

NCC Test Report

Equipment : 藍牙音箱
Brand Name : MARSHALL
Model Name : UXBRIDGE WITH GOOGLE ASSISTANT
Applicant : 百滋國際股份有限公司
台北市松山區寶清街 17 號 5 樓之 1
Manufacturer : Zound Industries International AB
Room 411-412, 4th Floor, Main Building, No. 99 Qiao Cheng
East Road, Nanshan District, Shenzhen City, China
Standard : LP0002 Section 3.10 (2018-01-10)

The product was received on Apr. 21, 2020, and testing was started from Jun. 09, 2020 and completed on Jun. 13, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

[illegible]

Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	3.10.1.4	Antenna Requirement	PASS	-
3.1	2.3	AC Power-line Conducted Emissions	PASS	-
3.2	3.10.1.6	DTS Bandwidth	PASS	-
3.3	3.10.1.2	Maximum Conducted Output Power	PASS	-
3.4	3.10.1.6	Power Spectral Density	PASS	-
3.5	3.10.1.5	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	3.10.1.5	Emissions in Restricted Frequency Bands	PASS	-
3.7	2.11	Receiver Radiated Unwanted Emissions	PASS	-
3.8	5.20	Maximum Permissible Exposure	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Ben Tseng

Report Producer: Michelle Tsai

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.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	Walsin	RFPCA242312EMLB301	PCB	NA
2	Walsin	RFPCA232011EMLB301	PCB	NA

Ant.	Port	Gain (dBi)					
		2.4G	5G				BT
			Band 1	Band 2	Band 3	Band 4	
1	1	2.46	3.25	3.25	3.64	3.5	2.46
2	2	3.15	3.67	3.67	3.47	2.95	-

Note 1: The EUT has two antennas.

For 2.4GHz function:

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

Support diversity function and pre-tested on each single chain, the worst case was Ant. 2(port 2) and it was recorded in this test report.

For BT function:

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

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

For 5GHz function:

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

Support diversity function and pre-tested on each single chain, the worst case was Ant. 2(port 2) and it was recorded in this test report.

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From Switching Power Supply		
EUT Function	☒ Point-to-multipoint	☐ Point-to-point	
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.: ...		
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.: ...		
☐	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-LE(1Mbps)	0.631	2	396.875u	3k

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

1.1.5 Table for Multiple Listing

Sample	Description
1	There are two samples of EUT, the only difference between samples is the appearance color.
2	

Note: Sample 1 configuration was measured during the test.

1.2 Testing Applied Standards

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

- ♦ LP0002 (2018-01-10)
- ♦ ANSI C63.10-2013
- ♦ ANSI C63.4-2014

The following reference test guidance is not within the scope of accreditation of TAF:

- ♦ 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
☐	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
☒	Wen Shan	ADD : No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
		TEL : 886-3-318-0787	FAX : 886-3-318-0287

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	21.4~23.6°C/57~60%	13/Jun/2020
RF Conducted	TH06-HY	Alan Chien	21.1~26.9°C/50~60%	10/Jun/2020~11/Jun/2020
Radiated	03CH09-HY	Daniel Hsu	21.3~22.8°C/55~58%	09/Jun/2020~12/Jun/2020

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	110V

2.2 Test Channel Mode

Test Software	Dos
---------------	-----

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

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX/CRX
1	Switching Power Supply Mode; TX
2	Switching Power Supply Mode; RX

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 Receiver Radiated Spurious Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX/CRX
1	Switching Power Supply Mode
Operating Mode > 1GHz	CTX/CRX
Orthogonal Planes of EUT	Y Plane
	

2.4 Accessories

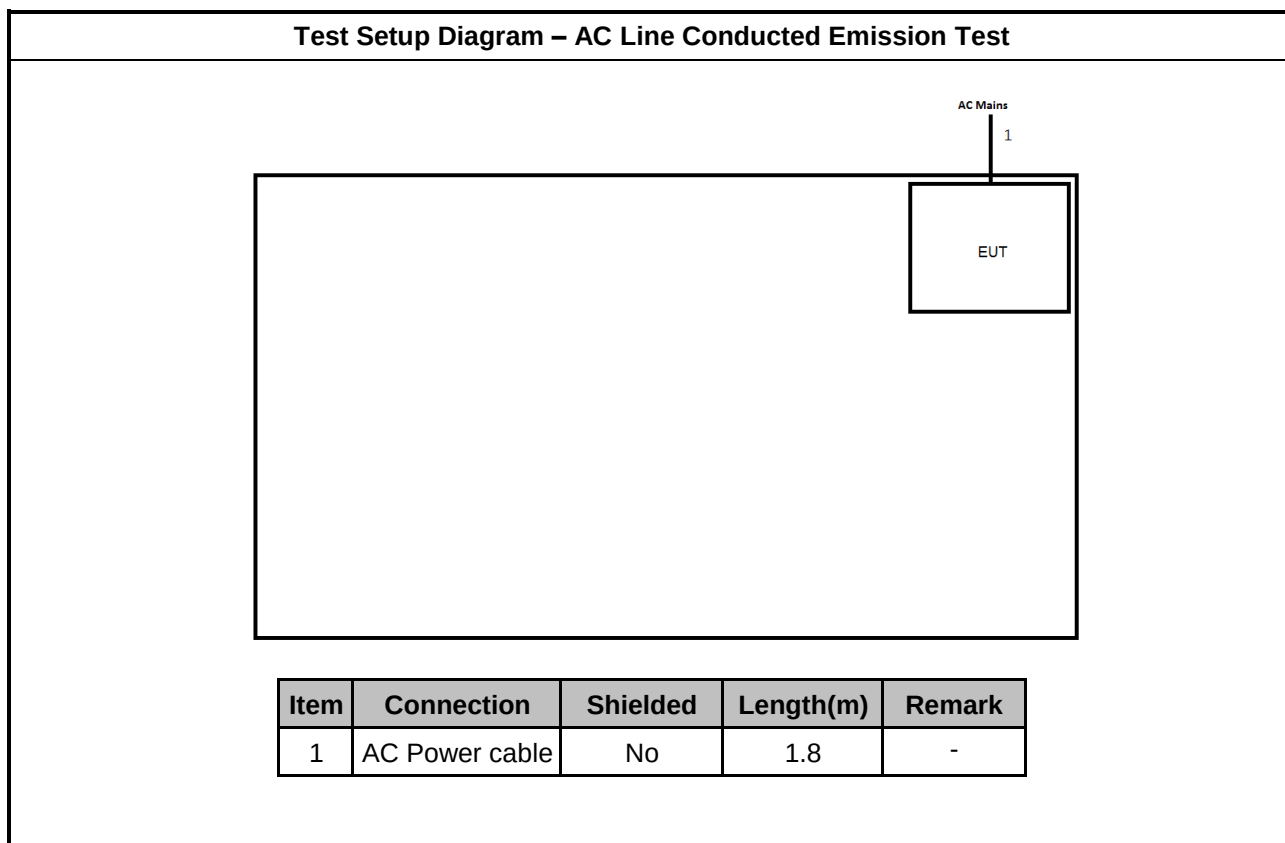
Accessories Information				
AC Power Cord	Brand Name	景盛電線材料股份有限公司	Model Name	EL-403+EL-713
	Signal Line	1.8 meter, non-shielded cable, w/o ferrite core		

