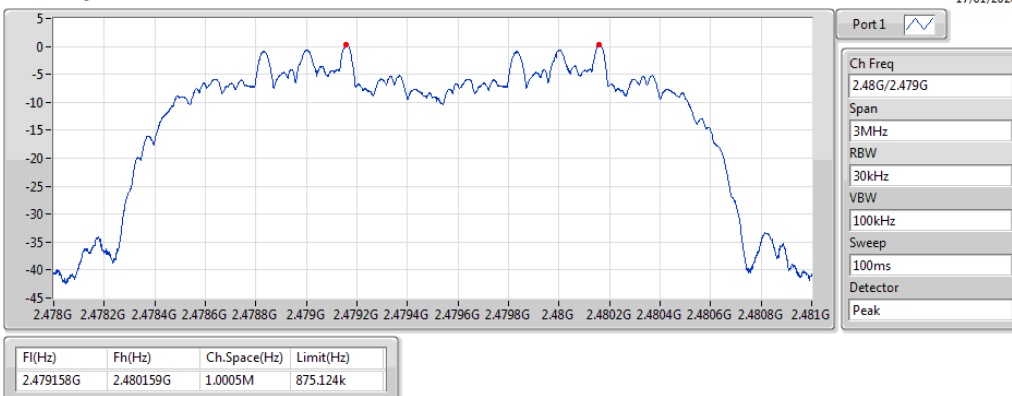


BT-EDR(3Mbps)

2.48G/2.479GHz

Channel Separation

17/01/2020





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	2.67	0.00185
BT-EDR(2Mbps)	5.03	0.00318
BT-EDR(3Mbps)	5.52	0.00356

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.61	2.54	21.00
2440MHz_TnomVnom	Pass	1.61	2.67	21.00
2480MHz_TnomVnom	Pass	1.61	2.60	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.61	4.64	21.00
2440MHz_TnomVnom	Pass	1.61	4.87	21.00
2480MHz_TnomVnom	Pass	1.61	5.03	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.61	5.22	21.00
2440MHz_TnomVnom	Pass	1.61	5.42	21.00
2480MHz_TnomVnom	Pass	1.61	5.52	21.00

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



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	2.31	0.00170
BT-EDR(2Mbps)	2.33	0.00171
BT-EDR(3Mbps)	2.32	0.00171

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.61	1.98	21.00
2440MHz_TnomVnom	Pass	1.61	2.31	21.00
2480MHz_TnomVnom	Pass	1.61	2.26	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.61	1.93	21.00
2440MHz_TnomVnom	Pass	1.61	2.18	21.00
2480MHz_TnomVnom	Pass	1.61	2.33	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	1.61	1.93	21.00
2440MHz_TnomVnom	Pass	1.61	2.21	21.00
2480MHz_TnomVnom	Pass	1.61	2.32	21.00

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



Summary

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



Result

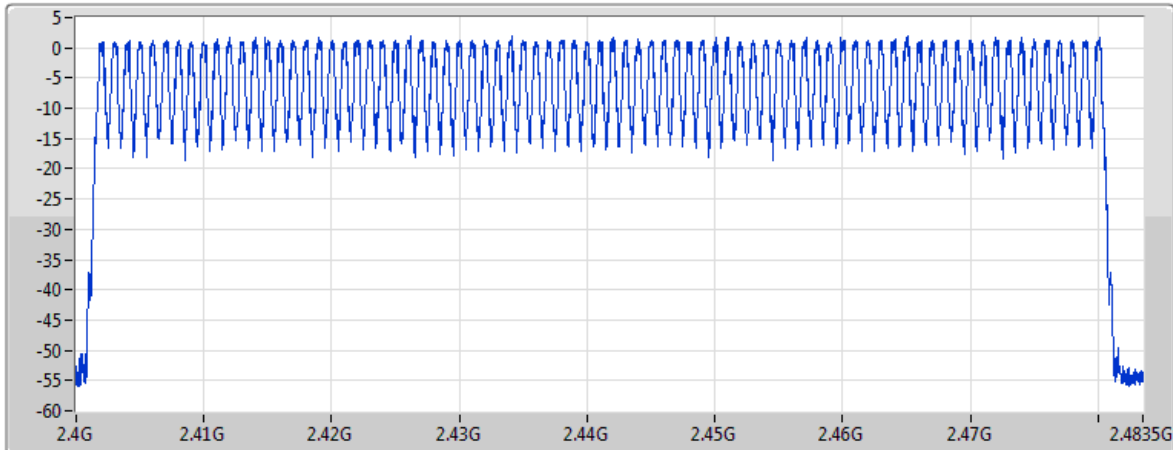
Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2440MHz_TnomVnom	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2440MHz_TnomVnom	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2440MHz_TnomVnom	Pass	79	15


BT-BR(1Mbps)

2440MHz

Hopping Ch

17/01/2020



Port 1 

Hopping No
79

Span
83.5MHz

RBW
100kHz

VBW
300kHz

Sweep
200ms

Detector
Peak

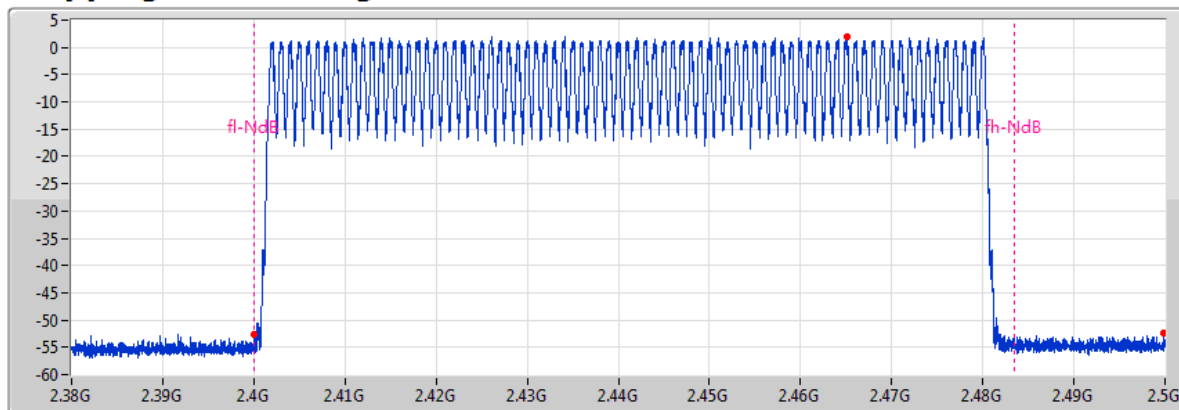
Hopping No	Limit
79	15


BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

17/01/2020



Port 1 

Span
120MHz

RBW
100kHz

VBW
300kHz

Sweep
200ms

Detector
Peak

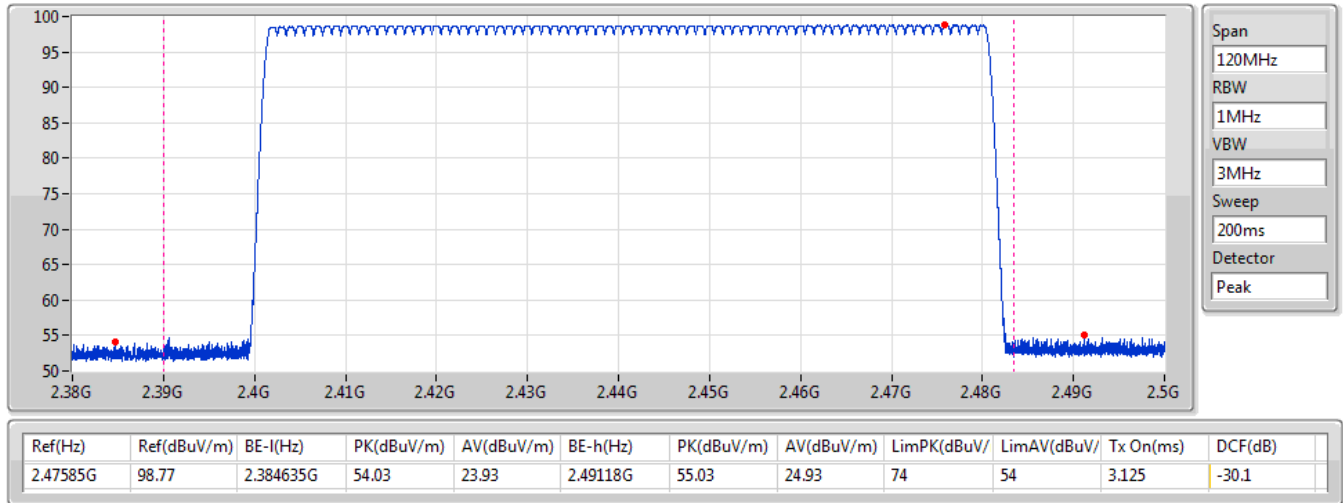
Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-18.15	2.46517G	1.85	2.399995G	-52.61	2.49991G	-52.44

BT-BR(1Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

17/01/2020

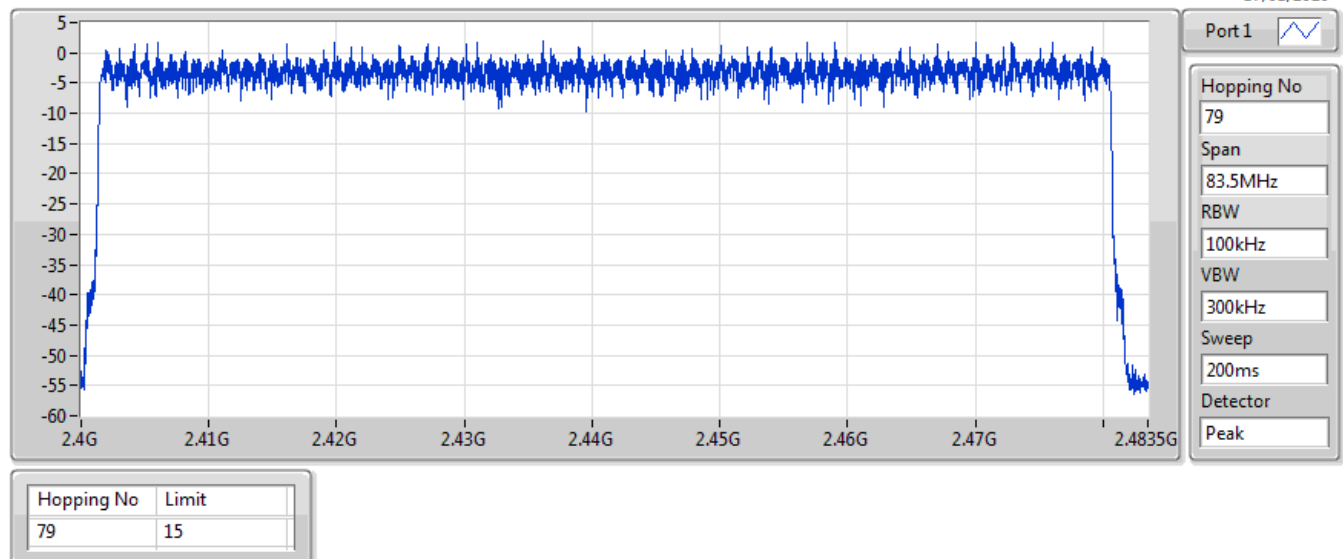


BT-EDR(2Mbps)

2440MHz

Hopping Ch

17/01/2020

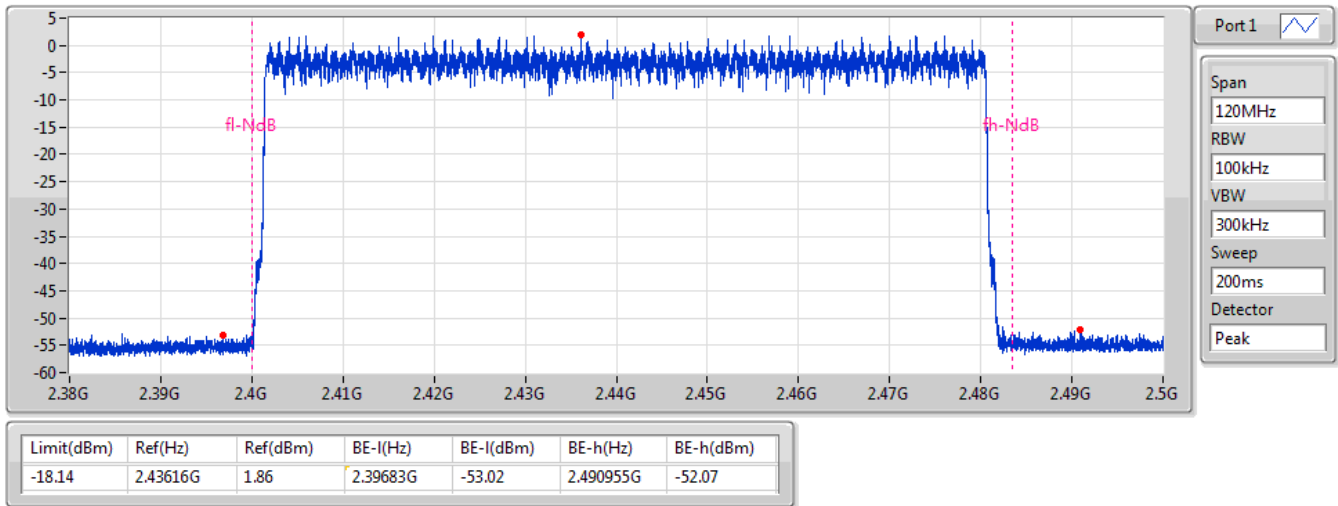


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Non-restricted Band)

17/01/2020

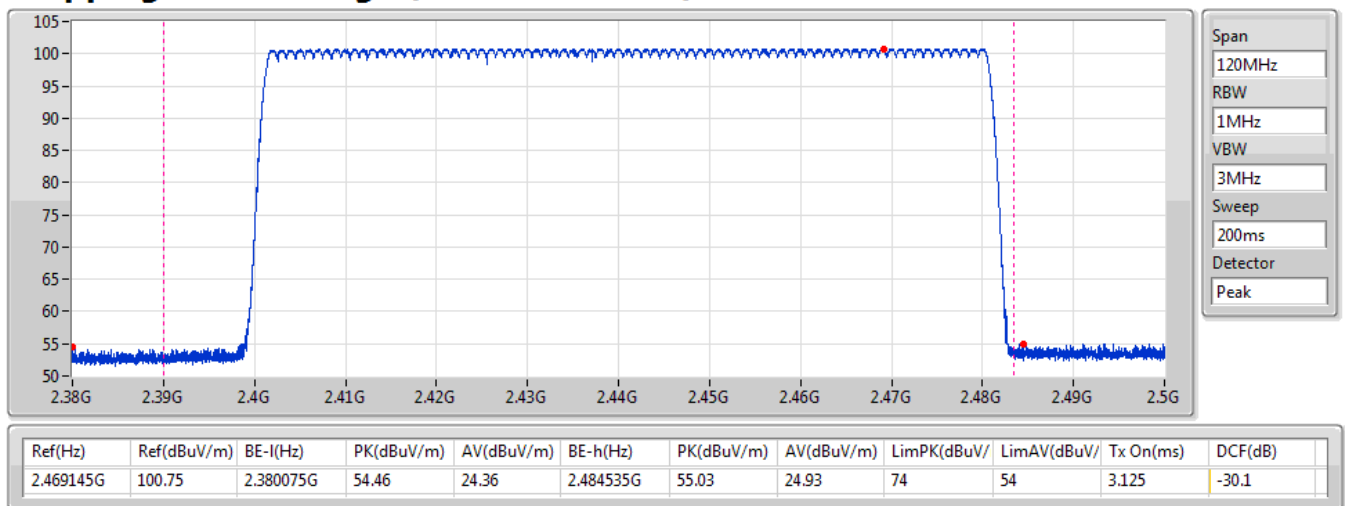


BT-EDR(2Mbps)

