FCC Test Report

FCC ID	:	**2AHGTA30103A**
Equipment	:	**Mevo Start**
Brand Name	:	**Mevo**
Model Name	:	**A30103A**
Applicant	:	**Mevo, Inc** **19 Morris Ave. BLDG 128 Brooklyn, NY 11205 United States Of America**
Manufacturer	:	**Chicony Electronics Co.,Ltd.** **No.69, Sec. 2, Guangfu Rd., Sanchong Dist. New Taipei City 241 Taiwan**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Dec. 13, 2019, and testing was started from Dec. 17, 2019 and completed on Jan. 16, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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

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
FR9D1219AL	01	Initial issue of report	Jan. 31, 2020

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: Jackson Tsai

Report Producer: Kate Lo

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

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

1.1.2 Antenna Information

Ant.	Brand	Part Number	Antenna Type	Connector
1	WIESON	GY196HT337-020	PCB Antenna	I-PEX
2	WIESON	GY196HT337-019	PCB Antenna	I-PEX

Ant.	Port	Gain (dBi)										
		2.4G(MHz)			5G(MHz)					BT(MHz)		
		2400	2450	2500	5150	5250	5725	5785	5850	2400	2450	2500
1	1	-0.71	0.94	0.74	1.18	1.19	2.13	1.18	1.15	-0.71	0.94	0.74
2	2	1.21	1.26	1.59	2.18	2.18	1.11	1.29	1.63	-	-	-

Note 1: The EUT has two antennas.

Note 2: Higher gain was used to perform the worst configuration and result of that was recorded as the final test result.

For 2.4GHz function:

For IEEE 802.11 b/g/n mode (2TX/2RX)

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

For BT function:

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

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

For 5GHz function:

For IEEE 802.11 a/n/ac mode (2TX/2RX)

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

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From AC Adapter / From host system(NB)			
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)	0.626	2.03	391.25u	3k

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

1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- 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.			
☒	Wen Shan	ADD : No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
		TEL : 886-3-318-0787	FAX : 886-3-318-0287
Test site Designation No. TW1097 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	David	21.2~22.5°C / 59.2~66.4%	19/Dec/2019~ 16/Jan/2020
RF Conducted	TH06-HY	Gary	23.5~26.6°C / 65~69%	19/Dec/2019~ 13/Jan/2020
Radiated	03CH09-HY	Ryan	21.1~24.3°C / 52~60%	17/Dec/2019~ 15/Jan/2020

1.4 Measurement Uncertainty

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

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

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software	DoS

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	default
2440MHz	default
2480MHz	default

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	Adapter mode
2	USB 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		
1	Adapter mode		
2	USB mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT	V		

2.4 Accessories and Support Equipment

Accessories				
USB Cable	**Brand Name**	-	**Model Name**	-
	Power Cord	2.0 meter, shielded cable, w/o ferrite core		

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

Support Equipment – AC Conduction				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	AC Power Cable	Power sync	TPCMRN0018	-
2	Adapter	DELL	AA90PM111	-
3	Notebook	DELL	PP13S	-
4	AC adapter	Mevo	A18001A	-

Note: Support equipment No.4 was provided by customer.

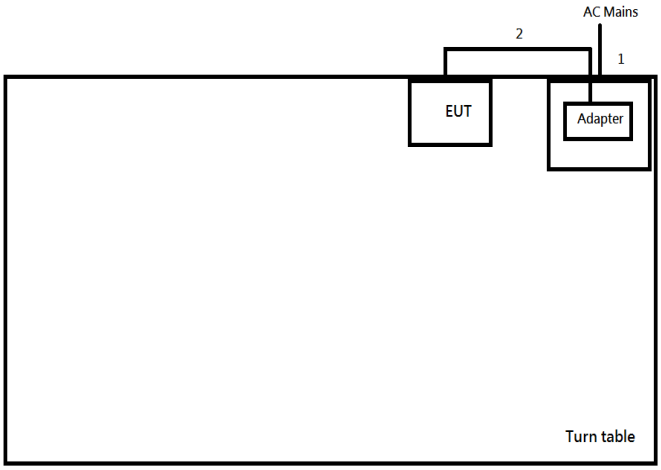
Support Equipment – RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC

Support Equipment – Radiated Emission				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	AC adapter	Mevo	A18001A	-
2	Notebook	DELL	E4300	-
3	AC adapter for NB	DELL	LA90PS0-00	-
4	AC Power Cable	Power sync	TPCMRN0018	-

Note: Support equipment No.1 was provided by customer.

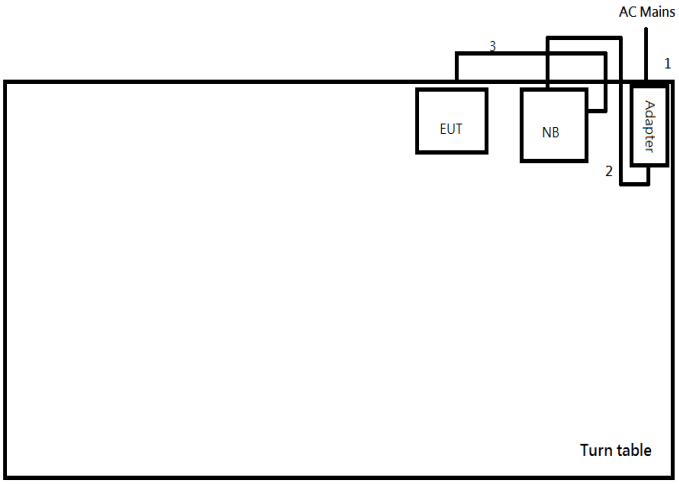
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test_Mode 1



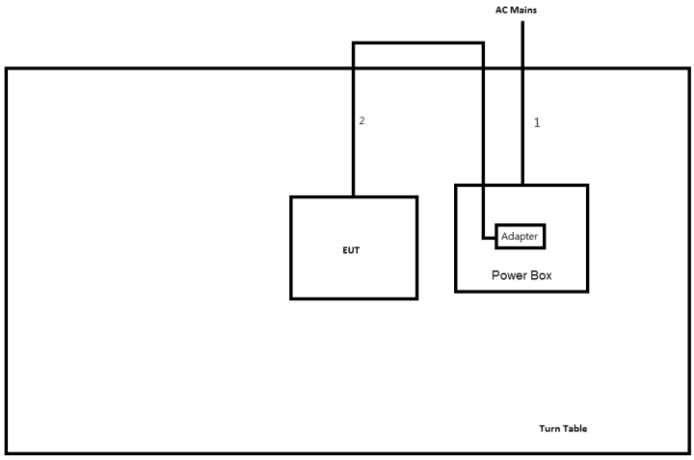
Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	USB Cable	Yes	2	-

Test Setup Diagram – AC Line Conducted Emission Test_Mode 2



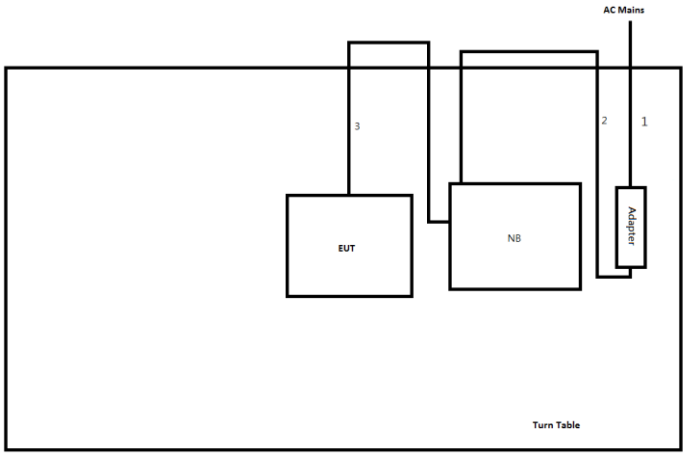
Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	DC Power Cable	No	1.5	-
3	USB Cable	Yes	2	-

Test Setup Diagram - Radiated Test < 1GHz_Mode 1



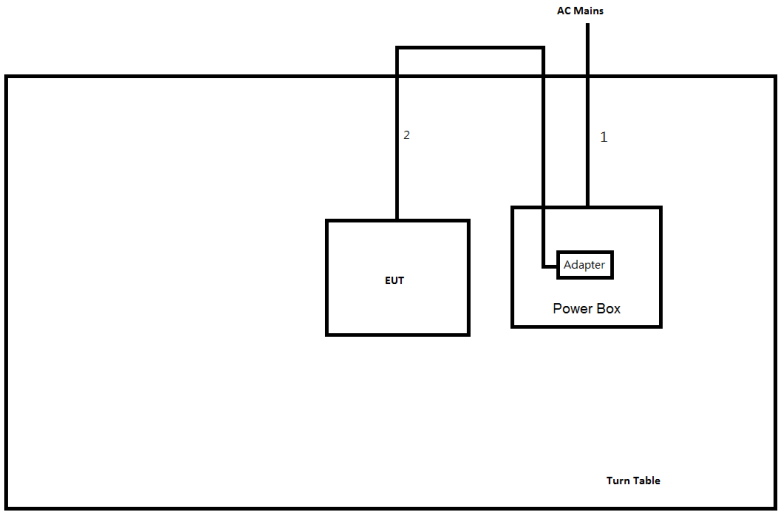
Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8	-
2	USB cable	Yes	2	-

Test Setup Diagram - Radiated Test < 1GHz_ Mode 2



Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8	-
2	DC Power line	No	1.5	-
3	USB cable	Yes	2	-

Test Setup Diagram - Radiated Test > 1GHz_Mode 1



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

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

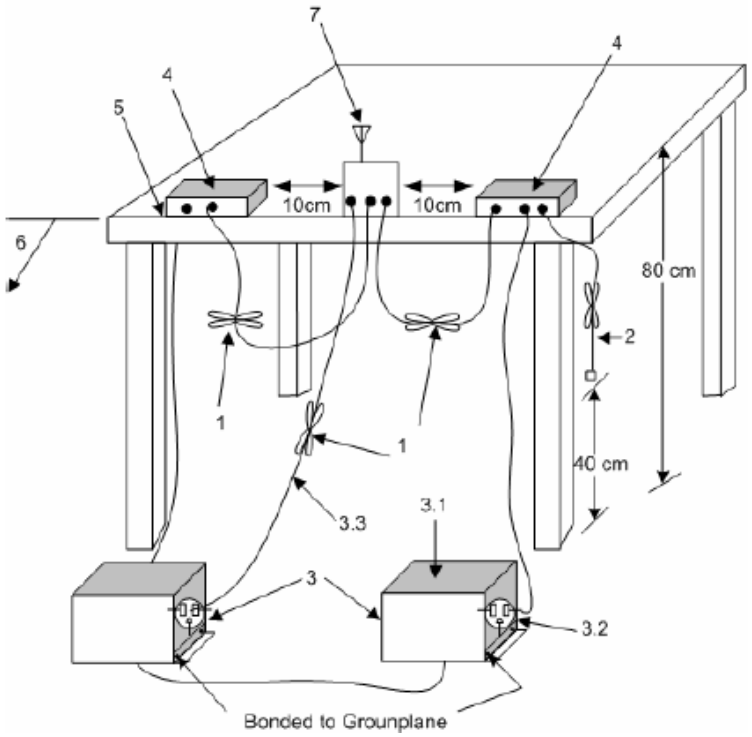
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

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.

