

NCC Test Report

Equipment : 汽車影音導航系統
Brand Name : Pioneer
Model Name : AVIC-F7600
Applicant : 先鋒股份有限公司
臺北市內湖區瑞光路 407 號 8 樓
Manufacturer : 深圳市索菱實業股份有限公司
中國廣東省深圳市南山區大沖商務中心 B 座 28 樓
Standard : LP0002 Section 3.10 (2018-01-10)

The product was received on Dec. 10, 2018, and testing was started from Mar. 21, 2019 and completed on Mar. 26, 2019. 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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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	LP0002-2.2
3.1	2.3	AC Power-line Conducted Emissions	PASS	LP0002-2.3
3.2	3.10.1.6	20dB Bandwidth	PASS	3.10.1.6
3.2	3.10.1.6	Carrier Frequency Separation	PASS	3.10.1.6
3.3	3.10.1.2	Maximum Conducted Output Power	PASS	3.10.1.2
3.4	3.10.1.6	Number of Hopping Frequencies and Hopping Bandedge	PASS	3.10.1.6
3.5	3.10.1.6	Time of Occupancy (Dwell Time)	PASS	3.10.1.6
3.6	3.10.1.5	Emissions in Non-restricted Frequency Bands	PASS	3.10.1.5
3.7	3.10.1.5	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: LP0002-2.8
3.8	2.11	Receiver Radiated Unwanted Emissions	PASS	Restricted Bands: LP0002-2.8

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: Jackson Tsai

Report Producer: Amber Chiu

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	Gain (dBi)
1	-	-	Dipole antenna	SMA	1.561
2	創輝達	3LK1000001800	PCB antenna	Fixed on board	1.5

Note 1: The EUT has two antennas.

For 2.4GHz wireless function:

For IEEE 802.11 b/g/n mode (1TX/1RX)

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

For BT function:

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

Ant. 2 (port 1) could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From DC Power Supply		
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)	1	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
BT-EDR(2Mbps)	1	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
BT-EDR(3Mbps)	1	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)

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)
- ♦ KDB 558074 D01 v05r02
- ♦ ANSI C63.10-2013
- ♦ ANSI C63.4-2014

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-HY	Andy	22.1~23.7°C / 59.4~61.2%	21/Mar/2019
Radiated	03CH03-HY	Daniel	23.6~24.1C / 52.1~56.5%	21~26/Mar/2019
AC Conduction	CO04-HY	Lego	21.5~23.2°C / 55.8~62.3%	21/Mar/2019

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	12V

2.2 Test Channel Mode

Test Software Version	RDA 1.3.1
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Mode	PowerSetting
BT-BR(1Mbps)	-
2402MHz	14
2441MHz	14
2480MHz	14
BT-EDR(2Mbps)	-
2402MHz	15
2441MHz	15
2480MHz	15
BT-EDR(3Mbps)	-
2402MHz	14
2441MHz	14
2480MHz	14

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/CRX
1	DC 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 Receiver Radiated Unwanted 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	CTX/CRX
1	DC Mode
Operating Mode > 1GHz	CTX/CRX
Orthogonal Planes of EUT	Y Plane
	
Worst Planes of EUT	V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	
1	Bluetooth+WLAN 2.4GHz
Refer to Sporton Test Report No.: FA8D0427 for Co-location RF Exposure Evaluation.	



Note.

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.

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.

Under the above conditions, Non-AFH Mode configuration was found to be the worst case and measured during the test.

2.4 Accessories and Support Equipment

Accessories				
Remote control	Brand Name	Roadmaster	Model Name	CR2025
GPS	Signal Line	3.0meter, B-shielded cable, w/o ferrite core		
DC & Speaker Out Cable	Signal Line	0.25meter, Non-shielded cable		
USB + RCA Cable	Signal Line	RCA: 0.2meter, Non-shielded cable		
	Signal Line	USB: 1 meter, D-shielded cable		
DC Cable(2-PIN)	Signal Line	0.5meter, Non-shielded cable		
AV Cable	Signal Line	0.2meter, Non-shielded cable		

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

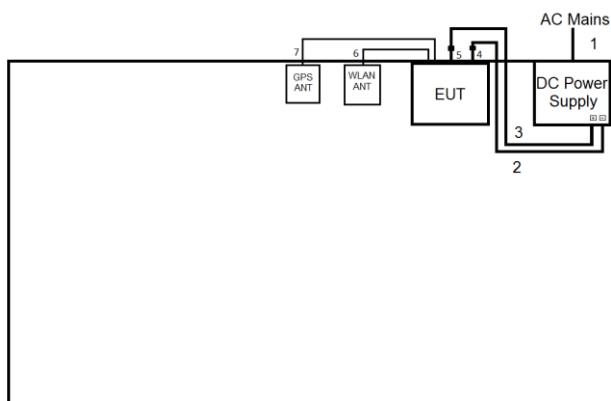
Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	DC Power Supply	GW	GPS-3030DD	N/A

Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	DC power supply	GW	GPC-6030D	DoC

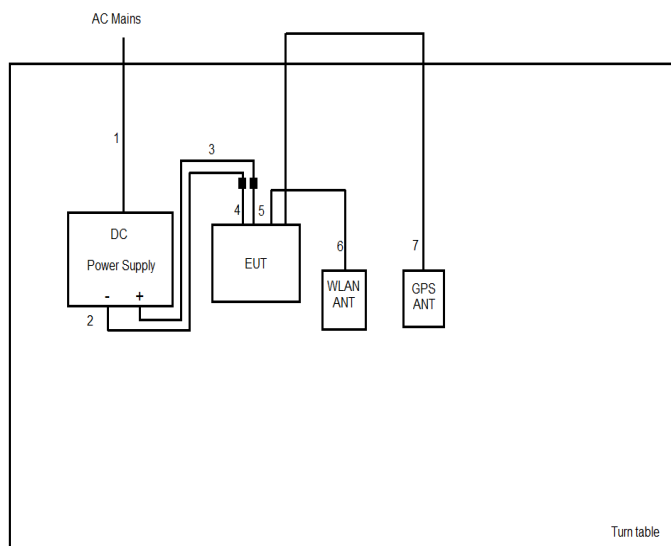
The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX/CRX
1	DC Mode

2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.5	-
2	DC Power line	No	1.0	-
3	DC Power line	No	1.0	-
4	DC Power line	No	0.24	-
5	DC Power line	No	0.24	-
6	RF Cable	No	0.22	-
7	RF Cable	No	2.95	-

Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8	-
2	DC Power line	No	1.0	-
3	DC Power line	No	1.0	-
4	DC Power line	No	0.24	-
5	DC Power line	No	0.24	-
6	RF Cable	No	0.22	-
7	RF Cable	No	2.95	-

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.

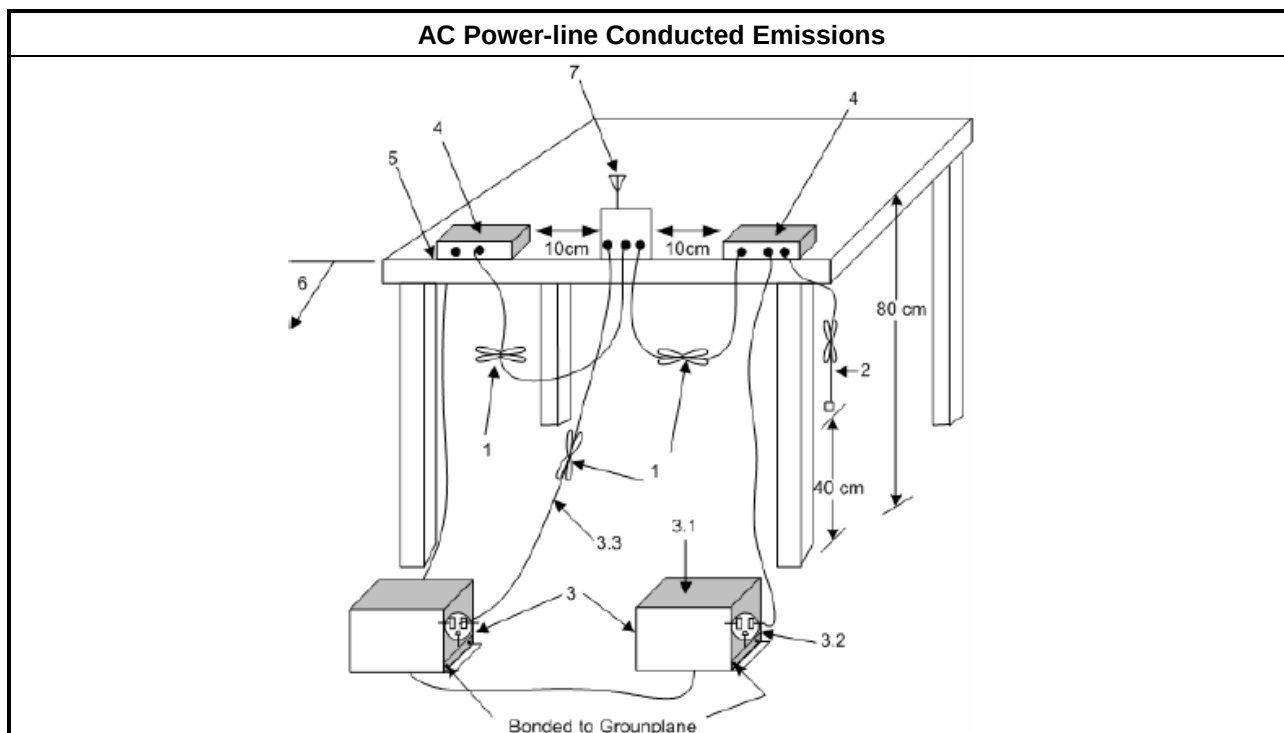
3.1.2 Measuring Instruments

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

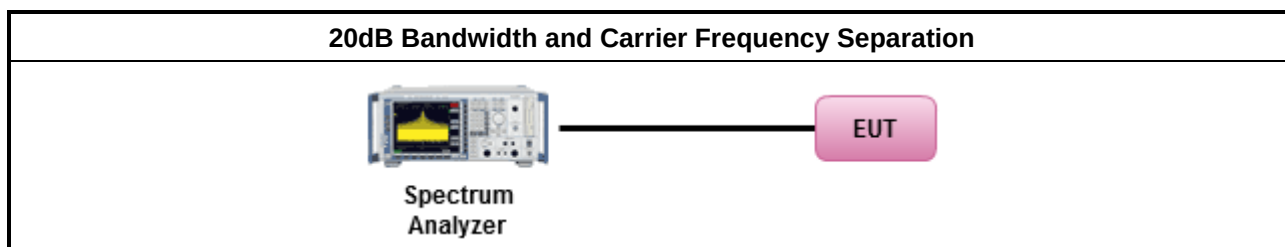
3.2.2 Measuring Instruments

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	

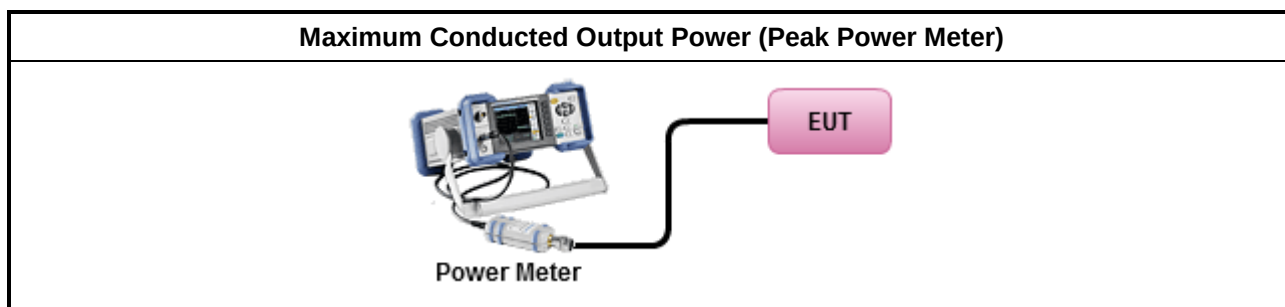
3.3.2 Measuring Instruments

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

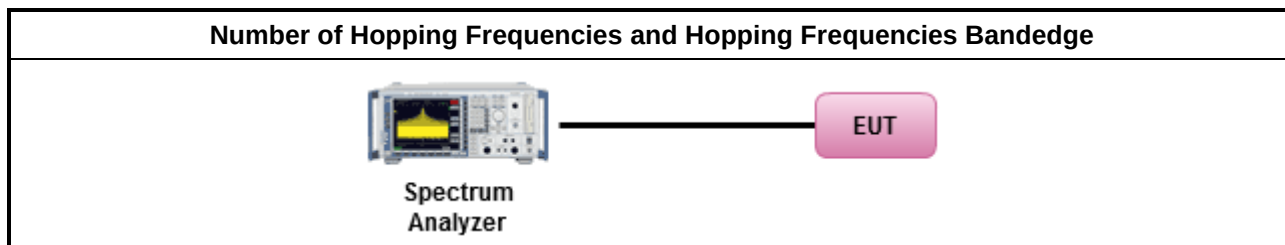
3.4.3 Measuring Instruments

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	

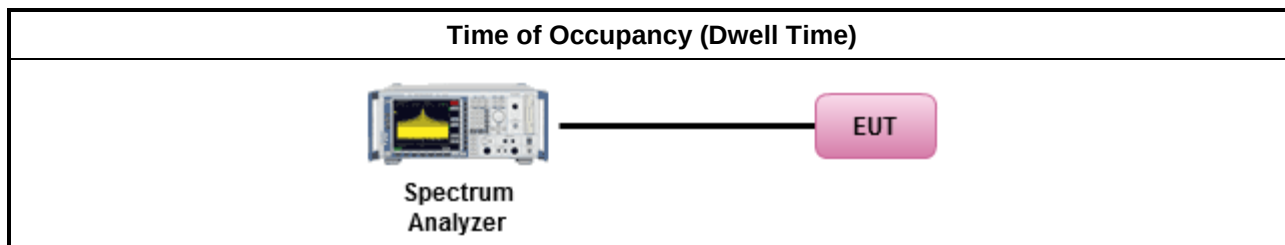
3.5.2 Measuring Instruments

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.	

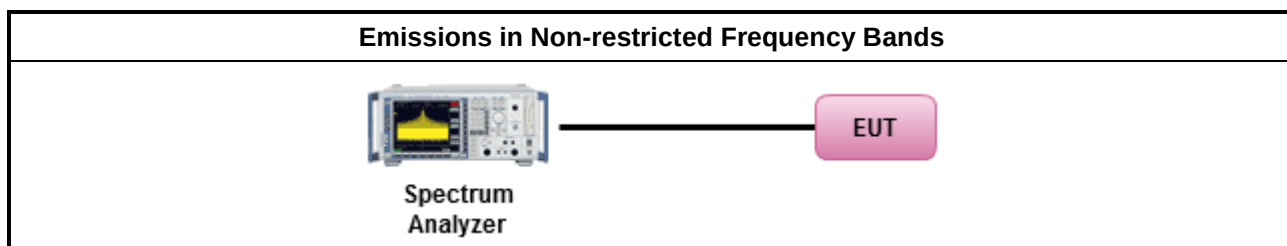
3.6.2 Measuring Instruments

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.

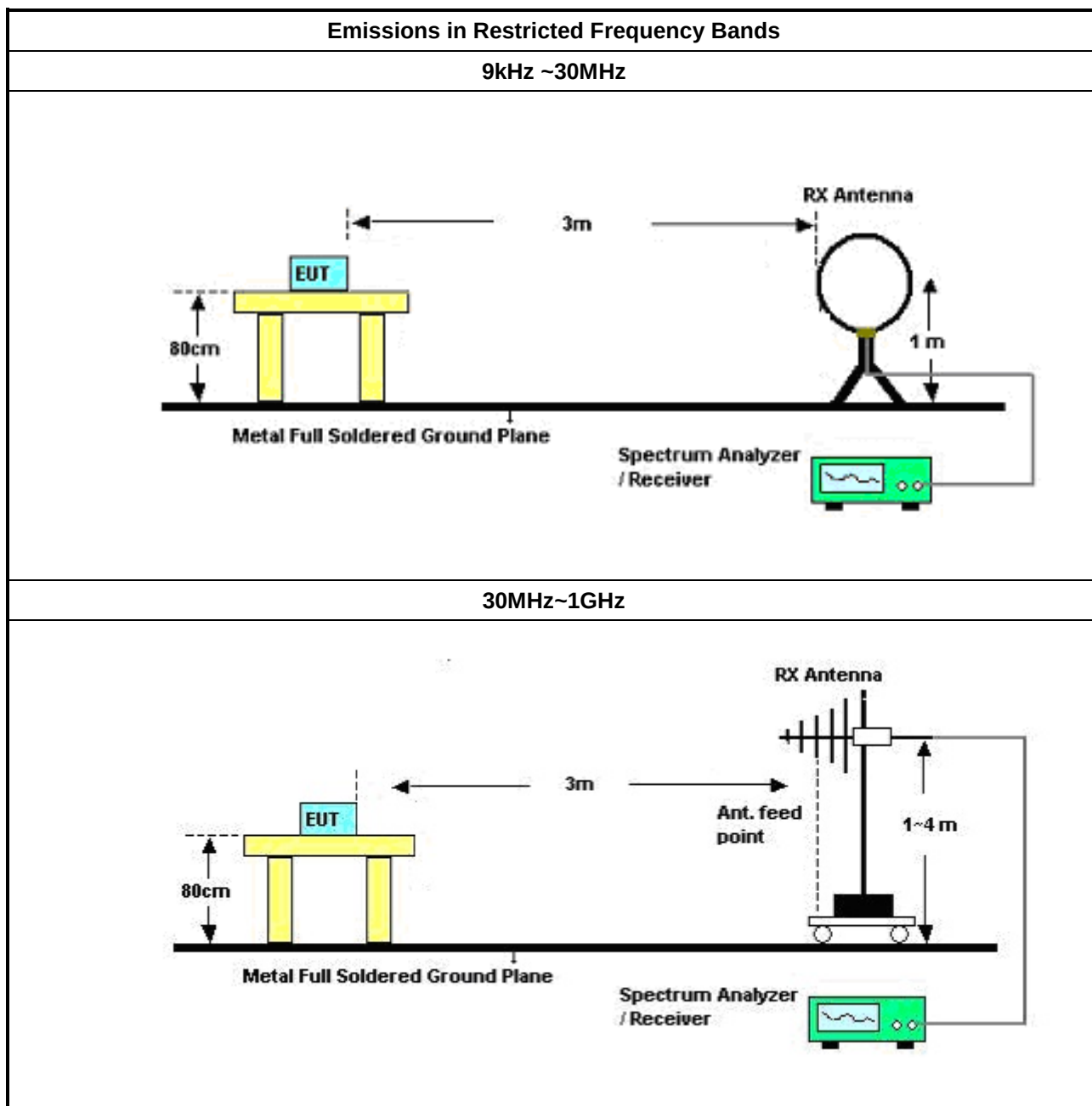
3.7.2 Measuring Instruments

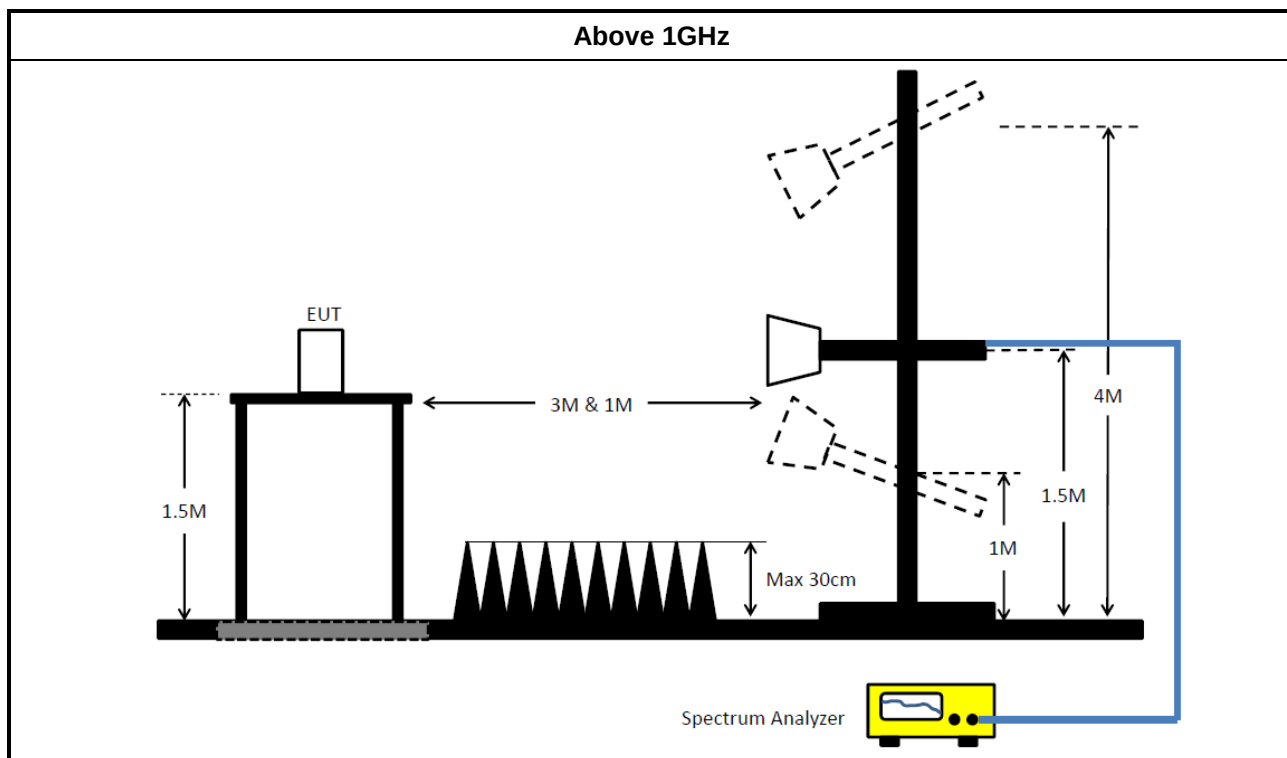
Refer a test equipment and calibration data table in this test report.