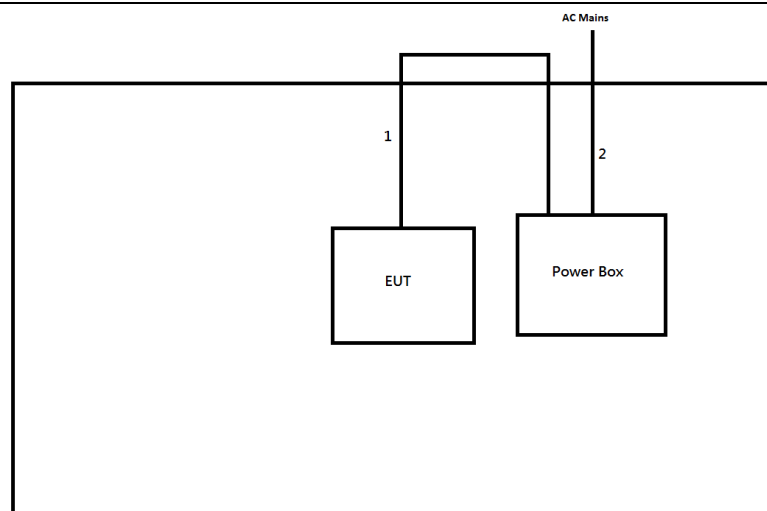
Reminder: Regarding to more detail and other information, please refer to user manual.

2.5 Support Equipment

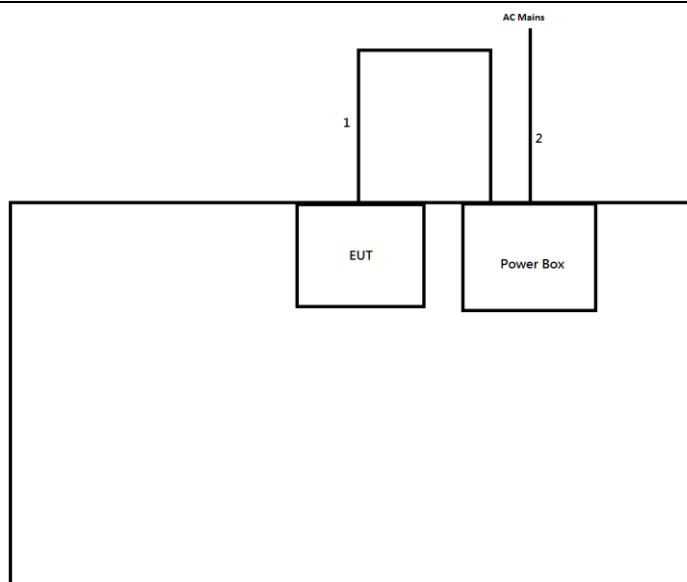
Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test (TX)


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

Test Setup Diagram - Radiated Test (RX)


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

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.		

