FCC Test Report

Equipment	:	**Bluetooth Headphone**
Brand Name	:	**Bang & Olufsen**
Model No.	:	**Beoplay H9i**
FCC ID	:	**TTUBEOPLAYH9I**
Standard	:	**47 CFR FCC Part 15.247**
Operating Band	:	**2400 MHz – 2483.5 MHz**
Applicant	:	**Bang & Olufsen a/s** **Peter Bangs Vej 15, DK-7600 Struer, Denmark**
Manufacturer	:	**Bang & Olufsen a/s** **Peter Bangs Vej 15, DK-7600 Struer, Denmark**

The product sample received on Sep. 15, 2017 and completely tested on Sep. 28, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONALINC., the test report shall not be reproduced except in full.

Phoenix Chen / Assistant Manager
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

Table of Contents

Summary of Test Result

Conformance Test Specifications				
Report Clause	**Ref. Std. Clause**	**Description**	**Limit**	**Result**
1.1.2	15.203	Antenna Requirement	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	FCC 15.207	Complied
3.2	15.247(a)	DTS Bandwidth	≥500kHz	Complied
3.3	15.247(b)	Maximum Conducted Output Power	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	Non-Restricted Bands: >30 dBc	Complied
3.6	15.247(d)	Emissions in Restricted Frequency Bands	Restricted Bands: FCC 15.209	Complied

Revision History

Report No.	Version	Description	Issued Date
FR792512AL	Rev. 01	Initial issue of report	Nov. 13, 2017

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.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	Sage Elephant	S306300001000-A	Chip	fixed on board	0.83

1.1.3 EUT Information

Operational Condition		
EUT Power Type	From Host System / Battery / AC Adapter	
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)	0.634	1.979	410.625u	3k

1.1.5 Table for Multiple Listing

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

Brand Name	Model Name	Color	Description
Bang & Olufsen	Beoplay H9i	Natural	All the models are identical, the difference as appearance color.
Bang & Olufsen	Beoplay H9i	Black	

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 v04

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
RF Conducted	TH01-HY	Gary	23.8°C / 65.1%	28/Sep/2017
Radiated	03CH02-HY	Lynus	24.4°C / 63%	14/Sep/2017
AC Conduction	CO04-HY	Lynus	24.4°C / 63%	15/Sep/2017

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)	3.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	2.1 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	2.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	2.9 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
RF Conducted-DTS	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	3.7V

2.2 Test Channel Mode

Test Software Version	BlueSuite 2.6.2

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	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	USB Mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT			V

2.4 Accessories

Accessories				
Battery 1	Brand Name	Bang & Olufsen	Model Name	56467 201 012
	Power Rating	3.7 Vdc,770mAh	Type	Li-Polymer
Battery 2	Brand Name	Bang & Olufsen	Model Name	PLB-103
	Power Rating	3.7 Vdc,770mAh	Type	Li-ion
Type C to USB Cable*2	Signal Line	1.25 meter, D-Shielded cable		
Audio Cable*2	Signal Line	1.25 meter, Non-Shielded cable		

2.5 Support Equipment

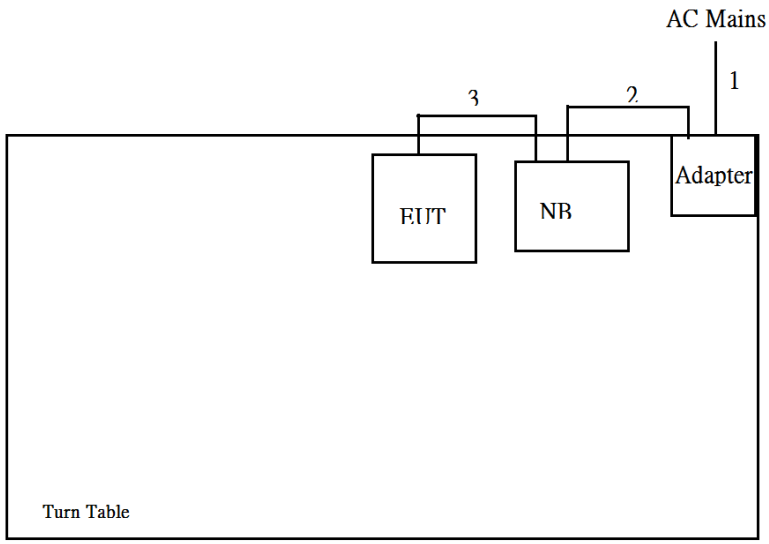
Support Equipment – RF Conducted				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	DC Source	G.W	GPC-6030D	N/A

Support Equipment – Radiated Emission				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5520	N/A
2	Adapter for NB	DELL	LA65NS2-01	N/A

Support Equipment – AC Conduction				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	Notebook	DELL	E5520	N/A
2	Adapter for NB	DELL	LA65NS2-01	N/A

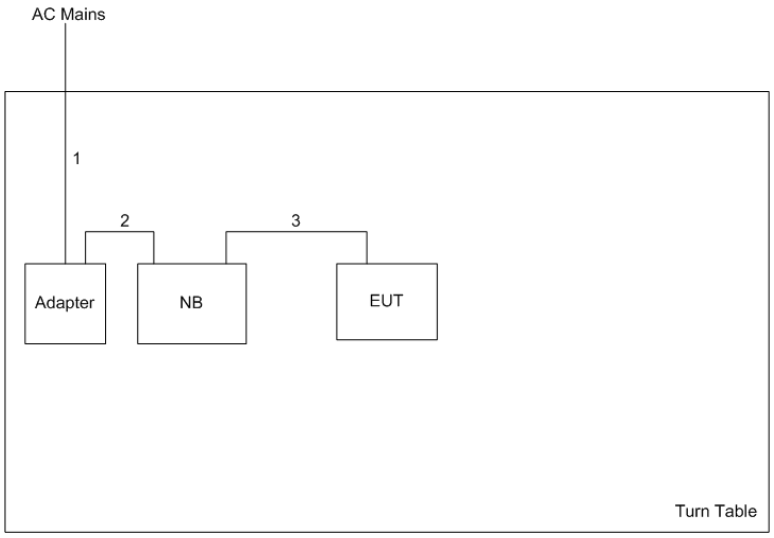
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	DC Power Cable	No	1.5	-
3	Type C to USB Cable	D	1.25	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	DC Power Cable	No	1.5	-
3	Type C to USB Cable	D	1.25	-

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

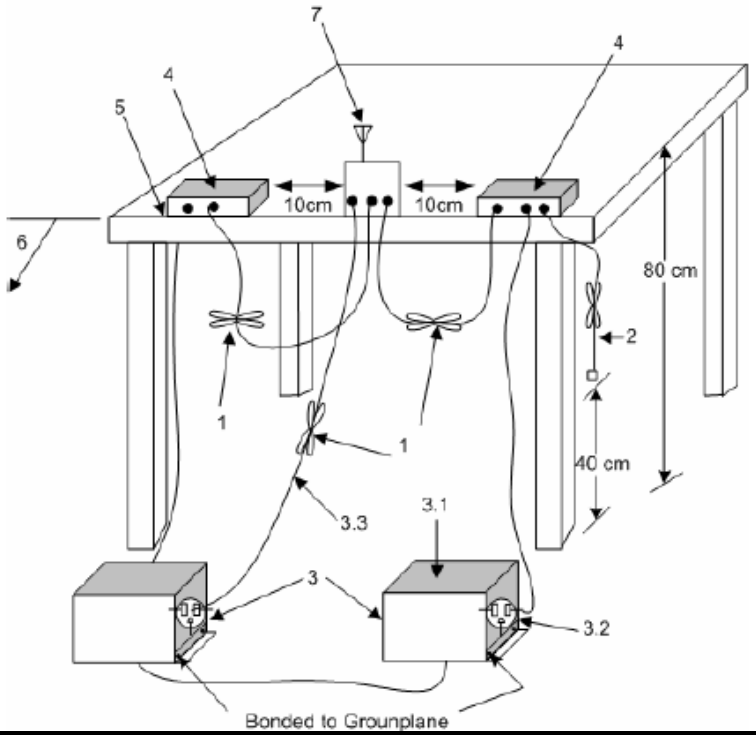
Refer a test equipment and calibration data table in this test report.

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



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.

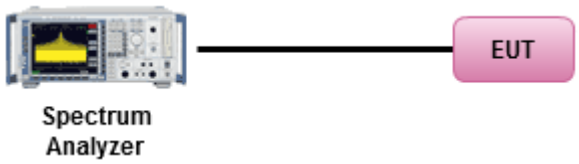
3.2.2 Measuring Instruments

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 8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.
	☐ Refer as RSS-Gen, clause 6.6 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 $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ 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 $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm	
e.i.r.p. Power Limit:			
▪ 2400-2483.5 MHz Band			
	▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)		
	▪ Point-to-point systems (P2P): $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX}])$ dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Overlap beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Aggregate power on all beams: $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX} + 8])$ 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 9.1.1 Option 1 (RBW ≥ EBW method).
	☐ Refer as KDB 558074, clause 9.1.2 Option 2 (integrated band power method)
	☐ Refer as KDB 558074, clause 9.1.3 Option 3 (peak power meter for VBW ≥ DTS BW)
▪ Maximum Average Conducted Output Power	
	Duty cycle ≥ 98%
	☐ Refer as KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
	Duty cycle < 98%
	☐ Refer as KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
	RF power meter and average over on/off periods with duty factor or gated trigger
	☒ Refer as KDB 558074, clause 9.2.3.1 Method AVGPM (using an RF average 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

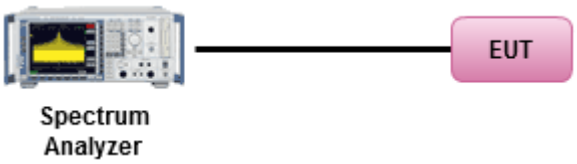
3.4.2 Measuring Instruments

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 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).	
▪ 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 PSD 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 PSD level.	