2440MHz

Hopping Ch Bandedge (Restricted Band)

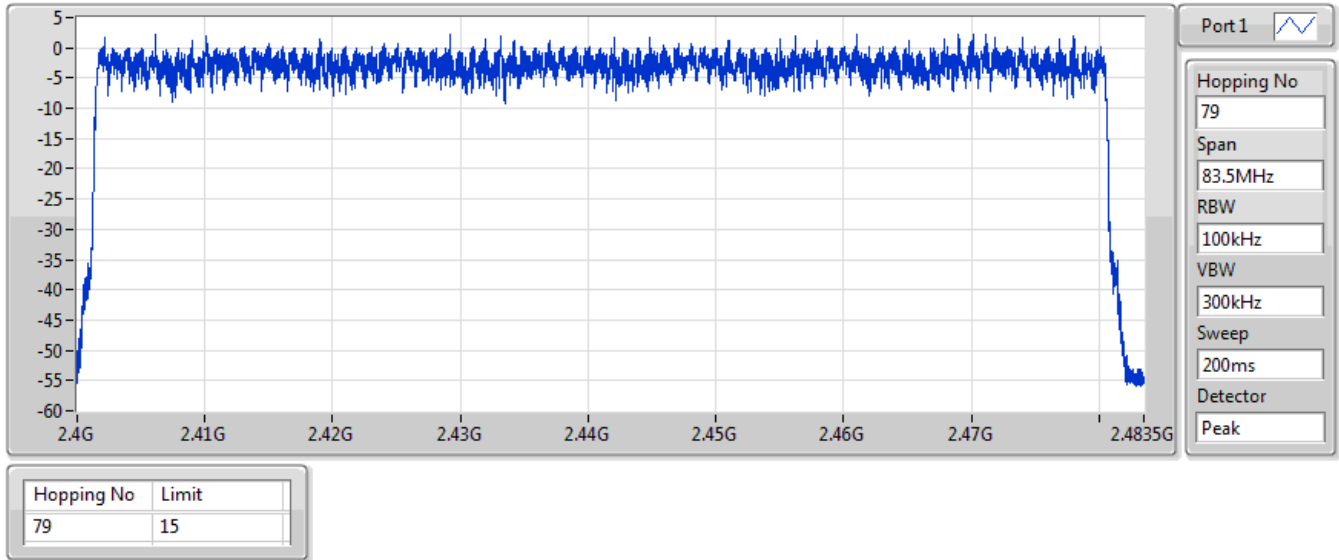
17/01/2020



BT-EDR(3Mbps) 2440MHz

Hopping Ch

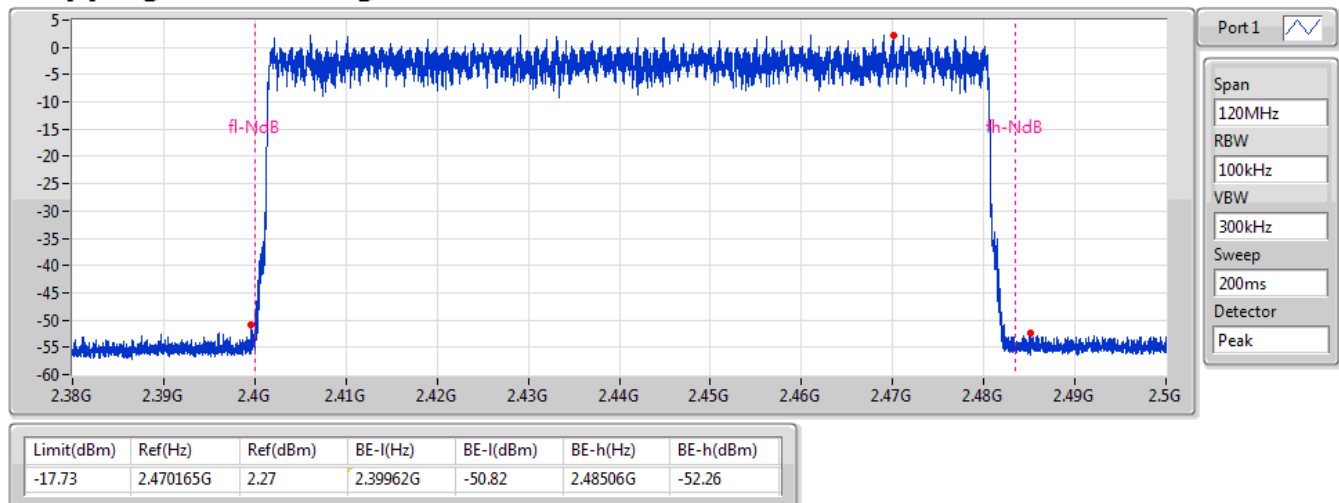
17/01/2020



BT-EDR(3Mbps) 2440MHz

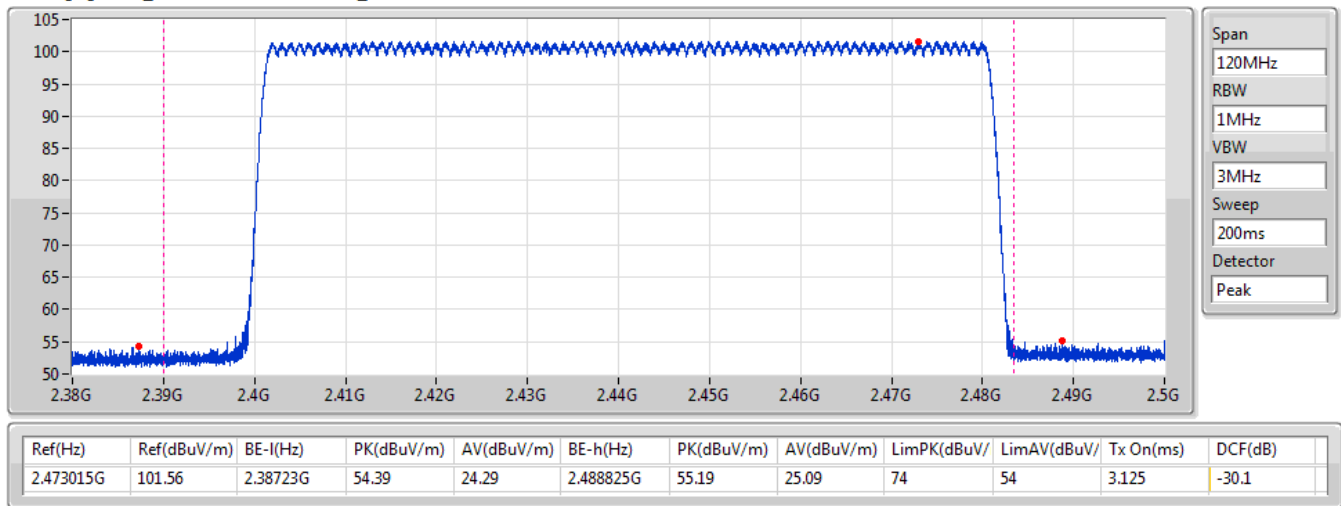
Hopping Ch Bandedge (Non-restricted Band)

17/01/2020



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

17/01/2020





Summary

Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	308.607m
BT-EDR(2Mbps)	309.2466m
BT-EDR(3Mbps)	309.3532m

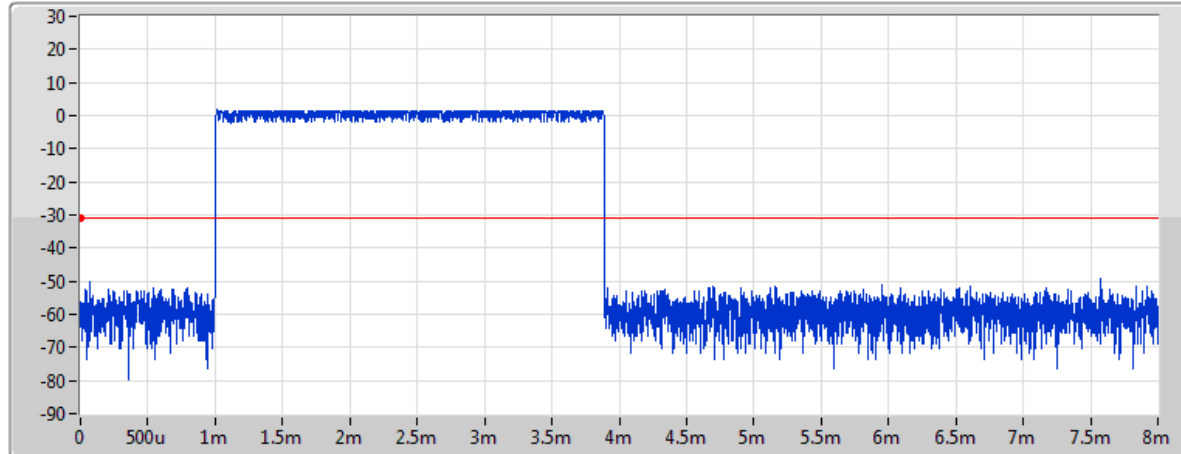
Result


Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2440MHz_TnomVnom	Pass	31.6	308.607m	400m	2.895m
BT-EDR(2Mbps)	-	-	-	-	-
2440MHz_TnomVnom	Pass	31.6	309.2466m	400m	2.901m
BT-EDR(3Mbps)	-	-	-	-	-
2440MHz_TnomVnom	Pass	31.6	309.3532m	400m	2.902m

BT-BR(1Mbps)

2440MHz

17/01/2020



Port1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.895ms

non AFH Mode

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

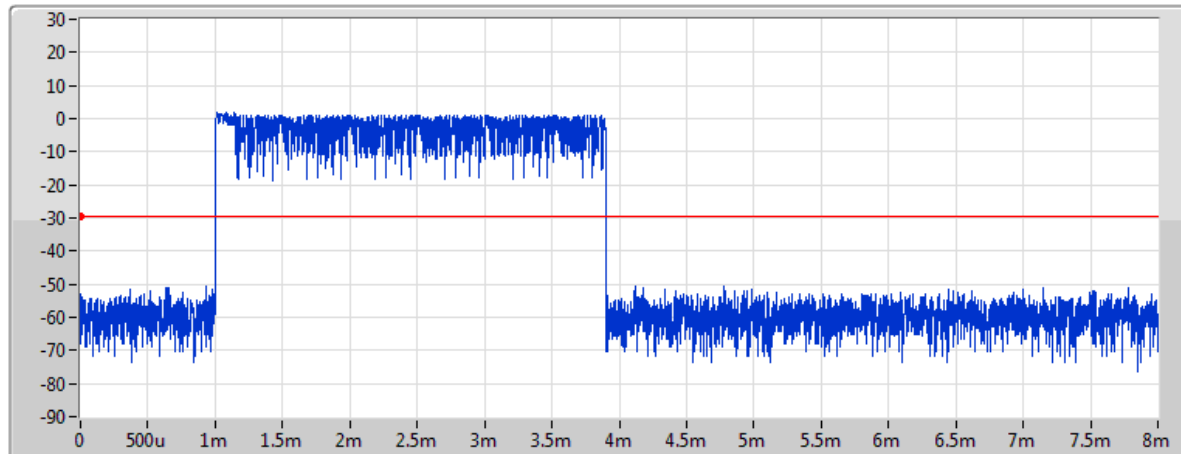
AFH Mode


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

BT-EDR(2Mbps)

2440MHz

17/01/2020



Port1 

Ch Freq
2.44GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.901ms

non AFH Mode

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

AFH Mode

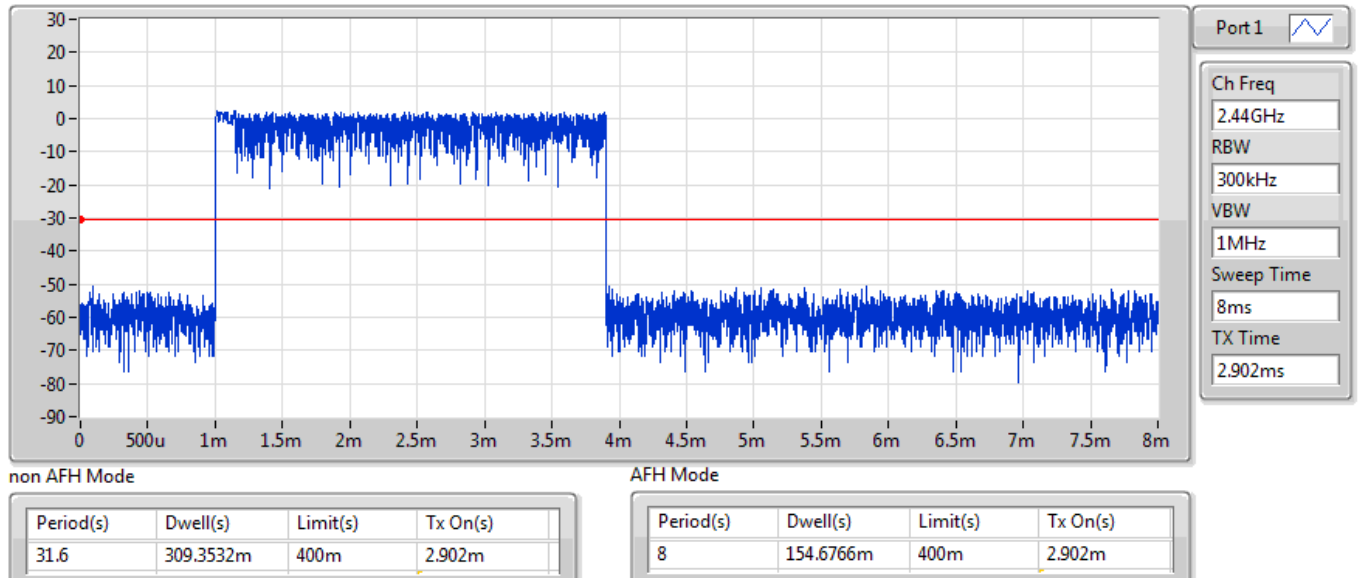
Period(s)	Dwell(s)	Limit(s)	Tx On(s)
8	154.6233m	400m	2.901m

BT-EDR(3Mbps)