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.

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

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.

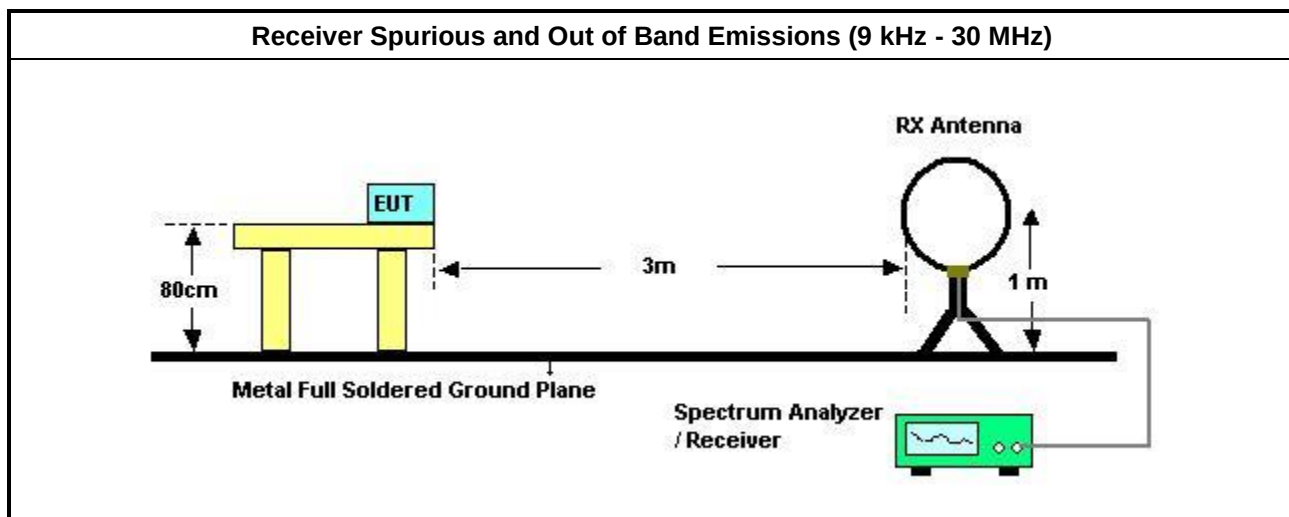
3.8.2 Measuring Instruments

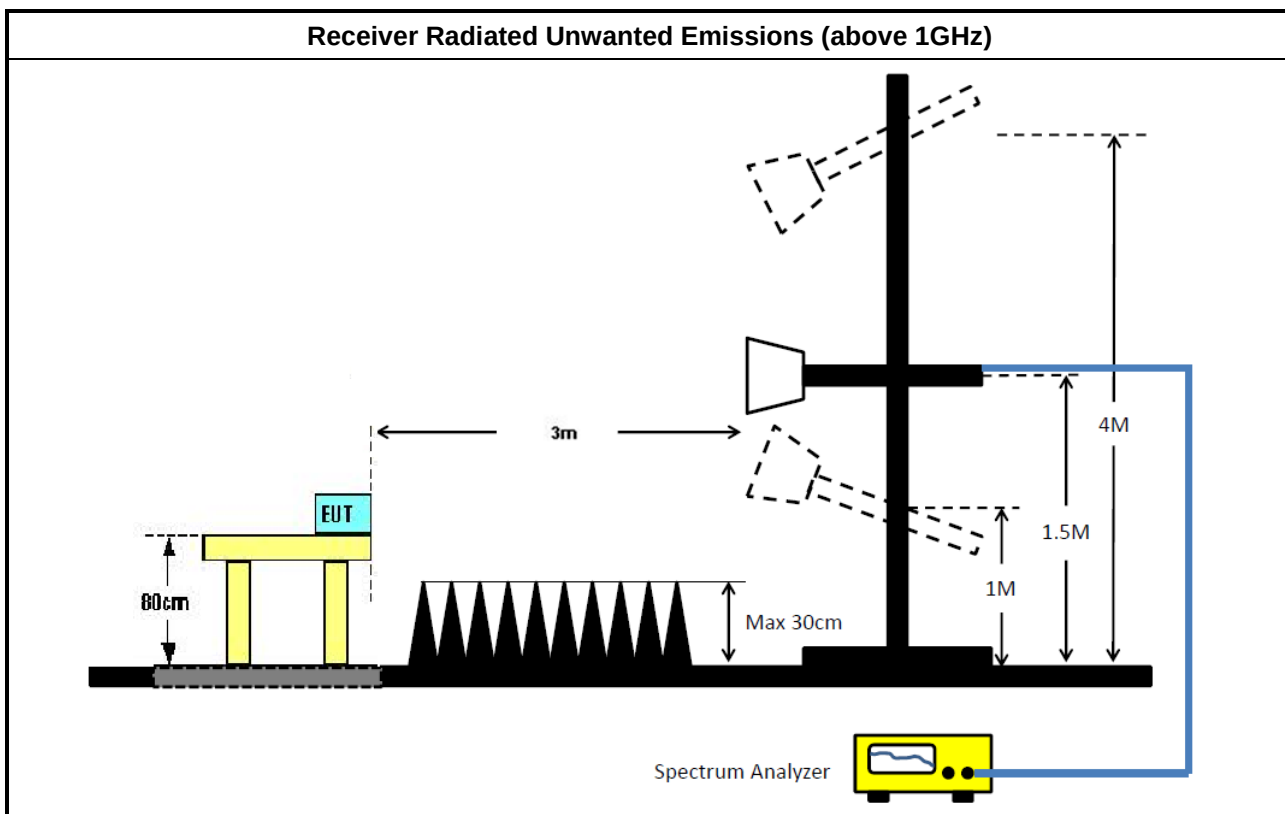
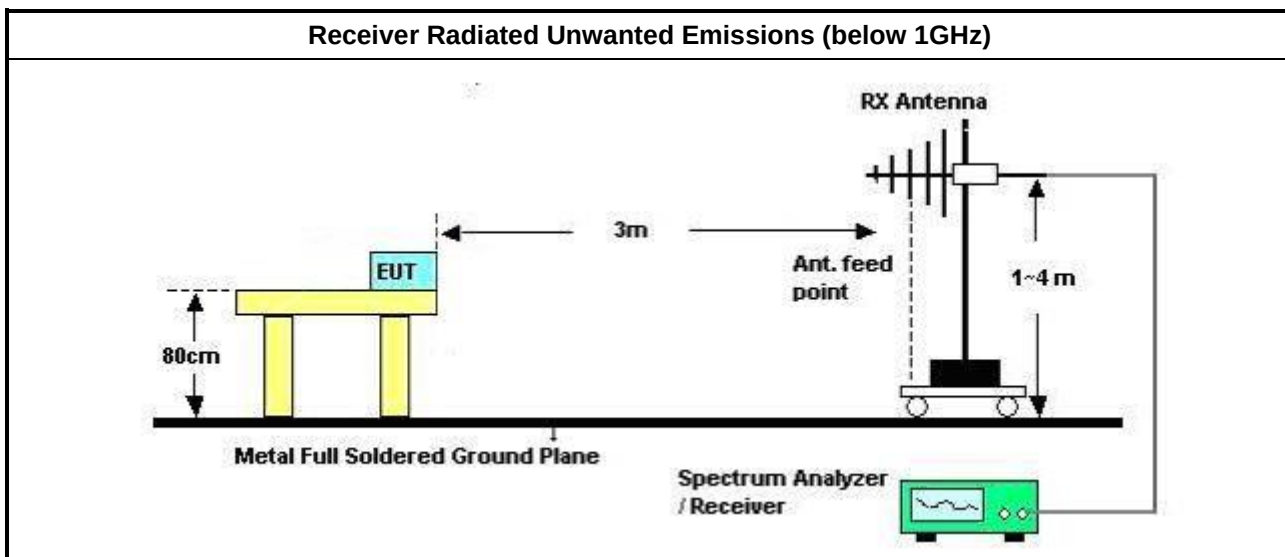
Refer a test equipment and calibration data table in this test report.

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 Test Setup





3.8.5 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.

3.8.6 Test Result of Receiver Radiated Unwanted Emissions

Refer as Appendix H

4 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101500	10Hz~40GHz	18/Jul/2018	17/Jul/2019
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/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	03CH03-HY	30MHz ~ 1GHz 3m	30/Oct/2018	29/Oct/2019
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	30/Oct/2018	29/Oct/2019
Amplifier	IFI	SCCX150	03CH03-HY	10KHz ~ 100MHz	14/Sep/2017	13/Sep/2019
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	23/Apr/2018	19/Apr/2019
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	10/Apr/2018	09/Apr/2019
Bilog Antenna	SCHAFFNER	CBL6111C	2737	30MHz ~ 1GHz	02/Oct/2018	03/Oct/2019
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz ~ 26.5GHz	05/Sep/2018	04/Sep/2019
Signal Analyzer	R&S	FSV40	101500	10Hz ~ 40GHz	18/Jul/2018	17/Jul/2019
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	28/Jan/2019	27/Jan/2020
RF Cable-high	SUHNER	SUCOFLEX 106	CB222	1GHz ~ 40GHz	28/Jan/2019	27/Jan/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170339	15GHz ~ 40GHz	11/Apr/2018	10/Apr/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1531	1GHz~18GHz	09Mar/2019	08/Mar/2020
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
Loop Antenna	TESEQ	HLA 6120	31244	9kHz ~ 30MHz	28/Mar/2018	27/Mar/2019

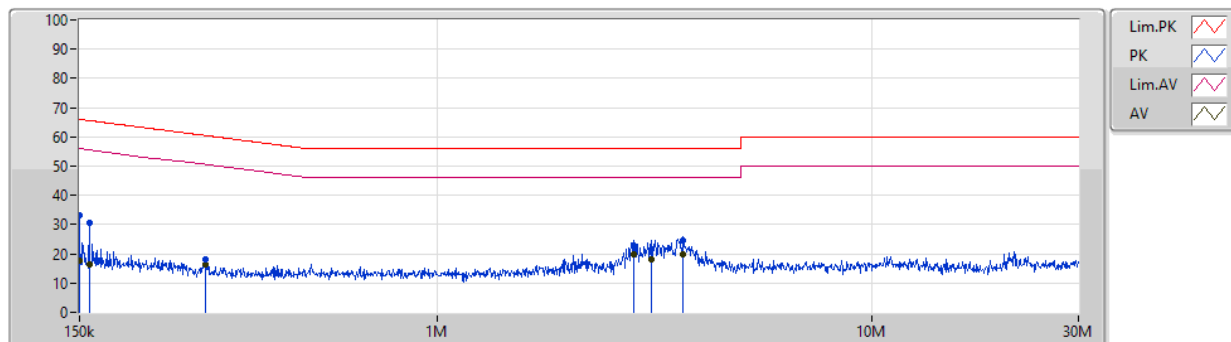
Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR	102051	9KHz ~ 3.6GHz	03/May/2018	02/May/2019
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	08/Nov/2018	07/Nov/2019
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	17/Sep/2018	16/Sep/2019
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBEC K	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2018	11/Oct/2019

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Test fixture mode - TX		

21/03/2019

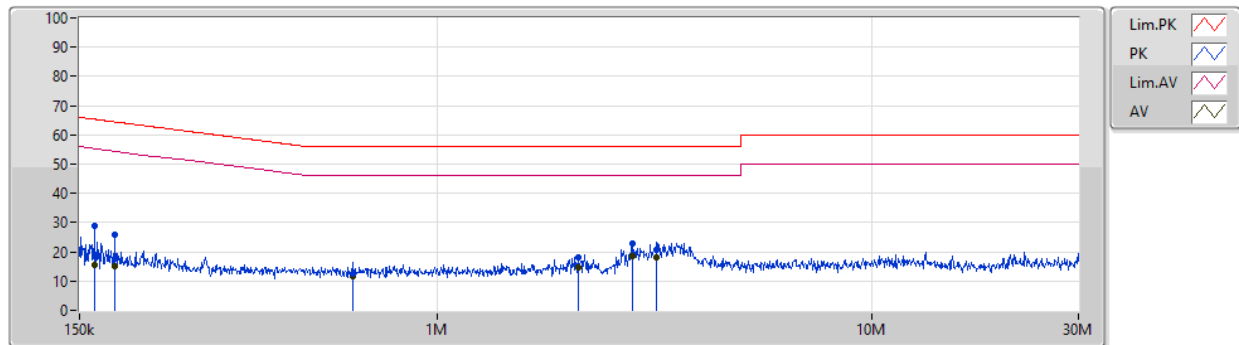


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	150k	32.99	66.00	-33.01	19.48	Neutral	-	13.51	9.60	0.01	9.87			
AV	150k	17.61	56.00	-38.39	19.48	Neutral	-	-1.87	9.60	0.01	9.87			
QP	157.99k	30.81	65.56	-34.75	19.48	Neutral	-	11.33	9.60	0.01	9.87			
AV	157.99k	16.27	55.56	-39.29	19.48	Neutral	-	-3.21	9.60	0.01	9.87			
QP	292.16k	18.31	60.46	-42.15	19.48	Neutral	-	-1.17	9.59	0.01	9.88			
AV	292.16k	16.35	50.46	-34.11	19.48	Neutral	-	-3.13	9.59	0.01	9.88			
QP	2.843M	22.73	56.00	-33.27	19.54	Neutral	-	3.19	9.61	0.04	9.89			
AV	2.843M	19.89	46.00	-26.11	19.54	Neutral	"Worst"	0.35	9.61	0.04	9.89			
QP	3.117M	21.76	56.00	-34.24	19.54	Neutral	-	2.22	9.61	0.04	9.89			
AV	3.117M	17.99	46.00	-28.01	19.54	Neutral	-	-1.55	9.61	0.04	9.89			
QP	3.686M	24.36	56.00	-31.64	19.54	Neutral	-	4.82	9.61	0.04	9.89			
AV	3.686M	19.85	46.00	-26.15	19.54	Neutral	-	0.31	9.61	0.04	9.89			

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Test fixture mode -TX		

21/03/2019

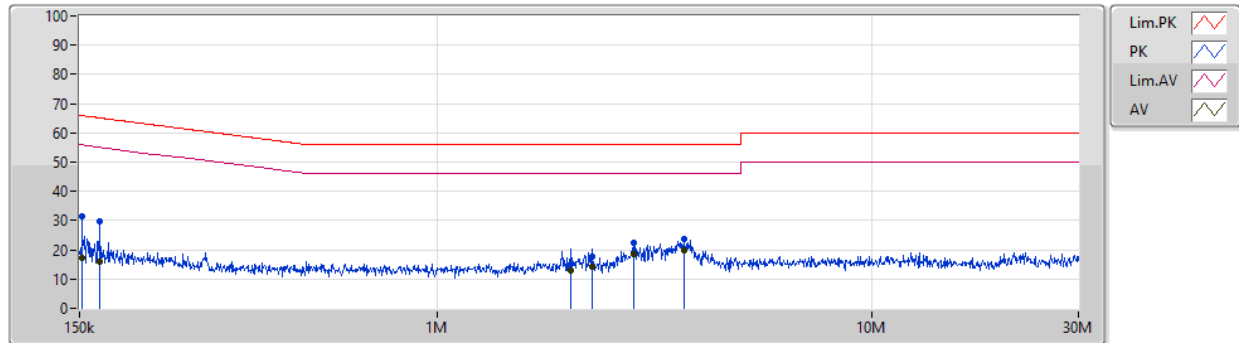


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	162.467k	28.91	65.33	-36.42	19.48	Line	-	9.43	9.60	0.01	9.87			
AV	162.467k	15.72	55.33	-39.61	19.48	Line	-	-3.76	9.60	0.01	9.87			
QP	180.957k	25.87	64.43	-38.56	19.48	Line	-	6.39	9.60	0.01	9.87			
AV	180.957k	15.22	54.43	-39.21	19.48	Line	-	-4.26	9.60	0.01	9.87			
QP	638.894k	12.65	56.00	-43.35	19.49	Line	-	-6.84	9.60	0.01	9.88			
AV	638.894k	11.52	46.00	-34.48	19.49	Line	-	-7.97	9.60	0.01	9.88			
QP	2.108M	18.24	56.00	-37.76	19.54	Line	-	-1.30	9.62	0.03	9.89			
AV	2.108M	14.61	46.00	-31.39	19.54	Line	-	-4.93	9.62	0.03	9.89			
QP	2.81M	22.67	56.00	-33.33	19.55	Line	-	3.12	9.62	0.04	9.89			
AV	2.81M	18.57	46.00	-27.43	19.55	Line	"Worst"	-0.98	9.62	0.04	9.89			
QP	3.192M	20.89	56.00	-35.11	19.56	Line	-	1.33	9.63	0.04	9.89			
AV	3.192M	17.89	46.00	-28.11	19.56	Line	-	-1.67	9.63	0.04	9.89			

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Test fixture mode -RX		

21/03/2019

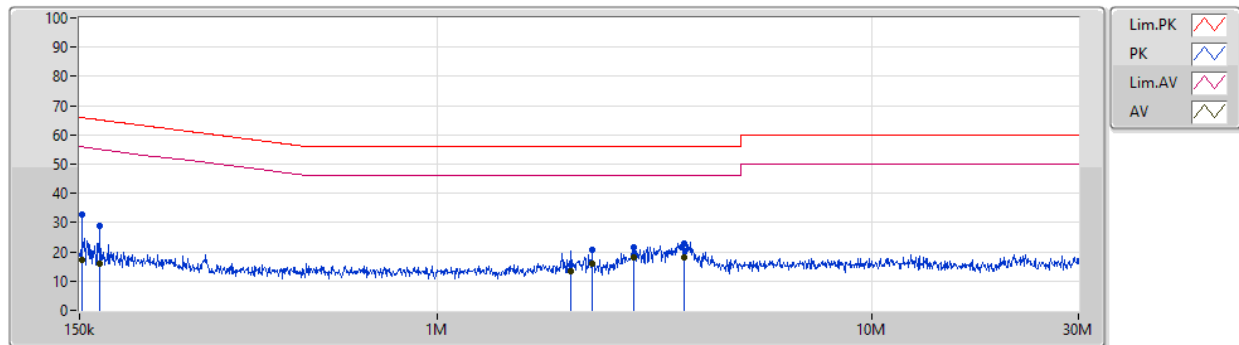


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	152.414k	31.33	65.87	-34.54	19.48	Neutral	-	11.85	9.60	0.01	9.87			
AV	152.414k	17.06	55.87	-38.81	19.48	Neutral	-	-2.42	9.60	0.01	9.87			
QP	166.406k	29.60	65.14	-35.54	19.48	Neutral	-	10.12	9.60	0.01	9.87			
AV	166.406k	15.87	55.14	-39.27	19.48	Neutral	-	-3.61	9.60	0.01	9.87			
QP	2.025M	15.28	56.00	-40.72	19.53	Neutral	-	-4.25	9.61	0.03	9.89			
AV	2.025M	13.07	46.00	-32.93	19.53	Neutral	-	-6.46	9.61	0.03	9.89			
QP	2.274M	17.83	56.00	-38.17	19.54	Neutral	-	-1.71	9.61	0.04	9.89			
AV	2.274M	14.39	46.00	-31.61	19.54	Neutral	-	-5.15	9.61	0.04	9.89			
QP	2.843M	22.32	56.00	-33.68	19.54	Neutral	-	2.78	9.61	0.04	9.89			
AV	2.843M	18.56	46.00	-27.44	19.54	Neutral	-	-0.98	9.61	0.04	9.89			
QP	3.715M	23.80	56.00	-32.20	19.54	Neutral	-	4.26	9.61	0.04	9.89			
AV	3.715M	20.00	46.00	-26.00	19.54	Neutral	"Worst"	0.46	9.61	0.04	9.89			