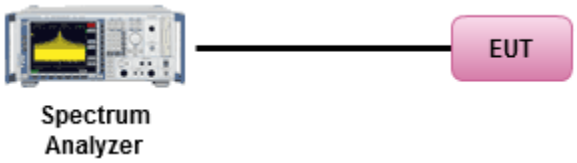
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
▪ Refer as KDB 558074, clause 11 for unwanted emissions into non-restricted 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.

3.6.2 Measuring Instruments

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

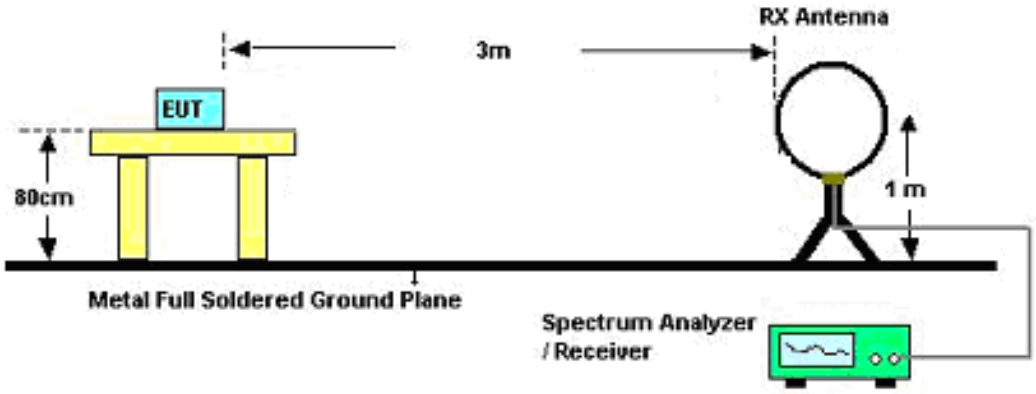
3.6.3 Test Procedures

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 12 for unwanted emissions into restricted bands.
☒ Refer as KDB 558074, clause 12.2.5.3 (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW≥1/T.
☒ Refer as KDB 558074, clause 12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:
▪ Refer as KDB 558074 clause 13.1, 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 13.2 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
▪ Refer as KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
▪ For conducted and cabinet radiation measurement, refer as KDB 558074, clause 12.2.2.
▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
▪ For KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

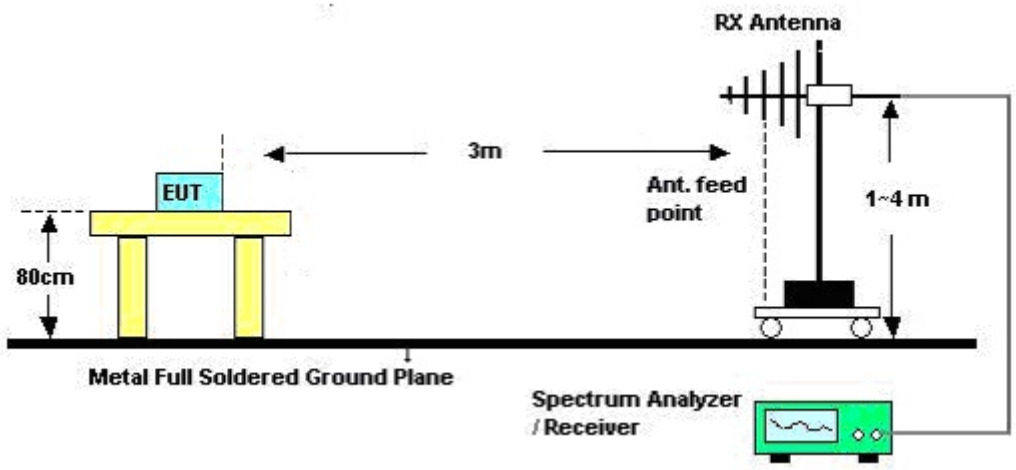
3.6.4 Test Setup

Emissions in Restricted Frequency Bands

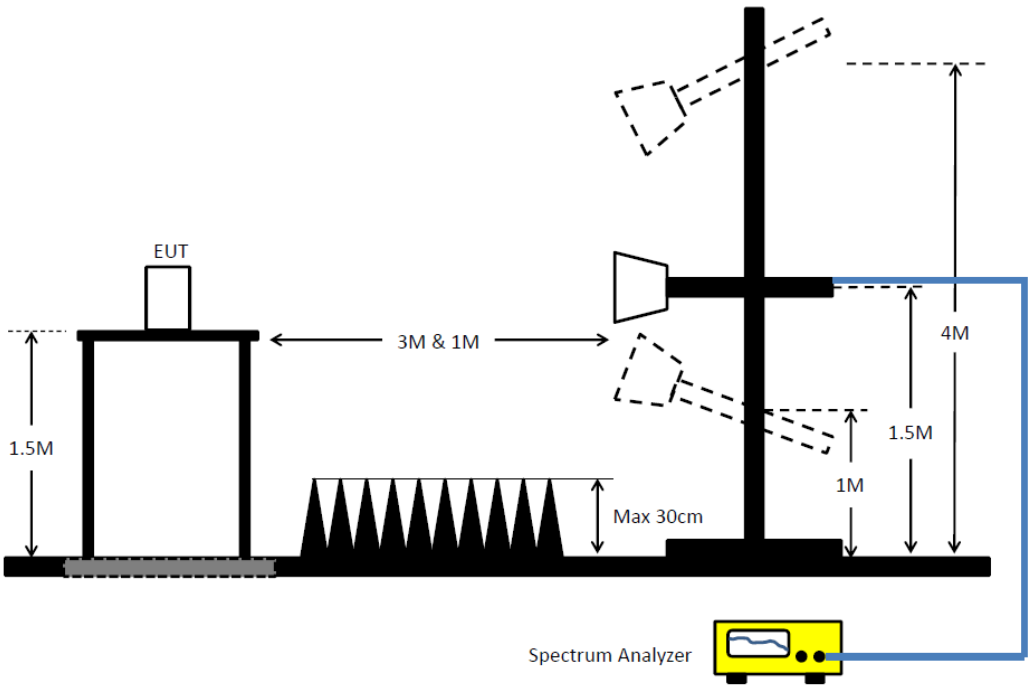
9kHz ~30MHz



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. All amplitude of spurious emissions that are attenuated by more than 20 dB 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	29/Apr/2017	28/Apr/2018
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	15/Nov/2016	14/Nov/2017
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	24/Oct/2016	23/Oct/2017
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	R&S	ESH3-Z2	100921	10 kHz ~ 30 MHz	21/Oct/2016	20/Oct/2017
EMC Receiver	R&S	ESR3	102052	9KHz ~ 3.6GHz	29/Apr/2017	28/Apr/2018
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	15/Nov/2016	14/Nov/2017

NCR : Non-Calibration Require

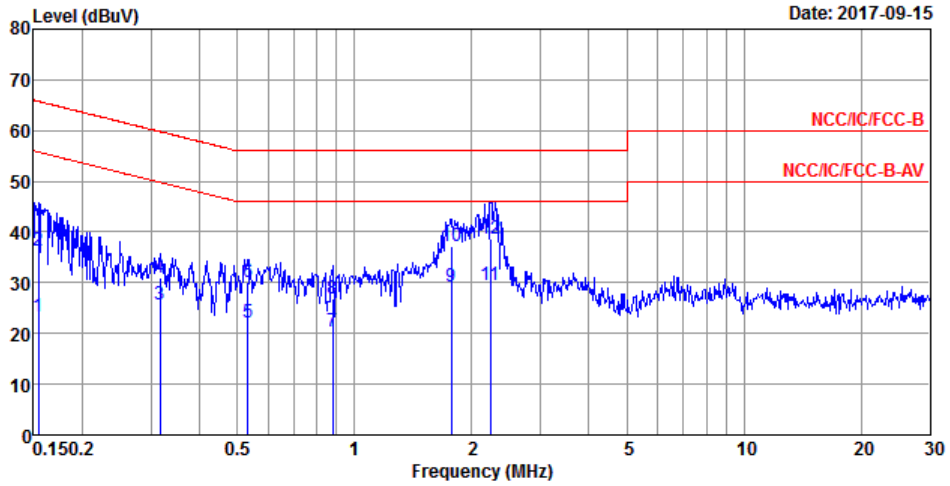
Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSP40	100593	9KHz - 40GHz	26/Oct/2016	25/Oct/2017
3m Semi Anechoic	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz-1GHz	21/Oct/2016	20/Oct/2017
3m Semi Anechoic	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz	12/Dec/2016	11/Dec/2017
Amplifier	Agilent	8447D	2944A11149	100KHz-1.3GHz	29/Jun/2017	28/Jun/2018
Amplifier	Agilent	8449B	3008A02373	1GHz-26.5GHz	20/Sep/2016	19/Sep/2017
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA9120D 01531	1GHz-18GHz	11/May/2017	10/May/2018
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz-40GHz	06/Feb/2017	05/Feb/2018
Bilog Antenna	SCHAFFNER	CBL6112B	2723	30MHz-1GHz	01/Oct/2016	30/Sep/2017
Loop Antenna	TESEQ	HLA 6120	31244	9KHz-30MHz	02/Mar/2017	01/Mar/2018
RF Cable-high	SUHNER	SUCOFLEX104	MY34918/4	1GHz ~ 40GHz	26/Jan/2017	25/Jan/2018
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Jan/2017	25/Jan/2018
Receiver	R&S	ESU-26	100422/026	20Hz ~ 26.5GHz	21/Sep/2016	20/Sep/2017

