



FCC Test Report

FCC ID : QXO-AP460
Equipment : Wireless Access Point
Brand Name : Extreme Networks, Inc.
Model Name : AP460i, AP460e
Applicant : Extreme Networks, Inc.
6480 Via Del Oro, San Jose, CA 95119, United States
Manufacturer : Extreme Networks, Inc.
6480 Via Del Oro, San Jose, CA 95119, United States
Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 13, 2019, and testing was started from Aug. 26, 2019 and completed on Nov. 12, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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History of this test report

TEL : 886-3-3273456
FAX : 886-3-3270973
Report Template No.: HE1-C10 Ver3.6
FCC ID: QXO-AP460

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: Sam Tsai

Report Producer: Jenny Yang

1 General Description

1.1 Information

1.1.1 RF General Information

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

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

Note:

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

1.1.2 Antenna Information

(AP460i) Internal Antenna

Ant.	Brand	Model Number (P/N)	Antenna Type	Connector	Antenna Gain (dBi)			Remark
					2.4GHz	5GHz	BLE/Thread	
1	SENAO	5718A0462300	PIFA	IPEX	-	5.58	-	Radio 2
2	SENAO	5718A0463300	PIFA	IPEX	-	5.58	-	Radio 2
3	SENAO	5718A0465300	PIFA	IPEX	-	5.58	-	Radio 2
4	SENAO	5718A0464300	PIFA	IPEX	-	5.58	-	Radio 2
5	SENAO	5718A0458300	PIFA	IPEX	4.82	-	-	Radio 1
6	SENAO	5718A0459300	PIFA	IPEX	4.82	-	-	Radio 1
7	SENAO	5718A0460300	PIFA	IPEX	4.87	5.02	-	Radio 3
8	SENAO	5718A0461300	PIFA	IPEX	4.87	5.02	-	Radio 3
9	SENAO	5718A0466300	PIFA	IPEX	-	-	4.65	Radio 4

(AP460e) External Antenna

Group	Brand	Model Number (P/N)	Antenna Type	Connector	Antenna Gain (dBi)		
					2.4GHz	5GHz	BLE/Thread
1	Extreme	ML-2452-APA2-01	Omni	RP SMA male	3.17	4.85	-
2	Extreme	ML-2452-APA2-02	Omni	RP SMA male	3.17	4.85	-
3	Extreme	ML-2452-HPA5-036	Omni	RP SMA male	3.9	5.7	-
4	Extreme	ML-2452-HPAG4A6-01	Omni	N male	4	7.3	-
5	Extreme	ML-2452-PNA5-01R	Panel	Type N-Male	4.5	5	-
6	Extreme	ML-2452-PTA4M4-036	Omni	Rev-Polarity SMA Male 4x	5	6.6	-
7	Extreme	ML-2452-HPAG5A8-01	Omni	N male	5	8	-
8	Extreme	WS-AO-DQ04360N	Omni	N male	5.5	6	-
9	Extreme	AI-DQ04360S	Omni	RP SMA male	5.5	6	-
10	Extreme	ML-2452-SEC6M4-036 / WS-AI-DQ05120	Panel	RP SMA male	6.92	7.23	-
11	Extreme	WS-AI-DE07025	Panel	RP SMA male	7.5	6.5	-
12	Extreme	ML-2452-PNA7-01R	Panel 1	Type N-Male	7.8	10.7	7.8
13	Extreme	WS-AI-DE10055	Panel 2	RP SMA male	10.5	7.5	-
14	Extreme	ML-2499-HPA8-01	Dipole	N male	-	-	8

Note 1: Group 7, 12 and 13 were measured during the test for WLAN 2.4G Mode.

Note 2: Group 12 and 14 were measured during the test for Bluetooth/Thread Mode.

Note 3: Group 7 and 12 were measured during the test for WLAN 5G Mode.

For 2.4GHz function:

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

Only port 1 can be used as transmitting/receiving antenna.

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

Port 1 and port 2 could transmit/receive simultaneously.

For BT function:

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

Only port 1 can be used as transmitting/receiving antenna.

For Thread function:

For IEEE 802.15.4 Thread mode (1TX/1RX)

Only port 1 can be used as transmitting/receiving antenna.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (1TX/1RX)

Only port 1 can be used as transmitting/receiving antenna.

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

Port 1 and port 2 could transmit/receive simultaneously.

For IEEE 802.11 a/n/ac/ax mode (4TX/4RX)

Port 1, port 2, port 3 and port 4 could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From PoE
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 Table for Multiple Listing

Sample Number	Model Name	Description
1	AP460i	The "i" in AP460i indicates that it comes with internal antennas and the "e" in AP460e indicates that the access point comes with external antenna connectors.
2	AP460e	

1.1.5 Mode Test Duty Cycle

Sample 1

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-LE(1Mbps)	0.645	1.9	412.5u	3k

Sample 2

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-LE(1Mbps)	0.641	1.93	401.563u	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.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	20.9~22.1°C / 60.4~64.2%	08/Nov/2019~ 12/Nov/2019
RF Conducted	TH06-HY	Tim Chen	23.1~25°C / 61~67%	26/Aug/2019~ 09/Nov/2019
Radiated	03CH03-HY	Edward Wand	22.2~22.2°C / 51.8~51.8%	06/Sep/2019~ 04/Oct/2019

1.4 Measurement Uncertainty

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

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

2 Test Configuration of EUT

2.1 Test Condition

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

2.2 Test Channel Mode

Test Software	CMD
---------------	-----

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	PoE mode (Sample 1)
2	PoE mode (Sample 2)

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	PoE mode (Sample 1)		
2	PoE mode (Sample 2_Dipole Antenna)		
3	PoE mode (Sample 2_Panel 1 Antenna)		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	CTX
1	WLAN 2.4G+ WLAN 5G+ WLAN 2.4G+ Bluetooth
2	WLAN 2.4G+ WLAN 5G+ WLAN 5G+ Bluetooth
Refer to Sporton Test Report No.: FA970235 for Co-location RF Exposure Evaluation.	

2.4 Support Equipment

Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Load	Sporton	-	-
2	LAN Cable	Power Sync	CAT-6E-01	-
3	LAN Cable	Power Sync	CAT-6E-10	-
4	PoE	EnGenius	EPA5006GP	-
5	AC Power Cable	-	-	-
6	Notebook (remote)	DELL	M-S69	-
7	LAN Cable(remote)	Power Sync	CAT-6E-01	-
8	Adapter for Notebook (remote)	DELL	M-S69	-

Note: Support equipment No.4, 5 were provided by customer.

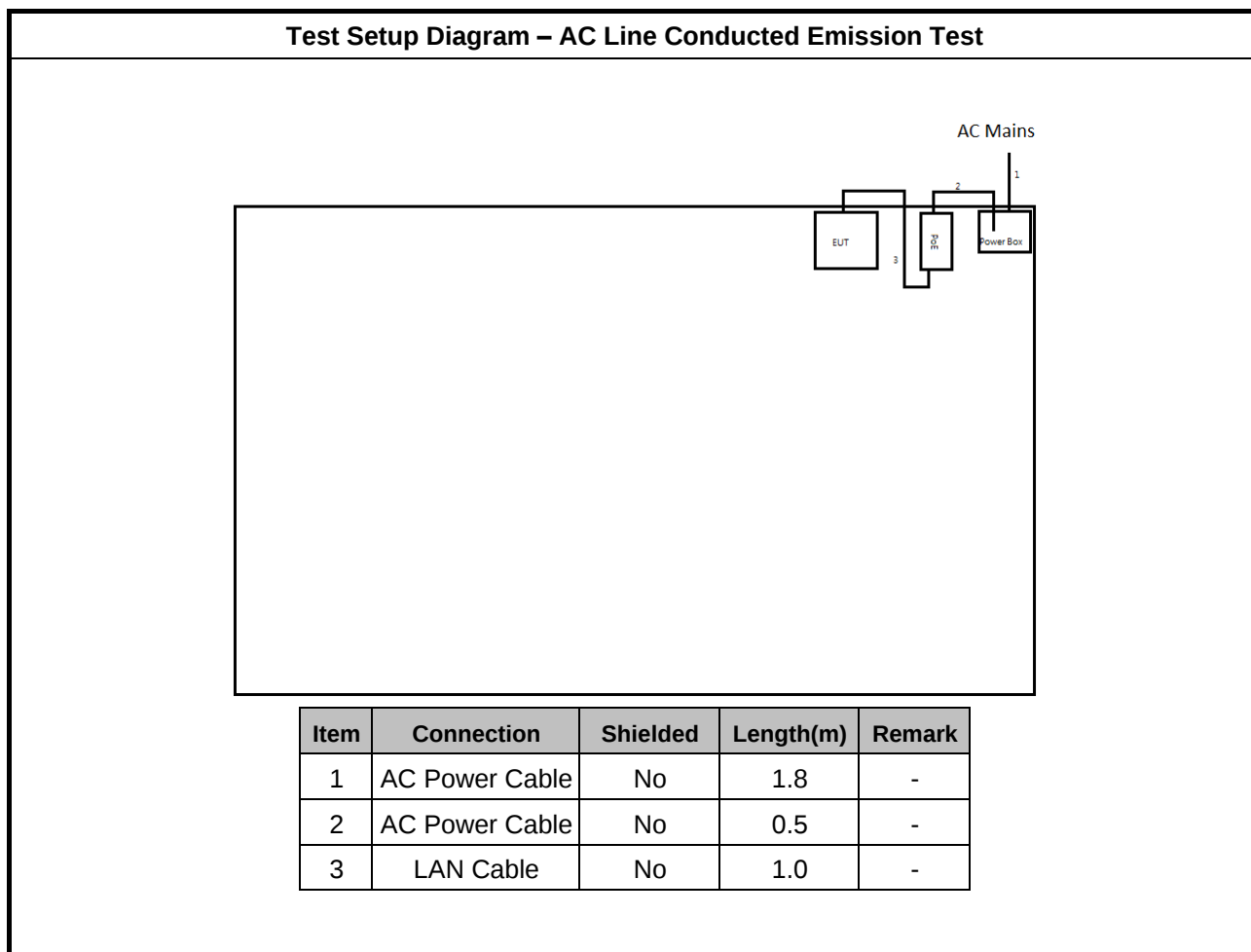
Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	DoC
2	Adapter for NB	DELL	HA65NM130	DoC
3	Notebook	DELL	E5410	DoC
4	Adapter for NB	DELL	HA65NM130	DoC
5	PoE	EnGenius	EPA5006GP	-

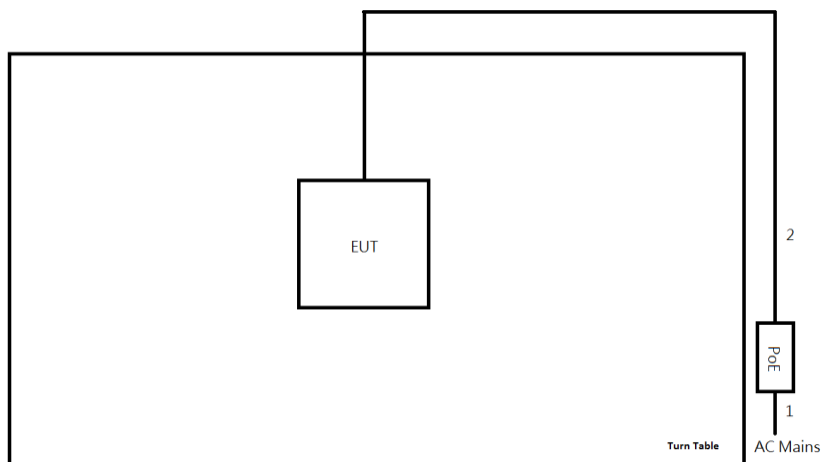
Note: Support equipment No.5 was provided by customer.

Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Load	Sporton	-	-
2	LAN Cable	Power Sync	CAT-6E-01	-
3	LAN Cable	Power Sync	CAT-6E-10	-
4	PoE (remote)	EnGenius	EPA5006GP	-
5	AC Power Cable (remote)	-	-	-
6	Notebook (remote)	DELL	M-S69	-
7	LAN Cable (remote)	Power Sync	CAT-6E-01	-
8	Adapter for Notebook (remote)	DELL	M-S69	-

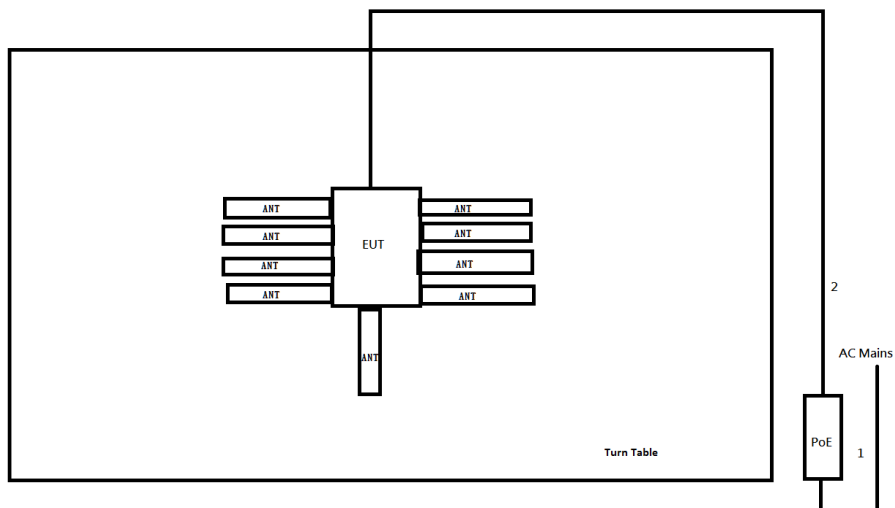
Note: Support equipment No.4, 5 were provided by customer.

2.5 Test Setup Diagram

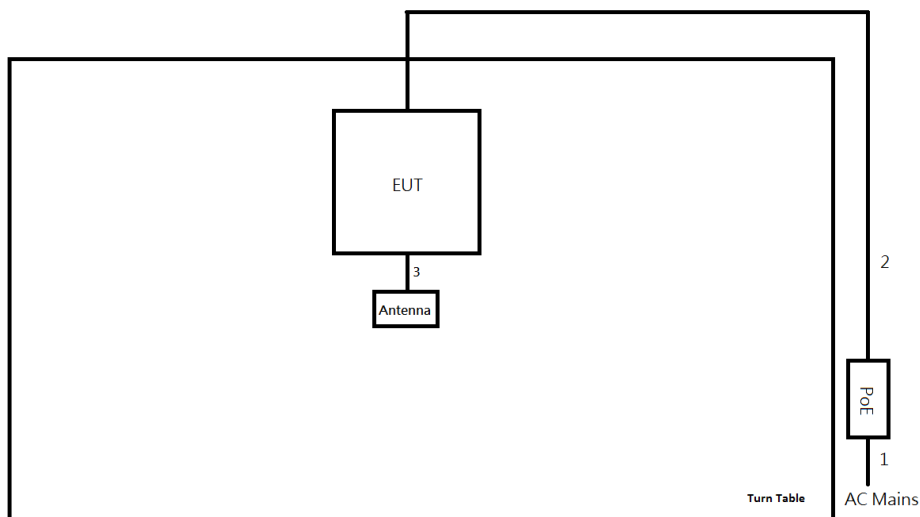


Test Setup Diagram - Radiated Test (Sample 1)


Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.5	-
2	LAN Cable	No	10.0	-

Test Setup Diagram - Radiated Test (Sample 2_Dipole Antenna)


Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.5	-
2	LAN Cable	No	10.0	-

Test Setup Diagram - Radiated Test (Sample 2_Panel 1 Antenna)


Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.5	-
2	LAN Cable	No	10.0	-
3	Antenna Cable	No	0.5	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

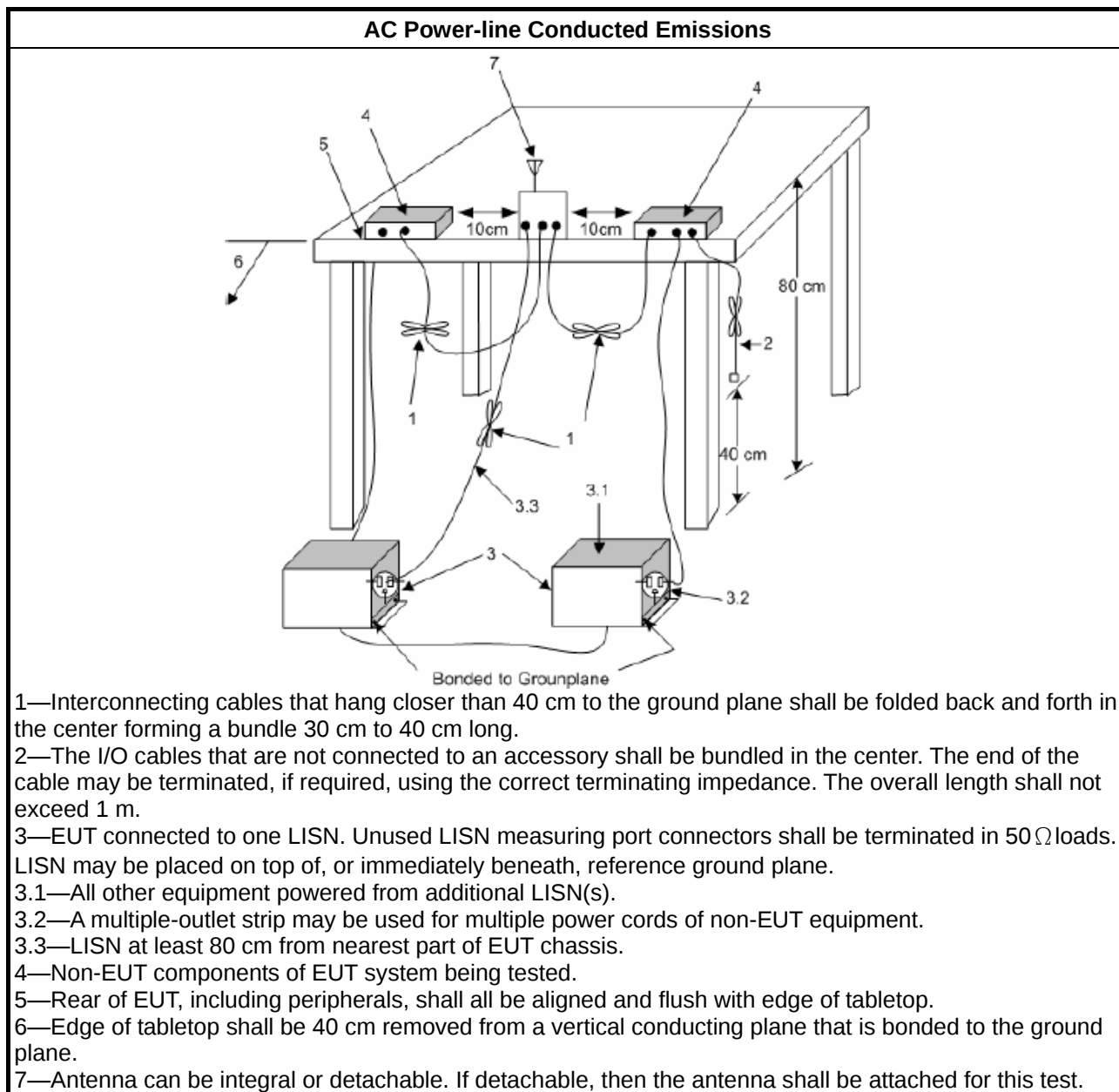
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit	
Systems using digital modulation techniques:	
▪	6 dB bandwidth $\geq$ 500 kHz.

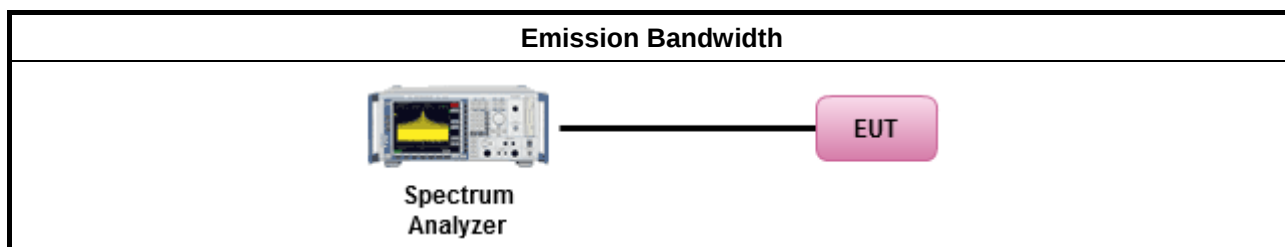
3.2.2 Measuring Instruments

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



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): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	Smart antenna system (SAS)
	- Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ 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.	

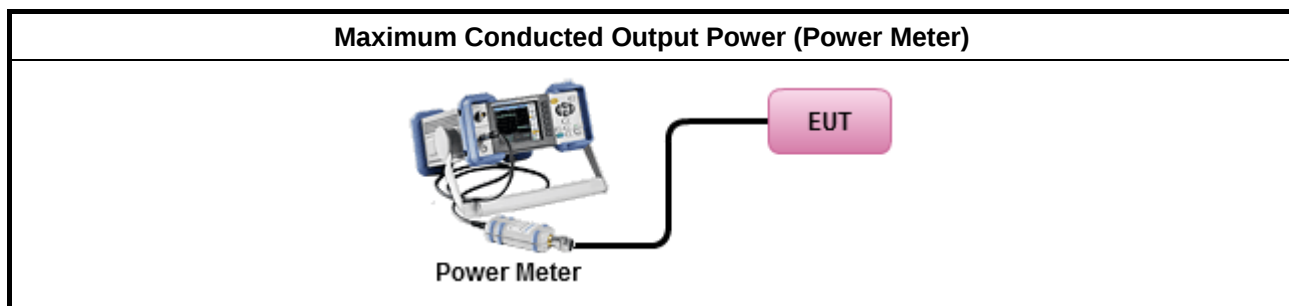
3.3.2 Measuring Instruments

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: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



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

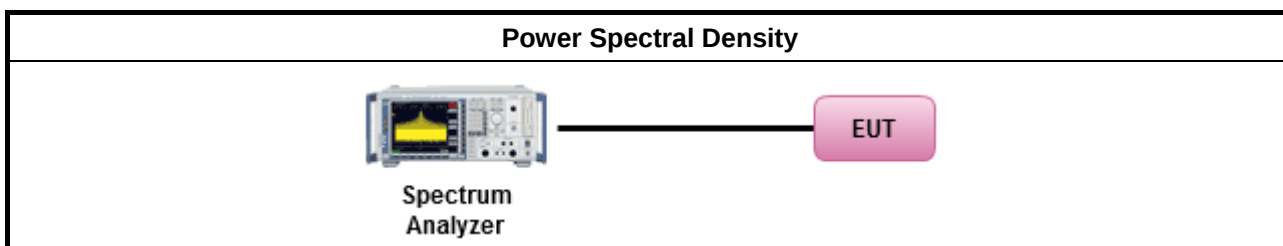
3.4.2 Measuring Instruments

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



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.	