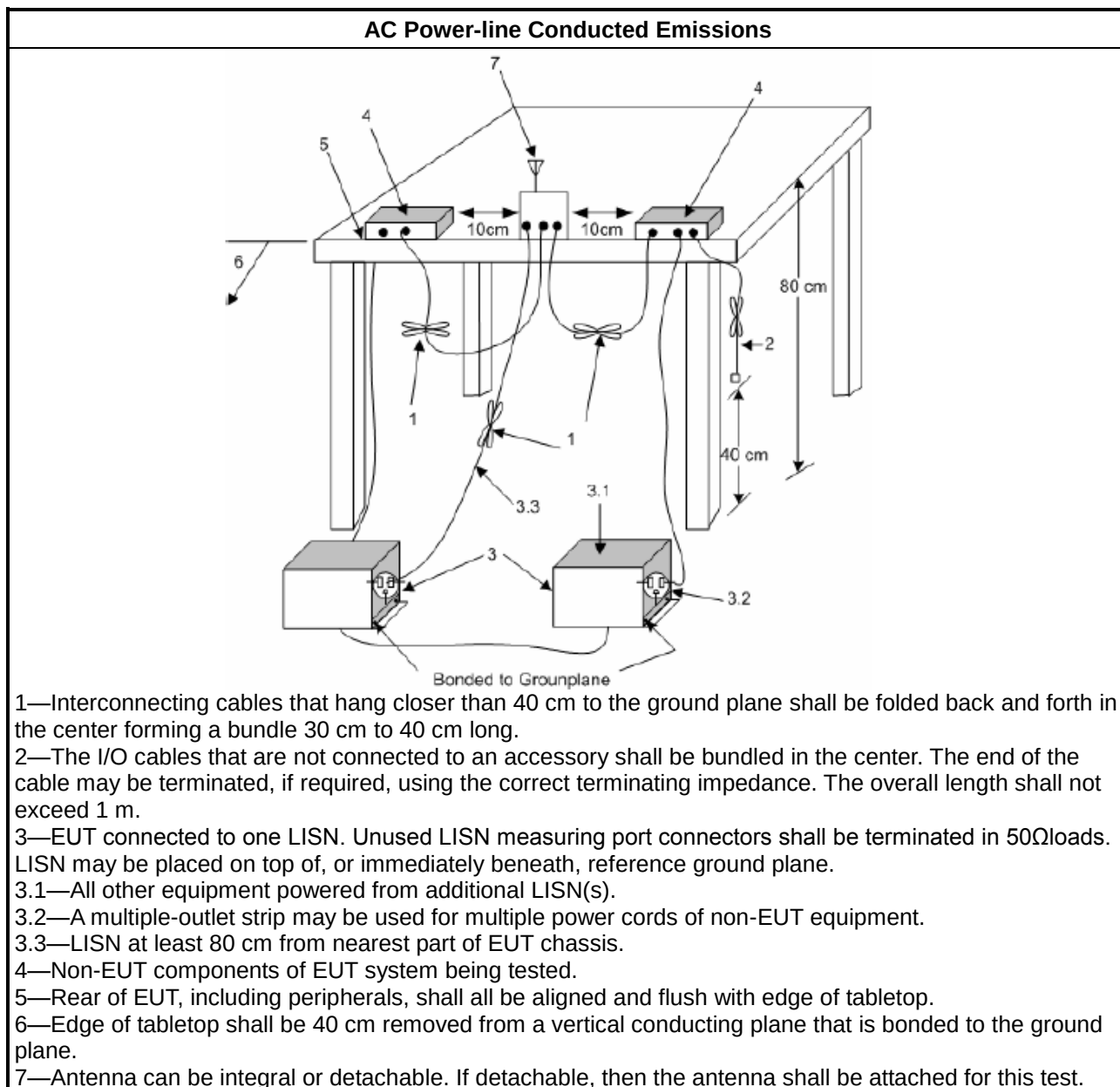
3.1.2 Measuring Instruments

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.

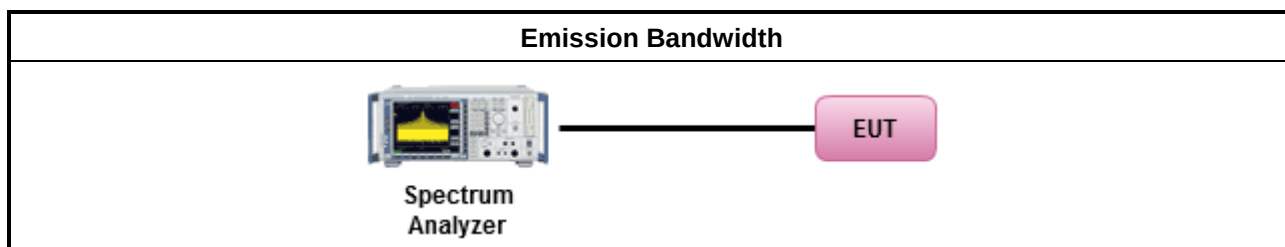
3.2.2 Measuring Instruments

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.	