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	30/Dec/2016	29/Dec/2017
Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	24/Feb/2017	23/Feb/2018
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	24/Feb/2017	23/Feb/2018
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	27/Jul/2017	26/Jul/2018
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY677/3	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY678/3	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY10717/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017

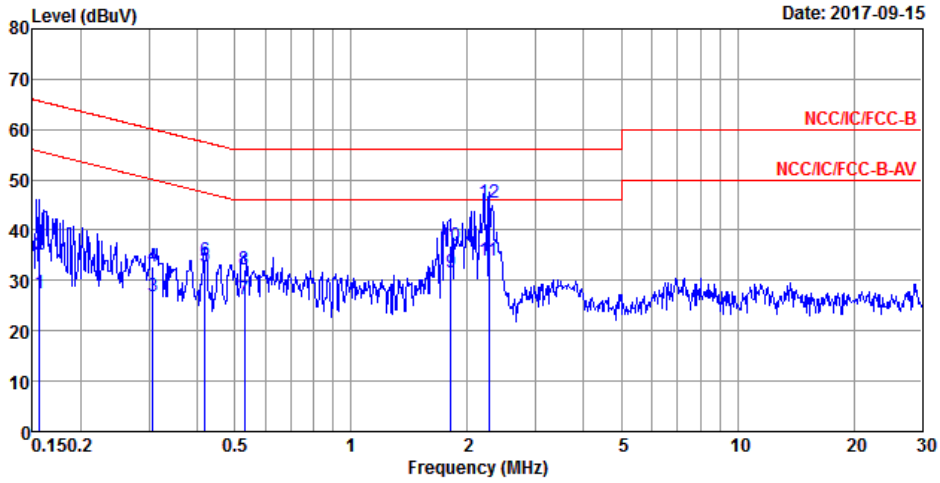
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	USB mode ; BT LE		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15403	23.37	-32.41	55.78	13.54	9.61	0.22	Average
2	0.15403	36.43	-29.35	65.78	26.60	9.61	0.22	QP
3	0.31662	25.72	-24.08	49.80	15.91	9.64	0.17	Average
4	0.31662	31.14	-28.66	59.80	21.33	9.64	0.17	QP
5	0.53215	22.13	-23.87	46.00	12.41	9.62	0.10	Average
6	0.53215	30.14	-25.86	56.00	20.42	9.62	0.10	QP
7	0.88031	20.27	-25.73	46.00	10.57	9.60	0.10	Average
8	0.88031	26.83	-29.17	56.00	17.13	9.60	0.10	QP
9	1.77162	29.35	-16.65	46.00	19.45	9.64	0.26	Average
10	1.77162	37.11	-18.89	56.00	27.21	9.64	0.26	QP
11 MAX	2.23675	29.52	-16.48	46.00	19.59	9.66	0.27	Average
12	2.23675	38.66	-17.34	56.00	28.73	9.66	0.27	QP

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Line
Operating Function	USB mode ; BT LE		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15650	27.59	-28.06	55.65	17.70	9.66	0.23	Average
2	0.15650	35.14	-30.51	65.65	25.25	9.66	0.23	QP
3	0.30671	26.89	-23.17	50.06	17.04	9.67	0.18	Average
4	0.30671	32.66	-27.40	60.06	22.81	9.67	0.18	QP
5	0.41927	32.81	-14.65	47.46	23.03	9.68	0.10	Average
6	0.41927	33.92	-23.54	57.46	24.14	9.68	0.10	QP
7	0.52934	26.20	-19.80	46.00	16.44	9.66	0.10	Average
8	0.52934	32.18	-23.82	56.00	22.42	9.66	0.10	QP
9	1.80957	31.44	-14.56	46.00	21.40	9.77	0.27	Average
10	1.80957	36.93	-19.07	56.00	26.89	9.77	0.27	QP
11	2.27258	33.98	-12.02	46.00	23.93	9.79	0.26	Average
12 MAX	2.27258	45.40	-10.60	56.00	35.35	9.79	0.26	QP

Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

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)	688.75k	1.076M	1M08F1D	665k	1.032M

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;

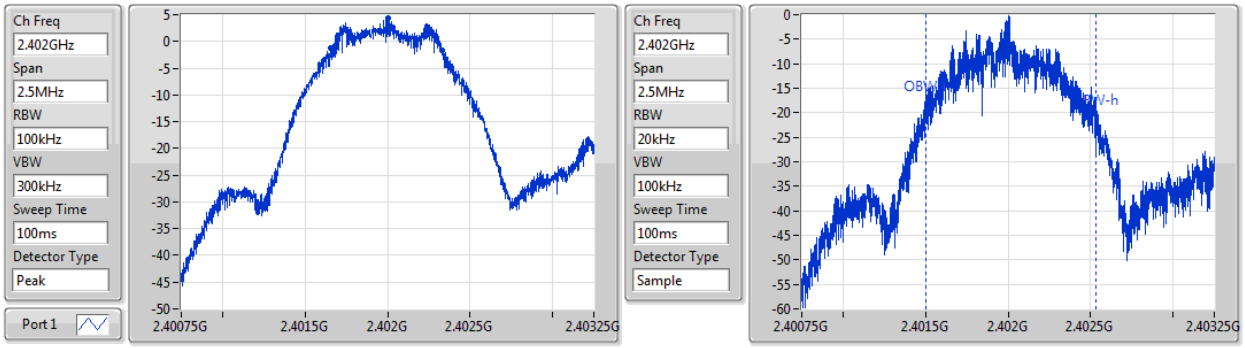
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	500k	672.5k	1.032M
2440MHz_TnomVnom	Pass	500k	665k	1.059M
2480MHz_TnomVnom	Pass	500k	688.75k	1.076M

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

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

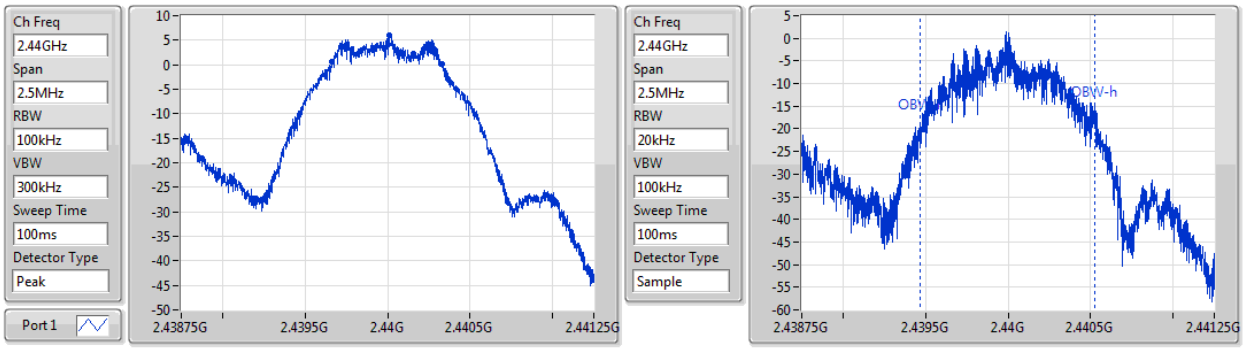
2402MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
672.5k	2.401656G	2.402329G	1.032M	2.4015G	2.402532G	500k	1

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

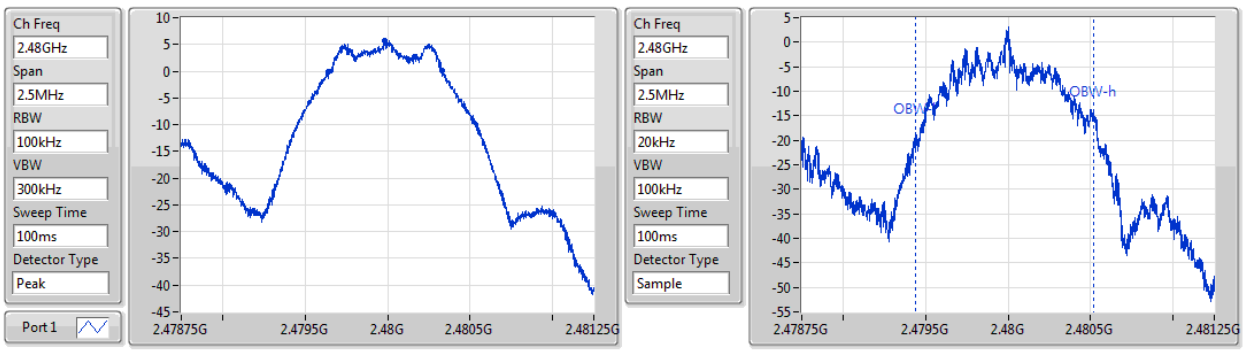
2440MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
665k	2.439663G	2.440328G	1.059M	2.439464G	2.440523G	500k	1

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

2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
688.75k	2.47964G	2.480329G	1.076M	2.47944G	2.480516G	500k	1

Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	2.04	0.00160

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.83	0.74	21.00
2440MHz	Pass	0.83	2.04	21.00
2480MHz	Pass	0.83	1.91	21.00

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-8.23

RBW=3kHz.