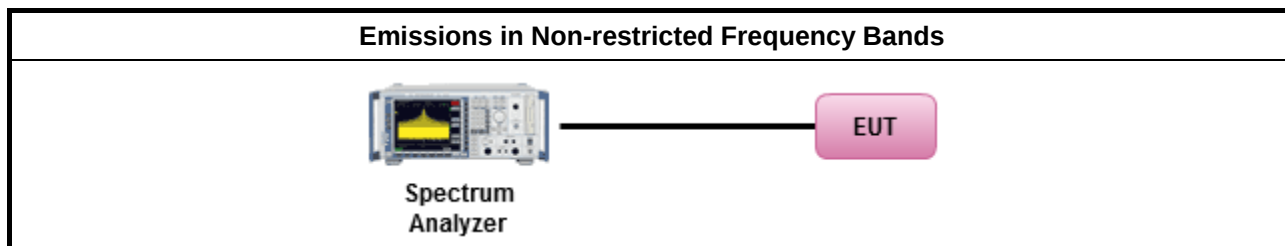
3.5.2 Measuring Instruments

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



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 below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

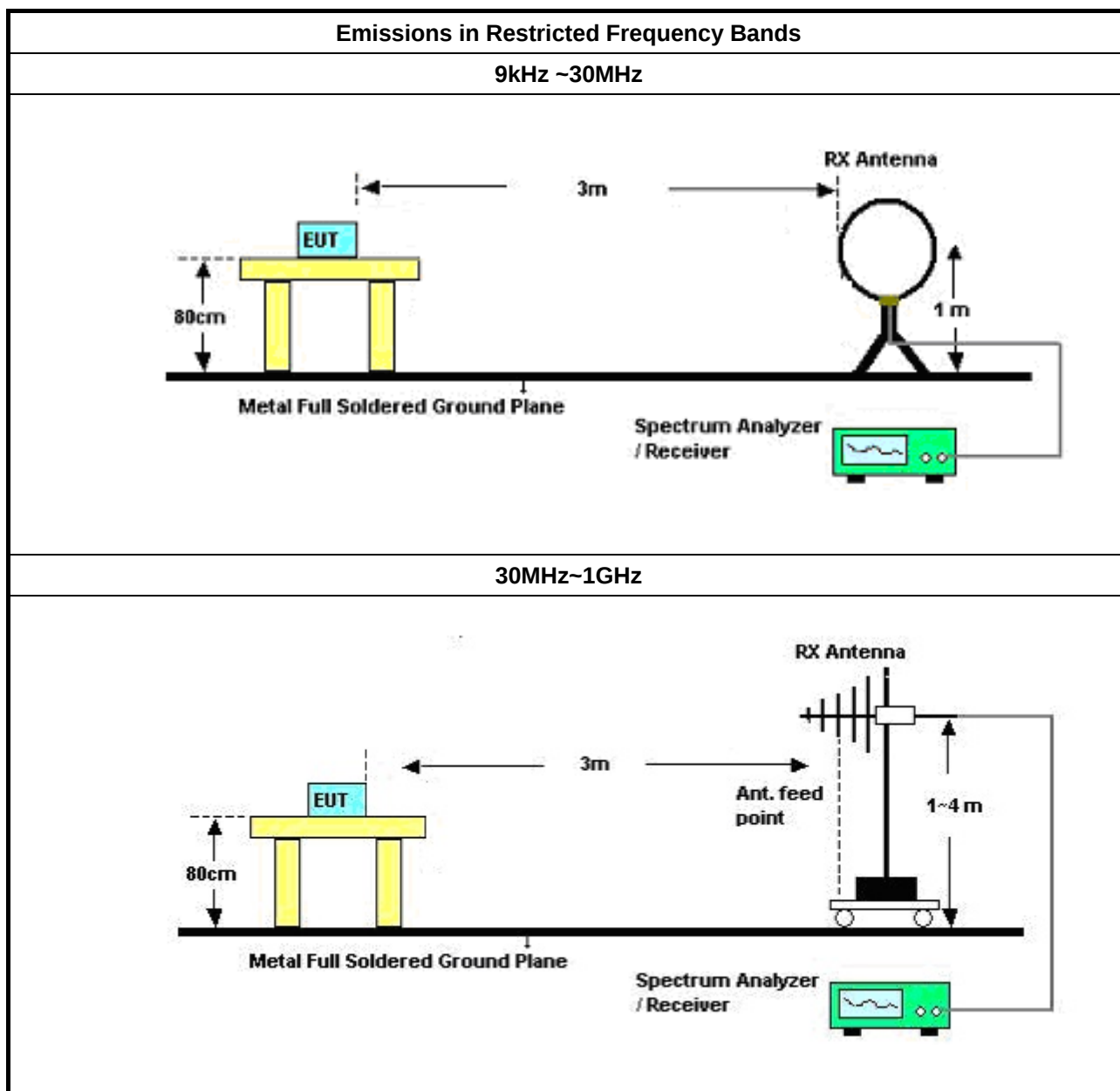
3.6.2 Measuring Instruments

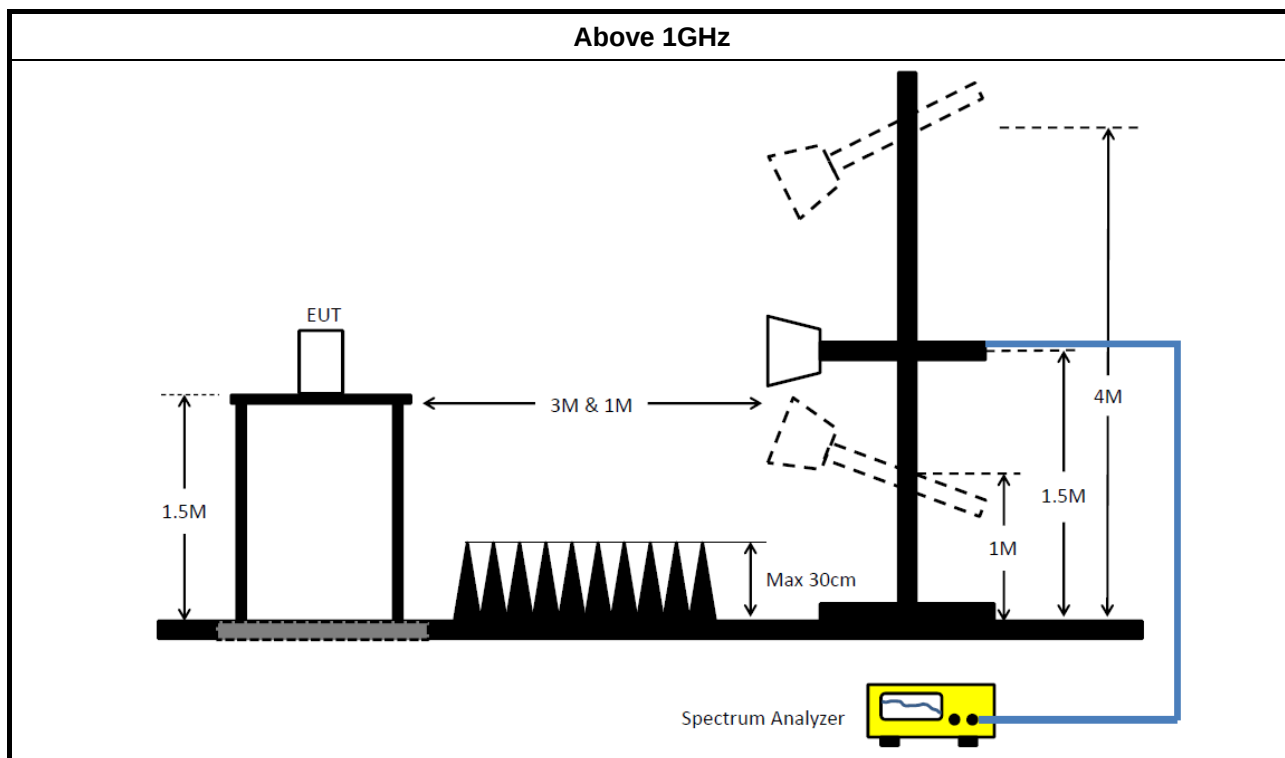
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 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 $f \geq 1$ 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





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

NCR : Non-Calibration Require

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	19/Feb/2019	18/Feb/2020
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	19/Feb/2019	18/Feb/2020
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz~18G	11/Jan/2019	10/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz~18G	11/Jan/2019	10/Jan/2020
Cable 0.5m	HUBER	MY10714/4	RF Cable - 05	30MHz~1G	11/Jan/2019	10/Jan/2020

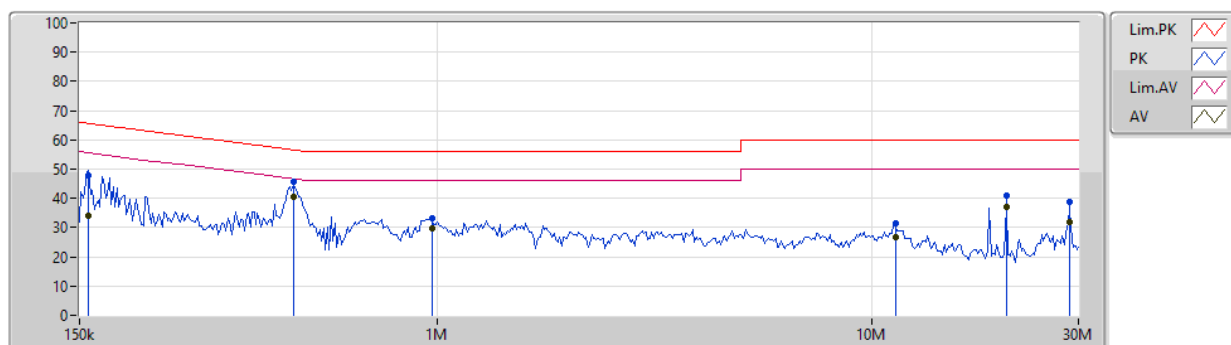
Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	30/Aug/2019	29/Aug/2020
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	30/Aug/2019	29/Aug/2020
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	22/Apr/2019	21/Apr/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
Bilog Antenna & 5db Attenuator	SCHAFFNER/MTJ	CBL6112D / MTJ6102-05	2678 / 001	30MHz ~ 2GHz	06/Jul/2019	05/Jul/2020
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz ~ 2GHz	11/Oct/2019	10/Oct/2020
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	23/Oct/2018	22/Oct/2019
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz ~ 26.5GHz	09/Sep/2019	08/Sep/2020
Signal Analyzer	R&S	FSP40	100305	9 kHz ~ 40 GHz;-140-+30dBm	10/Jun/2019	09/Jun/2020
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	22/Mar/2019	21/Mar/2020
RF CABLE 6m	HUBER+SUHNER	SUOFLEX 104	SN 805801/4	1GHz ~ 40GHz	21/Mar/2019	20/Mar/2020
RF CABLE	HUBER+SUHNER	SUOFLEX 104	802378/4	1 GHz ~ 18 GHz	04/Jul/2019	03/Jul/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz ~ 40GHz	22/Mar/2019	21/Mar/2020
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz ~ 18GHz	09/Mar/2019	08/Mar/2020
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Sample 1; PoE mode; BT LE TX		

08/11/2019

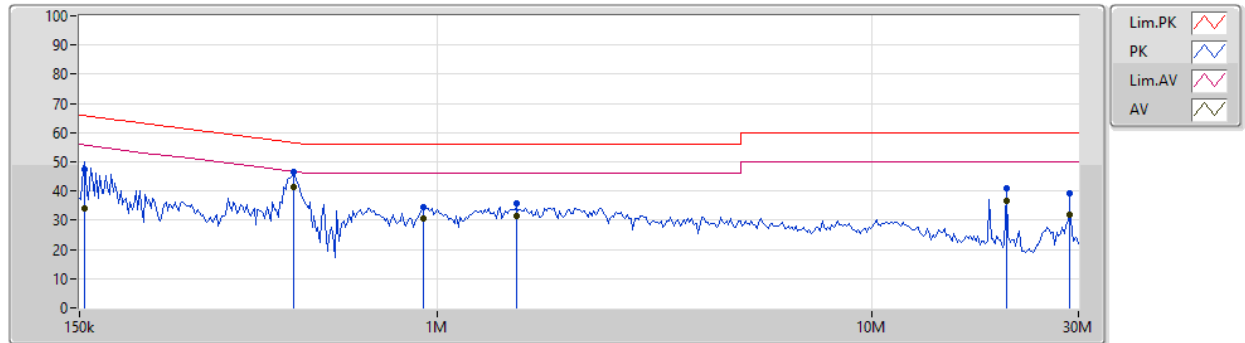


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	157.652k	47.85	65.58	-17.73	19.58	Neutral	-	28.27	9.60	0.11	9.87			
AV	157.652k	34.14	55.58	-21.44	19.58	Neutral	-	14.56	9.60	0.11	9.87			
QP	466.367k	45.84	56.57	-10.73	19.59	Neutral	-	26.25	9.59	0.13	9.87			
AV	466.367k	40.52	46.57	-6.05	19.59	Neutral	"Worst"	20.93	9.59	0.13	9.87			
QP	973.889k	33.34	56.00	-22.66	19.58	Neutral	-	13.76	9.59	0.11	9.88			
AV	973.889k	29.91	46.00	-16.09	19.58	Neutral	-	10.33	9.59	0.11	9.88			
QP	11.373M	31.51	60.00	-28.49	19.83	Neutral	-	11.68	9.67	0.28	9.88			
AV	11.373M	26.72	50.00	-23.28	19.83	Neutral	-	6.89	9.67	0.28	9.88			
QP	20.457M	40.99	60.00	-19.01	19.94	Neutral	-	21.05	9.68	0.37	9.89			
AV	20.457M	37.23	50.00	-12.77	19.94	Neutral	-	17.29	9.68	0.37	9.89			
QP	28.693M	38.88	60.00	-21.12	19.99	Neutral	-	18.89	9.67	0.44	9.88			
AV	28.693M	31.79	50.00	-18.21	19.99	Neutral	-	11.80	9.67	0.44	9.88			

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Sample 1; PoE mode; BT LE TX		

08/11/2019

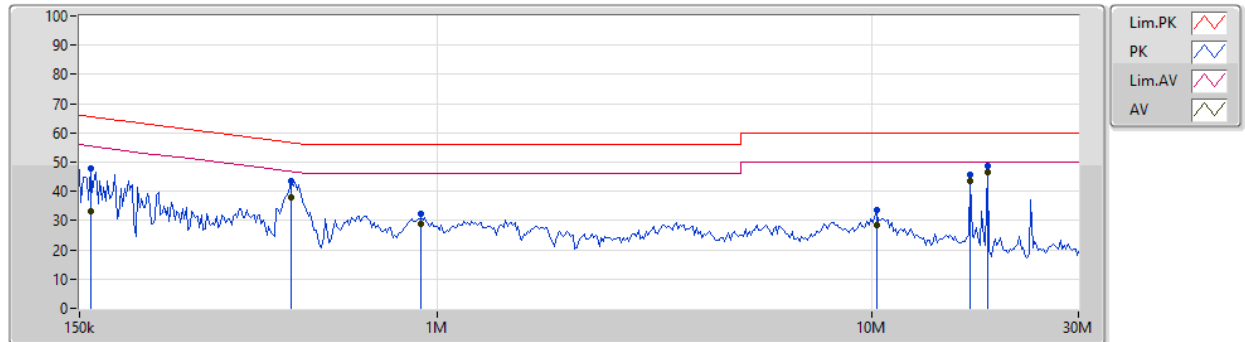


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	154.545k	47.53	65.75	-18.22	19.58	Line	-	27.95	9.60	0.11	9.87			
AV	154.545k	34.06	55.75	-21.69	19.58	Line	-	14.48	9.60	0.11	9.87			
QP	466.367k	46.62	56.57	-9.95	19.59	Line	-	27.03	9.59	0.13	9.87			
AV	466.367k	41.24	46.57	-5.33	19.59	Line	"Worst"	21.65	9.59	0.13	9.87			
QP	926.622k	34.30	56.00	-21.70	19.59	Line	-	14.71	9.60	0.11	9.88			
AV	926.622k	30.53	46.00	-15.47	19.59	Line	-	10.94	9.60	0.11	9.88			
QP	1.524M	35.67	56.00	-20.33	19.61	Line	-	16.06	9.61	0.13	9.87			
AV	1.524M	31.28	46.00	-14.72	19.61	Line	-	11.67	9.61	0.13	9.87			
QP	20.457M	41.02	60.00	-18.98	19.89	Line	-	21.13	9.63	0.37	9.89			
AV	20.457M	36.74	50.00	-13.26	19.89	Line	-	16.85	9.63	0.37	9.89			
QP	28.693M	39.15	60.00	-20.85	19.86	Line	-	19.29	9.54	0.44	9.88			
AV	28.693M	32.04	50.00	-17.96	19.86	Line	-	12.18	9.54	0.44	9.88			

AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Neutral
Operating Function	Sample 2; PoE mode; BT LE TX		

11/11/2019

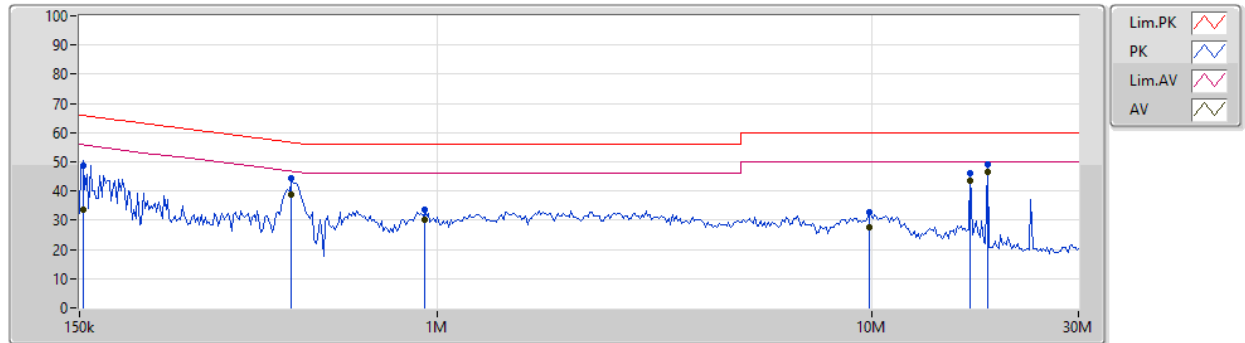


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	159.228k	47.97	65.50	-17.53	19.58	Neutral	-	28.39	9.60	0.11	9.87			
AV	159.228k	33.40	55.50	-22.10	19.58	Neutral	-	13.82	9.60	0.11	9.87			
QP	461.75k	43.70	56.67	-12.97	19.59	Neutral	-	24.11	9.59	0.13	9.87			
AV	461.75k	37.99	46.67	-8.68	19.59	Neutral	-	18.40	9.59	0.13	9.87			
QP	917.448k	32.30	56.00	-23.70	19.58	Neutral	-	12.72	9.59	0.11	9.88			
AV	917.448k	28.75	46.00	-17.25	19.58	Neutral	-	9.17	9.59	0.11	9.88			
QP	10.296M	33.48	60.00	-26.52	19.82	Neutral	-	13.66	9.67	0.27	9.88			
AV	10.296M	28.32	50.00	-21.68	19.82	Neutral	-	8.50	9.67	0.27	9.88			
QP	16.933M	45.78	60.00	-14.22	19.89	Neutral	-	25.89	9.68	0.33	9.88			
AV	16.933M	43.51	50.00	-6.49	19.89	Neutral	-	23.62	9.68	0.33	9.88			
QP	18.52M	48.54	60.00	-11.46	19.92	Neutral	-	28.62	9.68	0.35	9.89			
AV	18.52M	46.53	50.00	-3.47	19.92	Neutral	"Worst"	26.61	9.68	0.35	9.89			

AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Line
Operating Function	Sample 2; PoE mode; BT LE TX		

11/11/2019



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	153.015k	48.59	65.83	-17.24	19.58	Line	-	29.01	9.60	0.11	9.87			
AV	153.015k	33.47	55.83	-22.36	19.58	Line	-	13.89	9.60	0.11	9.87			
QP	461.75k	44.33	56.67	-12.34	19.59	Line	-	24.74	9.59	0.13	9.87			
AV	461.75k	38.65	46.67	-8.02	19.59	Line	-	19.06	9.59	0.13	9.87			
QP	935.888k	33.68	56.00	-22.32	19.59	Line	-	14.09	9.60	0.11	9.88			
AV	935.888k	30.05	46.00	-15.95	19.59	Line	-	10.46	9.60	0.11	9.88			
QP	9.894M	32.78	60.00	-27.22	19.82	Line	-	12.96	9.67	0.27	9.88			
AV	9.894M	27.68	50.00	-22.32	19.82	Line	-	7.86	9.67	0.27	9.88			
QP	16.933M	46.08	60.00	-13.92	19.85	Line	-	26.23	9.64	0.33	9.88			
AV	16.933M	43.45	50.00	-6.55	19.85	Line	-	23.60	9.64	0.33	9.88			
QP	18.52M	49.03	60.00	-10.97	19.87	Line	-	29.16	9.63	0.35	9.89			
AV	18.52M	46.62	50.00	-3.38	19.87	Line	"Worst"	26.75	9.63	0.35	9.89			



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	1.11M	1.033M	1M03F1D	1.109M	1.03M

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;



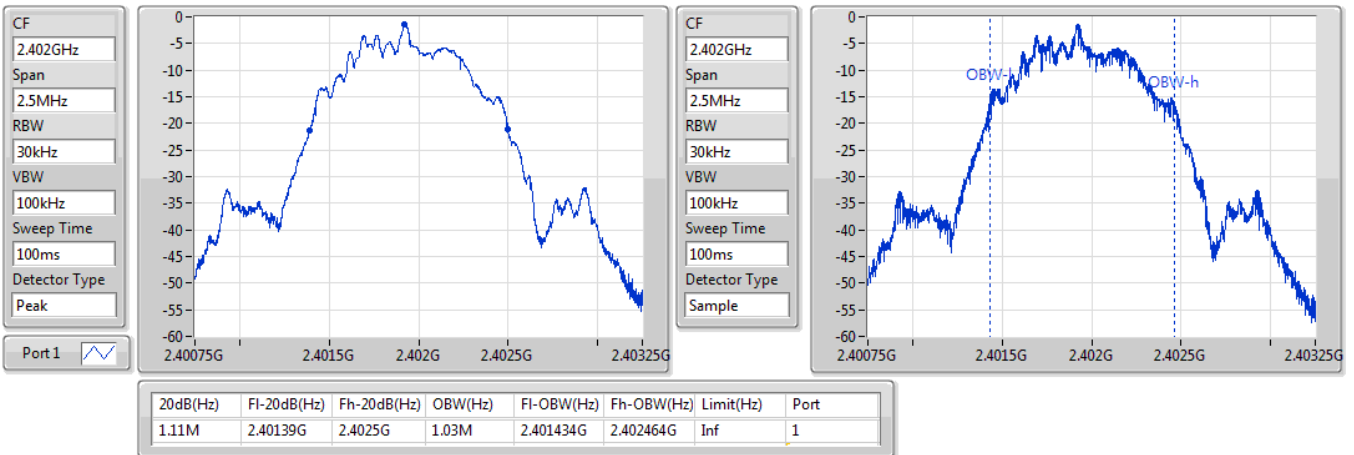
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.11M	1.03M
2440MHz	Pass	Inf	1.109M	1.033M
2480MHz	Pass	Inf	1.109M	1.033M

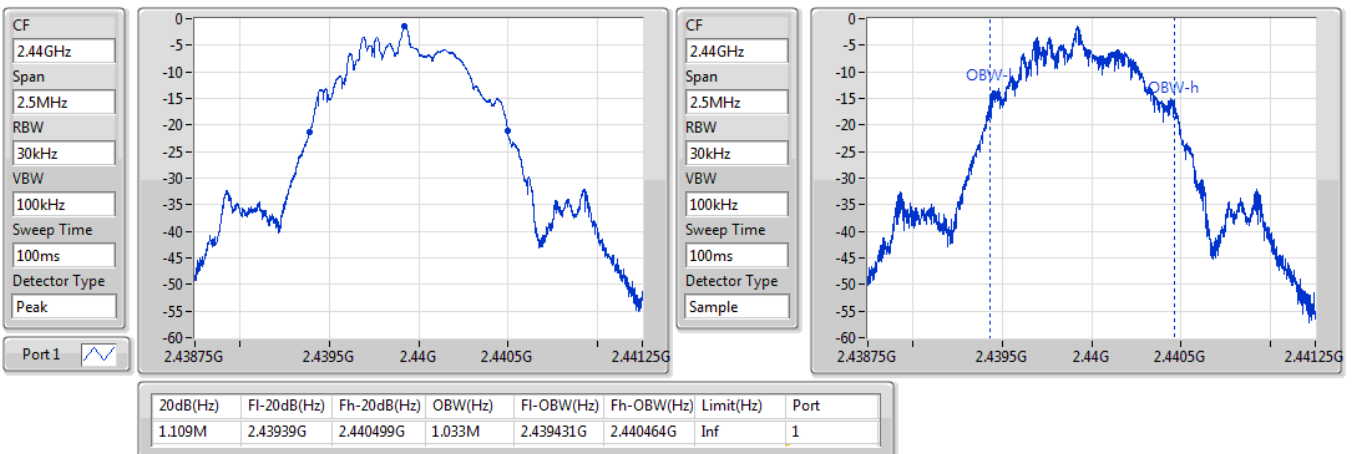
Port X-N dB = Port X 6dB down bandwidth; Port X-OBW = Port X 99% occupied bandwidth;

BT-LE(1Mbps)
2402MHz
EBW

03/09/2019


BT-LE(1Mbps)
2440MHz
EBW

03/09/2019

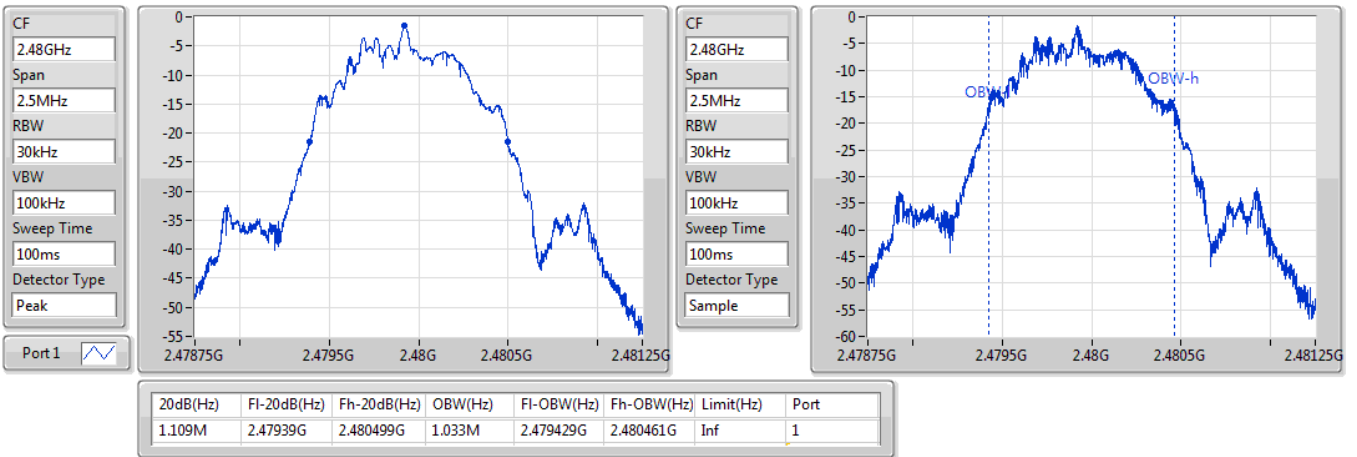


BT-LE(1Mbps)