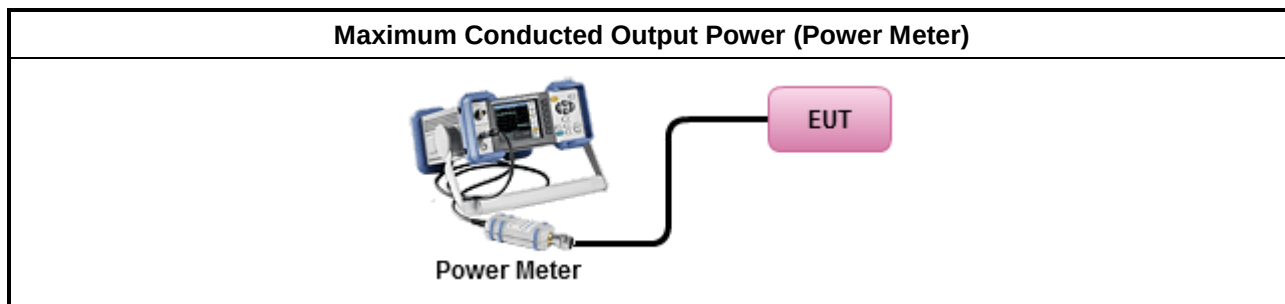
3.3.2 Measuring Instruments

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

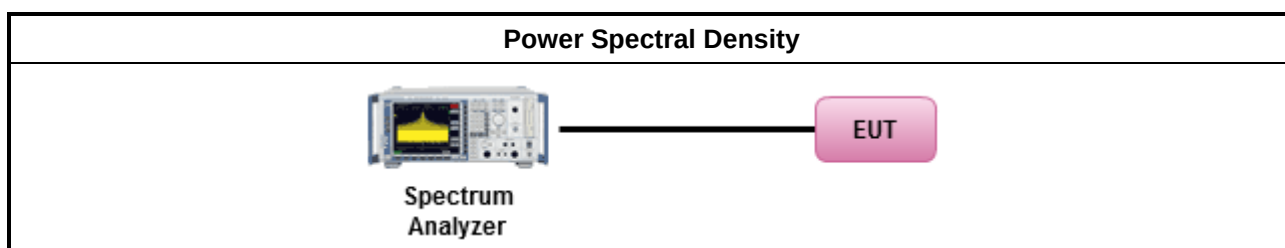
3.4.2 Measuring Instruments

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) Max. PSD.
▪	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.	

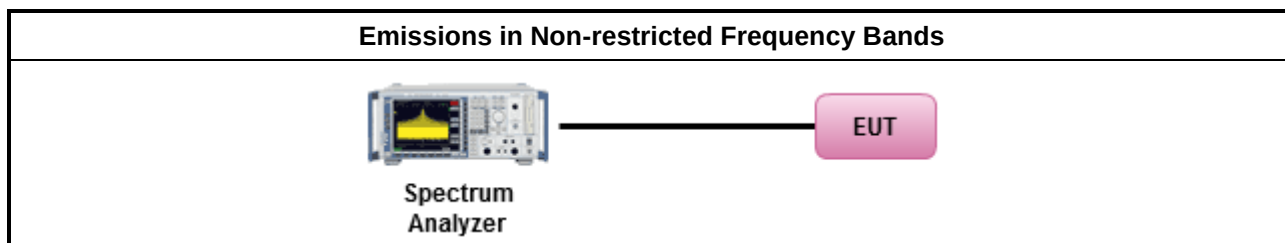
3.5.2 Measuring Instruments

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.