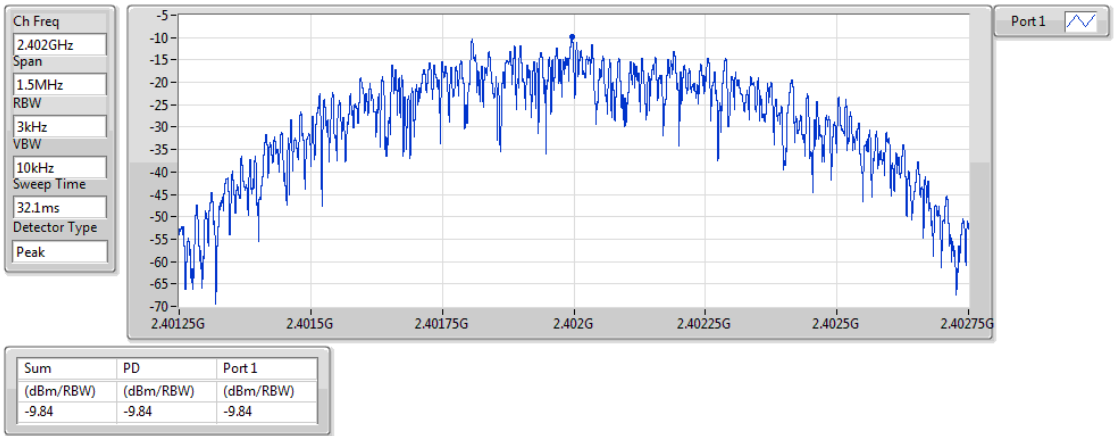
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.83	-9.84	8.00
2440MHz	Pass	0.83	-10.24	8.00
2480MHz	Pass	0.83	-8.23	8.00

RBW=3kHz.

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

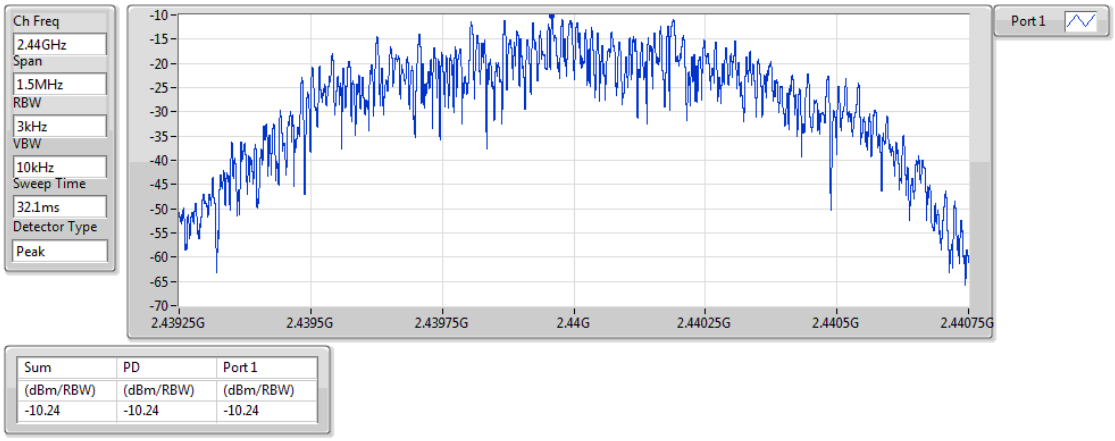
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.84	-9.84	-9.84

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

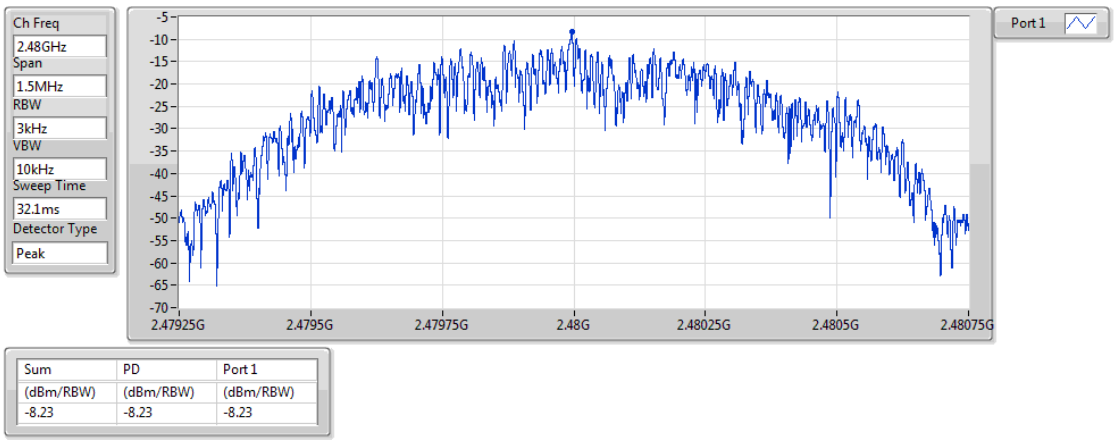
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.24	-10.24	-10.24

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

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.23	-8.23	-8.23

Summary

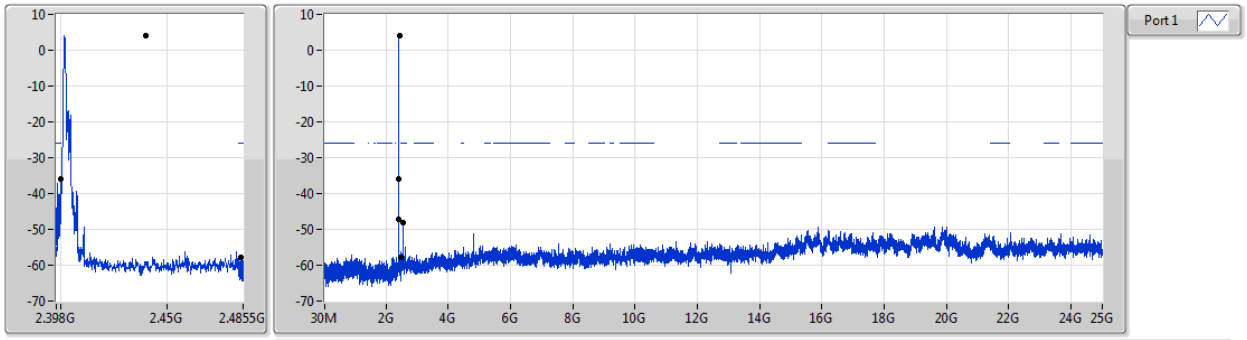
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.439913G	4.03	-25.97	2.396816G	-47.19	2.399992G	-36.03	2.484672G	-57.95	2.555858G	-48.16	1

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_TnomVnom	Pass	2.439913G	4.03	-25.97	2.396816G	-47.19	2.399992G	-36.03	2.484672G	-57.95	2.555858G	-48.16	1
2440MHz_TnomVnom	Pass	2.439913G	4.03	-25.97	442.032M	-57.63	2.399272G	-58.40	2.483672G	-58.52	2.595258G	-47.99	1
2480MHz_TnomVnom	Pass	2.439913G	4.03	-25.97	2.304464G	-57.88	2.398196G	-58.98	2.484012G	-41.84	2.634659G	-46.73	1

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

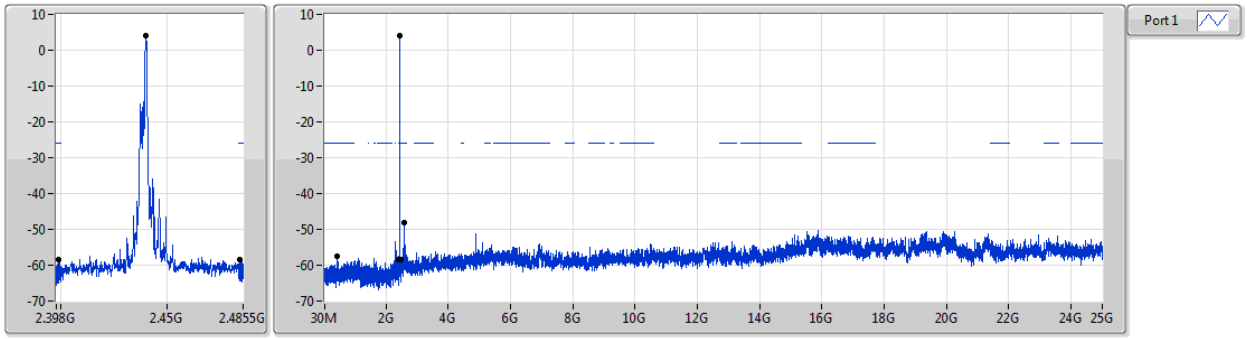
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.439913G	4.03	-25.97	2.396816G	-47.19	2.399992G	-36.03	2.484672G	-57.95	2.555858G	-48.16	1