2480MHz

EBW

03/09/2019





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)	1.103M	1.031M	1M03F1D	1.101M	1.028M

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;

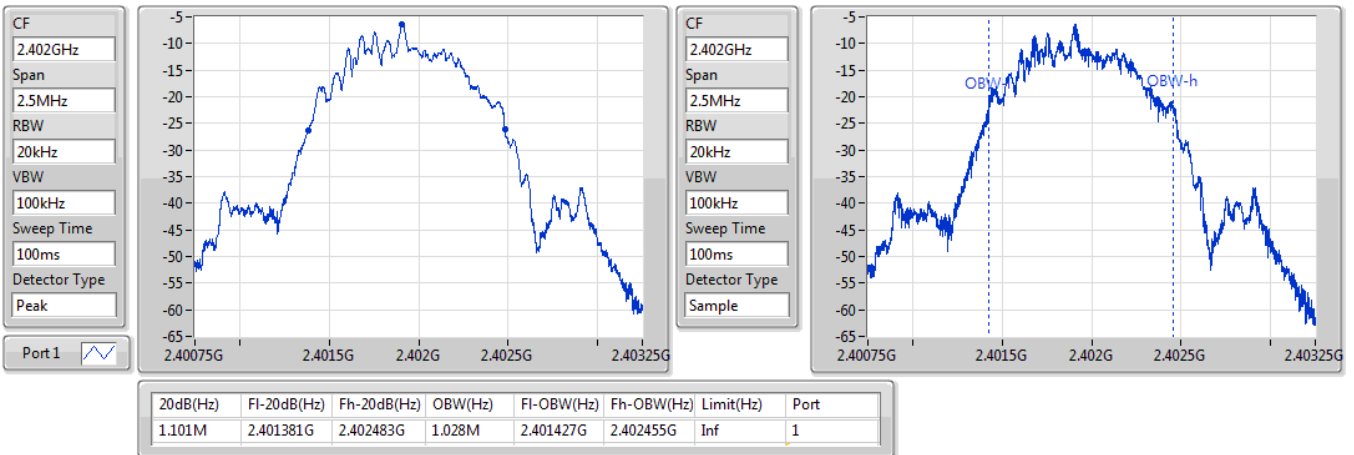
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.101M	1.028M
2440MHz	Pass	Inf	1.103M	1.031M
2480MHz	Pass	Inf	1.103M	1.031M

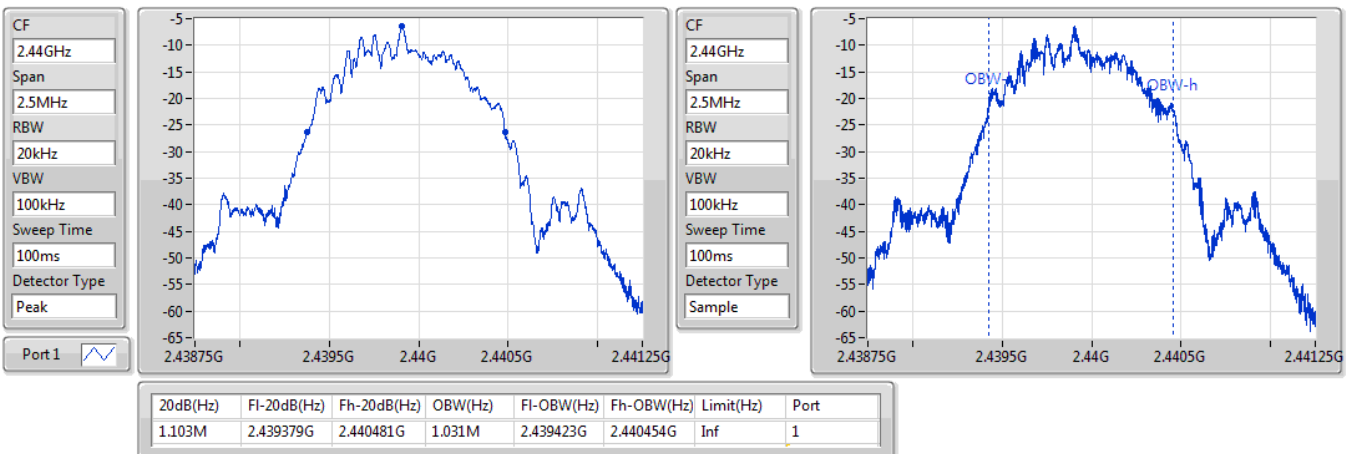
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-LE(1Mbps)
EBW
2402MHz

25/10/2019

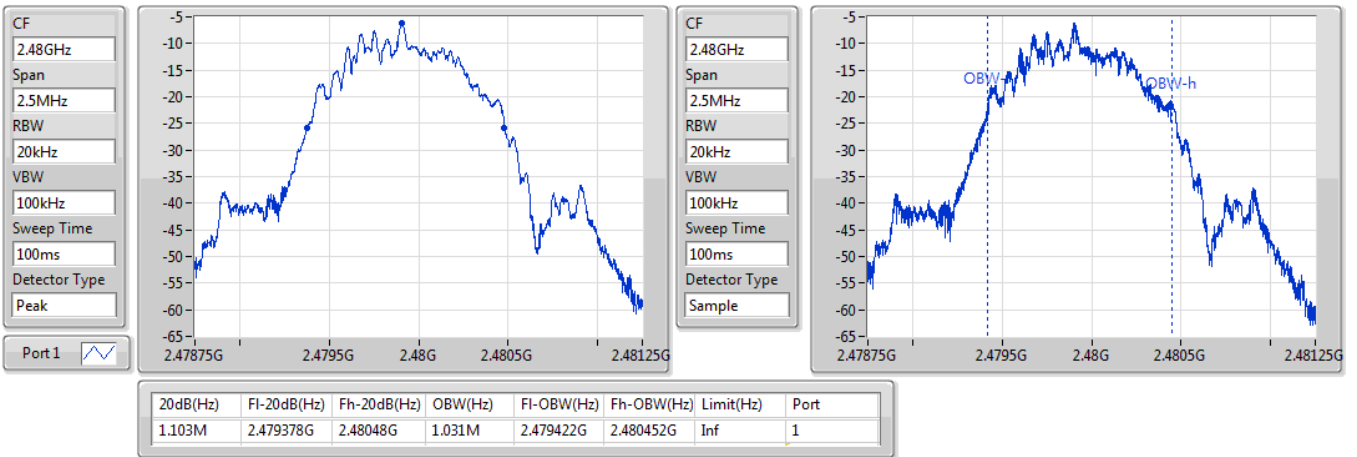

BT-LE(1Mbps)
EBW
2440MHz

25/10/2019



BT-LE(1Mbps)
EBW
2480MHz

25/10/2019





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)	1.103M	1.031M	1M03F1D	1.101M	1.028M

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;

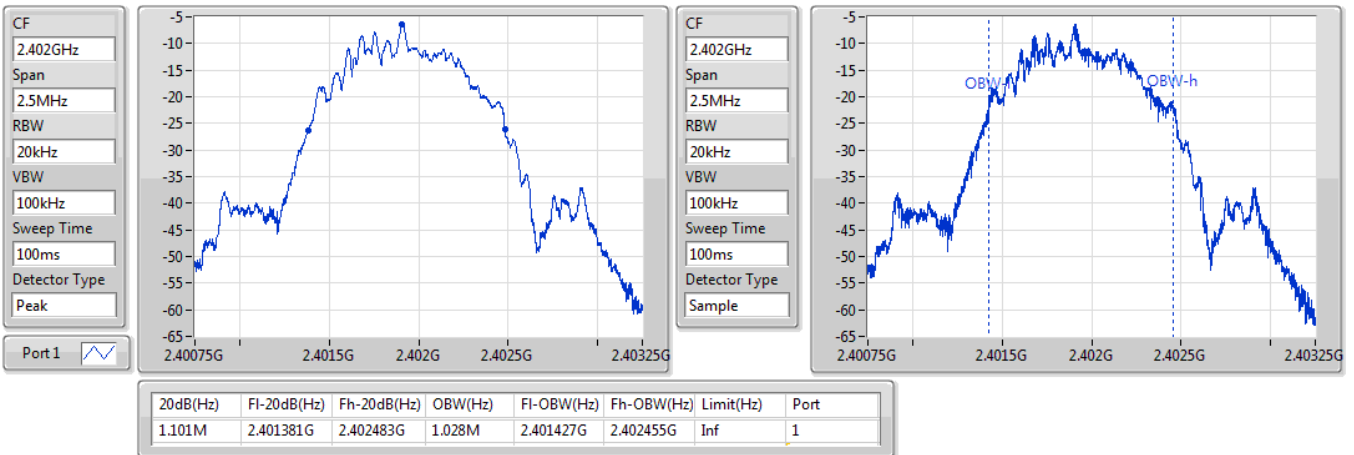
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.101M	1.028M
2440MHz	Pass	Inf	1.103M	1.031M
2480MHz	Pass	Inf	1.103M	1.031M

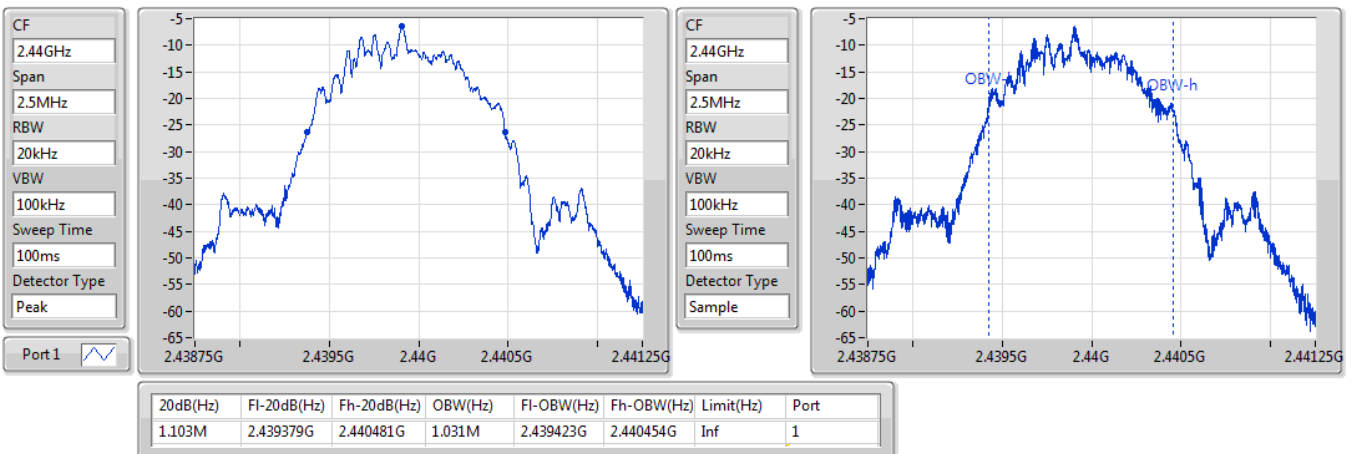
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-LE(1Mbps)
EBW
2402MHz

25/10/2019


BT-LE(1Mbps)
EBW
2440MHz

25/10/2019

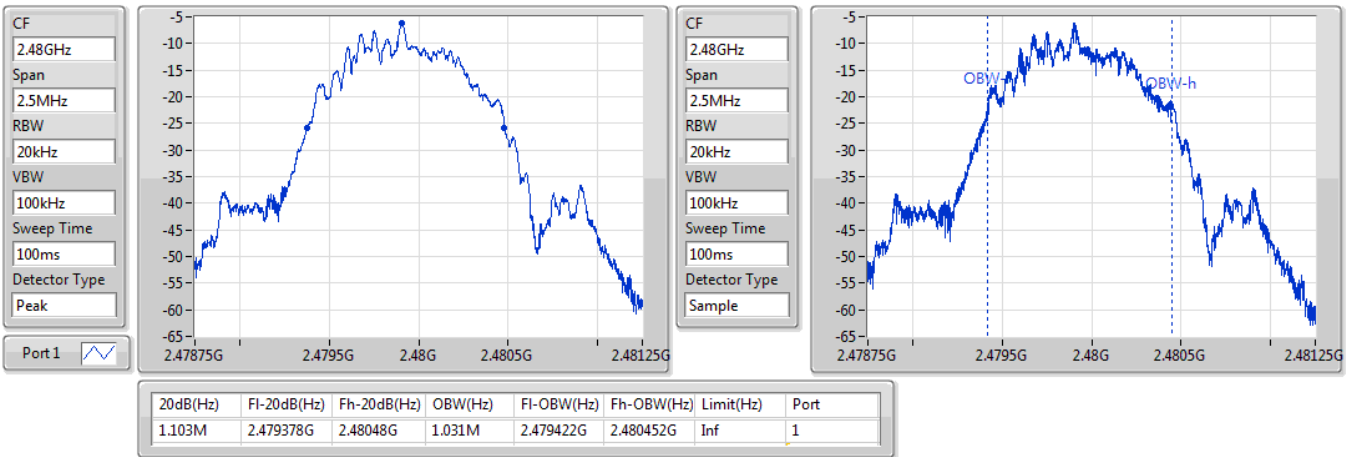


BT-LE(1Mbps)

EBW

2480MHz

25/10/2019





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	1.87	0.00154



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.65	1.86	30.00
2440MHz	Pass	4.65	1.87	30.00
2480MHz	Pass	4.65	1.60	30.00

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



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	-0.76	0.00084



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	8.00	-1.00	28.00
2440MHz	Pass	8.00	-0.96	28.00
2480MHz	Pass	8.00	-0.76	28.00

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



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	-0.76	0.00084



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	7.80	-1.00	28.20
2440MHz	Pass	7.80	-0.96	28.20
2480MHz	Pass	7.80	-0.76	28.20

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-12.93

RBW=3 kHz.



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.65	-12.93	8.00
2440MHz	Pass	4.65	-12.97	8.00
2480MHz	Pass	4.65	-13.25	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;

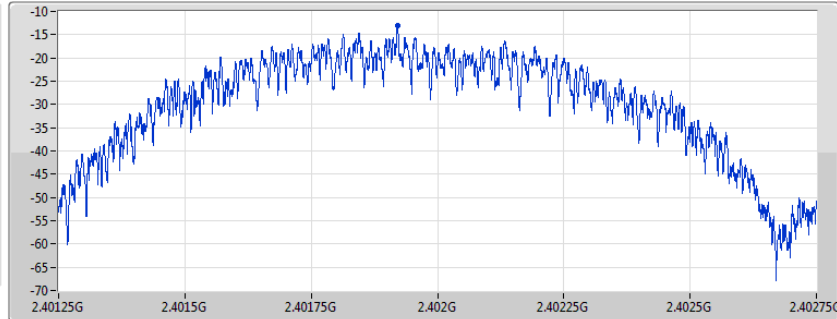
BT-LE(1Mbps)

PSD

2402MHz

03/09/2019

CF
2.402GHz
Span
1.5MHz
RBW
3kHz
VBW
10kHz
Sweep Time
170ms
Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.93	-12.93	-12.93

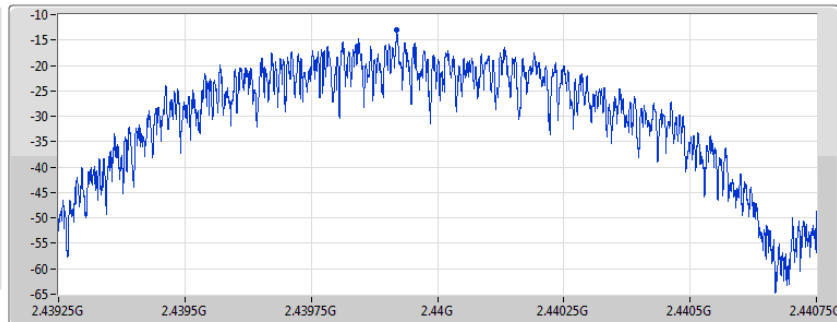
BT-LE(1Mbps)

PSD

2440MHz

03/09/2019

CF
2.44GHz
Span
1.5MHz
RBW
3kHz
VBW
10kHz
Sweep Time
170ms
Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.97	-12.97	-12.97

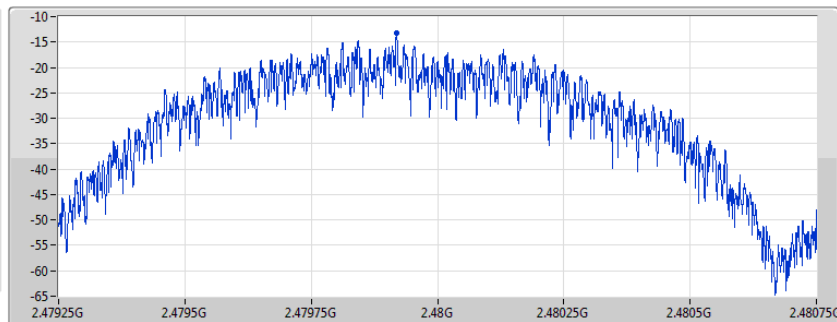
BT-LE(1Mbps)

PSD

2480MHz

03/09/2019

CF
2.48GHz
Span
1.5MHz
RBW
3kHz
VBW
10kHz
Sweep Time
170ms
Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.25	-13.25	-13.25



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-13.64

RBW=3 kHz.



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	8.00	-13.73	6.00
2440MHz	Pass	8.00	-13.64	6.00
2480MHz	Pass	8.00	-13.67	6.00

DG = Directional Gain; RBW=3 kHz;

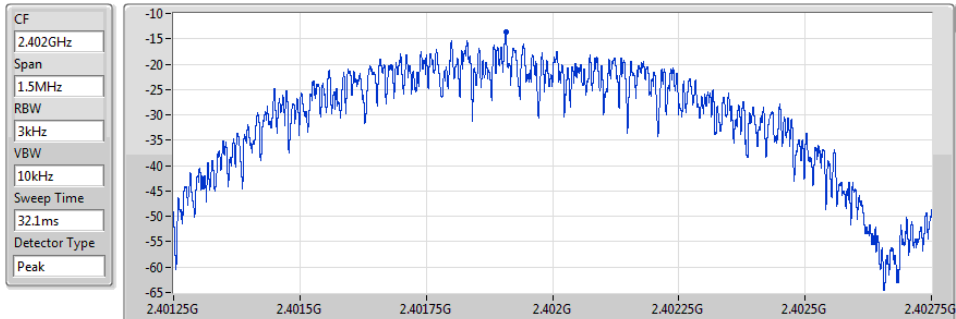
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

BT-LE(1Mbps)

2402MHz

PSD

25/10/2019



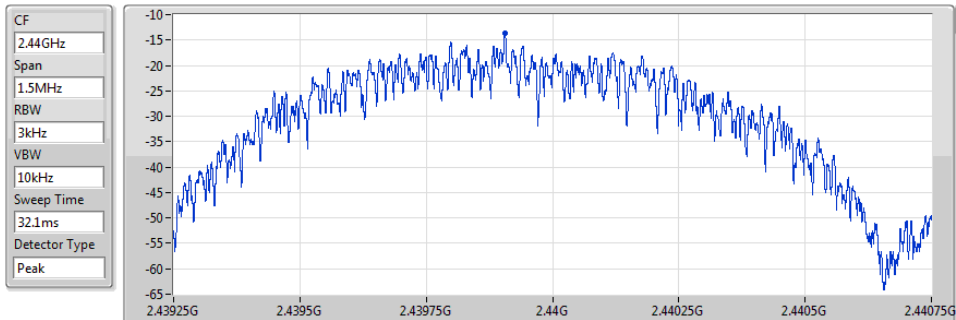
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.73	-13.73	-13.73

BT-LE(1Mbps)

2440MHz

PSD

25/10/2019



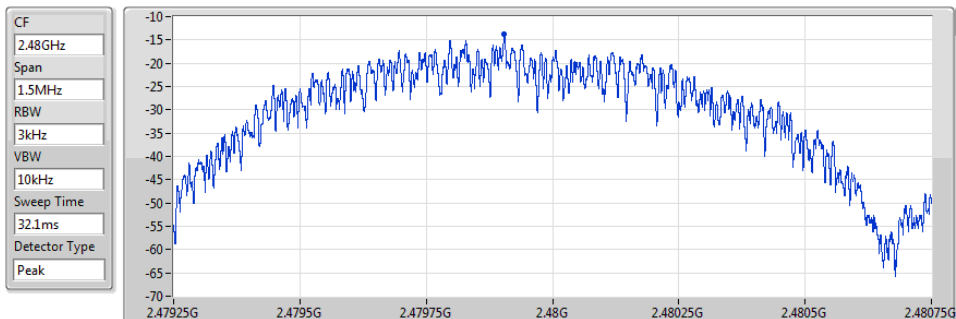
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.64	-13.64	-13.64

BT-LE(1Mbps)

2480MHz

PSD

25/10/2019



Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.67	-13.67	-13.67



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-13.64

RBW=3 kHz.



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	7.80	-13.73	6.20
2440MHz	Pass	7.80	-13.64	6.20
2480MHz	Pass	7.80	-13.67	6.20

DG = Directional Gain; RBW=3 kHz;

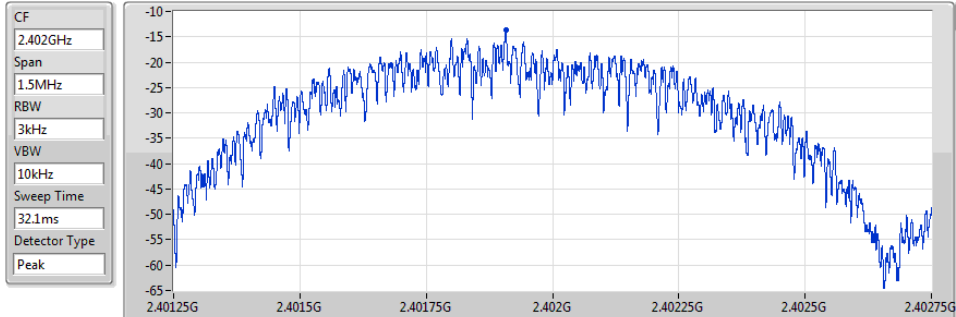
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

BT-LE(1Mbps)

PSD

2402MHz

25/10/2019



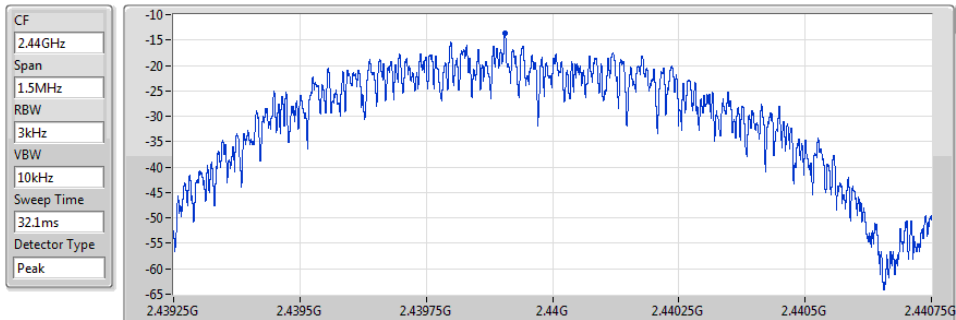
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.73	-13.73	-13.73

BT-LE(1Mbps)

PSD

2440MHz

25/10/2019



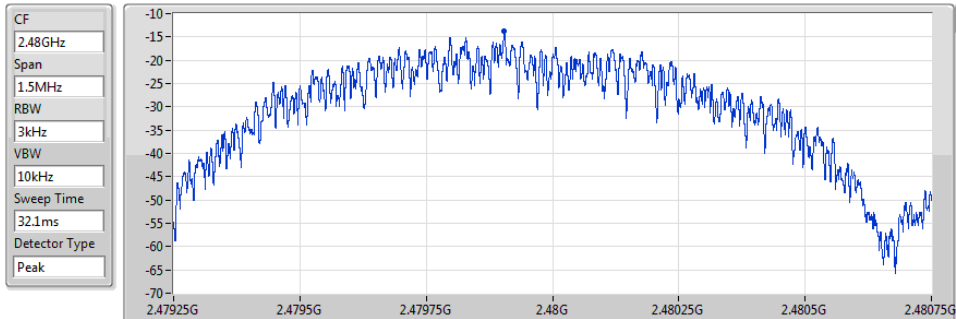
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.64	-13.64	-13.64

BT-LE(1Mbps)

PSD

2480MHz

25/10/2019



Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.67	-13.67	-13.67



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	2.43995G	0.93	-29.07	2.19672G	-54.55	2.39902G	-52.90	2.48371G	-42.61	21.9324G	-45.63	1