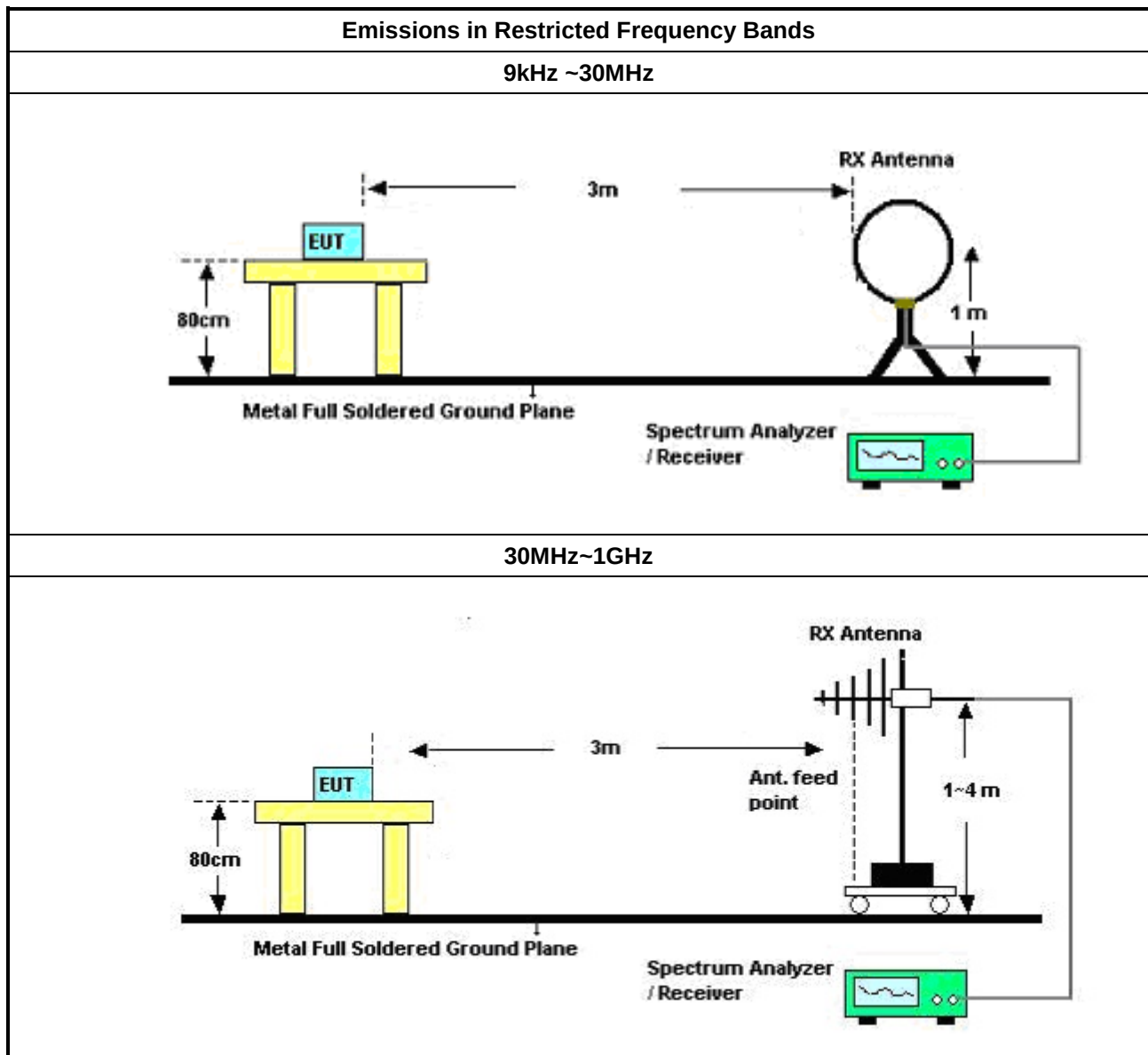
3.6.2 Measuring Instruments

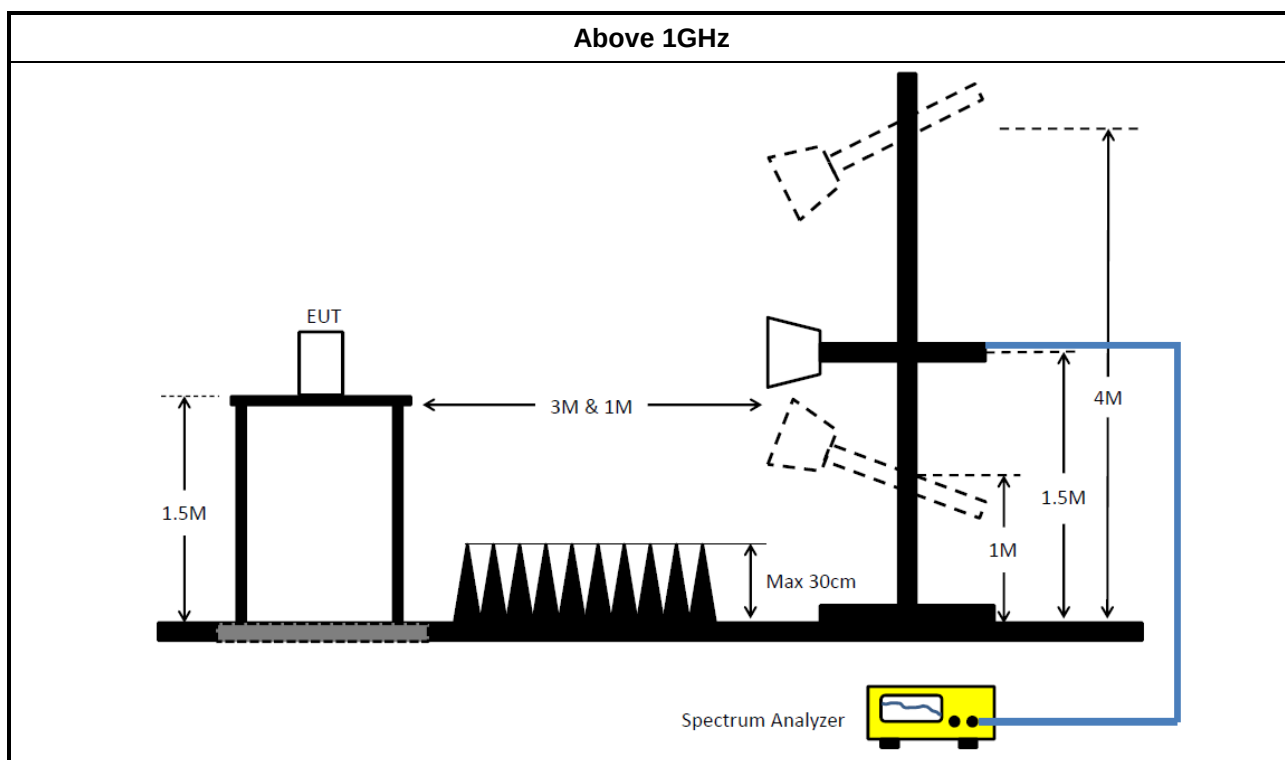
Refer a test equipment and calibration data table in this test report.

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 LP0002 5.5.2: 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

3.7 Receiver Radiated Spurious Emissions

3.7.1 Receiver in Radiated Spurious Emissions Limit

Restricted Spurious Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBUV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