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

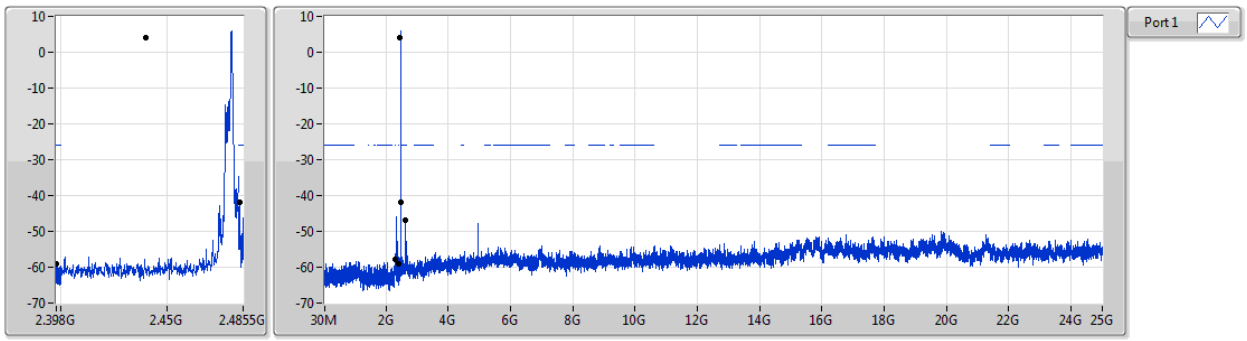
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.439913G	4.03	-25.97	442.032M	-57.63	2.399272G	-58.40	2.483672G	-58.52	2.595258G	-47.99	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
2.439913G	4.03	-25.97	2.304464G	-57.88	2.398196G	-58.98	2.484012G	-41.84	2.634659G	-46.73	1

Summary

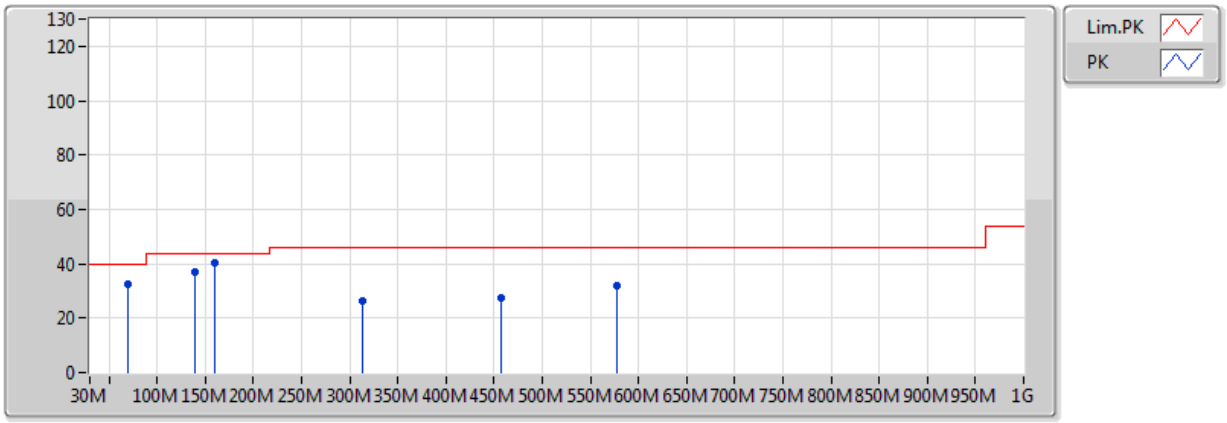
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	84.32M	36.98	40.00	-3.02	-13.59	3	Horizontal	0	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	84.32M	36.98	40.00	-3.02	-13.59	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	128.94M	40.21	43.50	-3.29	-9.02	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	198.78M	40.22	43.50	-3.28	-10.88	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	363.68M	32.35	46.00	-13.65	-5.12	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	435.46M	31.07	46.00	-14.93	-3.41	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	532.46M	29.24	46.00	-16.76	-1.61	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	68.8M	32.40	40.00	-7.60	-15.01	3	Vertical	360	1.00	-
2440MHz	Pass	PK	138.64M	37.01	43.50	-6.49	-9.64	3	Vertical	360	1.00	-
2440MHz	Pass	PK	159.98M	40.28	43.50	-3.22	-10.51	3	Vertical	360	1.00	-
2440MHz	Pass	PK	313.24M	26.25	46.00	-19.75	-6.15	3	Vertical	360	1.00	-
2440MHz	Pass	PK	456.8M	27.28	46.00	-18.72	-3.07	3	Vertical	360	1.00	-
2440MHz	Pass	PK	577.08M	31.87	46.00	-14.13	-1.17	3	Vertical	360	1.00	-

BT-LE(1Mbps)

2440MHz_USB Charging

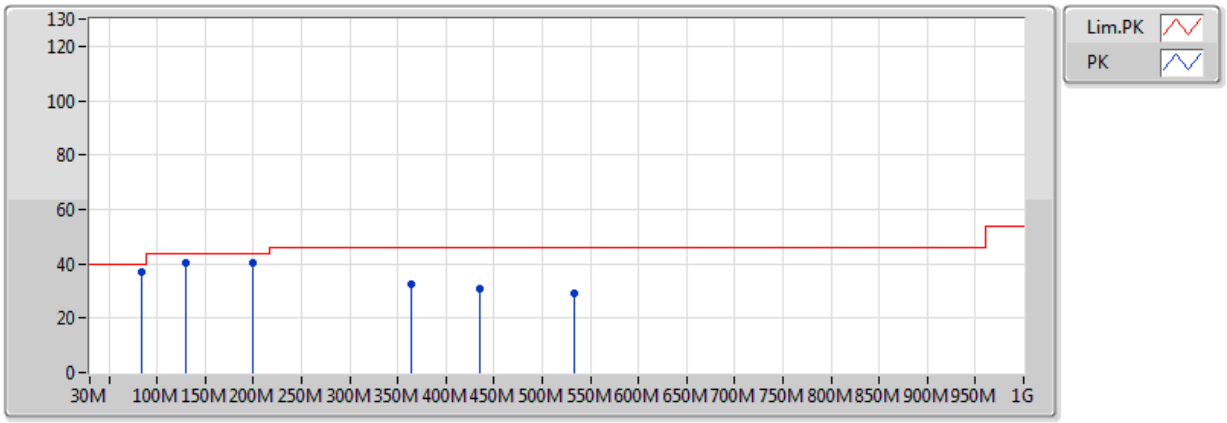


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	68.8M	32.40	40.00	-7.60	-15.01	3	Vertical	360	1.00	-	47.41	11.48	1.16	27.65
PK	138.64M	37.01	43.50	-6.49	-9.64	3	Vertical	360	1.00	-	46.65	16.24	1.79	27.67
PK	159.98M	40.28	43.50	-3.22	-10.51	3	Vertical	360	1.00	-	50.79	15.08	2.00	27.59
PK	313.24M	26.25	46.00	-19.75	-6.15	3	Vertical	360	1.00	-	32.40	18.61	2.55	27.30
PK	456.8M	27.28	46.00	-18.72	-3.07	3	Vertical	360	1.00	-	30.35	21.93	3.27	28.26
PK	577.08M	31.87	46.00	-14.13	-1.17	3	Vertical	360	1.00	-	33.04	23.74	3.63	28.55

BT-LE(1Mbps)

2440MHz_USB Charging



EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	84.32M	36.98	40.00	-3.02	-13.59	3	Horizontal	0	1.00	-	50.57	12.79	1.35	27.73
PK	128.94M	40.21	43.50	-3.29	-9.02	3	Horizontal	0	1.00	-	49.23	16.99	1.70	27.70
PK	198.78M	40.22	43.50	-3.28	-10.88	3	Horizontal	0	1.00	-	51.10	14.36	2.20	27.44
PK	363.68M	32.35	46.00	-13.65	-5.12	3	Horizontal	0	1.00	-	37.47	19.86	2.71	27.69
PK	435.46M	31.07	46.00	-14.93	-3.41	3	Horizontal	0	1.00	-	34.48	21.56	3.18	28.15
PK	532.46M	29.24	46.00	-16.76	-1.61	3	Horizontal	0	1.00	-	30.85	23.37	3.53	28.51