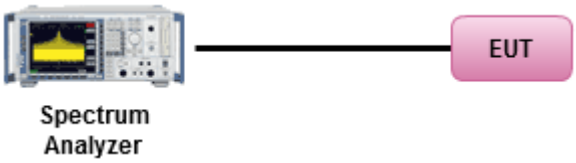
3.2.2 Measuring Instruments

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

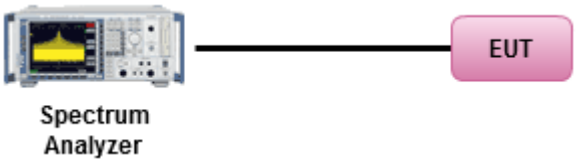
3.4.2 Measuring Instruments

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.	

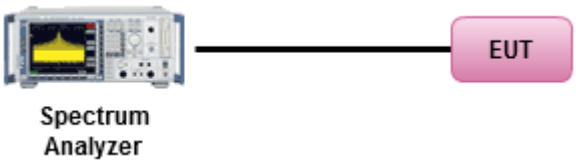
3.5.2 Measuring Instruments

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.

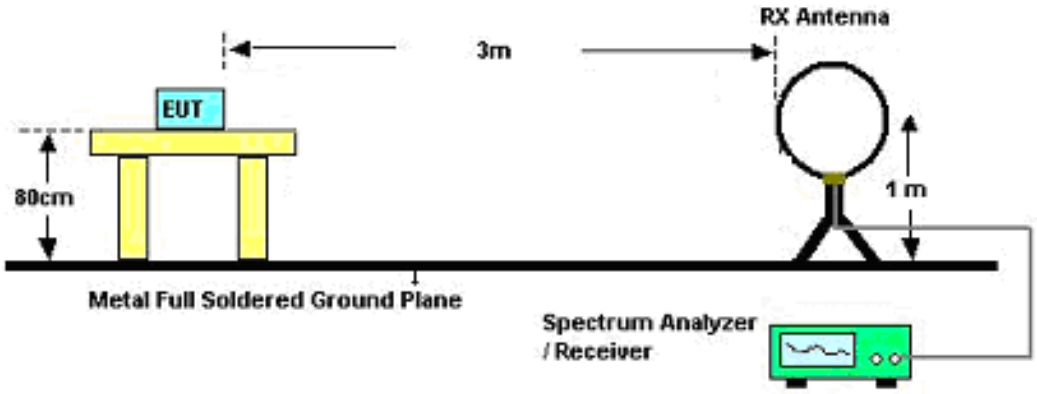
3.6.3 Test Procedures

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.

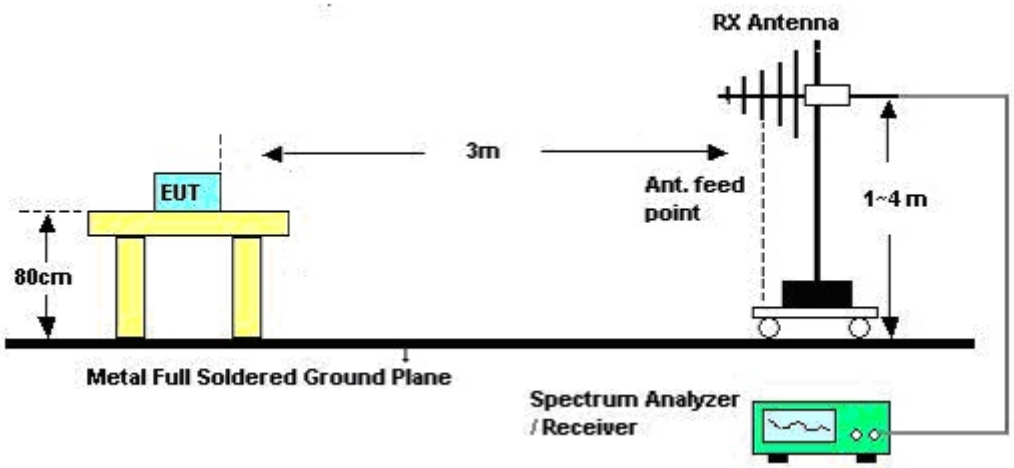
3.6.4 Test Setup

Emissions in Restricted Frequency Bands

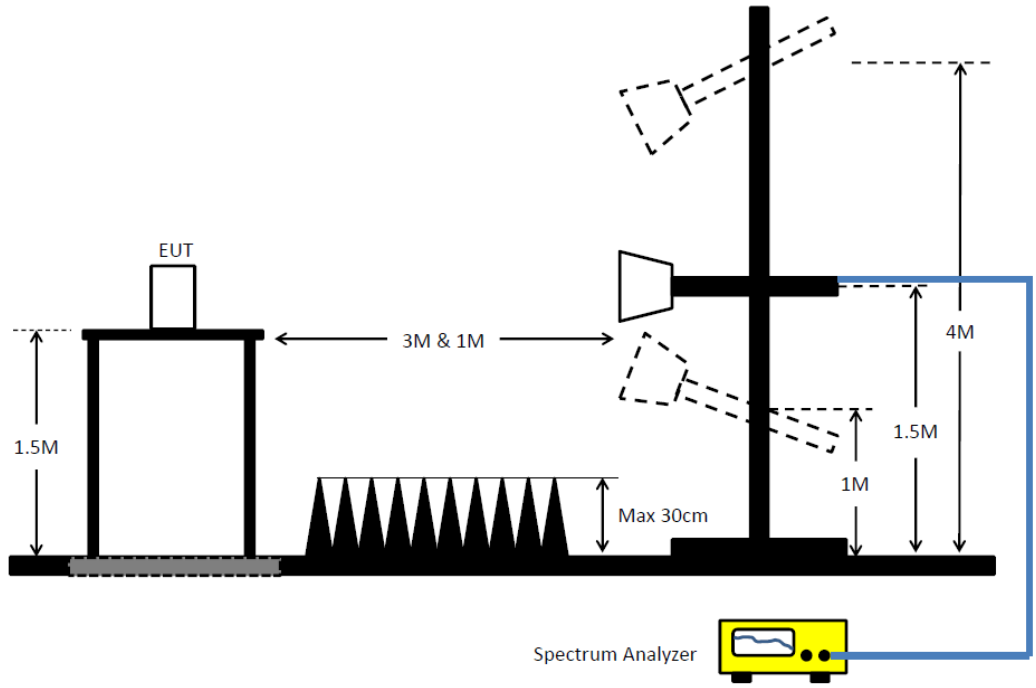
9kHz ~30MHz



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	04/Nov/2019	05/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	12/Sep/2019	11/Sep/2020
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	24/Sep/2019	23/Sep/2020

NCR : Non-Calibration Require

Instrument for Conducted Test

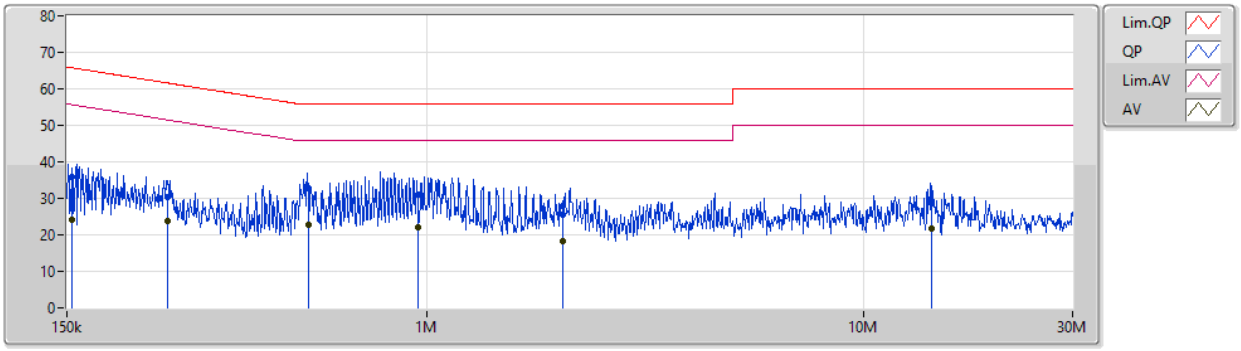
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101029	10KHz ~ 40GHz	01/Oct/2019	30/Sep/2020
Pulse Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	14/Mar/2019	13/Mar/2020
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	14/Mar/2019	13/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 Preamplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	04/Sep/2019	03/Sep/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	11/Oct/2019	10/Oct/2020
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	29/Apr/2019	28/Apr/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-2019 0218	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		

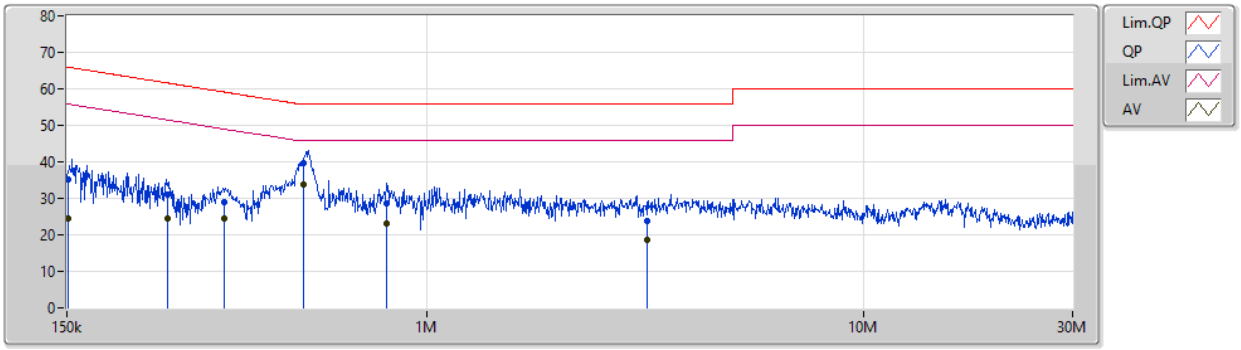
19/12/2019



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	153.54k	35.84	65.81	-29.97	19.63	Neutral	-	16.21	9.65	0.11	9.87
AV	153.54k	24.12	55.81	-31.69	19.63	Neutral	-	4.49	9.65	0.11	9.87
QP	254.128k	30.46	61.62	-31.16	19.63	Neutral	-	10.83	9.64	0.12	9.87
AV	254.128k	23.72	51.62	-27.90	19.63	Neutral	-	4.09	9.64	0.12	9.87
QP	537.131k	32.63	56.00	-23.37	19.63	Neutral	-	13.00	9.63	0.13	9.87
AV	537.131k	22.80	46.00	-23.20	19.63	Neutral	"Worst"	3.17	9.63	0.13	9.87
QP	955.94k	31.14	56.00	-24.86	19.62	Neutral	-	11.52	9.63	0.11	9.88
AV	955.94k	22.07	46.00	-23.93	19.62	Neutral	-	2.45	9.63	0.11	9.88
QP	2.052M	25.44	56.00	-30.56	19.67	Neutral	-	5.77	9.65	0.15	9.87
AV	2.052M	18.18	46.00	-27.82	19.67	Neutral	-	-1.49	9.65	0.15	9.87
QP	14.259M	28.59	60.00	-31.41	19.89	Neutral	-	8.70	9.71	0.30	9.88
AV	14.259M	21.79	50.00	-28.21	19.89	Neutral	-	1.90	9.71	0.30	9.88