2440MHz

Dwell

17/01/2020



Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.40196G	0.93	-19.07	2.10417G	-53.19	2.39853G	-53.24	2.4G	-54.70	2.48532G	-52.50	16.43446G	-42.19	1
BT-EDR(2Mbps)	Pass	2.40196G	1.69	-18.31	700.34M	-54.52	2.39956G	-50.25	2.4G	-49.04	2.499G	-52.84	16.44571G	-41.66	1
BT-EDR(3Mbps)	Pass	2.40213G	2.18	-17.82	881.58M	-54.10	2.39995G	-48.84	2.4G	-49.71	2.48372G	-52.30	14.41258G	-42.57	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.40196G	0.93	-19.07	2.10417G	-53.19	2.39853G	-53.24	2.4G	-54.70	2.48532G	-52.50	16.43446G	-42.19	1
2440MHz_TnomVnom	Pass	2.44G	1.67	-18.33	2.1027G	-54.48	2.3945G	-54.05	2.4835G	-55.82	2.49191G	-51.84	16.99125G	-42.32	1
2480MHz_TnomVnom	Pass	2.48003G	1.88	-18.12	2.11563G	-54.04	2.39626G	-53.75	2.4835G	-55.94	2.48811G	-52.52	17.55366G	-42.28	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.40196G	1.69	-18.31	700.34M	-54.52	2.39956G	-50.25	2.4G	-49.04	2.499G	-52.84	16.44571G	-41.66	1
2440MHz_TnomVnom	Pass	2.43983G	1.30	-18.70	2.04513G	-54.48	2.3972G	-53.43	2.4835G	-56.03	2.48412G	-52.55	24.63162G	-42.98	1
2480MHz_TnomVnom	Pass	2.47987G	0.88	-19.12	880.11M	-53.82	2.39357G	-53.49	2.4G	-55.72	2.48352G	-52.32	16.76347G	-42.87	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.40213G	2.18	-17.82	881.58M	-54.10	2.39995G	-48.84	2.4G	-49.71	2.48372G	-52.30	14.41258G	-42.57	1
2440MHz_TnomVnom	Pass	2.44012G	1.55	-18.45	2.07274G	-54.45	2.39619G	-53.22	2.4G	-55.12	2.49548G	-52.15	16.38946G	-42.88	1
2480MHz_TnomVnom	Pass	2.48016G	2.27	-17.73	2.14941G	-54.32	2.39451G	-53.81	2.4835G	-53.44	2.48493G	-52.17	16.54413G	-42.23	1

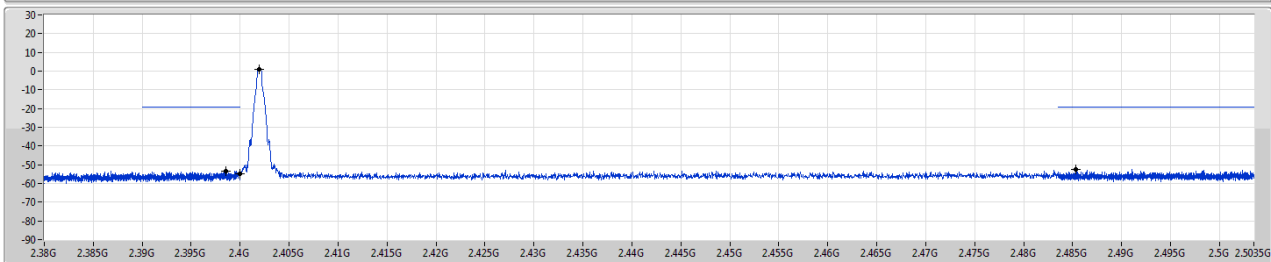
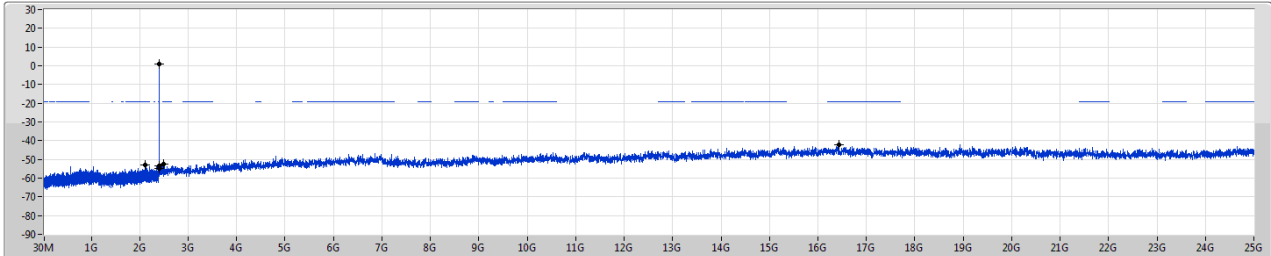
BT-BR(1Mbps)

2402MHz

CSE NdB

17/01/2020

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
2.40196G	0.93	-19.07	2.10417G	-53.19	2.39853G	-53.24	2.4G	-54.70	2.48532G	-52.50	16.43446G	-42.19	1

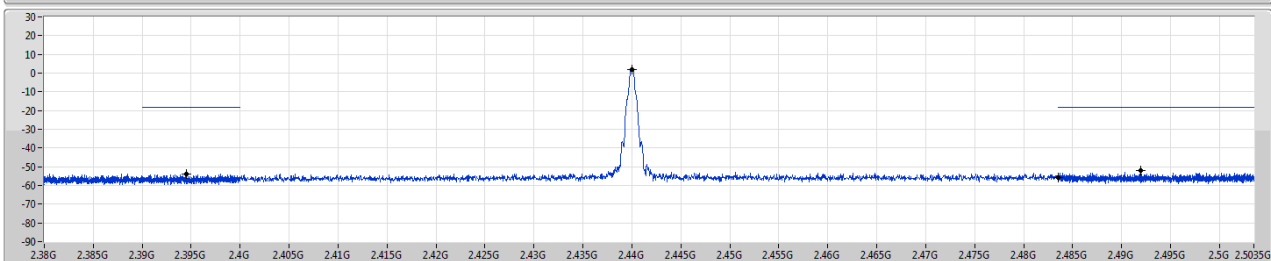
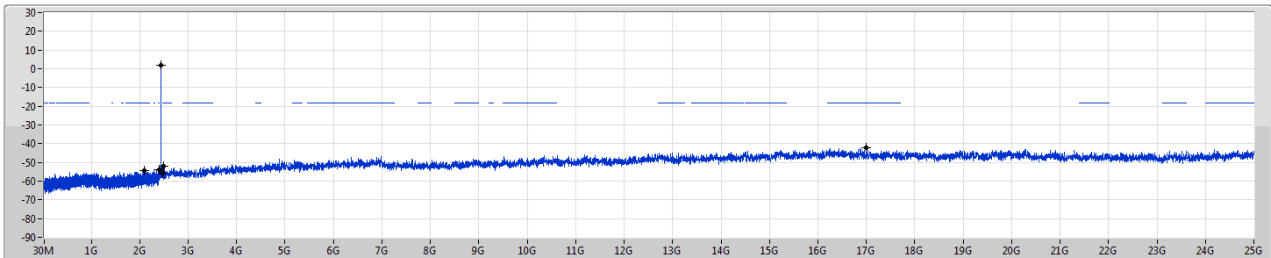
BT-BR(1Mbps)

2440MHz

CSE NdB

17/01/2020

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
2.44G	1.67	-18.33	2.1027G	-54.48	2.3945G	-54.05	2.4835G	-55.82	2.49191G	-51.84	16.99125G	-42.32	1

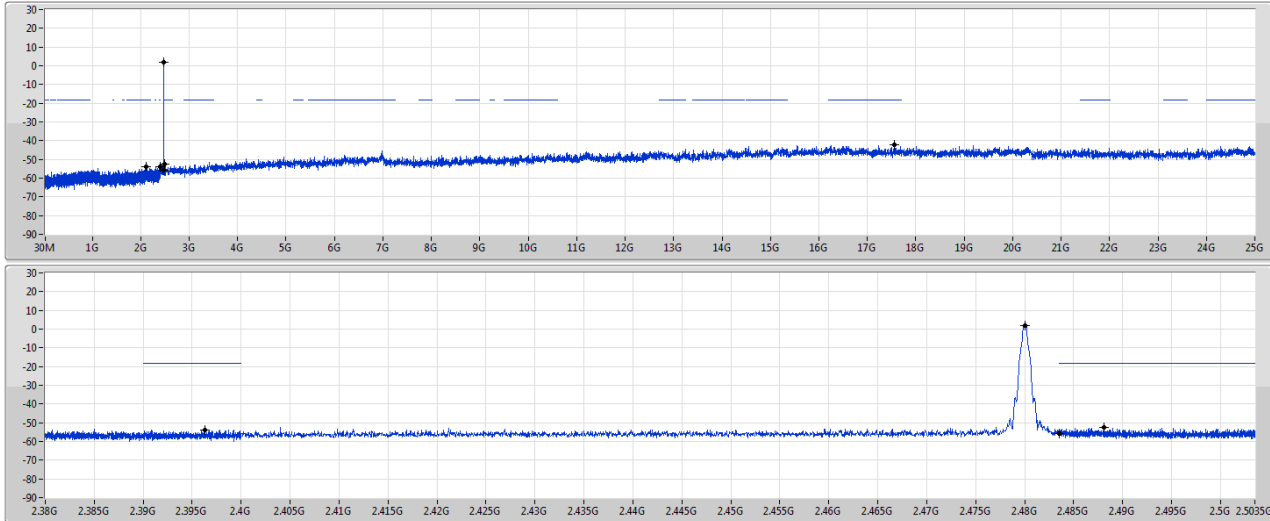
BT-BR(1Mbps)

2480MHz

CSE NdB

17/01/2020

Port 1



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
2.48003G	1.88	-18.12	2.11563G	-54.04	2.39626G	-53.75	2.4835G	-55.94	2.48811G	-52.52	17.55366G	-42.28	1

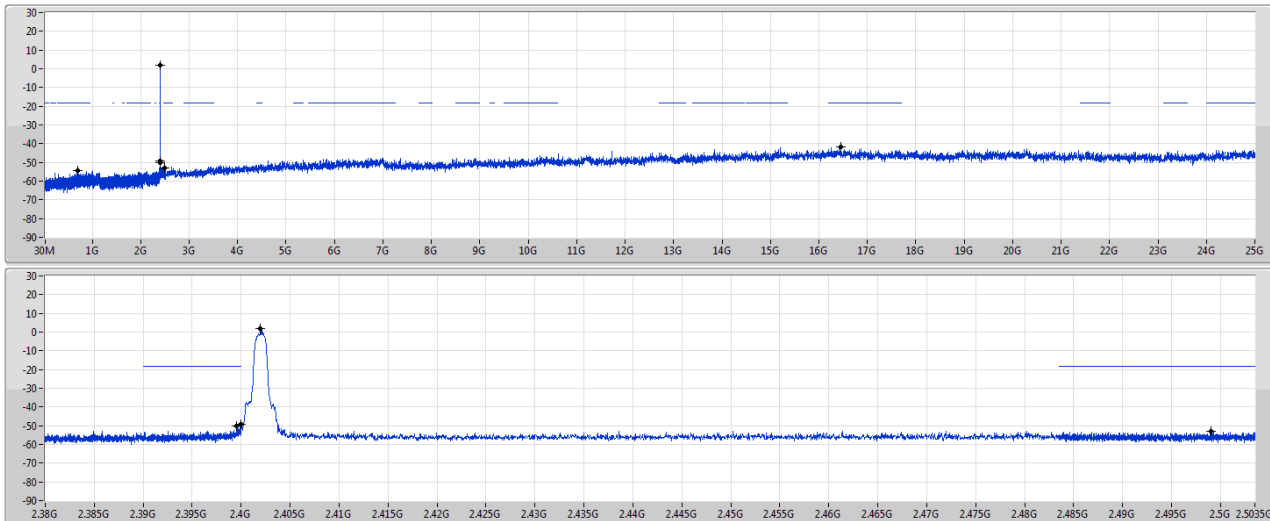
BT-EDR(2Mbps)

2402MHz

CSE NdB

17/01/2020

Port 1



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

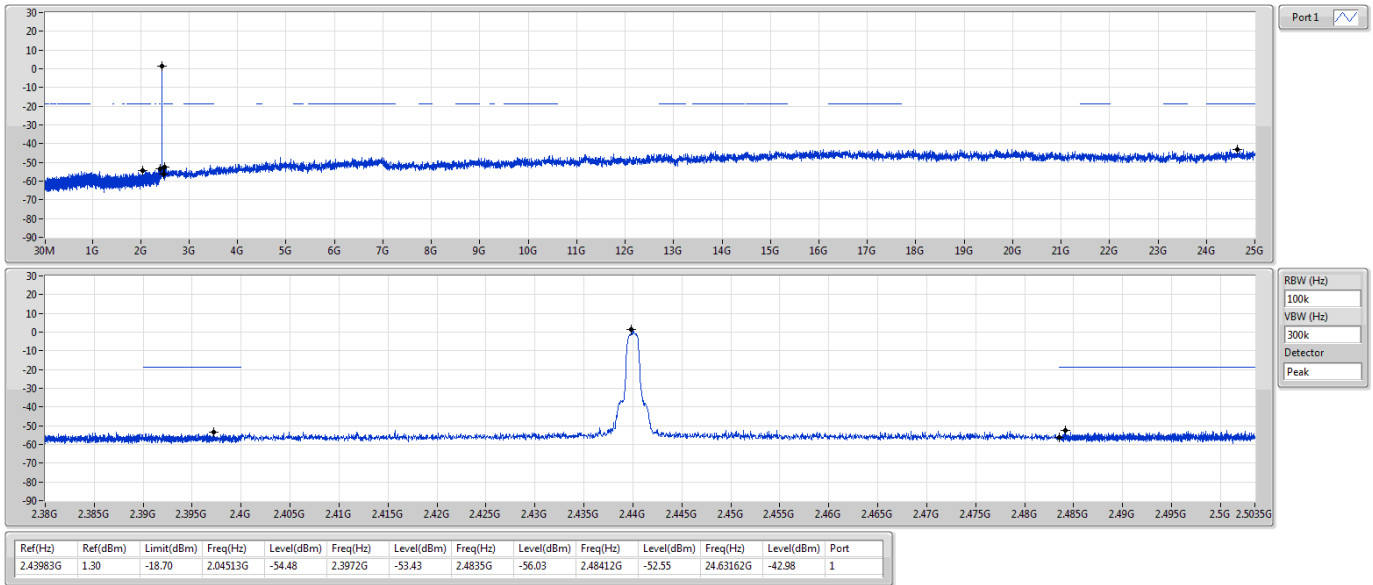
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40196G	1.69	-18.31	700.34M	-54.52	2.39956G	-50.25	2.4G	-49.04	2.499G	-52.84	16.44571G	-41.66	1

BT-EDR(2Mbps)

