FCC Test Report

FCC ID	:	**TVE-121101**
Equipment	:	**Wireless Network Extender**
Brand Name	:	**FORTINET**
Model Name	:	**FortiExtender 201Exxxxxx, FORTIEXTENDER-201Exxxxxx, FEX-201Exxxxxx (where "x" can be "0-9", or "A-Z", or "-", or blank for marketing purposes or software changes only and no HW related changes.) Note: All three model names are the same, no difference. The purpose for these three model names are for marketing sales.** **FortiExtender 202Exxxxxx, FORTIEXTENDER-202Exxxxxx, FEX-202Exxxxxx (where "x" can be "0-9", or "A-Z", or "-", or blank for marketing purposes or software changes only and no HW related changes.) Note: All three model names are the same, no difference. The purpose for these three model names are for marketing sales.**
Applicant	:	**Fortinet, Inc. 899 Kifer Road, Sunnyvale, CA 94086 USA**
Manufacturer	:	**Fortinet, Inc. 899 Kifer Road, Sunnyvale, CA 94086 USA**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Apr. 09, 2019, and testing was started from Aug. 06, 2019 and completed on Sep. 05, 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.

Allen Lin

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR8D2027AL	01	Initial issue of report	Sep. 20, 2019

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)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	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: Ben Tseng

Report Producer: Jenny Yang

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	2.0	1TX

Note:
- Bluetooth LE uses a GFSK (1Mbps/2Mbps) modulation for DSSS.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	-	RF11C02360S	Printing Antenna	N/A	4

Note 1: The EUT has one antenna.

For BT function:

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

Ant.1 can be used as transmitting/receiving antenna.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From AC Adapter			
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) ≥ 1/T
BT-LE(1Mbps)	0.61	2.15	381.25u	3k
BT-LE(2Mbps)	0.315	5.02	197.5u	10k

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

1.1.5 Table for Multiple Listing

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

Model Name	LTE Module	BT	PCBA	Description
FortiExtender 201Exxxxxx	LTE module chip: EM7455*1	BT*1	Same PCBA	All three model names are the same, no difference. The purpose for these three model names are for marketing sales.
FORTIEXTENDER-201Exxxxxx	LTE module chip: EM7455*1	BT*1	Same PCBA	
FEX-201Exxxxxx	LTE module chip: EM7455*1	BT*1	Same PCBA	
FortiExtender 202Exxxxxx	LTE module chip: EM7455*2	BT*1	Same PCBA	All three model names are the same, no difference. The purpose for these three model names are for marketing sales.
FORTIEXTENDER-202Exxxxxx	LTE module chip: EM7455*2	BT*1	Same PCBA	
FEX-202Exxxxxx	LTE module chip: EM7455*2	BT*1	Same PCBA	

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
- ANSI C63.10-2013
- KDB 558074 D01 v05r02
- KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	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.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward	24.4~25.1°C / 63.5~67.9%	06/Aug/2019
RF Conducted	TH01-HY	Barry	24~26°C / 51~56%	03/Sep/2019~ 05/Sep/2019
Radiated	03CH09-HY	Daniel	22.1~23.3°C / 57.5~59.4%	05/Sep/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	120V

2.2 Test Channel Mode

Test Software	WCN Combo tool

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	7
2440MHz	6
2480MHz	7
BT-LE(2Mbps)	-
2402MHz	7
2440MHz	6
2480MHz	7

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	Adapter mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density 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/CRX		
1	Adapter mode		
Operating Mode > 1GHz	CTX/CRX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT			V

2.4 Support Equipment

Support Equipment – AC Conduction				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Power Cable	Power sync	PW-GPC180-3	-
2	AC adapter	HOLOTO	ADS-25SGP-12	-

Note: Support equipment No.2 was provided by customer.

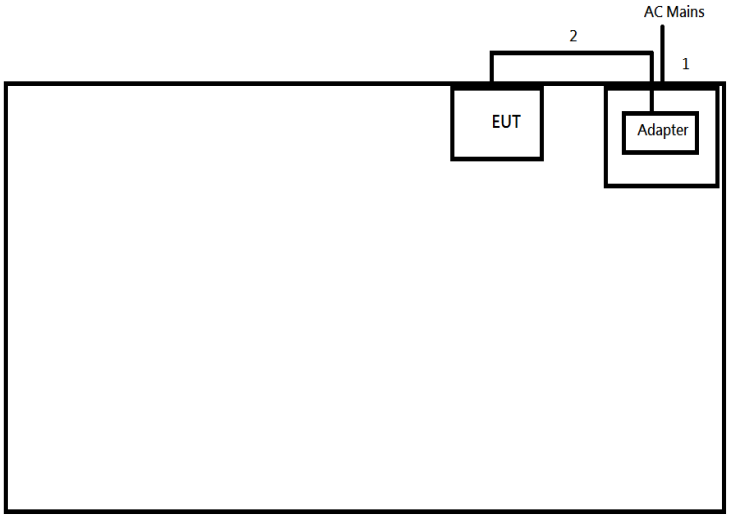
Support Equipment – RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC

Support Equipment – Radiated Emission				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	AC adapter	HOLOTO	ADS-25SGP-12	-

Note: Support equipment No.2 was provided by customer.

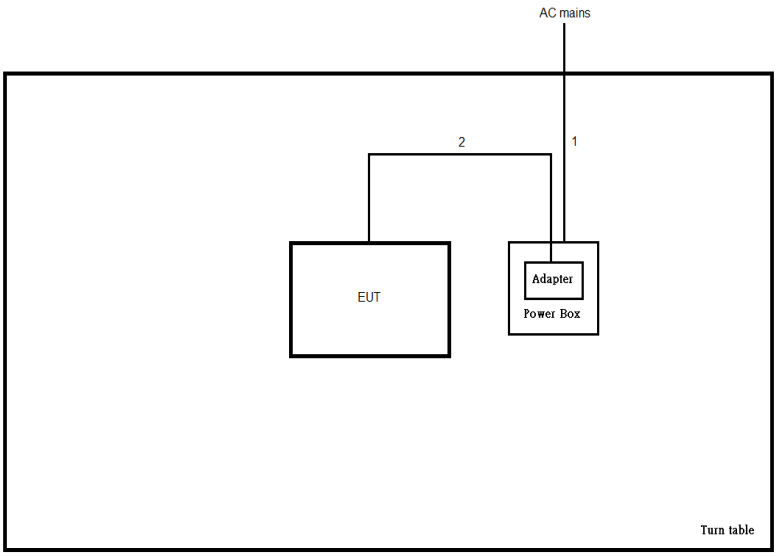
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	Power Cable	No	1.8	-
2	DC Power Cable	No	1.45	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8	-
2	DC Power line	No	1.45	-

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

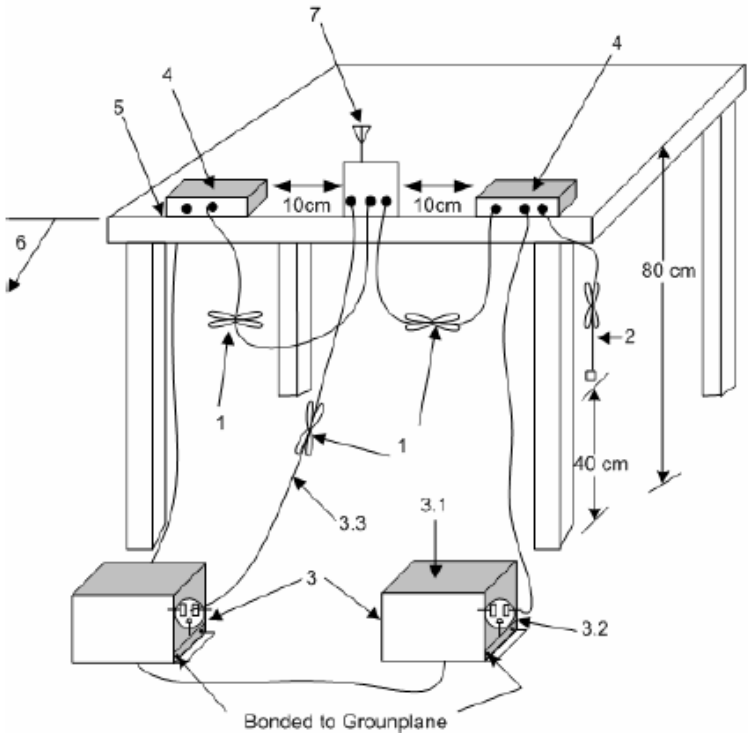
Refer a test equipment and calibration data table in this test report.

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

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

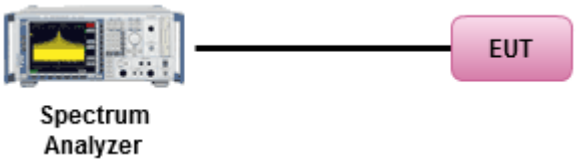
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
	☐ Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
	☐ Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit			
	▪ If G_{TX} ≤ 6 dBi, then P_{Out} ≤ 30 dBm (1 W)		
	▪ Point-to-multipoint systems (P2M): If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6) dBm		
	▪ Point-to-point systems (P2P): If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm		
	▪ Smart antenna system (SAS):		
		- Single beam: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm	
		- Overlap beam: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm	
		- Aggregate power on all beams: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 + 8dB dBm	
e.i.r.p. Power Limit:			
▪ 2400-2483.5 MHz Band			
	▪ Point-to-multipoint systems (P2M): P_{eirp} ≤ 36 dBm (4 W)		
	▪ Point-to-point systems (P2P): P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX}]) dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Overlap beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Aggregate power on all beams: P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX} + 8]) dBm	
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.			

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
	☐ Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
	☐ Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
▪ Maximum Average Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
	☒ Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD)≤8 dBm/3kHz

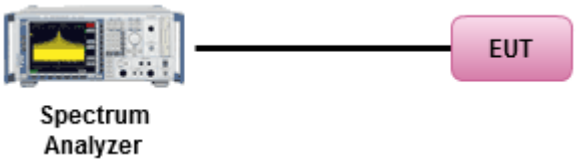
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).		
	☒ Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Method PKPSD.	
▪ For conducted measurement.		
	▪ If The EUT supports multiple transmit chains using options given below:	
		▪ Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dB)**
Peak output power procedure	20
Average output power procedure	30
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 level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average level.	

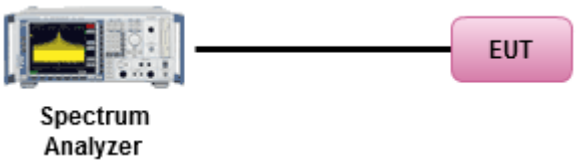
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
▪ Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 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 below30 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.

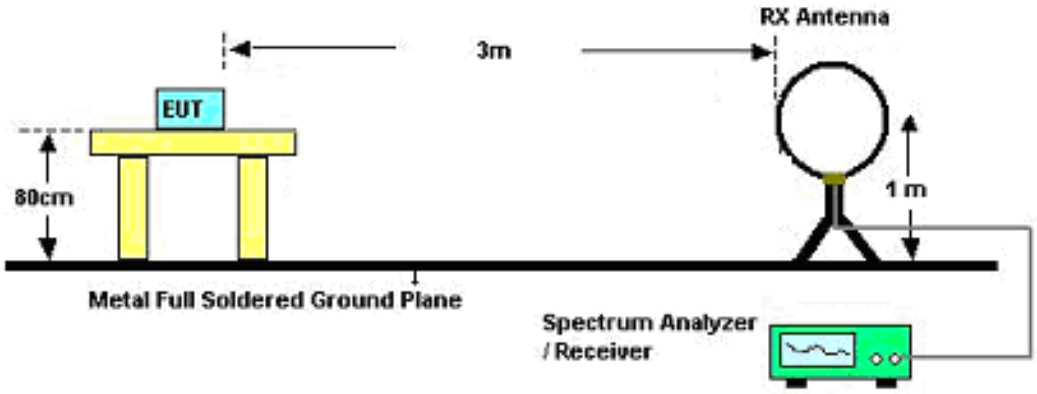
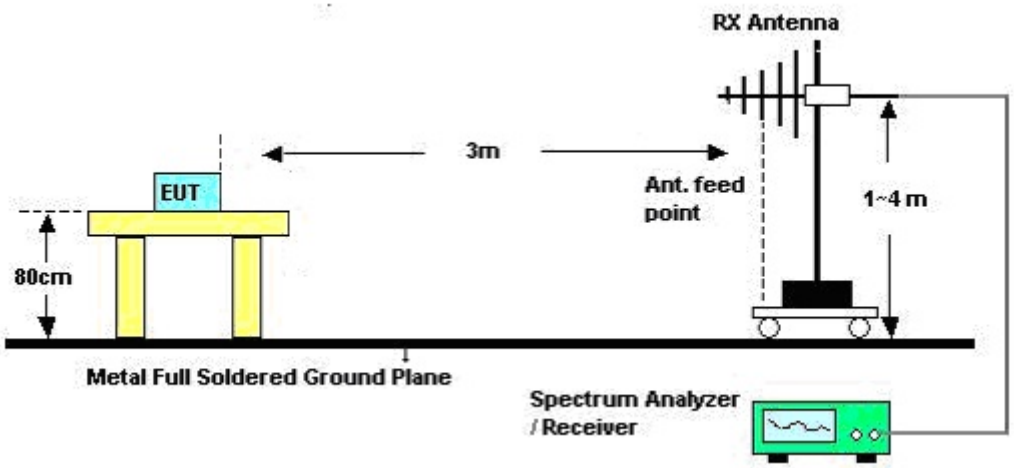
3.6.2 Measuring Instruments

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

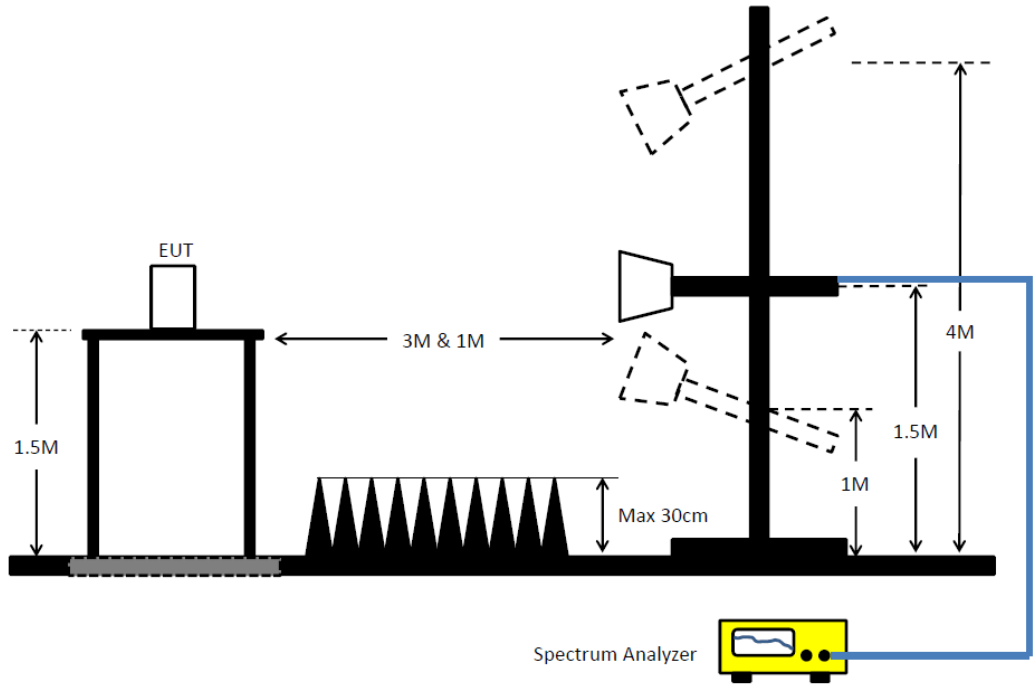
3.6.3 Test Procedures

Test Method
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or 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 KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
▪ For the transmitter band-edge emissions shall be measured using following options below:
▪ Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
▪ Use the following spectrum analyzer settings:
▪ Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.
▪ 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.

3.6.4 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.6.5 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.