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

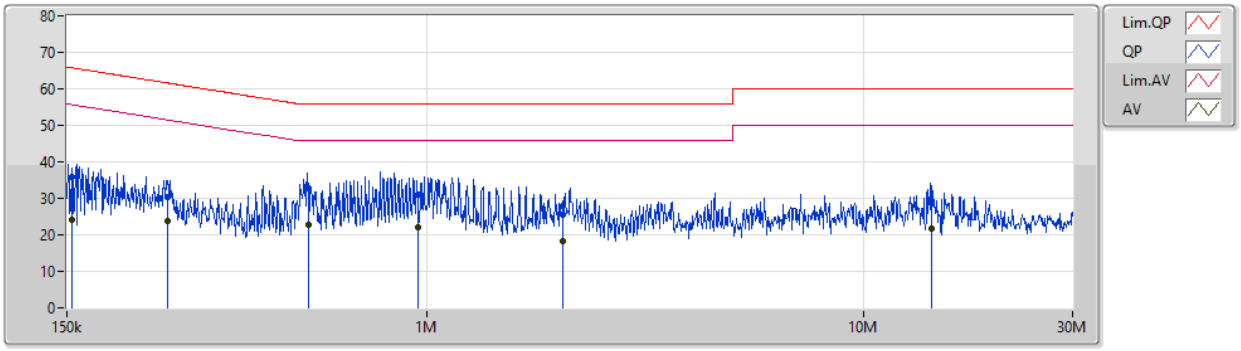
19/12/2019



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150.85k	35.21	65.94	-30.73	19.64	Line	-	15.57	9.66	0.11	9.87
AV	150.85k	24.50	55.94	-31.44	19.64	Line	-	4.86	9.66	0.11	9.87
QP	255.741k	31.12	61.56	-30.44	19.64	Line	-	11.48	9.65	0.12	9.87
AV	255.741k	24.41	51.56	-27.15	19.64	Line	-	4.77	9.65	0.12	9.87
QP	343.691k	28.92	59.12	-30.20	19.63	Line	-	9.29	9.64	0.12	9.87
AV	343.691k	24.50	49.12	-24.62	19.63	Line	-	4.87	9.64	0.12	9.87
QP	523.106k	39.53	56.00	-16.47	19.64	Line	-	19.89	9.64	0.13	9.87
AV	523.106k	33.66	46.00	-12.34	19.64	Line	"Worst"	14.02	9.64	0.13	9.87
QP	809.271k	28.60	56.00	-27.40	19.63	Line	-	8.97	9.64	0.12	9.87
AV	809.271k	23.10	46.00	-22.90	19.63	Line	-	3.47	9.64	0.12	9.87
QP	3.183M	23.87	56.00	-32.13	19.71	Line	-	4.16	9.66	0.17	9.88
AV	3.183M	18.63	46.00	-27.37	19.71	Line	-	-1.08	9.66	0.17	9.88

AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Neutral
Operating Function	USB mode		

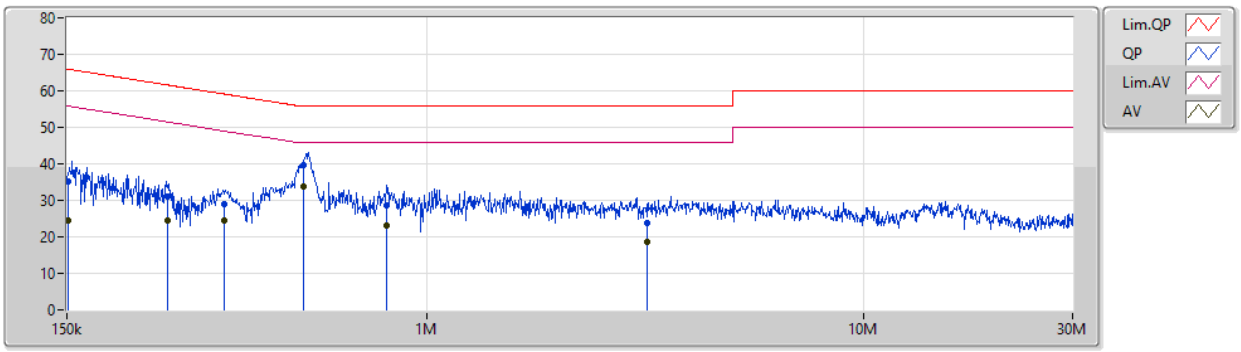
19/12/2019



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	153.54k	35.84	65.81	-29.97	19.63	Neutral	-	16.21	9.65	0.11	9.87
AV	153.54k	24.12	55.81	-31.69	19.63	Neutral	-	4.49	9.65	0.11	9.87
QP	254.128k	30.46	61.62	-31.16	19.63	Neutral	-	10.83	9.64	0.12	9.87
AV	254.128k	23.72	51.62	-27.90	19.63	Neutral	-	4.09	9.64	0.12	9.87
QP	537.131k	32.63	56.00	-23.37	19.63	Neutral	-	13.00	9.63	0.13	9.87
AV	537.131k	22.80	46.00	-23.20	19.63	Neutral	"Worst"	3.17	9.63	0.13	9.87
QP	955.94k	31.14	56.00	-24.86	19.62	Neutral	-	11.52	9.63	0.11	9.88
AV	955.94k	22.07	46.00	-23.93	19.62	Neutral	-	2.45	9.63	0.11	9.88
QP	2.052M	25.44	56.00	-30.56	19.67	Neutral	-	5.77	9.65	0.15	9.87
AV	2.052M	18.18	46.00	-27.82	19.67	Neutral	-	-1.49	9.65	0.15	9.87
QP	14.259M	28.59	60.00	-31.41	19.89	Neutral	-	8.70	9.71	0.30	9.88
AV	14.259M	21.79	50.00	-28.21	19.89	Neutral	-	1.90	9.71	0.30	9.88

AC Power-line Conducted Emissions Result			
Operating Mode	2	**Power Phase**	Line
Operating Function	USB mode		

19/12/2019



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150.85k	35.21	65.94	-30.73	19.64	Line	-	15.57	9.66	0.11	9.87
AV	150.85k	24.50	55.94	-31.44	19.64	Line	-	4.86	9.66	0.11	9.87
QP	255.741k	31.12	61.56	-30.44	19.64	Line	-	11.48	9.65	0.12	9.87
AV	255.741k	24.41	51.56	-27.15	19.64	Line	-	4.77	9.65	0.12	9.87
QP	343.691k	28.92	59.12	-30.20	19.63	Line	-	9.29	9.64	0.12	9.87
AV	343.691k	24.50	49.12	-24.62	19.63	Line	-	4.87	9.64	0.12	9.87
QP	523.106k	39.53	56.00	-16.47	19.64	Line	-	19.89	9.64	0.13	9.87
AV	523.106k	33.66	46.00	-12.34	19.64	Line	"Worst"	14.02	9.64	0.13	9.87
QP	809.271k	28.60	56.00	-27.40	19.63	Line	-	8.97	9.64	0.12	9.87
AV	809.271k	23.10	46.00	-22.90	19.63	Line	-	3.47	9.64	0.12	9.87
QP	3.183M	23.87	56.00	-32.13	19.71	Line	-	4.16	9.66	0.17	9.88
AV	3.183M	18.63	46.00	-27.37	19.71	Line	-	-1.08	9.66	0.17	9.88

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	720k	1.048M	1M05F1D	711.25k	1.046M

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	712.5k	1.046M
2440MHz	Pass	500k	720k	1.048M
2480MHz	Pass	500k	711.25k	1.048M

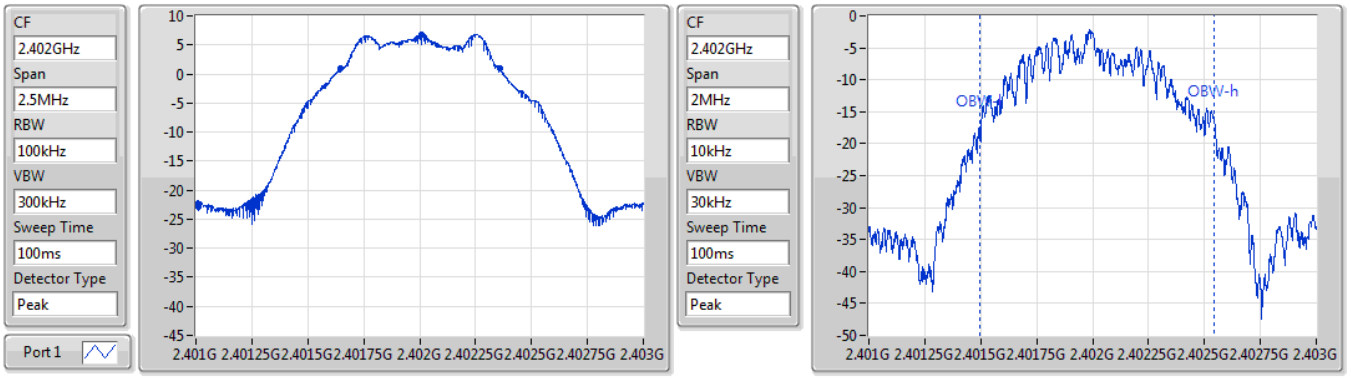
Port X-N dB = Port **X** 6dB down bandwidth; **Port X-OBW** = Port **X** 99% occupied bandwidth;

BT-LE(1Mbps)

EBW

2402MHz

20/12/2019



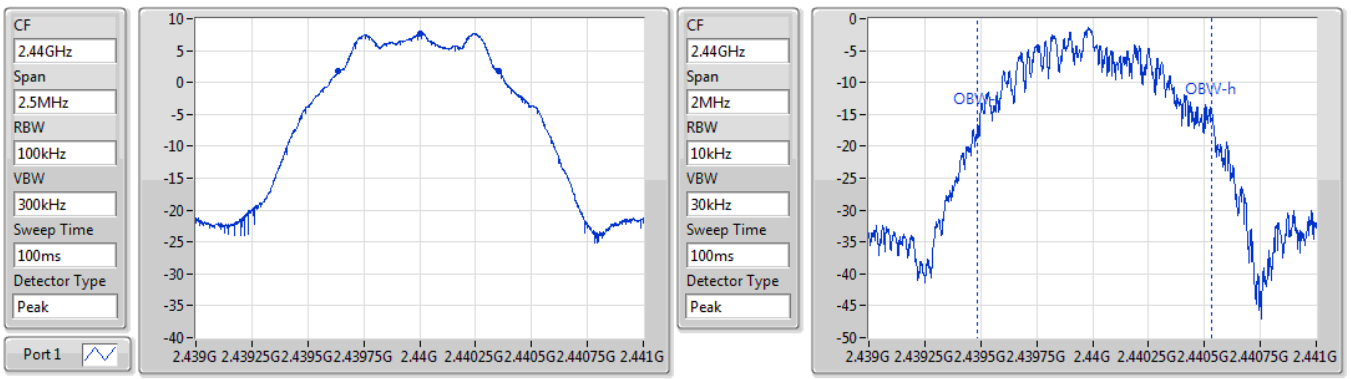
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
712.5k	2.401649G	2.402361G	1.046M	2.401494G	2.402541G	500k	1

BT-LE(1Mbps)