2440MHz

CSE NdB

17/01/2020

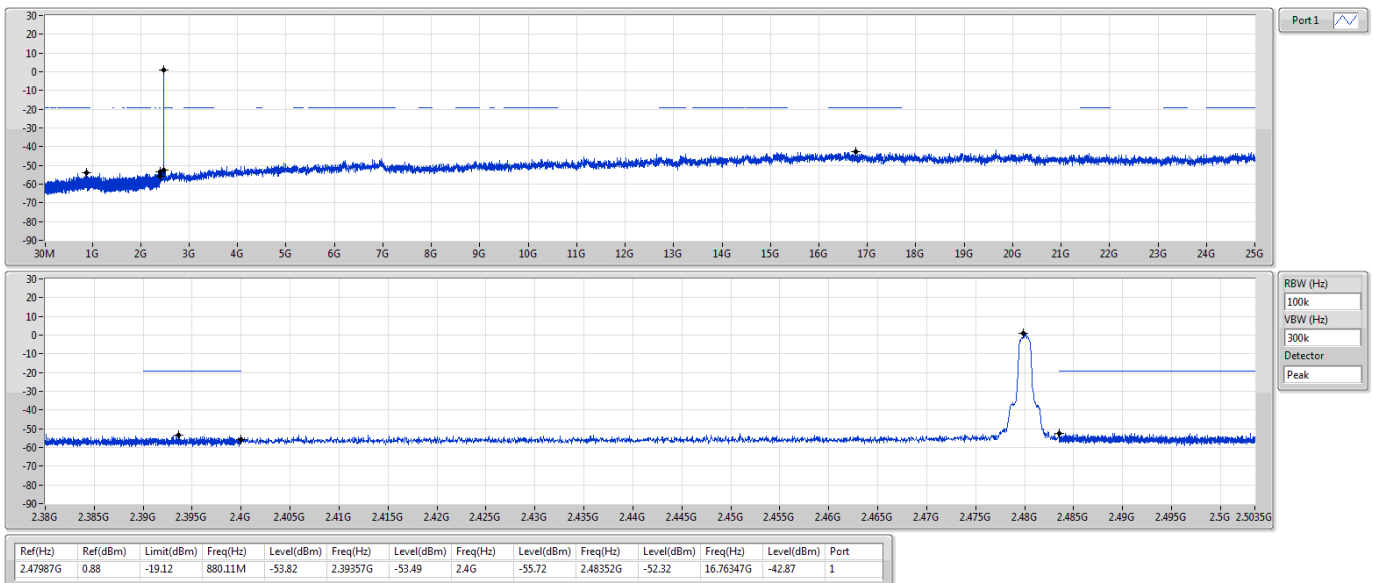


BT-EDR(2Mbps)

2480MHz

CSE NdB

17/01/2020



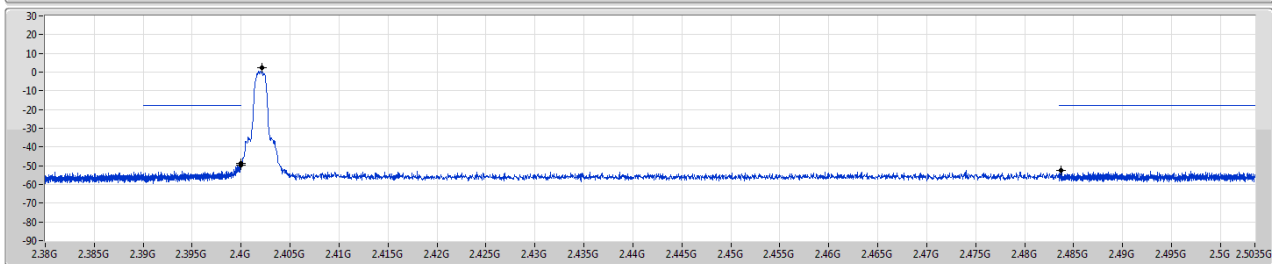
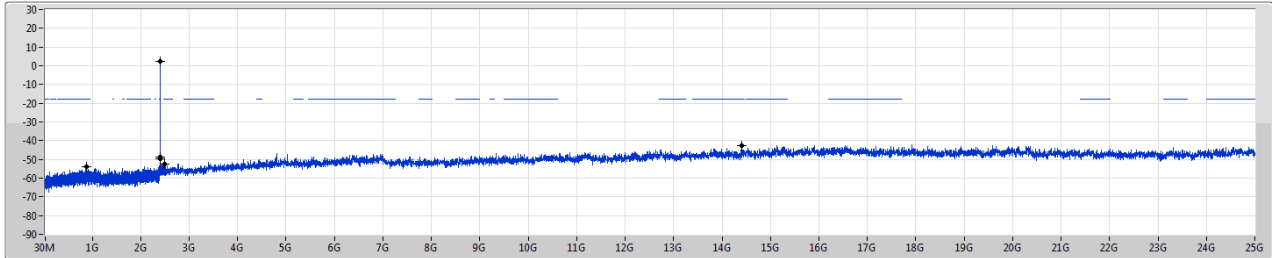
BT-EDR(3Mbps)

2402MHz

CSE NdB

17/01/2020

Port 1



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
2.40213G	2.18	-17.82	881.58M	-54.10	2.39995G	-48.84	2.4G	-49.71	2.48372G	-52.30	14.41258G	-42.57	1

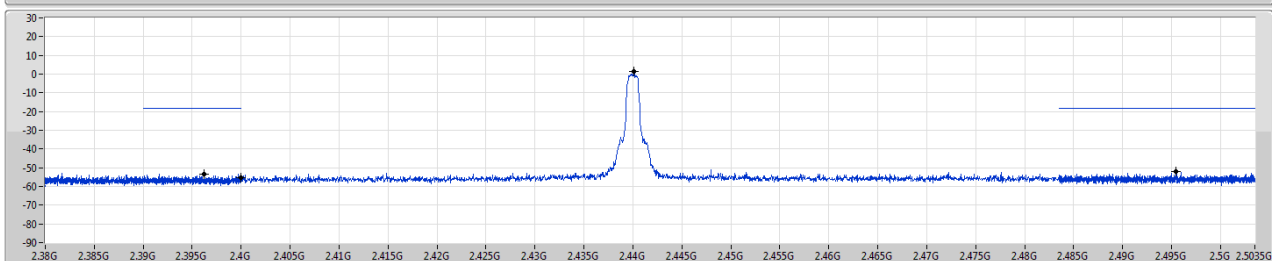
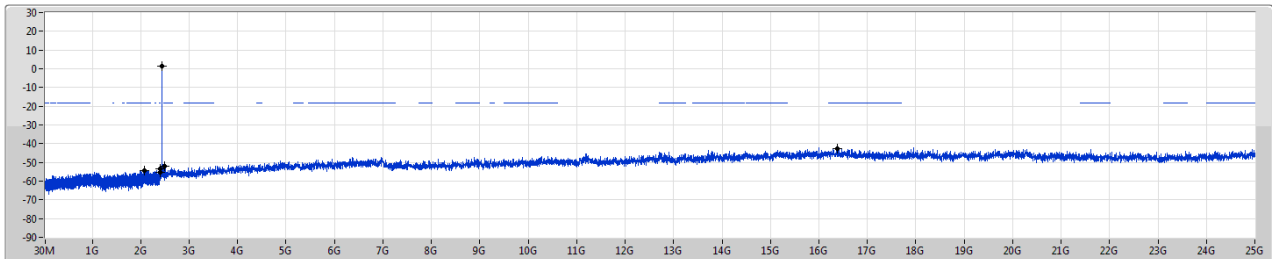
BT-EDR(3Mbps)

2440MHz

CSE NdB

17/01/2020

Port 1



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

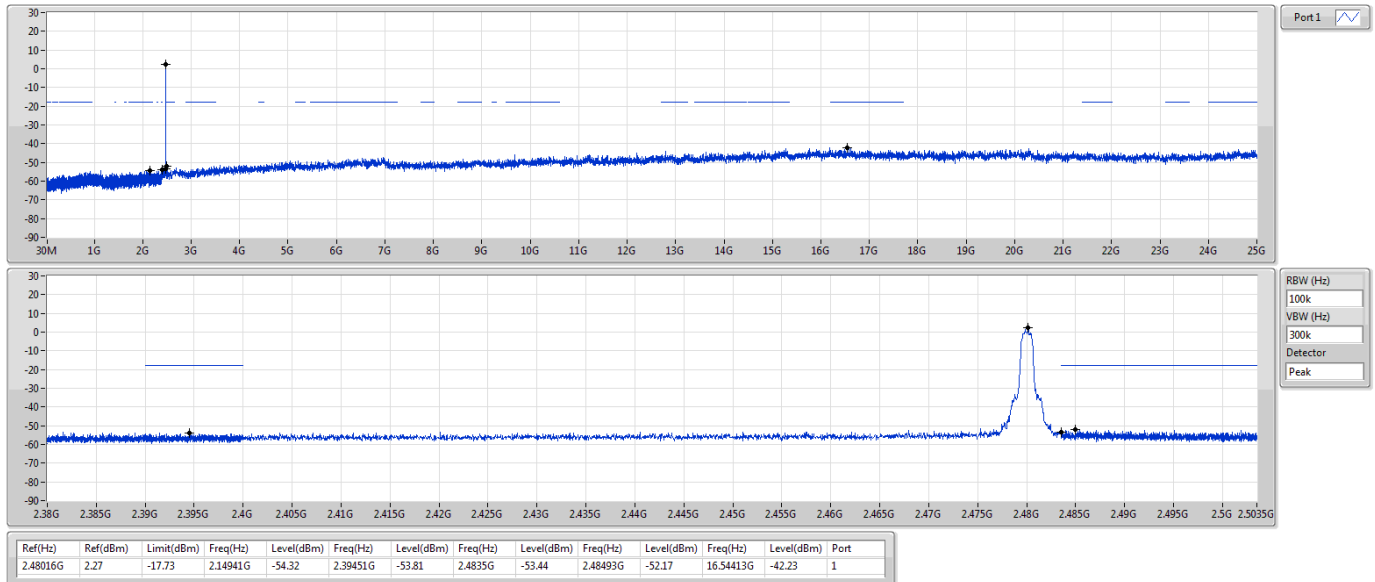
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44012G	1.55	-18.45	2.07274G	-54.45	2.39619G	-53.22	2.4G	-55.12	2.49548G	-52.15	16.38946G	-42.88	1

BT-EDR(3Mbps)

2480MHz

CSE NdB

17/01/2020





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	210.42M	38.98	43.50	-4.52	3	Horizontal	360	1.00	-

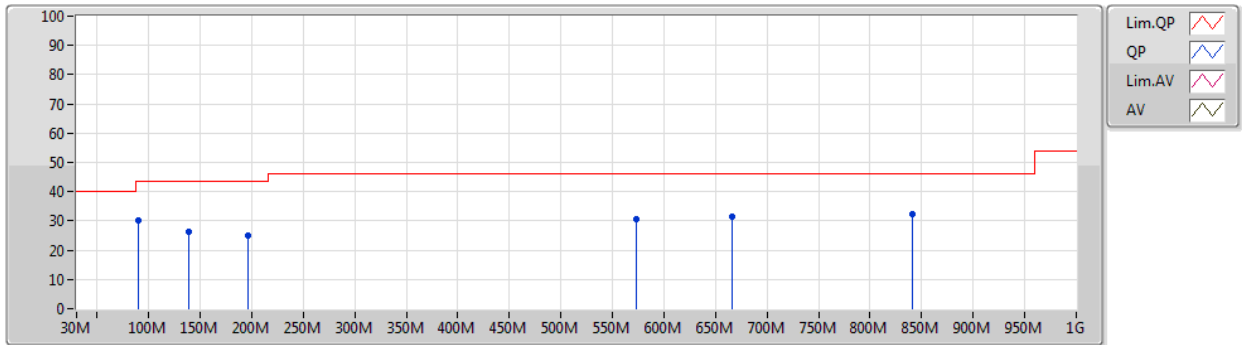
Result

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	90.14M	30.37	43.50	-13.13	3	Vertical	0	1.00	-
2440MHz	Pass	PK	138.64M	26.31	43.50	-17.19	3	Vertical	0	1.00	-
2440MHz	Pass	PK	196.84M	25.08	43.50	-18.42	3	Vertical	0	1.00	-
2440MHz	Pass	PK	573.2M	30.61	46.00	-15.39	3	Vertical	0	1.00	-
2440MHz	Pass	PK	666.32M	31.53	46.00	-14.47	3	Vertical	0	1.00	-
2440MHz	Pass	PK	840.92M	32.42	46.00	-13.58	3	Vertical	0	1.00	-
2440MHz	Pass	PK	138.64M	28.41	43.50	-15.09	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	210.42M	38.98	43.50	-4.52	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	280.26M	35.27	46.00	-10.73	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	749.74M	31.96	46.00	-14.04	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	844.8M	32.10	46.00	-13.90	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	935.98M	34.30	46.00	-11.70	3	Horizontal	360	1.00	-

BT-BR(1Mbps)

2440MHz_USB

21/01/2020

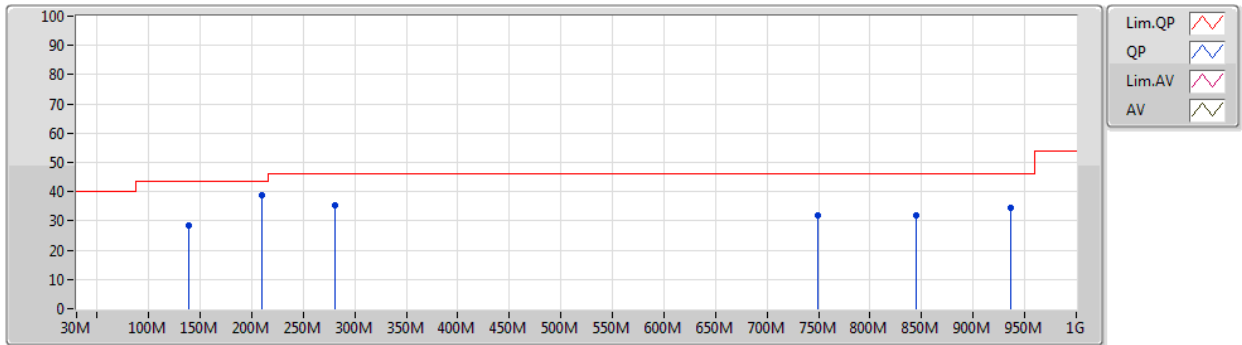


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	90.14M	30.37	43.50	-13.13	-12.38	3	Vertical	0	1.00	-	42.75	13.98	1.39	27.75
PK	138.64M	26.31	43.50	-17.19	-9.64	3	Vertical	0	1.00	-	35.95	16.26	1.77	27.67
PK	196.84M	25.08	43.50	-18.42	-10.76	3	Vertical	0	1.00	-	35.84	14.35	2.29	27.40
PK	573.2M	30.61	46.00	-15.39	-1.24	3	Vertical	0	1.00	-	31.85	23.71	3.63	28.58
PK	666.32M	31.53	46.00	-14.47	-0.61	3	Vertical	0	1.00	-	32.14	24.00	3.88	28.49
PK	840.92M	32.42	46.00	-13.58	1.41	3	Vertical	0	1.00	-	31.01	25.26	4.23	28.08

BT-BR(1Mbps)

2440MHz_USB

21/01/2020



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)
PK	138.64M	28.41	43.50	-15.09	-9.64	3	Horizontal	360	1.00	-	38.05	16.26	1.77	27.67
PK	210.42M	38.98	43.50	-4.52	-10.72	3	Horizontal	360	1.00	-	49.70	14.16	2.47	27.35
PK	280.26M	35.27	46.00	-10.73	-6.34	3	Horizontal	360	1.00	-	41.61	17.95	2.88	27.17
PK	749.74M	31.96	46.00	-14.04	0.57	3	Horizontal	360	1.00	-	31.39	24.79	4.12	28.34
PK	844.8M	32.10	46.00	-13.90	1.45	3	Horizontal	360	1.00	-	30.65	25.28	4.24	28.07
PK	935.98M	34.30	46.00	-11.70	2.77	3	Horizontal	360	1.00	-	31.53	25.68	4.72	27.63