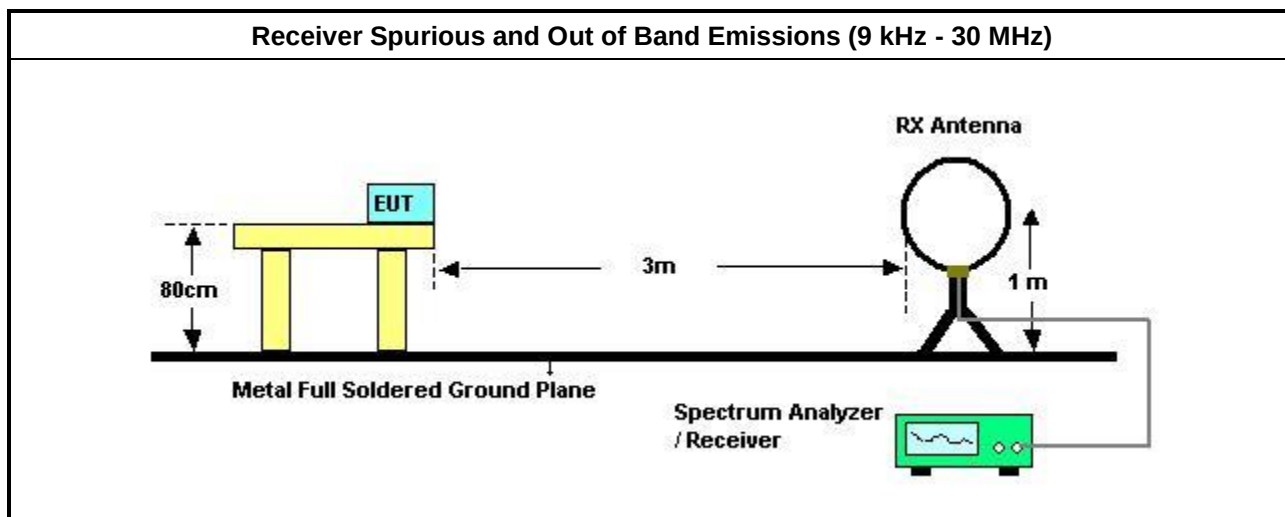
3.7.2 Measuring Instruments

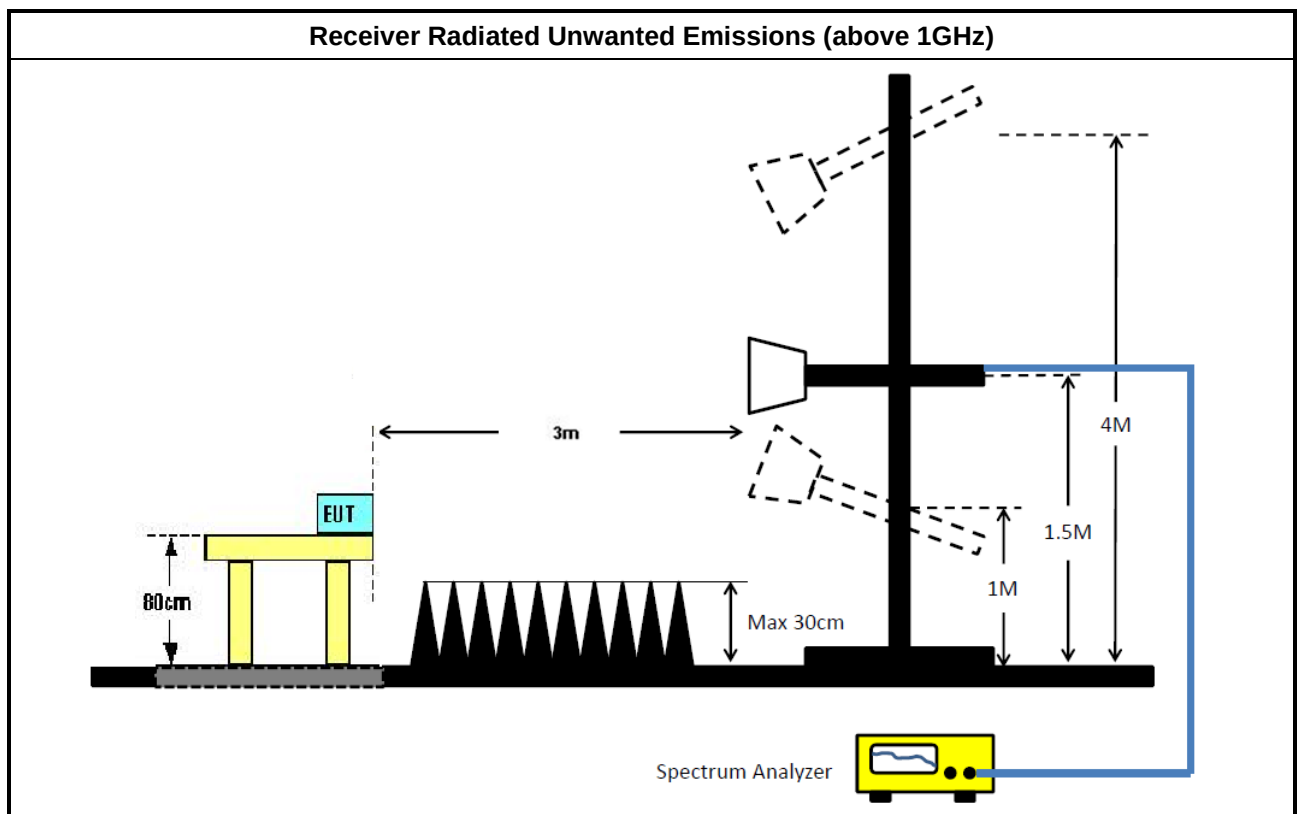
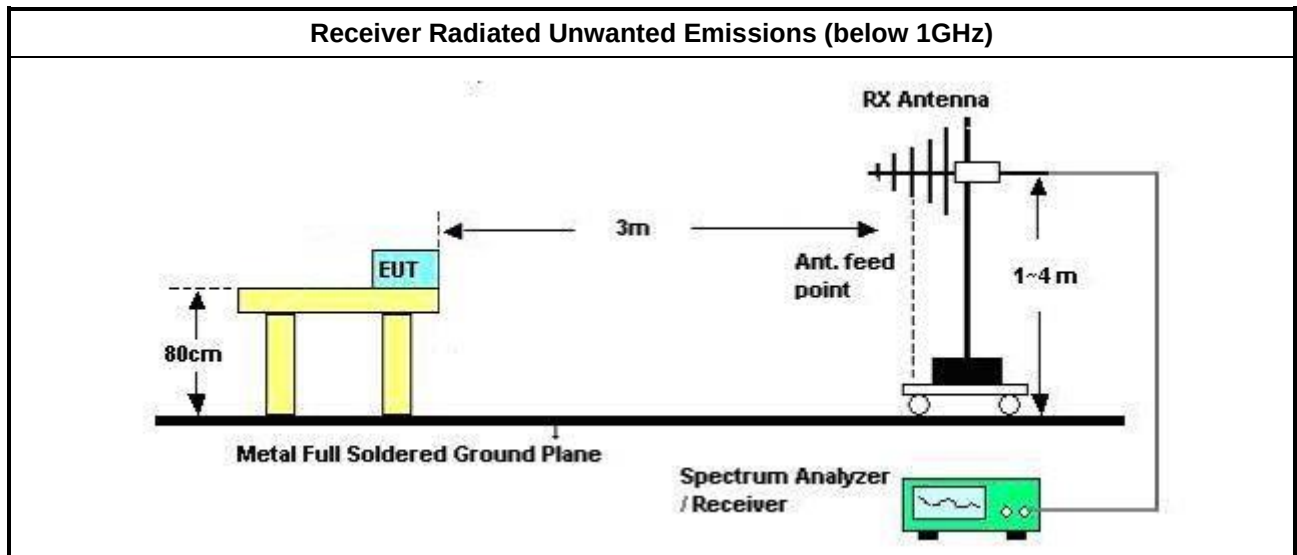
Refer a test equipment and calibration data table in this test report.