Result

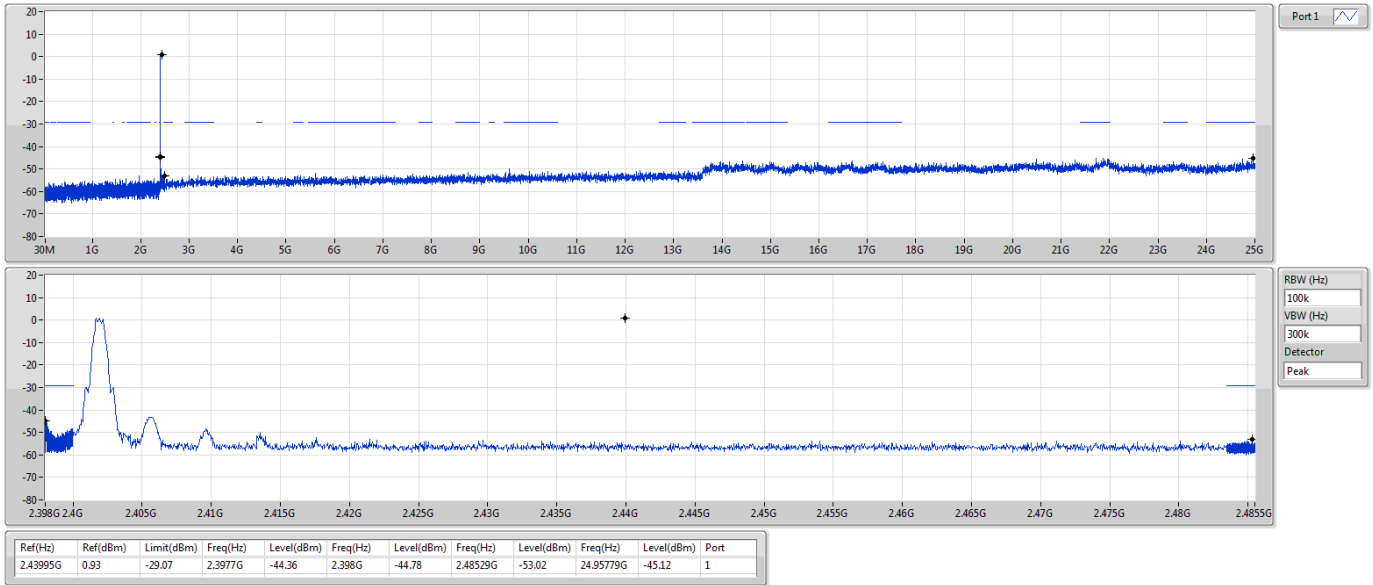
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.43995G	0.93	-29.07	2.3977G	-44.36	2.398G	-44.78	2.48529G	-53.02	24.95779G	-45.12	1
2440MHz	Pass	2.43995G	0.93	-29.07	1.65119G	-54.89	2.39902G	-53.26	2.48381G	-53.71	21.78606G	-44.97	1
2480MHz	Pass	2.43995G	0.93	-29.07	2.19672G	-54.55	2.39902G	-52.90	2.48371G	-42.61	21.9324G	-45.63	1

BT-LE(1Mbps)

2402MHz

CSE NdB

03/09/2019

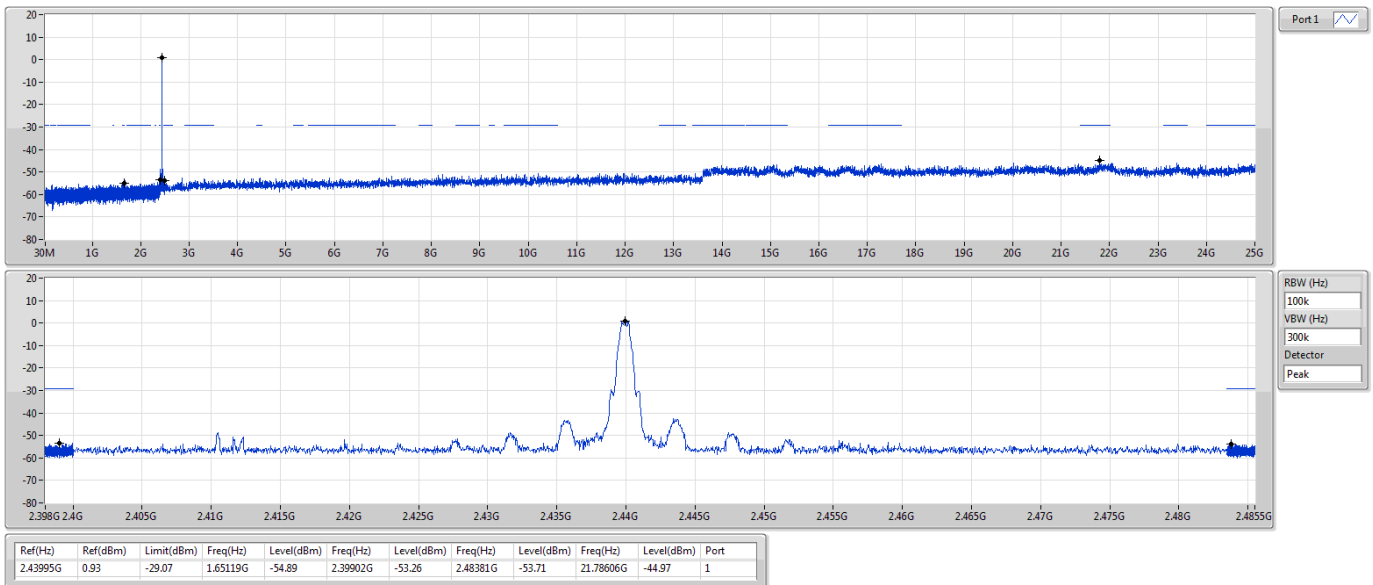


BT-LE(1Mbps)

2440MHz

CSE NdB

03/09/2019



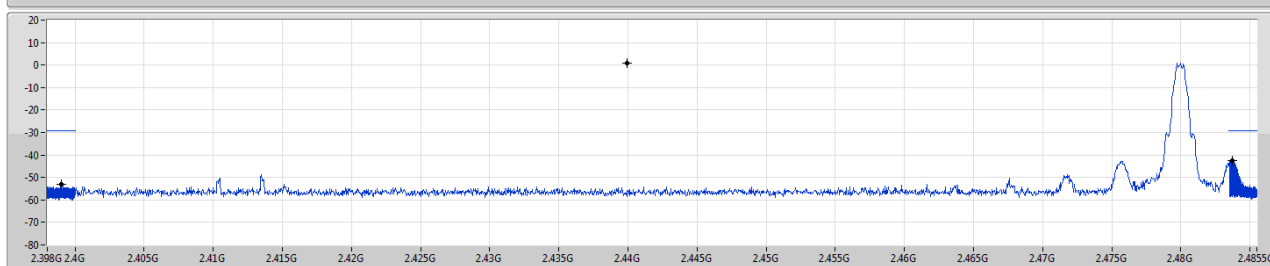
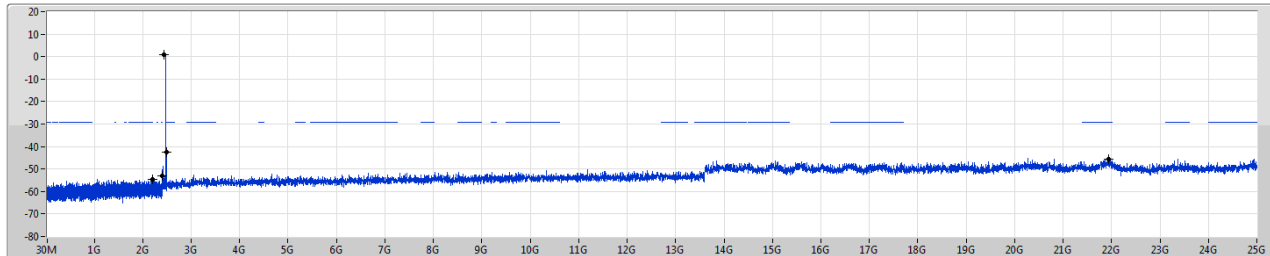
BT-LE(1Mbps)

2480MHz

CSE NdB

03/09/2019

Port1



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

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43995G	0.93	-29.07	2.19672G	-54.55	2.39902G	-52.90	2.48371G	-42.61	2.19324G	-45.63	1



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	2.47995G	-1.69	-31.69	2.17896G	-64.64	2.39991G	-63.20	2.48368G	-45.61	23.12848G	-52.11	1

Result

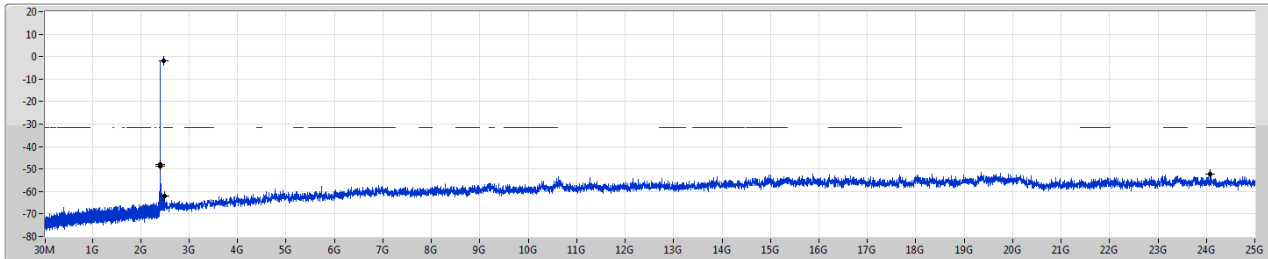
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.47995G	-1.69	-31.69	2.398G	-47.85	2.39801G	-48.62	2.48483G	-62.17	24.08535G	-52.43	1
2440MHz	Pass	2.47995G	-1.69	-31.69	2.30328G	-65.22	2.39969G	-62.76	2.48373G	-60.43	14.99793G	-52.59	1
2480MHz	Pass	2.47995G	-1.69	-31.69	2.17896G	-64.64	2.39991G	-63.20	2.48368G	-45.61	23.12848G	-52.11	1

BT-LE(1Mbps)

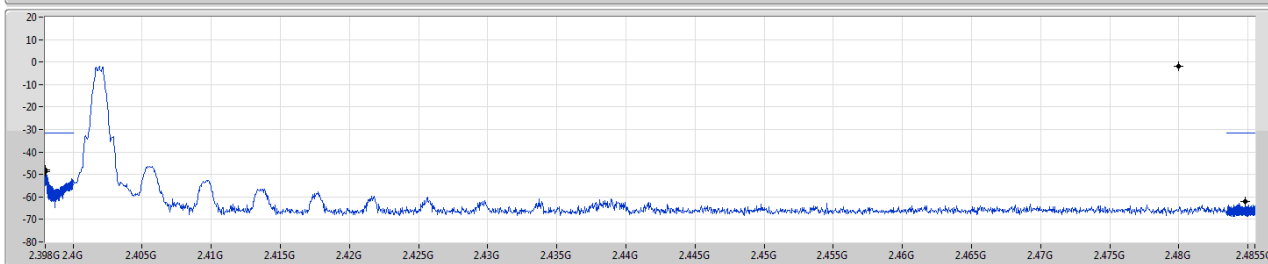
CSE NdB

2402MHz

25/10/2019



Port1



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

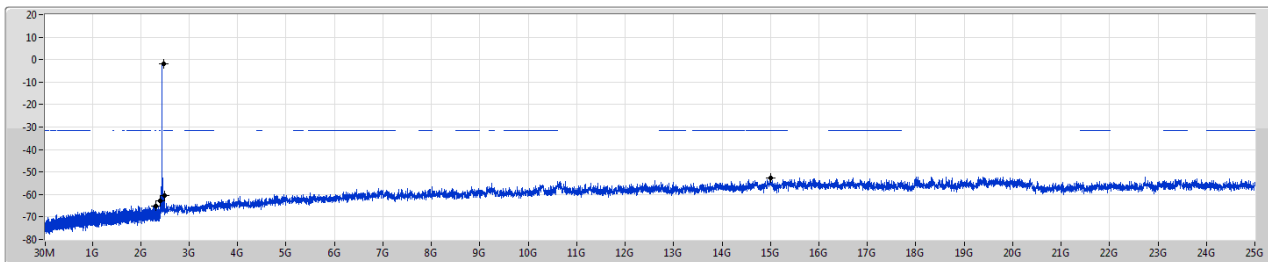
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47995G	-1.69	-31.69	2.398G	-47.85	2.39801G	-48.62	2.48483G	-62.17	2.48535G	-52.43	1

BT-LE(1Mbps)

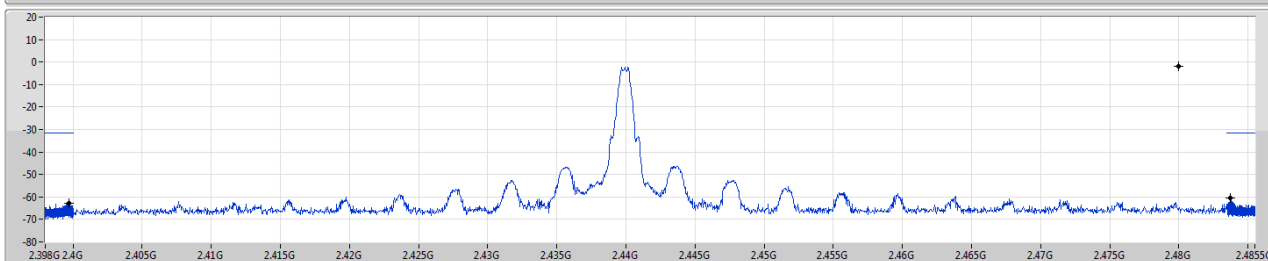
CSE NdB

2440MHz

25/10/2019



Port1



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

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47995G	-1.69	-31.69	2.30328G	-65.22	2.39969G	-62.76	2.48373G	-60.43	2.499793G	-52.59	1

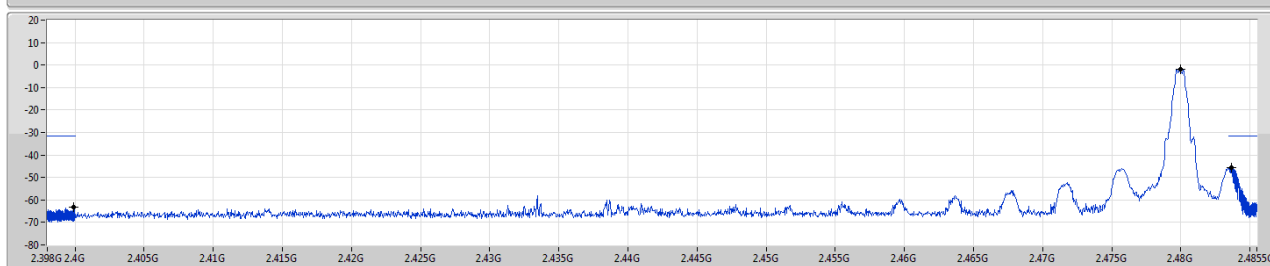
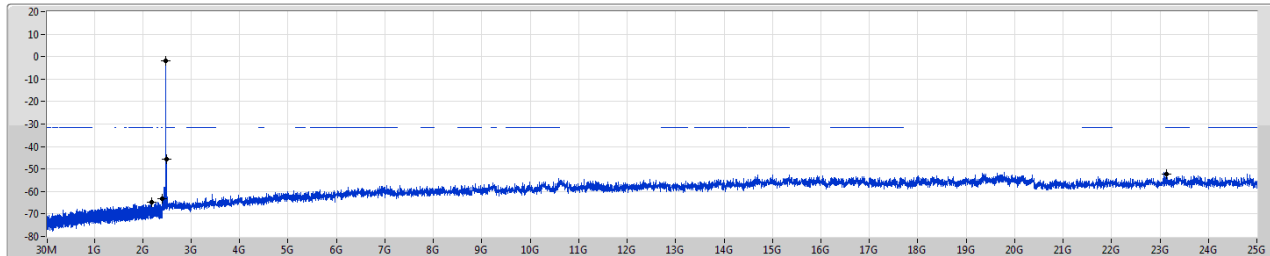
BT-LE(1Mbps)

2480MHz

CSE NdB

25/10/2019

Port1



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

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47995G	-1.69	-31.69	2.17896G	-64.64	2.39991G	-63.20	2.48368G	-45.61	23.12848G	-52.11	1



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	2.47995G	-1.69	-31.69	2.17896G	-64.64	2.39991G	-63.20	2.48368G	-45.61	23.12848G	-52.11	1



Result

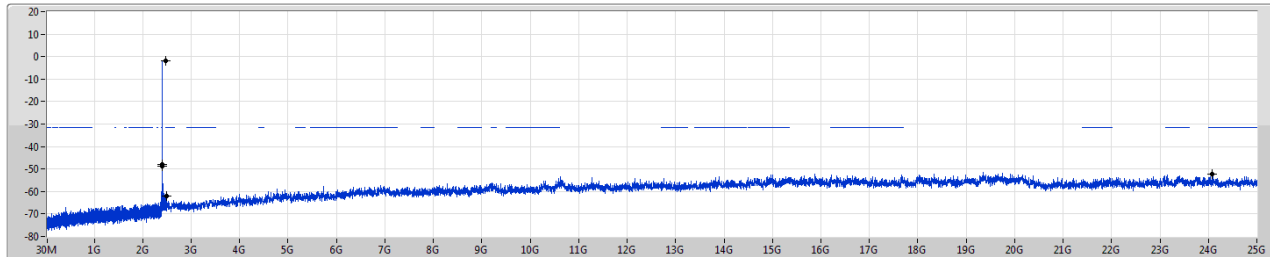
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.47995G	-1.69	-31.69	2.398G	-47.85	2.39801G	-48.62	2.48483G	-62.17	24.08535G	-52.43	1
2440MHz	Pass	2.47995G	-1.69	-31.69	2.30328G	-65.22	2.39969G	-62.76	2.48373G	-60.43	14.99793G	-52.59	1
2480MHz	Pass	2.47995G	-1.69	-31.69	2.17896G	-64.64	2.39991G	-63.20	2.48368G	-45.61	23.12848G	-52.11	1

BT-LE(1Mbps)

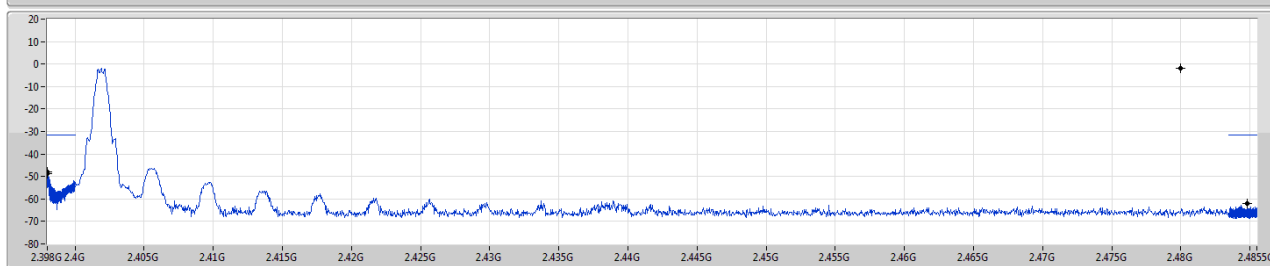
CSE NdB

2402MHz

25/10/2019



Port1



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

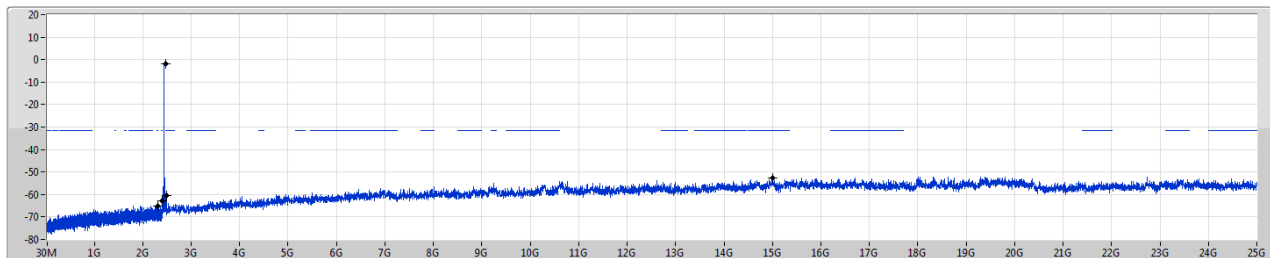
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47995G	-1.69	-31.69	2.398G	-47.85	2.39801G	-48.62	2.48483G	-62.17	2.48535G	-52.43	1

BT-LE(1Mbps)

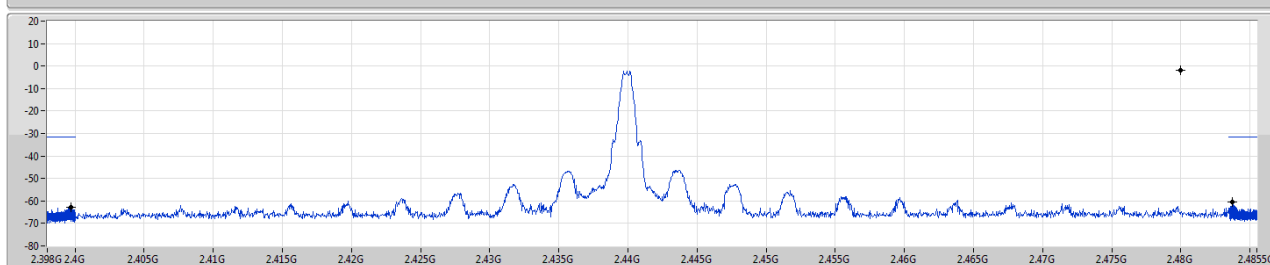
CSE NdB

2440MHz

25/10/2019



Port1



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

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47995G	-1.69	-31.69	2.30328G	-65.22	2.39969G	-62.76	2.48373G	-60.43	2.499793G	-52.59	1

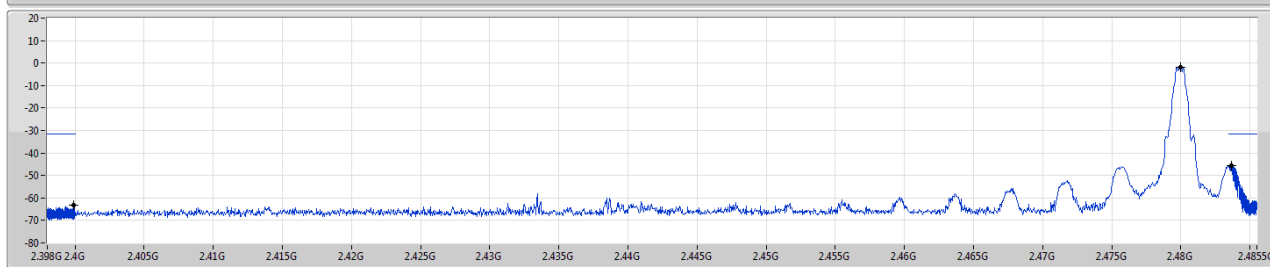
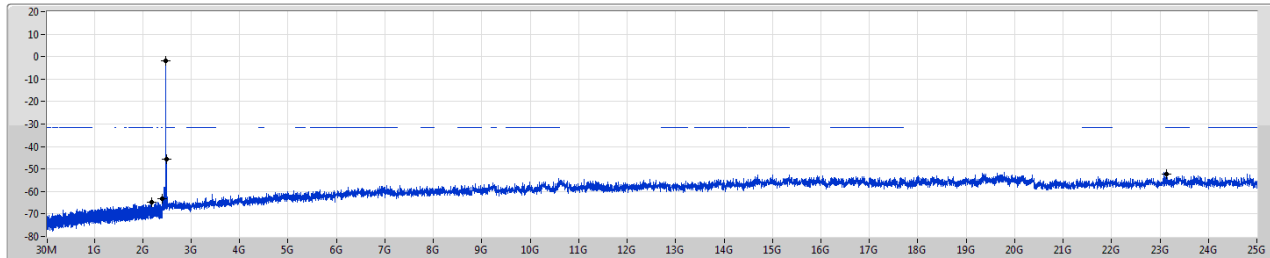
BT-LE(1Mbps)

2480MHz

CSE NdB

25/10/2019

Port1



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

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.47995G	-1.69	-31.69	2.17896G	-64.64	2.39991G	-63.20	2.48368G	-45.61	23.12848G	-52.11	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	382.86M	42.20	46.00	-3.80	3	Vertical	360	1.00	-

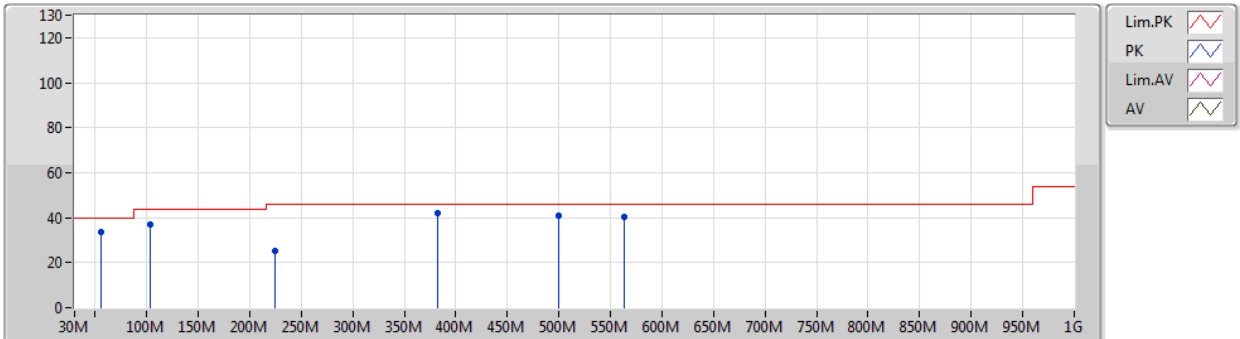
Result

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	55.3M	33.80	40.00	-6.20	3	Vertical	360	1.00	-
2440MHz	Pass	PK	103.1M	37.03	43.50	-6.47	3	Vertical	360	1.00	-
2440MHz	Pass	PK	224M	25.49	46.00	-20.51	3	Vertical	360	1.00	-
2440MHz	Pass	PK	382.86M	42.20	46.00	-3.80	3	Vertical	360	1.00	-
2440MHz	Pass	PK	499.54M	40.72	46.00	-5.28	3	Vertical	360	1.00	-
2440MHz	Pass	PK	562.8M	40.41	46.00	-5.59	3	Vertical	360	1.00	-
2440MHz	Pass	PK	34.22M	31.24	40.00	-8.76	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	141.06M	34.02	43.50	-9.48	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	224M	32.49	46.00	-13.51	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	380.04M	35.33	46.00	-10.67	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	499.54M	40.67	46.00	-5.33	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	700.57M	40.16	46.00	-5.84	3	Horizontal	0	1.00	-