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	PK	2.3786G	57.28	74.00	-16.72	3	Vertical	15	1.25	-
BT-EDR(3Mbps)	Pass	PK	2.3432G	56.91	74.00	-17.09	3	Vertical	321	1.62	-

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	2.3786G	34.78	54.00	-19.22	3	Vertical	15	1.25	-
2402MHz	Pass	AV	2.4022G	74.70	Inf	-Inf	3	Vertical	15	1.25	-
2402MHz	Pass	PK	2.3786G	57.28	74.00	-16.72	3	Vertical	15	1.25	-
2402MHz	Pass	PK	2.4022G	97.20	Inf	-Inf	3	Vertical	15	1.25	-
2402MHz	Pass	AV	2.3642G	34.62	54.00	-19.38	3	Horizontal	215	1.15	-
2402MHz	Pass	AV	2.402G	68.50	Inf	-Inf	3	Horizontal	215	1.15	-
2402MHz	Pass	PK	2.3642G	57.12	74.00	-16.88	3	Horizontal	215	1.15	-
2402MHz	Pass	PK	2.402G	91.00	Inf	-Inf	3	Horizontal	215	1.15	-
2402MHz	Pass	AV	4.80428G	30.76	54.00	-23.24	3	Vertical	303	2.88	-
2402MHz	Pass	PK	4.80428G	53.26	74.00	-20.74	3	Vertical	303	2.88	-
2402MHz	Pass	AV	4.80381G	31.66	54.00	-22.34	3	Horizontal	234	2.09	-
2402MHz	Pass	PK	4.80381G	54.16	74.00	-19.84	3	Horizontal	234	2.09	-
2440MHz	Pass	AV	2.3764G	33.78	54.00	-20.22	3	Vertical	323	1.34	-
2440MHz	Pass	AV	2.44G	75.31	Inf	-Inf	3	Vertical	323	1.34	-
2440MHz	Pass	AV	2.4876G	33.35	54.00	-20.65	3	Vertical	323	1.34	-
2440MHz	Pass	PK	2.3764G	56.28	74.00	-17.72	3	Vertical	323	1.34	-
2440MHz	Pass	PK	2.44G	97.81	Inf	-Inf	3	Vertical	323	1.34	-
2440MHz	Pass	PK	2.4876G	55.85	74.00	-18.15	3	Vertical	323	1.34	-
2440MHz	Pass	AV	2.3404G	33.86	54.00	-20.14	3	Horizontal	214	1.00	-
2440MHz	Pass	AV	2.44G	67.70	Inf	-Inf	3	Horizontal	214	1.00	-
2440MHz	Pass	AV	2.4908G	33.20	54.00	-20.80	3	Horizontal	214	1.00	-
2440MHz	Pass	PK	2.3404G	56.36	74.00	-17.64	3	Horizontal	214	1.00	-
2440MHz	Pass	PK	2.44G	90.20	Inf	-Inf	3	Horizontal	214	1.00	-
2440MHz	Pass	PK	2.4908G	55.70	74.00	-18.30	3	Horizontal	214	1.00	-
2440MHz	Pass	AV	4.88016G	28.80	54.00	-25.20	3	Vertical	297	2.83	-
2440MHz	Pass	AV	7.31981G	30.23	54.00	-23.77	3	Vertical	242	1.05	-
2440MHz	Pass	PK	4.88016G	51.30	74.00	-22.70	3	Vertical	297	2.83	-
2440MHz	Pass	PK	7.31981G	52.73	74.00	-21.27	3	Vertical	242	1.05	-
2440MHz	Pass	AV	4.87967G	27.07	54.00	-26.93	3	Horizontal	222	1.46	-
2440MHz	Pass	AV	7.31961G	30.91	54.00	-23.09	3	Horizontal	195	2.96	-
2440MHz	Pass	PK	4.87967G	49.57	74.00	-24.43	3	Horizontal	222	1.46	-
2440MHz	Pass	PK	7.31961G	53.41	74.00	-20.59	3	Horizontal	195	2.96	-
2480MHz	Pass	AV	2.4802G	75.52	Inf	-Inf	3	Vertical	4	1.69	-
2480MHz	Pass	AV	2.4872G	33.43	54.00	-20.57	3	Vertical	4	1.69	-
2480MHz	Pass	PK	2.4802G	98.02	Inf	-Inf	3	Vertical	4	1.69	-
2480MHz	Pass	PK	2.4872G	55.93	74.00	-18.07	3	Vertical	4	1.69	-
2480MHz	Pass	AV	2.4798G	65.85	Inf	-Inf	3	Horizontal	205	2.04	-
2480MHz	Pass	AV	2.4992G	33.34	54.00	-20.66	3	Horizontal	205	2.04	-
2480MHz	Pass	PK	2.4798G	88.35	Inf	-Inf	3	Horizontal	205	2.04	-
2480MHz	Pass	PK	2.4992G	55.84	74.00	-18.16	3	Horizontal	205	2.04	-
2480MHz	Pass	AV	4.95992G	27.70	54.00	-26.30	3	Vertical	280	2.91	-
2480MHz	Pass	AV	7.43982G	30.47	54.00	-23.53	3	Vertical	320	2.23	-
2480MHz	Pass	PK	4.95992G	50.20	74.00	-23.80	3	Vertical	280	2.91	-
2480MHz	Pass	PK	7.43982G	52.97	74.00	-21.03	3	Vertical	320	2.23	-
2480MHz	Pass	AV	4.95955G	26.45	54.00	-27.55	3	Horizontal	210	1.27	-
2480MHz	Pass	AV	7.43941G	31.19	54.00	-22.81	3	Horizontal	37	1.00	-
2480MHz	Pass	PK	4.95955G	48.95	74.00	-25.05	3	Horizontal	210	1.27	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	PK	7.43941G	53.69	74.00	-20.31	3	Horizontal	37	1.00	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3866G	33.78	54.00	-20.22	3	Vertical	326	1.23	-
2402MHz	Pass	AV	2.402G	75.58	Inf	-Inf	3	Vertical	326	1.23	-
2402MHz	Pass	PK	2.3866G	56.28	74.00	-17.72	3	Vertical	326	1.23	-
2402MHz	Pass	PK	2.402G	98.08	Inf	-Inf	3	Vertical	326	1.23	-
2402MHz	Pass	AV	2.3578G	33.34	74.00	-40.66	3	Horizontal	215	1.15	-
2402MHz	Pass	AV	2.402G	69.37	Inf	-Inf	3	Horizontal	215	1.15	-
2402MHz	Pass	PK	2.3578G	55.84	74.00	-18.16	3	Horizontal	215	1.15	-
2402MHz	Pass	PK	2.402G	91.87	Inf	-Inf	3	Horizontal	215	1.15	-
2402MHz	Pass	AV	4.80359G	31.00	54.00	-23.00	3	Vertical	303	2.91	-
2402MHz	Pass	PK	4.80359G	53.50	74.00	-20.50	3	Vertical	303	2.91	-
2402MHz	Pass	AV	4.80395G	31.85	54.00	-22.15	3	Horizontal	234	2.09	-
2402MHz	Pass	PK	4.80395G	54.35	74.00	-19.65	3	Horizontal	234	2.09	-
2440MHz	Pass	AV	2.3432G	34.41	54.00	-19.59	3	Vertical	321	1.62	-
2440MHz	Pass	AV	2.44G	76.73	Inf	-Inf	3	Vertical	321	1.62	-
2440MHz	Pass	AV	2.4868G	33.65	54.00	-20.35	3	Vertical	321	1.62	-
2440MHz	Pass	PK	2.3432G	56.91	74.00	-17.09	3	Vertical	321	1.62	-
2440MHz	Pass	PK	2.44G	99.23	Inf	-Inf	3	Vertical	321	1.62	-
2440MHz	Pass	PK	2.4868G	56.15	74.00	-17.85	3	Vertical	321	1.62	-
2440MHz	Pass	AV	2.3776G	32.88	54.00	-21.12	3	Horizontal	214	1.00	-
2440MHz	Pass	AV	2.44G	68.79	Inf	-Inf	3	Horizontal	214	1.00	-
2440MHz	Pass	AV	2.4988G	32.46	54.00	-21.54	3	Horizontal	214	1.00	-
2440MHz	Pass	PK	2.3776G	55.38	74.00	-18.62	3	Horizontal	214	1.00	-
2440MHz	Pass	PK	2.44G	91.29	Inf	-Inf	3	Horizontal	214	1.00	-
2440MHz	Pass	PK	2.4988G	54.96	74.00	-19.04	3	Horizontal	214	1.00	-
2440MHz	Pass	AV	4.88006G	28.86	54.00	-25.14	3	Vertical	298	2.83	-
2440MHz	Pass	AV	7.3204G	30.36	54.00	-23.64	3	Vertical	241	1.02	-
2440MHz	Pass	PK	4.88006G	51.36	74.00	-22.64	3	Vertical	298	2.83	-
2440MHz	Pass	PK	7.3204G	52.86	74.00	-21.14	3	Vertical	241	1.02	-
2440MHz	Pass	AV	4.88068G	27.19	54.00	-26.81	3	Horizontal	221	1.36	-
2440MHz	Pass	AV	7.31931G	30.73	54.00	-23.27	3	Horizontal	195	2.80	-
2440MHz	Pass	PK	4.88068G	49.69	74.00	-24.31	3	Horizontal	221	1.36	-
2440MHz	Pass	PK	7.31931G	53.23	74.00	-20.77	3	Horizontal	195	2.80	-
2480MHz	Pass	AV	2.48G	76.82	Inf	-Inf	3	Vertical	6	1.19	-
2480MHz	Pass	AV	2.484G	33.74	54.00	-20.26	3	Vertical	6	1.19	-
2480MHz	Pass	PK	2.48G	99.32	Inf	-Inf	3	Vertical	6	1.19	-
2480MHz	Pass	PK	2.484G	56.24	74.00	-17.76	3	Vertical	6	1.19	-
2480MHz	Pass	AV	2.48G	67.01	Inf	-Inf	3	Horizontal	204	1.50	-
2480MHz	Pass	AV	2.4884G	32.32	54.00	-21.68	3	Horizontal	204	1.50	-
2480MHz	Pass	PK	2.48G	89.51	Inf	-Inf	3	Horizontal	204	1.50	-
2480MHz	Pass	PK	2.4884G	54.82	74.00	-19.18	3	Horizontal	204	1.50	-
2480MHz	Pass	AV	4.96049G	27.82	54.00	-26.18	3	Vertical	231	2.09	-
2480MHz	Pass	AV	7.43939G	30.23	54.00	-23.77	3	Vertical	320	2.22	-
2480MHz	Pass	PK	4.96049G	50.32	74.00	-23.68	3	Vertical	281	2.90	-
2480MHz	Pass	PK	7.43939G	52.73	74.00	-21.27	3	Vertical	320	2.22	-
2480MHz	Pass	AV	4.95976G	28.40	54.00	-25.60	3	Horizontal	231	2.09	-
2480MHz	Pass	AV	7.44G	31.97	54.00	-22.03	3	Horizontal	38	1.00	-
2480MHz	Pass	PK	4.95976G	50.90	74.00	-23.10	3	Horizontal	231	2.09	-



RSE TX above 1GHz

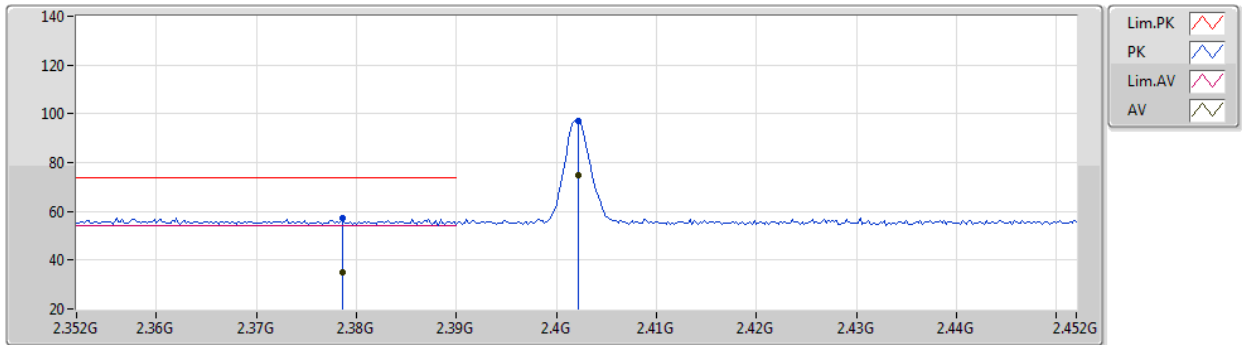
Appendix G.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	PK	7.44G	54.47	74.00	-19.53	3	Horizontal	38	1.00	-

BT-BR(1Mbps)

2402MHz_TX

20/01/2020

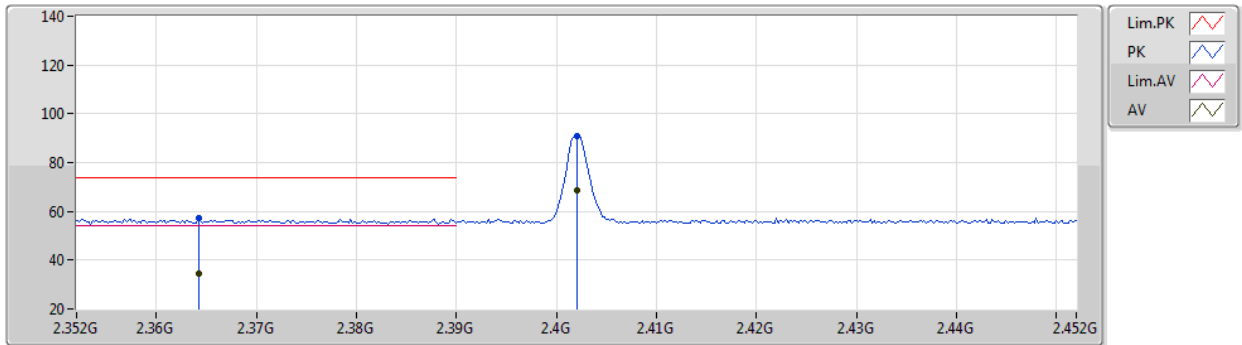


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3786G	34.78	54.00	-19.22	31.58	3	Vertical	15	1.25	-	3.20	27.59	3.99	-
AV	2.4022G	74.70	Inf	-Inf	31.51	3	Vertical	15	1.25	-	43.19	27.50	4.01	-
PK	2.3786G	57.28	74.00	-16.72	31.58	3	Vertical	15	1.25	-	25.70	27.59	3.99	-
PK	2.4022G	97.20	Inf	-Inf	31.51	3	Vertical	15	1.25	-	65.69	27.50	4.01	-

BT-BR(1Mbps)