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Test fixture mode -RX		

21/03/2019



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	152.414k	32.57	65.87	-33.30	19.48	Line	-	13.09	9.60	0.01	9.87			
AV	152.414k	17.35	55.87	-38.52	19.48	Line	-	-2.13	9.60	0.01	9.87			
QP	166.406k	28.88	65.14	-36.26	19.48	Line	-	9.40	9.60	0.01	9.87			
AV	166.406k	15.79	55.14	-39.35	19.48	Line	-	-3.69	9.60	0.01	9.87			
QP	2.025M	15.56	56.00	-40.44	19.54	Line	-	-3.98	9.62	0.03	9.89			
AV	2.025M	13.31	46.00	-32.69	19.54	Line	-	-6.23	9.62	0.03	9.89			
QP	2.274M	20.69	56.00	-35.31	19.55	Line	-	1.14	9.62	0.04	9.89			
AV	2.274M	15.80	46.00	-30.20	19.55	Line	-	-3.75	9.62	0.04	9.89			
QP	2.843M	21.72	56.00	-34.28	19.55	Line	-	2.17	9.62	0.04	9.89			
AV	2.843M	18.24	46.00	-27.76	19.55	Line	"Worst"	-1.31	9.62	0.04	9.89			
QP	3.715M	23.03	56.00	-32.97	19.56	Line	-	3.47	9.63	0.04	9.89			
AV	3.715M	18.20	46.00	-27.80	19.56	Line	-	-1.36	9.63	0.04	9.89			

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)	921.25k	912.044k	912KF1D	916.25k	897.051k
BT-EDR(2Mbps)	1.361M	1.249M	1M25G1D	1.355M	1.224M
BT-EDR(3Mbps)	1.339M	1.209M	1M21G1D	1.338M	1.207M

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;

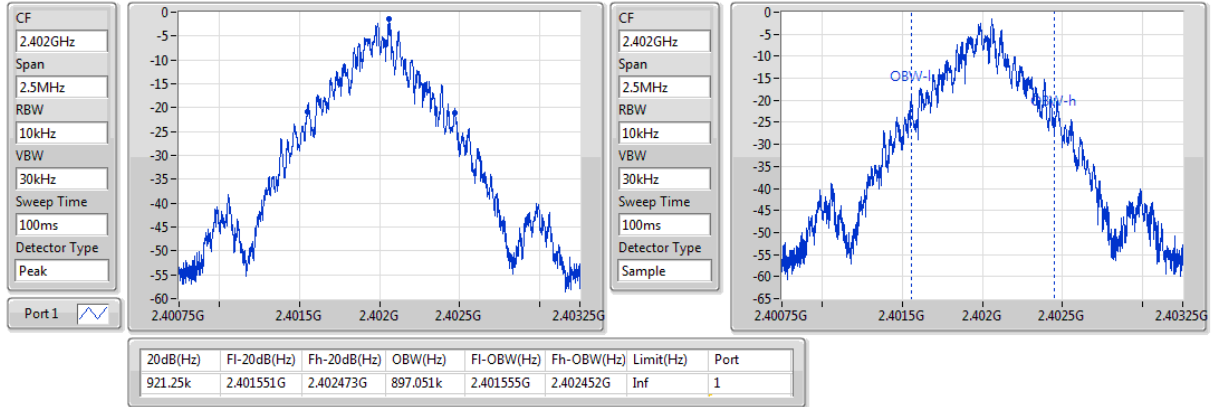
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	921.25k	897.051k
2441MHz	Pass	Inf	918.75k	903.298k
2480MHz	Pass	Inf	916.25k	912.044k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.361M	1.249M
2441MHz	Pass	Inf	1.36M	1.242M
2480MHz	Pass	Inf	1.355M	1.224M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.339M	1.209M
2441MHz	Pass	Inf	1.339M	1.207M
2480MHz	Pass	Inf	1.338M	1.208M

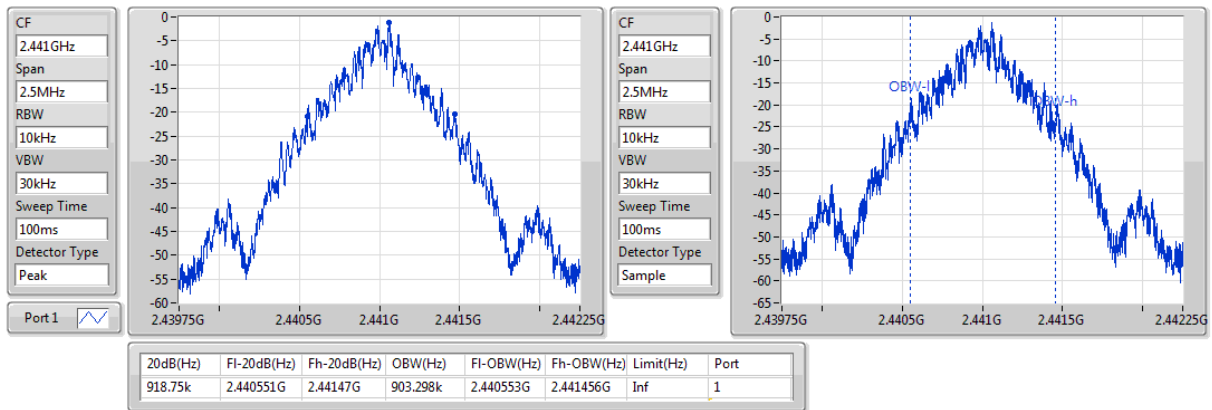
Port X-N dB = Port X 20dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-BR(1Mbps)
EBW
2402MHz

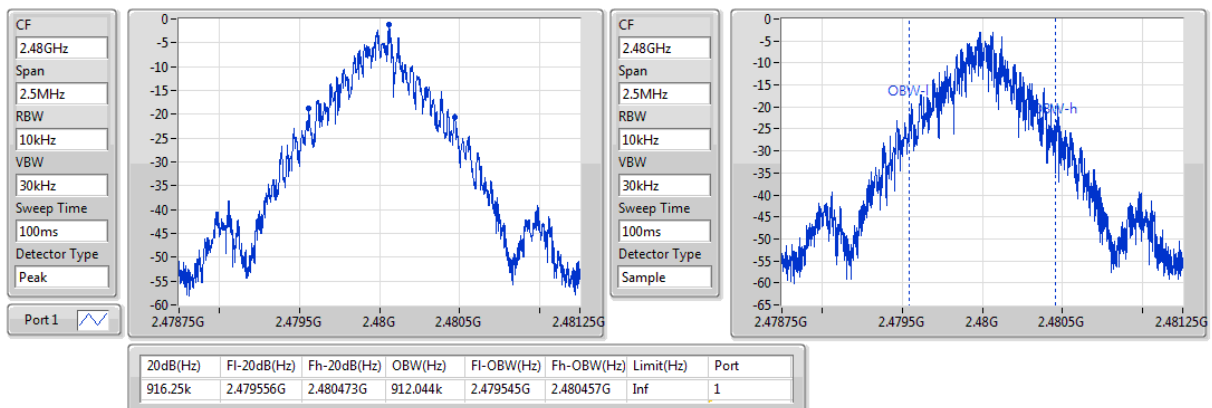
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BT-BR(1Mbps)
EBW
2441MHz

21/03/2019

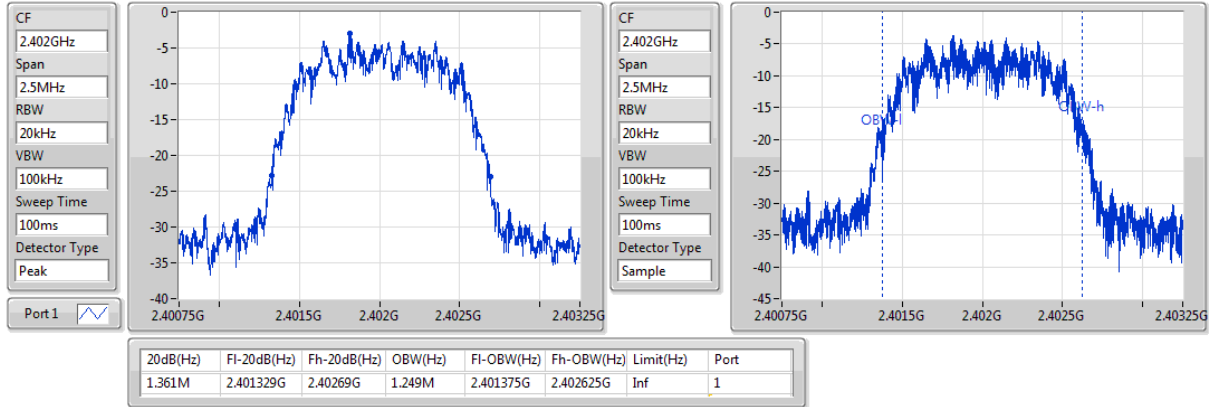

BT-BR(1Mbps)
EBW
2480MHz

21/03/2019

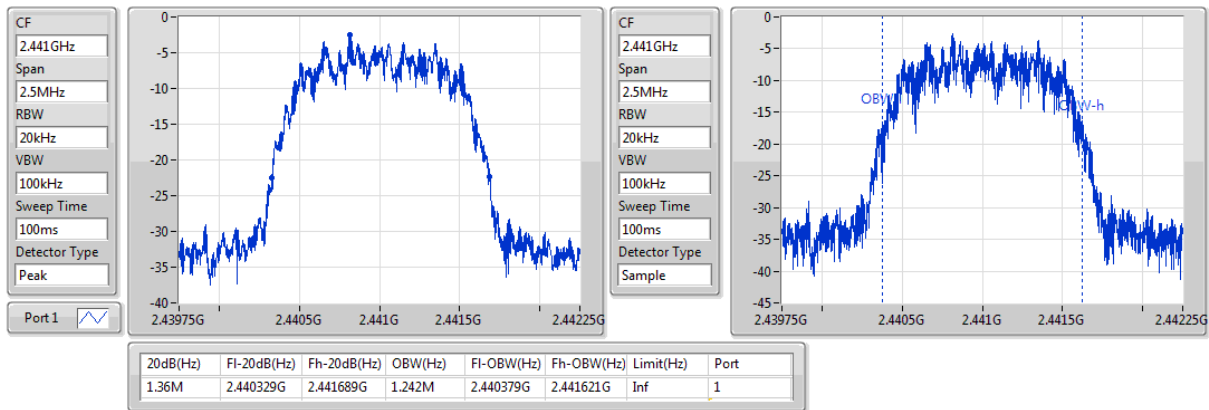


BT-EDR(2Mbps)
EBW
2402MHz

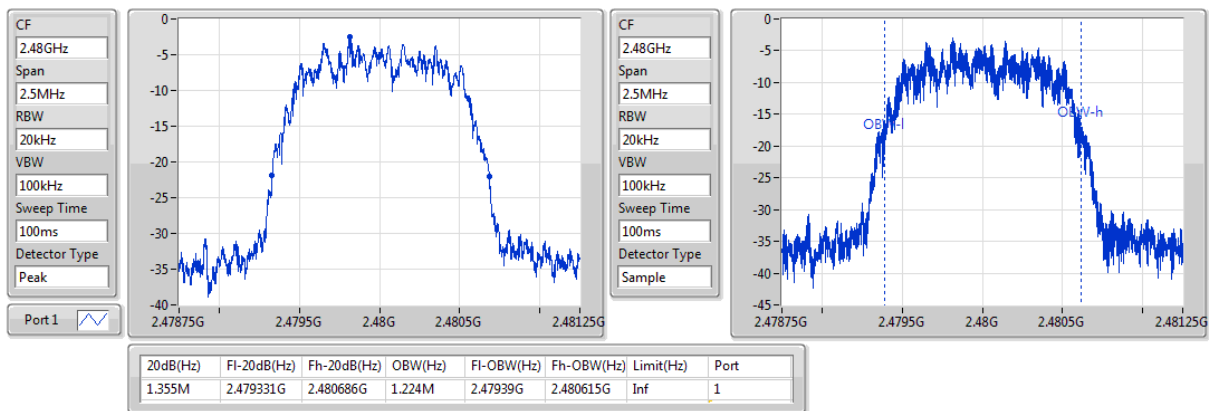
21/03/2019


BT-EDR(2Mbps)
EBW
2441MHz

20/03/2019

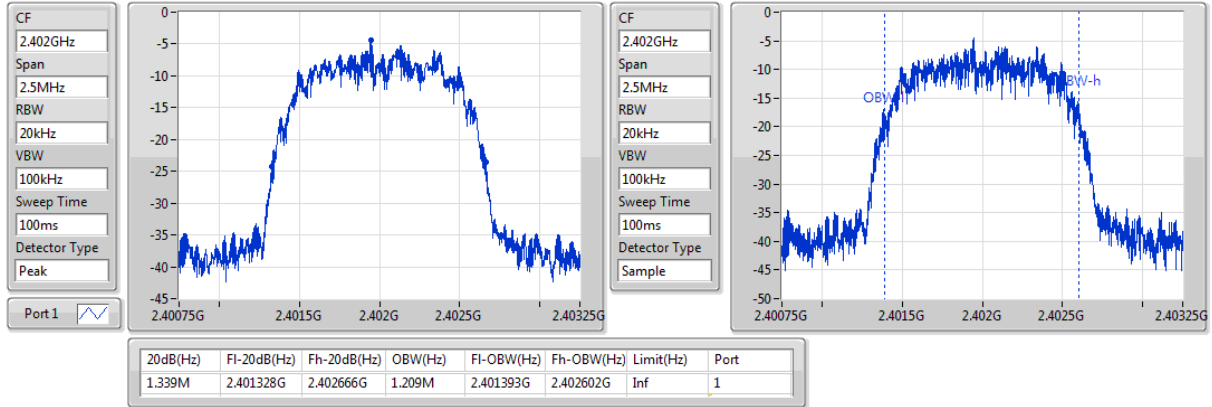

BT-EDR(2Mbps)
EBW
2480MHz

20/03/2019

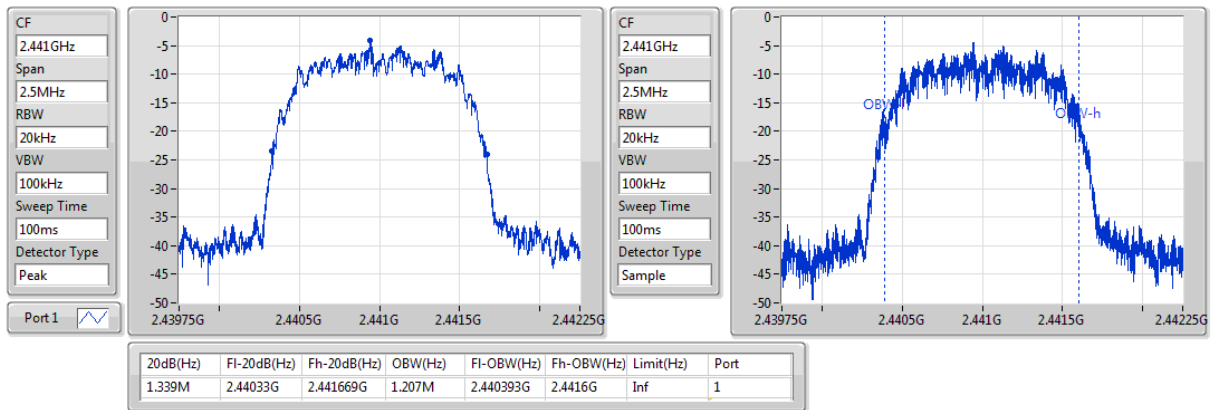


BT-EDR(3Mbps)
EBW
2402MHz

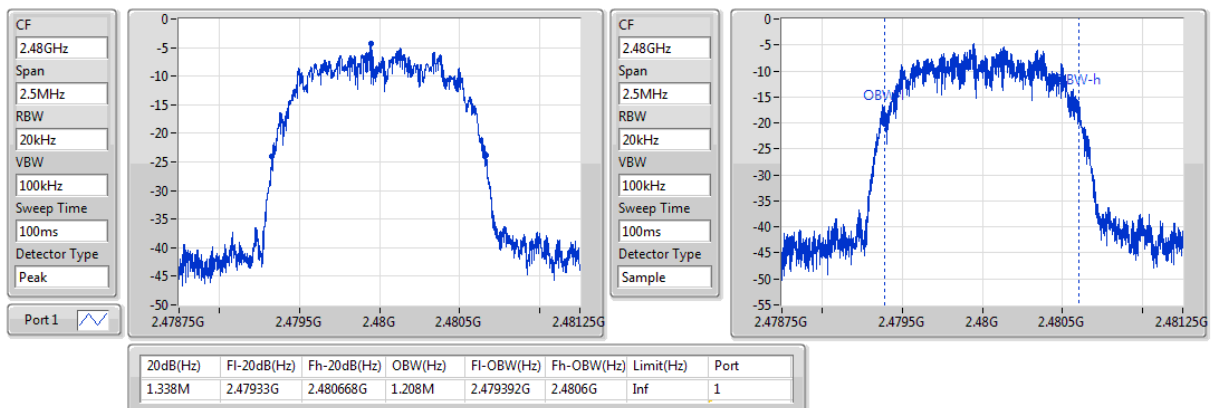
21/03/2019


BT-EDR(3Mbps)
EBW
2441MHz

21/03/2019


BT-EDR(3Mbps)
EBW
2480MHz

21/03/2019



Summary

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

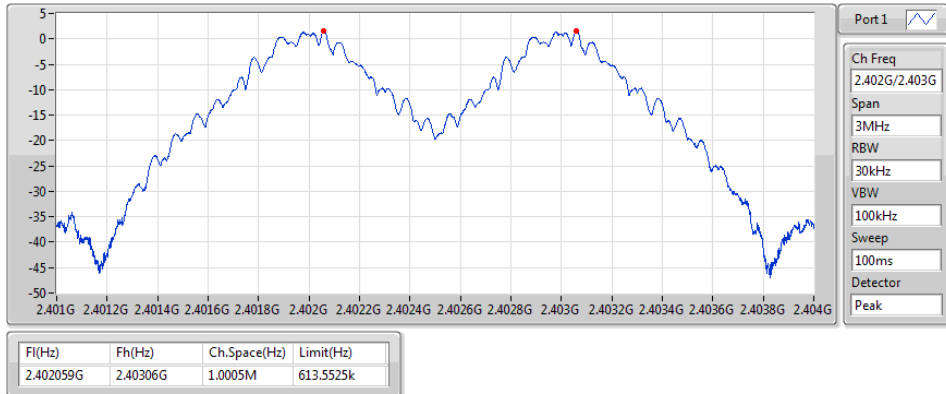
Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402059G	2.40306G	1.0005M	613.5525k
2441MHz	Pass	2.441059G	2.44206G	1.0005M	611.8875k
2480MHz	Pass	2.479059G	2.480061G	1.002M	610.2225k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401821G	2.40282G	999k	905.094k
2441MHz	Pass	2.440818G	2.44182G	1.002M	905.76k
2480MHz	Pass	2.478821G	2.479821G	1.0005M	902.43k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401947G	2.402947G	1.0005M	891.774k
2441MHz	Pass	2.440947G	2.441947G	1.0005M	891.774k
2480MHz	Pass	2.478947G	2.479949G	1.002M	891.108k

BT-BR(1Mbps)

Channel Separation

2.402G/2.403GHz



BT-BR(1Mbps)

Channel Separation

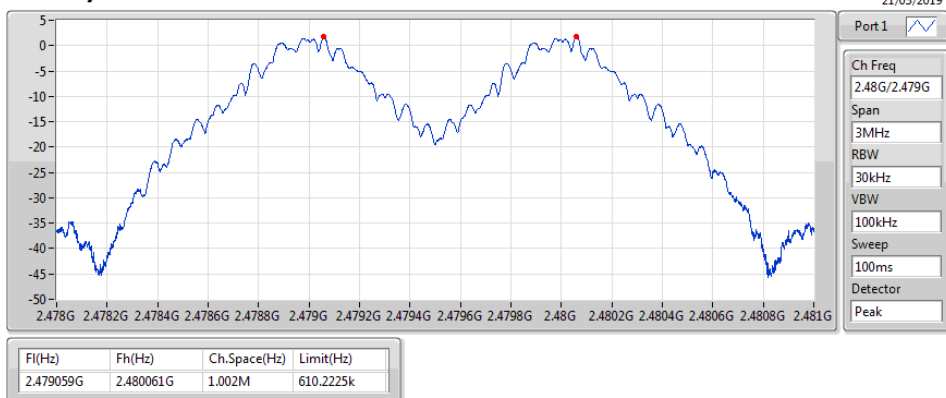
2.441G/2.442GHz



BT-BR(1Mbps)