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

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	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	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2018	11/Oct/2019

NCR : Non-Calibration Require

Instrument for Conducted Test

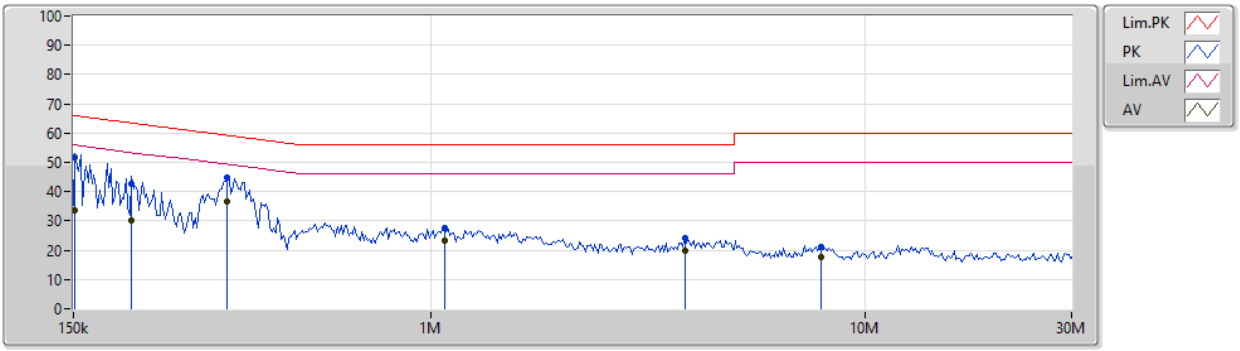
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	21/Mar/2019	20/Mar/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	21/Mar/2019	20/Mar/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	21/Mar/2019	20/Mar/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	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	22/Apr/2019	21/Apr/2020
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	13/Jun/2019	12/Jun/2020
Microwave System Premplifier	Agilent	8449B	3008A02326	1GHz ~ 26.5GHz	15/Jul/2019	14/Jul/2020
Amplifier	EMC	EMC9135	980232	9KHz~1GHz	22/Apr/2019	21/Apr/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz~44GHz	07/Aug/2019	06/Aug/2020
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D & MTJ6102-05	35418 / 3	30MHz~1GHz	02/Oct/2018	03/Oct/2019
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	22/May/2019	21/May/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170614	18GHz~40GHz	22/May/2019	21/May/2020
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	05/Aug/2019	04/Aug/2020
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020
LF-CABLE-20190218	Jye Bao	RG142	CB028	9kHz ~ 1GHz	18/Feb/2019	17/Feb/2020
RF Cable-high	HUBER+ SUHNER	SUCOFLEX104	SN 556626/4 + 556627	1GHz ~ 40GHz	13/Mar/2019	12/Mar/2020

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Adapter Mode		

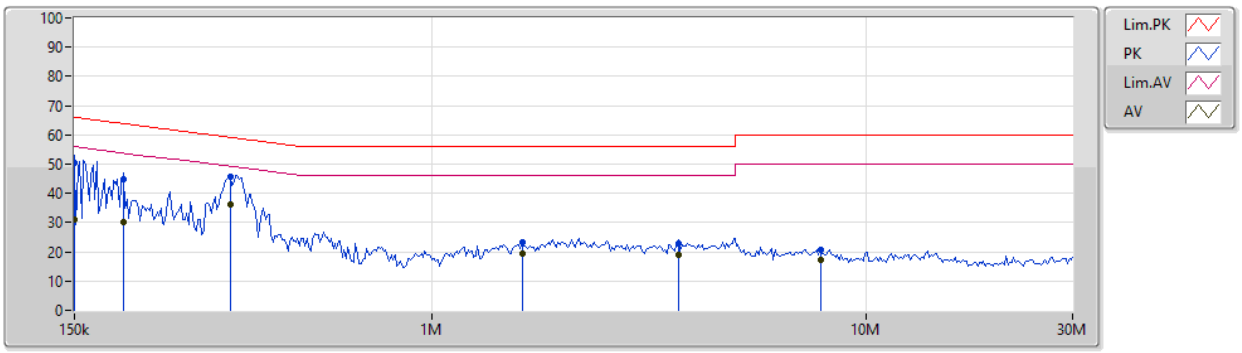
06/08/2019



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	151.5k	51.57	65.92	-14.35	19.48	Neutral	-	32.09	9.60	0.01	9.87
AV	151.5k	33.50	55.92	-22.42	19.48	Neutral	-	14.02	9.60	0.01	9.87
QP	204.199k	42.69	63.44	-20.75	19.47	Neutral	-	23.22	9.59	0.01	9.87
AV	204.199k	30.11	53.44	-23.33	19.47	Neutral	-	10.64	9.59	0.01	9.87
QP	339.191k	44.63	59.23	-14.60	19.48	Neutral	-	25.15	9.59	0.01	9.88
AV	339.191k	36.57	49.23	-12.66	19.48	Neutral	"Worst"	17.09	9.59	0.01	9.88
QP	1.076M	27.51	56.00	-28.49	19.49	Neutral	-	8.02	9.59	0.02	9.88
AV	1.076M	23.43	46.00	-22.57	19.49	Neutral	-	3.94	9.59	0.02	9.88
QP	3.845M	24.17	56.00	-31.83	19.55	Neutral	-	4.62	9.61	0.05	9.89
AV	3.845M	19.98	46.00	-26.02	19.55	Neutral	-	0.43	9.61	0.05	9.89
QP	7.949M	21.14	60.00	-38.86	19.60	Neutral	-	1.54	9.65	0.06	9.89
AV	7.949M	17.79	50.00	-32.21	19.60	Neutral	-	-1.81	9.65	0.06	9.89

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	Adapter Mode		

06/08/2019



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	50.63	66.00	-15.37	19.48	Line	-	31.15	9.60	0.01	9.87
AV	150k	31.10	56.00	-24.90	19.48	Line	-	11.62	9.60	0.01	9.87
QP	194.288k	45.03	63.86	-18.83	19.48	Line	-	25.55	9.60	0.01	9.87
AV	194.288k	30.32	53.86	-23.54	19.48	Line	-	10.84	9.60	0.01	9.87
QP	342.583k	45.70	59.14	-13.44	19.48	Line	-	26.22	9.59	0.01	9.88
AV	342.583k	36.37	49.14	-12.77	19.48	Line	"Worst"	16.89	9.59	0.01	9.88
QP	1.618M	23.07	56.00	-32.93	19.53	Line	-	3.54	9.61	0.03	9.89
AV	1.618M	19.44	46.00	-26.56	19.53	Line	-	-0.09	9.61	0.03	9.89
QP	3.695M	23.06	56.00	-32.94	19.56	Line	-	3.50	9.63	0.04	9.89
AV	3.695M	19.17	46.00	-26.83	19.56	Line	-	-0.39	9.63	0.04	9.89
QP	7.87M	20.52	60.00	-39.48	19.61	Line	-	0.91	9.66	0.06	9.89
AV	7.87M	17.41	50.00	-32.59	19.61	Line	-	-2.20	9.66	0.06	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-LE(1Mbps)	707.5k	1.032M	1M03F1D	702.5k	1.022M
BT-LE(2Mbps)	1.235M	2.049M	2M05F1D	1.18M	2.039M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

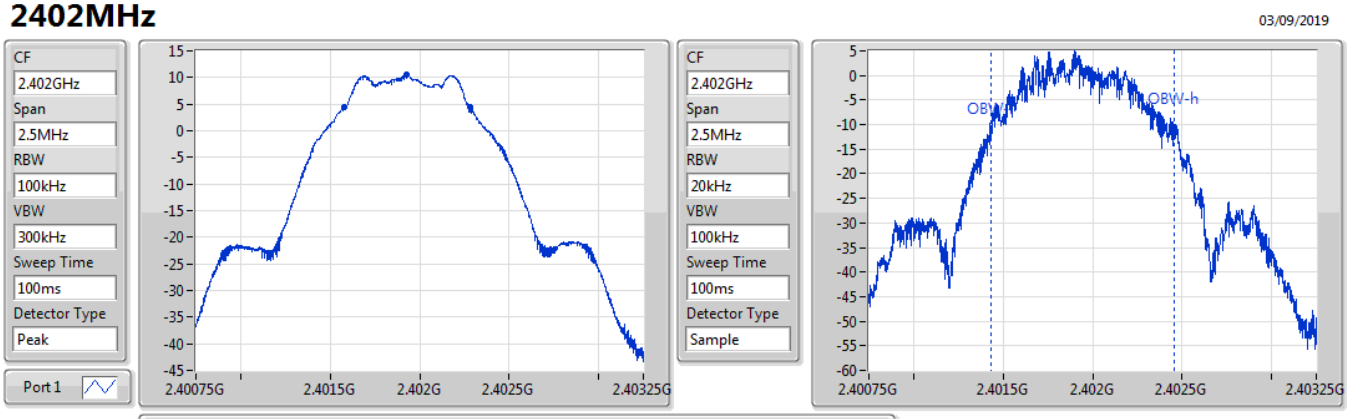
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	702.5k	1.026M
2440MHz	Pass	500k	703.75k	1.022M
2480MHz	Pass	500k	707.5k	1.032M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.228M	2.039M
2440MHz	Pass	500k	1.18M	2.041M
2480MHz	Pass	500k	1.235M	2.049M

Port X-N dB = Port **X** 6dB down bandwidth; **Port X-OBW** = Port **X** 99% occupied bandwidth;

BT-LE(1Mbps) EBW

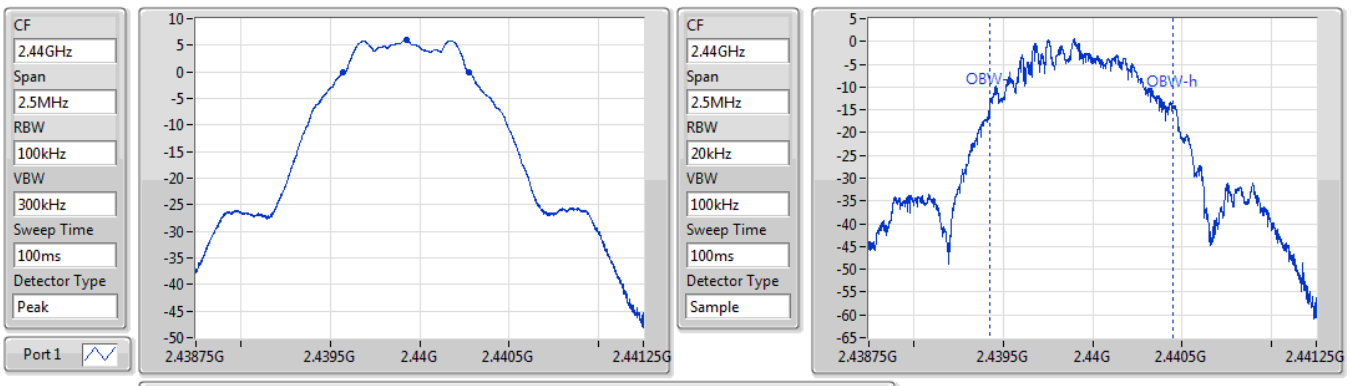
2402MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
702.5k	2.401579G	2.402281G	1.026M	2.401432G	2.402457G	500k	1

BT-LE(1Mbps) EBW

2440MHz

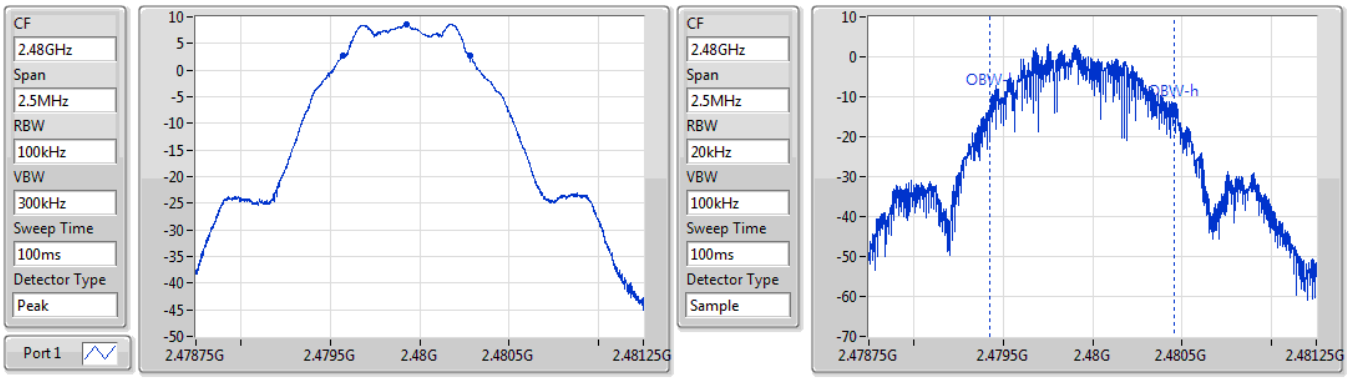


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
703.75k	2.439574G	2.440278G	1.022M	2.439428G	2.44045G	500k	1

BT-LE(1Mbps) EBW

2480MHz

03/09/2019

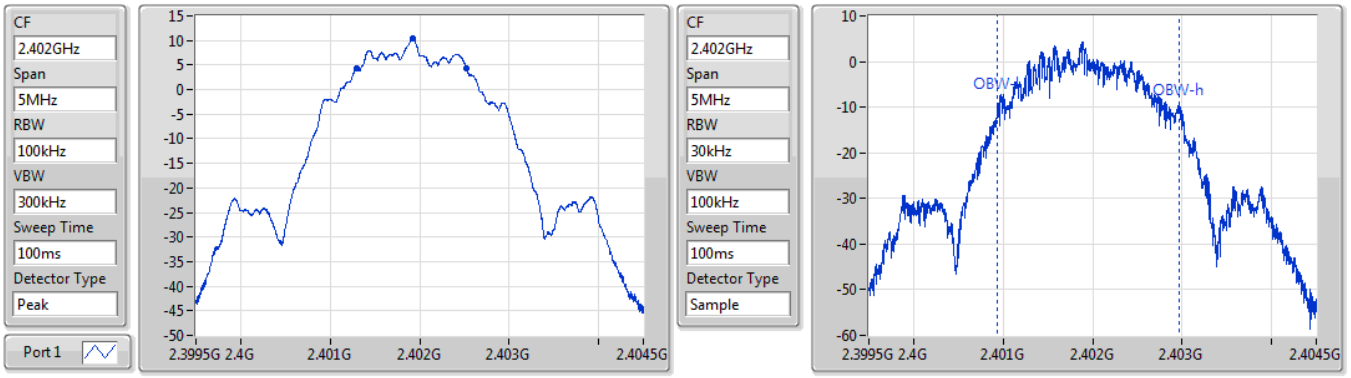


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
707.5k	2.479571G	2.480279G	1.032M	2.479425G	2.480457G	500k	1

BT-LE(2Mbps) EBW

2402MHz

03/09/2019

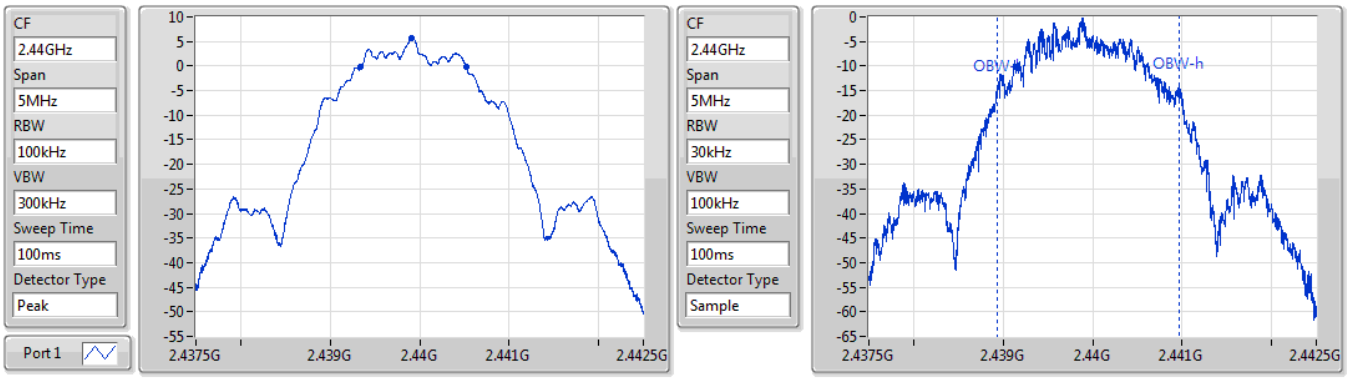


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.228M	2.401295G	2.402523G	2.039M	2.400936G	2.402975G	500k	1