2402MHz_TX

20/01/2020

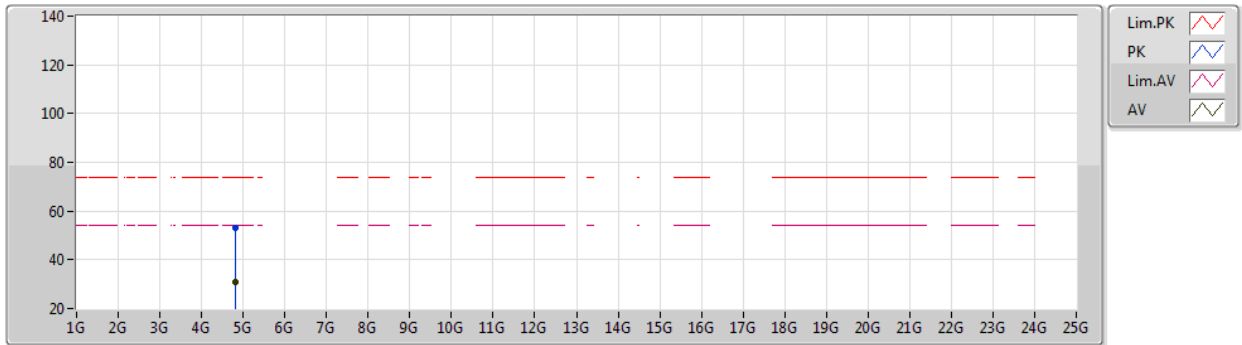


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3642G	34.62	54.00	-19.38	31.61	3	Horizontal	215	1.15	-	3.01	27.64	3.97	-
AV	2.402G	68.50	Inf	-Inf	31.51	3	Horizontal	215	1.15	-	36.99	27.50	4.01	-
PK	2.3642G	57.12	74.00	-16.88	31.61	3	Horizontal	215	1.15	-	25.51	27.64	3.97	-
PK	2.402G	91.00	Inf	-Inf	31.51	3	Horizontal	215	1.15	-	59.49	27.50	4.01	-

BT-BR(1Mbps)

2402MHz_TX

20/01/2020

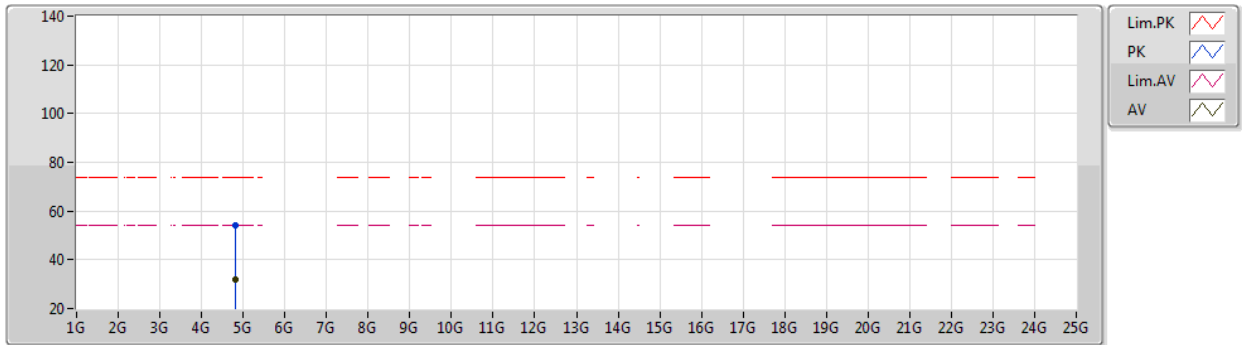


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80428G	30.76	54.00	-23.24	7.47	3	Vertical	303	2.88	-	23.29	31.10	5.78	29.41
PK	4.80428G	53.26	74.00	-20.74	7.47	3	Vertical	303	2.88	-	45.79	31.10	5.78	29.41

BT-BR(1Mbps)

2402MHz_TX

20/01/2020

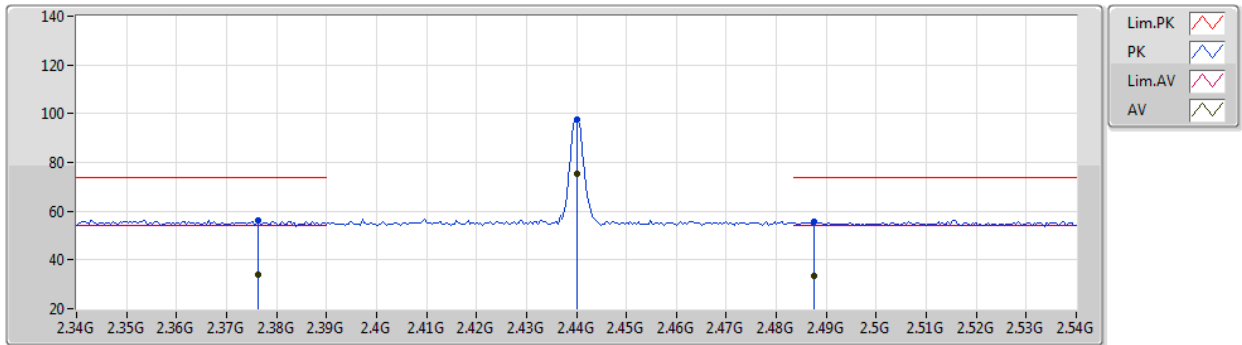


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80381G	31.66	54.00	-22.34	7.47	3	Horizontal	234	2.09	-	24.19	31.10	5.78	29.41
PK	4.80381G	54.16	74.00	-19.84	7.47	3	Horizontal	234	2.09	-	46.69	31.10	5.78	29.41

BT-BR(1Mbps)

2440MHz_TX

20/01/2020

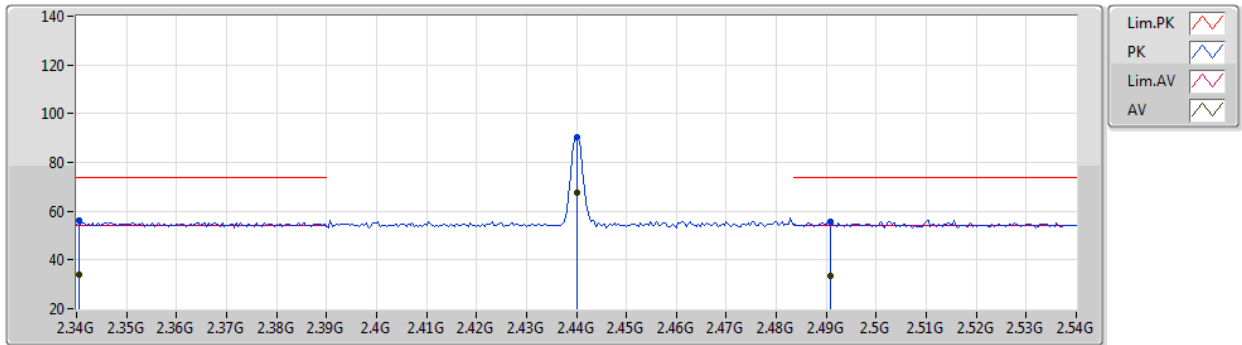


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3764G	33.78	54.00	-20.22	31.57	3	Vertical	323	1.34	-	2.21	27.59	3.98	-
AV	2.44G	75.31	Inf	-Inf	31.46	3	Vertical	323	1.34	-	43.85	27.42	4.04	-
AV	2.4876G	33.35	54.00	-20.65	31.41	3	Vertical	323	1.34	-	1.94	27.32	4.09	-
PK	2.3764G	56.28	74.00	-17.72	31.57	3	Vertical	323	1.34	-	24.71	27.59	3.98	-
PK	2.44G	97.81	Inf	-Inf	31.46	3	Vertical	323	1.34	-	66.35	27.42	4.04	-
PK	2.4876G	55.85	74.00	-18.15	31.41	3	Vertical	323	1.34	-	24.44	27.32	4.09	-

BT-BR(1Mbps)

2440MHz_TX

20/01/2020

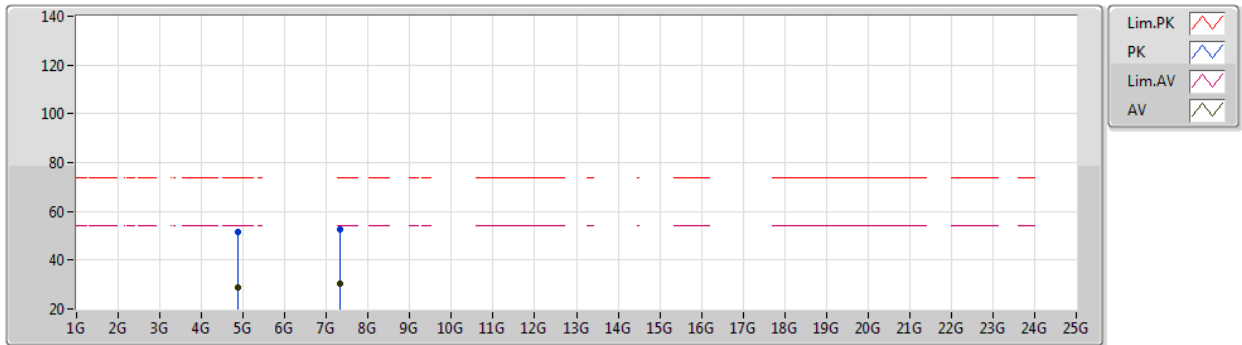


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3404G	33.86	54.00	-20.14	31.69	3	Horizontal	214	1.00	-	2.17	27.74	3.95	-
AV	2.44G	67.70	Inf	-Inf	31.46	3	Horizontal	214	1.00	-	36.24	27.42	4.04	-
AV	2.4908G	33.20	54.00	-20.80	31.41	3	Horizontal	214	1.00	-	1.79	27.32	4.09	-
PK	2.3404G	56.36	74.00	-17.64	31.69	3	Horizontal	214	1.00	-	24.67	27.74	3.95	-
PK	2.44G	90.20	Inf	-Inf	31.46	3	Horizontal	214	1.00	-	58.74	27.42	4.04	-
PK	2.4908G	55.70	74.00	-18.30	31.41	3	Horizontal	214	1.00	-	24.29	27.32	4.09	-

BT-BR(1Mbps)

2440MHz_TX

20/01/2020

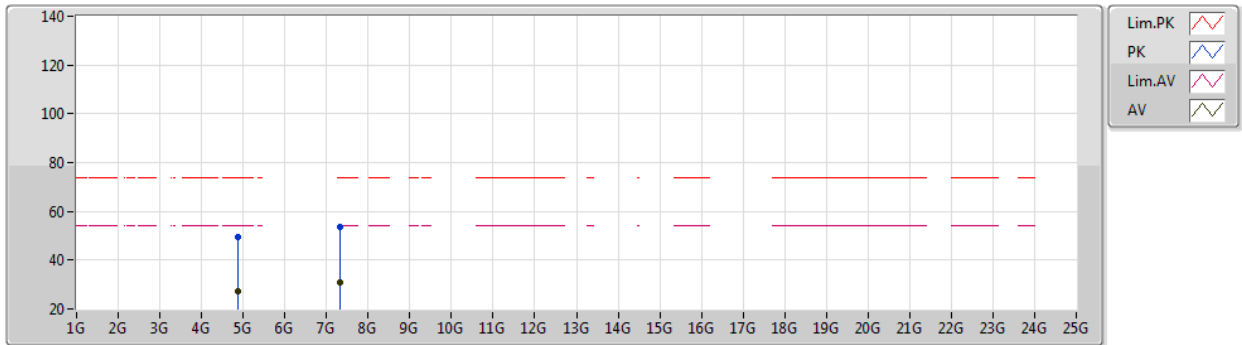


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.88016G	28.80	54.00	-25.20	7.63	3	Vertical	297	2.83	-	21.17	31.18	5.83	29.38
AV	7.31981G	30.23	54.00	-23.77	13.37	3	Vertical	242	1.05	-	16.86	36.28	7.46	30.37
PK	4.88016G	51.30	74.00	-22.70	7.63	3	Vertical	297	2.83	-	43.67	31.18	5.83	29.38
PK	7.31981G	52.73	74.00	-21.27	13.37	3	Vertical	242	1.05	-	39.36	36.28	7.46	30.37

BT-BR(1Mbps)

2440MHz_TX

20/01/2020

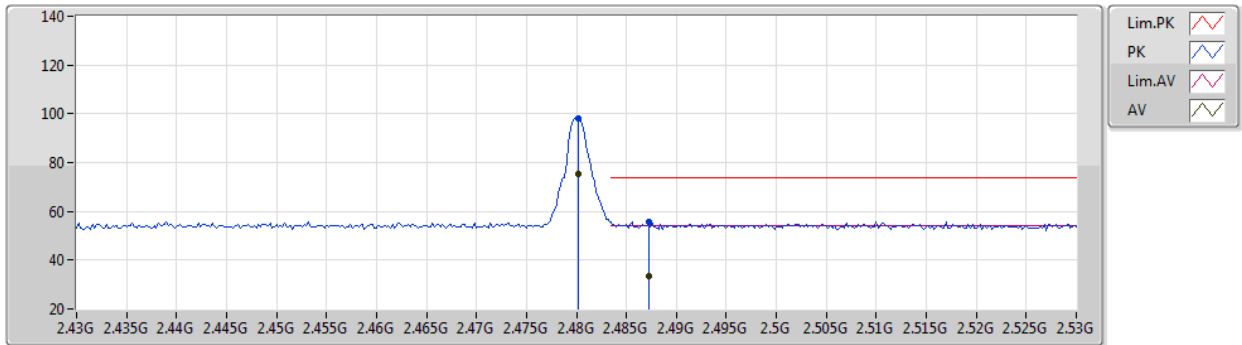


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87967G	27.07	54.00	-26.93	7.63	3	Horizontal	222	1.46	-	19.44	31.18	5.83	29.38
AV	7.31961G	30.91	54.00	-23.09	13.38	3	Horizontal	195	2.96	-	17.53	36.28	7.46	30.36
PK	4.87967G	49.57	74.00	-24.43	7.63	3	Horizontal	222	1.46	-	41.94	31.18	5.83	29.38
PK	7.31961G	53.41	74.00	-20.59	13.38	3	Horizontal	195	2.96	-	40.03	36.28	7.46	30.36

BT-BR(1Mbps)