BT-LE(1Mbps)

2440MHz_PoE

04/10/2019

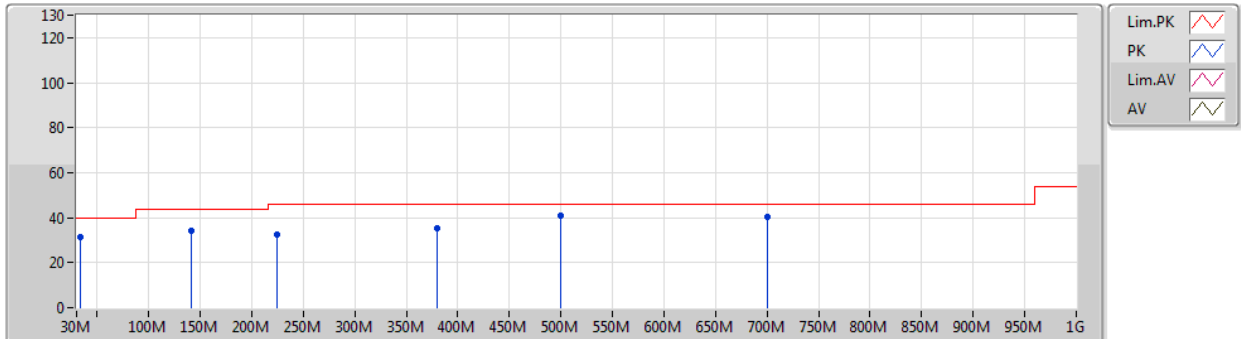


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	55.3M	33.80	40.00	-6.20	-17.14	3	Vertical	360	1.00	-	50.94	12.12	1.27	30.53
PK	103.1M	37.03	43.50	-6.47	-12.67	3	Vertical	360	1.00	-	49.70	16.22	1.58	30.47
PK	224M	25.49	46.00	-20.51	-13.55	3	Vertical	360	1.00	-	39.04	14.72	2.06	30.33
PK	382.86M	42.20	46.00	-3.80	-7.17	3	Vertical	360	1.00	-	49.37	20.20	2.70	30.07
PK	499.54M	40.72	46.00	-5.28	-4.04	3	Vertical	360	1.00	-	44.76	22.58	3.24	29.86
PK	562.8M	40.41	46.00	-5.59	-2.48	3	Vertical	360	1.00	-	42.89	23.95	3.32	29.75

BT-LE(1Mbps)

2440MHz_PoE

04/10/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	34.22M	31.24	40.00	-8.76	-8.32	3	Horizontal	0	1.00	-	39.56	21.26	0.98	30.56
PK	141.06M	34.02	43.50	-9.48	-12.45	3	Horizontal	0	1.00	-	46.47	16.23	1.75	30.43
PK	224M	32.49	46.00	-13.51	-13.55	3	Horizontal	0	1.00	-	46.04	14.72	2.06	30.33
PK	380.04M	35.33	46.00	-10.67	-7.32	3	Horizontal	0	1.00	-	42.65	20.07	2.69	30.08
PK	499.54M	40.67	46.00	-5.33	-4.04	3	Horizontal	0	1.00	-	44.71	22.58	3.24	29.86
PK	700.57M	40.16	46.00	-5.84	-1.62	3	Horizontal	0	1.00	-	41.78	24.03	3.86	29.51



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	2.4842G	49.57	54.00	-4.43	3	Vertical	124	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	2.358G	48.01	54.00	-5.99	3	Vertical	120	2.78	-
2402MHz	Pass	AV	2.402G	98.66	Inf	-Inf	3	Vertical	120	2.78	-
2402MHz	Pass	PK	2.3896G	60.11	74.00	-13.89	3	Vertical	120	2.78	-
2402MHz	Pass	PK	2.4016G	99.52	Inf	-Inf	3	Vertical	120	2.78	-
2402MHz	Pass	AV	2.3874G	48.26	54.00	-5.74	3	Horizontal	341	1.16	-
2402MHz	Pass	AV	2.402G	90.73	Inf	-Inf	3	Horizontal	341	1.16	-
2402MHz	Pass	PK	2.3834G	58.98	74.00	-15.02	3	Horizontal	341	1.16	-
2402MHz	Pass	PK	2.4022G	91.66	Inf	-Inf	3	Horizontal	341	1.16	-
2402MHz	Pass	AV	4.80394G	38.62	54.00	-15.38	3	Vertical	26	1.87	-
2402MHz	Pass	PK	4.80352G	47.96	74.00	-26.04	3	Vertical	26	1.87	-
2402MHz	Pass	AV	4.80358G	35.98	54.00	-18.02	3	Horizontal	0	1.47	-
2402MHz	Pass	PK	4.80466G	46.07	74.00	-27.93	3	Horizontal	0	1.47	-
2440MHz	Pass	AV	2.344G	48.40	54.00	-5.60	3	Vertical	122	2.45	-
2440MHz	Pass	AV	2.44G	98.35	Inf	-Inf	3	Vertical	122	2.45	-
2440MHz	Pass	AV	2.4864G	48.86	54.00	-5.14	3	Vertical	122	2.45	-
2440MHz	Pass	PK	2.344G	59.06	74.00	-14.94	3	Vertical	122	2.45	-
2440MHz	Pass	PK	2.4396G	99.20	Inf	-Inf	3	Vertical	122	2.45	-
2440MHz	Pass	PK	2.4972G	59.74	74.00	-14.26	3	Vertical	122	2.45	-
2440MHz	Pass	AV	2.3784G	48.25	54.00	-5.75	3	Horizontal	197	2.95	-
2440MHz	Pass	AV	2.44G	93.31	Inf	-Inf	3	Horizontal	197	2.95	-
2440MHz	Pass	AV	2.4928G	48.85	54.00	-5.15	3	Horizontal	197	2.95	-
2440MHz	Pass	PK	2.3416G	59.65	74.00	-14.35	3	Horizontal	197	2.95	-
2440MHz	Pass	PK	2.4396G	94.18	Inf	-Inf	3	Horizontal	197	2.95	-
2440MHz	Pass	PK	2.4912G	60.22	74.00	-13.78	3	Horizontal	197	2.95	-
2440MHz	Pass	AV	4.87958G	37.55	54.00	-16.45	3	Vertical	25	2.24	-
2440MHz	Pass	AV	7.3191G	40.56	54.00	-13.44	3	Vertical	309	2.47	-
2440MHz	Pass	PK	4.87964G	47.90	74.00	-26.10	3	Vertical	25	2.24	-
2440MHz	Pass	PK	7.30596G	51.71	74.00	-22.29	3	Vertical	309	2.47	-
2440MHz	Pass	AV	4.87952G	35.16	54.00	-18.84	3	Horizontal	0	1.39	-
2440MHz	Pass	AV	7.33188G	40.18	54.00	-13.82	3	Horizontal	315	2.91	-
2440MHz	Pass	PK	4.87976G	45.67	74.00	-28.33	3	Horizontal	0	1.39	-
2440MHz	Pass	PK	7.31946G	51.46	74.00	-22.54	3	Horizontal	315	2.91	-
2480MHz	Pass	AV	2.48G	98.56	Inf	-Inf	3	Vertical	124	2.71	-
2480MHz	Pass	AV	2.4842G	49.57	54.00	-4.43	3	Vertical	124	2.71	-
2480MHz	Pass	PK	2.4798G	99.39	Inf	-Inf	3	Vertical	124	2.71	-
2480MHz	Pass	PK	2.4836G	68.96	74.00	-5.04	3	Vertical	124	2.71	-
2480MHz	Pass	AV	2.48G	91.97	Inf	-Inf	3	Horizontal	196	2.54	-
2480MHz	Pass	AV	2.4836G	48.85	54.00	-5.15	3	Horizontal	196	2.54	-
2480MHz	Pass	PK	2.4802G	92.88	Inf	-Inf	3	Horizontal	196	2.54	-
2480MHz	Pass	PK	2.4836G	63.73	74.00	-10.27	3	Horizontal	196	2.54	-
2480MHz	Pass	AV	4.97182G	44.93	54.00	-9.07	3	Vertical	34	2.61	-
2480MHz	Pass	AV	7.45242G	39.64	54.00	-14.36	3	Vertical	191	2.10	-
2480MHz	Pass	PK	4.96978G	54.76	74.00	-19.24	3	Vertical	34	2.61	-
2480MHz	Pass	PK	7.44738G	50.75	74.00	-23.25	3	Vertical	191	2.10	-
2480MHz	Pass	AV	4.95928G	39.12	54.00	-14.88	3	Horizontal	312	2.62	-
2480MHz	Pass	AV	7.452G	39.95	54.00	-14.05	3	Horizontal	23	2.61	-
2480MHz	Pass	PK	4.96078G	48.99	74.00	-25.01	3	Horizontal	312	2.62	-

Remark :

Page No. : F2 of F15

Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

970235



RSE TX above 1GHz_Sample 1

Appendix F.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	PK	7.45452G	50.94	74.00	-23.06	3	Horizontal	23	2.61	-

Remark :

Page No. : F3 of F15

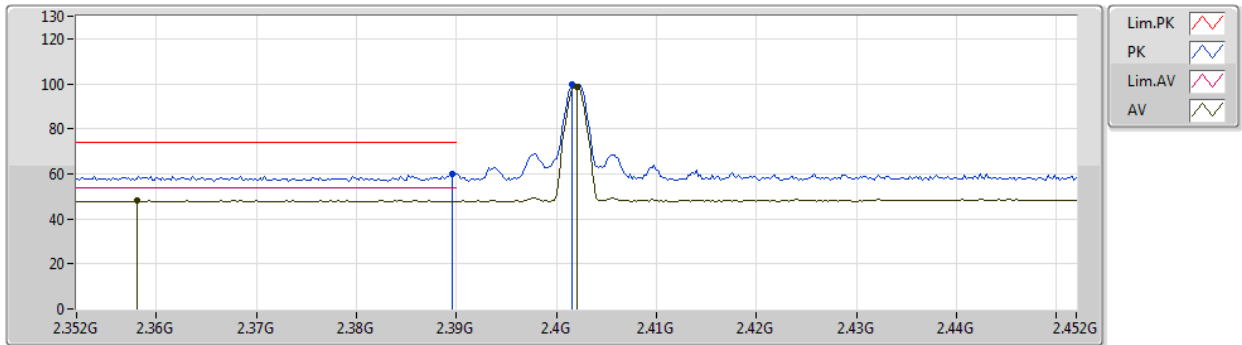
Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

970235

BT-LE(1Mbps)

2402MHz_TX

06/09/2019

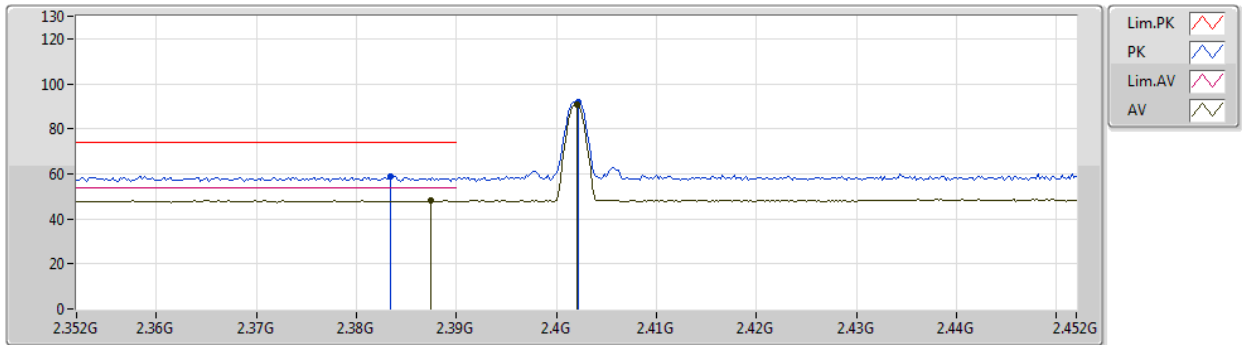


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	2.358G	48.01	54.00	-5.99	31.64	16.37	3	Vertical	120	2.78	-	27.67	3.97	-
AV	2.402G	98.66	Inf	-Inf	31.51	67.15	3	Vertical	120	2.78	-	27.50	4.01	-
PK	2.3896G	60.11	74.00	-13.89	31.54	28.57	3	Vertical	120	2.78	-	27.54	4.00	-
PK	2.4016G	99.52	Inf	-Inf	31.51	68.01	3	Vertical	120	2.78	-	27.50	4.01	-

BT-LE(1Mbps)

2402MHz_TX

06/09/2019

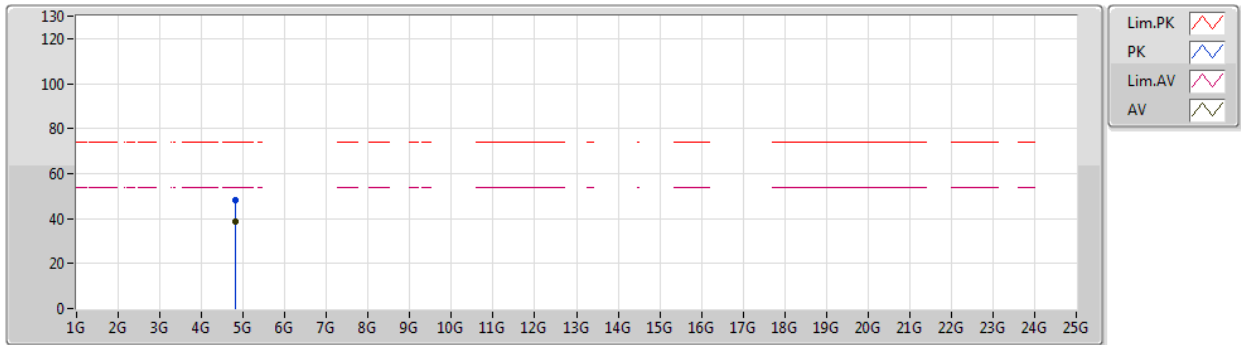


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	2.3874G	48.26	54.00	-5.74	31.54	16.72	3	Horizontal	341	1.16	-	27.55	3.99	-
AV	2.402G	90.73	Inf	-Inf	31.51	59.22	3	Horizontal	341	1.16	-	27.50	4.01	-
PK	2.3834G	58.98	74.00	-15.02	31.56	27.42	3	Horizontal	341	1.16	-	27.57	3.99	-
PK	2.4022G	91.66	Inf	-Inf	31.51	60.15	3	Horizontal	341	1.16	-	27.50	4.01	-

BT-LE(1Mbps)

2402MHz_TX

06/09/2019

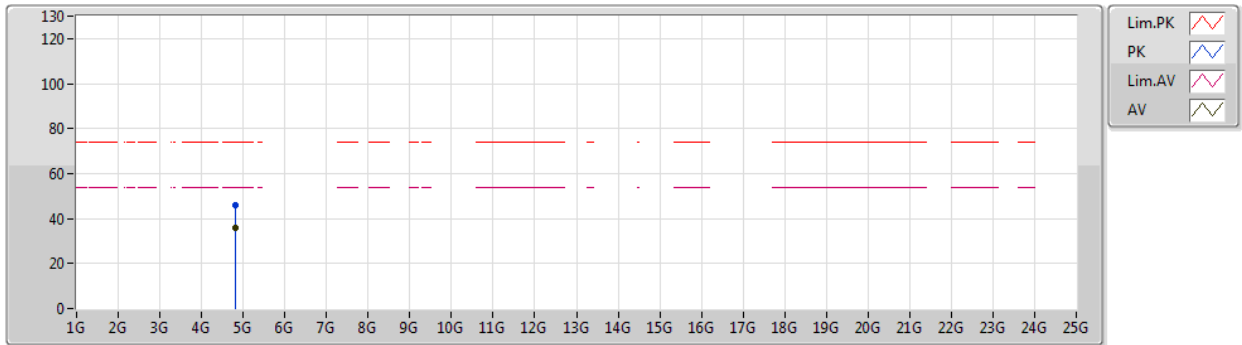


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	4.80394G	38.62	54.00	-15.38	7.10	31.52	3	Vertical	26	1.87	-	31.10	5.78	29.78
PK	4.80352G	47.96	74.00	-26.04	7.10	40.86	3	Vertical	26	1.87	-	31.10	5.78	29.78

BT-LE(1Mbps)

06/09/2019

2402MHz_TX

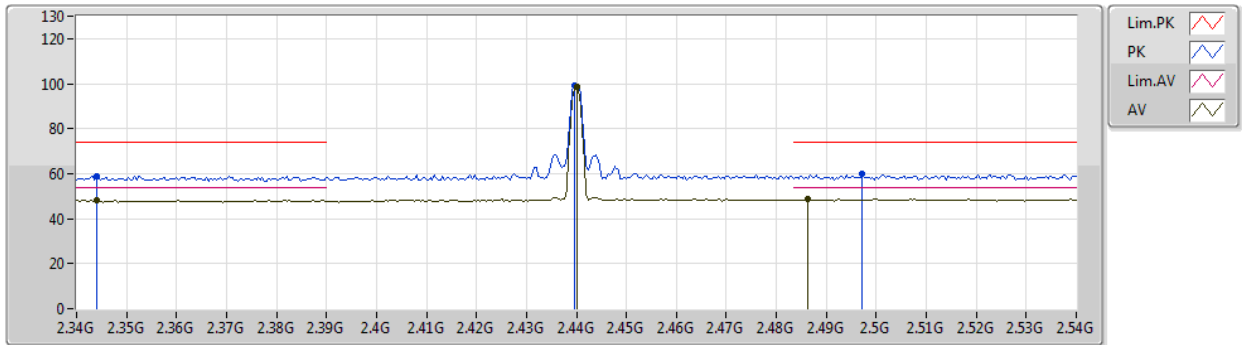


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	4.80358G	35.98	54.00	-18.02	7.10	28.88	3	Horizontal	0	1.47	-	31.10	5.78	29.78
PK	4.80466G	46.07	74.00	-27.93	7.10	38.97	3	Horizontal	0	1.47	-	31.10	5.78	29.78

BT-LE(1Mbps)

2440MHz_TX

06/09/2019

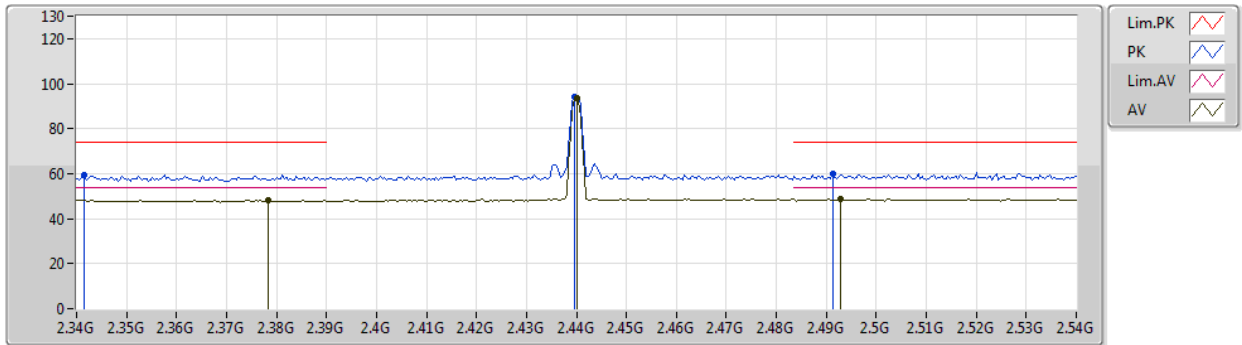


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	2.344G	48.40	54.00	-5.60	31.67	16.73	3	Vertical	122	2.45	-	27.72	3.95	-
AV	2.44G	98.35	Inf	-Inf	31.46	66.89	3	Vertical	122	2.45	-	27.42	4.04	-
AV	2.4864G	48.86	54.00	-5.14	31.42	17.44	3	Vertical	122	2.45	-	27.33	4.09	-
PK	2.344G	59.06	74.00	-14.94	31.67	27.39	3	Vertical	122	2.45	-	27.72	3.95	-
PK	2.4396G	99.20	Inf	-Inf	31.46	67.74	3	Vertical	122	2.45	-	27.42	4.04	-
PK	2.4972G	59.74	74.00	-14.26	31.41	28.33	3	Vertical	122	2.45	-	27.31	4.10	-

BT-LE(1Mbps)

2440MHz_TX

06/09/2019

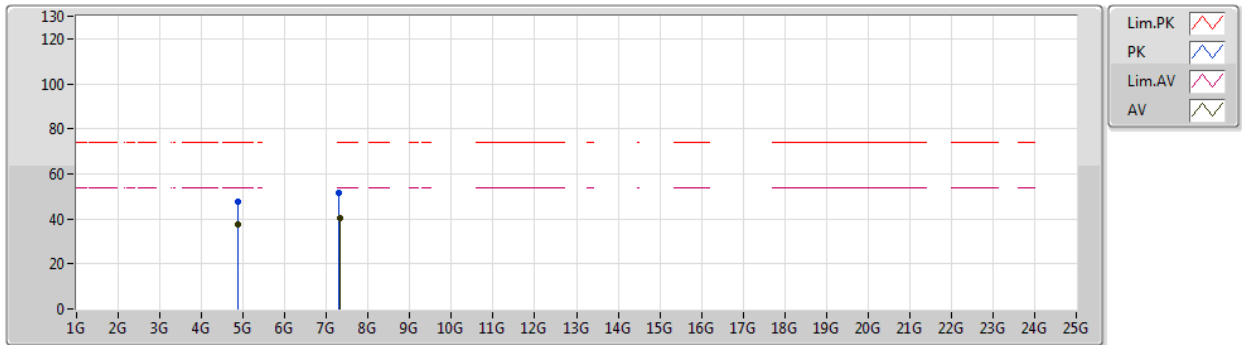


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	2.3784G	48.25	54.00	-5.75	31.58	16.67	3	Horizontal	197	2.95	-	27.59	3.99	-
AV	2.44G	93.31	Inf	-Inf	31.46	61.85	3	Horizontal	197	2.95	-	27.42	4.04	-
AV	2.4928G	48.85	54.00	-5.15	31.40	17.45	3	Horizontal	197	2.95	-	27.31	4.09	-
PK	2.3416G	59.65	74.00	-14.35	31.68	27.97	3	Horizontal	197	2.95	-	27.73	3.95	-
PK	2.4396G	94.18	Inf	-Inf	31.46	62.72	3	Horizontal	197	2.95	-	27.42	4.04	-
PK	2.4912G	60.22	74.00	-13.78	31.41	28.81	3	Horizontal	197	2.95	-	27.32	4.09	-

BT-LE(1Mbps)

2440MHz_TX

06/09/2019

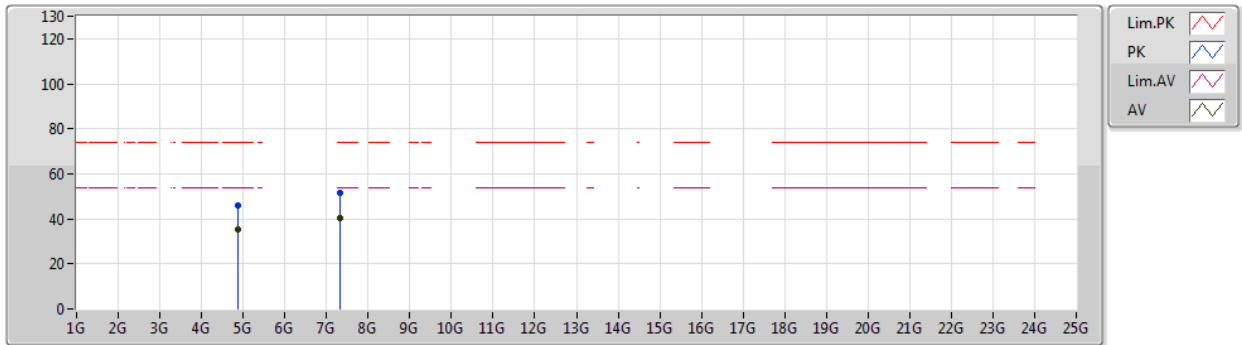


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	4.87958G	37.55	54.00	-16.45	7.24	30.31	3	Vertical	25	2.24	-	31.18	5.83	29.77
AV	7.3191G	40.56	54.00	-13.44	13.03	27.53	3	Vertical	309	2.47	-	36.28	7.46	30.71
PK	4.87964G	47.90	74.00	-26.10	7.24	40.66	3	Vertical	25	2.24	-	31.18	5.83	29.77
PK	7.30596G	51.71	74.00	-22.29	13.09	38.62	3	Vertical	309	2.47	-	36.29	7.49	30.69