3.7.3 Test Procedures

Test Method	
☒	The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is higher, to at least 3 times the highest tuneable or local oscillator frequency, whichever is higher, without exceeding 40 GHz.
☒	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).
☒	For radiated measurement, refer as ANSI C63.4, clause 8.3.
☒	Refer as ANSI C63.4, clause 8.3.1.1 and 8.3.2.1 for radiated emissions from below 30 MHz.
☒	Refer as ANSI C63.4, clause 8.3.1.1 and 8.3.2.1 for radiated emissions from 30 MHz-1 GHz. For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the QP-Limit so that the QP level does not need to be reported in addition.
☒	Refer as ANSI C63.4, clause 8.3.1.2 and 8.3.2.2 for radiated emissions from above 1 GHz. For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
☒	All amplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value has no need to be reported.

3.7.4 Test Setup





3.7.5 Receiver Radiated Unwanted Emissions (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.7.6 Test Result of Receiver Radiated Unwanted Emissions

Refer as Appendix G

3.8 Maximum Permissible Exposure

3.8.1 Maximum Permissible Exposure Limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*100	6
3-30	1842 / f	4.89 / f	*900 / f ²	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5.0	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*100	30
3-30	1842/f	4.89/f	*180/f ²	30
30-300	27.5	0.073	1.0	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

3.8.2 Measuring Instruments

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

3.8.3 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.
The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

3.8.4 Test Result of Calculated Result and Limit

Refer as Appendix H

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	ESR	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	05/Nov/2019	04/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	23/Sep/2019	22/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 Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	27/Mar/2020	26/Mar/2021
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	19/Mar/2020	18/Mar/2021
Microwave Preamplifier	Agilent	8449B	3008A02326	1GHz ~ 26.5GHz	15/Jul/2019	14/Jul/2020
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	14/Apr/2020	13/Apr/2021
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	07/Aug/2019	06/Aug/2020
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D & MTJ6102-05	35418 / 3	30MHz~1GHz	11/Oct/2019	10/Oct/2020
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	28/May/2020	27/May/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170221	18GHz~40GHz	13/Mar/2020	12/Mar/2021
Preamplifier	MITEQ	TTA1840-35-H G	1864481	18GHz ~ 40GHz	10/Mar/2020	09/Mar/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz-30MHz	16/Mar/2020	15/Mar/2021
RF Cable-low	Jye Bao	RG142	CB031+324530/4	9kHz ~ 1GHz	12/Feb/2020	11/Feb/2021
RF Cable-high	HUBER+SUHNER	SUCOFLEX104	324530/4+17173/4	1GHz ~ 40GHz	12/Feb/2020	11/Feb/2021

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101029	10kHz ~ 40GHz	01/Oct/2019	30/Sep/2020
Pulse Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	18/Mar/2020	17/Mar/2021
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	18/Mar/2020	17/Mar/2021
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition
Mode 1	Pass	AV	908.364k	33.99	46.00	-12.01	19.63	Line
Mode 2	Pass	AV	908.364k	34.04	46.00	-11.96	19.63	Line