BT-LE(2Mbps) EBW

2440MHz

05/09/2019

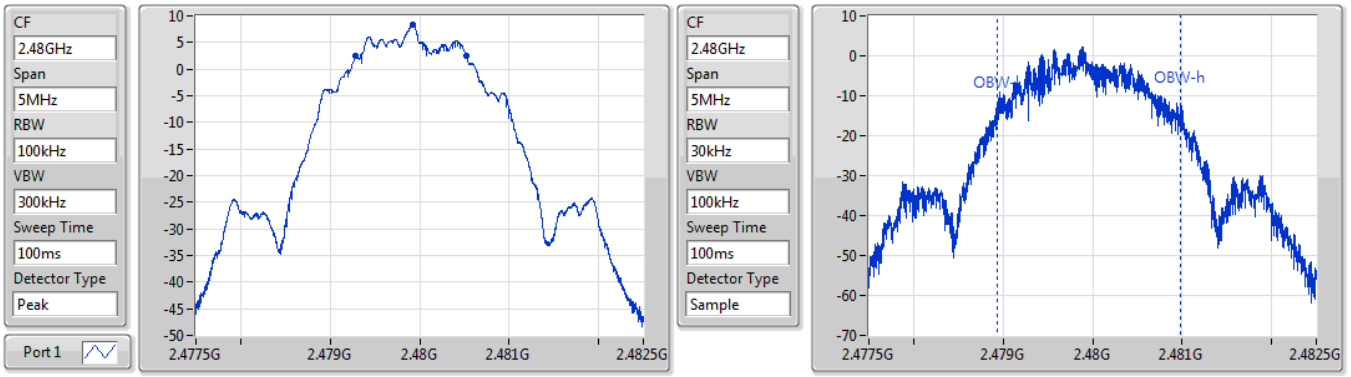


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.18M	2.439338G	2.440518G	2.041M	2.438928G	2.44097G	500k	1

BT-LE(2Mbps) EBW

2480MHz

03/09/2019



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.235M	2.479285G	2.48052G	2.049M	2.478928G	2.480977G	500k	1

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	11.23	0.01327
BT-LE(2Mbps)	11.30	0.01349

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	11.23	30.00
2440MHz	Pass	4.00	6.64	30.00
2480MHz	Pass	4.00	9.43	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	11.30	30.00
2440MHz	Pass	4.00	6.66	30.00
2480MHz	Pass	4.00	9.47	30.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	10.86	0.01219
BT-LE(2Mbps)	10.87	0.01222

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	10.86	30.00
2440MHz	Pass	4.00	5.92	30.00
2480MHz	Pass	4.00	9.07	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	10.87	30.00
2440MHz	Pass	4.00	5.56	30.00
2480MHz	Pass	4.00	9.05	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-4.55
BT-LE(2Mbps)	-6.59

RBW=3 kHz.

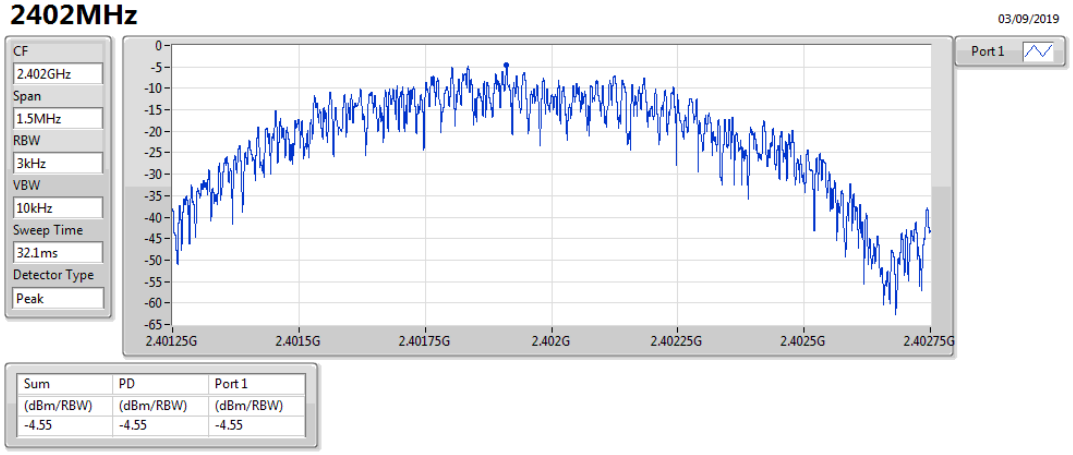
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	-4.55	8.00
2440MHz	Pass	4.00	-9.07	8.00
2480MHz	Pass	4.00	-6.55	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.00	-6.59	8.00
2440MHz	Pass	4.00	-11.04	8.00
2480MHz	Pass	4.00	-10.12	8.00

DG = Directional Gain; RBW=3 kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

BT-LE(1Mbps) **PSD**

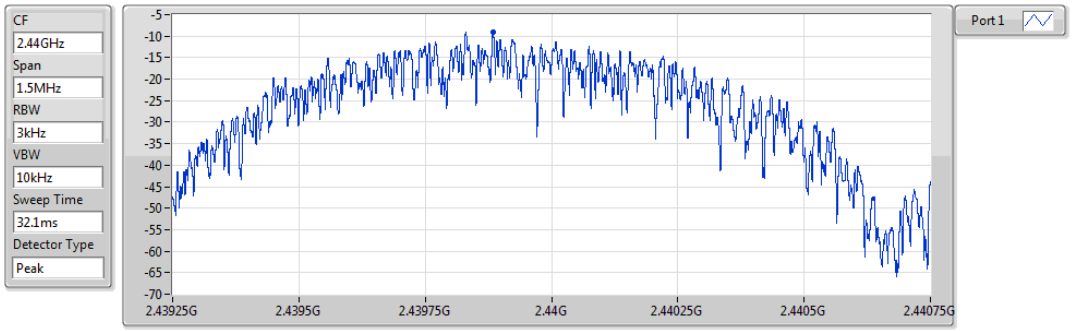
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.55	-4.55	-4.55

BT-LE(1Mbps) **PSD**

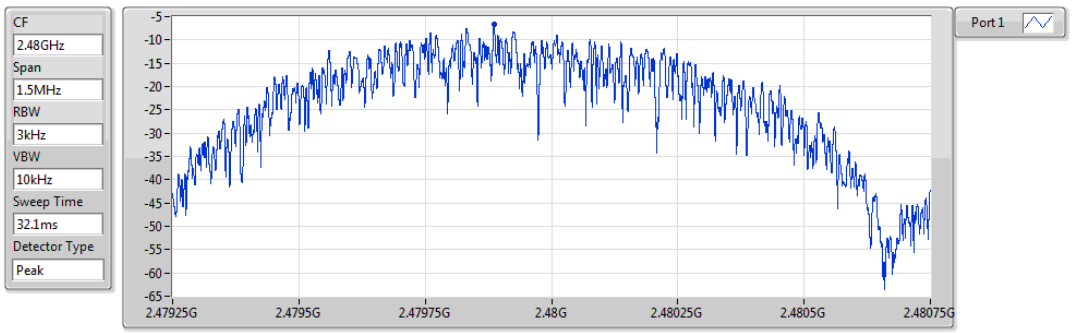
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.07	-9.07	-9.07

BT-LE(1Mbps) **PSD**

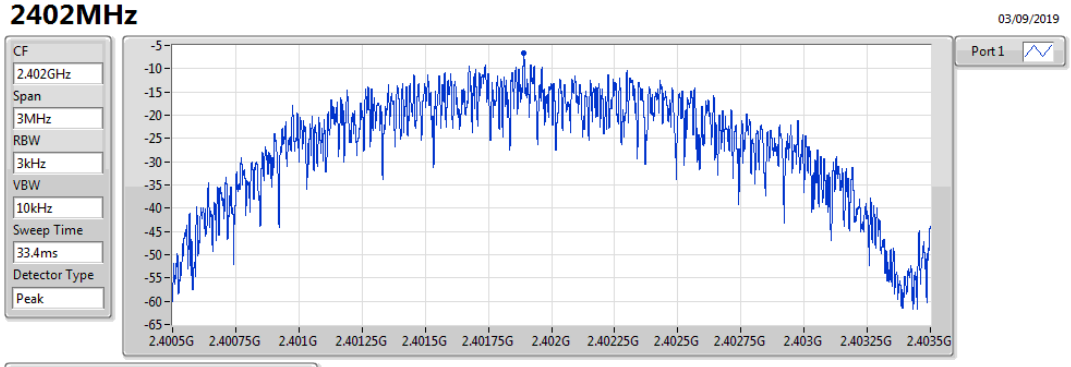
2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.55	-6.55	-6.55

BT-LE(2Mbps) **PSD**

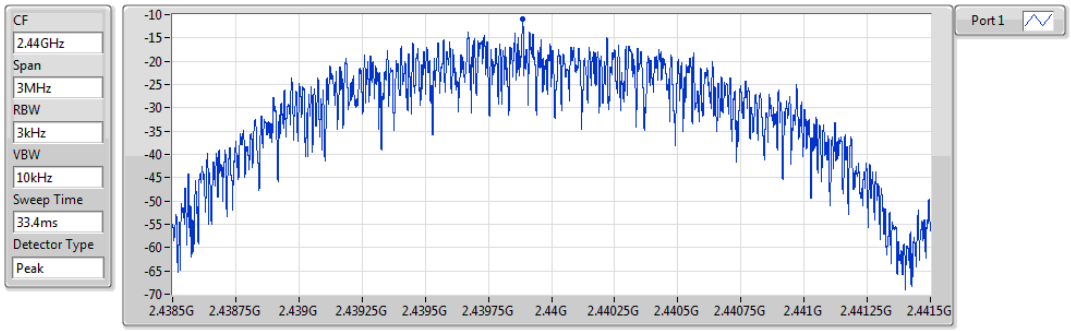
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.59	-6.59	-6.59

BT-LE(2Mbps) **PSD**

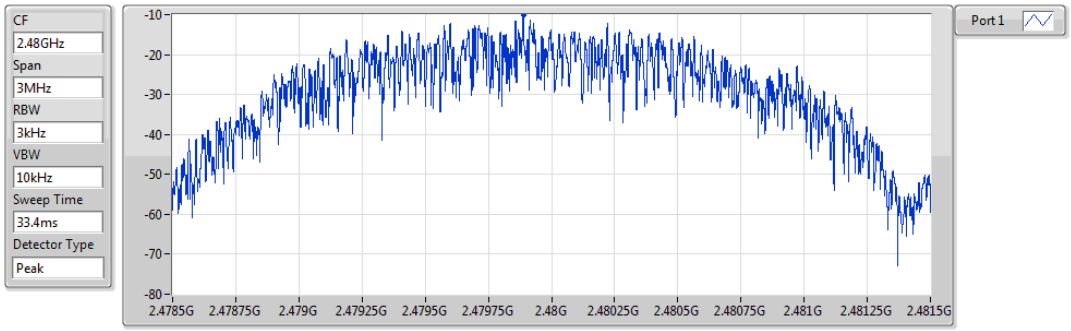
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.04	-11.04	-11.04

BT-LE(2Mbps) **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.12	-10.12	-10.12

Summary

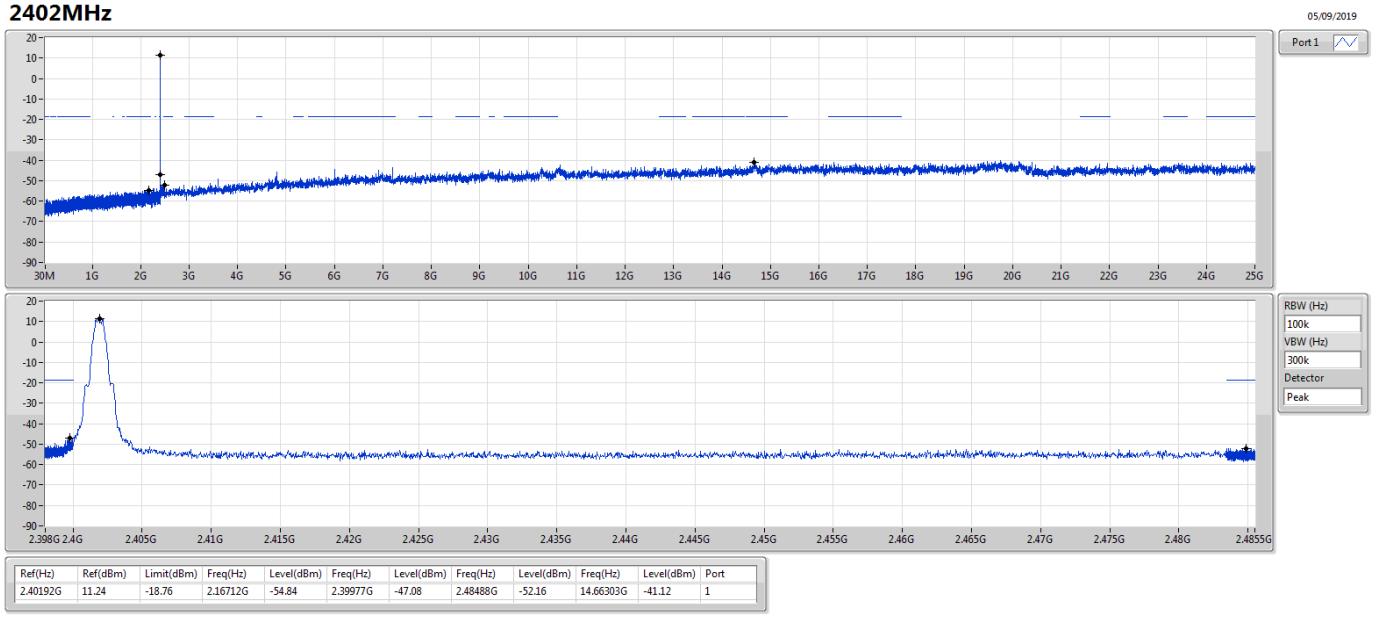
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.40192G	11.24	-18.76	2.08365G	-54.36	2.39944G	-52.62	2.48356G	-51.99	16.41353G	-40.78	1
BT-LE(2Mbps)	Pass	2.40188G	10.90	-19.10	2.00709G	-54.17	2.39993G	-21.44	2.48434G	-52.40	23.4185G	-40.88	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-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40192G	11.24	-18.76	2.16712G	-54.84	2.39977G	-47.08	2.48488G	-52.16	14.66303G	-41.12	1
2440MHz	Pass	2.40192G	11.24	-18.76	2.08365G	-54.36	2.39944G	-52.62	2.48356G	-51.99	16.41353G	-40.78	1
2480MHz	Pass	2.40192G	11.24	-18.76	1.75953G	-53.93	2.39975G	-53.03	2.48375G	-50.49	24.45965G	-40.86	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40188G	10.90	-19.10	2.00709G	-54.17	2.39993G	-21.44	2.48434G	-52.40	23.4185G	-40.88	1
2440MHz	Pass	2.40188G	10.90	-19.10	2.11859G	-53.97	2.3991G	-52.11	2.48499G	-51.95	14.6949G	-40.35	1
2480MHz	Pass	2.40188G	10.90	-19.10	1.99644G	-52.94	2.3999G	-52.62	2.48352G	-49.50	21.77508G	-39.90	1