Channel Separation

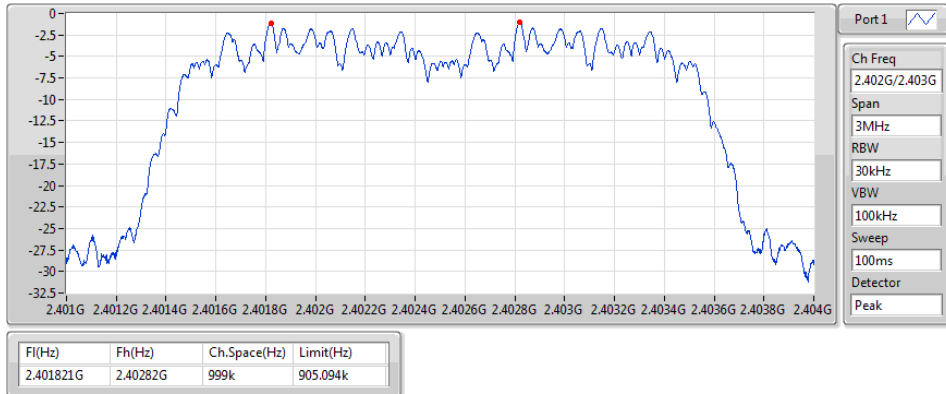
2.48G/2.479GHz



BT-EDR(2Mbps)

Channel Separation

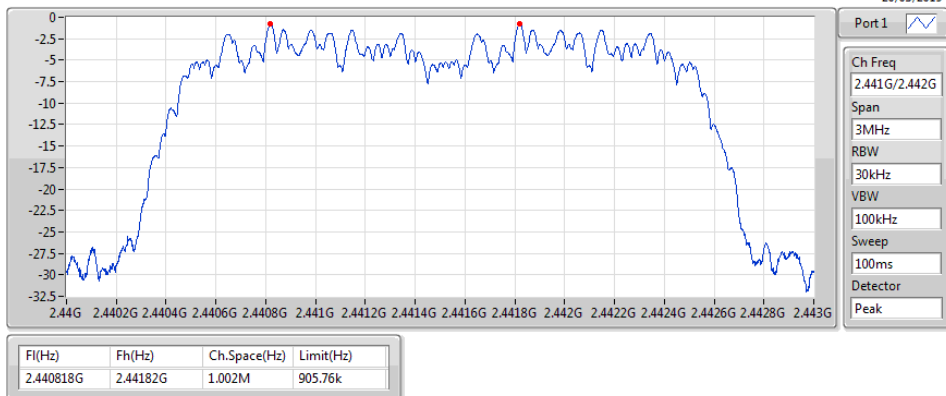
2.402G/2.403GHz



BT-EDR(2Mbps)

Channel Separation

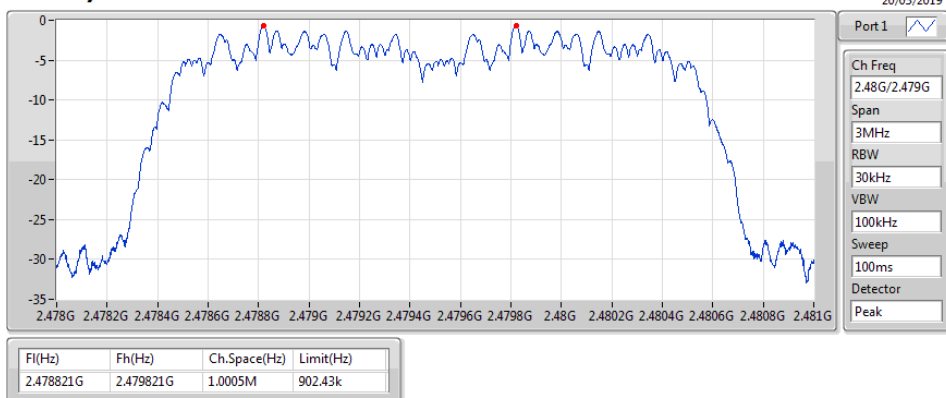
2.441G/2.442GHz



BT-EDR(2Mbps)

Channel Separation

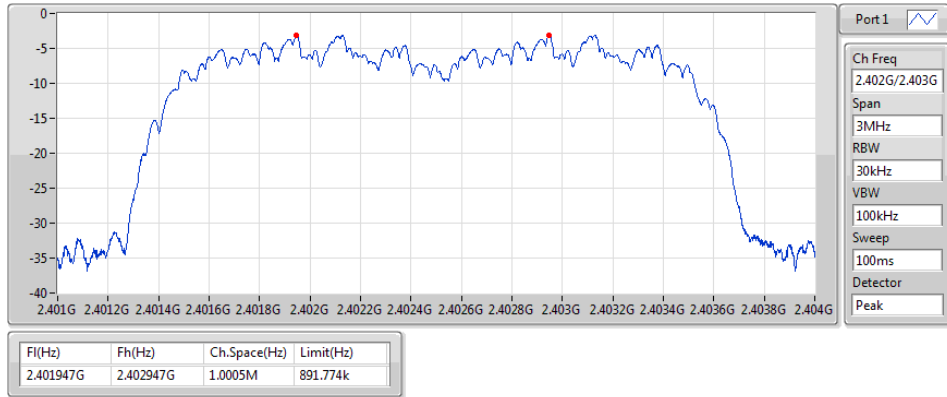
2.48G/2.479GHz



BT-EDR(3Mbps)

Channel Separation

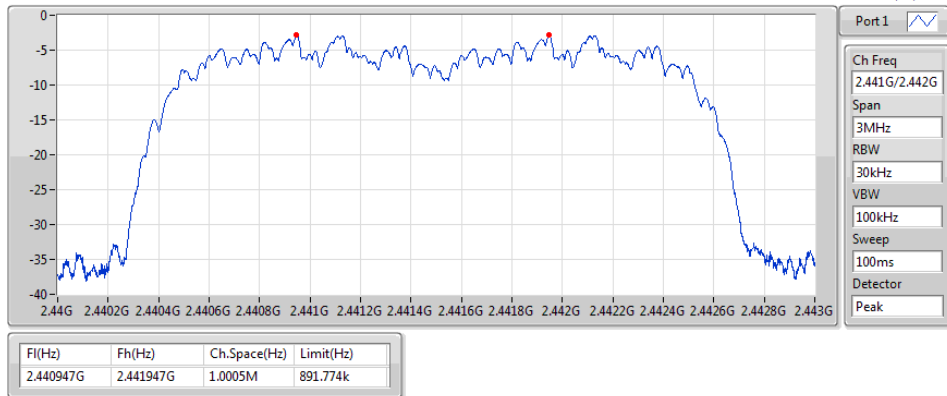
2.402G/2.403GHz



BT-EDR(3Mbps)

Channel Separation

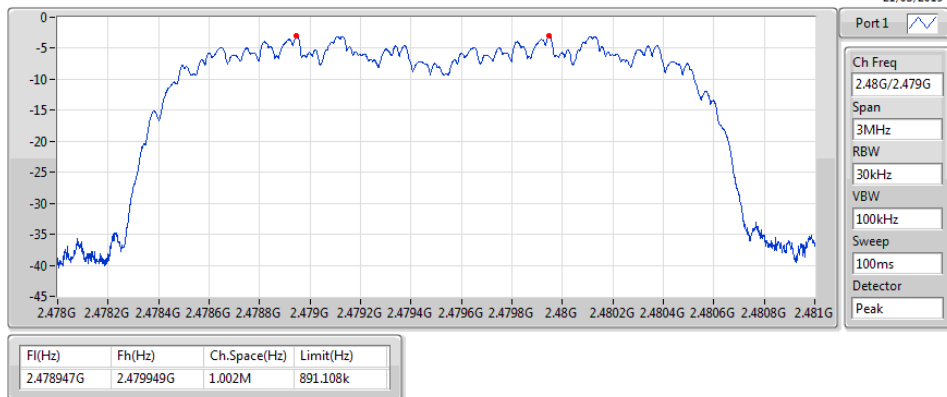
2.441G/2.442GHz



BT-EDR(3Mbps)

Channel Separation

2.48G/2.479GHz



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	5.39	0.00346
BT-EDR(2Mbps)	7.24	0.00530
BT-EDR(3Mbps)	6.15	0.00412

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	1.50	5.14	21.00
2441MHz	Pass	1.50	5.39	21.00
2480MHz	Pass	1.50	5.29	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	1.50	6.73	21.00
2441MHz	Pass	1.50	7.07	21.00
2480MHz	Pass	1.50	7.24	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	1.50	5.86	21.00
2441MHz	Pass	1.50	6.15	21.00
2480MHz	Pass	1.50	6.14	21.00

Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	5.04	0.00319
BT-EDR(2Mbps)	5.55	0.00359
BT-EDR(3Mbps)	3.55	0.00226

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	1.50	4.79	21.00
2441MHz	Pass	1.50	5.04	21.00
2480MHz	Pass	1.50	4.96	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	1.50	5.15	21.00
2441MHz	Pass	1.50	5.43	21.00
2480MHz	Pass	1.50	5.55	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	1.50	3.33	21.00
2441MHz	Pass	1.50	3.55	21.00
2480MHz	Pass	1.50	3.46	21.00

Summary

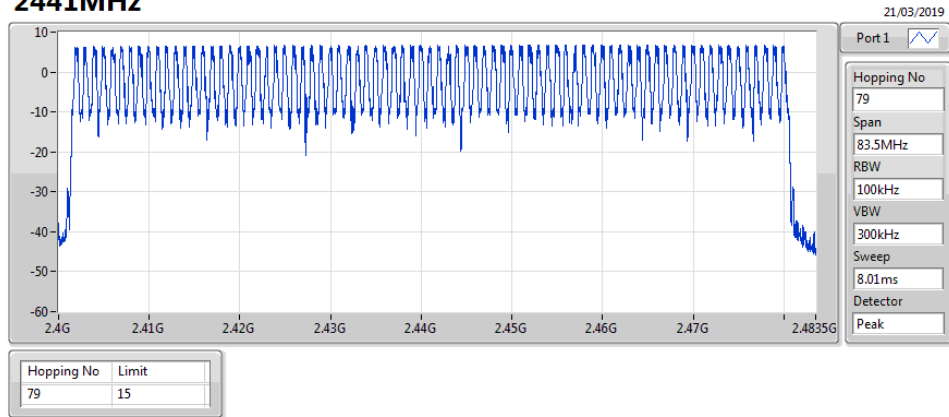
Mode	Max-Hop No
2.4-2.4835GHz	-
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

Result

Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2441MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2441MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2441MHz	Pass	79	15

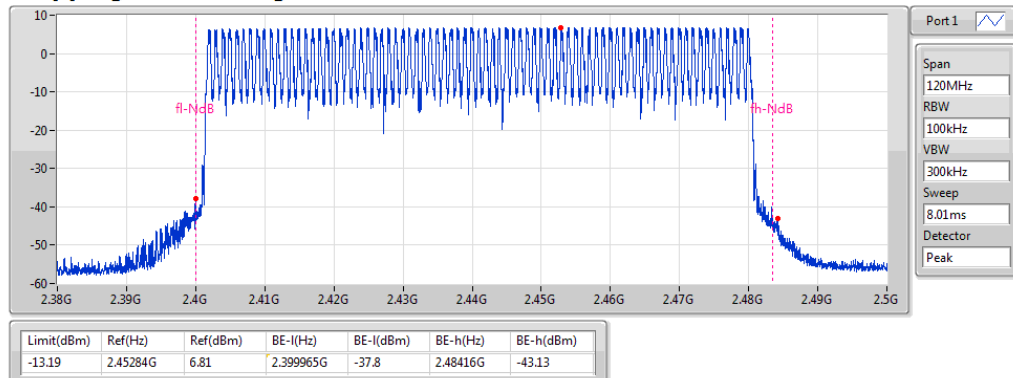
BT-BR(1Mbps) 2441MHz

Hopping Ch



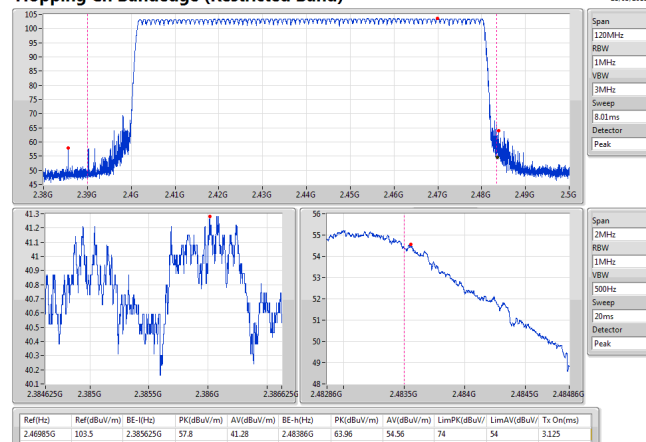
BT-BR(1Mbps) 2441MHz

Hopping Ch Bandedge (Non-restricted Band)



BT-BR(1Mbps) 2441MHz

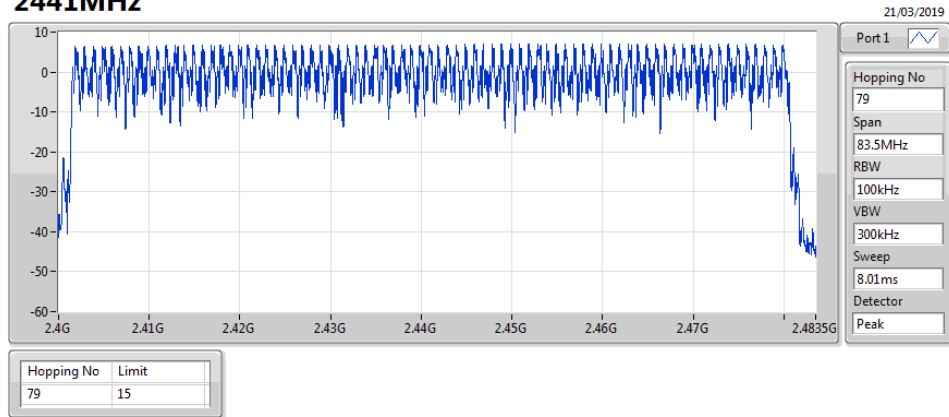
Hopping Ch Bandedge (Restricted Band)



BT-EDR(2Mbps)

2441MHz

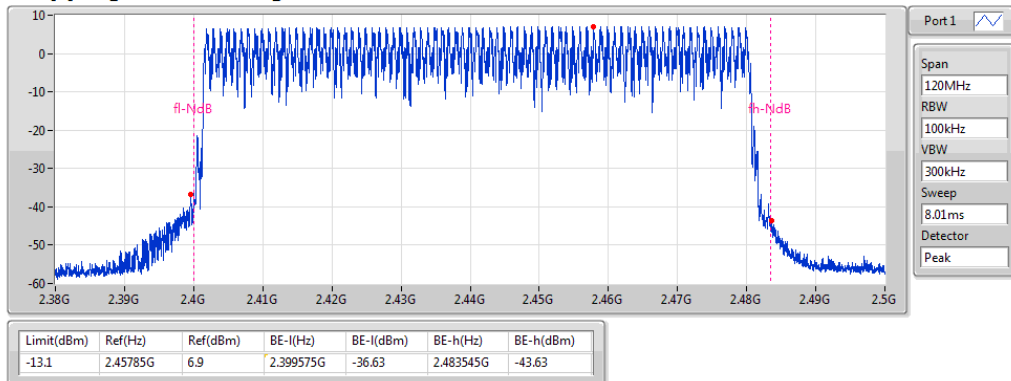
Hopping Ch



BT-EDR(2Mbps)

2441MHz

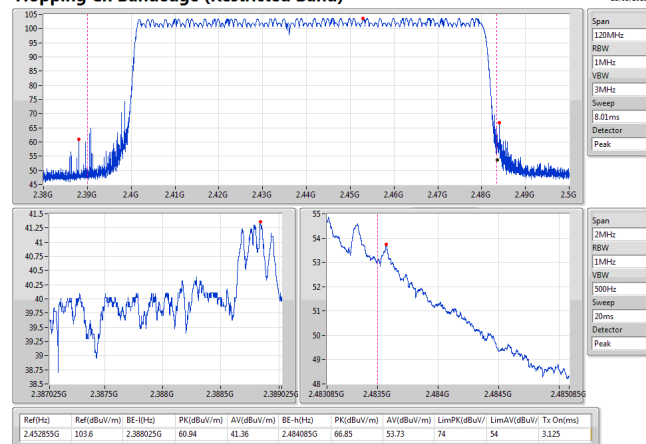
Hopping Ch Bandedge (Non-restricted Band)



BT-EDR(2Mbps)

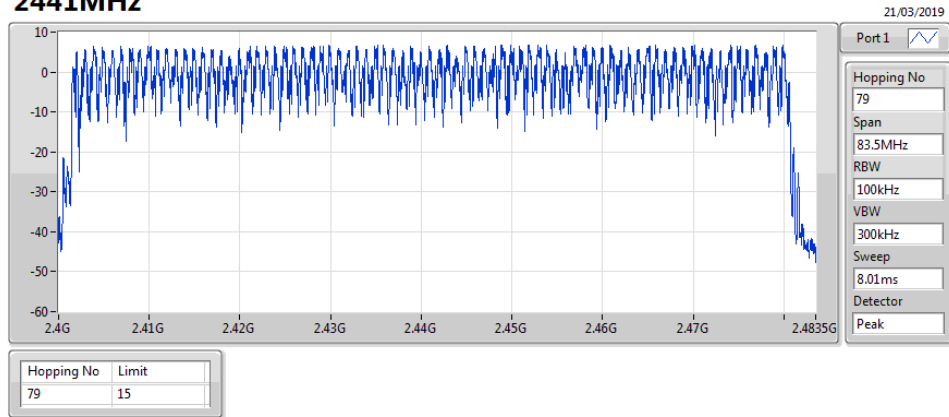
2441MHz

Hopping Ch Bandedge (Restricted Band)



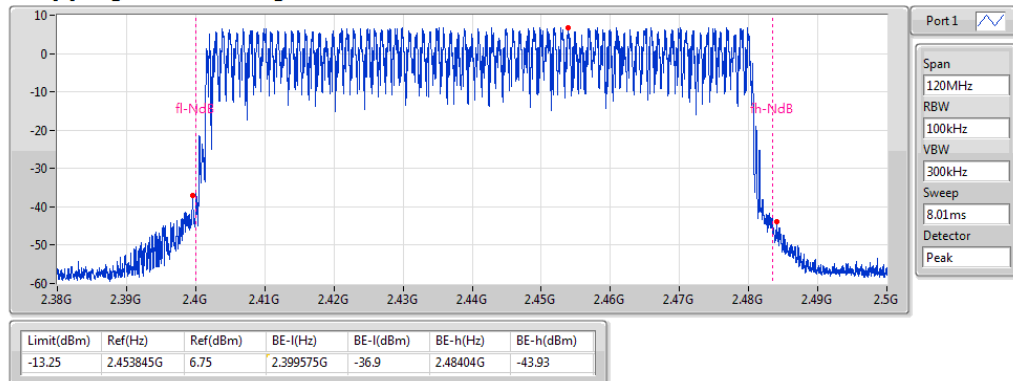
BT-EDR(3Mbps) 2441MHz

Hopping Ch



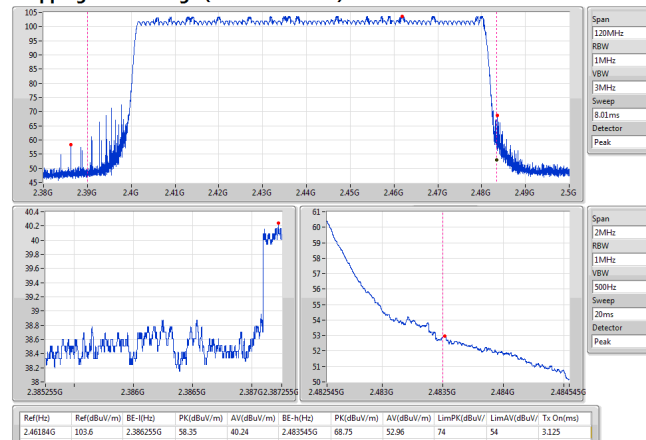
BT-EDR(3Mbps) 2441MHz

Hopping Ch Bandedge (Non-restricted Band)



BT-EDR(3Mbps) 2441MHz

Hopping Ch Bandedge (Restricted Band)