Summary

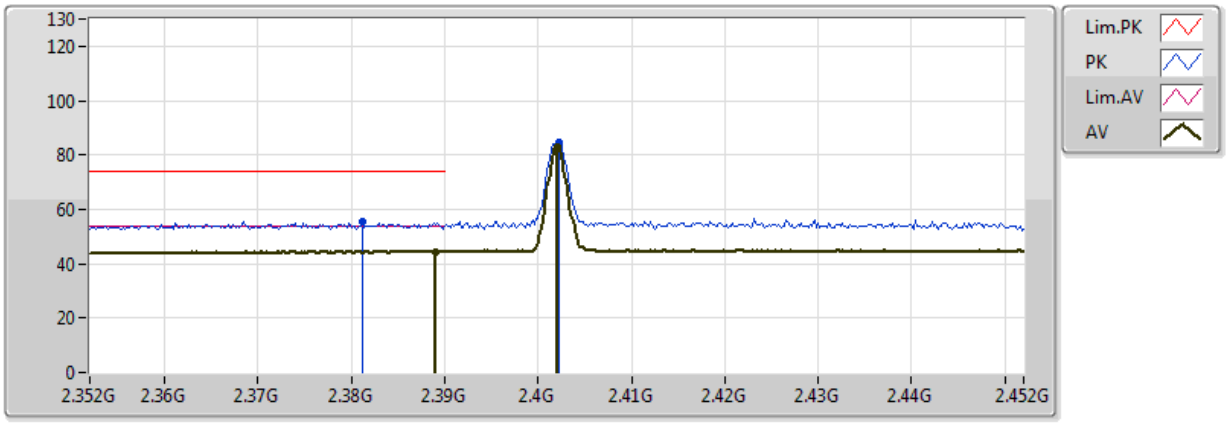
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	4.879928G	52.01	54.00	-1.99	2.34	3	Horizontal	130	1.07	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3862G	44.56	54.00	-9.44	30.92	3	Horizontal	164	2.09	-
2402MHz	Pass	AV	2.402G	79.22	Inf	-Inf	30.98	3	Horizontal	164	2.09	-
2402MHz	Pass	PK	2.386G	55.45	74.00	-18.55	30.92	3	Horizontal	164	2.09	-
2402MHz	Pass	PK	2.4022G	81.05	Inf	-Inf	30.98	3	Horizontal	164	2.09	-
2402MHz	Pass	AV	2.389G	44.47	54.00	-9.53	30.93	3	Vertical	29	1.21	-
2402MHz	Pass	AV	2.402G	82.87	Inf	-Inf	30.98	3	Vertical	29	1.21	-
2402MHz	Pass	PK	2.3812G	55.25	74.00	-18.75	30.90	3	Vertical	29	1.21	-
2402MHz	Pass	PK	2.4022G	84.66	Inf	-Inf	30.98	3	Vertical	29	1.21	-
2402MHz	Pass	AV	4.80391G	48.11	54.00	-5.89	2.10	3	Horizontal	131	1.20	-
2402MHz	Pass	PK	4.8045G	54.45	74.00	-19.55	2.10	3	Horizontal	131	1.20	-
2402MHz	Pass	AV	4.8039G	45.88	54.00	-8.12	2.10	3	Vertical	339	2.56	-
2402MHz	Pass	PK	4.80344G	52.42	74.00	-21.58	2.10	3	Vertical	339	2.56	-
2440MHz	Pass	AV	2.3876G	44.45	54.00	-9.55	30.93	3	Horizontal	77	1.15	-
2440MHz	Pass	AV	2.44G	85.99	Inf	-Inf	31.11	3	Horizontal	77	1.15	-
2440MHz	Pass	AV	2.498G	44.97	54.00	-9.03	31.32	3	Horizontal	77	1.15	-
2440MHz	Pass	PK	2.384G	54.80	74.00	-19.20	30.91	3	Horizontal	77	1.15	-
2440MHz	Pass	PK	2.4396G	87.54	Inf	-Inf	31.11	3	Horizontal	77	1.15	-
2440MHz	Pass	PK	2.4956G	55.83	74.00	-18.17	31.31	3	Horizontal	77	1.15	-
2440MHz	Pass	AV	2.3896G	44.35	54.00	-9.65	30.93	3	Vertical	64	1.19	-
2440MHz	Pass	AV	2.44G	88.27	Inf	-Inf	31.11	3	Vertical	64	1.19	-
2440MHz	Pass	AV	2.4972G	44.97	54.00	-9.03	31.32	3	Vertical	64	1.19	-
2440MHz	Pass	PK	2.3856G	55.58	74.00	-18.42	30.92	3	Vertical	64	1.19	-
2440MHz	Pass	PK	2.4396G	89.87	Inf	-Inf	31.11	3	Vertical	64	1.19	-
2440MHz	Pass	PK	2.492G	56.25	74.00	-17.75	31.30	3	Vertical	64	1.19	-
2440MHz	Pass	AV	4.879928G	52.01	54.00	-1.99	2.34	3	Horizontal	130	1.07	-
2440MHz	Pass	PK	4.879424G	57.72	74.00	-16.28	2.34	3	Horizontal	130	1.07	-
2440MHz	Pass	AV	4.87994G	50.07	54.00	-3.93	2.34	3	Vertical	337	2.50	-
2440MHz	Pass	PK	4.879478G	56.00	74.00	-18.00	2.34	3	Vertical	337	2.50	-
2480MHz	Pass	AV	2.48G	92.18	Inf	-Inf	31.26	3	Horizontal	41	2.36	-
2480MHz	Pass	AV	2.483502G	47.38	54.00	-6.62	31.27	3	Horizontal	41	2.36	-
2480MHz	Pass	PK	2.4798G	93.76	Inf	-Inf	31.26	3	Horizontal	41	2.36	-
2480MHz	Pass	PK	2.483502G	56.64	74.00	-17.36	31.27	3	Horizontal	41	2.36	-
2480MHz	Pass	AV	2.48G	94.05	Inf	-Inf	31.26	3	Vertical	66	1.03	-
2480MHz	Pass	AV	2.483502G	48.22	54.00	-5.78	31.27	3	Vertical	66	1.03	-
2480MHz	Pass	PK	2.4798G	95.78	Inf	-Inf	31.26	3	Vertical	66	1.03	-
2480MHz	Pass	PK	2.483502G	58.84	74.00	-15.16	31.27	3	Vertical	66	1.03	-
2480MHz	Pass	AV	4.959928G	51.68	54.00	-2.32	2.59	3	Horizontal	132	1.05	-
2480MHz	Pass	PK	4.959358G	57.63	74.00	-16.37	2.59	3	Horizontal	132	1.05	-
2480MHz	Pass	AV	4.959916G	49.09	54.00	-4.91	2.59	3	Vertical	340	2.44	-
2480MHz	Pass	PK	4.9594G	55.40	74.00	-18.60	2.59	3	Vertical	340	2.44	-

BT-LE(1Mbps)

2402MHz_TX

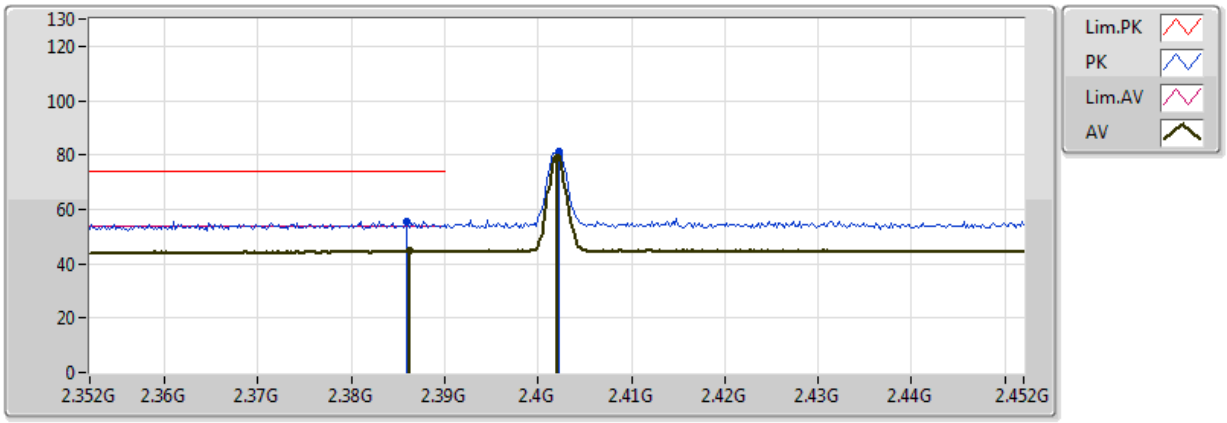


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.389G	44.47	54.00	-9.53	30.93	3	Vertical	29	1.21	-	13.53	27.31	3.62	-
AV	2.402G	82.87	Inf	-Inf	30.98	3	Vertical	29	1.21	-	51.89	27.35	3.63	-
PK	2.3812G	55.25	74.00	-18.75	30.90	3	Vertical	29	1.21	-	24.35	27.29	3.61	-
PK	2.4022G	84.66	Inf	-Inf	30.98	3	Vertical	29	1.21	-	53.68	27.35	3.63	-

BT-LE(1Mbps)

2402MHz_TX

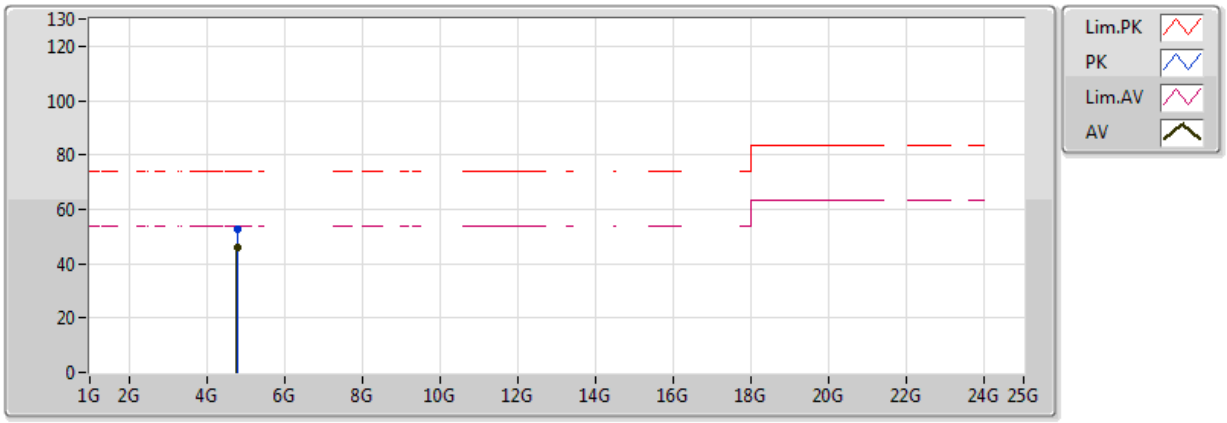


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3862G	44.56	54.00	-9.44	30.92	3	Horizontal	164	2.09	-	13.64	27.30	3.62	-
AV	2.402G	79.22	Inf	-Inf	30.98	3	Horizontal	164	2.09	-	48.24	27.35	3.63	-
PK	2.386G	55.45	74.00	-18.55	30.92	3	Horizontal	164	2.09	-	24.53	27.30	3.62	-
PK	2.4022G	81.05	Inf	-Inf	30.98	3	Horizontal	164	2.09	-	50.07	27.35	3.63	-