BT-LE(1Mbps) **CSE NdB**

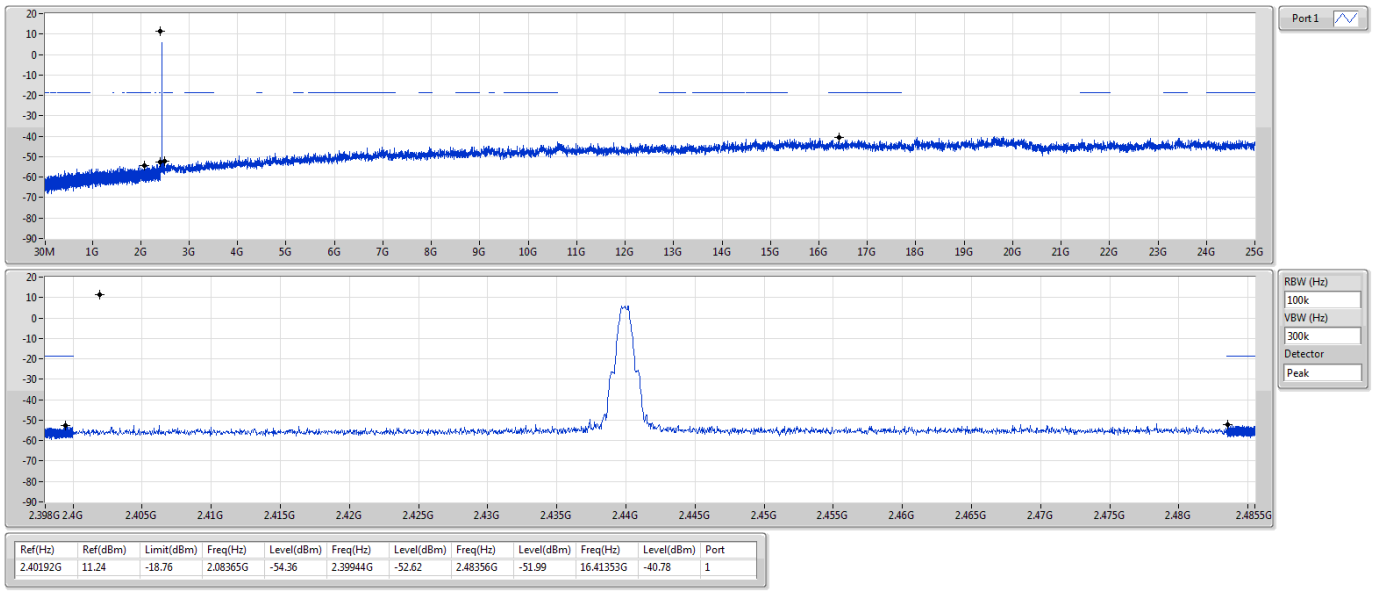
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40192G	11.24	-18.76	2.16712G	-54.84	2.39977G	-47.08	2.48488G	-52.16	14.66303G	-41.12	1

BT-LE(1Mbps) **CSE NdB**

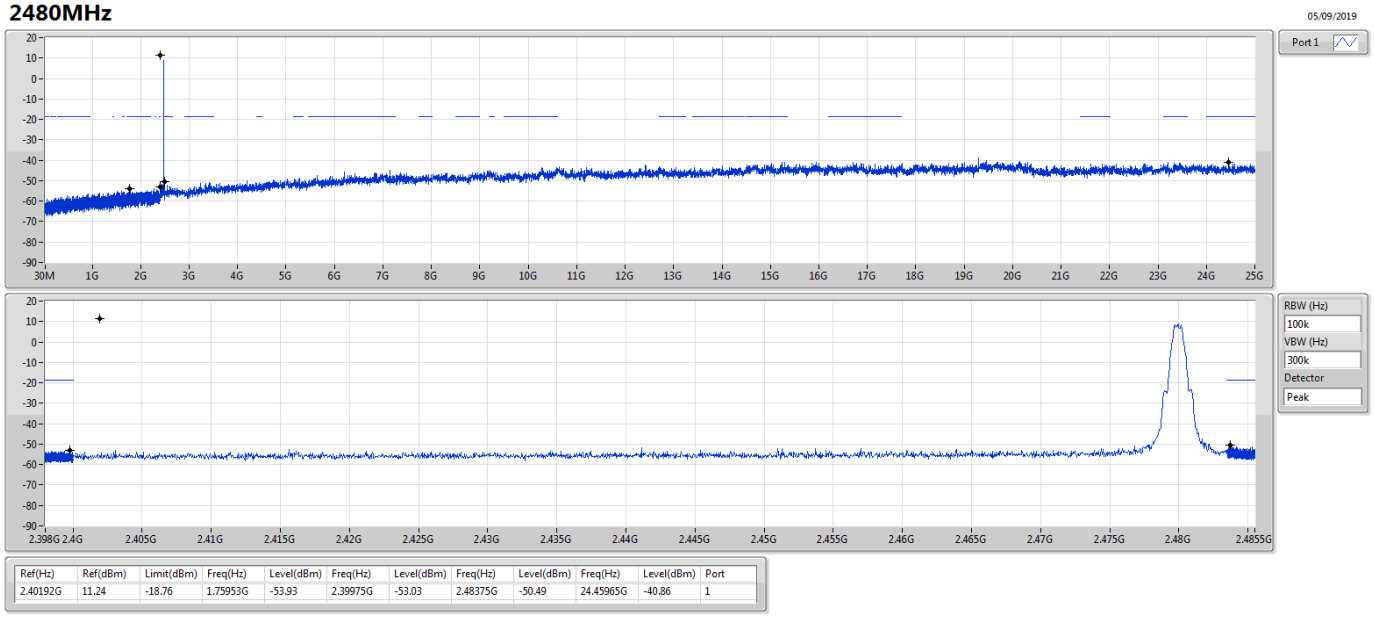
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40192G	11.24	-18.76	2.08365G	-54.36	2.39944G	-52.62	2.48356G	-51.99	16.41353G	-40.78	1

BT-LE(1Mbps) **CSE NdB**

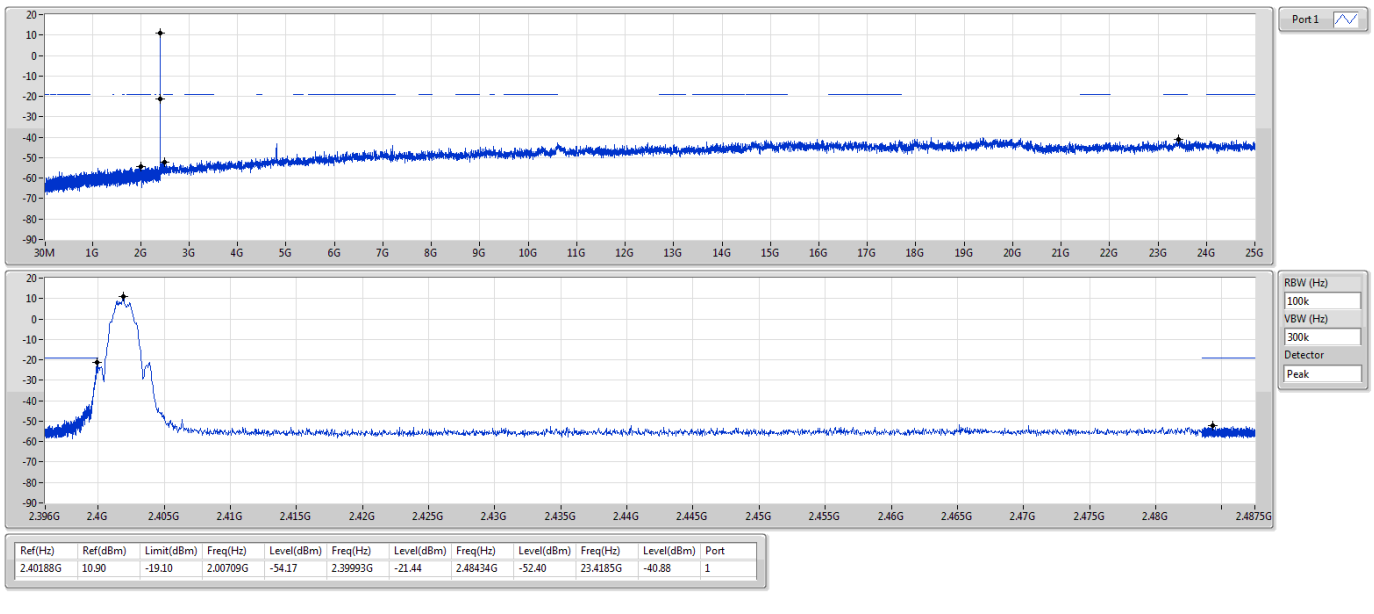
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40192G	11.24	-18.76	1.75953G	-53.93	2.39975G	-53.03	2.48375G	-50.49	24.45965G	-40.86	1

BT-LE(2Mbps) **CSE NdB**

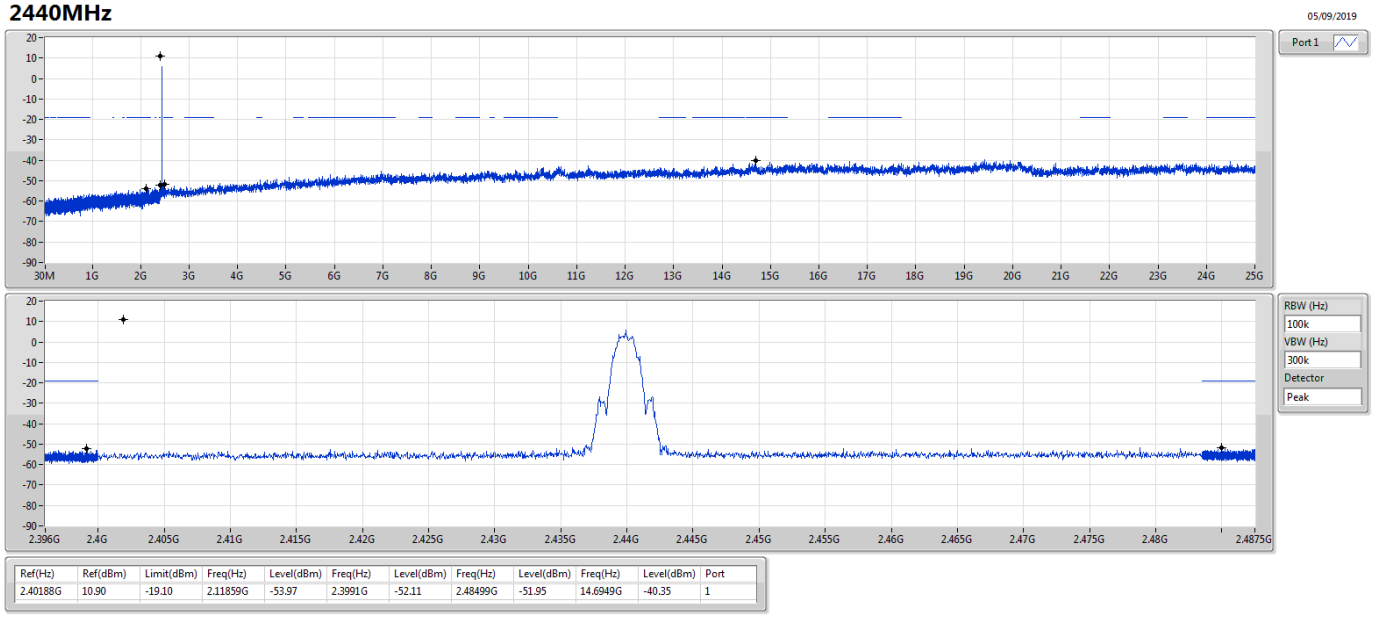
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40188G	10.90	-19.10	2.00709G	-54.17	2.39993G	-21.44	2.48434G	-52.40	23.4185G	-40.88	1

BT-LE(2Mbps) **CSE NdB**

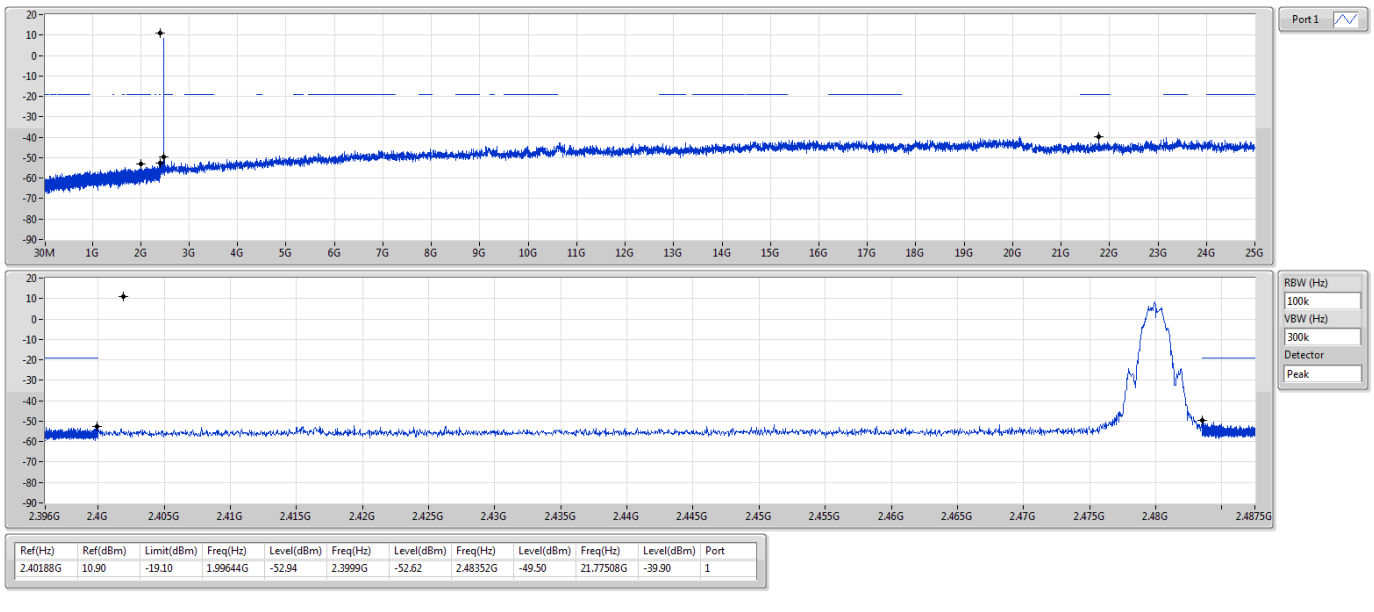
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40188G	10.90	-19.10	2.11859G	-53.97	2.3991G	-52.11	2.48499G	-51.95	14.6949G	-40.35	1

BT-LE(2Mbps) **CSE NdB**

2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40188G	10.90	-19.10	1.99644G	-52.94	2.3999G	-52.62	2.48352G	-49.50	21.77508G	-39.90	1

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-LE(2Mbps)	Pass	PK	109.54M	37.10	43.50	-6.40	3	Vertical	0	1.00	-

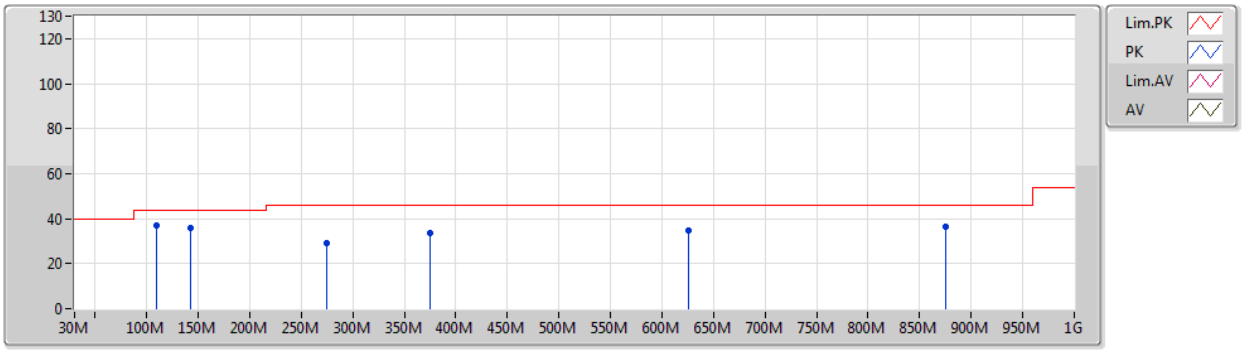
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	109.54M	37.10	43.50	-6.40	3	Vertical	0	1.00	-
2440MHz	Pass	PK	142.52M	35.71	43.50	-7.79	3	Vertical	0	1.00	-
2440MHz	Pass	PK	274.44M	29.30	46.00	-16.70	3	Vertical	0	1.00	-
2440MHz	Pass	PK	375.32M	33.81	46.00	-12.19	3	Vertical	0	1.00	-
2440MHz	Pass	PK	625.58M	34.47	46.00	-11.53	3	Vertical	0	1.00	-
2440MHz	Pass	PK	875.84M	36.61	46.00	-9.39	3	Vertical	0	1.00	-
2440MHz	Pass	PK	107.6M	30.78	43.50	-12.72	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	208.48M	30.35	43.50	-13.15	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	264.74M	33.78	46.00	-12.22	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	311.3M	33.13	46.00	-12.87	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	375.32M	33.75	46.00	-12.25	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	875.84M	38.13	46.00	-7.87	3	Horizontal	360	1.00	-