Summary

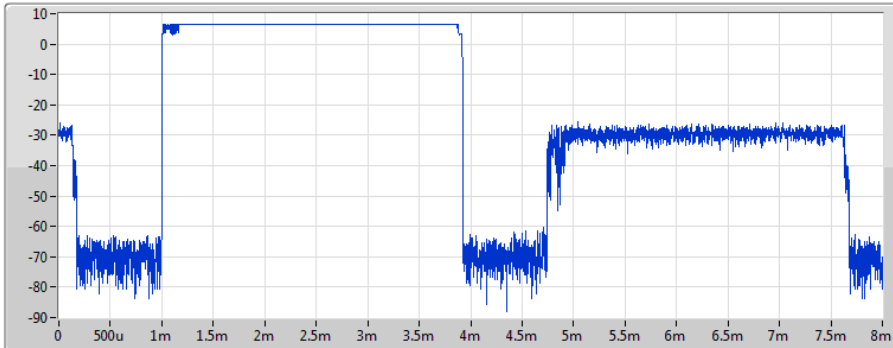
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	311.5918m
BT-EDR(2Mbps)	213.733m
BT-EDR(3Mbps)	310.9522m

Result

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	311.5918m	400m	2.923m
BT-EDR(2Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	213.733m	400m	2.005m
BT-EDR(3Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	310.9522m	400m	2.917m

BT-BR(1Mbps)

2441MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	311.5918m	400m	2.923m

Dwell

21/03/2019

Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.923ms

BT-EDR(2Mbps)

2441MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	213.733m	400m	2.005m

Dwell

21/03/2019

Port 1 

Ch Freq
2.441GHz

RBW
300kHz

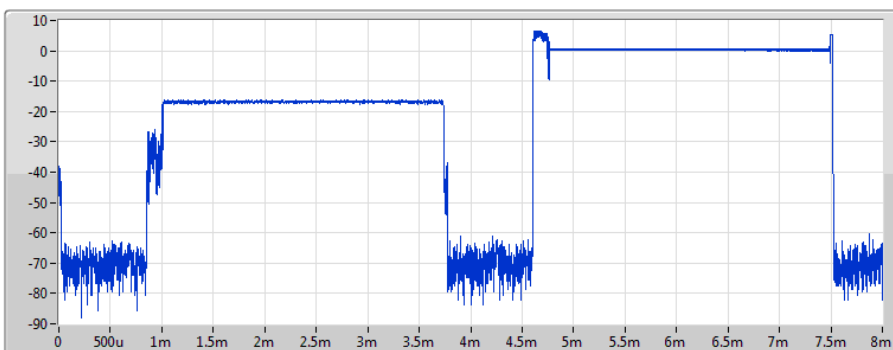
VBW
1MHz

Sweep Time
8ms

TX Time
2.005ms

BT-EDR(3Mbps)

2441MHz



Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	310.9522m	400m	2.917m

Dwell

21/03/2019

Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
8ms

TX Time
2.917ms

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)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	2.40196G	2.82	-17.18	1.79801G	-46.22	2.39872G	-40.41	2.48375G	-44.26	24.98311G	-31.63	1
BT-EDR(2Mbps)	Pass	2.48016G	2.25	-17.75	2.14492G	-46.57	2.39922G	-44.27	2.48373G	-38.99	24.5075G	-30.96	1
BT-EDR(3Mbps)	Pass	2.40184G	-0.44	-20.44	2.3977G	-46.47	2.39938G	-36.83	2.4845G	-44.97	21.40894G	-32.70	1

Result

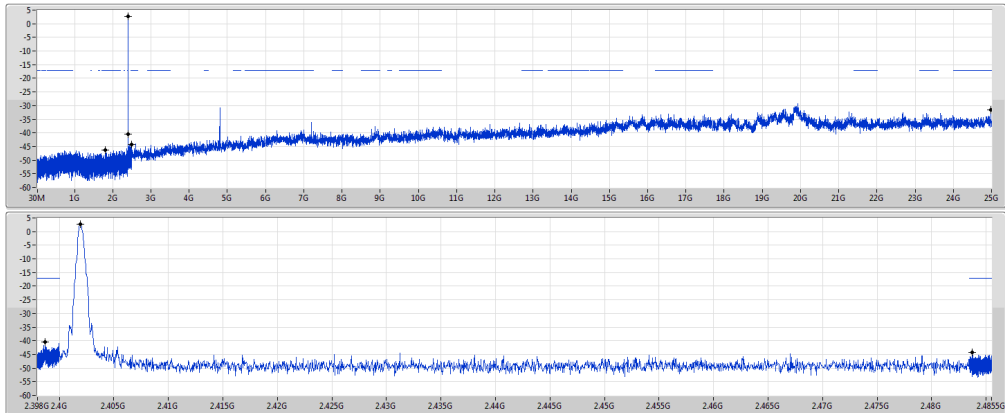
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40196G	2.82	-17.18	1.79801G	-46.22	2.39872G	-40.41	2.48375G	-44.26	24.98311G	-31.63	1
2441MHz	Pass	2.44117G	3.11	-16.89	843.7M	-44.89	2.39997G	-45.43	2.48486G	-45.07	17.55051G	-33.20	1
2480MHz	Pass	2.48003G	3.06	-16.94	2.13959G	-46.44	2.39989G	-45.31	2.48358G	-42.11	16.80472G	-32.48	1
BT-EDR(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40205G	2.52	-17.48	2.39682G	-44.44	2.3999G	-37.70	2.48406G	-44.02	23.31141G	-32.08	1
2441MHz	Pass	2.44079G	2.18	-17.82	2.14374G	-46.04	2.39811G	-45.35	2.48454G	-44.48	23.15663G	-31.16	1
2480MHz	Pass	2.48016G	2.25	-17.75	2.14492G	-46.57	2.39922G	-44.27	2.48373G	-38.99	24.5075G	-30.96	1
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	-0.44	-20.44	2.3977G	-46.47	2.39938G	-36.83	2.4845G	-44.97	21.40894G	-32.70	1
2441MHz	Pass	2.44083G	0.37	-19.63	2.39326G	-46.04	2.39942G	-44.61	2.48377G	-45.03	21.64815G	-32.54	1
2480MHz	Pass	2.48012G	0.37	-19.63	1.9765G	-45.86	2.39847G	-44.63	2.48358G	-40.84	16.24467G	-32.09	1

BT-BR(1Mbps)

2402MHz

CSE NdB

21/03/2019

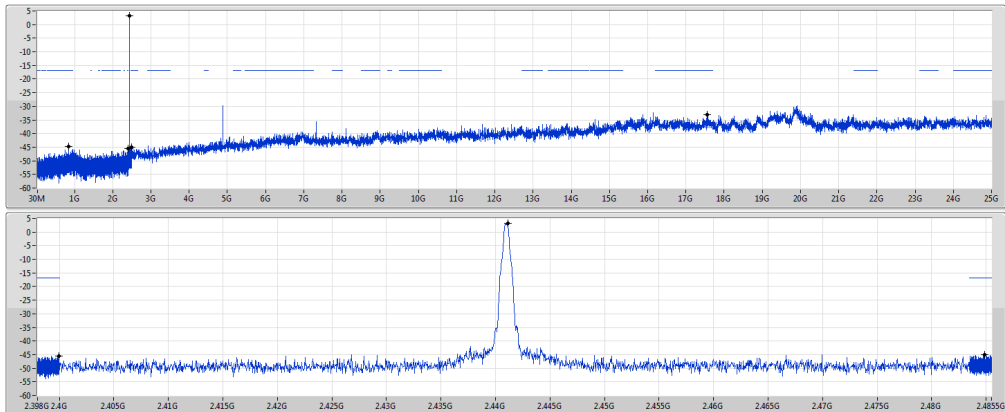


BT-BR(1Mbps)

2441MHz

CSE NdB

21/03/2019

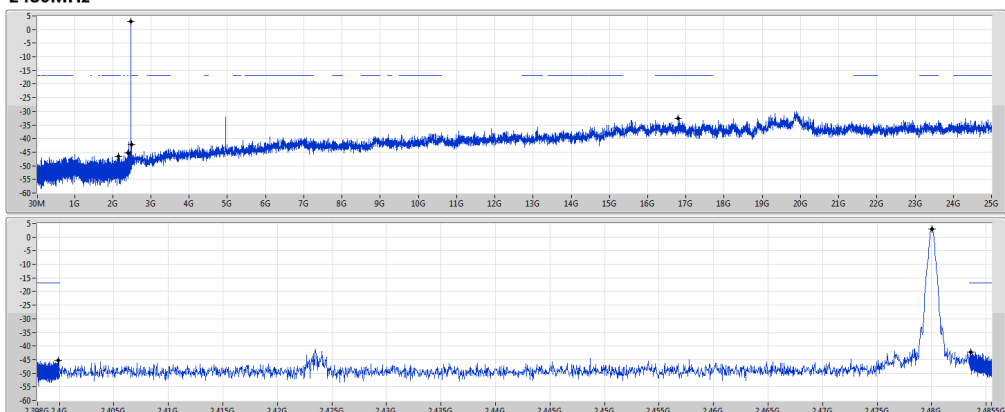


BT-BR(1Mbps)

2480MHz

CSE NdB

21/03/2019



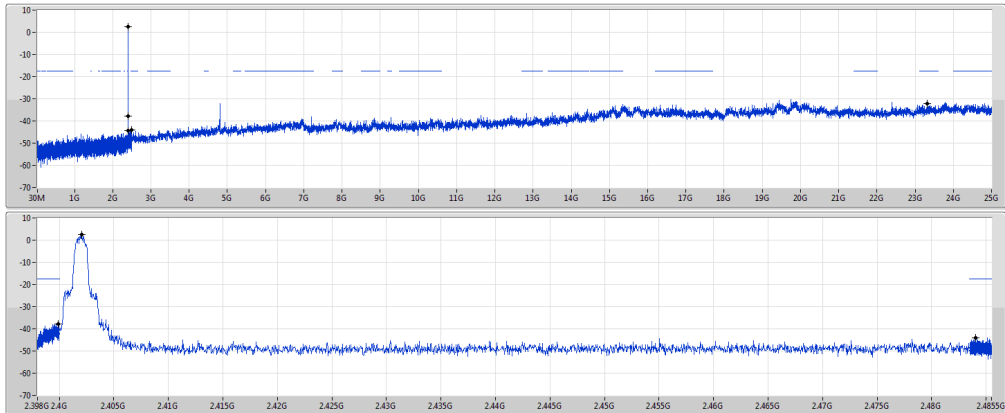
BT-EDR(2Mbps)

2402MHz

CSE NdB

20/03/2019

Port 1



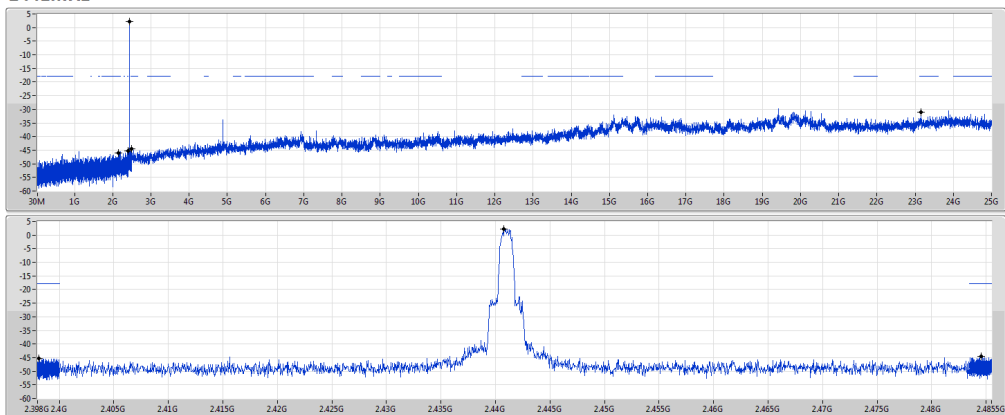
BT-EDR(2Mbps)

2441MHz

CSE NdB

20/03/2019

Port 1



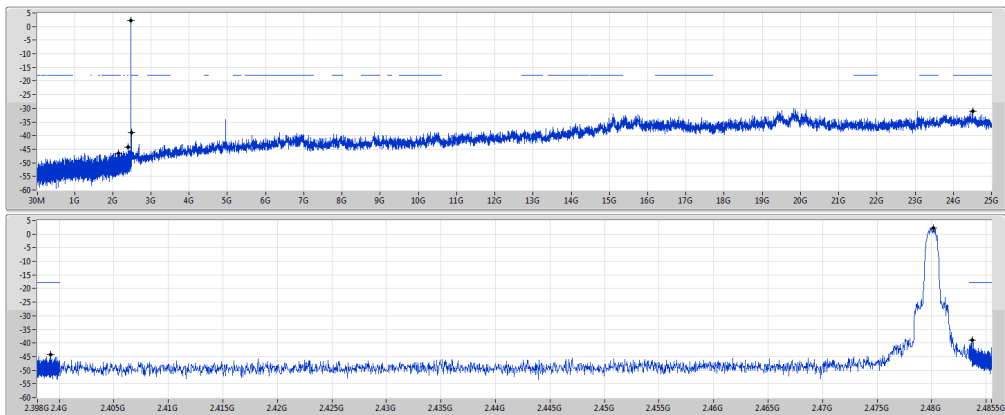
BT-EDR(2Mbps)

2480MHz

CSE NdB

20/03/2019

Port 1

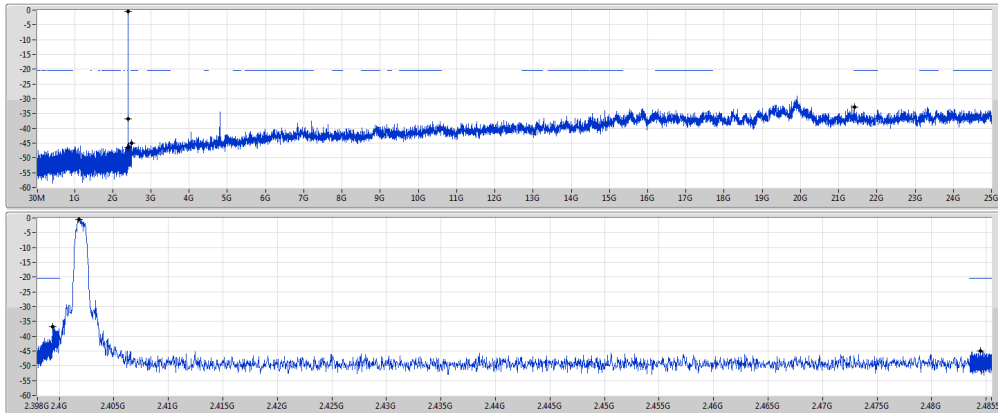


BT-EDR(3Mbps)
2402MHz

CSE NdB

21/03/2019

Port 1

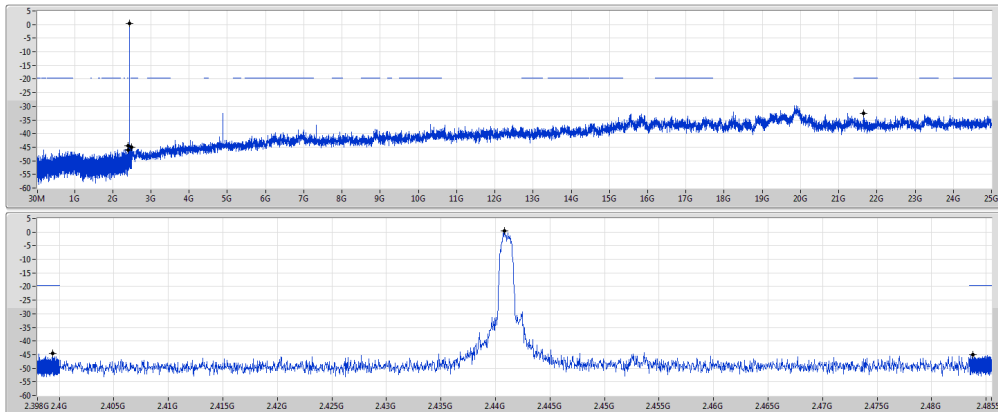


BT-EDR(3Mbps)
2441MHz

CSE NdB

21/03/2019

Port 1

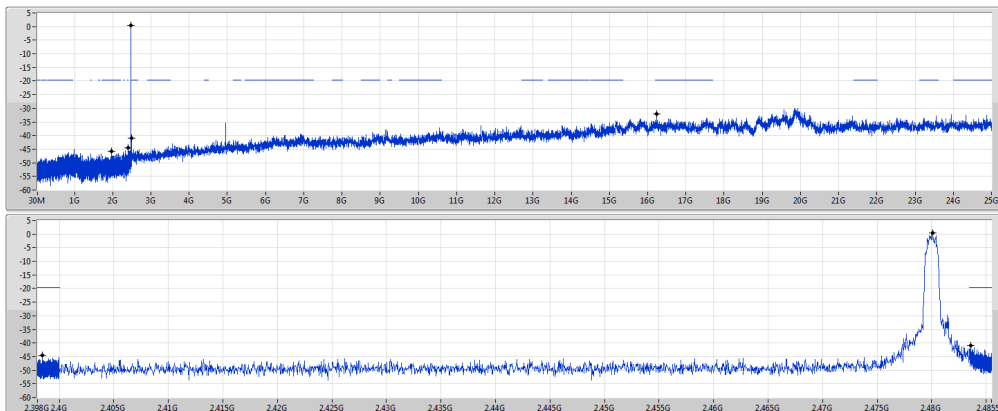


BT-EDR(3Mbps)
2480MHz

CSE NdB

21/03/2019

Port 1



**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	QP	364.58M	43.83	46.00	-2.17	-4.30	3	Horizontal	160	1.00	-

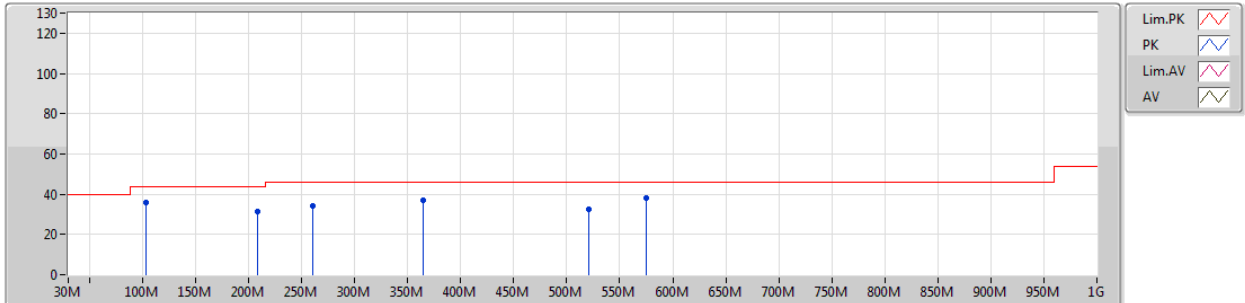
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2441MHz	Pass	PK	103.1M	35.64	43.50	-7.86	-9.98	3	Vertical	360	1.00	-
2441MHz	Pass	PK	208.54M	31.10	43.50	-12.40	-10.11	3	Vertical	360	1.00	-
2441MHz	Pass	PK	260.55M	34.12	46.00	-11.88	-5.09	3	Vertical	360	1.00	-
2441MHz	Pass	PK	364.58M	37.20	46.00	-8.80	-4.30	3	Vertical	360	1.00	-
2441MHz	Pass	PK	520.62M	32.24	46.00	-13.76	-1.25	3	Vertical	360	1.00	-
2441MHz	Pass	PK	575.45M	38.14	46.00	-7.86	0.71	3	Vertical	360	1.00	-
2441MHz	Pass	PK	103.1M	37.31	43.50	-6.19	-9.98	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	159.33M	33.09	43.50	-10.41	-9.37	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	260.55M	42.75	46.00	-3.25	-5.09	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	468.61M	36.56	46.00	-9.44	-1.80	3	Horizontal	0	1.00	-
2441MHz	Pass	PK	575.45M	37.72	46.00	-8.28	0.71	3	Horizontal	0	3.00	-
2441MHz	Pass	QP	364.58M	43.83	46.00	-2.17	-4.30	3	Horizontal	160	1.00	-

BT-BR(1Mbps)