BT-LE(1Mbps)

2402MHz_TX

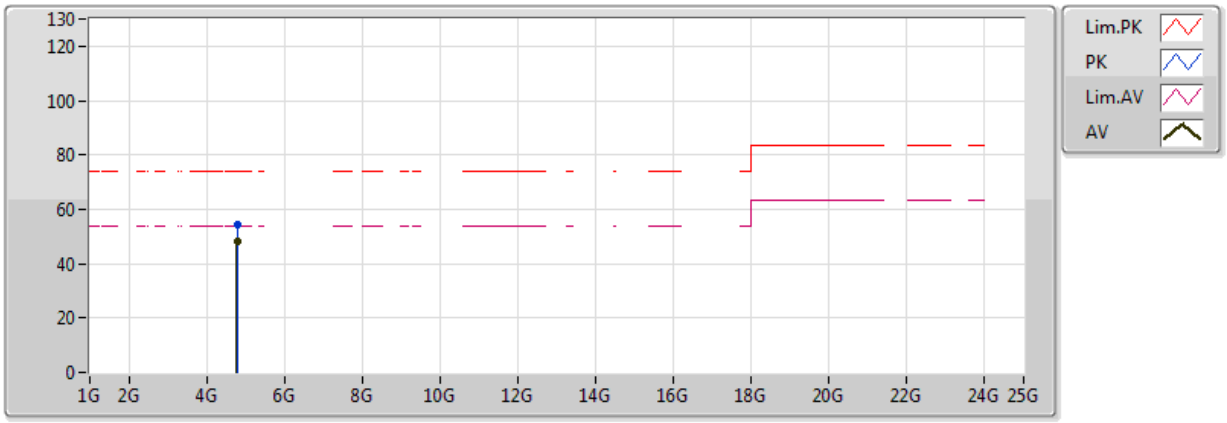


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.8039G	45.88	54.00	-8.12	2.10	3	Vertical	339	2.56	-	43.77	31.25	5.38	34.53
PK	4.80344G	52.42	74.00	-21.58	2.10	3	Vertical	339	2.56	-	50.32	31.25	5.38	34.53

BT-LE(1Mbps)

2402MHz_TX

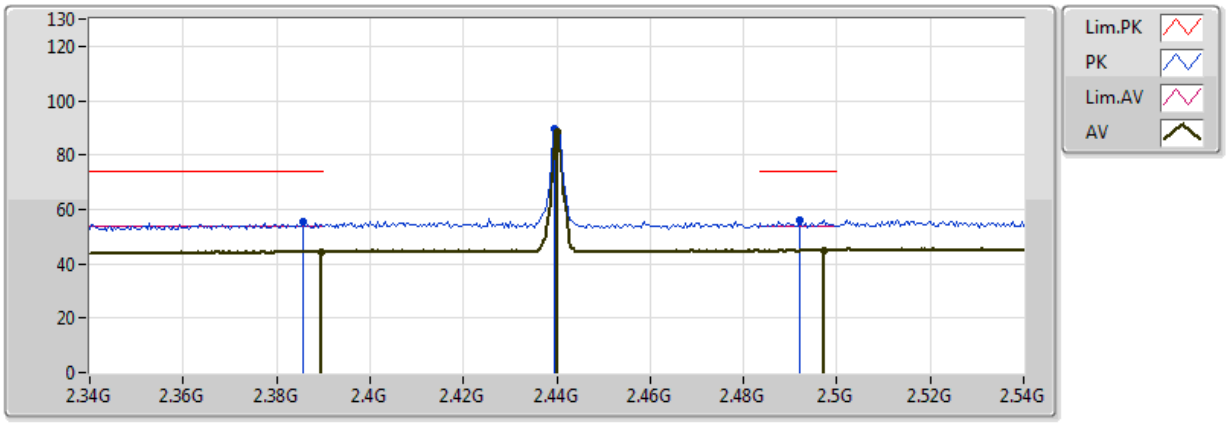


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80391G	48.11	54.00	-5.89	2.10	3	Horizontal	131	1.20	-	46.00	31.25	5.38	34.53
PK	4.8045G	54.45	74.00	-19.55	2.10	3	Horizontal	131	1.20	-	52.35	31.25	5.38	34.53

BT-LE(1Mbps)

2440MHz_TX

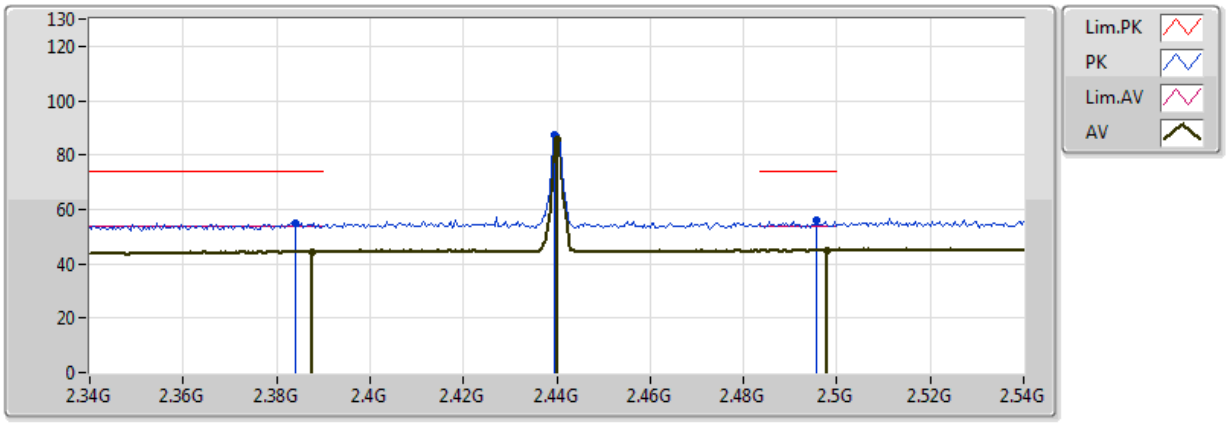


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3896G	44.35	54.00	-9.65	30.93	3	Vertical	64	1.19	-	13.42	27.31	3.62	-
AV	2.44G	88.27	Inf	-Inf	31.11	3	Vertical	64	1.19	-	57.15	27.44	3.67	-
AV	2.4972G	44.97	54.00	-9.03	31.32	3	Vertical	64	1.19	-	13.65	27.59	3.73	-
PK	2.3856G	55.58	74.00	-18.42	30.92	3	Vertical	64	1.19	-	24.66	27.30	3.62	-
PK	2.4396G	89.87	Inf	-Inf	31.11	3	Vertical	64	1.19	-	58.75	27.44	3.67	-
PK	2.492G	56.25	74.00	-17.75	31.30	3	Vertical	64	1.19	-	24.94	27.58	3.72	-

BT-LE(1Mbps)

2440MHz_TX



EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3876G	44.45	54.00	-9.55	30.93	3	Horizontal	77	1.15	-	13.52	27.31	3.62	-
AV	2.44G	85.99	Inf	-Inf	31.11	3	Horizontal	77	1.15	-	54.87	27.44	3.67	-
AV	2.498G	44.97	54.00	-9.03	31.32	3	Horizontal	77	1.15	-	13.65	27.59	3.73	-
PK	2.384G	54.80	74.00	-19.20	30.91	3	Horizontal	77	1.15	-	23.89	27.30	3.62	-
PK	2.4396G	87.54	Inf	-Inf	31.11	3	Horizontal	77	1.15	-	56.43	27.44	3.67	-
PK	2.4956G	55.83	74.00	-18.17	31.31	3	Horizontal	77	1.15	-	24.51	27.59	3.73	-

BT-LE(1Mbps)

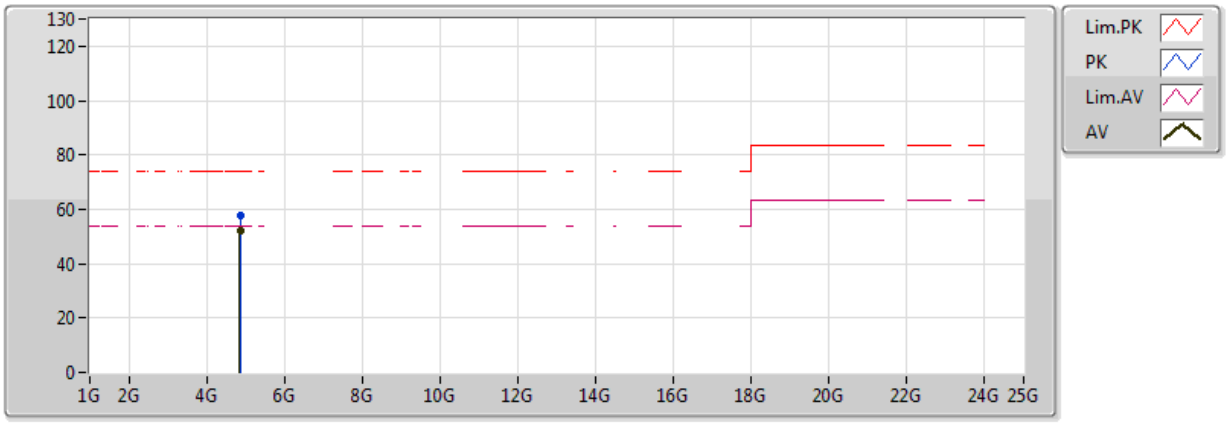
2440MHz_TX

EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87994G	50.07	54.00	-3.93	2.34	3	Vertical	337	2.50	-	47.73	31.38	5.47	34.51
PK	4.879478G	56.00	74.00	-18.00	2.34	3	Vertical	337	2.50	-	53.66	31.38	5.47	34.51