EBW

2440MHz

20/12/2019

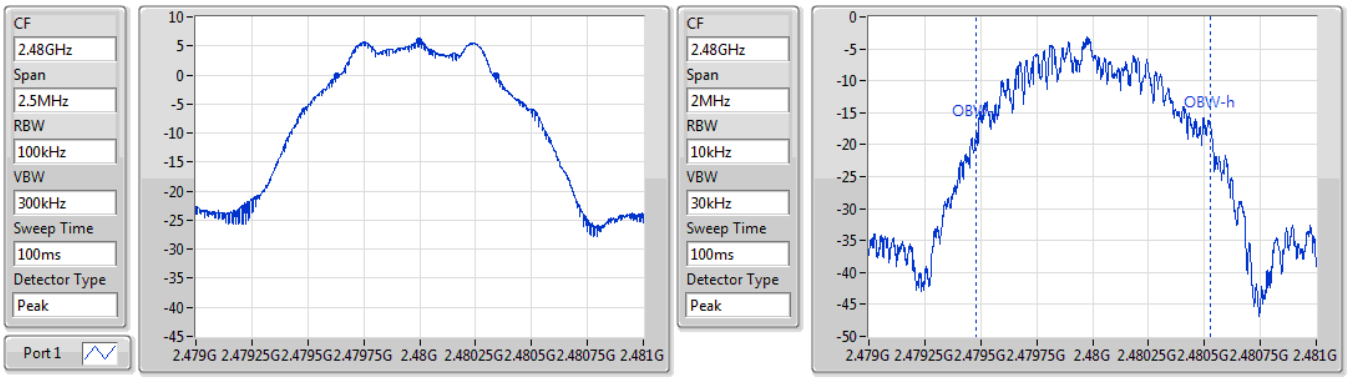


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
720k	2.439636G	2.440356G	1.048M	2.439486G	2.440535G	500k	1

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

2480MHz

20/12/2019



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
711.25k	2.47963G	2.480341G	1.048M	2.479477G	2.480526G	500k	1

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	7.99	0.00630

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.94	7.41	30.00
2440MHz	Pass	0.94	7.99	30.00
2480MHz	Pass	0.94	6.37	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-6.34

RBW=3 kHz.

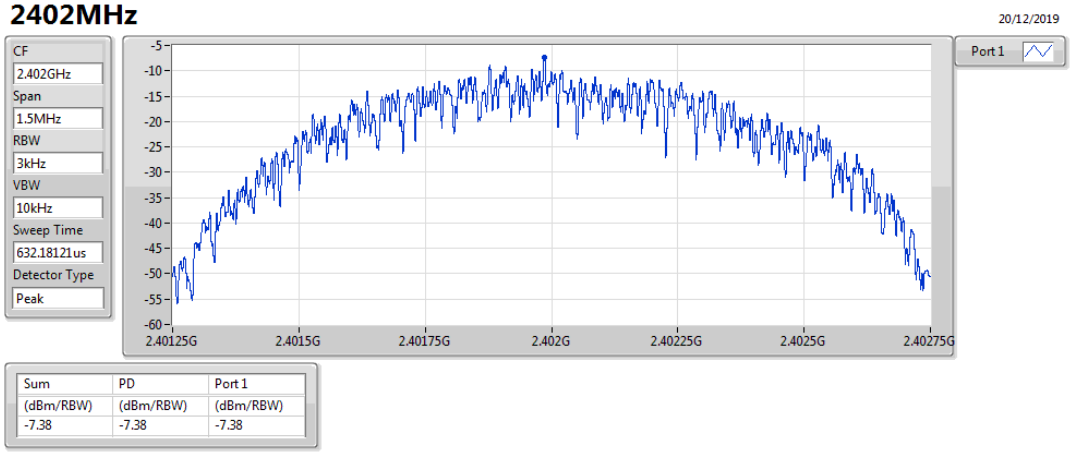
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.94	-7.38	8.00
2440MHz	Pass	0.94	-6.34	8.00
2480MHz	Pass	0.94	-8.47	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**

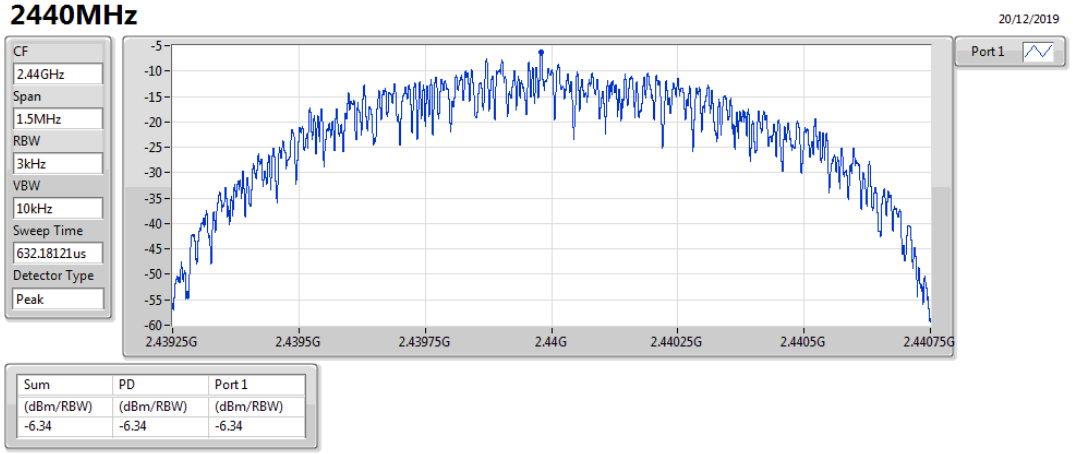
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.38	-7.38	-7.38

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

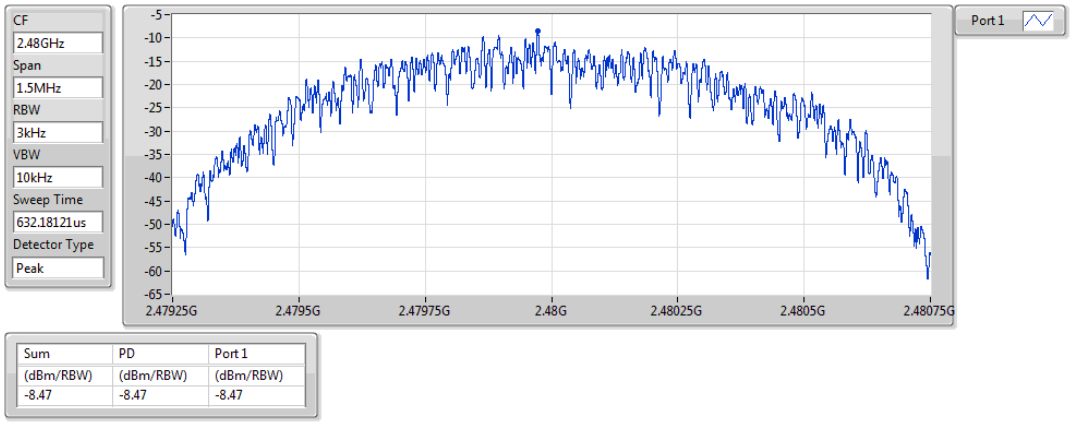
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.34	-6.34	-6.34

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

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.47	-8.47	-8.47

Summary

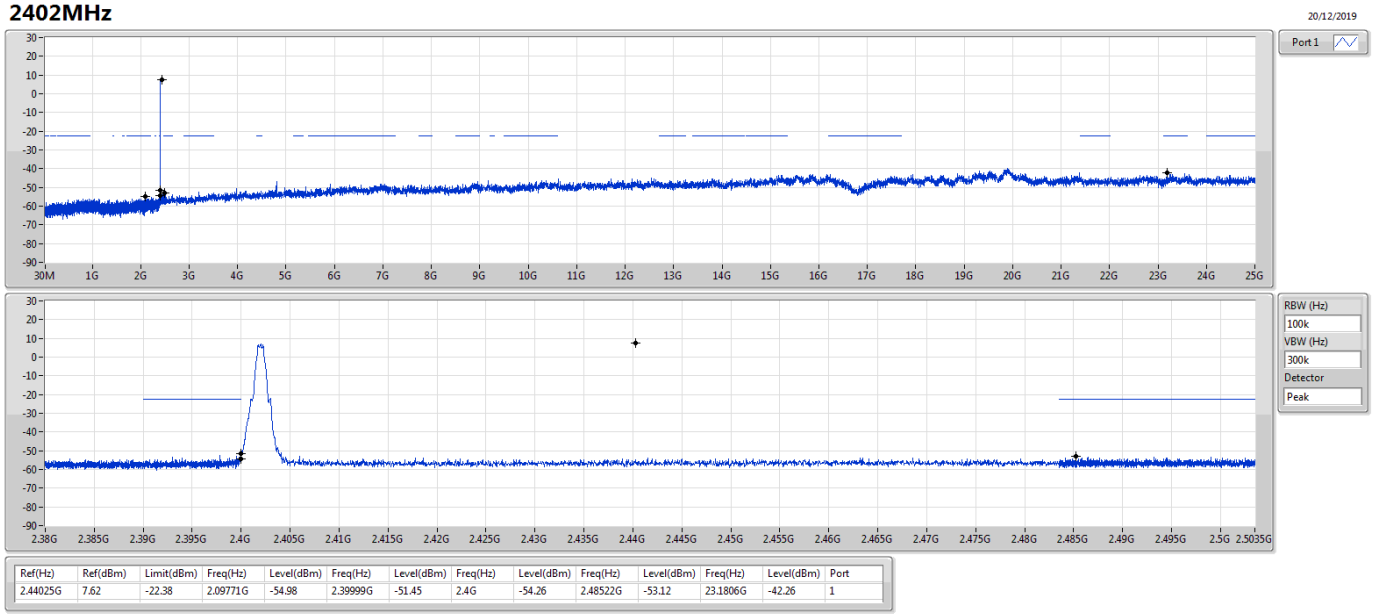
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.44025G	7.62	-22.38	2.09771G	-54.98	2.39999G	-51.45	2.4G	-54.26	2.48522G	-53.12	23.1806G	-42.26	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.44025G	7.62	-22.38	2.09771G	-54.98	2.39999G	-51.45	2.4G	-54.26	2.48522G	-53.12	23.1806G	-42.26	1
2440MHz	Pass	2.44025G	7.62	-22.38	856.61M	-54.57	2.39621G	-53.96	2.4G	-56.42	2.5032G	-53.05	16.22918G	-42.60	1
2480MHz	Pass	2.44025G	7.62	-22.38	2.0792G	-55.10	2.39992G	-54.44	2.4835G	-57.18	2.49606G	-52.83	23.2987G	-42.15	1