26/03/2019

2441MHz_DC Power Supply

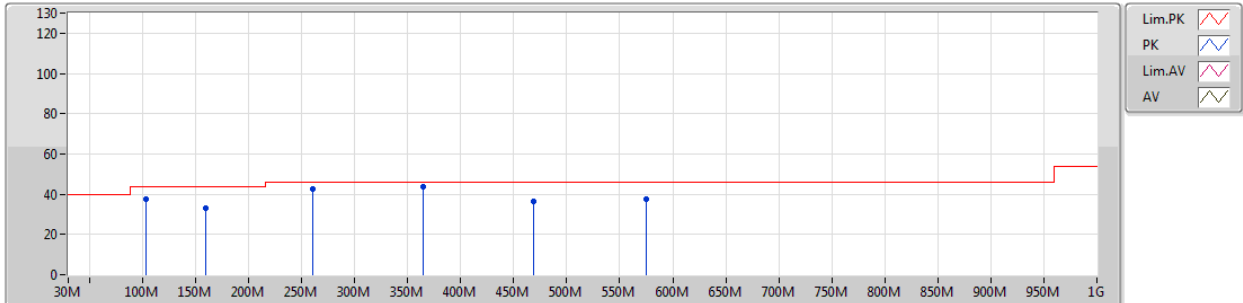


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments									
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)										
PK	103.1M	35.64	43.50	-7.86	-9.98	3	Vertical	360	1.00	-									
PK	208.54M	31.10	43.50	-12.40	-10.11	3	Vertical	360	1.00	-									
PK	260.55M	34.12	46.00	-11.88	-5.09	3	Vertical	360	1.00	-									
PK	364.58M	37.20	46.00	-8.80	-4.30	3	Vertical	360	1.00	-									
PK	520.62M	32.24	46.00	-13.76	-1.25	3	Vertical	360	1.00	-									
PK	575.45M	38.14	46.00	-7.86	0.71	3	Vertical	360	1.00	-									

BT-BR(1Mbps)

2441MHz_DC Power Supply

26/03/2019



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments										
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)											
PK	103.1M	37.31	43.50	-6.19	-9.98	3	Horizontal	0	1.00	-										
PK	159.33M	33.09	43.50	-10.41	-9.37	3	Horizontal	0	1.00	-										
PK	260.55M	42.75	46.00	-3.25	-5.09	3	Horizontal	0	1.00	-										
PK	468.61M	36.56	46.00	-9.44	-1.80	3	Horizontal	0	1.00	-										
PK	575.45M	37.72	46.00	-8.28	0.71	3	Horizontal	0	3.00	-										
QP	364.58M	43.83	46.00	-2.17	-4.30	3	Horizontal	160	1.00	-										

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	AV	4.95968G	50.15	54.00	-3.85	3.81	3	Horizontal	146	2.79	-
BT-EDR(3Mbps)	Pass	AV	2.493G	43.85	54.00	-10.15	31.55	3	Horizontal	151	1.50	-

Result

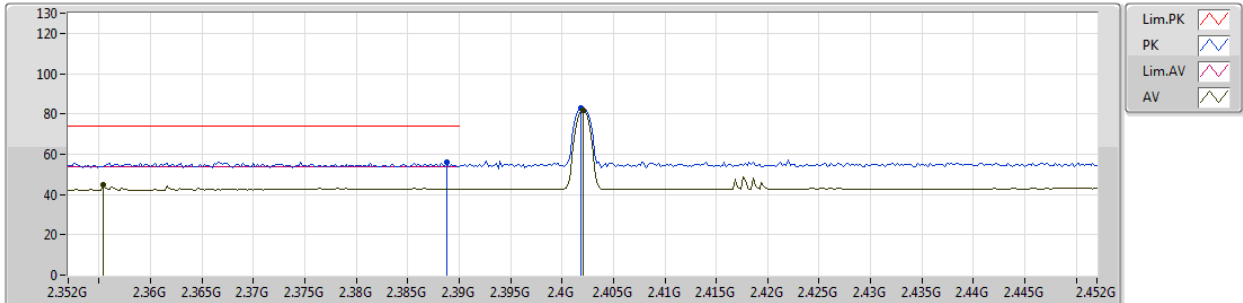
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3554G	44.89	54.00	-9.11	30.97	3	Vertical	143	1.50	-
2402MHz	Pass	AV	2.402G	82.09	Inf	-Inf	31.17	3	Vertical	143	1.50	-
2402MHz	Pass	PK	2.3888G	56.21	74.00	-17.79	31.11	3	Vertical	143	1.50	-
2402MHz	Pass	PK	2.4018G	82.73	Inf	-Inf	31.17	3	Vertical	143	1.50	-
2402MHz	Pass	AV	2.3576G	46.02	54.00	-7.98	30.97	3	Horizontal	157	1.52	-
2402MHz	Pass	AV	2.402G	85.41	Inf	-Inf	31.17	3	Horizontal	157	1.52	-
2402MHz	Pass	PK	2.367G	58.28	74.00	-15.72	31.02	3	Horizontal	157	1.52	-
2402MHz	Pass	PK	2.402G	85.84	Inf	-Inf	31.17	3	Horizontal	157	1.52	-
2402MHz	Pass	AV	4.804G	44.38	54.00	-9.62	3.40	3	Vertical	162	1.16	-
2402MHz	Pass	PK	4.8043G	49.65	74.00	-24.35	3.40	3	Vertical	162	1.16	-
2402MHz	Pass	AV	4.804G	42.52	54.00	-11.48	3.40	3	Horizontal	185	1.69	-
2402MHz	Pass	PK	4.80416G	49.44	74.00	-24.56	3.40	3	Horizontal	185	1.69	-
2441MHz	Pass	AV	2.389G	42.71	54.00	-11.29	31.11	3	Vertical	147	1.11	-
2441MHz	Pass	AV	2.441G	84.46	Inf	-Inf	31.32	3	Vertical	147	1.11	-
2441MHz	Pass	AV	2.493G	43.58	54.00	-10.42	31.55	3	Vertical	147	1.11	-
2441MHz	Pass	PK	2.3442G	56.34	74.00	-17.66	30.91	3	Vertical	147	1.11	-
2441MHz	Pass	PK	2.441G	84.94	Inf	-Inf	31.32	3	Vertical	147	1.11	-
2441MHz	Pass	PK	2.4862G	56.52	74.00	-17.48	31.52	3	Vertical	147	1.11	-
2441MHz	Pass	AV	2.389G	42.88	54.00	-11.12	31.11	3	Horizontal	157	1.50	-
2441MHz	Pass	AV	2.441G	86.96	Inf	-Inf	31.32	3	Horizontal	157	1.50	-
2441MHz	Pass	AV	2.493G	44.32	54.00	-9.68	31.55	3	Horizontal	157	1.50	-
2441MHz	Pass	PK	2.3842G	55.98	74.00	-18.02	31.09	3	Horizontal	157	1.50	-
2441MHz	Pass	PK	2.441G	87.41	Inf	-Inf	31.32	3	Horizontal	157	1.50	-
2441MHz	Pass	PK	2.4878G	56.67	74.00	-17.33	31.53	3	Horizontal	157	1.50	-
2441MHz	Pass	AV	4.88201G	48.98	54.00	-5.02	3.60	3	Vertical	160	1.05	-
2441MHz	Pass	PK	4.88179G	53.28	74.00	-20.72	3.60	3	Vertical	160	1.05	-
2441MHz	Pass	AV	4.88201G	44.31	54.00	-9.69	3.60	3	Horizontal	181	1.50	-
2441MHz	Pass	PK	4.88223G	50.36	74.00	-23.64	3.60	3	Horizontal	181	1.50	-
2480MHz	Pass	AV	2.48G	85.87	Inf	-Inf	31.49	3	Vertical	141	1.50	-
2480MHz	Pass	AV	2.4976G	43.30	54.00	-10.70	31.57	3	Vertical	141	1.50	-
2480MHz	Pass	PK	2.4798G	86.38	Inf	-Inf	31.49	3	Vertical	141	1.50	-
2480MHz	Pass	PK	2.4898G	56.49	74.00	-17.51	31.54	3	Vertical	141	1.50	-
2480MHz	Pass	AV	2.48G	89.07	Inf	-Inf	31.49	3	Horizontal	153	1.35	-
2480MHz	Pass	AV	2.4844G	43.34	54.00	-10.66	31.52	3	Horizontal	153	1.35	-
2480MHz	Pass	PK	2.4798G	89.50	Inf	-Inf	31.49	3	Horizontal	153	1.35	-
2480MHz	Pass	PK	2.4858G	56.39	74.00	-17.61	31.52	3	Horizontal	153	1.35	-
2480MHz	Pass	AV	4.96G	50.02	54.00	-3.98	3.81	3	Vertical	161	1.00	-
2480MHz	Pass	PK	4.96036G	54.28	74.00	-19.72	3.81	3	Vertical	161	1.00	-
2480MHz	Pass	AV	4.95968G	50.15	54.00	-3.85	3.81	3	Horizontal	146	2.79	-
2480MHz	Pass	PK	4.95963G	53.22	74.00	-20.78	3.81	3	Horizontal	146	2.79	-
BT-EDR(3Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3756G	42.50	54.00	-11.50	31.05	3	Vertical	142	1.15	-
2402MHz	Pass	AV	2.402G	72.93	Inf	-Inf	31.17	3	Vertical	142	1.15	-
2402MHz	Pass	PK	2.3882G	58.15	74.00	-15.85	31.11	3	Vertical	142	1.15	-
2402MHz	Pass	PK	2.4022G	76.98	Inf	-Inf	31.17	3	Vertical	142	1.15	-
2402MHz	Pass	AV	2.3762G	42.57	54.00	-11.43	31.05	3	Horizontal	156	1.65	-
2402MHz	Pass	AV	2.402G	74.80	Inf	-Inf	31.17	3	Horizontal	156	1.65	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2402MHz	Pass	PK	2.3782G	56.29	74.00	-17.71	31.06	3	Horizontal	156	1.65	-
2402MHz	Pass	PK	2.4022G	78.91	Inf	-Inf	31.17	3	Horizontal	156	1.65	-
2402MHz	Pass	AV	4.8041G	37.17	54.00	-16.83	3.40	3	Vertical	156	1.19	-
2402MHz	Pass	PK	4.80327G	48.31	74.00	-25.69	3.40	3	Vertical	156	1.19	-
2402MHz	Pass	AV	4.80355G	31.45	54.00	-22.55	3.40	3	Horizontal	154	1.50	-
2402MHz	Pass	PK	4.80353G	44.85	74.00	-29.15	3.40	3	Horizontal	154	1.50	-
2441MHz	Pass	AV	2.389G	42.59	54.00	-11.41	31.11	3	Vertical	139	2.00	-
2441MHz	Pass	AV	2.441G	71.78	Inf	-Inf	31.32	3	Vertical	139	2.00	-
2441MHz	Pass	AV	2.493G	43.48	54.00	-10.52	31.55	3	Vertical	139	2.00	-
2441MHz	Pass	PK	2.3854G	55.98	74.00	-18.02	31.09	3	Vertical	139	2.00	-
2441MHz	Pass	PK	2.4414G	76.06	Inf	-Inf	31.33	3	Vertical	139	2.00	-
2441MHz	Pass	PK	2.4942G	56.31	74.00	-17.69	31.55	3	Vertical	139	2.00	-
2441MHz	Pass	AV	2.389G	42.76	54.00	-11.24	31.11	3	Horizontal	151	1.50	-
2441MHz	Pass	AV	2.441G	77.17	Inf	-Inf	31.32	3	Horizontal	151	1.50	-
2441MHz	Pass	AV	2.493G	43.85	54.00	-10.15	31.55	3	Horizontal	151	1.50	-
2441MHz	Pass	PK	2.3878G	56.68	74.00	-17.32	31.11	3	Horizontal	151	1.50	-
2441MHz	Pass	PK	2.441G	81.23	Inf	-Inf	31.32	3	Horizontal	151	1.50	-
2441MHz	Pass	PK	2.4914G	57.11	74.00	-16.89	31.55	3	Horizontal	151	1.50	-
2441MHz	Pass	AV	4.88216G	40.33	54.00	-13.67	3.60	3	Vertical	153	1.04	-
2441MHz	Pass	PK	4.88174G	50.27	74.00	-23.73	3.60	3	Vertical	153	1.04	-
2441MHz	Pass	AV	4.88225G	35.46	54.00	-18.54	3.60	3	Horizontal	180	1.66	-
2441MHz	Pass	PK	4.88236G	47.10	74.00	-26.90	3.60	3	Horizontal	180	1.66	-
2480MHz	Pass	AV	2.48G	75.83	Inf	-Inf	31.49	3	Vertical	139	1.50	-
2480MHz	Pass	AV	2.4964G	43.34	54.00	-10.66	31.56	3	Vertical	139	1.50	-
2480MHz	Pass	PK	2.4802G	80.00	Inf	-Inf	31.49	3	Vertical	139	1.50	-
2480MHz	Pass	PK	2.485G	56.64	74.00	-17.36	31.52	3	Vertical	139	1.50	-
2480MHz	Pass	AV	2.48G	79.07	Inf	-Inf	31.49	3	Horizontal	151	1.34	-
2480MHz	Pass	AV	2.4982G	43.36	54.00	-10.64	31.57	3	Horizontal	151	1.34	-
2480MHz	Pass	PK	2.4802G	83.13	Inf	-Inf	31.49	3	Horizontal	151	1.34	-
2480MHz	Pass	PK	2.4835G	56.45	74.00	-17.55	31.51	3	Horizontal	151	1.34	-
2480MHz	Pass	AV	4.96017G	40.40	54.00	-13.60	3.81	3	Vertical	161	1.01	-
2480MHz	Pass	PK	4.96042G	49.84	74.00	-24.16	3.81	3	Vertical	161	1.01	-
2480MHz	Pass	AV	4.96016G	39.57	54.00	-14.43	3.81	3	Horizontal	150	2.65	-
2480MHz	Pass	PK	4.95953G	49.91	74.00	-24.09	3.81	3	Horizontal	150	2.65	-

BT-BR(1Mbps)

2402MHz_TX

21/03/2019

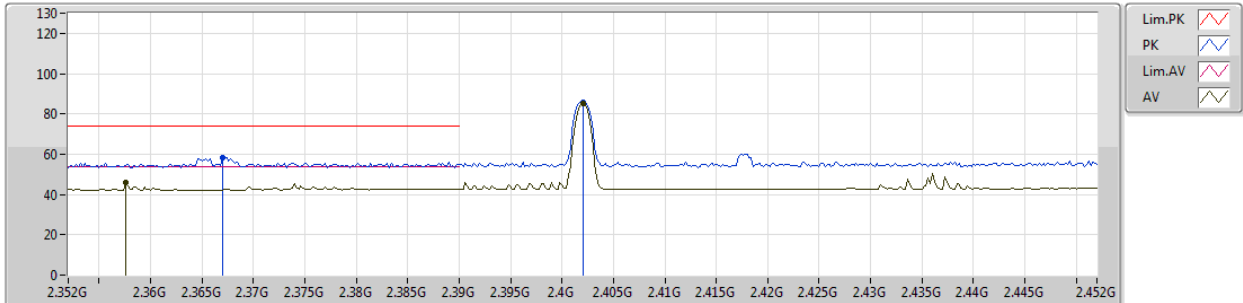


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	2.3554G	44.89	54.00	-9.11	30.97	3	Vertical	143	1.50	-								
AV	2.402G	82.09	Inf	-Inf	31.17	3	Vertical	143	1.50	-								
PK	2.3888G	56.21	74.00	-17.79	31.11	3	Vertical	143	1.50	-								
PK	2.4018G	82.73	Inf	-Inf	31.17	3	Vertical	143	1.50	-								

BT-BR(1Mbps)

2402MHz_TX

21/03/2019

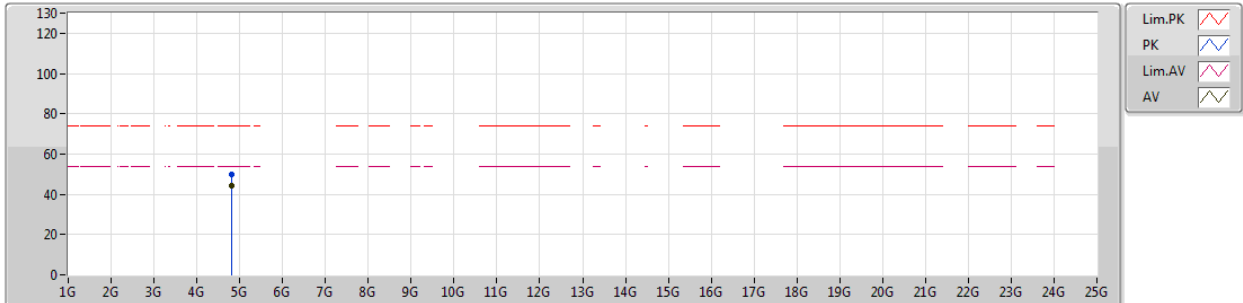


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	2.3576G	46.02	54.00	-7.98	30.97	3	Horizontal	157	1.52	-								
AV	2.402G	85.41	Inf	-Inf	31.17	3	Horizontal	157	1.52	-								
PK	2.367G	58.28	74.00	-15.72	31.02	3	Horizontal	157	1.52	-								
PK	2.402G	85.84	Inf	-Inf	31.17	3	Horizontal	157	1.52	-								

BT-BR(1Mbps)

2402MHz_TX

21/03/2019

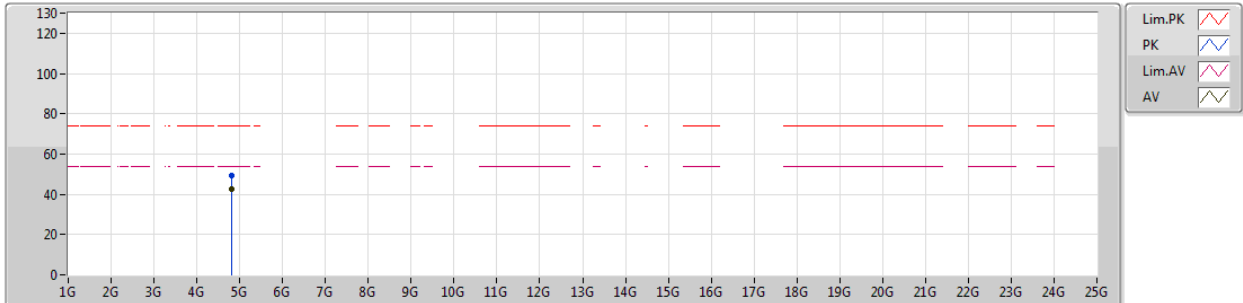


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments								
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)									
AV	4.804G	44.38	54.00	-9.62	3.40	3	Vertical	162	1.16	-								
PK	4.8043G	49.65	74.00	-24.35	3.40	3	Vertical	162	1.16	-								

BT-BR(1Mbps)

2402MHz_TX

21/03/2019

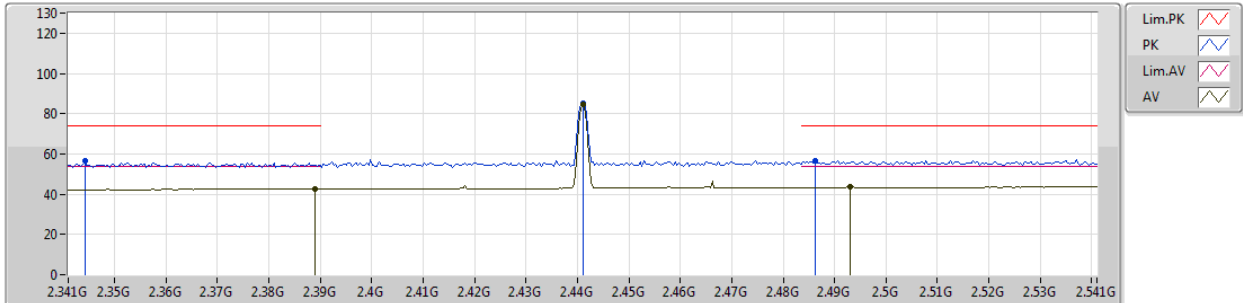


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.804G	42.52	54.00	-11.48	3.40	3	Horizontal	185	1.69	-
PK	4.80416G	49.44	74.00	-24.56	3.40	3	Horizontal	185	1.69	-

BT-BR(1Mbps)