2480MHz_TX

20/01/2020

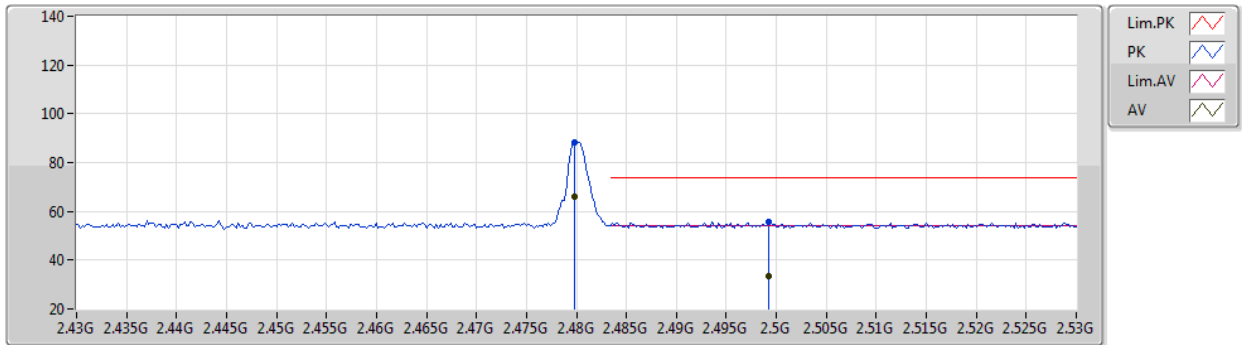


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.4802G	75.52	Inf	-Inf	31.42	3	Vertical	4	1.69	-	44.10	27.34	4.08	-
AV	2.4872G	33.43	54.00	-20.57	31.42	3	Vertical	4	1.69	-	2.01	27.33	4.09	-
PK	2.4802G	98.02	Inf	-Inf	31.42	3	Vertical	4	1.69	-	66.60	27.34	4.08	-
PK	2.4872G	55.93	74.00	-18.07	31.42	3	Vertical	4	1.69	-	24.51	27.33	4.09	-

BT-BR(1Mbps)

2480MHz_TX

20/01/2020

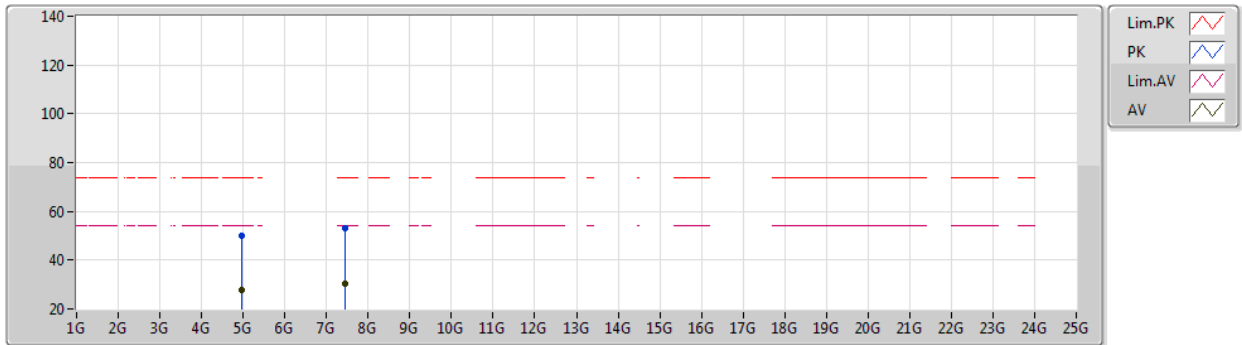


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.4798G	65.85	Inf	-Inf	31.42	3	Horizontal	205	2.04	-	34.43	27.34	4.08	-
AV	2.4992G	33.34	54.00	-20.66	31.40	3	Horizontal	205	2.04	-	1.94	27.30	4.10	-
PK	2.4798G	88.35	Inf	-Inf	31.42	3	Horizontal	205	2.04	-	56.93	27.34	4.08	-
PK	2.4992G	55.84	74.00	-18.16	31.40	3	Horizontal	205	2.04	-	24.44	27.30	4.10	-

BT-BR(1Mbps)

2480MHz_TX

20/01/2020

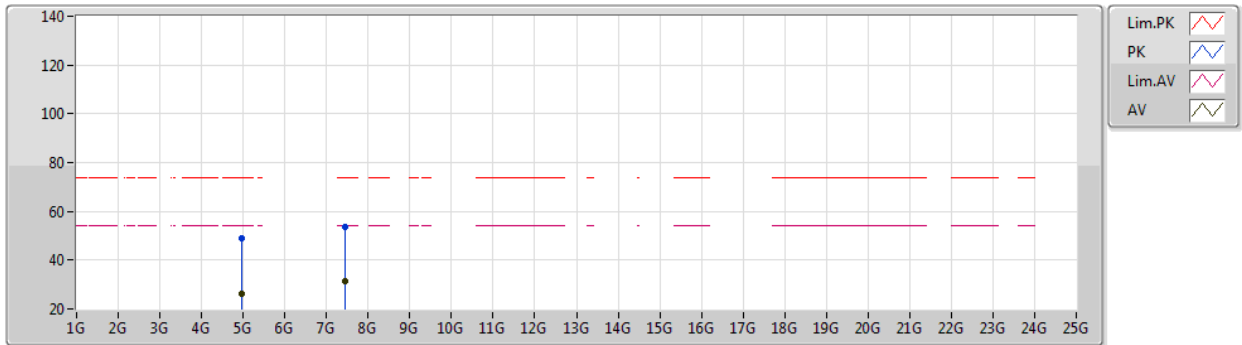


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95992G	27.70	54.00	-26.30	7.93	3	Vertical	280	2.91	-	19.77	31.38	5.89	29.34
AV	7.43982G	30.47	54.00	-23.53	13.01	3	Vertical	320	2.23	-	17.46	36.24	7.24	30.47
PK	4.95992G	50.20	74.00	-23.80	7.93	3	Vertical	280	2.91	-	42.27	31.38	5.89	29.34
PK	7.43982G	52.97	74.00	-21.03	13.01	3	Vertical	320	2.23	-	39.96	36.24	7.24	30.47

BT-BR(1Mbps)

2480MHz_TX

20/01/2020

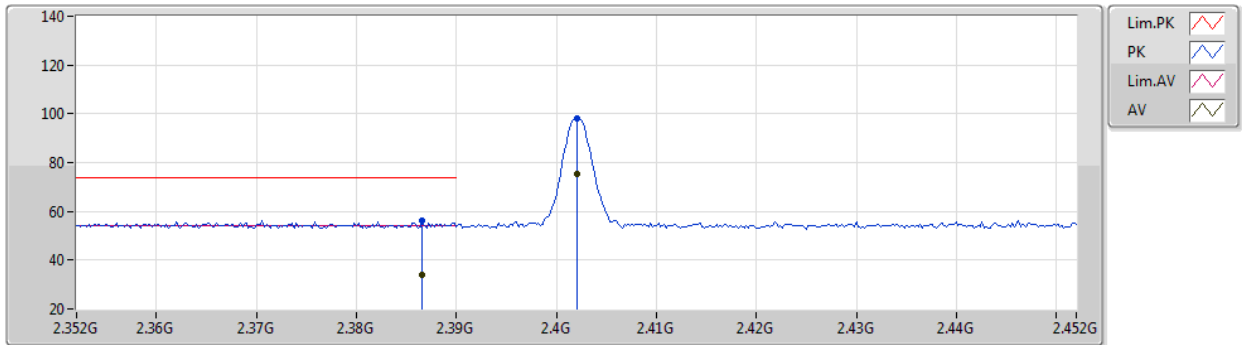


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95955G	26.45	54.00	-27.55	7.93	3	Horizontal	210	1.27	-	18.52	31.38	5.89	29.34
AV	7.43941G	31.19	54.00	-22.81	13.01	3	Horizontal	37	1.00	-	18.18	36.24	7.24	30.47
PK	4.95955G	48.95	74.00	-25.05	7.93	3	Horizontal	210	1.27	-	41.02	31.38	5.89	29.34
PK	7.43941G	53.69	74.00	-20.31	13.01	3	Horizontal	37	1.00	-	40.68	36.24	7.24	30.47

BT-EDR(3Mbps)

2402MHz_TX

20/01/2020

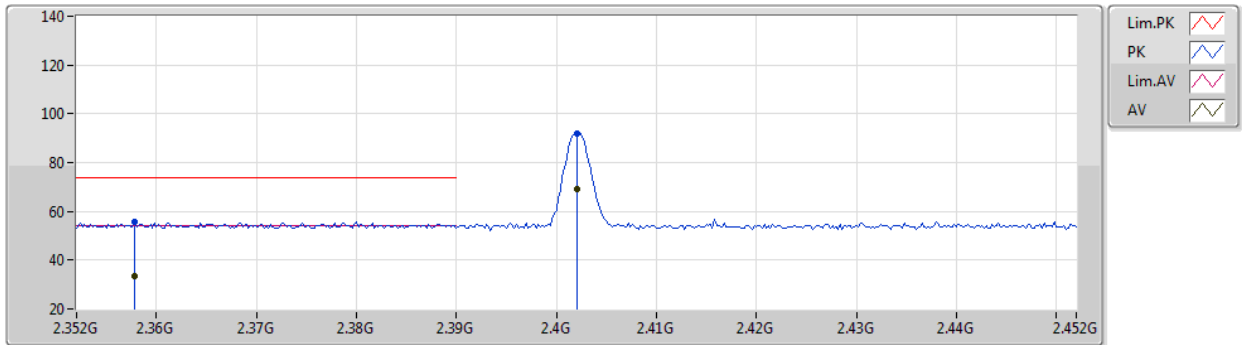


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3866G	33.78	54.00	-20.22	31.54	3	Vertical	326	1.23	-	2.24	27.55	3.99	-
AV	2.402G	75.58	Inf	-Inf	31.51	3	Vertical	326	1.23	-	44.07	27.50	4.01	-
PK	2.3866G	56.28	74.00	-17.72	31.54	3	Vertical	326	1.23	-	24.74	27.55	3.99	-
PK	2.402G	98.08	Inf	-Inf	31.51	3	Vertical	326	1.23	-	66.57	27.50	4.01	-

BT-EDR(3Mbps)

2402MHz_TX

20/01/2020

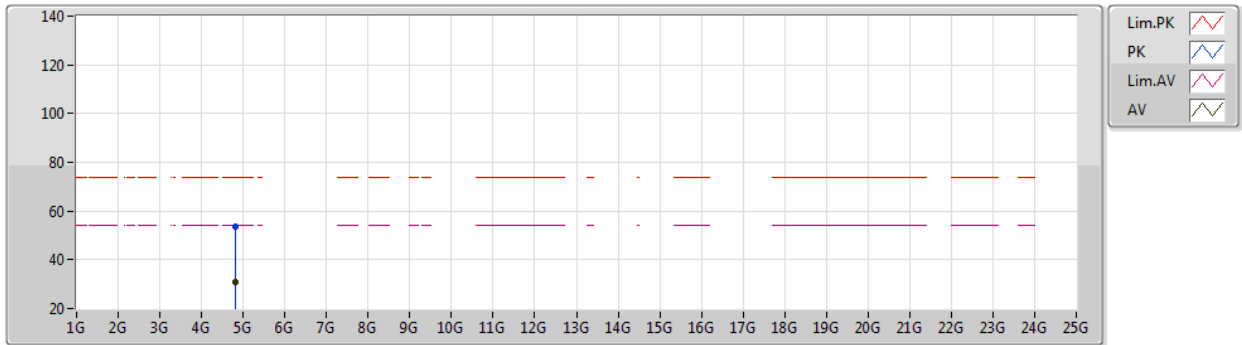


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3578G	33.34	74.00	-40.66	31.64	3	Horizontal	215	1.15	-	1.70	27.67	3.97	-
AV	2.402G	69.37	Inf	-Inf	31.51	3	Horizontal	215	1.15	-	37.86	27.50	4.01	-
PK	2.3578G	55.84	74.00	-18.16	31.64	3	Horizontal	215	1.15	-	24.20	27.67	3.97	-
PK	2.402G	91.87	Inf	-Inf	31.51	3	Horizontal	215	1.15	-	60.36	27.50	4.01	-

BT-EDR(3Mbps)

20/01/2020

2402MHz_TX

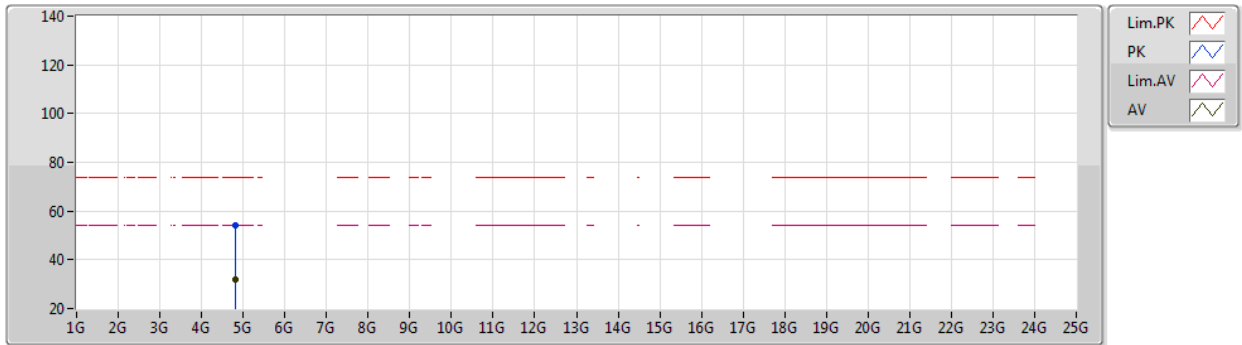


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80359G	31.00	54.00	-23.00	7.47	3	Vertical	303	2.91	-	23.53	31.10	5.78	29.41
PK	4.80359G	53.50	74.00	-20.50	7.47	3	Vertical	303	2.91	-	46.03	31.10	5.78	29.41

BT-EDR(3Mbps)

20/01/2020

2402MHz_TX

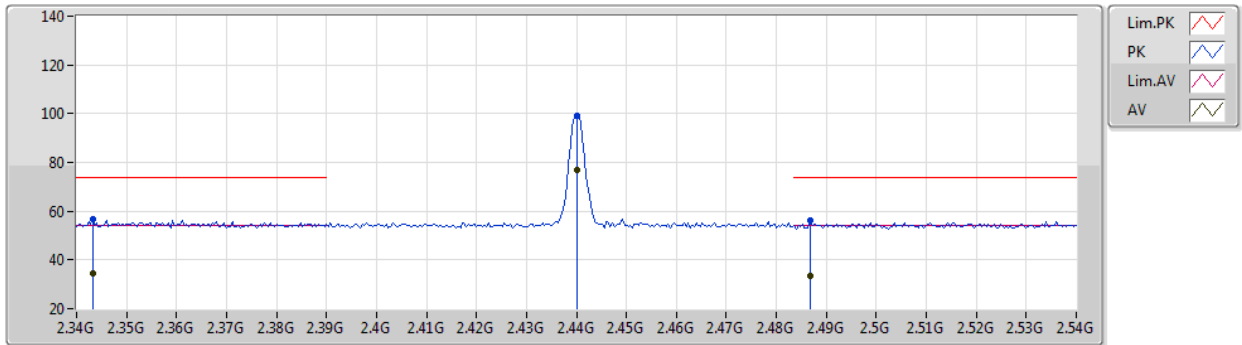


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80395G	31.85	54.00	-22.15	7.47	3	Horizontal	234	2.09	-	24.38	31.10	5.78	29.41
PK	4.80395G	54.35	74.00	-19.65	7.47	3	Horizontal	234	2.09	-	46.88	31.10	5.78	29.41

BT-EDR(3Mbps)