BT-LE(1Mbps)

2440MHz_TX

06/09/2019

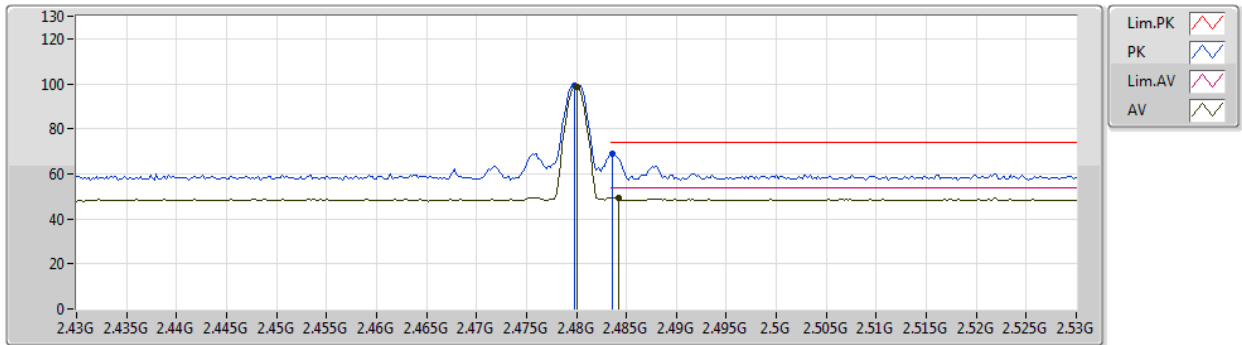


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	4.87952G	35.16	54.00	-18.84	7.24	27.92	3	Horizontal	0	1.39	-	31.18	5.83	29.77
AV	7.33188G	40.18	54.00	-13.82	12.99	27.19	3	Horizontal	315	2.91	-	36.27	7.44	30.72
PK	4.87976G	45.67	74.00	-28.33	7.24	38.43	3	Horizontal	0	1.39	-	31.18	5.83	29.77
PK	7.31946G	51.46	74.00	-22.54	13.03	38.43	3	Horizontal	315	2.91	-	36.28	7.46	30.71

BT-LE(1Mbps)

2480MHz_TX

06/09/2019

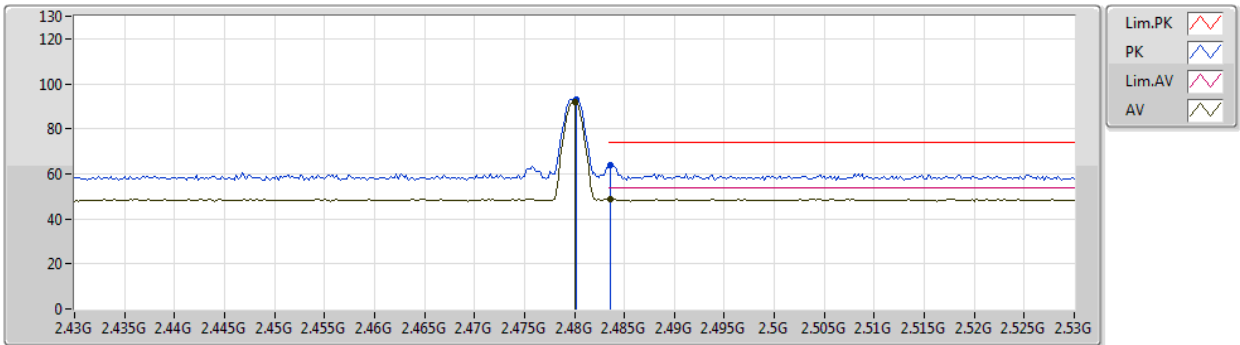


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	98.56	Inf	-Inf	31.42	67.14	3	Vertical	124	2.71	-	27.34	4.08	-
AV	2.4842G	49.57	54.00	-4.43	31.42	18.15	3	Vertical	124	2.71	-	27.33	4.09	-
PK	2.4798G	99.39	Inf	-Inf	31.42	67.97	3	Vertical	124	2.71	-	27.34	4.08	-
PK	2.4836G	68.96	74.00	-5.04	31.41	37.55	3	Vertical	124	2.71	-	27.33	4.08	-

BT-LE(1Mbps)

2480MHz_TX

06/09/2019

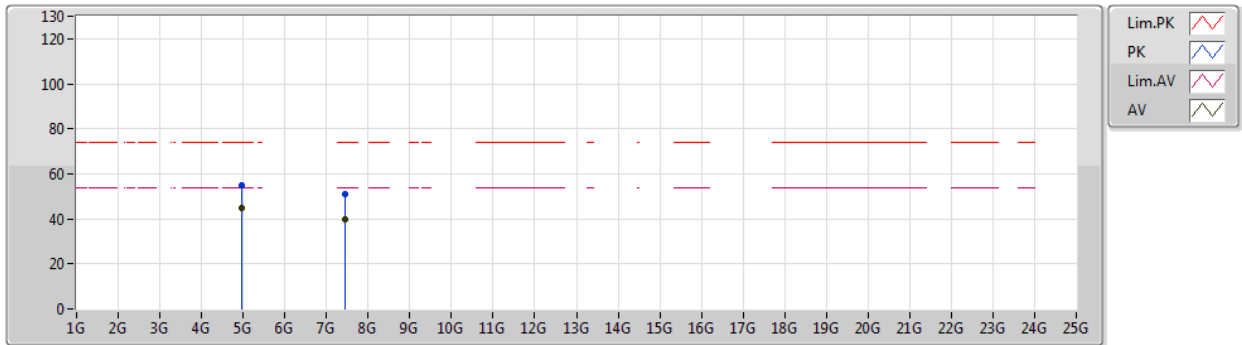


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	91.97	Inf	-Inf	31.42	60.55	3	Horizontal	196	2.54	-	27.34	4.08	-
AV	2.4836G	48.85	54.00	-5.15	31.41	17.44	3	Horizontal	196	2.54	-	27.33	4.08	-
PK	2.4802G	92.88	Inf	-Inf	31.42	61.46	3	Horizontal	196	2.54	-	27.34	4.08	-
PK	2.4836G	63.73	74.00	-10.27	31.41	32.32	3	Horizontal	196	2.54	-	27.33	4.08	-

BT-LE(1Mbps)

2480MHz_TX

06/09/2019

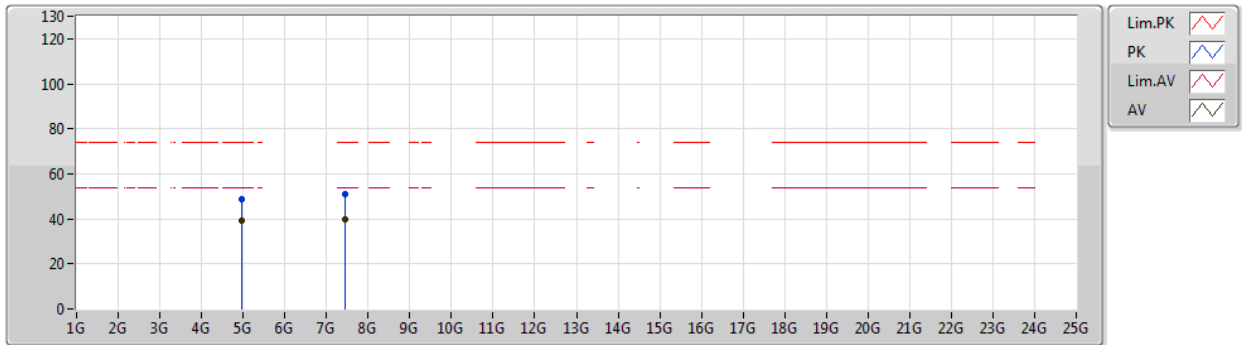


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	4.97182G	44.93	54.00	-9.07	7.56	37.37	3	Vertical	34	2.61	-	31.42	5.90	29.76
AV	7.45242G	39.64	54.00	-14.36	12.66	26.98	3	Vertical	191	2.10	-	36.25	7.22	30.81
PK	4.96978G	54.76	74.00	-19.24	7.55	47.21	3	Vertical	34	2.61	-	31.41	5.90	29.76
PK	7.44738G	50.75	74.00	-23.25	12.67	38.08	3	Vertical	191	2.10	-	36.25	7.23	30.81

BT-LE(1Mbps)

2480MHz_TX

06/09/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
AV	4.95928G	39.12	54.00	-14.88	7.51	31.61	3	Horizontal	312	2.62	-	31.38	5.89	29.76
AV	7.452G	39.95	54.00	-14.05	12.66	27.29	3	Horizontal	23	2.61	-	36.25	7.22	30.81
PK	4.96078G	48.99	74.00	-25.01	7.51	41.48	3	Horizontal	312	2.62	-	31.38	5.89	29.76
PK	7.45452G	50.94	74.00	-23.06	12.65	38.29	3	Horizontal	23	2.61	-	36.25	7.21	30.81



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	33.88M	36.50	40.00	-3.50	3	Horizontal	360	1.00	-

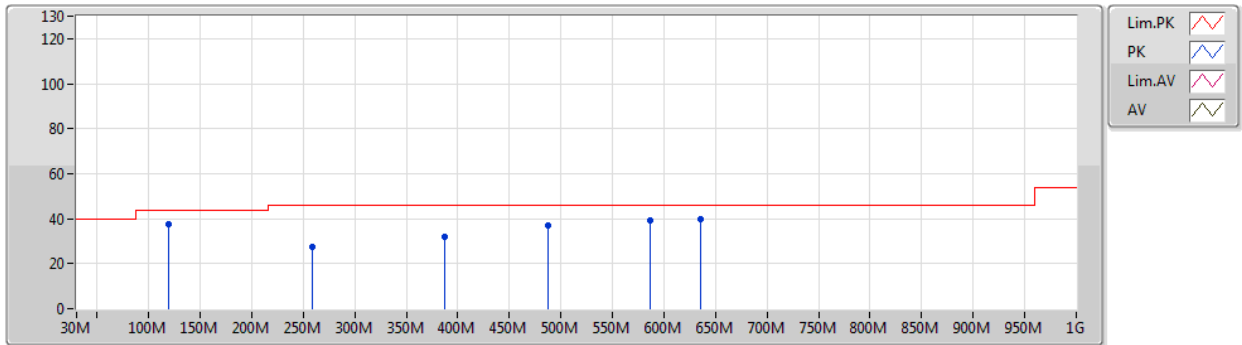
**Result**

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	119.24M	37.82	43.50	-5.68	3	Vertical	0	1.00	-
2440MHz	Pass	PK	258.92M	27.60	46.00	-18.40	3	Vertical	0	1.00	-
2440MHz	Pass	PK	386.96M	32.17	46.00	-13.83	3	Vertical	0	1.00	-
2440MHz	Pass	PK	487.84M	36.92	46.00	-9.08	3	Vertical	0	1.00	-
2440MHz	Pass	PK	586.78M	39.30	46.00	-6.70	3	Vertical	0	1.00	-
2440MHz	Pass	PK	635.28M	39.52	46.00	-6.48	3	Vertical	0	1.00	-
2440MHz	Pass	PK	33.88M	36.50	40.00	-3.50	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	383.08M	38.96	46.00	-7.04	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	563.5M	38.39	46.00	-7.61	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	699.3M	41.48	46.00	-4.52	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	821.52M	38.12	46.00	-7.88	3	Horizontal	360	1.00	-
2440MHz	Pass	QP	119.24M	39.08	43.50	-4.42	3	Horizontal	256	1.80	-

BT-LE(1Mbps)

2440MHz_PoE

04/10/2019

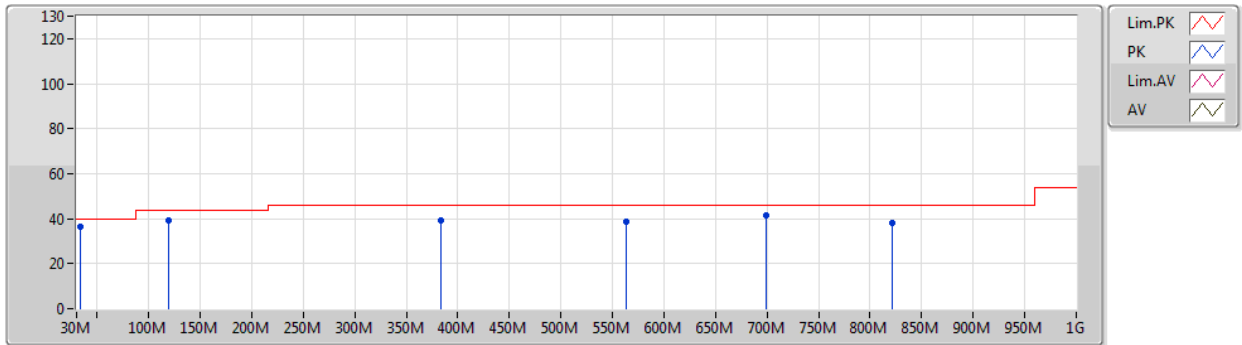


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	119.24M	37.82	43.50	-5.68	-8.43	3	Vertical	0	1.00	-	46.25	17.21	1.67	27.31
PK	258.92M	27.60	46.00	-18.40	-5.64	3	Vertical	0	1.00	-	33.24	18.57	2.52	26.73
PK	386.96M	32.17	46.00	-13.83	-3.73	3	Vertical	0	1.00	-	35.90	20.35	3.13	27.21
PK	487.84M	36.92	46.00	-9.08	-1.56	3	Vertical	0	1.00	-	38.48	22.67	3.56	27.79
PK	586.78M	39.30	46.00	-6.70	-0.56	3	Vertical	0	1.00	-	39.86	23.49	4.00	28.05
PK	635.28M	39.52	46.00	-6.48	0.30	3	Vertical	0	1.00	-	39.22	24.25	4.15	28.10

BT-LE(1Mbps)

2440MHz_PoE

04/10/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	33.88M	36.50	40.00	-3.50	-5.91	3	Horizontal	360	1.00	-	42.41	20.79	0.86	27.56
PK	383.08M	38.96	46.00	-7.04	-3.88	3	Horizontal	360	1.00	-	42.84	20.20	3.11	27.19
PK	563.5M	38.39	46.00	-7.61	-0.38	3	Horizontal	360	1.00	-	38.77	23.82	3.85	28.05
PK	699.3M	41.48	46.00	-4.52	0.37	3	Horizontal	360	1.00	-	41.11	24.05	4.36	28.04
PK	821.52M	38.12	46.00	-7.88	2.13	3	Horizontal	360	1.00	-	35.99	25.14	4.80	27.81
QP	119.24M	39.08	43.50	-4.42	-8.43	3	Horizontal	256	1.80	-	47.51	17.21	1.67	27.31



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	2.4835G	71.22	74.00	-2.78	3	Vertical	337	1.60	-

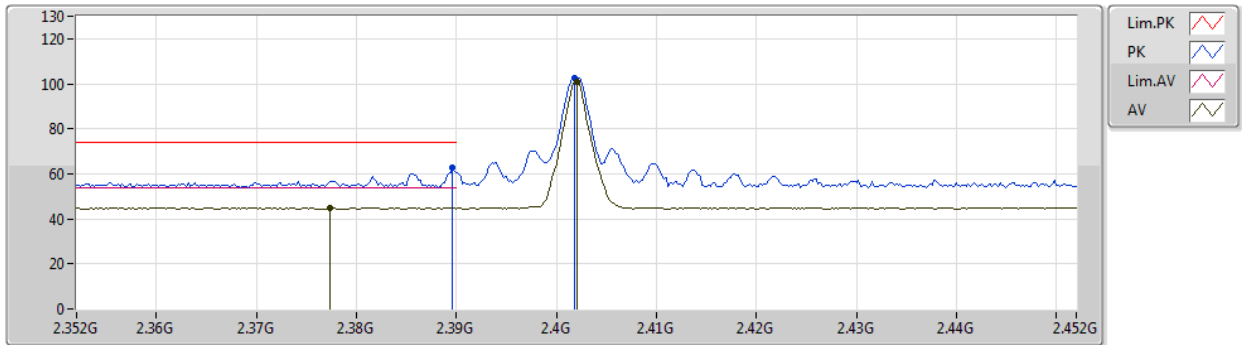
Result

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	2.3774G	45.10	54.00	-8.90	3	Vertical	328	1.61	-
2402MHz	Pass	AV	2.402G	100.99	Inf	-Inf	3	Vertical	328	1.61	-
2402MHz	Pass	PK	2.3896G	62.54	74.00	-11.46	3	Vertical	328	1.61	-
2402MHz	Pass	PK	2.4018G	102.38	Inf	-Inf	3	Vertical	328	1.61	-
2402MHz	Pass	AV	2.3736G	45.24	54.00	-8.76	3	Horizontal	328	1.44	-
2402MHz	Pass	AV	2.402G	88.35	Inf	-Inf	3	Horizontal	328	1.44	-
2402MHz	Pass	PK	2.3668G	56.38	74.00	-17.62	3	Horizontal	328	1.44	-
2402MHz	Pass	PK	2.4018G	89.78	Inf	-Inf	3	Horizontal	328	1.44	-
2402MHz	Pass	AV	4.7911G	39.05	54.00	-14.95	3	Vertical	211	2.35	-
2402MHz	Pass	PK	4.8052G	48.44	74.00	-25.56	3	Vertical	211	2.35	-
2402MHz	Pass	AV	4.8049G	37.06	54.00	-16.94	3	Horizontal	26	1.88	-
2402MHz	Pass	PK	4.80922G	46.96	74.00	-27.04	3	Horizontal	26	1.88	-
2440MHz	Pass	AV	2.3748G	45.00	54.00	-9.00	3	Vertical	0	1.70	-
2440MHz	Pass	AV	2.44G	102.04	Inf	-Inf	3	Vertical	0	1.70	-
2440MHz	Pass	AV	2.498G	45.23	54.00	-8.77	3	Vertical	0	1.70	-
2440MHz	Pass	PK	2.3636G	56.48	74.00	-17.52	3	Vertical	0	1.70	-
2440MHz	Pass	PK	2.4396G	103.43	Inf	-Inf	3	Vertical	0	1.70	-
2440MHz	Pass	PK	2.4856G	56.39	74.00	-17.61	3	Vertical	0	1.70	-
2440MHz	Pass	AV	2.3884G	44.92	54.00	-9.08	3	Horizontal	336	1.40	-
2440MHz	Pass	AV	2.44G	89.19	Inf	-Inf	3	Horizontal	336	1.40	-
2440MHz	Pass	AV	2.4928G	45.41	54.00	-8.59	3	Horizontal	336	1.40	-
2440MHz	Pass	PK	2.3864G	56.05	74.00	-17.95	3	Horizontal	336	1.40	-
2440MHz	Pass	PK	2.4396G	90.71	Inf	-Inf	3	Horizontal	336	1.40	-
2440MHz	Pass	PK	2.4936G	56.83	74.00	-17.17	3	Horizontal	336	1.40	-
2440MHz	Pass	AV	4.88025G	40.13	54.00	-13.87	3	Vertical	116	2.00	-
2440MHz	Pass	PK	4.87802G	49.59	74.00	-24.41	3	Vertical	116	2.00	-
2440MHz	Pass	AV	4.87969G	38.04	54.00	-15.96	3	Horizontal	223	1.14	-
2440MHz	Pass	PK	4.88031G	47.79	74.00	-26.21	3	Horizontal	223	1.14	-
2480MHz	Pass	AV	2.48G	101.77	Inf	-Inf	3	Vertical	337	1.60	-
2480MHz	Pass	AV	2.4835G	48.72	54.00	-5.28	3	Vertical	337	1.60	-
2480MHz	Pass	PK	2.4798G	103.19	Inf	-Inf	3	Vertical	337	1.60	-
2480MHz	Pass	PK	2.4835G	71.22	74.00	-2.78	3	Vertical	337	1.60	-
2480MHz	Pass	AV	2.48G	93.70	Inf	-Inf	3	Horizontal	49	1.96	-
2480MHz	Pass	AV	2.4835G	45.74	54.00	-8.26	3	Horizontal	49	1.96	-
2480MHz	Pass	PK	2.4798G	95.04	Inf	-Inf	3	Horizontal	49	1.96	-
2480MHz	Pass	PK	2.4836G	64.54	74.00	-9.46	3	Horizontal	49	1.96	-
2480MHz	Pass	AV	4.95992G	38.05	54.00	-15.95	3	Vertical	0	3.00	-
2480MHz	Pass	PK	4.9604G	47.17	74.00	-26.83	3	Vertical	0	3.00	-
2480MHz	Pass	AV	4.9595G	36.44	54.00	-17.56	3	Horizontal	354	1.76	-
2480MHz	Pass	PK	4.95978G	45.43	74.00	-28.57	3	Horizontal	354	1.76	-

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

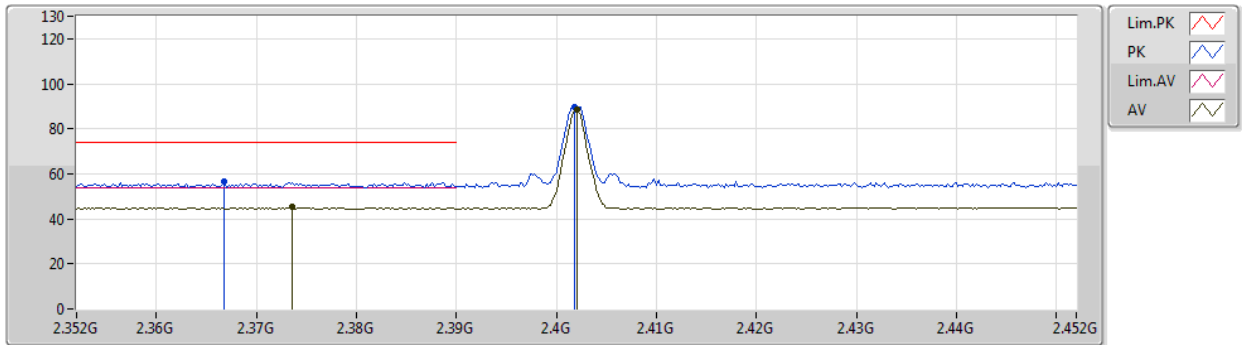


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3774G	45.10	54.00	-8.90	32.03	3	Vertical	328	1.61	-	13.07	27.33	4.70	-
AV	2.402G	100.99	Inf	-Inf	32.14	3	Vertical	328	1.61	-	68.85	27.41	4.73	-
PK	2.3896G	62.54	74.00	-11.46	32.09	3	Vertical	328	1.61	-	30.45	27.37	4.72	-
PK	2.4018G	102.38	Inf	-Inf	32.14	3	Vertical	328	1.61	-	70.24	27.41	4.73	-

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

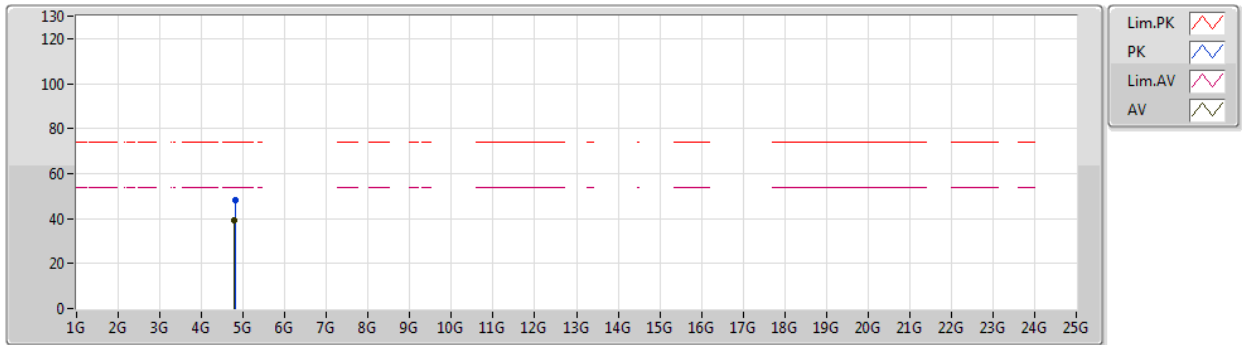


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3736G	45.24	54.00	-8.76	32.02	3	Horizontal	328	1.44	-	13.22	27.32	4.70	-
AV	2.402G	88.35	Inf	-Inf	32.14	3	Horizontal	328	1.44	-	56.21	27.41	4.73	-
PK	2.3668G	56.38	74.00	-17.62	31.99	3	Horizontal	328	1.44	-	24.39	27.30	4.69	-
PK	2.4018G	89.78	Inf	-Inf	32.14	3	Horizontal	328	1.44	-	57.64	27.41	4.73	-