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

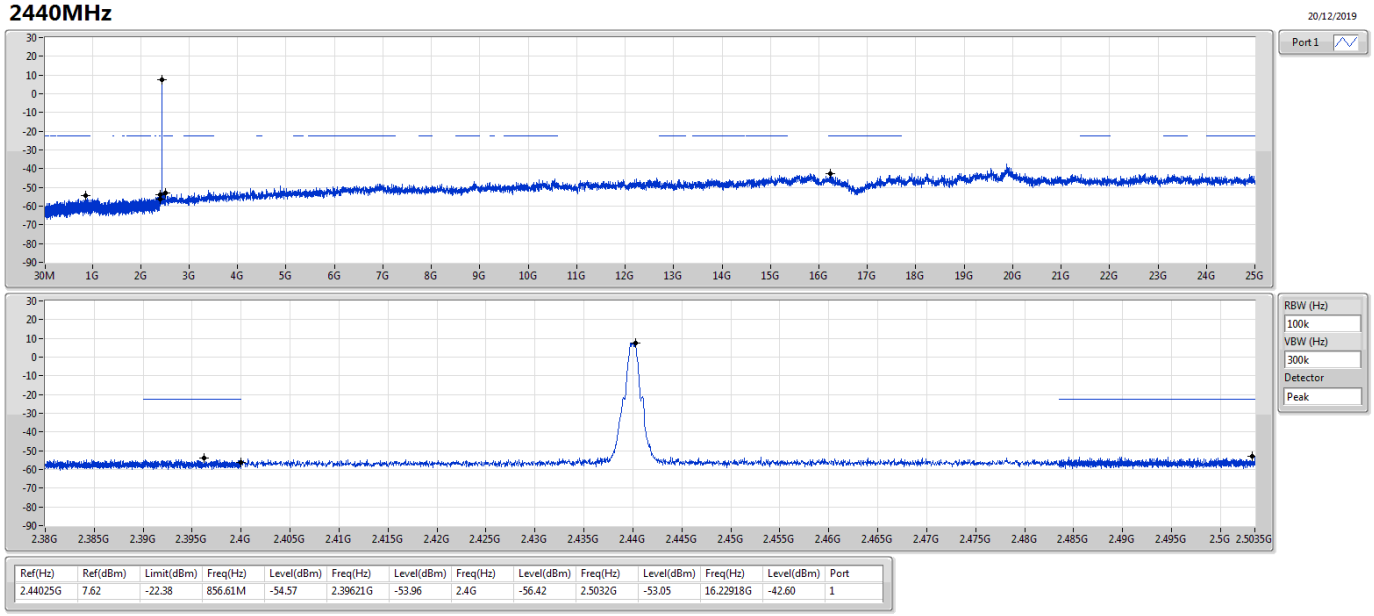
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44025G	7.62	-22.38	2.09771G	-54.98	2.39999G	-51.45	2.4G	-54.26	2.48522G	-53.12	23.1806G	-42.26	1

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

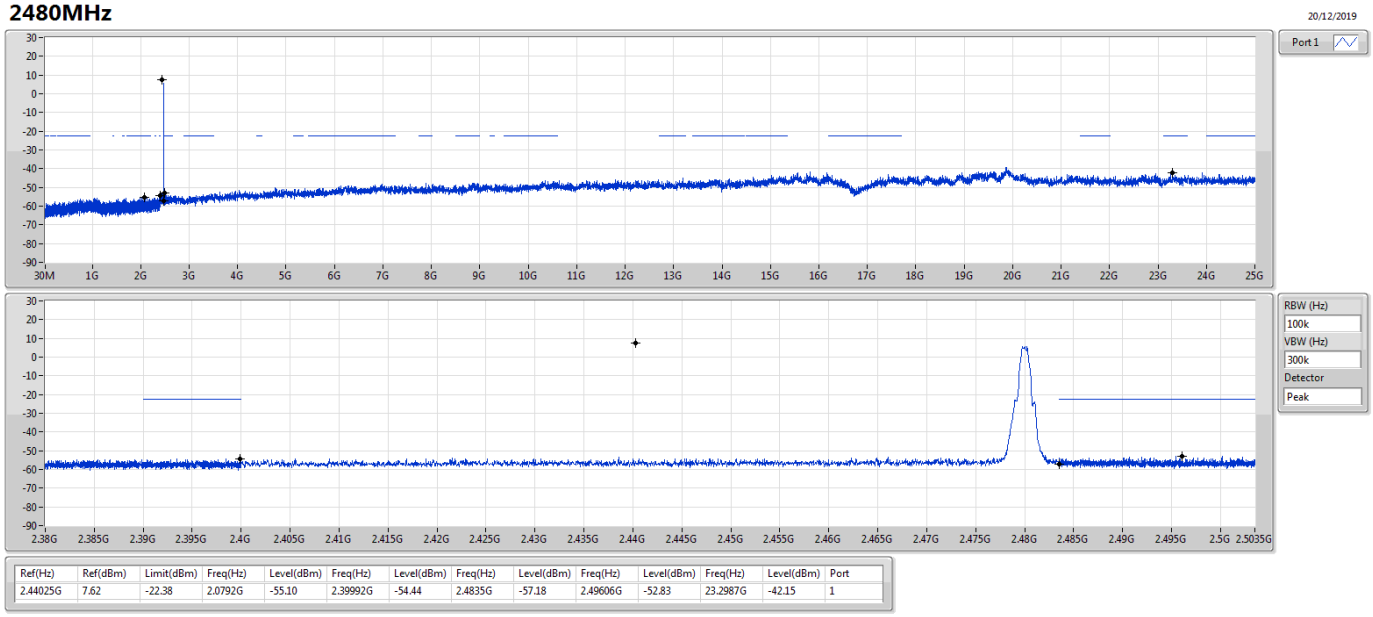
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44025G	7.62	-22.38	856.61M	-54.57	2.39621G	-53.96	2.4G	-56.42	2.5032G	-53.05	16.22918G	-42.60	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)	Freq(Hz)	Level(dBm)	Port
2.44025G	7.62	-22.38	2.0792G	-55.10	2.39992G	-54.44	2.4835G	-57.18	2.49606G	-52.83	23.2987G	-42.15	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(1Mbps)	Pass	PK	745.86M	42.63	46.00	-3.37	3	Horizontal	360	1.00	-

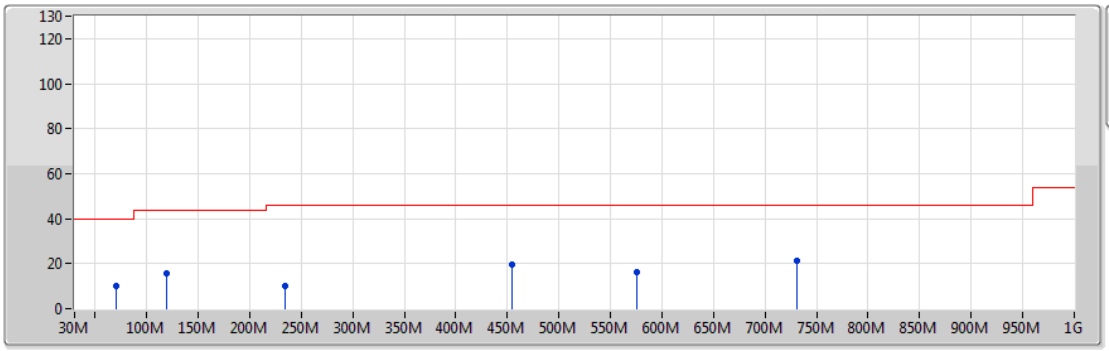
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	70.74M	10.32	40.00	-29.68	3	Vertical	360	1.00	-
2440MHz	Pass	PK	119.24M	15.62	43.50	-27.88	3	Vertical	360	1.00	-
2440MHz	Pass	PK	233.7M	10.22	46.00	-35.78	3	Vertical	360	1.00	-
2440MHz	Pass	PK	454.86M	19.72	46.00	-26.28	3	Vertical	360	1.00	-
2440MHz	Pass	PK	575.14M	16.09	46.00	-29.91	3	Vertical	360	1.00	-
2440MHz	Pass	PK	730.34M	21.51	46.00	-24.49	3	Vertical	360	1.00	-
2440MHz	Pass	PK	99.84M	9.29	43.50	-34.21	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	171.62M	12.01	43.50	-31.49	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	210.42M	12.06	43.50	-31.44	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	449.04M	21.23	46.00	-24.77	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	734.22M	15.67	46.00	-30.33	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	835.1M	14.69	46.00	-31.31	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	43.58M	35.38	40.00	-4.62	3	Vertical	0	1.00	-
2440MHz	Pass	PK	125.06M	30.51	43.50	-12.99	3	Vertical	0	1.00	-
2440MHz	Pass	PK	225.94M	31.91	46.00	-14.09	3	Vertical	0	1.00	-
2440MHz	Pass	PK	425.76M	38.22	46.00	-7.78	3	Vertical	0	1.00	-
2440MHz	Pass	PK	575.14M	36.90	46.00	-9.10	3	Vertical	0	1.00	-
2440MHz	Pass	PK	747.8M	40.17	46.00	-5.83	3	Vertical	0	1.00	-
2440MHz	Pass	PK	45.52M	33.90	40.00	-6.10	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	175.5M	32.12	43.50	-11.38	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	225.94M	35.23	46.00	-10.77	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	425.76M	39.91	46.00	-6.09	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	625.58M	35.90	46.00	-10.10	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	745.86M	42.63	46.00	-3.37	3	Horizontal	360	1.00	-

BT-LE(1Mbps)

2440MHz_Adapter

13/01/2020

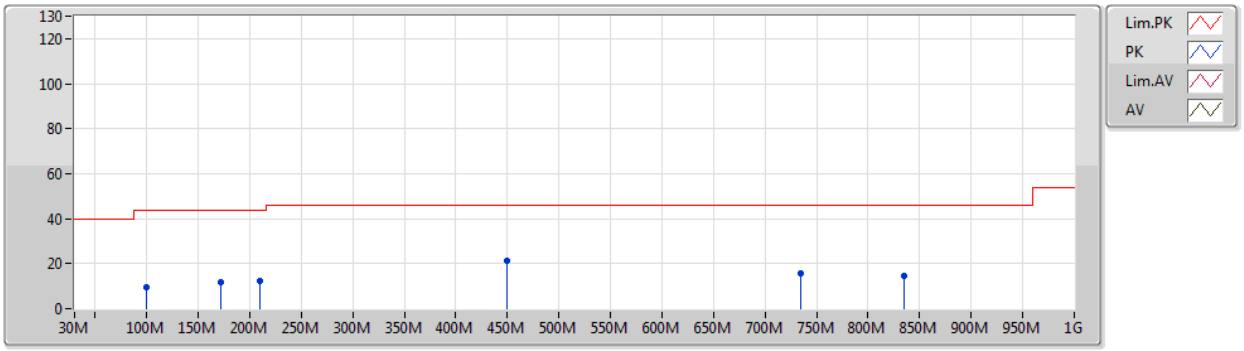


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	70.74M	10.32	40.00	-29.68	-24.87	3	Vertical	360	1.00	-	35.19	11.45	0.68	37.00
PK	119.24M	15.62	43.50	-27.88	-19.12	3	Vertical	360	1.00	-	34.74	16.69	0.89	36.70
PK	233.7M	10.22	46.00	-35.78	-19.31	3	Vertical	360	1.00	-	29.53	15.83	1.26	36.40
PK	454.86M	19.72	46.00	-26.28	-12.51	3	Vertical	360	1.00	-	32.23	22.44	1.83	36.78
PK	575.14M	16.09	46.00	-29.91	-10.41	3	Vertical	360	1.00	-	26.50	24.68	2.06	37.15
PK	730.34M	21.51	46.00	-24.49	-8.42	3	Vertical	360	1.00	-	29.93	26.66	2.32	37.40

BT-LE(1Mbps)