2440MHz_TX

20/01/2020

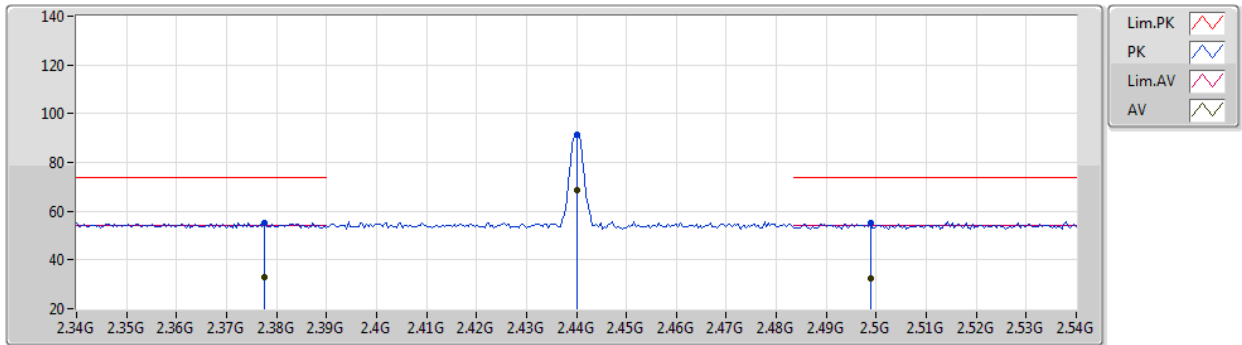


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3432G	34.41	54.00	-19.59	31.68	3	Vertical	321	1.62	-	2.73	27.73	3.95	-
AV	2.44G	76.73	Inf	-Inf	31.46	3	Vertical	321	1.62	-	45.27	27.42	4.04	-
AV	2.4868G	33.65	54.00	-20.35	31.42	3	Vertical	321	1.62	-	2.23	27.33	4.09	-
PK	2.3432G	56.91	74.00	-17.09	31.68	3	Vertical	321	1.62	-	25.23	27.73	3.95	-
PK	2.44G	99.23	Inf	-Inf	31.46	3	Vertical	321	1.62	-	67.77	27.42	4.04	-
PK	2.4868G	56.15	74.00	-17.85	31.42	3	Vertical	321	1.62	-	24.73	27.33	4.09	-

BT-EDR(3Mbps)

2440MHz_TX

20/01/2020

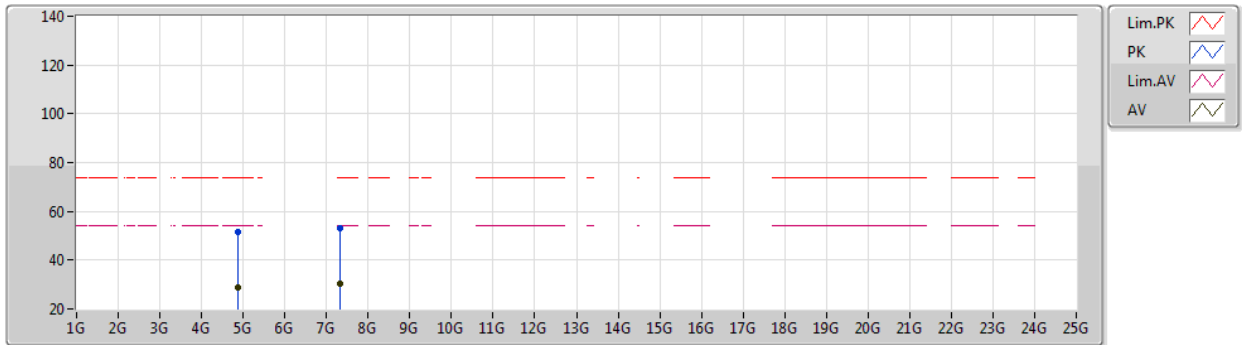


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3776G	32.88	54.00	-21.12	31.57	3	Horizontal	214	1.00	-	1.31	27.59	3.98	-
AV	2.44G	68.79	Inf	-Inf	31.46	3	Horizontal	214	1.00	-	37.33	27.42	4.04	-
AV	2.4988G	32.46	54.00	-21.54	31.40	3	Horizontal	214	1.00	-	1.06	27.30	4.10	-
PK	2.3776G	55.38	74.00	-18.62	31.57	3	Horizontal	214	1.00	-	23.81	27.59	3.98	-
PK	2.44G	91.29	Inf	-Inf	31.46	3	Horizontal	214	1.00	-	59.83	27.42	4.04	-
PK	2.4988G	54.96	74.00	-19.04	31.40	3	Horizontal	214	1.00	-	23.56	27.30	4.10	-

BT-EDR(3Mbps)

2440MHz_TX

20/01/2020

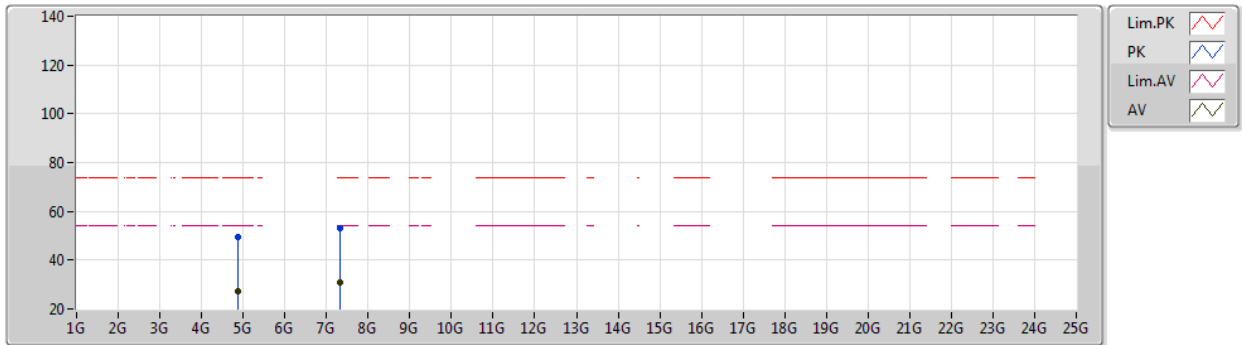


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.88006G	28.86	54.00	-25.14	7.63	3	Vertical	298	2.83	-	21.23	31.18	5.83	29.38
AV	7.3204G	30.36	54.00	-23.64	13.37	3	Vertical	241	1.02	-	16.99	36.28	7.46	30.37
PK	4.88006G	51.36	74.00	-22.64	7.63	3	Vertical	298	2.83	-	43.73	31.18	5.83	29.38
PK	7.3204G	52.86	74.00	-21.14	13.37	3	Vertical	241	1.02	-	39.49	36.28	7.46	30.37

BT-EDR(3Mbps)

2440MHz_TX

20/01/2020

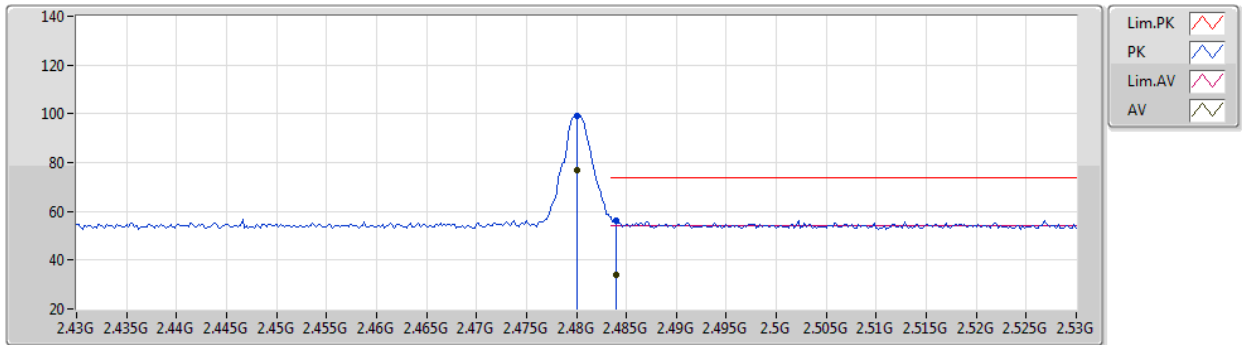


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.88068G	27.19	54.00	-26.81	7.64	3	Horizontal	221	1.36	-	19.55	31.18	5.83	29.37
AV	7.31931G	30.73	54.00	-23.27	13.38	3	Horizontal	195	2.80	-	17.35	36.28	7.46	30.36
PK	4.88068G	49.69	74.00	-24.31	7.64	3	Horizontal	221	1.36	-	42.05	31.18	5.83	29.37
PK	7.31931G	53.23	74.00	-20.77	13.38	3	Horizontal	195	2.80	-	39.85	36.28	7.46	30.36

BT-EDR(3Mbps)

2480MHz_TX

20/01/2020

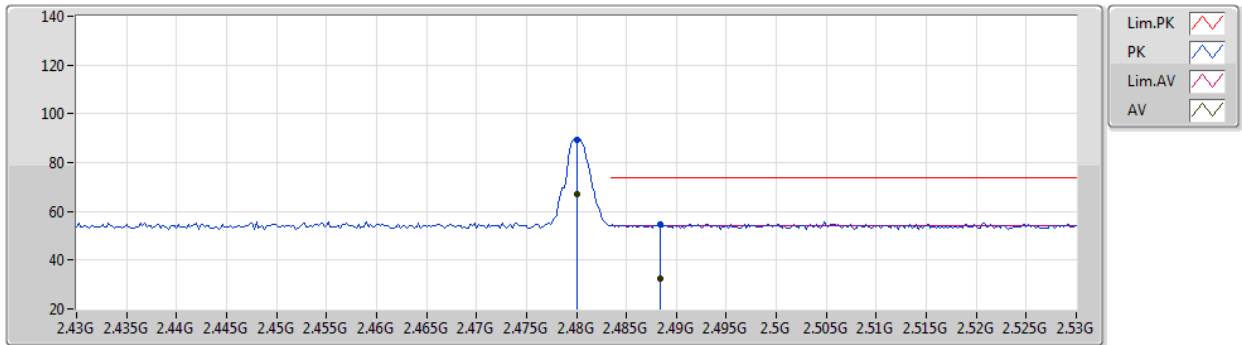


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	76.82	Inf	-Inf	31.42	3	Vertical	6	1.19	-	45.40	27.34	4.08	-
AV	2.484G	33.74	54.00	-20.26	31.41	3	Vertical	6	1.19	-	2.33	27.33	4.08	-
PK	2.48G	99.32	Inf	-Inf	31.42	3	Vertical	6	1.19	-	67.90	27.34	4.08	-
PK	2.484G	56.24	74.00	-17.76	31.41	3	Vertical	6	1.19	-	24.83	27.33	4.08	-

BT-EDR(3Mbps)

2480MHz_TX

20/01/2020

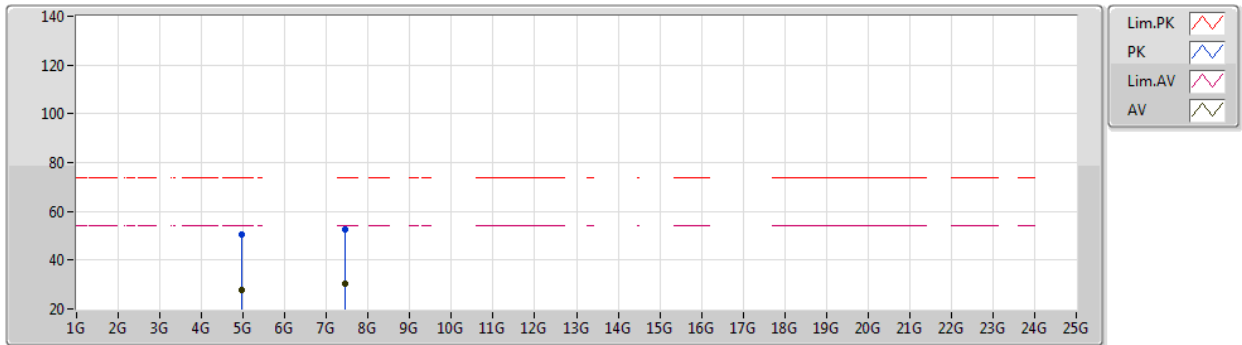


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	67.01	Inf	-Inf	31.42	3	Horizontal	204	1.50	-	35.59	27.34	4.08	-
AV	2.4884G	32.32	54.00	-21.68	31.41	3	Horizontal	204	1.50	-	0.91	27.32	4.09	-
PK	2.48G	89.51	Inf	-Inf	31.42	3	Horizontal	204	1.50	-	58.09	27.34	4.08	-
PK	2.4884G	54.82	74.00	-19.18	31.41	3	Horizontal	204	1.50	-	23.41	27.32	4.09	-

BT-EDR(3Mbps)

20/01/2020

2480MHz_TX

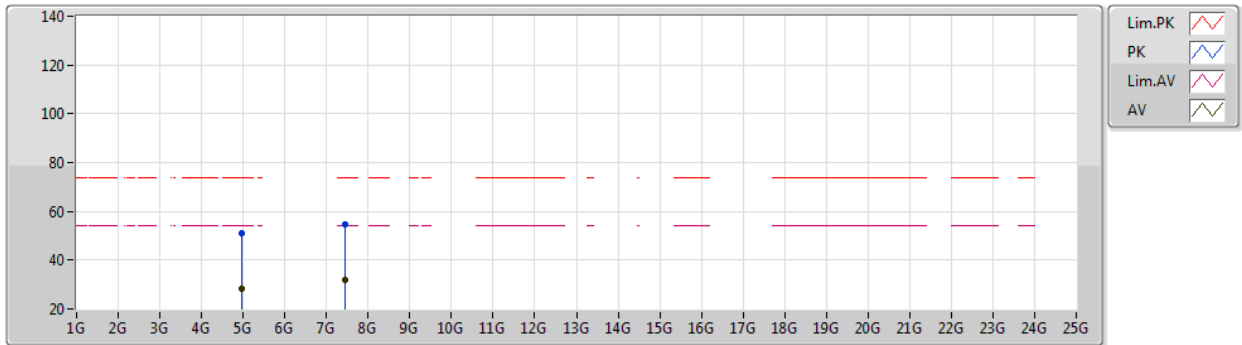


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96049G	27.82	54.00	-26.18	7.93	3	Vertical	231	2.09	-	19.89	31.38	5.89	29.34
AV	7.43939G	30.23	54.00	-23.77	13.01	3	Vertical	320	2.22	-	17.22	36.24	7.24	30.47
PK	4.96049G	50.32	74.00	-23.68	7.93	3	Vertical	281	2.90	-	42.39	31.38	5.89	29.34
PK	7.43939G	52.73	74.00	-21.27	13.01	3	Vertical	320	2.22	-	39.72	36.24	7.24	30.47

BT-EDR(3Mbps)

20/01/2020

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	4.95976G	28.40	54.00	-25.60	7.93	3	Horizontal	231	2.09	-	20.47	31.38	5.89	29.34
AV	7.44G	31.97	54.00	-22.03	13.01	3	Horizontal	38	1.00	-	18.96	36.24	7.24	30.47
PK	4.95976G	50.90	74.00	-23.10	7.93	3	Horizontal	231	2.09	-	42.97	31.38	5.89	29.34
PK	7.44G	54.47	74.00	-19.53	13.01	3	Horizontal	38	1.00	-	41.46	36.24	7.24	30.47