BT-LE(1Mbps)

2440MHz_TX

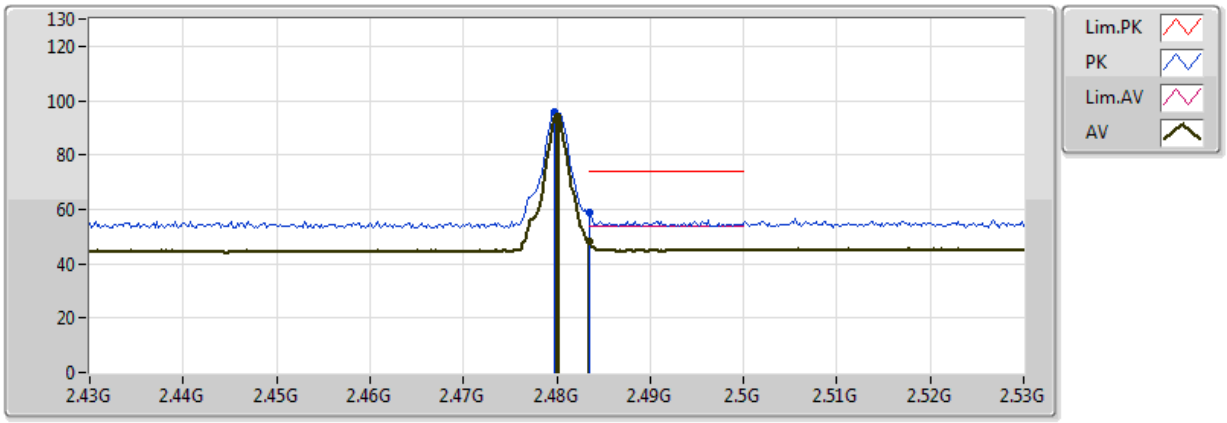


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.879928G	52.01	54.00	-1.99	2.34	3	Horizontal	130	1.07	-	49.67	31.38	5.47	34.51
PK	4.879424G	57.72	74.00	-16.28	2.34	3	Horizontal	130	1.07	-	55.38	31.38	5.47	34.51

BT-LE(1Mbps)

2480MHz_TX

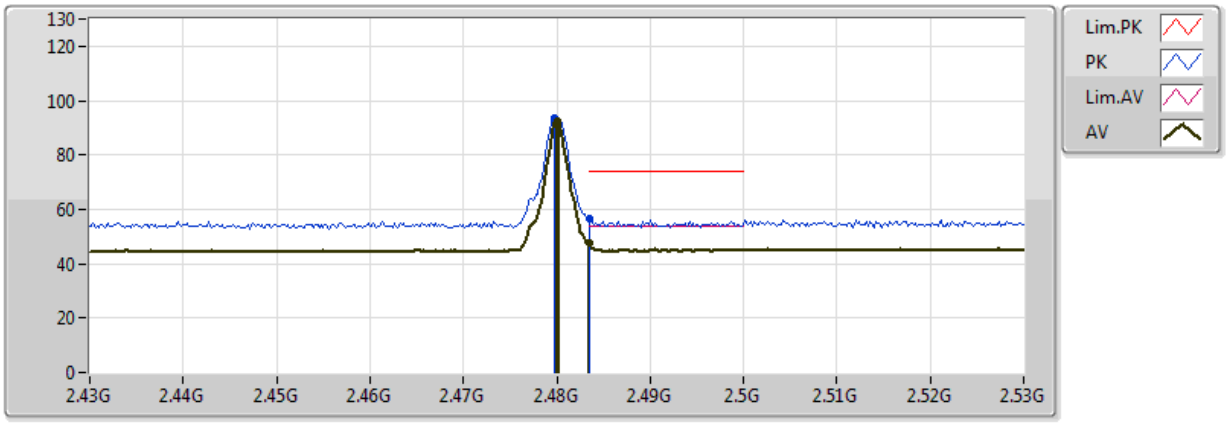


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	94.05	Inf	-Inf	31.26	3	Vertical	66	1.03	-	62.79	27.55	3.71	-
AV	2.483502G	48.22	54.00	-5.78	31.27	3	Vertical	66	1.03	-	16.94	27.56	3.71	-
PK	2.4798G	95.78	Inf	-Inf	31.26	3	Vertical	66	1.03	-	64.52	27.55	3.71	-
PK	2.483502G	58.84	74.00	-15.16	31.27	3	Vertical	66	1.03	-	27.57	27.56	3.71	-

BT-LE(1Mbps)

2480MHz_TX

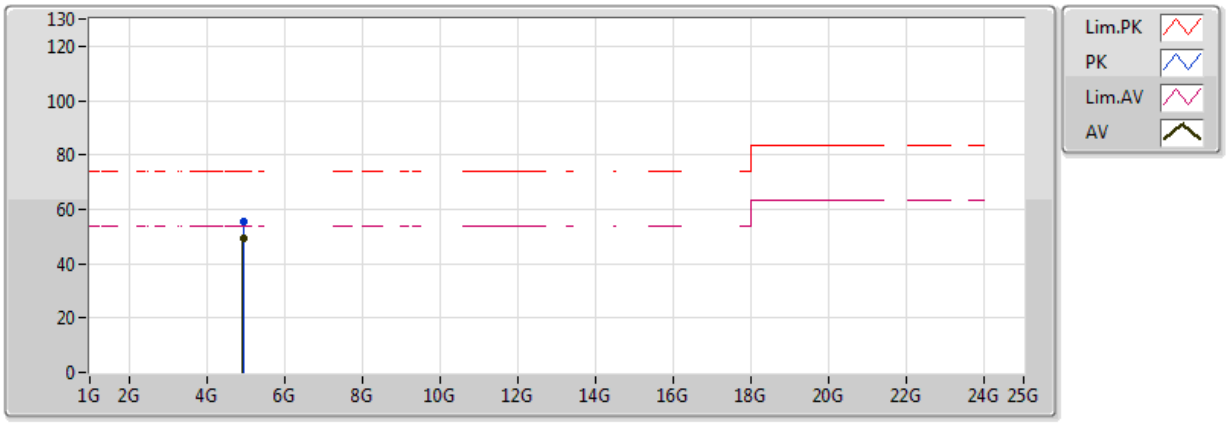


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	92.18	Inf	-Inf	31.26	3	Horizontal	41	2.36	-	60.93	27.55	3.71	-
AV	2.483502G	47.38	54.00	-6.62	31.27	3	Horizontal	41	2.36	-	16.11	27.56	3.71	-
PK	2.4798G	93.76	Inf	-Inf	31.26	3	Horizontal	41	2.36	-	62.50	27.55	3.71	-
PK	2.483502G	56.64	74.00	-17.36	31.27	3	Horizontal	41	2.36	-	25.37	27.56	3.71	-

BT-LE(1Mbps)

2480MHz_TX

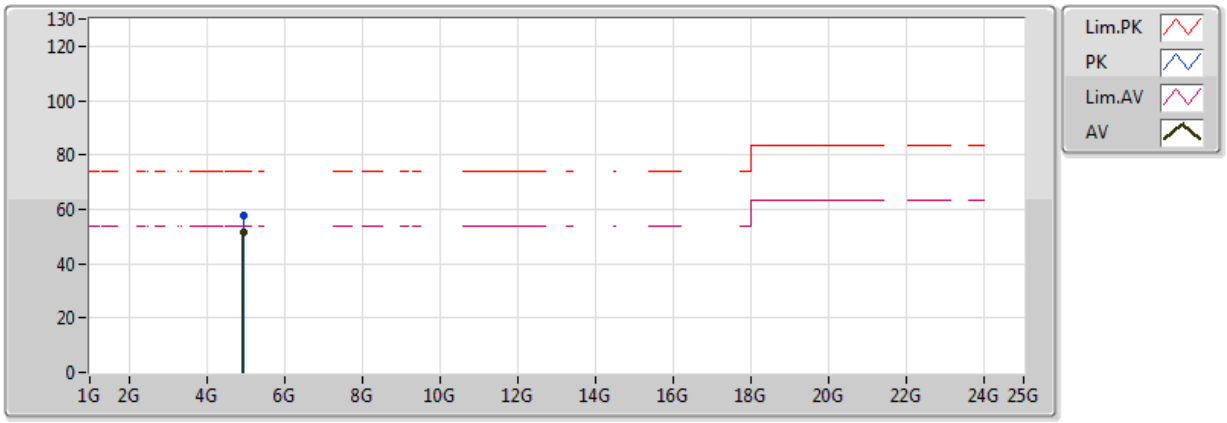


EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.959916G	49.09	54.00	-4.91	2.59	3	Vertical	340	2.44	-	46.50	31.53	5.56	34.49
PK	4.9594G	55.40	74.00	-18.60	2.59	3	Vertical	340	2.44	-	52.81	31.53	5.56	34.49

BT-LE(1Mbps)

2480MHz_TX



EUT = Z

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.959928G	51.68	54.00	-2.32	2.59	3	Horizontal	132	1.05	-	49.09	31.53	5.56	34.49
PK	4.959358G	57.63	74.00	-16.37	2.59	3	Horizontal	132	1.05	-	55.04	31.53	5.56	34.49