2440MHz_Adapter

13/01/2020

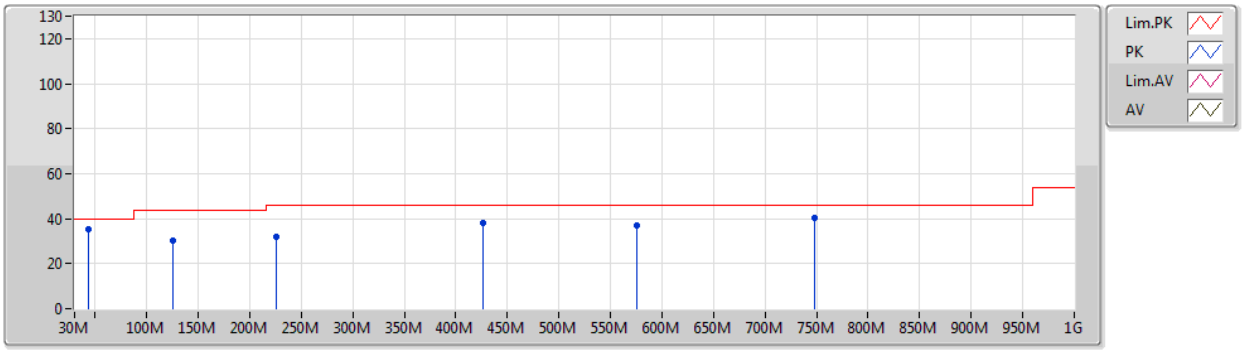


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	99.84M	9.29	43.50	-34.21	-20.84	3	Horizontal	0	1.00	-	30.13	15.13	0.81	36.78
PK	171.62M	12.01	43.50	-31.49	-20.71	3	Horizontal	0	1.00	-	32.72	14.68	1.09	36.48
PK	210.42M	12.06	43.50	-31.44	-20.93	3	Horizontal	0	1.00	-	32.99	14.24	1.20	36.37
PK	449.04M	21.23	46.00	-24.77	-12.61	3	Horizontal	0	1.00	-	33.84	22.33	1.83	36.77
PK	734.22M	15.67	46.00	-30.33	-8.26	3	Horizontal	0	1.00	-	23.93	26.82	2.33	37.41
PK	835.1M	14.69	46.00	-31.31	-6.96	3	Horizontal	0	1.00	-	21.65	28.05	2.49	37.50

BT-LE(1Mbps)

2440MHz_USB

15/01/2020

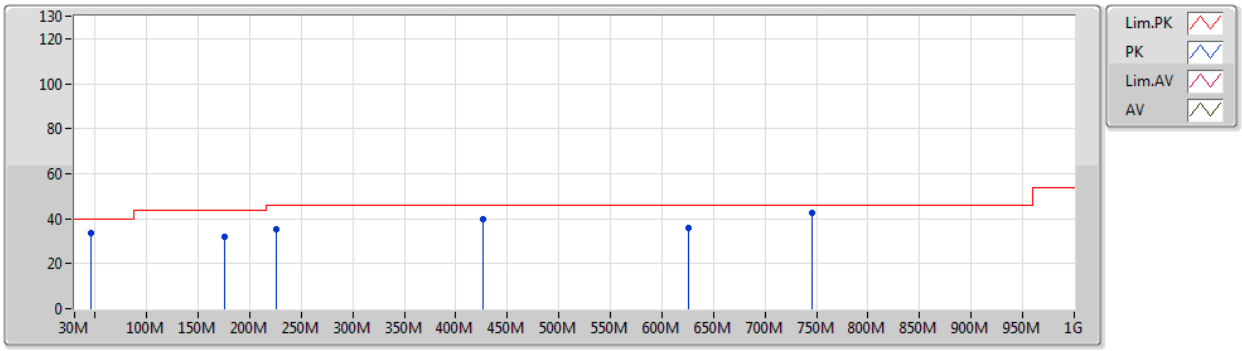


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	43.58M	35.38	40.00	-4.62	-20.09	3	Vertical	0	1.00	-	55.47	16.57	0.56	37.22
PK	125.06M	30.51	43.50	-12.99	-19.00	3	Vertical	0	1.00	-	49.51	16.76	0.91	36.67
PK	225.94M	31.91	46.00	-14.09	-20.20	3	Vertical	0	1.00	-	52.11	14.95	1.24	36.39
PK	425.76M	38.22	46.00	-7.78	-12.95	3	Vertical	0	1.00	-	51.17	22.01	1.75	36.71
PK	575.14M	36.90	46.00	-9.10	-10.41	3	Vertical	0	1.00	-	47.31	24.68	2.06	37.15
PK	747.8M	40.17	46.00	-5.83	-7.95	3	Vertical	0	1.00	-	48.12	27.13	2.35	37.43

BT-LE(1Mbps)

2440MHz_USB

15/01/2020



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	45.52M	33.90	40.00	-6.10	-21.10	3	Horizontal	360	1.00	-	55.00	15.53	0.57	37.20
PK	175.5M	32.12	43.50	-11.38	-20.94	3	Horizontal	360	1.00	-	53.06	14.42	1.10	36.46
PK	225.94M	35.23	46.00	-10.77	-20.20	3	Horizontal	360	1.00	-	55.43	14.95	1.24	36.39
PK	425.76M	39.91	46.00	-6.09	-12.95	3	Horizontal	360	1.00	-	52.86	22.01	1.75	36.71
PK	625.58M	35.90	46.00	-10.10	-9.73	3	Horizontal	360	1.00	-	45.63	25.38	2.15	37.26
PK	745.86M	42.63	46.00	-3.37	-7.97	3	Horizontal	360	1.00	-	50.60	27.11	2.35	37.43

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	2.5G	48.53	54.00	-5.47	3	Vertical	330	2.71	-

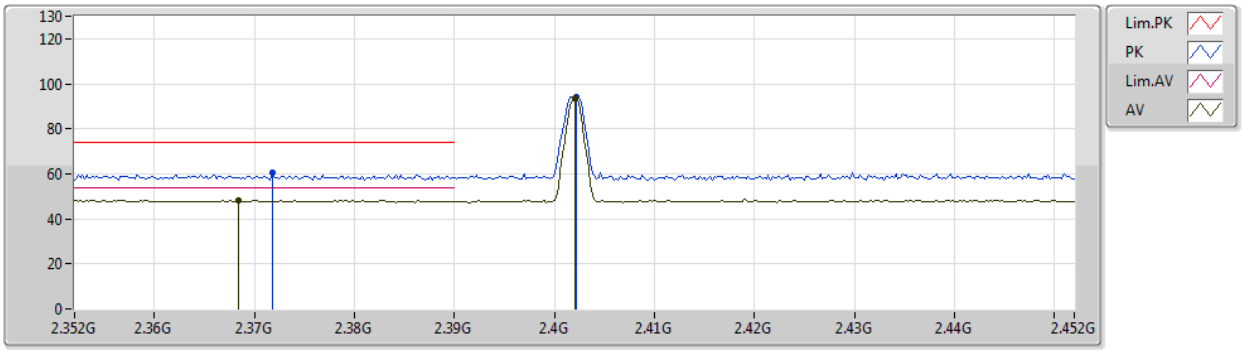
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3684G	48.28	54.00	-5.72	3	Vertical	199	1.50	-
2402MHz	Pass	AV	2.402G	93.33	Inf	-Inf	3	Vertical	199	1.50	-
2402MHz	Pass	PK	2.3718G	60.54	74.00	-13.46	3	Vertical	199	1.50	-
2402MHz	Pass	PK	2.4022G	94.33	Inf	-Inf	3	Vertical	199	1.50	-
2402MHz	Pass	AV	2.3704G	48.39	54.00	-5.61	3	Horizontal	7	1.50	-
2402MHz	Pass	AV	2.402G	101.24	Inf	-Inf	3	Horizontal	7	1.50	-
2402MHz	Pass	PK	2.3642G	59.94	74.00	-14.06	3	Horizontal	7	1.50	-
2402MHz	Pass	PK	2.4022G	102.23	Inf	-Inf	3	Horizontal	7	1.50	-
2402MHz	Pass	AV	4.80406G	42.02	54.00	-11.98	3	Vertical	325	2.87	-
2402MHz	Pass	PK	4.80367G	52.38	74.00	-21.62	3	Vertical	325	2.87	-
2402MHz	Pass	AV	4.80401G	45.55	54.00	-8.45	3	Horizontal	331	2.84	-
2402MHz	Pass	PK	4.80355G	53.40	74.00	-20.60	3	Horizontal	331	2.84	-
2440MHz	Pass	AV	2.38G	48.22	54.00	-5.78	3	Vertical	300	3.00	-
2440MHz	Pass	AV	2.44G	99.76	Inf	-Inf	3	Vertical	300	3.00	-
2440MHz	Pass	AV	2.484G	48.30	54.00	-5.70	3	Vertical	300	3.00	-
2440MHz	Pass	PK	2.3496G	59.81	74.00	-14.19	3	Vertical	300	3.00	-
2440MHz	Pass	PK	2.4404G	100.74	Inf	-Inf	3	Vertical	300	3.00	-
2440MHz	Pass	PK	2.4884G	59.71	74.00	-14.29	3	Vertical	300	3.00	-
2440MHz	Pass	AV	2.3548G	48.37	54.00	-5.63	3	Horizontal	16	2.99	-
2440MHz	Pass	AV	2.44G	103.81	Inf	-Inf	3	Horizontal	16	2.99	-
2440MHz	Pass	AV	2.4964G	48.25	54.00	-5.75	3	Horizontal	16	2.99	-
2440MHz	Pass	PK	2.3604G	60.01	74.00	-13.99	3	Horizontal	16	2.99	-
2440MHz	Pass	PK	2.4404G	104.74	Inf	-Inf	3	Horizontal	16	2.99	-
2440MHz	Pass	PK	2.4996G	59.75	74.00	-14.25	3	Horizontal	16	2.99	-
2440MHz	Pass	AV	4.87966G	40.35	54.00	-13.65	3	Vertical	301	1.00	-
2440MHz	Pass	PK	4.88019G	51.30	74.00	-22.70	3	Vertical	301	1.00	-
2440MHz	Pass	AV	4.88005G	43.32	54.00	-10.68	3	Horizontal	336	2.87	-
2440MHz	Pass	PK	4.8796G	52.63	74.00	-21.37	3	Horizontal	336	2.87	-
2480MHz	Pass	AV	2.48G	97.84	Inf	-Inf	3	Vertical	330	2.71	-
2480MHz	Pass	AV	2.5G	48.53	54.00	-5.47	3	Vertical	330	2.71	-
2480MHz	Pass	PK	2.4798G	98.92	Inf	-Inf	3	Vertical	330	2.71	-
2480MHz	Pass	PK	2.4942G	60.19	74.00	-13.81	3	Vertical	330	2.71	-
2480MHz	Pass	AV	2.48G	100.78	Inf	-Inf	3	Horizontal	10	2.96	-
2480MHz	Pass	AV	2.4918G	48.51	54.00	-5.49	3	Horizontal	10	2.96	-
2480MHz	Pass	PK	2.4798G	101.87	Inf	-Inf	3	Horizontal	10	2.96	-
2480MHz	Pass	PK	2.4996G	59.77	74.00	-14.23	3	Horizontal	10	2.96	-
2480MHz	Pass	AV	4.95982G	40.15	54.00	-13.85	3	Vertical	301	1.00	-
2480MHz	Pass	PK	4.96049G	50.89	74.00	-23.11	3	Vertical	301	1.00	-
2480MHz	Pass	AV	4.95979G	41.89	54.00	-12.11	3	Horizontal	336	2.80	-
2480MHz	Pass	PK	4.95971G	51.92	74.00	-22.08	3	Horizontal	336	2.80	-