BT-LE(2Mbps)

2440MHz_Adapter

05/09/2019

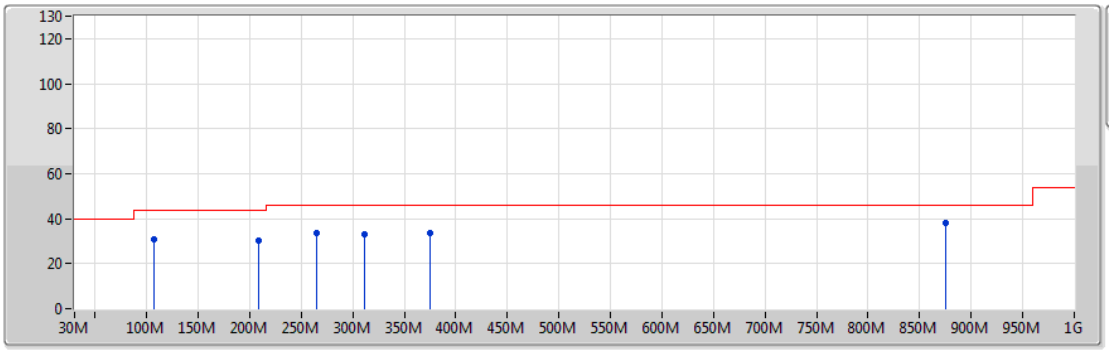


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	109.54M	37.10	43.50	-6.40	-9.29	3	Vertical	0	1.00	-	46.39	16.87	1.58	27.74
PK	142.52M	35.71	43.50	-7.79	-9.85	3	Vertical	0	1.00	-	45.56	16.02	1.79	27.66
PK	274.44M	29.30	46.00	-16.70	-6.17	3	Vertical	0	1.00	-	35.47	18.17	2.84	27.18
PK	375.32M	33.81	46.00	-12.19	-4.50	3	Vertical	0	1.00	-	38.31	20.03	3.15	27.68
PK	625.58M	34.47	46.00	-11.53	-0.55	3	Vertical	0	1.00	-	35.02	24.24	3.74	28.53
PK	875.84M	36.61	46.00	-9.39	1.96	3	Vertical	0	1.00	-	34.65	25.53	4.30	27.87

BT-LE(2Mbps)

2440MHz_Adapter

05/09/2019



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)
PK	107.6M	30.78	43.50	-12.72	-9.46	3	Horizontal	360	1.00	-	40.24	16.72	1.56	27.74
PK	208.48M	30.35	43.50	-13.15	-10.53	3	Horizontal	360	1.00	-	40.88	14.38	2.45	27.36
PK	264.74M	33.78	46.00	-12.22	-5.88	3	Horizontal	360	1.00	-	39.66	18.52	2.78	27.18
PK	311.3M	33.13	46.00	-12.87	-5.70	3	Horizontal	360	1.00	-	38.83	18.52	3.02	27.24
PK	375.32M	33.75	46.00	-12.25	-4.50	3	Horizontal	360	1.00	-	38.25	20.03	3.15	27.68
PK	875.84M	38.13	46.00	-7.87	1.96	3	Horizontal	360	1.00	-	36.17	25.53	4.30	27.87

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-LE(1Mbps)	Pass	AV	4.80387G	53.96	54.00	-0.04	3	Vertical	26	1.05	-
BT-LE(2Mbps)	Pass	AV	4.80284G	52.42	54.00	-1.58	3	Vertical	27	1.20	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TX	Pass	AV	2.3714G	45.20	54.00	-8.80	3	Vertical	183	1.00	-
2402MHz_TX	Pass	AV	2.402G	103.13	Inf	-Inf	3	Vertical	183	1.00	-
2402MHz_TX	Pass	PK	2.3804G	56.39	74.00	-17.61	3	Vertical	183	1.00	-
2402MHz_TX	Pass	PK	2.4018G	104.48	Inf	-Inf	3	Vertical	183	1.00	-
2402MHz_TX	Pass	AV	2.3876G	45.29	54.00	-8.71	3	Horizontal	315	1.00	-
2402MHz_TX	Pass	AV	2.402G	108.57	Inf	-Inf	3	Horizontal	315	1.00	-
2402MHz_TX	Pass	PK	2.356G	56.70	74.00	-17.30	3	Horizontal	315	1.00	-
2402MHz_TX	Pass	PK	2.4018G	109.94	Inf	-Inf	3	Horizontal	315	1.00	-
2402MHz_TX	Pass	AV	4.80387G	53.96	54.00	-0.04	3	Vertical	26	1.05	-
2402MHz_TX	Pass	PK	4.80435G	58.94	74.00	-15.06	3	Vertical	26	1.05	-
2402MHz_TX	Pass	AV	4.80388G	52.60	54.00	-1.40	3	Horizontal	311	1.05	-
2402MHz_TX	Pass	PK	4.8043G	57.70	74.00	-16.30	3	Horizontal	311	1.05	-
2440MHz_TX	Pass	AV	2.3556G	45.02	54.00	-8.98	3	Vertical	182	1.21	-
2440MHz_TX	Pass	AV	2.44G	98.82	Inf	-Inf	3	Vertical	182	1.21	-
2440MHz_TX	Pass	AV	2.494G	45.68	54.00	-8.32	3	Vertical	182	1.21	-
2440MHz_TX	Pass	PK	2.3656G	56.33	74.00	-17.67	3	Vertical	182	1.21	-
2440MHz_TX	Pass	PK	2.44G	100.38	Inf	-Inf	3	Vertical	182	1.21	-
2440MHz_TX	Pass	PK	2.4844G	56.34	74.00	-17.66	3	Vertical	182	1.21	-
2440MHz_TX	Pass	AV	2.3836G	45.19	54.00	-8.81	3	Horizontal	324	1.00	-
2440MHz_TX	Pass	AV	2.44G	105.40	Inf	-Inf	3	Horizontal	324	1.00	-
2440MHz_TX	Pass	AV	2.4932G	45.85	54.00	-8.15	3	Horizontal	324	1.00	-
2440MHz_TX	Pass	PK	2.388G	56.59	74.00	-17.41	3	Horizontal	324	1.00	-
2440MHz_TX	Pass	PK	2.4396G	106.75	Inf	-Inf	3	Horizontal	324	1.00	-
2440MHz_TX	Pass	PK	2.4972G	56.69	74.00	-17.31	3	Horizontal	324	1.00	-
2440MHz_TX	Pass	AV	4.8799G	43.10	54.00	-10.90	3	Vertical	25	1.00	-
2440MHz_TX	Pass	AV	7.3198G	45.96	54.00	-8.04	3	Vertical	328	3.00	-
2440MHz_TX	Pass	PK	4.87942G	50.11	74.00	-23.89	3	Vertical	25	1.00	-
2440MHz_TX	Pass	PK	7.3197G	54.27	74.00	-19.73	3	Vertical	328	3.00	-
2440MHz_TX	Pass	AV	4.87981G	43.36	54.00	-10.64	3	Horizontal	312	1.06	-
2440MHz_TX	Pass	AV	7.31978G	41.84	54.00	-12.16	3	Horizontal	359	1.31	-
2440MHz_TX	Pass	PK	4.87946G	50.17	74.00	-23.83	3	Horizontal	312	1.06	-
2440MHz_TX	Pass	PK	7.31989G	51.36	74.00	-22.64	3	Horizontal	359	1.31	-
2480MHz_TX	Pass	AV	2.48G	99.76	Inf	-Inf	3	Vertical	148	1.01	-
2480MHz_TX	Pass	AV	2.4835G	47.67	54.00	-6.33	3	Vertical	148	1.01	-
2480MHz_TX	Pass	PK	2.4796G	101.20	Inf	-Inf	3	Vertical	148	1.01	-
2480MHz_TX	Pass	PK	2.484G	57.05	74.00	-16.95	3	Vertical	148	1.01	-
2480MHz_TX	Pass	AV	2.48G	104.21	Inf	-Inf	3	Horizontal	322	1.50	-
2480MHz_TX	Pass	AV	2.4835G	50.32	54.00	-3.68	3	Horizontal	322	1.50	-
2480MHz_TX	Pass	PK	2.4796G	105.72	Inf	-Inf	3	Horizontal	322	1.50	-
2480MHz_TX	Pass	PK	2.4835G	57.84	74.00	-16.16	3	Horizontal	322	1.50	-
2480MHz_TX	Pass	AV	4.95972G	39.00	54.00	-15.00	3	Vertical	193	1.50	-
2480MHz_TX	Pass	AV	7.4392G	44.38	54.00	-9.62	3	Vertical	336	1.43	-
2480MHz_TX	Pass	PK	4.96036G	47.57	74.00	-26.43	3	Vertical	193	1.50	-
2480MHz_TX	Pass	PK	7.43924G	53.19	74.00	-20.81	3	Vertical	336	1.43	-
2480MHz_TX	Pass	AV	4.95953G	34.76	54.00	-19.24	3	Horizontal	33	1.06	-
2480MHz_TX	Pass	AV	7.43916G	41.82	54.00	-12.18	3	Horizontal	0	1.47	-
2480MHz_TX	Pass	PK	4.96033G	45.05	74.00	-28.95	3	Horizontal	33	1.06	-

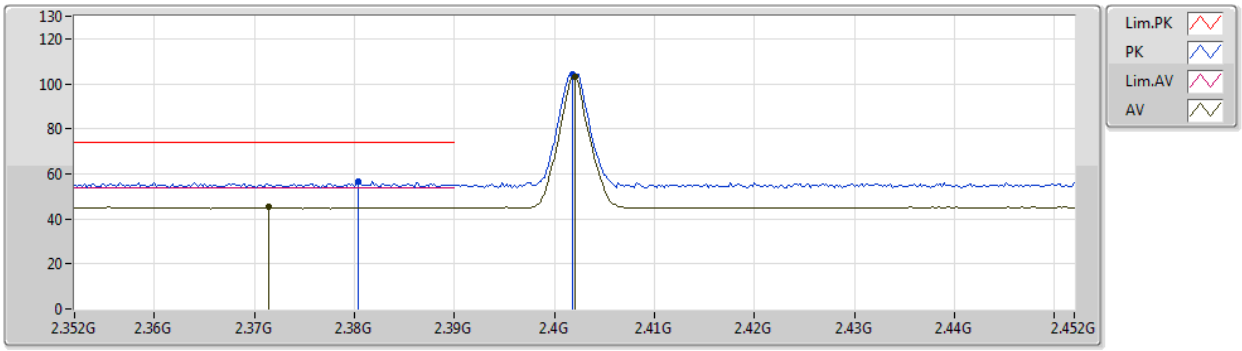
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz_TX	Pass	PK	7.43942G	51.59	74.00	-22.41	3	Horizontal	0	1.47	-
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TX	Pass	AV	2.3544G	46.54	54.00	-7.46	3	Vertical	184	1.23	-
2402MHz_TX	Pass	AV	2.402G	101.23	Inf	-Inf	3	Vertical	184	1.23	-
2402MHz_TX	Pass	PK	2.3648G	56.12	74.00	-17.88	3	Vertical	184	1.23	-
2402MHz_TX	Pass	PK	2.4024G	103.93	Inf	-Inf	3	Vertical	184	1.23	-
2402MHz_TX	Pass	AV	2.3708G	46.58	54.00	-7.42	3	Horizontal	317	1.09	-
2402MHz_TX	Pass	AV	2.402G	107.10	Inf	-Inf	3	Horizontal	317	1.09	-
2402MHz_TX	Pass	PK	2.3722G	55.97	74.00	-18.03	3	Horizontal	317	1.09	-
2402MHz_TX	Pass	PK	2.4014G	109.78	Inf	-Inf	3	Horizontal	317	1.09	-
2402MHz_TX	Pass	AV	4.80284G	52.42	54.00	-1.58	3	Vertical	27	1.20	-
2402MHz_TX	Pass	PK	4.80292G	58.35	74.00	-15.65	3	Vertical	27	1.20	-
2402MHz_TX	Pass	AV	4.80289G	50.71	54.00	-3.29	3	Horizontal	312	1.03	-
2402MHz_TX	Pass	PK	4.80284G	56.56	74.00	-17.44	3	Horizontal	312	1.03	-
2440MHz_TX	Pass	AV	2.3788G	47.25	54.00	-6.75	3	Vertical	40	1.25	-
2440MHz_TX	Pass	AV	2.44G	98.17	Inf	-Inf	3	Vertical	40	1.25	-
2440MHz_TX	Pass	AV	2.4976G	47.15	54.00	-6.85	3	Vertical	40	1.25	-
2440MHz_TX	Pass	PK	2.3504G	56.61	74.00	-17.39	3	Vertical	40	1.25	-
2440MHz_TX	Pass	PK	2.4396G	100.96	Inf	-Inf	3	Vertical	40	1.25	-
2440MHz_TX	Pass	PK	2.4916G	56.92	74.00	-17.08	3	Vertical	40	1.25	-
2440MHz_TX	Pass	AV	2.3608G	46.07	54.00	-7.93	3	Horizontal	323	2.99	-
2440MHz_TX	Pass	AV	2.44G	103.95	Inf	-Inf	3	Horizontal	323	2.99	-
2440MHz_TX	Pass	AV	2.4984G	46.37	54.00	-7.63	3	Horizontal	323	2.99	-
2440MHz_TX	Pass	PK	2.3544G	56.01	74.00	-17.99	3	Horizontal	323	2.99	-
2440MHz_TX	Pass	PK	2.4404G	106.67	Inf	-Inf	3	Horizontal	323	2.99	-
2440MHz_TX	Pass	PK	2.4884G	56.88	74.00	-17.12	3	Horizontal	323	2.99	-
2440MHz_TX	Pass	AV	4.87891G	42.96	54.00	-11.04	3	Vertical	26	1.45	-
2440MHz_TX	Pass	AV	7.31975G	44.80	54.00	-9.20	3	Vertical	331	3.00	-
2440MHz_TX	Pass	PK	4.88083G	49.94	74.00	-24.06	3	Vertical	26	1.45	-
2440MHz_TX	Pass	PK	7.32001G	52.66	74.00	-21.34	3	Vertical	331	3.00	-
2440MHz_TX	Pass	AV	4.87888G	42.72	54.00	-11.28	3	Horizontal	315	1.07	-
2440MHz_TX	Pass	AV	7.31977G	42.39	54.00	-11.61	3	Horizontal	360	1.31	-
2440MHz_TX	Pass	PK	4.87881G	49.78	74.00	-24.22	3	Horizontal	315	1.07	-
2440MHz_TX	Pass	PK	7.31987G	50.86	74.00	-23.14	3	Horizontal	360	1.31	-
2480MHz_TX	Pass	AV	2.48G	100.73	Inf	-Inf	3	Vertical	67	2.70	-
2480MHz_TX	Pass	AV	2.4835G	50.86	54.00	-3.14	3	Vertical	67	2.70	-
2480MHz_TX	Pass	PK	2.4794G	103.55	Inf	-Inf	3	Vertical	67	2.70	-
2480MHz_TX	Pass	PK	2.4835G	58.40	74.00	-15.60	3	Vertical	67	2.70	-
2480MHz_TX	Pass	AV	2.48G	102.64	Inf	-Inf	3	Horizontal	320	2.89	-
2480MHz_TX	Pass	AV	2.4835G	52.21	54.00	-1.79	3	Horizontal	320	2.89	-
2480MHz_TX	Pass	PK	2.4794G	105.39	Inf	-Inf	3	Horizontal	320	2.89	-
2480MHz_TX	Pass	PK	2.4835G	60.80	74.00	-13.20	3	Horizontal	320	2.89	-
2480MHz_TX	Pass	AV	4.95881G	39.11	54.00	-14.89	3	Vertical	208	1.31	-
2480MHz_TX	Pass	AV	7.43865G	45.85	54.00	-8.15	3	Vertical	326	3.00	-
2480MHz_TX	Pass	PK	4.95898G	47.42	74.00	-26.58	3	Vertical	208	1.31	-
2480MHz_TX	Pass	PK	7.43822G	54.37	74.00	-19.63	3	Vertical	326	3.00	-
2480MHz_TX	Pass	AV	4.95888G	34.78	54.00	-19.22	3	Horizontal	37	1.05	-
2480MHz_TX	Pass	AV	7.4385G	41.86	54.00	-12.14	3	Horizontal	0	1.32	-
2480MHz_TX	Pass	PK	4.95882G	45.16	74.00	-28.84	3	Horizontal	37	1.05	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz_TX	Pass	PK	7.43919G	51.47	74.00	-22.53	3	Horizontal	0	1.32	-