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

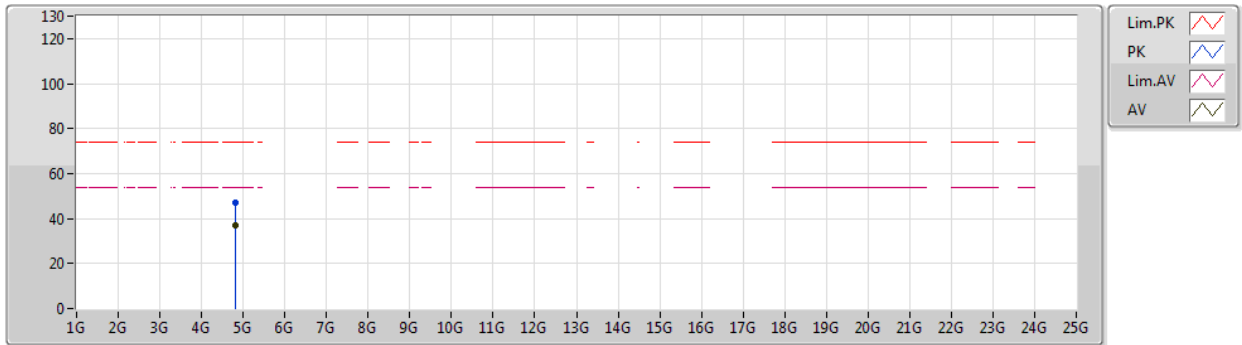


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.7911G	39.05	54.00	-14.95	3.61	3	Vertical	211	2.35	-	35.44	31.32	6.78	34.49
PK	4.8052G	48.44	74.00	-25.56	3.64	3	Vertical	211	2.35	-	44.80	31.35	6.78	34.49

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

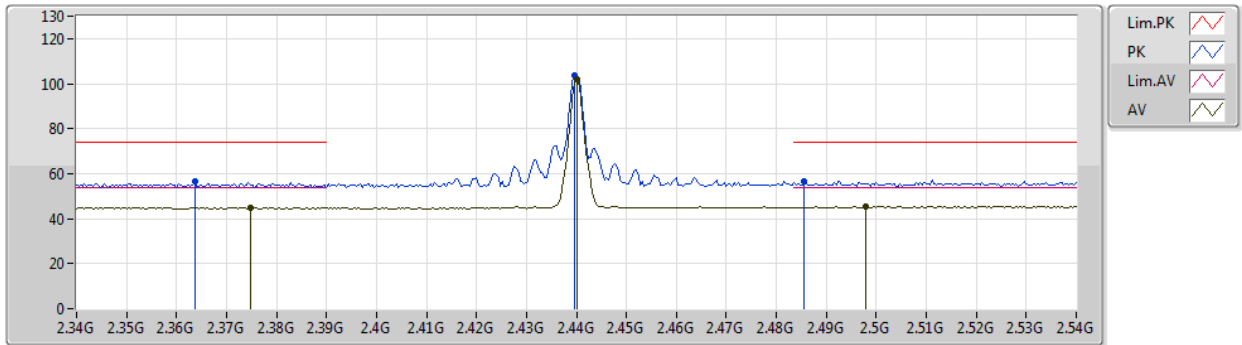


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.8049G	37.06	54.00	-16.94	3.64	3	Horizontal	26	1.88	-	33.42	31.35	6.78	34.49
PK	4.80922G	46.96	74.00	-27.04	3.66	3	Horizontal	26	1.88	-	43.30	31.36	6.79	34.49

BT-LE(1Mbps)

2440MHz_TX

07/09/2019

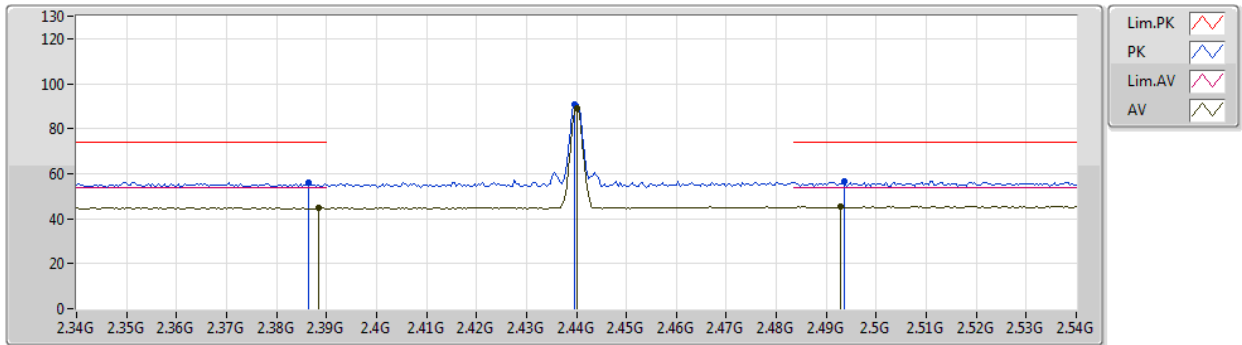


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3748G	45.00	54.00	-9.00	32.02	3	Vertical	0	1.70	-	12.98	27.32	4.70	-
AV	2.44G	102.04	Inf	-Inf	32.30	3	Vertical	0	1.70	-	69.74	27.52	4.78	-
AV	2.498G	45.23	54.00	-8.77	32.53	3	Vertical	0	1.70	-	12.70	27.69	4.84	-
PK	2.3636G	56.48	74.00	-17.52	31.98	3	Vertical	0	1.70	-	24.50	27.29	4.69	-
PK	2.4396G	103.43	Inf	-Inf	32.30	3	Vertical	0	1.70	-	71.13	27.52	4.78	-
PK	2.4856G	56.39	74.00	-17.61	32.49	3	Vertical	0	1.70	-	23.90	27.66	4.83	-

BT-LE(1Mbps)

2440MHz_TX

07/09/2019

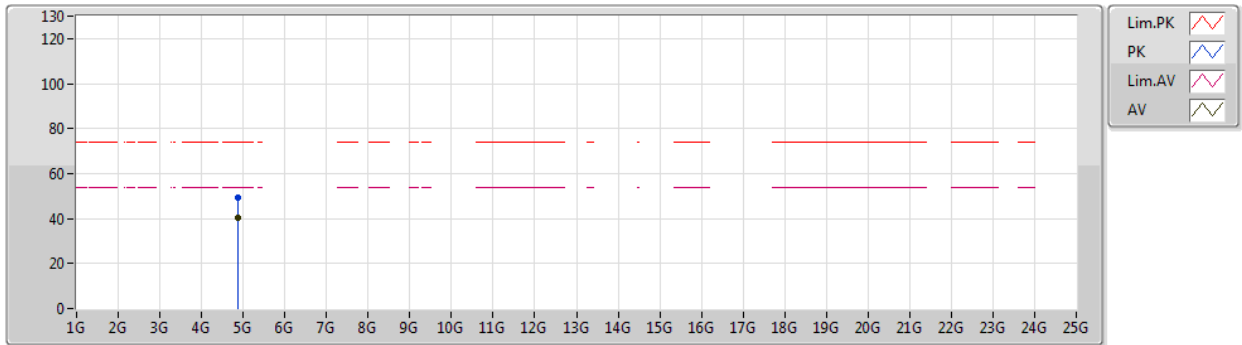


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3884G	44.92	54.00	-9.08	32.09	3	Horizontal	336	1.40	-	12.83	27.37	4.72	-
AV	2.44G	89.19	Inf	-Inf	32.30	3	Horizontal	336	1.40	-	56.89	27.52	4.78	-
AV	2.4928G	45.41	54.00	-8.59	32.52	3	Horizontal	336	1.40	-	12.89	27.68	4.84	-
PK	2.3864G	56.05	74.00	-17.95	32.07	3	Horizontal	336	1.40	-	23.98	27.36	4.71	-
PK	2.4396G	90.71	Inf	-Inf	32.30	3	Horizontal	336	1.40	-	58.41	27.52	4.78	-
PK	2.4936G	56.83	74.00	-17.17	32.52	3	Horizontal	336	1.40	-	24.31	27.68	4.84	-

BT-LE(1Mbps)

2440MHz_TX

07/09/2019

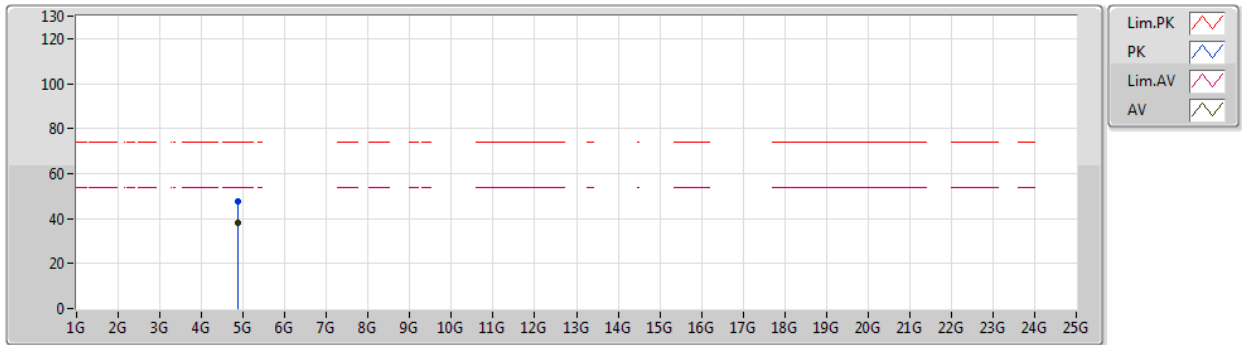


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.88025G	40.13	54.00	-13.87	3.82	3	Vertical	116	2.00	-	36.31	31.48	6.81	34.47
PK	4.87802G	49.59	74.00	-24.41	3.82	3	Vertical	116	2.00	-	45.77	31.48	6.81	34.47

BT-LE(1Mbps)

2440MHz_TX

07/09/2019

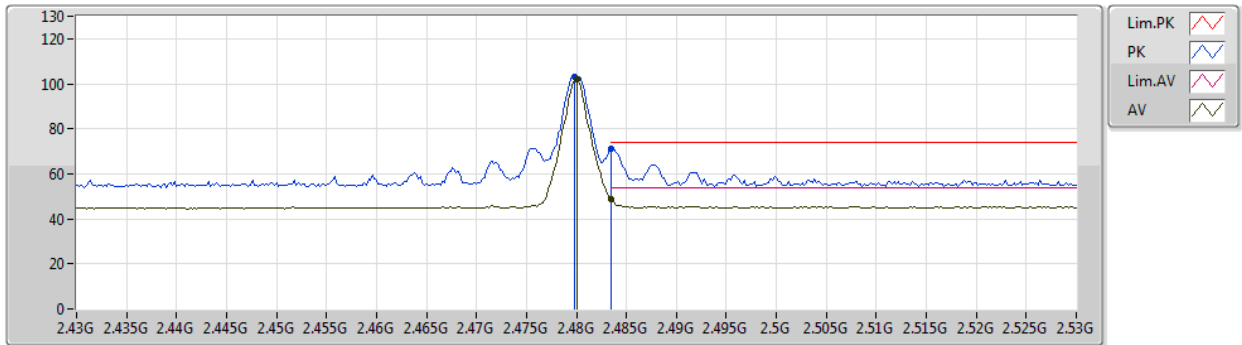


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87969G	38.04	54.00	-15.96	3.82	3	Horizontal	223	1.14	-	34.22	31.48	6.81	34.47
PK	4.88031G	47.79	74.00	-26.21	3.82	3	Horizontal	223	1.14	-	43.97	31.48	6.81	34.47

BT-LE(1Mbps)

2480MHz_TX

07/09/2019

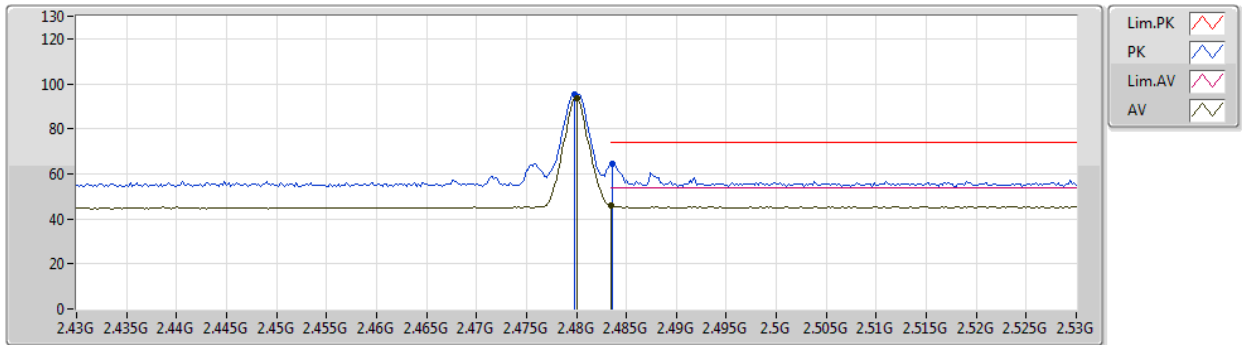


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	101.77	Inf	-Inf	32.46	3	Vertical	337	1.60	-	69.31	27.64	4.82	-
AV	2.4835G	48.72	54.00	-5.28	32.48	3	Vertical	337	1.60	-	16.24	27.65	4.83	-
PK	2.4798G	103.19	Inf	-Inf	32.46	3	Vertical	337	1.60	-	70.73	27.64	4.82	-
PK	2.4835G	71.22	74.00	-2.78	32.48	3	Vertical	337	1.60	-	38.74	27.65	4.83	-

BT-LE(1Mbps)

2480MHz_TX

07/09/2019

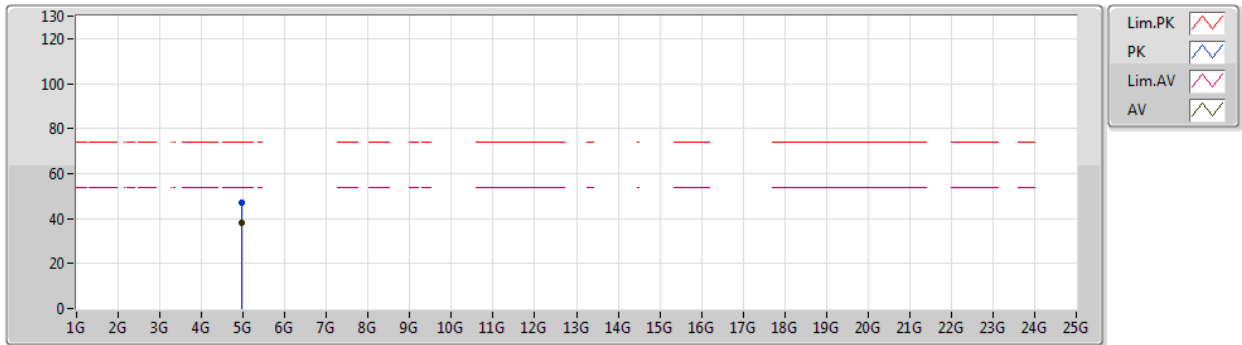


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	93.70	Inf	-Inf	32.46	3	Horizontal	49	1.96	-	61.24	27.64	4.82	-
AV	2.4835G	45.74	54.00	-8.26	32.48	3	Horizontal	49	1.96	-	13.26	27.65	4.83	-
PK	2.4798G	95.04	Inf	-Inf	32.46	3	Horizontal	49	1.96	-	62.58	27.64	4.82	-
PK	2.4836G	64.54	74.00	-9.46	32.48	3	Horizontal	49	1.96	-	32.06	27.65	4.83	-

BT-LE(1Mbps)

2480MHz_TX

07/09/2019

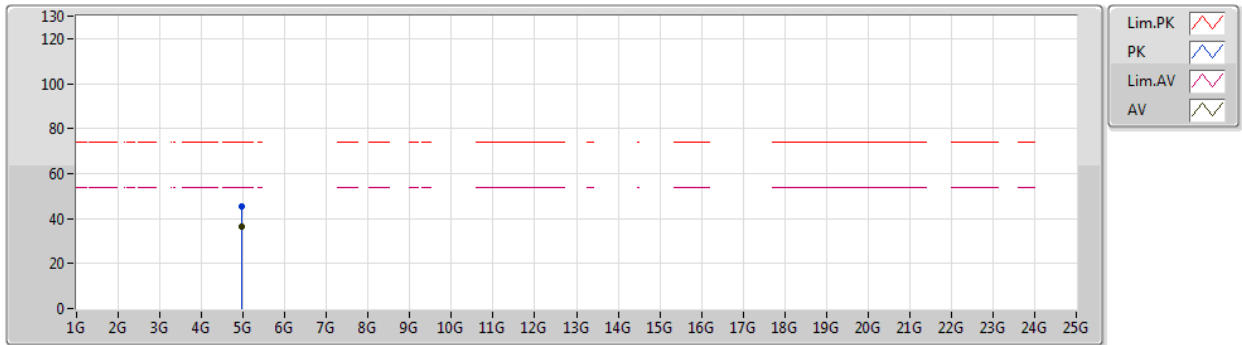


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95992G	38.05	54.00	-15.95	4.02	3	Vertical	0	3.00	-	34.03	31.63	6.83	34.44
PK	4.9604G	47.17	74.00	-26.83	4.03	3	Vertical	0	3.00	-	43.14	31.63	6.84	34.44

BT-LE(1Mbps)

2480MHz_TX

07/09/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.9595G	36.44	54.00	-17.56	4.02	3	Horizontal	354	1.76	-	32.42	31.63	6.83	34.44
PK	4.95978G	45.43	74.00	-28.57	4.02	3	Horizontal	354	1.76	-	41.41	31.63	6.83	34.44



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	121.18M	39.85	43.50	-3.65	3	Horizontal	360	1.00	-



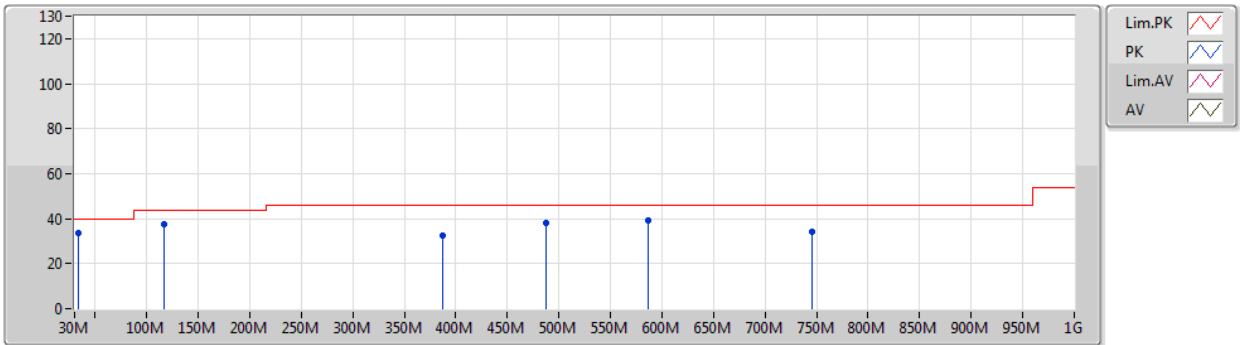
Result

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	33.88M	33.81	40.00	-6.19	3	Vertical	0	1.00	-
2440MHz	Pass	PK	117.3M	37.78	43.50	-5.72	3	Vertical	0	1.00	-
2440MHz	Pass	PK	386.96M	32.68	46.00	-13.32	3	Vertical	0	1.00	-
2440MHz	Pass	PK	487.84M	38.13	46.00	-7.87	3	Vertical	0	1.00	-
2440MHz	Pass	PK	586.78M	39.25	46.00	-6.75	3	Vertical	0	1.00	-
2440MHz	Pass	PK	745.86M	34.31	46.00	-11.69	3	Vertical	0	1.00	-
2440MHz	Pass	PK	35.82M	29.26	40.00	-10.74	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	121.18M	39.85	43.50	-3.65	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	381.14M	38.28	46.00	-7.72	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	563.5M	37.78	46.00	-8.22	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	672.14M	39.18	46.00	-6.82	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	840.92M	37.48	46.00	-8.52	3	Horizontal	360	1.00	-

BT-LE(1Mbps)

2440MHz_PoE

04/10/2019

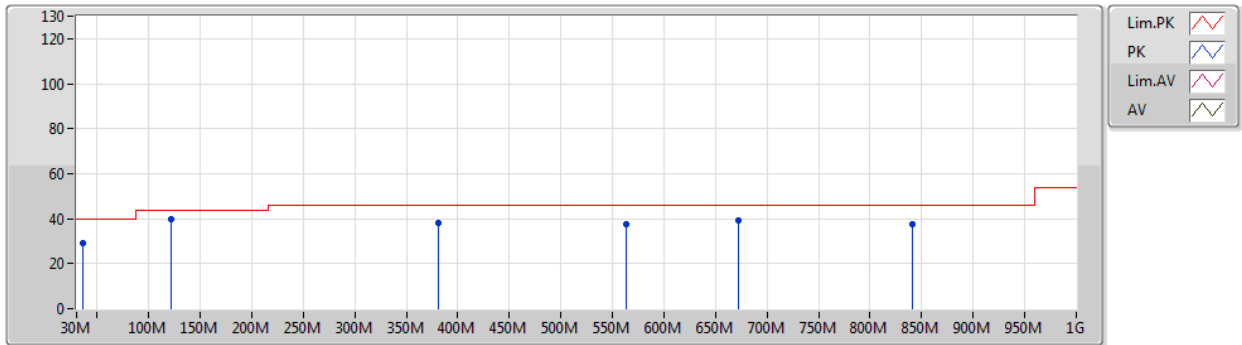


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	33.88M	33.81	40.00	-6.19	-5.91	3	Vertical	0	1.00	-	39.72	20.79	0.86	27.56
PK	117.3M	37.78	43.50	-5.72	-8.52	3	Vertical	0	1.00	-	46.30	17.14	1.66	27.32
PK	386.96M	32.68	46.00	-13.32	-3.73	3	Vertical	0	1.00	-	36.41	20.35	3.13	27.21
PK	487.84M	38.13	46.00	-7.87	-1.56	3	Vertical	0	1.00	-	39.69	22.67	3.56	27.79
PK	586.78M	39.25	46.00	-6.75	-0.56	3	Vertical	0	1.00	-	39.81	23.49	4.00	28.05
PK	745.86M	34.31	46.00	-11.69	1.33	3	Vertical	0	1.00	-	32.98	24.87	4.50	28.04

BT-LE(1Mbps)

2440MHz_PoE

04/10/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	35.82M	29.26	40.00	-10.74	-6.96	3	Horizontal	360	1.00	-	36.22	19.71	0.89	27.56
PK	121.18M	39.85	43.50	-3.65	-8.43	3	Horizontal	360	1.00	-	48.28	17.19	1.69	27.31
PK	381.14M	38.28	46.00	-7.72	-3.95	3	Horizontal	360	1.00	-	42.23	20.13	3.10	27.18
PK	563.5M	37.78	46.00	-8.22	-0.38	3	Horizontal	360	1.00	-	38.16	23.82	3.85	28.05
PK	672.14M	39.18	46.00	-6.82	0.31	3	Horizontal	360	1.00	-	38.87	24.14	4.26	28.09
PK	840.92M	37.48	46.00	-8.52	2.41	3	Horizontal	360	1.00	-	35.07	25.32	4.85	27.76



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	2.4836G	70.98	74.00	-3.02	3	Vertical	18	1.11	-

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	2.3754G	44.99	54.00	-9.01	3	Vertical	17	2.48	-
2402MHz	Pass	AV	2.402G	101.50	Inf	-Inf	3	Vertical	17	2.48	-
2402MHz	Pass	PK	2.3898G	61.74	74.00	-12.26	3	Vertical	17	2.48	-
2402MHz	Pass	PK	2.4018G	102.89	Inf	-Inf	3	Vertical	17	2.48	-
2402MHz	Pass	AV	2.3722G	44.95	54.00	-9.05	3	Horizontal	25	1.18	-
2402MHz	Pass	AV	2.402G	86.91	Inf	-Inf	3	Horizontal	25	1.18	-
2402MHz	Pass	PK	2.354G	56.76	74.00	-17.24	3	Horizontal	25	1.18	-
2402MHz	Pass	PK	2.4018G	88.45	Inf	-Inf	3	Horizontal	25	1.18	-
2402MHz	Pass	AV	4.80366G	39.27	54.00	-14.73	3	Vertical	119	2.38	-
2402MHz	Pass	PK	4.80215G	48.39	74.00	-25.61	3	Vertical	119	2.38	-
2402MHz	Pass	AV	4.80353G	38.57	54.00	-15.43	3	Horizontal	254	2.25	-
2402MHz	Pass	PK	4.80172G	47.54	74.00	-26.46	3	Horizontal	254	2.25	-
2440MHz	Pass	AV	2.3472G	45.03	54.00	-8.97	3	Vertical	16	2.16	-
2440MHz	Pass	AV	2.44G	101.76	Inf	-Inf	3	Vertical	16	2.16	-
2440MHz	Pass	AV	2.4852G	45.36	54.00	-8.64	3	Vertical	16	2.16	-
2440MHz	Pass	PK	2.3796G	57.58	74.00	-16.42	3	Vertical	16	2.16	-
2440MHz	Pass	PK	2.44G	103.08	Inf	-Inf	3	Vertical	16	2.16	-
2440MHz	Pass	PK	2.5G	55.73	74.00	-18.27	3	Vertical	16	2.16	-
2440MHz	Pass	AV	2.3752G	44.81	54.00	-9.19	3	Horizontal	3	1.19	-
2440MHz	Pass	AV	2.44G	86.64	Inf	-Inf	3	Horizontal	3	1.19	-
2440MHz	Pass	AV	2.496G	45.55	54.00	-8.45	3	Horizontal	3	1.19	-
2440MHz	Pass	PK	2.38G	56.11	74.00	-17.89	3	Horizontal	3	1.19	-
2440MHz	Pass	PK	2.44G	88.01	Inf	-Inf	3	Horizontal	3	1.19	-
2440MHz	Pass	PK	2.4956G	56.45	74.00	-17.55	3	Horizontal	3	1.19	-
2440MHz	Pass	AV	4.87791G	37.14	54.00	-16.86	3	Vertical	80	1.18	-
2440MHz	Pass	PK	4.87764G	48.91	74.00	-25.09	3	Vertical	80	1.18	-
2440MHz	Pass	AV	4.87898G	36.19	54.00	-17.81	3	Horizontal	107	2.19	-
2440MHz	Pass	PK	4.87855G	47.42	74.00	-26.58	3	Horizontal	107	2.19	-
2480MHz	Pass	AV	2.48G	101.37	Inf	-Inf	3	Vertical	18	1.11	-
2480MHz	Pass	AV	2.4835G	48.45	54.00	-5.55	3	Vertical	18	1.11	-
2480MHz	Pass	PK	2.4798G	102.75	Inf	-Inf	3	Vertical	18	1.11	-
2480MHz	Pass	PK	2.4836G	70.98	74.00	-3.02	3	Vertical	18	1.11	-
2480MHz	Pass	AV	2.48G	86.23	Inf	-Inf	3	Horizontal	22	1.00	-
2480MHz	Pass	AV	2.4972G	45.32	54.00	-8.68	3	Horizontal	22	1.00	-
2480MHz	Pass	PK	2.4802G	87.67	Inf	-Inf	3	Horizontal	22	1.00	-
2480MHz	Pass	PK	2.4838G	59.04	74.00	-14.96	3	Horizontal	22	1.00	-
2480MHz	Pass	AV	4.96238G	37.53	54.00	-16.47	3	Vertical	228	2.00	-
2480MHz	Pass	PK	4.96249G	47.62	74.00	-26.38	3	Vertical	228	2.00	-
2480MHz	Pass	AV	4.96046G	36.84	54.00	-17.16	3	Horizontal	51	1.23	-
2480MHz	Pass	PK	4.96226G	46.79	74.00	-27.21	3	Horizontal	51	1.23	-