BT-LE(1Mbps)

2402MHz_TX

18/12/2019

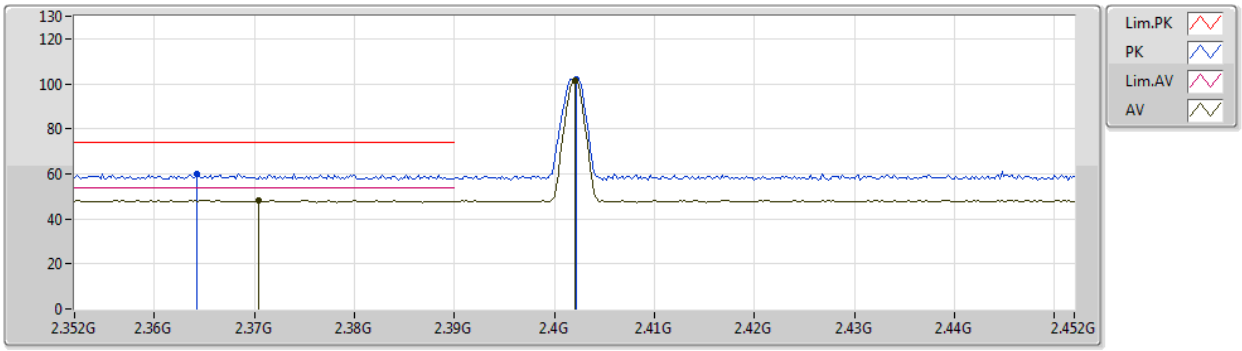


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3684G	48.28	54.00	-5.72	35.07	3	Vertical	199	1.50	-	13.21	27.73	7.34	-
AV	2.402G	93.33	Inf	-Inf	34.93	3	Vertical	199	1.50	-	58.40	27.60	7.33	-
PK	2.3718G	60.54	74.00	-13.46	35.05	3	Vertical	199	1.50	-	25.49	27.71	7.34	-
PK	2.4022G	94.33	Inf	-Inf	34.93	3	Vertical	199	1.50	-	59.40	27.60	7.33	-

BT-LE(1Mbps)

2402MHz_TX

18/12/2019

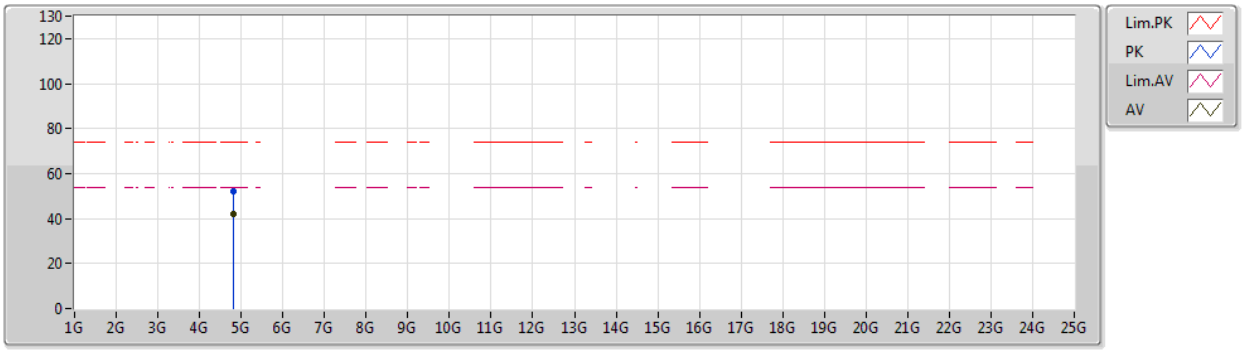


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3704G	48.39	54.00	-5.61	35.06	3	Horizontal	7	1.50	-	13.33	27.72	7.34	-
AV	2.402G	101.24	Inf	-Inf	34.93	3	Horizontal	7	1.50	-	66.31	27.60	7.33	-
PK	2.3642G	59.94	74.00	-14.06	35.08	3	Horizontal	7	1.50	-	24.86	27.74	7.34	-
PK	2.4022G	102.23	Inf	-Inf	34.93	3	Horizontal	7	1.50	-	67.30	27.60	7.33	-

BT-LE(1Mbps)

2402MHz_TX

18/12/2019

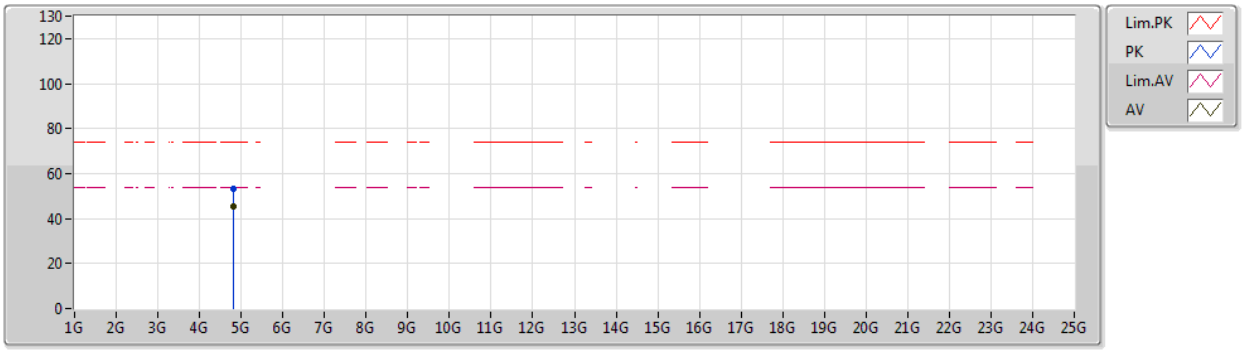


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80406G	42.02	54.00	-11.98	6.97	3	Vertical	325	2.87	-	35.05	31.10	9.92	34.05
PK	4.80367G	52.38	74.00	-21.62	6.97	3	Vertical	325	2.87	-	45.41	31.10	9.92	34.05

BT-LE(1Mbps)

2402MHz_TX

18/12/2019

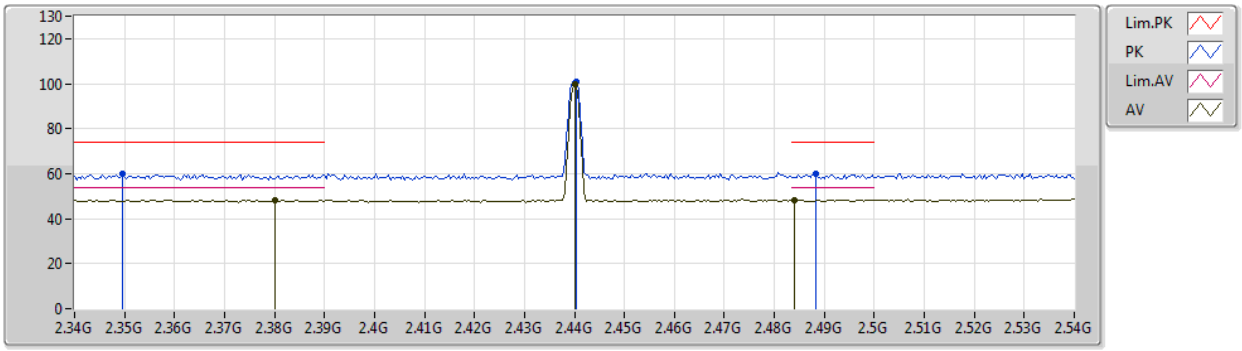


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80401G	45.55	54.00	-8.45	6.97	3	Horizontal	331	2.84	-	38.58	31.10	9.92	34.05
PK	4.80355G	53.40	74.00	-20.60	6.97	3	Horizontal	331	2.84	-	46.43	31.10	9.92	34.05

BT-LE(1Mbps)

2440MHz_TX

18/12/2019

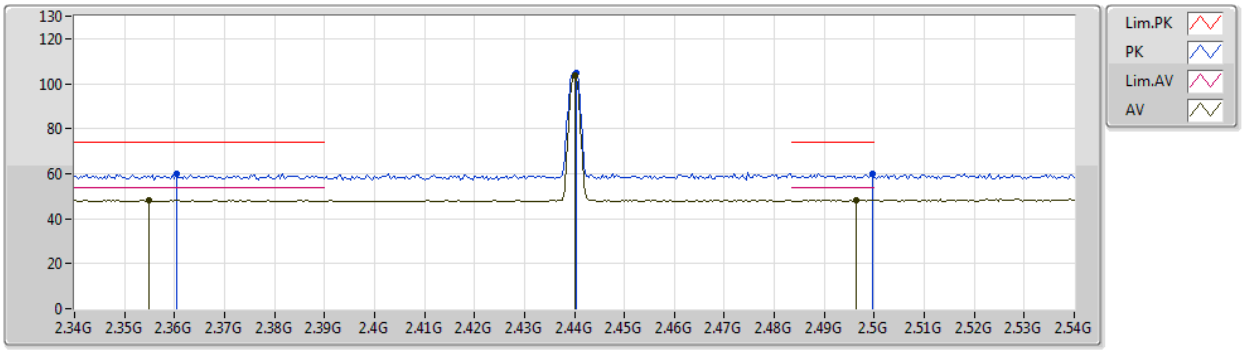


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.38G	48.22	54.00	-5.78	35.01	3	Vertical	300	3.00	-	13.21	27.68	7.33	-
AV	2.44G	99.76	Inf	-Inf	34.91	3	Vertical	300	3.00	-	64.85	27.56	7.35	-
AV	2.484G	48.30	54.00	-5.70	34.89	3	Vertical	300	3.00	-	13.41	27.52	7.37	-
PK	2.3496G	59.81	74.00	-14.19	35.14	3	Vertical	300	3.00	-	24.67	27.80	7.34	-
PK	2.4404G	100.74	Inf	-Inf	34.91	3	Vertical	300	3.00	-	65.83	27.56	7.35	-
PK	2.4884G	59.71	74.00	-14.29	34.88	3	Vertical	300	3.00	-	24.83	27.51	7.37	-

BT-LE(1Mbps)