2441MHz_TX

21/03/2019

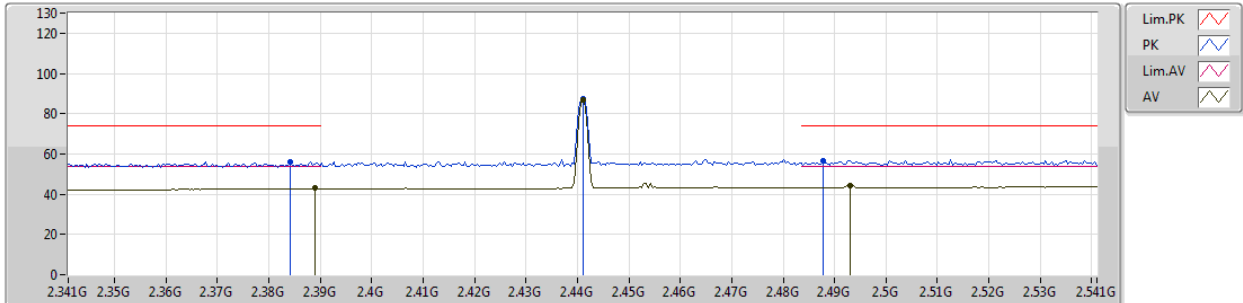


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389G	42.71	54.00	-11.29	31.11	3	Vertical	147	1.11	-
AV	2.441G	84.46	Inf	-Inf	31.32	3	Vertical	147	1.11	-
AV	2.493G	43.58	54.00	-10.42	31.55	3	Vertical	147	1.11	-
PK	2.3442G	56.34	74.00	-17.66	30.91	3	Vertical	147	1.11	-
PK	2.441G	84.94	Inf	-Inf	31.32	3	Vertical	147	1.11	-
PK	2.4862G	56.52	74.00	-17.48	31.52	3	Vertical	147	1.11	-

BT-BR(1Mbps)

2441MHz_TX

21/03/2019

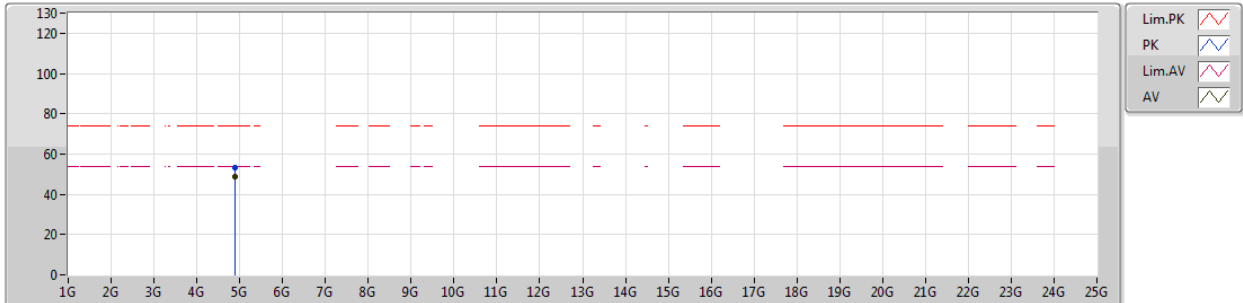


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389G	42.88	54.00	-11.12	31.11	3	Horizontal	157	1.50	-
AV	2.441G	86.96	Inf	-Inf	31.32	3	Horizontal	157	1.50	-
AV	2.493G	44.32	54.00	-9.68	31.55	3	Horizontal	157	1.50	-
PK	2.3842G	55.98	74.00	-18.02	31.09	3	Horizontal	157	1.50	-
PK	2.441G	87.41	Inf	-Inf	31.32	3	Horizontal	157	1.50	-
PK	2.4878G	56.67	74.00	-17.33	31.53	3	Horizontal	157	1.50	-

BT-BR(1Mbps)

2441MHz_TX

21/03/2019

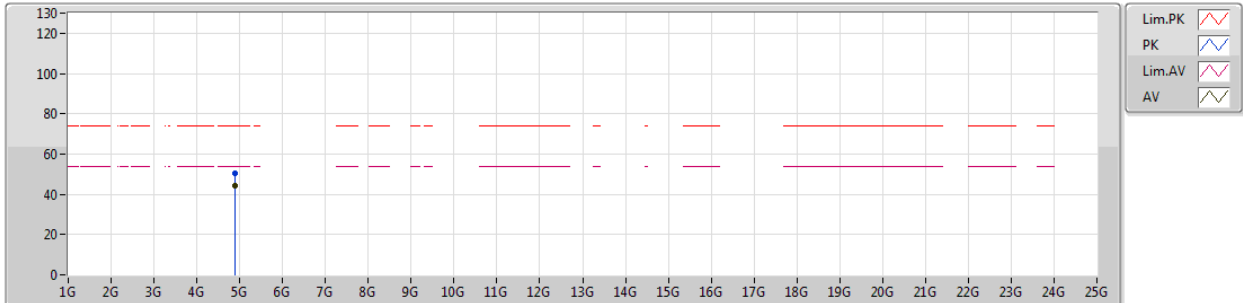


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.88201G	48.98	54.00	-5.02	3.60	3	Vertical	160	1.05	-
PK	4.88179G	53.28	74.00	-20.72	3.60	3	Vertical	160	1.05	-

BT-BR(1Mbps)

2441MHz_TX

21/03/2019

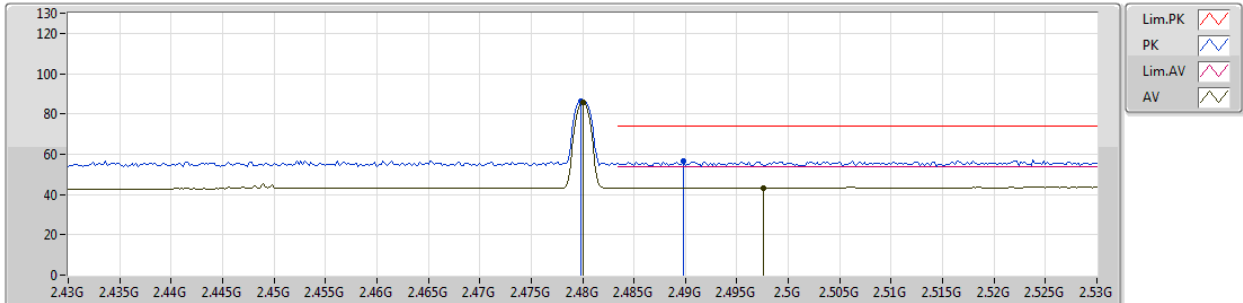


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.88201G	44.31	54.00	-9.69	3.60	3	Horizontal	181	1.50	-
PK	4.88223G	50.36	74.00	-23.64	3.60	3	Horizontal	181	1.50	-

BT-BR(1Mbps)

2480MHz_TX

21/03/2019

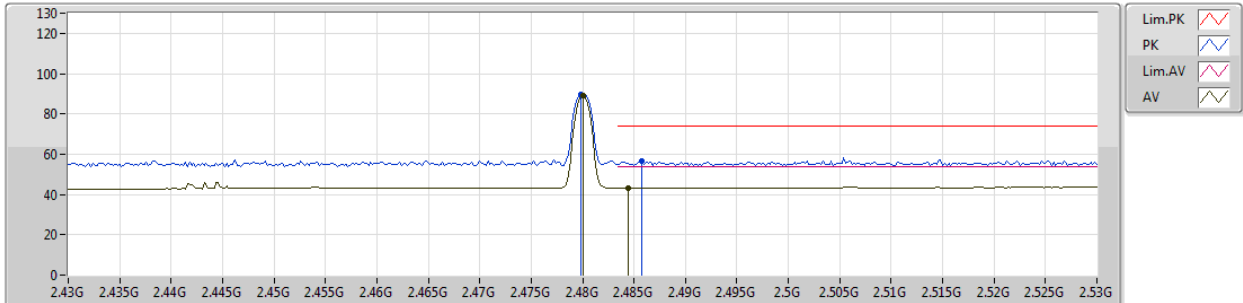


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	85.87	Inf	-Inf	31.49	3	Vertical	141	1.50	-
AV	2.4976G	43.30	54.00	-10.70	31.57	3	Vertical	141	1.50	-
PK	2.4798G	86.38	Inf	-Inf	31.49	3	Vertical	141	1.50	-
PK	2.4898G	56.49	74.00	-17.51	31.54	3	Vertical	141	1.50	-

BT-BR(1Mbps)

2480MHz_TX

21/03/2019

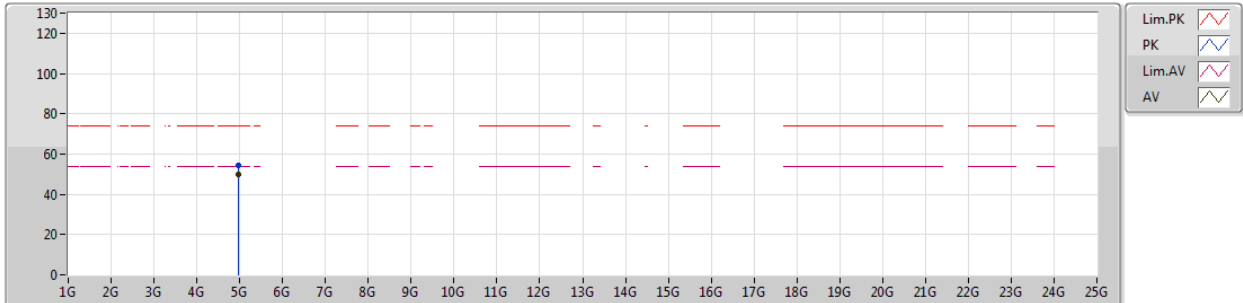


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	89.07	Inf	-Inf	31.49	3	Horizontal	153	1.35	-
AV	2.4844G	43.34	54.00	-10.66	31.52	3	Horizontal	153	1.35	-
PK	2.4798G	89.50	Inf	-Inf	31.49	3	Horizontal	153	1.35	-
PK	2.4858G	56.39	74.00	-17.61	31.52	3	Horizontal	153	1.35	-

BT-BR(1Mbps)

2480MHz_TX

21/03/2019

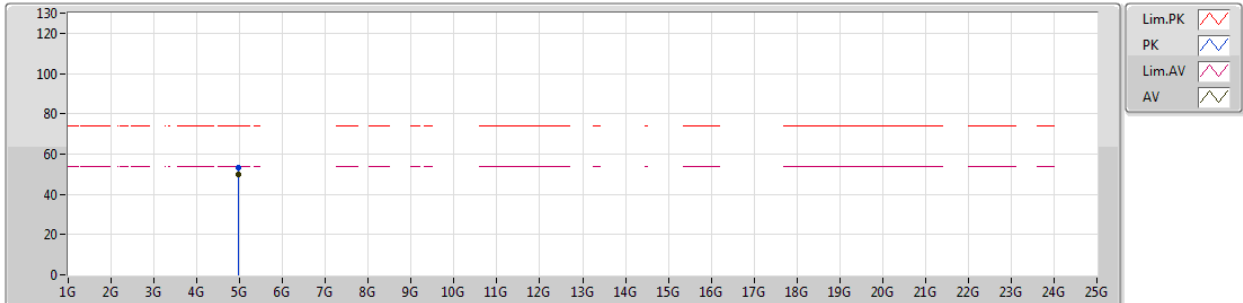


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.96 G	50.02	54.00	-3.98	3.81	3	Vertical	161	1.00	-
PK	4.96036 G	54.28	74.00	-19.72	3.81	3	Vertical	161	1.00	-

BT-BR(1Mbps)

2480MHz_TX

21/03/2019

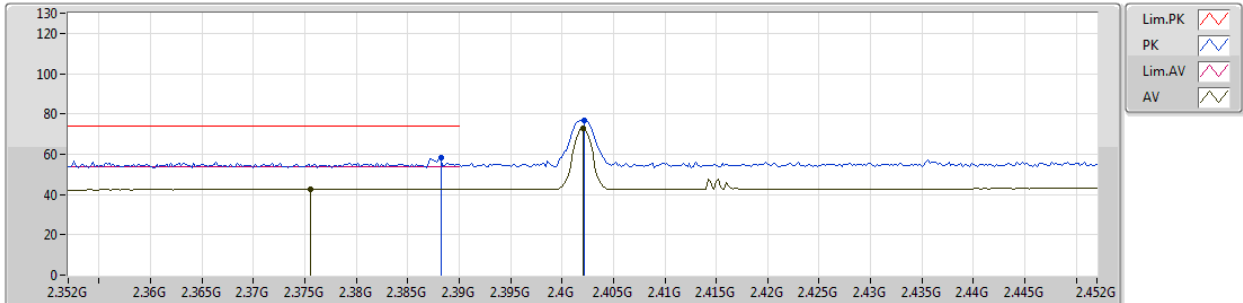


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments							
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)								
AV	4.95968G	50.15	54.00	-3.85	3.81	3	Horizontal	146	2.79	-							
PK	4.95963G	53.22	74.00	-20.78	3.81	3	Horizontal	146	2.79	-							

BT-EDR(3Mbps)

2402MHz_TX

21/03/2019

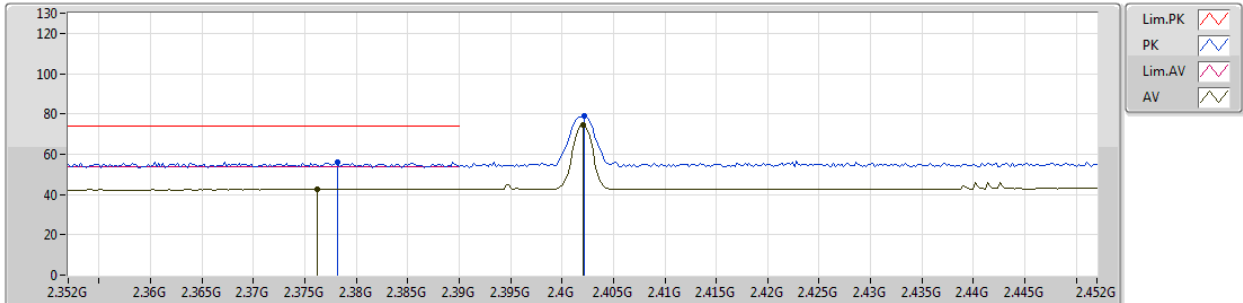


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments							
AV	2.3756G	42.50	54.00	-11.50	31.05	3	Vertical	142	1.15	-							
AV	2.402G	72.93	Inf	-Inf	31.17	3	Vertical	142	1.15	-							
PK	2.3882G	58.15	74.00	-15.85	31.11	3	Vertical	142	1.15	-							
PK	2.4022G	76.98	Inf	-Inf	31.17	3	Vertical	142	1.15	-							

BT-EDR(3Mbps)

2402MHz_TX

21/03/2019

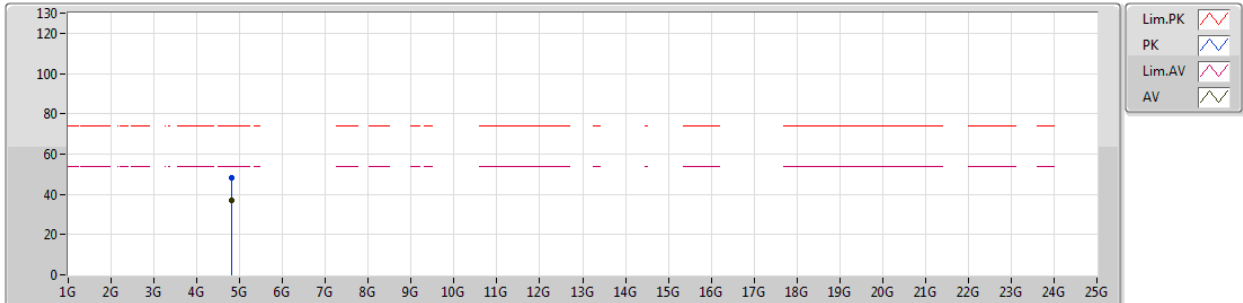


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3762G	42.57	54.00	-11.43	31.05	3	Horizontal	156	1.65	-
AV	2.402G	74.80	Inf	-Inf	31.17	3	Horizontal	156	1.65	-
PK	2.3782G	56.29	74.00	-17.71	31.06	3	Horizontal	156	1.65	-
PK	2.4022G	78.91	Inf	-Inf	31.17	3	Horizontal	156	1.65	-

BT-EDR(3Mbps)

2402MHz_TX

21/03/2019

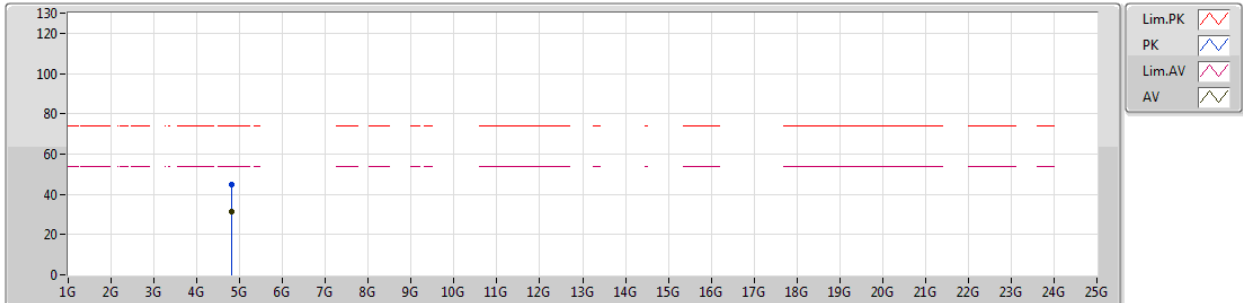


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.8041G	37.17	54.00	-16.83	3.40	3	Vertical	156	1.19	-
PK	4.80327G	48.31	74.00	-25.69	3.40	3	Vertical	156	1.19	-

BT-EDR(3Mbps)

2402MHz_TX

21/03/2019

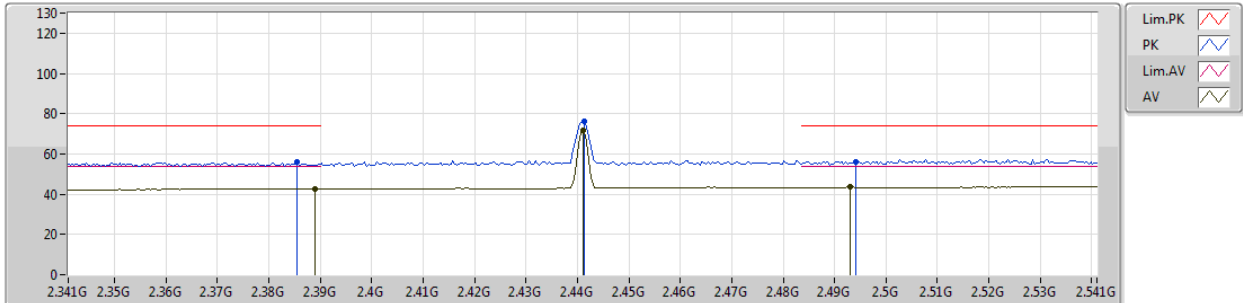


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.80355G	31.45	54.00	-22.55	3.40	3	Horizontal	154	1.50	-
PK	4.80353G	44.85	74.00	-29.15	3.40	3	Horizontal	154	1.50	-

BT-EDR(3Mbps)

21/03/2019

2441MHz_TX

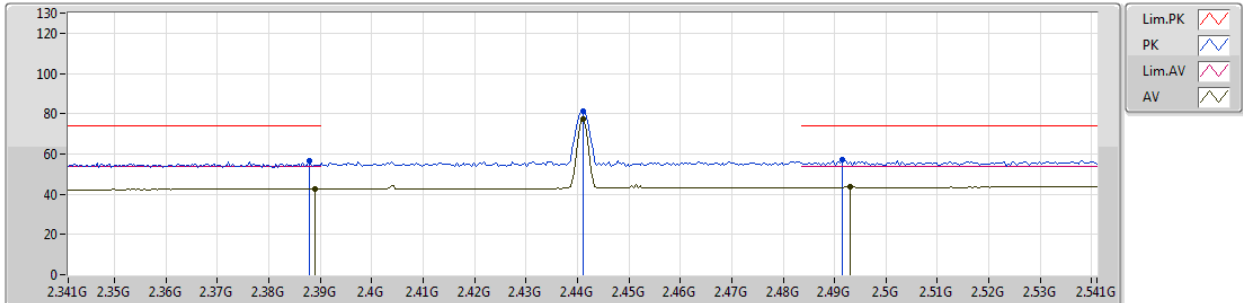


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389G	42.59	54.00	-11.41	31.11	3	Vertical	139	2.00	-
AV	2.441G	71.78	Inf	-Inf	31.32	3	Vertical	139	2.00	-
AV	2.493G	43.48	54.00	-10.52	31.55	3	Vertical	139	2.00	-
PK	2.3854G	55.98	74.00	-18.02	31.09	3	Vertical	139	2.00	-
PK	2.4414G	76.06	Inf	-Inf	31.33	3	Vertical	139	2.00	-
PK	2.4942G	56.31	74.00	-17.69	31.55	3	Vertical	139	2.00	-

BT-EDR(3Mbps)