Remark :

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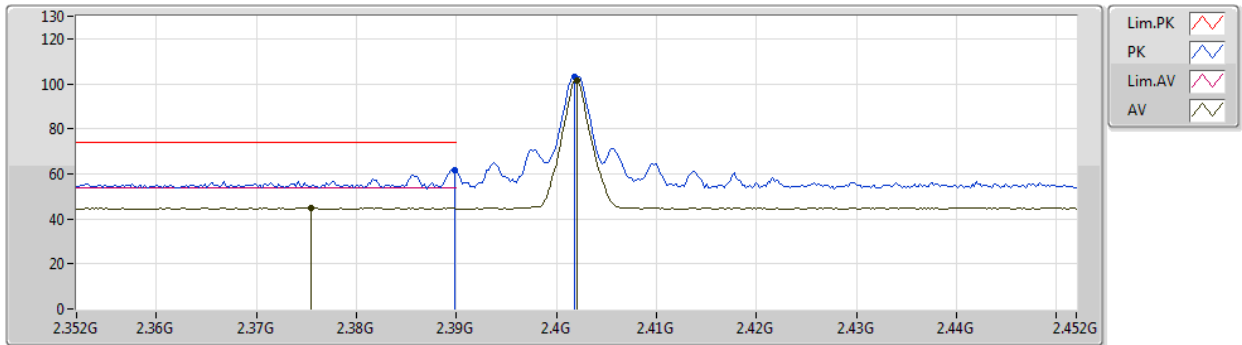
Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

970235

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

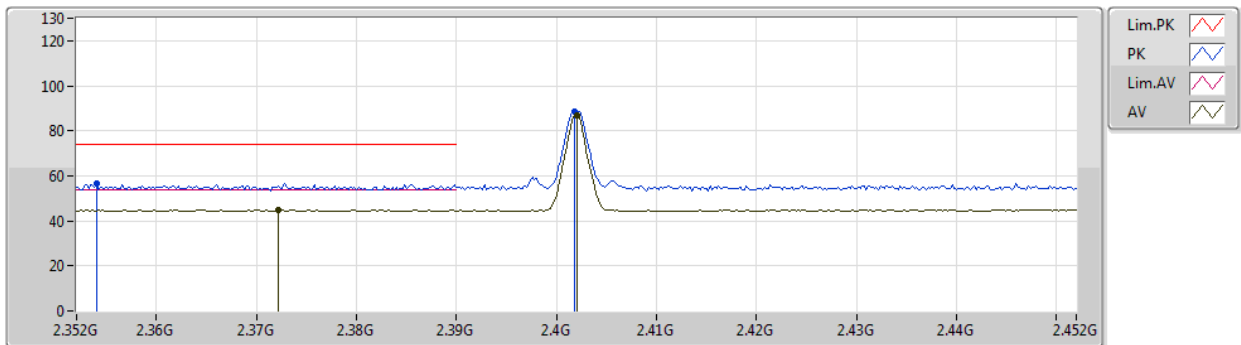


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3754G	44.99	54.00	-9.01	32.03	3	Vertical	17	2.48	-	12.96	27.33	4.70	-
AV	2.402G	101.50	Inf	-Inf	32.14	3	Vertical	17	2.48	-	69.36	27.41	4.73	-
PK	2.3898G	61.74	74.00	-12.26	32.09	3	Vertical	17	2.48	-	29.65	27.37	4.72	-
PK	2.4018G	102.89	Inf	-Inf	32.14	3	Vertical	17	2.48	-	70.75	27.41	4.73	-

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

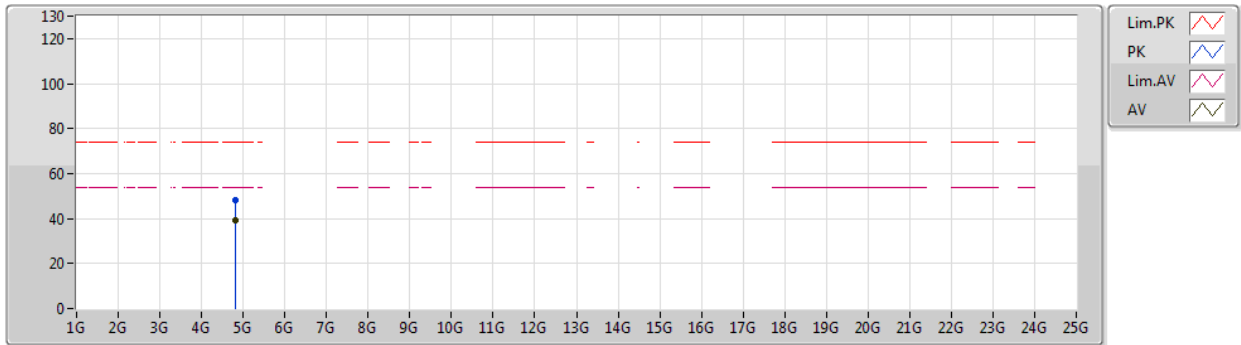


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3722G	44.95	54.00	-9.05	32.02	3	Horizontal	25	1.18	-	12.93	27.32	4.70	-
AV	2.402G	86.91	Inf	-Inf	32.14	3	Horizontal	25	1.18	-	54.77	27.41	4.73	-
PK	2.354G	56.76	74.00	-17.24	31.94	3	Horizontal	25	1.18	-	24.82	27.26	4.68	-
PK	2.4018G	88.45	Inf	-Inf	32.14	3	Horizontal	25	1.18	-	56.31	27.41	4.73	-

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

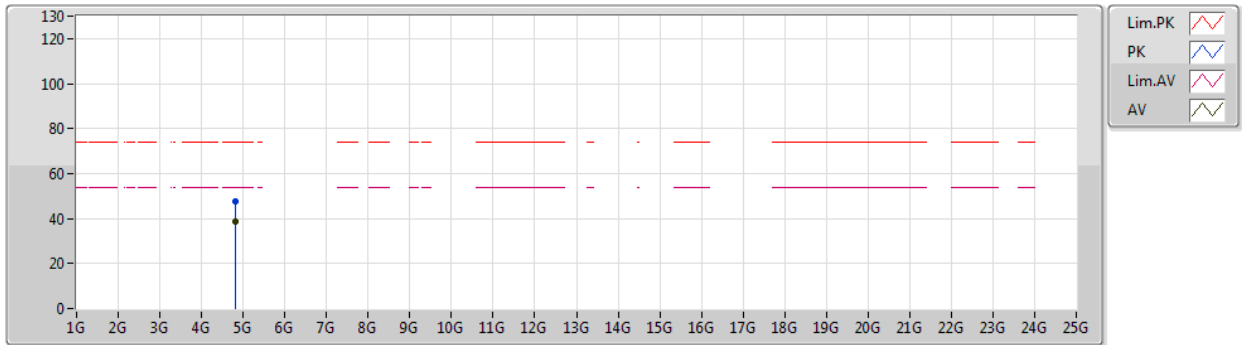


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80366G	39.27	54.00	-14.73	3.64	3	Vertical	119	2.38	-	35.63	31.35	6.78	34.49
PK	4.80215G	48.39	74.00	-25.61	3.63	3	Vertical	119	2.38	-	44.76	31.34	6.78	34.49

BT-LE(1Mbps)

2402MHz_TX

07/09/2019

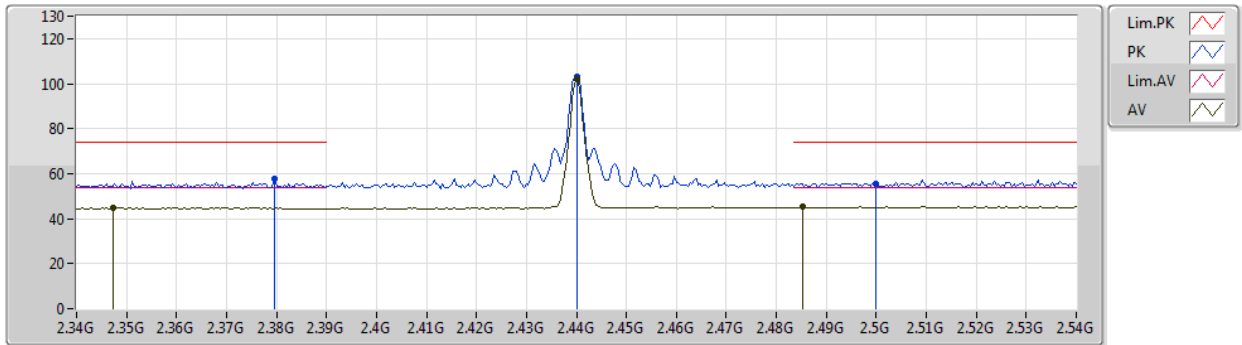


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80353G	38.57	54.00	-15.43	3.64	3	Horizontal	254	2.25	-	34.93	31.35	6.78	34.49
PK	4.80172G	47.54	74.00	-26.46	3.63	3	Horizontal	254	2.25	-	43.91	31.34	6.78	34.49

BT-LE(1Mbps)

2440MHz_TX

07/09/2019

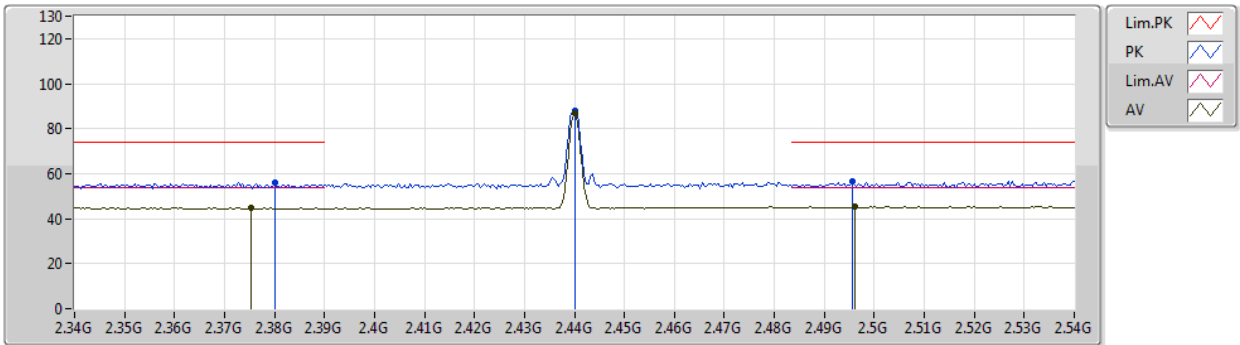


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3472G	45.03	54.00	-8.97	31.91	3	Vertical	16	2.16	-	13.12	27.24	4.67	-
AV	2.44G	101.76	Inf	-Inf	32.30	3	Vertical	16	2.16	-	69.46	27.52	4.78	-
AV	2.4852G	45.36	54.00	-8.64	32.49	3	Vertical	16	2.16	-	12.87	27.66	4.83	-
PK	2.3796G	57.58	74.00	-16.42	32.05	3	Vertical	16	2.16	-	25.53	27.34	4.71	-
PK	2.44G	103.08	Inf	-Inf	32.30	3	Vertical	16	2.16	-	70.78	27.52	4.78	-
PK	2.5G	55.73	74.00	-18.27	32.55	3	Vertical	16	2.16	-	23.18	27.70	4.85	-

BT-LE(1Mbps)

2440MHz_TX

07/09/2019

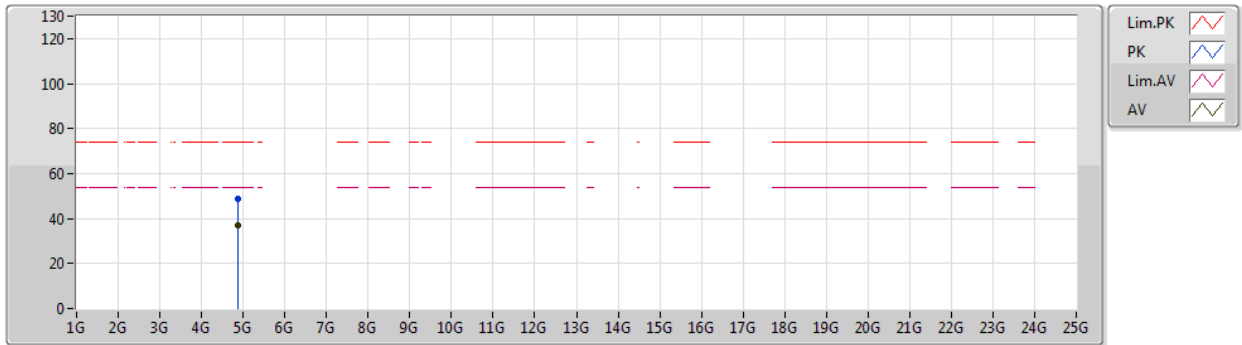


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3752G	44.81	54.00	-9.19	32.03	3	Horizontal	3	1.19	-	12.78	27.33	4.70	-
AV	2.44G	86.64	Inf	-Inf	32.30	3	Horizontal	3	1.19	-	54.34	27.52	4.78	-
AV	2.496G	45.55	54.00	-8.45	32.53	3	Horizontal	3	1.19	-	13.02	27.69	4.84	-
PK	2.38G	56.11	74.00	-17.89	32.05	3	Horizontal	3	1.19	-	24.06	27.34	4.71	-
PK	2.44G	88.01	Inf	-Inf	32.30	3	Horizontal	3	1.19	-	55.71	27.52	4.78	-
PK	2.4956G	56.45	74.00	-17.55	32.53	3	Horizontal	3	1.19	-	23.92	27.69	4.84	-

BT-LE(1Mbps)

07/09/2019

2440MHz_TX

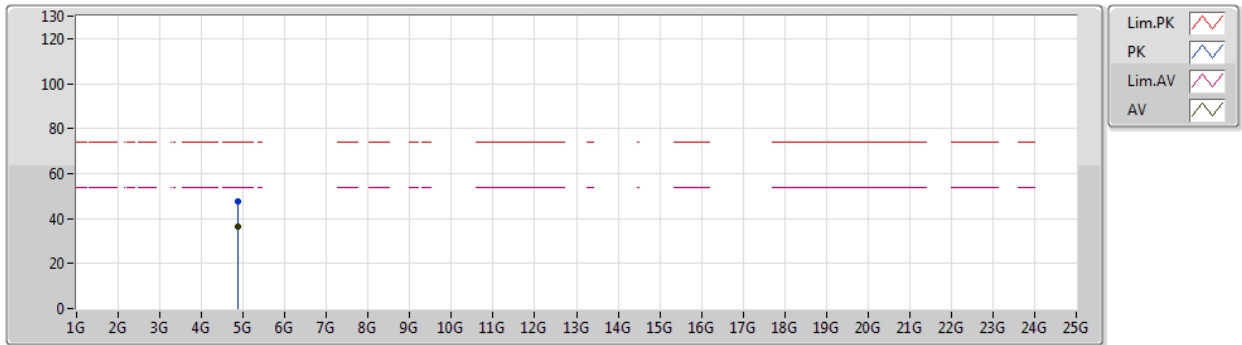


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87791G	37.14	54.00	-16.86	3.82	3	Vertical	80	1.18	-	33.32	31.48	6.81	34.47
PK	4.87764G	48.91	74.00	-25.09	3.82	3	Vertical	80	1.18	-	45.09	31.48	6.81	34.47

BT-LE(1Mbps)

07/09/2019

2440MHz_TX

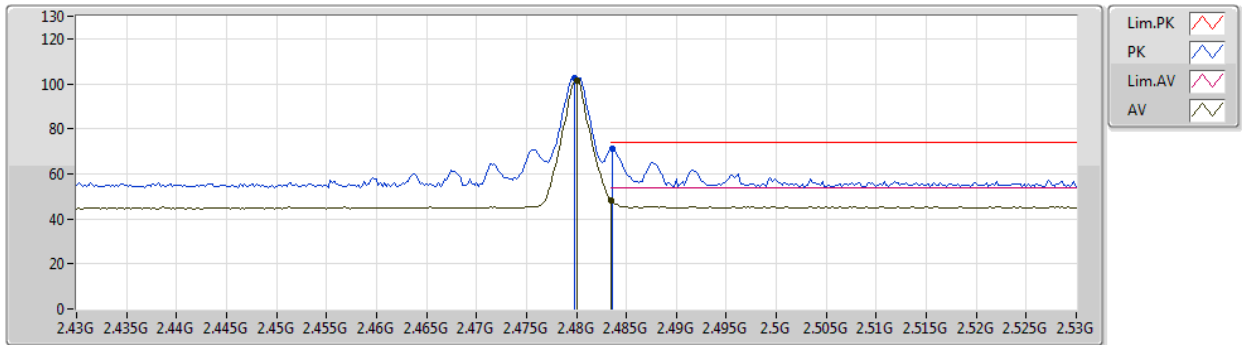


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87898G	36.19	54.00	-17.81	3.82	3	Horizontal	107	2.19	-	32.37	31.48	6.81	34.47
PK	4.87855G	47.42	74.00	-26.58	3.82	3	Horizontal	107	2.19	-	43.60	31.48	6.81	34.47

BT-LE(1Mbps)

2480MHz_TX

07/09/2019

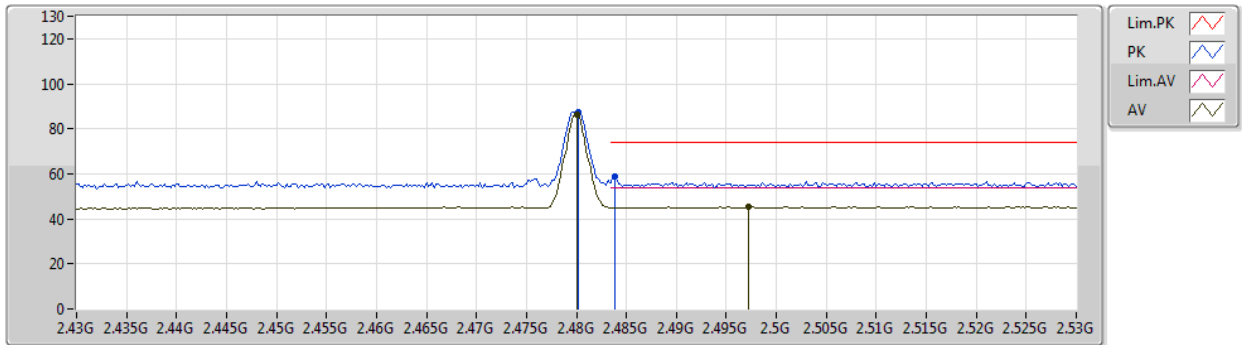


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	101.37	Inf	-Inf	32.46	3	Vertical	18	1.11	-	68.91	27.64	4.82	-
AV	2.4835G	48.45	54.00	-5.55	32.48	3	Vertical	18	1.11	-	15.97	27.65	4.83	-
PK	2.4798G	102.75	Inf	-Inf	32.46	3	Vertical	18	1.11	-	70.29	27.64	4.82	-
PK	2.4836G	70.98	74.00	-3.02	32.48	3	Vertical	18	1.11	-	38.50	27.65	4.83	-

BT-LE(1Mbps)

2480MHz_TX

07/09/2019

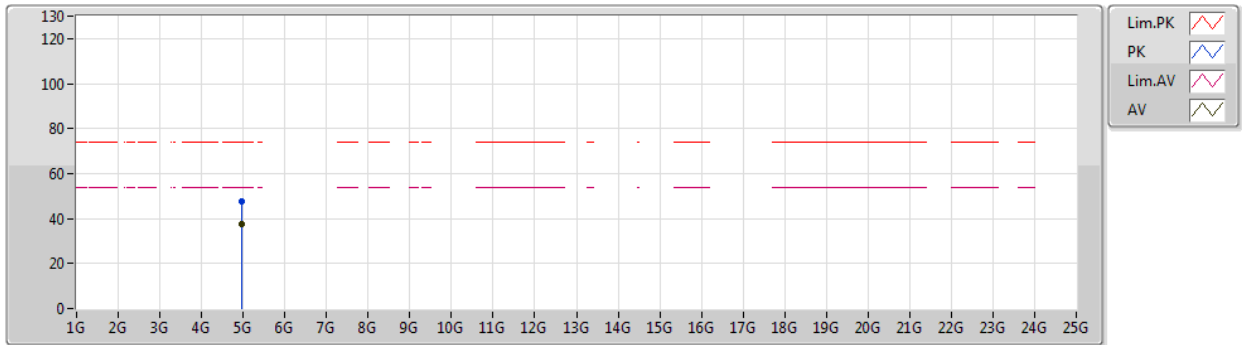


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	86.23	Inf	-Inf	32.46	3	Horizontal	22	1.00	-	53.77	27.64	4.82	-
AV	2.4972G	45.32	54.00	-8.68	32.53	3	Horizontal	22	1.00	-	12.79	27.69	4.84	-
PK	2.4802G	87.67	Inf	-Inf	32.46	3	Horizontal	22	1.00	-	55.21	27.64	4.82	-
PK	2.4838G	59.04	74.00	-14.96	32.48	3	Horizontal	22	1.00	-	26.56	27.65	4.83	-

BT-LE(1Mbps)

2480MHz_TX

07/09/2019

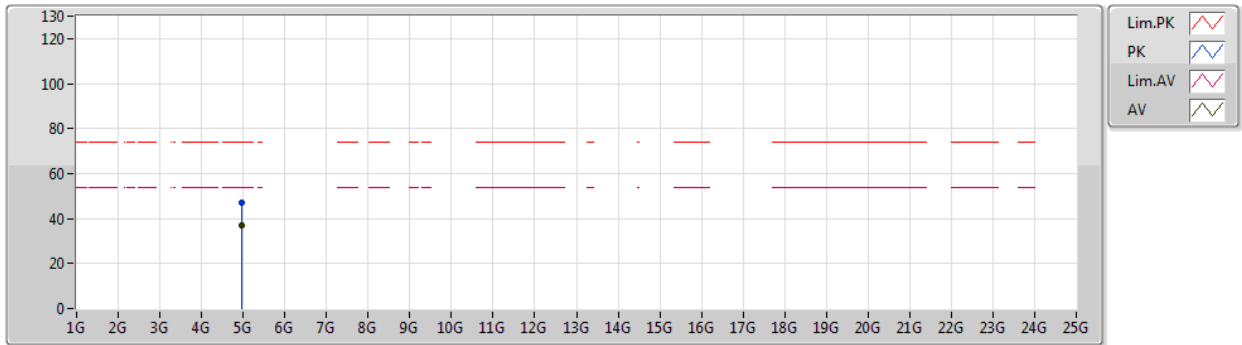


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96238G	37.53	54.00	-16.47	4.03	3	Vertical	228	2.00	-	33.50	31.63	6.84	34.44
PK	4.96249G	47.62	74.00	-26.38	4.03	3	Vertical	228	2.00	-	43.59	31.63	6.84	34.44

BT-LE(1Mbps)

2480MHz_TX

07/09/2019



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96046G	36.84	54.00	-17.16	4.03	3	Horizontal	51	1.23	-	32.81	31.63	6.84	34.44
PK	4.96226G	46.79	74.00	-27.21	4.03	3	Horizontal	51	1.23	-	42.76	31.63	6.84	34.44