2440MHz_TX

18/12/2019

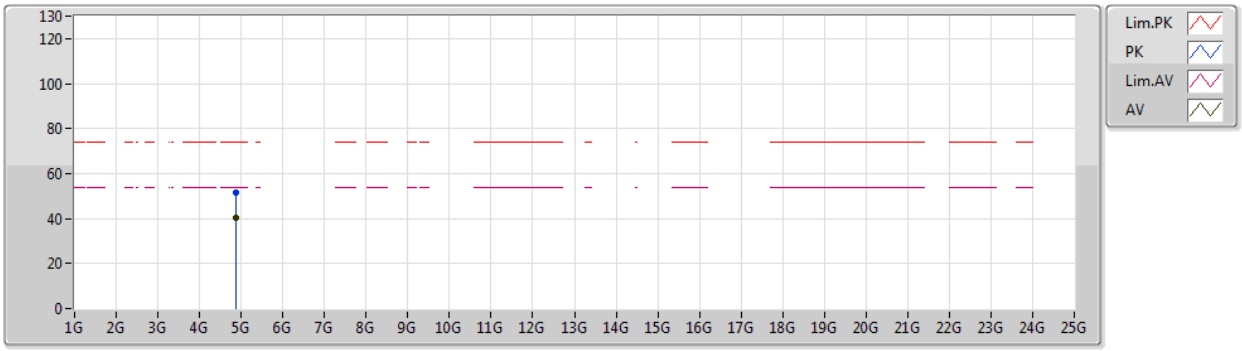


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3548G	48.37	54.00	-5.63	35.12	3	Horizontal	16	2.99	-	13.25	27.78	7.34	-
AV	2.44G	103.81	Inf	-Inf	34.91	3	Horizontal	16	2.99	-	68.90	27.56	7.35	-
AV	2.4964G	48.25	54.00	-5.75	34.87	3	Horizontal	16	2.99	-	13.38	27.50	7.37	-
PK	2.3604G	60.01	74.00	-13.99	35.10	3	Horizontal	16	2.99	-	24.91	27.76	7.34	-
PK	2.4404G	104.74	Inf	-Inf	34.91	3	Horizontal	16	2.99	-	69.83	27.56	7.35	-
PK	2.4996G	59.75	74.00	-14.25	34.87	3	Horizontal	16	2.99	-	24.88	27.50	7.37	-

BT-LE(1Mbps)

2440MHz_TX

18/12/2019

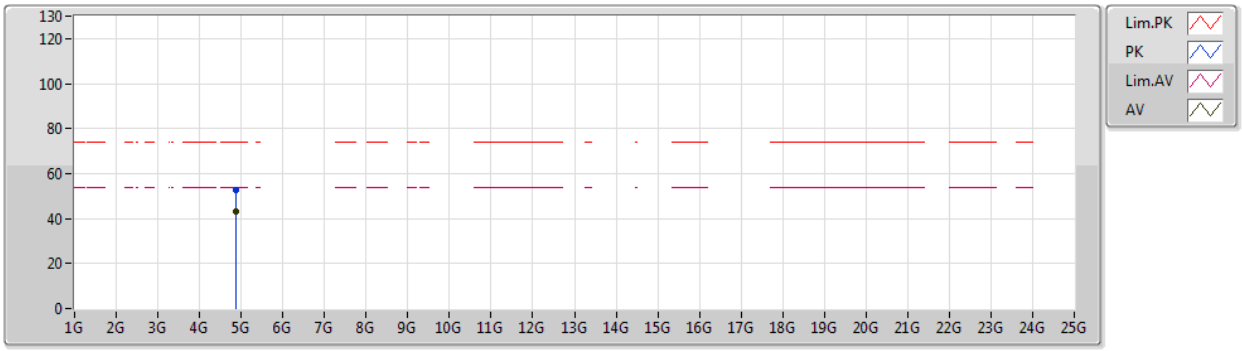


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87966G	40.35	54.00	-13.65	7.03	3	Vertical	301	1.00	-	33.32	31.10	9.98	34.05
PK	4.88019G	51.30	74.00	-22.70	7.03	3	Vertical	301	1.00	-	44.27	31.10	9.98	34.05

BT-LE(1Mbps)

2440MHz_TX

18/12/2019

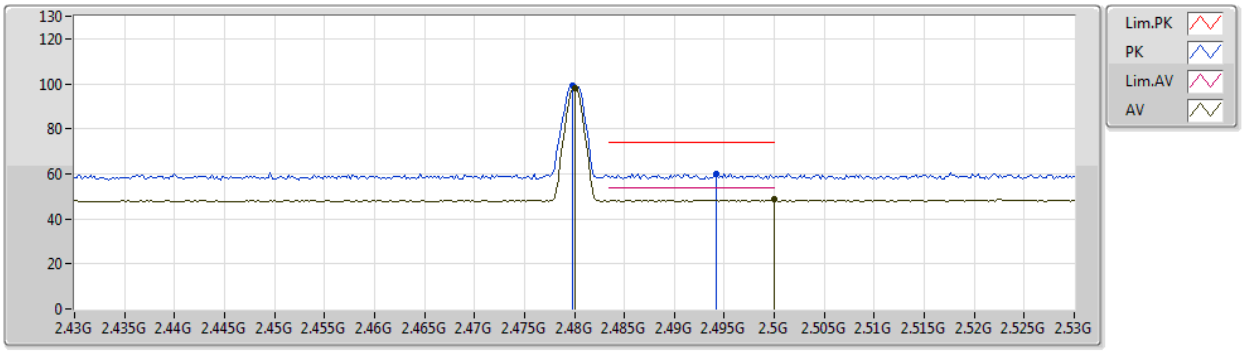


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.88005G	43.32	54.00	-10.68	7.03	3	Horizontal	336	2.87	-	36.29	31.10	9.98	34.05
PK	4.8796G	52.63	74.00	-21.37	7.03	3	Horizontal	336	2.87	-	45.60	31.10	9.98	34.05

BT-LE(1Mbps)

2480MHz_TX

18/12/2019

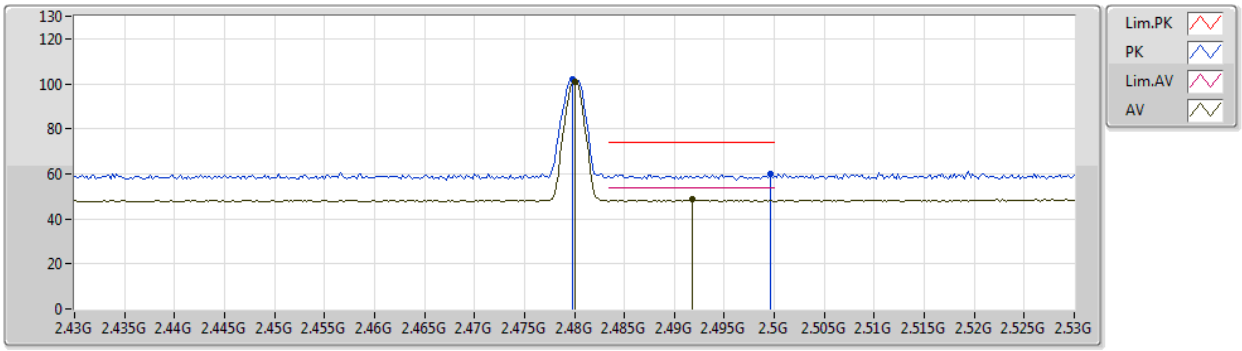


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	97.84	Inf	-Inf	34.89	3	Vertical	330	2.71	-	62.95	27.52	7.37	-
AV	2.5G	48.53	54.00	-5.47	34.87	3	Vertical	330	2.71	-	13.66	27.50	7.37	-
PK	2.4798G	98.92	Inf	-Inf	34.88	3	Vertical	330	2.71	-	64.04	27.52	7.36	-
PK	2.4942G	60.19	74.00	-13.81	34.88	3	Vertical	330	2.71	-	25.31	27.51	7.37	-

BT-LE(1Mbps)

2480MHz_TX

18/12/2019

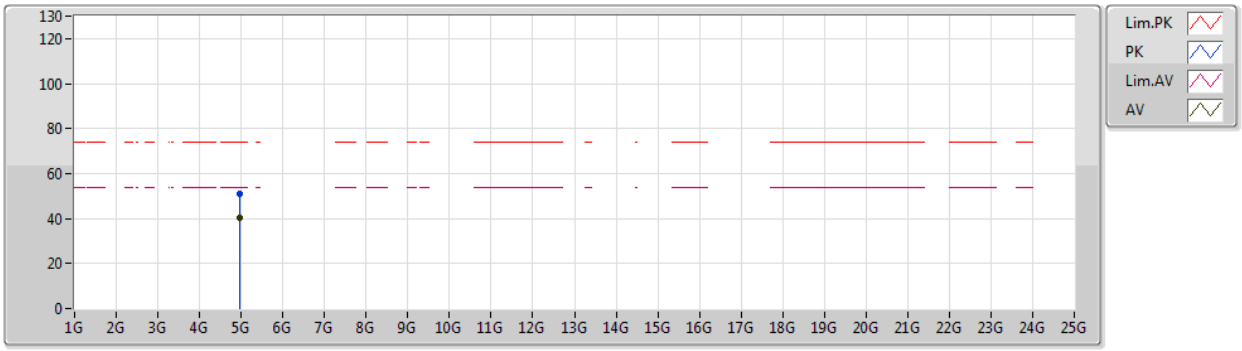


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	100.78	Inf	-Inf	34.89	3	Horizontal	10	2.96	-	65.89	27.52	7.37	-
AV	2.4918G	48.51	54.00	-5.49	34.88	3	Horizontal	10	2.96	-	13.63	27.51	7.37	-
PK	2.4798G	101.87	Inf	-Inf	34.88	3	Horizontal	10	2.96	-	66.99	27.52	7.36	-
PK	2.4996G	59.77	74.00	-14.23	34.87	3	Horizontal	10	2.96	-	24.90	27.50	7.37	-

BT-LE(1Mbps)

2480MHz_TX

18/12/2019

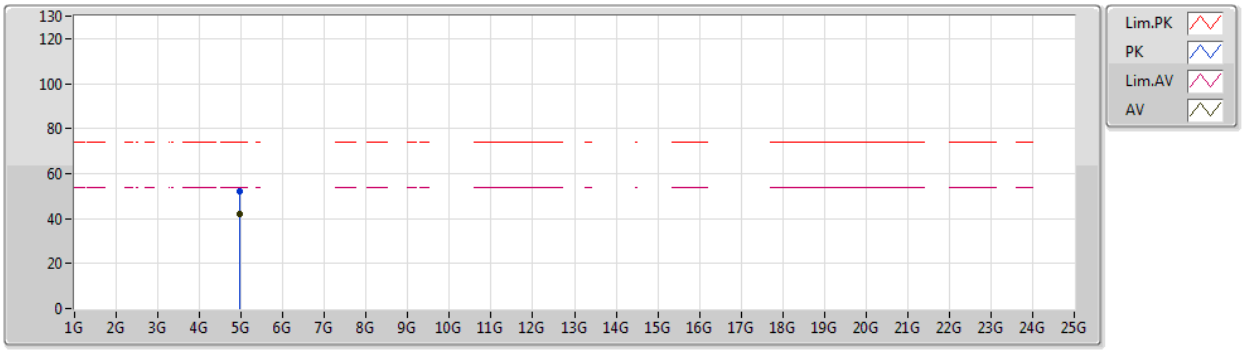


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95982G	40.15	54.00	-13.85	7.35	3	Vertical	301	1.00	-	32.80	31.34	10.05	34.04
PK	4.96049G	50.89	74.00	-23.11	7.35	3	Vertical	301	1.00	-	43.54	31.34	10.05	34.04

BT-LE(1Mbps)

2480MHz_TX

18/12/2019



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	4.95979G	41.89	54.00	-12.11	7.35	3	Horizontal	336	2.80	-	34.54	31.34	10.05	34.04
PK	4.95971G	51.92	74.00	-22.08	7.35	3	Horizontal	336	2.80	-	44.57	31.34	10.05	34.04