21/03/2019

2441MHz_TX

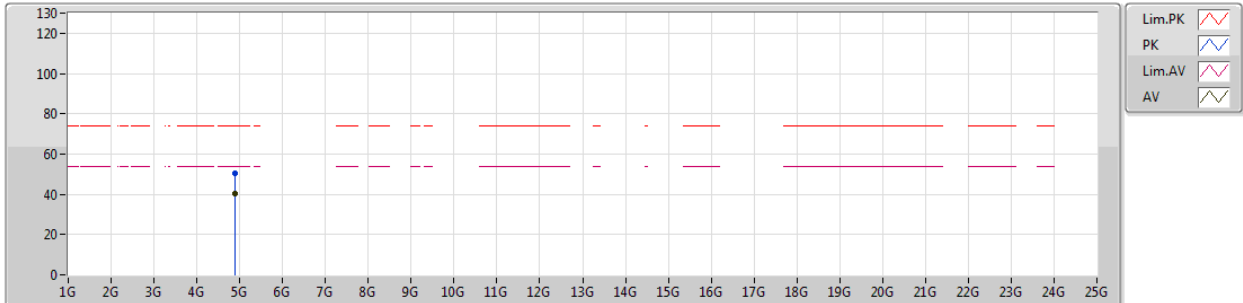


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.389G	42.76	54.00	-11.24	31.11	3	Horizontal	151	1.50	-
AV	2.441G	77.17	Inf	-Inf	31.32	3	Horizontal	151	1.50	-
AV	2.493G	43.85	54.00	-10.15	31.55	3	Horizontal	151	1.50	-
PK	2.3878G	56.68	74.00	-17.32	31.11	3	Horizontal	151	1.50	-
PK	2.441G	81.23	Inf	-Inf	31.32	3	Horizontal	151	1.50	-
PK	2.4914G	57.11	74.00	-16.89	31.55	3	Horizontal	151	1.50	-

BT-EDR(3Mbps)

21/03/2019

2441MHz_TX

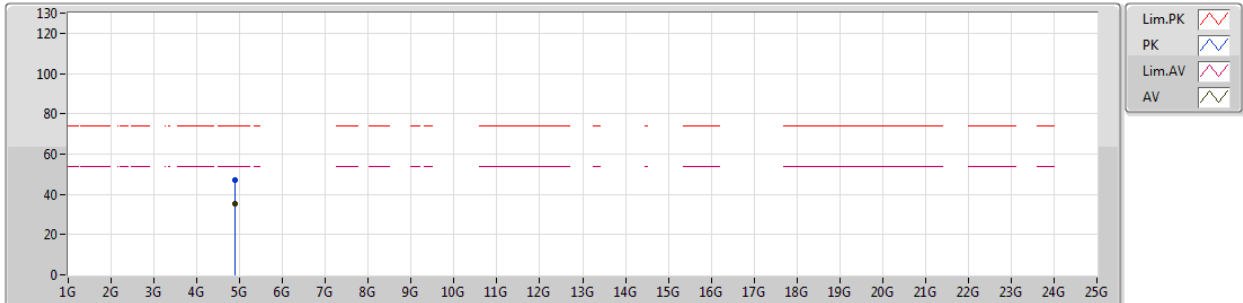


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments								
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)									
AV	4.88216G	40.33	54.00	-13.67	3.60	3	Vertical	153	1.04	-								
PK	4.88174G	50.27	74.00	-23.73	3.60	3	Vertical	153	1.04	-								

BT-EDR(3Mbps)

21/03/2019

2441MHz_TX

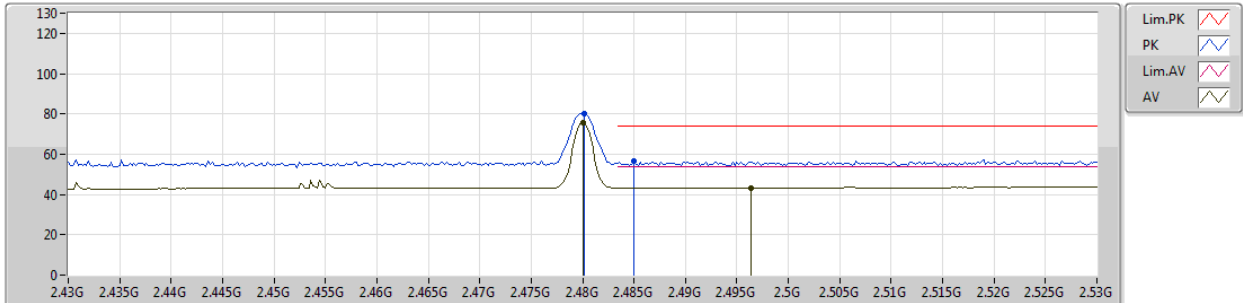


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.88225G	35.46	54.00	-18.54	3.60	3	Horizontal	180	1.66	-
PK	4.88236G	47.10	74.00	-26.90	3.60	3	Horizontal	180	1.66	-

BT-EDR(3Mbps)

2480MHz_TX

21/03/2019

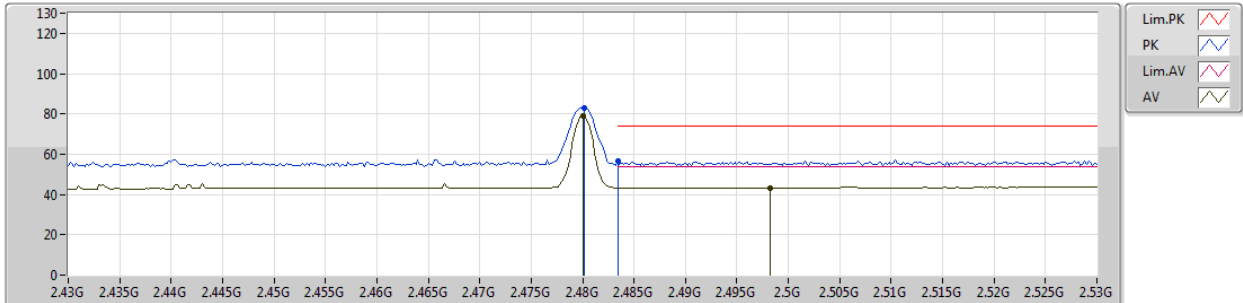


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	75.83	Inf	-Inf	31.49	3	Vertical	139	1.50	-
AV	2.4964G	43.34	54.00	-10.66	31.56	3	Vertical	139	1.50	-
PK	2.4802G	80.00	Inf	-Inf	31.49	3	Vertical	139	1.50	-
PK	2.485G	56.64	74.00	-17.36	31.52	3	Vertical	139	1.50	-

BT-EDR(3Mbps)

2480MHz_TX

21/03/2019

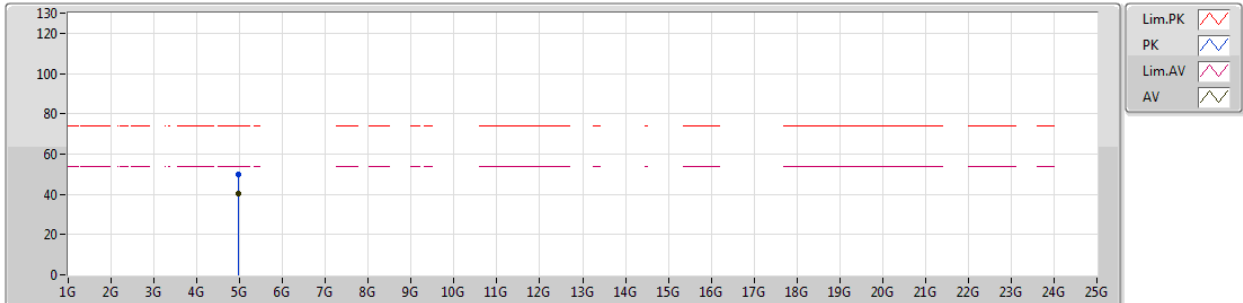


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	79.07	Inf	-Inf	31.49	3	Horizontal	151	1.34	-
AV	2.4982G	43.36	54.00	-10.64	31.57	3	Horizontal	151	1.34	-
PK	2.4802G	83.13	Inf	-Inf	31.49	3	Horizontal	151	1.34	-
PK	2.4835G	56.45	74.00	-17.55	31.51	3	Horizontal	151	1.34	-

BT-EDR(3Mbps)

2480MHz_TX

21/03/2019

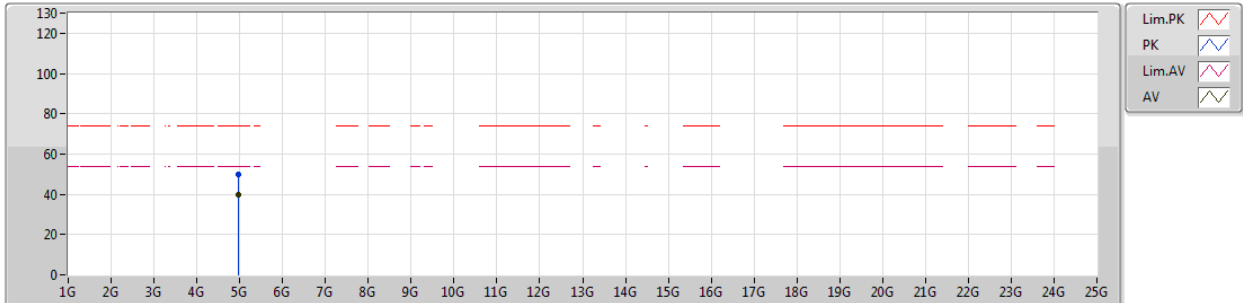


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.96017G	40.40	54.00	-13.60	3.81	3	Vertical	161	1.01	-
PK	4.96042G	49.84	74.00	-24.16	3.81	3	Vertical	161	1.01	-

BT-EDR(3Mbps)

2480MHz_TX

21/03/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.96016G	39.57	54.00	-14.43	3.81	3	Horizontal	150	2.65	-
PK	4.95953G	49.91	74.00	-24.09	3.81	3	Horizontal	150	2.65	-

**Summary**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	QP	728.68M	44.72	46.00	-1.28	2.94	3	Horizontal	88	1.11	-

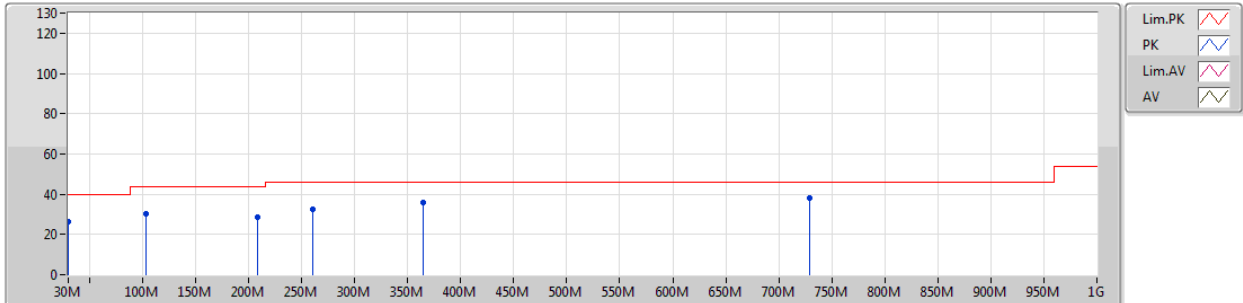
**Result**

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2441MHz_DC Power Supply	Pass	PK	30M	26.44	40.00	-13.56	-1.66	3	Vertical	360	1.11	-
2441MHz_DC Power Supply	Pass	PK	103.1M	30.22	43.50	-13.28	-9.98	3	Vertical	360	1.00	-
2441MHz_DC Power Supply	Pass	PK	208.54M	28.30	43.50	-15.20	-10.11	3	Vertical	360	1.00	-
2441MHz_DC Power Supply	Pass	PK	260.55M	32.24	46.00	-13.76	-5.09	3	Vertical	360	1.00	-
2441MHz_DC Power Supply	Pass	PK	364.58M	35.95	46.00	-10.05	-4.30	3	Vertical	360	1.00	-
2441MHz_DC Power Supply	Pass	PK	728.68M	38.10	46.00	-7.90	2.94	3	Vertical	360	1.00	-
2441MHz_DC Power Supply	Pass	PK	103.1M	37.73	43.50	-5.77	-9.98	3	Horizontal	0	1.00	-
2441MHz_DC Power Supply	Pass	PK	143.87M	34.79	43.50	-8.71	-8.65	3	Horizontal	0	1.00	-
2441MHz_DC Power Supply	Pass	PK	260.55M	42.36	46.00	-3.64	-5.09	3	Horizontal	0	1.00	-
2441MHz_DC Power Supply	Pass	PK	575.45M	37.95	46.00	-8.05	0.71	3	Horizontal	0	1.00	-
2441MHz_DC Power Supply	Pass	QP	364.58M	43.50	46.00	-2.50	-4.30	3	Horizontal	333	1.00	-
2441MHz_DC Power Supply	Pass	QP	728.68M	44.72	46.00	-1.28	2.94	3	Horizontal	88	1.11	-

BT-BR(1Mbps)RX

2441MHz_DC Power Supply

26/03/2019

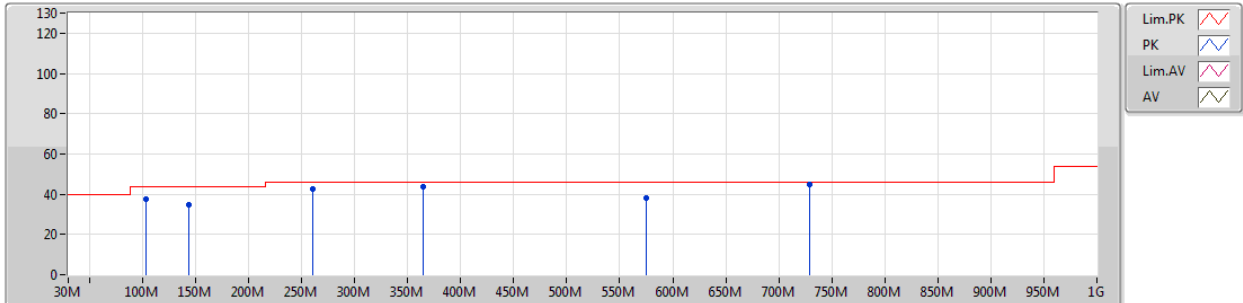


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	30M	26.44	40.00	-13.56	-1.66	3	Vertical	360	1.11	-
PK	103.1M	30.22	43.50	-13.28	-9.98	3	Vertical	360	1.00	-
PK	208.54M	28.30	43.50	-15.20	-10.11	3	Vertical	360	1.00	-
PK	260.55M	32.24	46.00	-13.76	-5.09	3	Vertical	360	1.00	-
PK	364.58M	35.95	46.00	-10.05	-4.30	3	Vertical	360	1.00	-
PK	728.68M	38.10	46.00	-7.90	2.94	3	Vertical	360	1.00	-

BT-BR(1Mbps)RX

26/03/2019

2441MHz_DC Power Supply



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	103.1M	37.73	43.50	-5.77	-9.98	3	Horizontal	0	1.00	-
PK	143.87M	34.79	43.50	-8.71	-8.65	3	Horizontal	0	1.00	-
PK	260.55M	42.36	46.00	-3.64	-5.09	3	Horizontal	0	1.00	-
PK	575.45M	37.95	46.00	-8.05	0.71	3	Horizontal	0	1.00	-
QP	364.58M	43.50	46.00	-2.50	-4.30	3	Horizontal	333	1.00	-
QP	728.68M	44.72	46.00	-1.28	2.94	3	Horizontal	88	1.11	-



RSE RX above 1GHz Result

Appendix H.2

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	AV	3.07211G	32.51	54.00	-21.49	-1.18	3	Horizontal	0	1.00	-

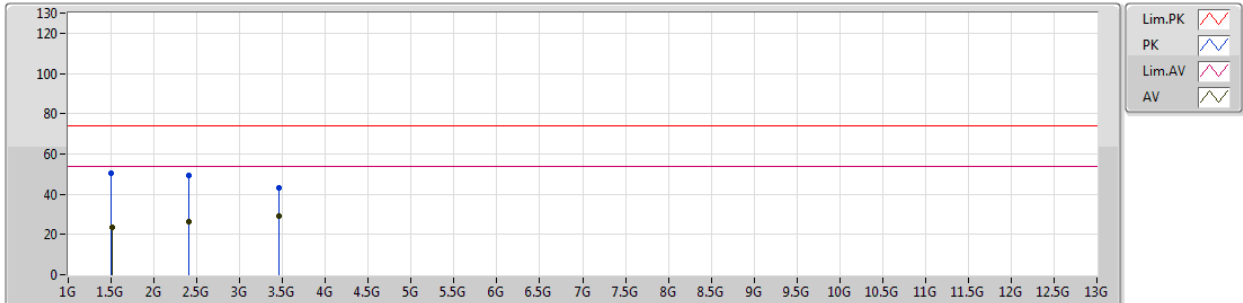
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-BR(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2441MHz_RX	Pass	AV	1.50647G	23.42	54.00	-30.58	-6.20	3	Vertical	360	1.00	-
2441MHz_RX	Pass	AV	2.40695G	26.28	54.00	-27.72	-3.24	3	Vertical	360	1.00	-
2441MHz_RX	Pass	AV	3.4556G	28.98	54.00	-25.02	-0.46	3	Vertical	360	1.00	-
2441MHz_RX	Pass	PK	1.504G	50.38	74.00	-23.62	-6.22	3	Vertical	360	1.00	-
2441MHz_RX	Pass	PK	2.408G	49.45	74.00	-24.55	-3.23	3	Vertical	360	1.00	-
2441MHz_RX	Pass	PK	3.456G	43.10	74.00	-30.90	-0.46	3	Vertical	360	1.00	-
2441MHz_RX	Pass	AV	1.61417G	31.72	54.00	-22.28	-5.91	3	Horizontal	0	1.00	-
2441MHz_RX	Pass	AV	2.78351G	31.80	54.00	-22.20	-1.98	3	Horizontal	0	1.00	-
2441MHz_RX	Pass	AV	3.07211G	32.51	54.00	-21.49	-1.18	3	Horizontal	0	1.00	-
2441MHz_RX	Pass	PK	1.616G	45.00	74.00	-29.00	-5.91	3	Horizontal	0	1.00	-
2441MHz_RX	Pass	PK	2.784G	50.76	74.00	-23.24	-1.98	3	Horizontal	0	1.00	-
2441MHz_RX	Pass	PK	3.072G	41.97	74.00	-32.03	-1.18	3	Horizontal	0	1.00	-

BT-BR(1Mbps)RX

2441MHz_RX

21/03/2019

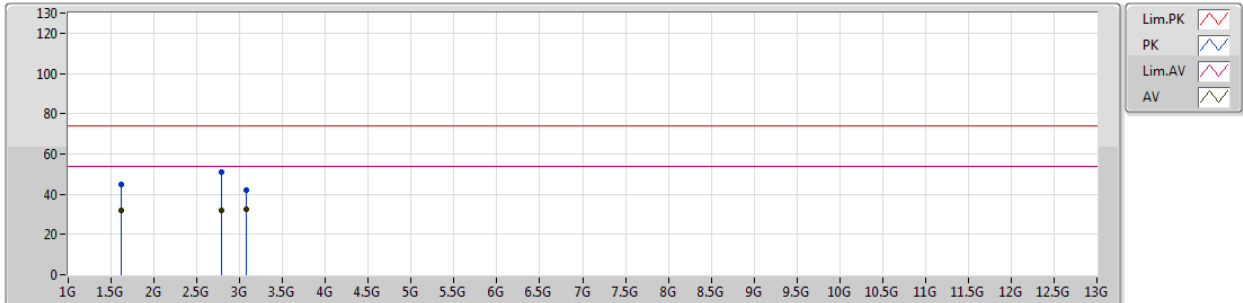


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	1.50647G	23.42	54.00	-30.58	-6.20	3	Vertical	360	1.00	-
AV	2.40695G	26.28	54.00	-27.72	-3.24	3	Vertical	360	1.00	-
AV	3.4556G	28.98	54.00	-25.02	-0.46	3	Vertical	360	1.00	-
PK	1.504G	50.38	74.00	-23.62	-6.22	3	Vertical	360	1.00	-
PK	2.408G	49.45	74.00	-24.55	-3.23	3	Vertical	360	1.00	-
PK	3.456G	43.10	74.00	-30.90	-0.46	3	Vertical	360	1.00	-

BT-BR(1Mbps)RX

2441MHz_RX

21/03/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	1.61417G	31.72	54.00	-22.28	-5.91	3	Horizontal	0	1.00	-
AV	2.78351G	31.80	54.00	-22.20	-1.98	3	Horizontal	0	1.00	-
AV	3.07211G	32.51	54.00	-21.49	-1.18	3	Horizontal	0	1.00	-
PK	1.616G	45.00	74.00	-29.00	-5.91	3	Horizontal	0	1.00	-
PK	2.784G	50.76	74.00	-23.24	-1.98	3	Horizontal	0	1.00	-
PK	3.072G	41.97	74.00	-32.03	-1.18	3	Horizontal	0	1.00	-