BT-LE(1Mbps)

2402MHz_TX

05/09/2019

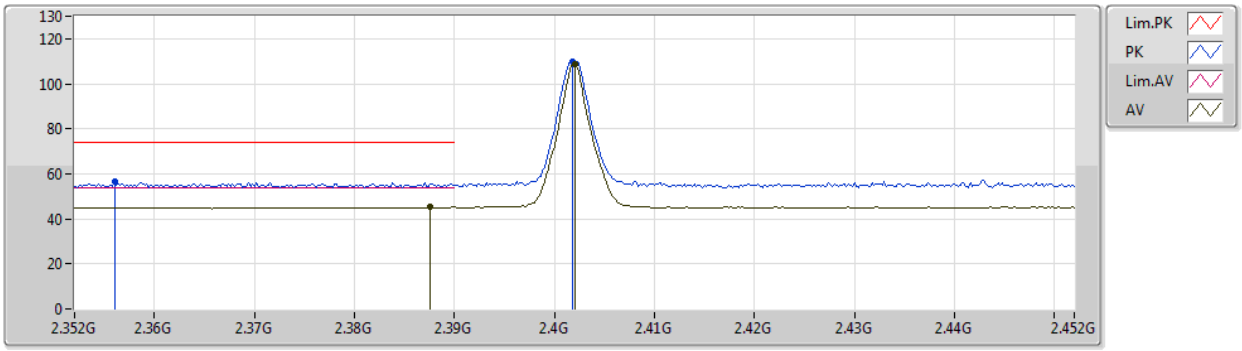


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3714G	45.20	54.00	-8.80	32.01	3	Vertical	183	1.00	-	13.19	27.31	4.70	-
AV	2.402G	103.13	Inf	-Inf	32.14	3	Vertical	183	1.00	-	70.99	27.41	4.73	-
PK	2.3804G	56.39	74.00	-17.61	32.05	3	Vertical	183	1.00	-	24.34	27.34	4.71	-
PK	2.4018G	104.48	Inf	-Inf	32.14	3	Vertical	183	1.00	-	72.34	27.41	4.73	-

BT-LE(1Mbps)

2402MHz_TX

05/09/2019

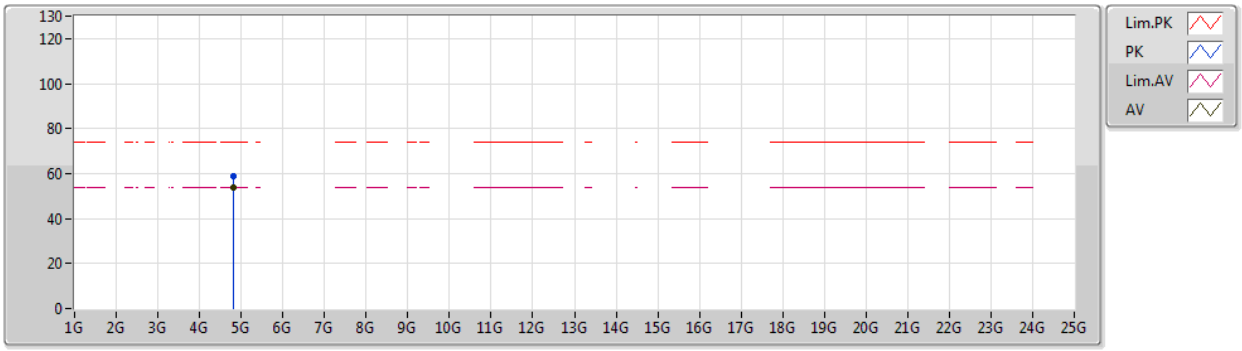


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3876G	45.29	54.00	-8.71	32.08	3	Horizontal	315	1.00	-	13.21	27.36	4.72	-
AV	2.402G	108.57	Inf	-Inf	32.14	3	Horizontal	315	1.00	-	76.43	27.41	4.73	-
PK	2.356G	56.70	74.00	-17.30	31.95	3	Horizontal	315	1.00	-	24.75	27.27	4.68	-
PK	2.4018G	109.94	Inf	-Inf	32.14	3	Horizontal	315	1.00	-	77.80	27.41	4.73	-

BT-LE(1Mbps)

2402MHz_TX

05/09/2019

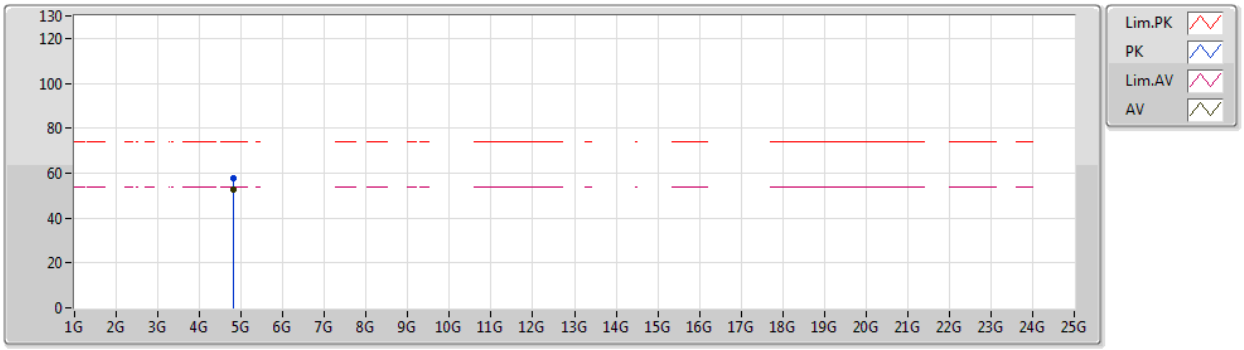


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80387G	53.96	54.00	-0.04	3.64	3	Vertical	26	1.05	-	50.32	31.35	6.78	34.49
PK	4.80435G	58.94	74.00	-15.06	3.64	3	Vertical	26	1.05	-	55.30	31.35	6.78	34.49

BT-LE(1Mbps)

2402MHz_TX

05/09/2019

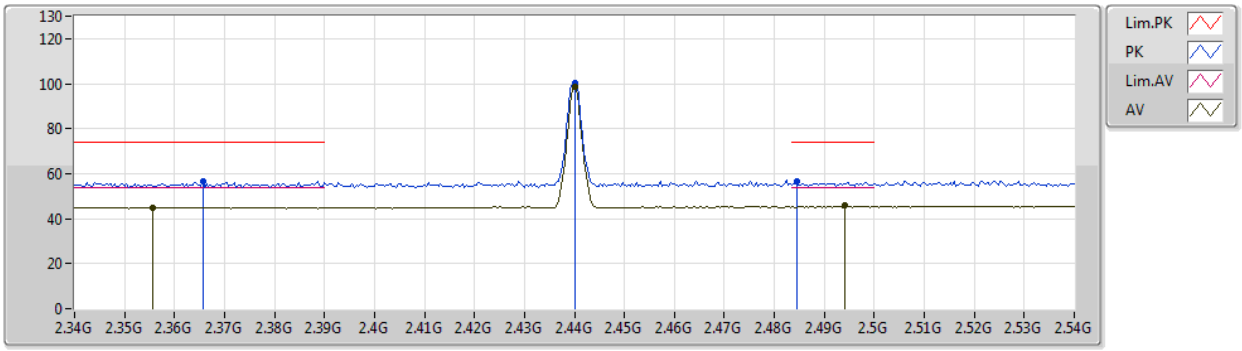


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80388G	52.60	54.00	-1.40	3.64	3	Horizontal	311	1.05	-	48.96	31.35	6.78	34.49
PK	4.8043G	57.70	74.00	-16.30	3.64	3	Horizontal	311	1.05	-	54.06	31.35	6.78	34.49

BT-LE(1Mbps)

2440MHz_TX

05/09/2019

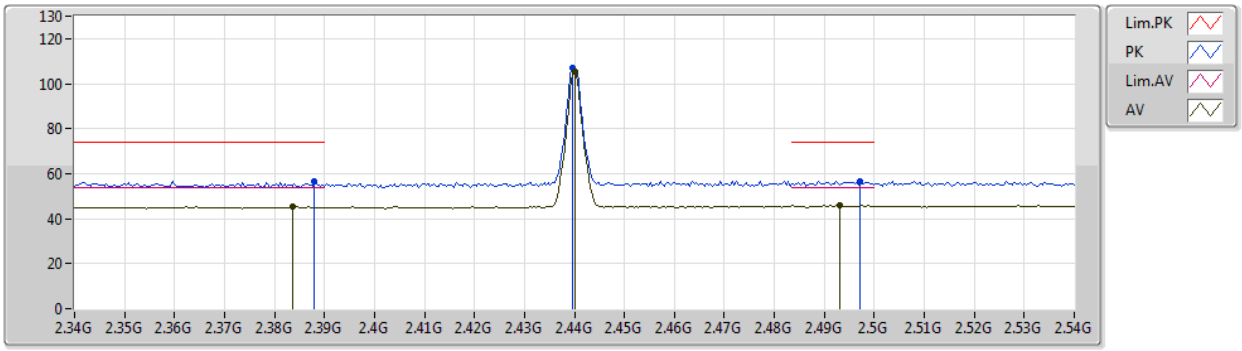


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3556G	45.02	54.00	-8.98	31.95	3	Vertical	182	1.21	-	13.07	27.27	4.68	-
AV	2.44G	98.82	Inf	-Inf	32.30	3	Vertical	182	1.21	-	66.52	27.52	4.78	-
AV	2.494G	45.68	54.00	-8.32	32.52	3	Vertical	182	1.21	-	13.16	27.68	4.84	-
PK	2.3656G	56.33	74.00	-17.67	31.99	3	Vertical	182	1.21	-	24.34	27.30	4.69	-
PK	2.44G	100.38	Inf	-Inf	32.30	3	Vertical	182	1.21	-	68.08	27.52	4.78	-
PK	2.4844G	56.34	74.00	-17.66	32.48	3	Vertical	182	1.21	-	23.86	27.65	4.83	-

BT-LE(1Mbps)

2440MHz_TX

05/09/2019

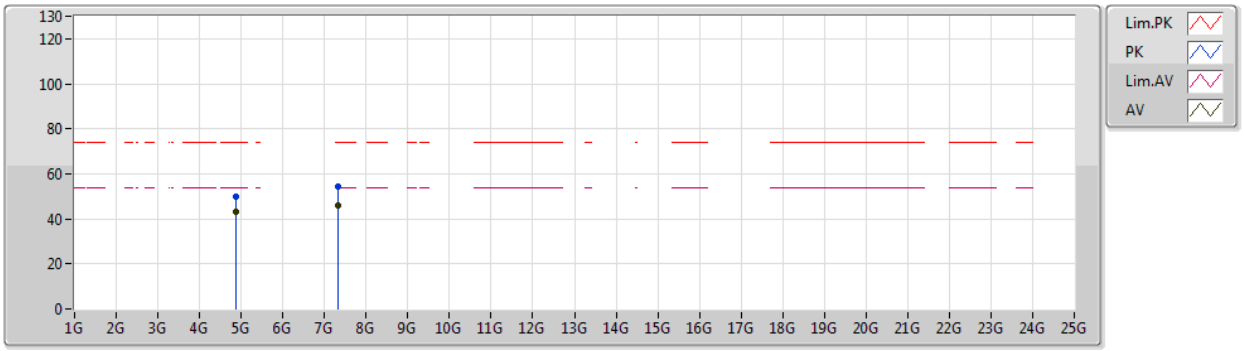


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3836G	45.19	54.00	-8.81	32.06	3	Horizontal	324	1.00	-	13.13	27.35	4.71	-
AV	2.44G	105.40	Inf	-Inf	32.30	3	Horizontal	324	1.00	-	73.10	27.52	4.78	-
AV	2.4932G	45.85	54.00	-8.15	32.52	3	Horizontal	324	1.00	-	13.33	27.68	4.84	-
PK	2.388G	56.59	74.00	-17.41	32.08	3	Horizontal	324	1.00	-	24.51	27.36	4.72	-
PK	2.4396G	106.75	Inf	-Inf	32.30	3	Horizontal	324	1.00	-	74.45	27.52	4.78	-
PK	2.4972G	56.69	74.00	-17.31	32.53	3	Horizontal	324	1.00	-	24.16	27.69	4.84	-

BT-LE(1Mbps)

2440MHz_TX

05/09/2019

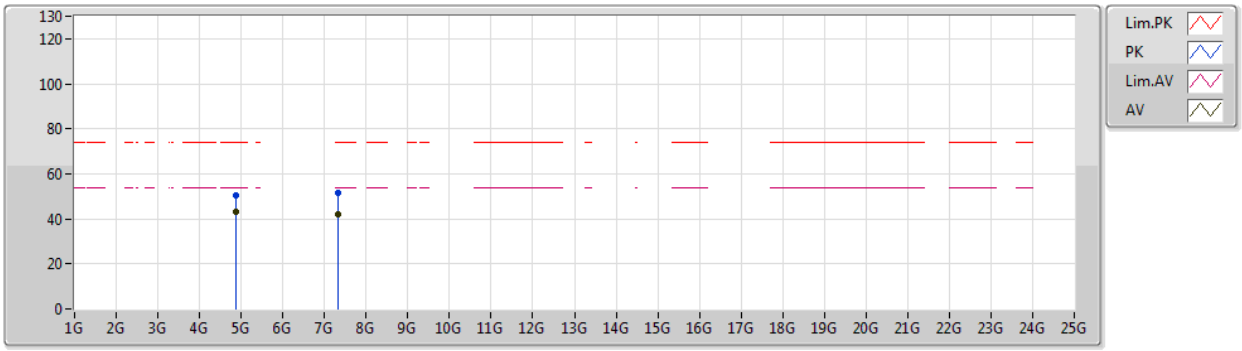


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.8799G	43.10	54.00	-10.90	3.82	3	Vertical	25	1.00	-	39.28	31.48	6.81	34.47
AV	7.3198G	45.96	54.00	-8.04	9.90	3	Vertical	328	3.00	-	36.06	36.03	8.62	34.75
PK	4.87942G	50.11	74.00	-23.89	3.82	3	Vertical	25	1.00	-	46.29	31.48	6.81	34.47
PK	7.3197G	54.27	74.00	-19.73	9.90	3	Vertical	328	3.00	-	44.37	36.03	8.62	34.75

BT-LE(1Mbps)

2440MHz_TX

05/09/2019

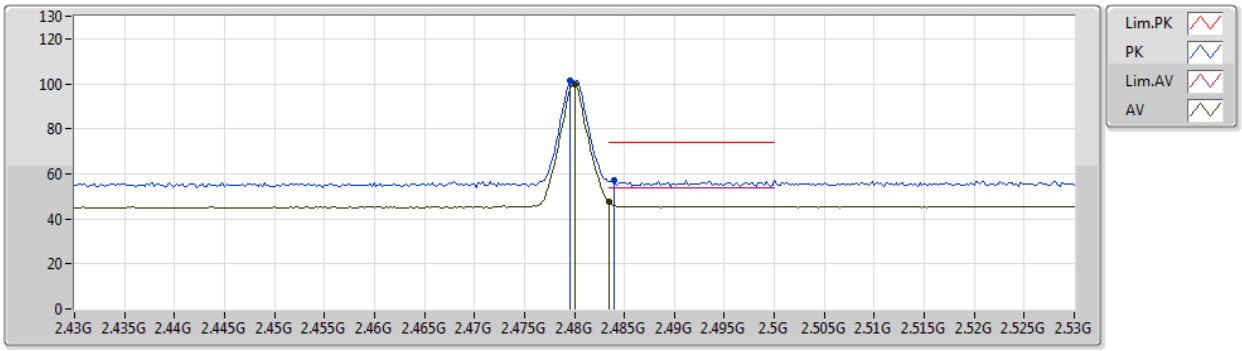


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87981G	43.36	54.00	-10.64	3.82	3	Horizontal	312	1.06	-	39.54	31.48	6.81	34.47
AV	7.31978G	41.84	54.00	-12.16	9.90	3	Horizontal	359	1.31	-	31.94	36.03	8.62	34.75
PK	4.87946G	50.17	74.00	-23.83	3.82	3	Horizontal	312	1.06	-	46.35	31.48	6.81	34.47
PK	7.31989G	51.36	74.00	-22.64	9.90	3	Horizontal	359	1.31	-	41.46	36.03	8.62	34.75

BT-LE(1Mbps)

2480MHz_TX

05/09/2019

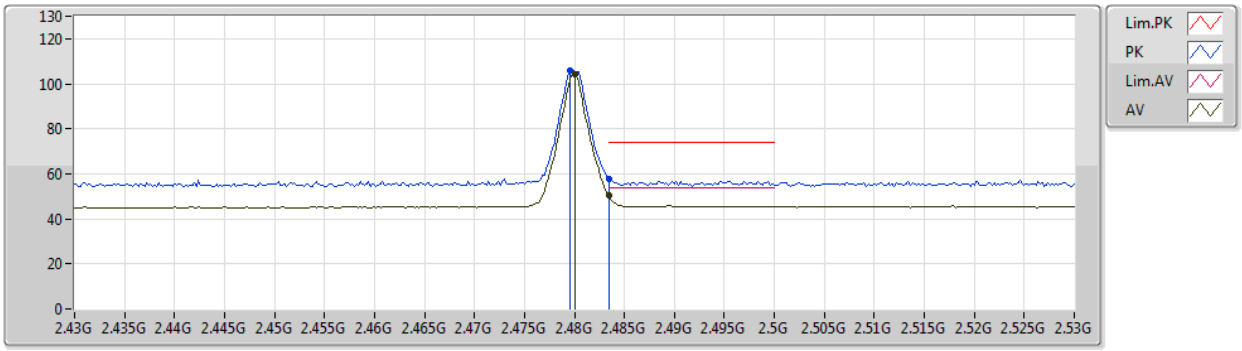


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	99.76	Inf	-Inf	32.46	3	Vertical	148	1.01	-	67.30	27.64	4.82	-
AV	2.4835G	47.67	54.00	-6.33	32.48	3	Vertical	148	1.01	-	15.19	27.65	4.83	-
PK	2.4796G	101.20	Inf	-Inf	32.46	3	Vertical	148	1.01	-	68.74	27.64	4.82	-
PK	2.484G	57.05	74.00	-16.95	32.48	3	Vertical	148	1.01	-	24.57	27.65	4.83	-

BT-LE(1Mbps)

2480MHz_TX

05/09/2019

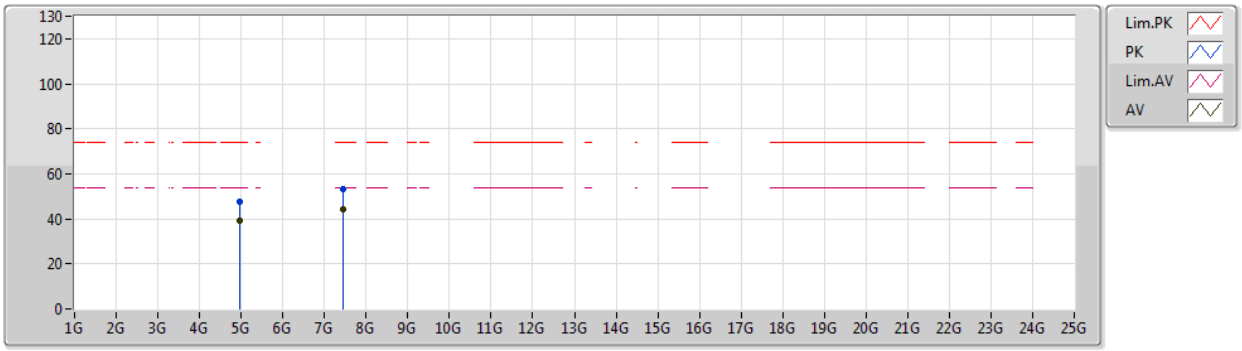


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	104.21	Inf	-Inf	32.46	3	Horizontal	322	1.50	-	71.75	27.64	4.82	-
AV	2.4835G	50.32	54.00	-3.68	32.48	3	Horizontal	322	1.50	-	17.84	27.65	4.83	-
PK	2.4796G	105.72	Inf	-Inf	32.46	3	Horizontal	322	1.50	-	73.26	27.64	4.82	-
PK	2.4835G	57.84	74.00	-16.16	32.48	3	Horizontal	322	1.50	-	25.36	27.65	4.83	-

BT-LE(1Mbps)

2480MHz_TX

05/09/2019

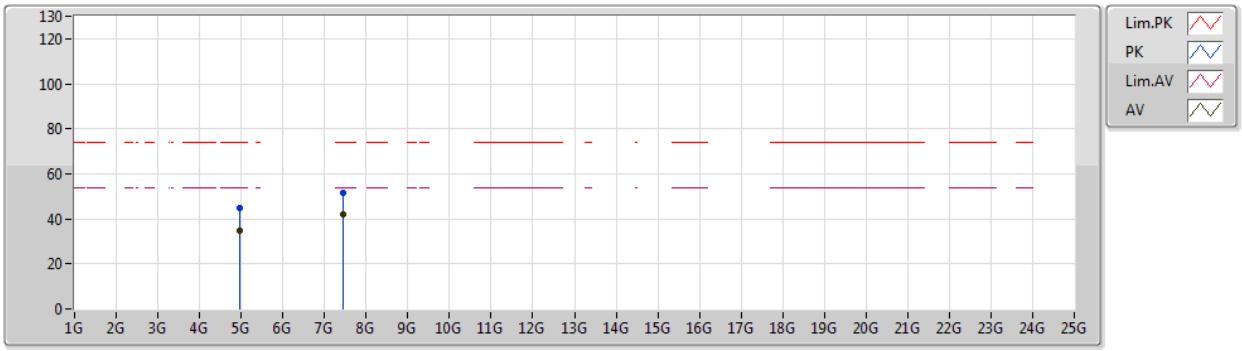


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95972G	39.00	54.00	-15.00	4.02	3	Vertical	193	1.50	-	34.98	31.63	6.83	34.44
AV	7.4392G	44.38	54.00	-9.62	10.24	3	Vertical	336	1.43	-	34.14	36.34	8.68	34.78
PK	4.96036G	47.57	74.00	-26.43	4.02	3	Vertical	193	1.50	-	43.55	31.63	6.83	34.44
PK	7.43924G	53.19	74.00	-20.81	10.24	3	Vertical	336	1.43	-	42.95	36.34	8.68	34.78

BT-LE(1Mbps)

2480MHz_TX

05/09/2019

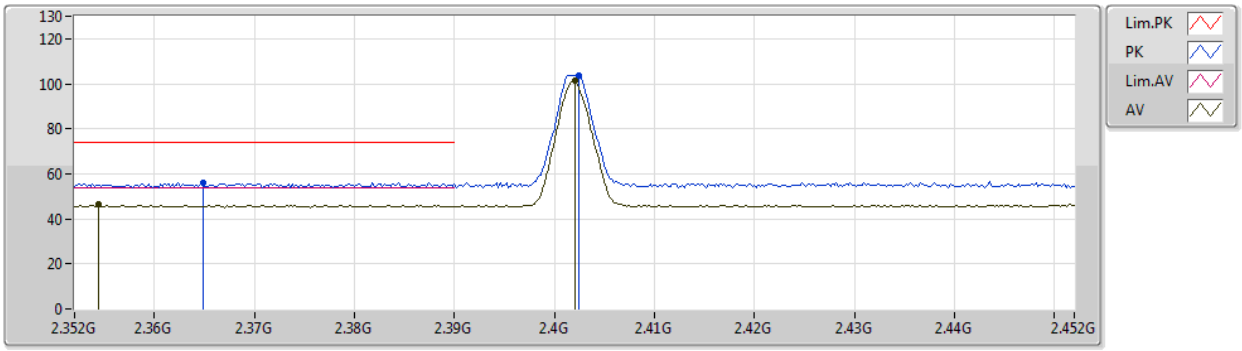


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95953G	34.76	54.00	-19.24	4.02	3	Horizontal	33	1.06	-	30.74	31.63	6.83	34.44
AV	7.43916G	41.82	54.00	-12.18	10.24	3	Horizontal	0	1.47	-	31.58	36.34	8.68	34.78
PK	4.96033G	45.05	74.00	-28.95	4.02	3	Horizontal	33	1.06	-	41.03	31.63	6.83	34.44
PK	7.43942G	51.59	74.00	-22.41	10.24	3	Horizontal	0	1.47	-	41.35	36.34	8.68	34.78

BT-LE(2Mbps)

2402MHz_TX

05/09/2019

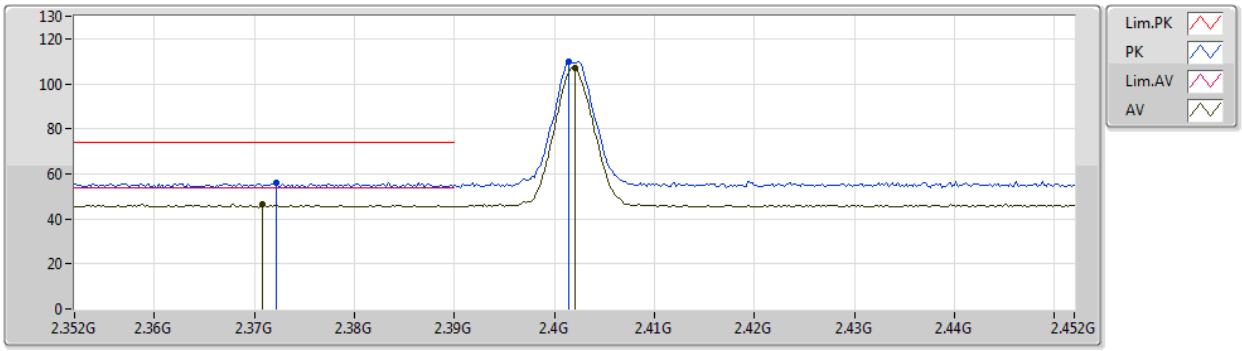


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3544G	46.54	54.00	-7.46	31.94	3	Vertical	184	1.23	-	14.60	27.26	4.68	-
AV	2.402G	101.23	Inf	-Inf	32.14	3	Vertical	184	1.23	-	69.09	27.41	4.73	-
PK	2.3648G	56.12	74.00	-17.88	31.98	3	Vertical	184	1.23	-	24.14	27.29	4.69	-
PK	2.4024G	103.93	Inf	-Inf	32.14	3	Vertical	184	1.23	-	71.79	27.41	4.73	-

BT-LE(2Mbps)

2402MHz_TX

05/09/2019

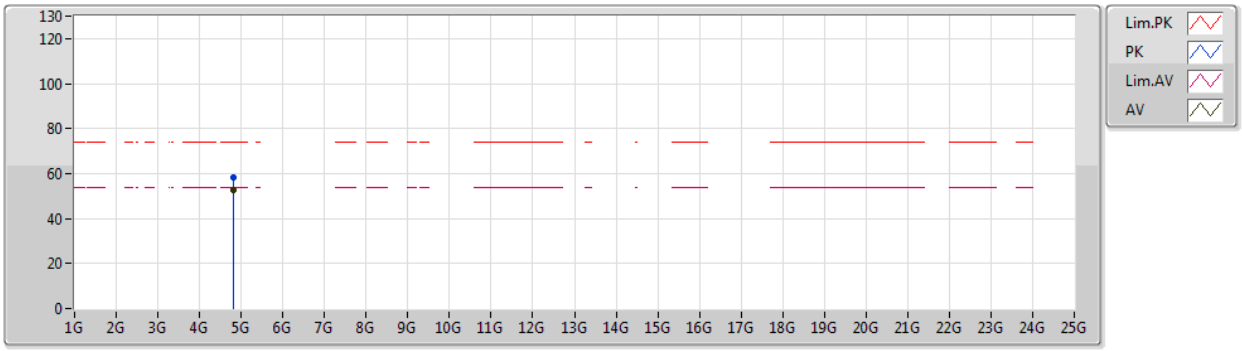


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3708G	46.58	54.00	-7.42	32.01	3	Horizontal	317	1.09	-	14.57	27.31	4.70	-
AV	2.402G	107.10	Inf	-Inf	32.14	3	Horizontal	317	1.09	-	74.96	27.41	4.73	-
PK	2.3722G	55.97	74.00	-18.03	32.02	3	Horizontal	317	1.09	-	23.95	27.32	4.70	-
PK	2.4014G	109.78	Inf	-Inf	32.13	3	Horizontal	317	1.09	-	77.65	27.40	4.73	-

BT-LE(2Mbps)

2402MHz_TX

05/09/2019

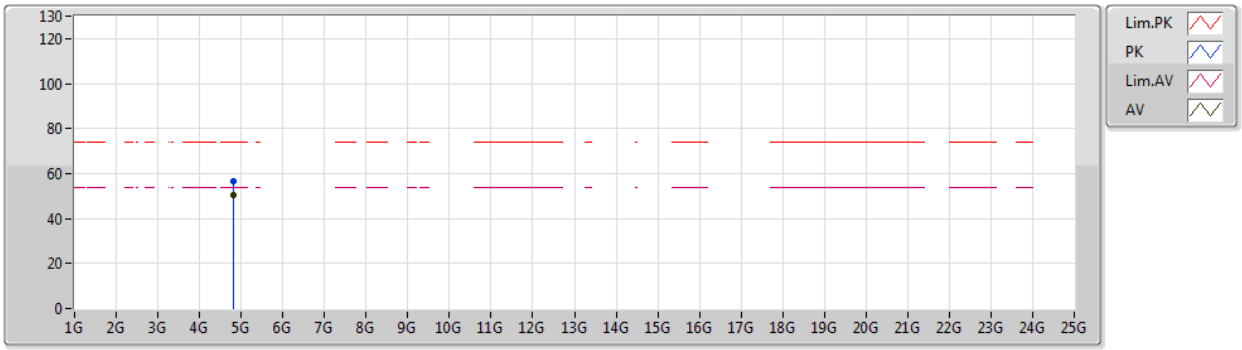


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80284G	52.42	54.00	-1.58	3.64	3	Vertical	27	1.20	-	48.78	31.35	6.78	34.49
PK	4.80292G	58.35	74.00	-15.65	3.64	3	Vertical	27	1.20	-	54.71	31.35	6.78	34.49

BT-LE(2Mbps)

2402MHz_TX

05/09/2019

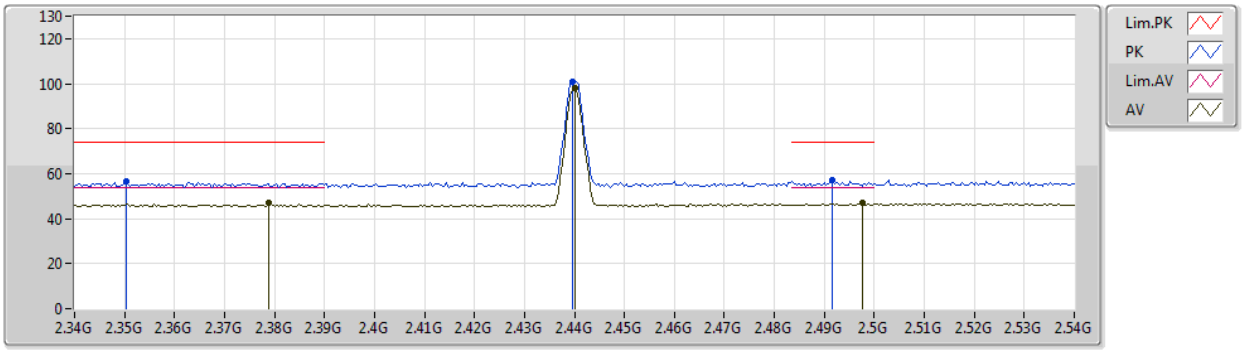


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80289G	50.71	54.00	-3.29	3.64	3	Horizontal	312	1.03	-	47.07	31.35	6.78	34.49
PK	4.80284G	56.56	74.00	-17.44	3.64	3	Horizontal	312	1.03	-	52.92	31.35	6.78	34.49

BT-LE(2Mbps)

2440MHz_TX

05/09/2019

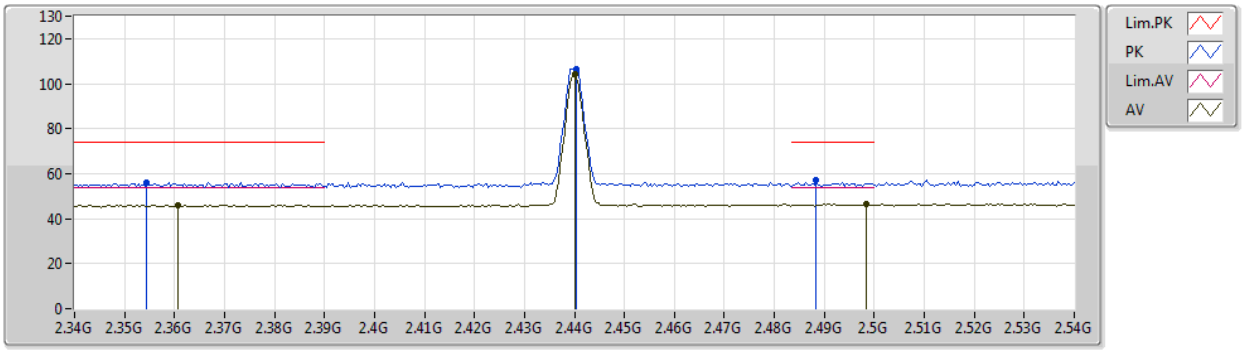


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3788G	47.25	54.00	-6.75	32.05	3	Vertical	40	1.25	-	15.20	27.34	4.71	-
AV	2.44G	98.17	Inf	-Inf	32.30	3	Vertical	40	1.25	-	65.87	27.52	4.78	-
AV	2.4976G	47.15	54.00	-6.85	32.53	3	Vertical	40	1.25	-	14.62	27.69	4.84	-
PK	2.3504G	56.61	74.00	-17.39	31.92	3	Vertical	40	1.25	-	24.69	27.25	4.67	-
PK	2.4396G	100.96	Inf	-Inf	32.30	3	Vertical	40	1.25	-	68.66	27.52	4.78	-
PK	2.4916G	56.92	74.00	-17.08	32.51	3	Vertical	40	1.25	-	24.41	27.67	4.84	-

BT-LE(2Mbps)

2440MHz_TX

05/09/2019

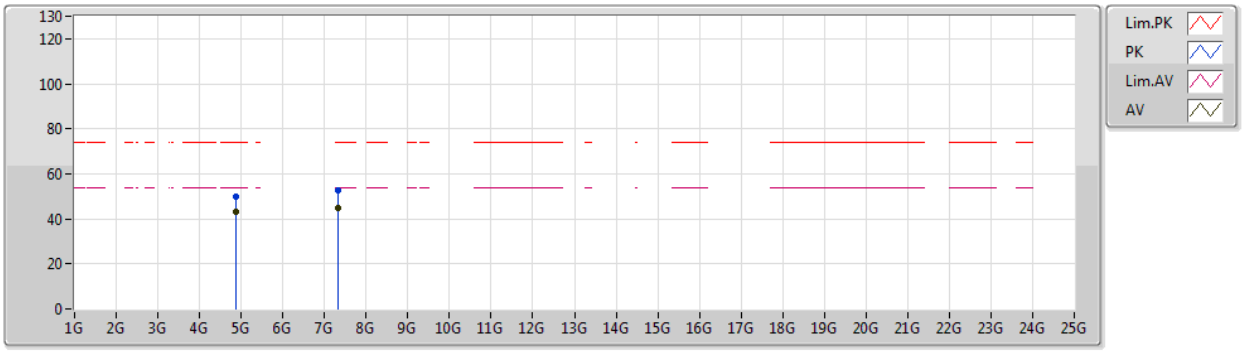


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3608G	46.07	54.00	-7.93	31.96	3	Horizontal	323	2.99	-	14.11	27.28	4.68	-
AV	2.44G	103.95	Inf	-Inf	32.30	3	Horizontal	323	2.99	-	71.65	27.52	4.78	-
AV	2.4984G	46.37	54.00	-7.63	32.55	3	Horizontal	323	2.99	-	13.82	27.70	4.85	-
PK	2.3544G	56.01	74.00	-17.99	31.94	3	Horizontal	323	2.99	-	24.07	27.26	4.68	-
PK	2.4404G	106.67	Inf	-Inf	32.30	3	Horizontal	323	2.99	-	74.37	27.52	4.78	-
PK	2.4884G	56.88	74.00	-17.12	32.50	3	Horizontal	323	2.99	-	24.38	27.67	4.83	-

BT-LE(2Mbps)

2440MHz_TX

05/09/2019

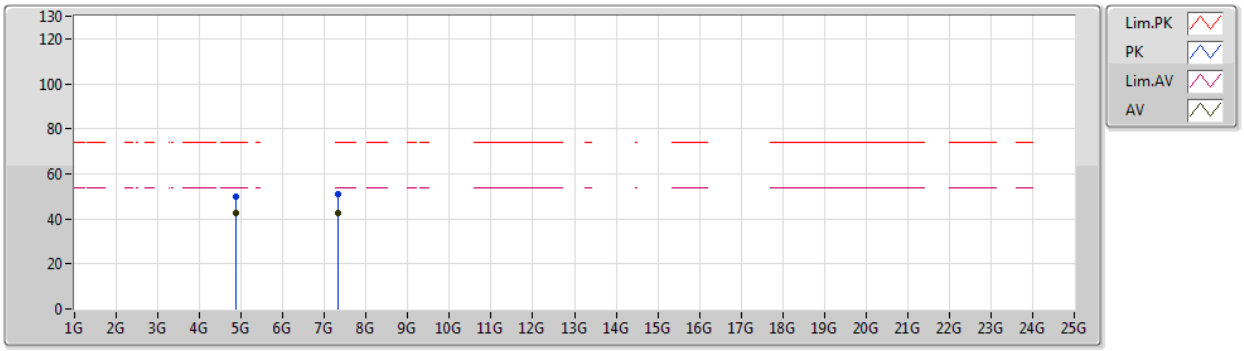


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87891G	42.96	54.00	-11.04	3.82	3	Vertical	26	1.45	-	39.14	31.48	6.81	34.47
AV	7.31975G	44.80	54.00	-9.20	9.90	3	Vertical	331	3.00	-	34.90	36.03	8.62	34.75
PK	4.88083G	49.94	74.00	-24.06	3.83	3	Vertical	26	1.45	-	46.11	31.49	6.81	34.47
PK	7.32001G	52.66	74.00	-21.34	9.90	3	Vertical	331	3.00	-	42.76	36.03	8.62	34.75

BT-LE(2Mbps)

2440MHz_TX

05/09/2019

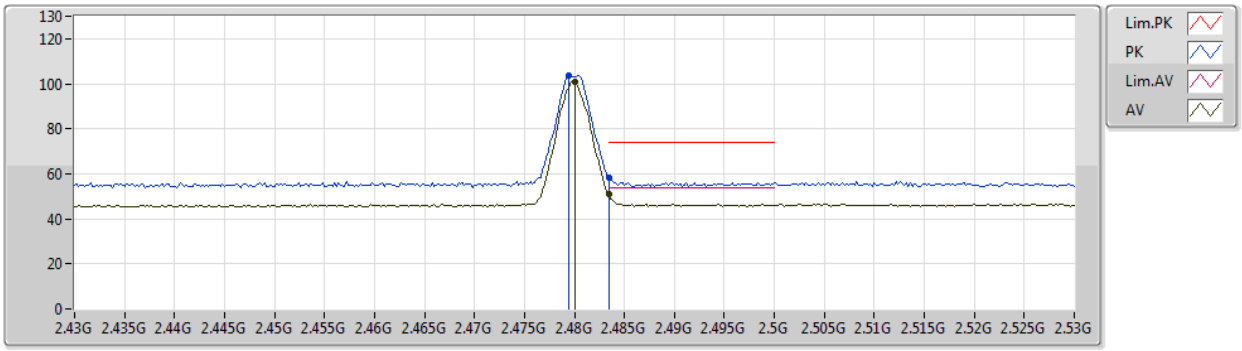


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87888G	42.72	54.00	-11.28	3.82	3	Horizontal	315	1.07	-	38.90	31.48	6.81	34.47
AV	7.31977G	42.39	54.00	-11.61	9.90	3	Horizontal	360	1.31	-	32.49	36.03	8.62	34.75
PK	4.87881G	49.78	74.00	-24.22	3.82	3	Horizontal	315	1.07	-	45.96	31.48	6.81	34.47
PK	7.31987G	50.86	74.00	-23.14	9.90	3	Horizontal	360	1.31	-	40.96	36.03	8.62	34.75

BT-LE(2Mbps)

2480MHz_TX

05/09/2019

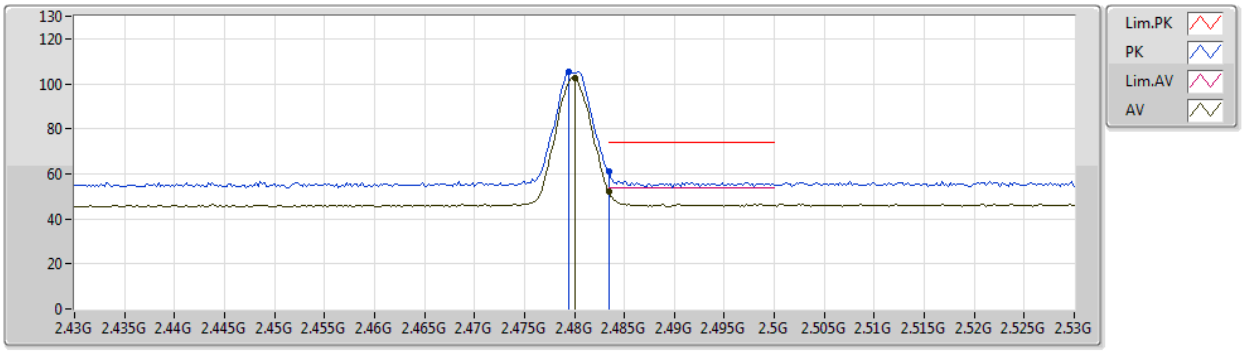


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	100.73	Inf	-Inf	32.46	3	Vertical	67	2.70	-	68.27	27.64	4.82	-
AV	2.4835G	50.86	54.00	-3.14	32.48	3	Vertical	67	2.70	-	18.38	27.65	4.83	-
PK	2.4794G	103.55	Inf	-Inf	32.46	3	Vertical	67	2.70	-	71.09	27.64	4.82	-
PK	2.4835G	58.40	74.00	-15.60	32.48	3	Vertical	67	2.70	-	25.92	27.65	4.83	-

BT-LE(2Mbps)

2480MHz_TX

05/09/2019

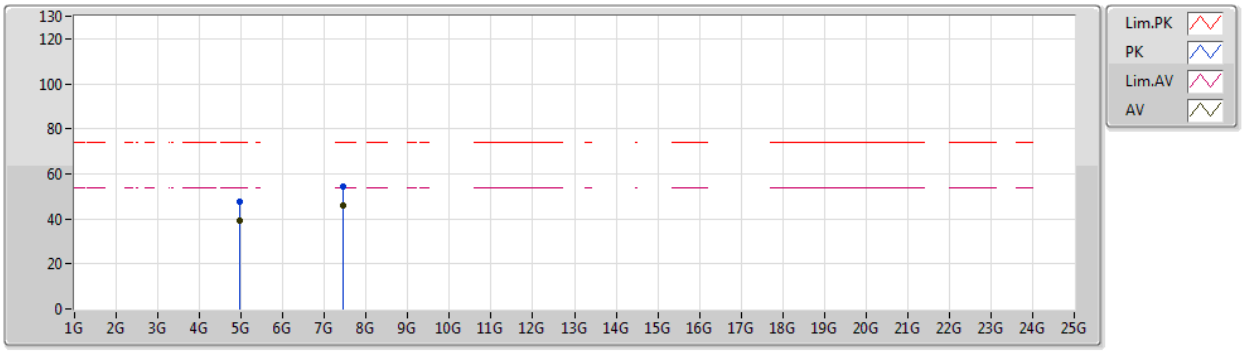


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	102.64	Inf	-Inf	32.46	3	Horizontal	320	2.89	-	70.18	27.64	4.82	-
AV	2.4835G	52.21	54.00	-1.79	32.48	3	Horizontal	320	2.89	-	19.73	27.65	4.83	-
PK	2.4794G	105.39	Inf	-Inf	32.46	3	Horizontal	320	2.89	-	72.93	27.64	4.82	-
PK	2.4835G	60.80	74.00	-13.20	32.48	3	Horizontal	320	2.89	-	28.32	27.65	4.83	-

BT-LE(2Mbps)

2480MHz_TX

05/09/2019

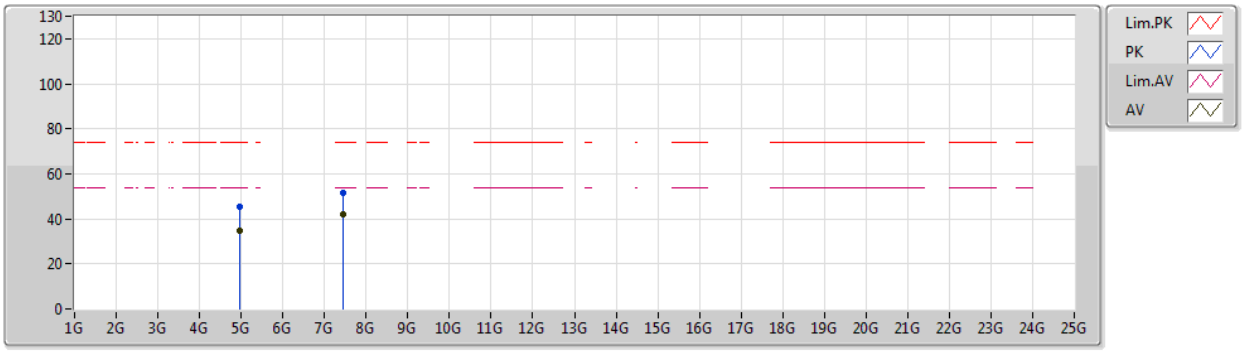


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95881G	39.11	54.00	-14.89	4.02	3	Vertical	208	1.31	-	35.09	31.63	6.83	34.44
AV	7.43865G	45.85	54.00	-8.15	10.24	3	Vertical	326	3.00	-	35.61	36.34	8.68	34.78
PK	4.95898G	47.42	74.00	-26.58	4.02	3	Vertical	208	1.31	-	43.40	31.63	6.83	34.44
PK	7.43822G	54.37	74.00	-19.63	10.24	3	Vertical	326	3.00	-	44.13	36.34	8.68	34.78

BT-LE(2Mbps)

05/09/2019

2480MHz_TX



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	4.95888G	34.78	54.00	-19.22	4.02	3	Horizontal	37	1.05	-	30.76	31.63	6.83	34.44
AV	7.4385G	41.86	54.00	-12.14	10.24	3	Horizontal	0	1.32	-	31.62	36.34	8.68	34.78
PK	4.95882G	45.16	74.00	-28.84	4.02	3	Horizontal	37	1.05	-	41.14	31.63	6.83	34.44
PK	7.43919G	51.47	74.00	-22.53	10.24	3	Horizontal	0	1.32	-	41.23	36.34	8.68	34.78