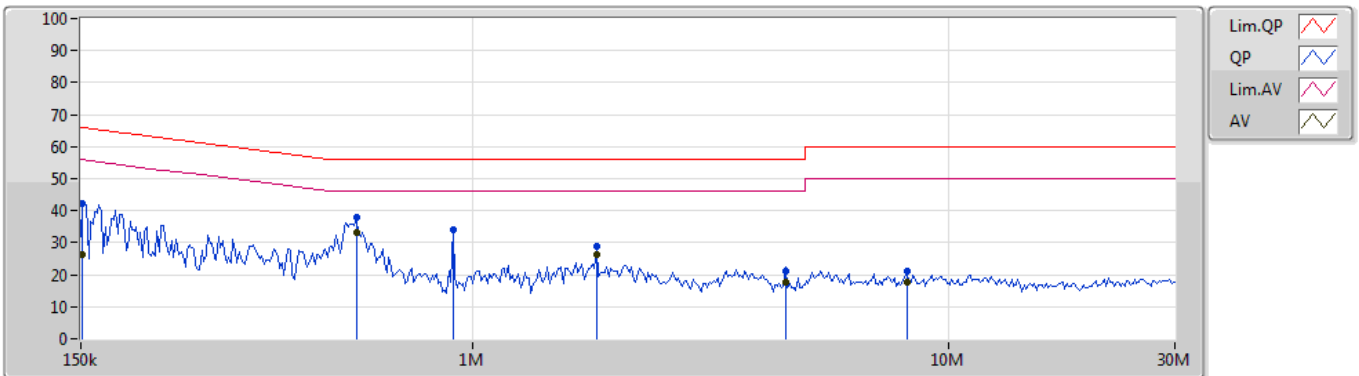
Mode Configure

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comments	Raw (dBuV)	LISN (dB)	AT (dB)
Mode 1	Pass	QP	151.5k	42.11	65.92	-23.81	19.64	Line	-	22.47	9.66	9.87
Mode 1	Pass	AV	151.5k	26.19	55.92	-29.73	19.64	Line	-	6.55	9.66	9.87
Mode 1	Pass	QP	569.056k	38.04	56.00	-17.96	19.64	Line	-	18.40	9.64	9.87
Mode 1	Pass	AV	569.056k	33.04	46.00	-12.96	19.64	Line	-	13.40	9.64	9.87
Mode 1	Pass	QP	908.364k	34.10	56.00	-21.90	19.63	Line	-	14.47	9.64	9.88
Mode 1	Pass	AV	908.364k	33.99	46.00	-12.01	19.63	Line	"Worst"	14.36	9.64	9.88
Mode 1	Pass	QP	1.823M	29.03	56.00	-26.97	19.66	Line	-	9.37	9.65	9.87
Mode 1	Pass	AV	1.823M	26.38	46.00	-19.62	19.66	Line	-	6.72	9.65	9.87
Mode 1	Pass	QP	4.553M	21.33	56.00	-34.67	19.73	Line	-	1.60	9.66	9.88
Mode 1	Pass	AV	4.553M	17.85	46.00	-28.15	19.73	Line	-	-1.88	9.66	9.88
Mode 1	Pass	QP	8.19M	21.29	60.00	-38.71	19.81	Line	-	1.48	9.68	9.88
Mode 1	Pass	AV	8.19M	17.68	50.00	-32.32	19.81	Line	-	-2.13	9.68	9.88
Mode 1	Pass	QP	156.091k	42.75	65.67	-22.92	19.63	Neutral	-	23.12	9.65	9.87
Mode 1	Pass	AV	156.091k	28.49	55.67	-27.18	19.63	Neutral	-	8.86	9.65	9.87
Mode 1	Pass	QP	569.056k	38.12	56.00	-17.88	19.63	Neutral	-	18.49	9.63	9.87
Mode 1	Pass	AV	569.056k	32.99	46.00	-13.01	19.63	Neutral	-	13.36	9.63	9.87
Mode 1	Pass	QP	908.364k	34.64	56.00	-21.36	19.62	Neutral	-	15.02	9.63	9.88
Mode 1	Pass	AV	908.364k	33.96	46.00	-12.04	19.62	Neutral	"Worst"	14.34	9.63	9.88
Mode 1	Pass	QP	1.823M	28.00	56.00	-28.00	19.66	Neutral	-	8.34	9.65	9.87
Mode 1	Pass	AV	1.823M	25.41	46.00	-20.59	19.66	Neutral	-	5.75	9.65	9.87
Mode 1	Pass	QP	3.182M	21.99	56.00	-34.01	19.71	Neutral	-	2.28	9.66	9.88
Mode 1	Pass	AV	3.182M	17.38	46.00	-28.62	19.71	Neutral	-	-2.33	9.66	9.88
Mode 1	Pass	QP	5.131M	21.27	60.00	-38.73	19.75	Neutral	-	1.52	9.67	9.88
Mode 1	Pass	AV	5.131M	17.42	50.00	-32.58	19.75	Neutral	-	-2.33	9.67	9.88
Mode 2	Pass	QP	177.646k	39.63	64.59	-24.96	19.63	Line	-	20.00	9.65	9.87
Mode 2	Pass	AV	177.646k	25.78	54.59	-28.81	19.63	Line	-	6.15	9.65	9.87
Mode 2	Pass	QP	563.422k	38.42	56.00	-17.58	19.64	Line	-	18.78	9.64	9.87
Mode 2	Pass	AV	563.422k	33.46	46.00	-12.54	19.64	Line	-	13.82	9.64	9.87
Mode 2	Pass	QP	908.364k	34.14	56.00	-21.86	19.63	Line	-	14.51	9.64	9.88
Mode 2	Pass	AV	908.364k	34.04	46.00	-11.96	19.63	Line	"Worst"	14.41	9.64	9.88
Mode 2	Pass	QP	1.823M	28.74	56.00	-27.26	19.66	Line	-	9.08	9.65	9.87
Mode 2	Pass	AV	1.823M	25.90	46.00	-20.10	19.66	Line	-	6.24	9.65	9.87
Mode 2	Pass	QP	3.883M	20.98	56.00	-35.02	19.73	Line	-	1.25	9.66	9.88
Mode 2	Pass	AV	3.883M	17.22	46.00	-28.78	19.73	Line	-	-2.51	9.66	9.88
Mode 2	Pass	QP	5.392M	20.63	60.00	-39.37	19.76	Line	-	0.87	9.67	9.88
Mode 2	Pass	AV	5.392M	17.23	50.00	-32.77	19.76	Line	-	-2.53	9.67	9.88
Mode 2	Pass	QP	157.652k	42.58	65.58	-23.00	19.63	Neutral	-	22.95	9.65	9.87
Mode 2	Pass	AV	157.652k	28.54	55.58	-27.04	19.63	Neutral	-	8.91	9.65	9.87
Mode 2	Pass	QP	569.056k	38.05	56.00	-17.95	19.63	Neutral	-	18.42	9.63	9.87
Mode 2	Pass	AV	569.056k	32.71	46.00	-13.29	19.63	Neutral	-	13.08	9.63	9.87
Mode 2	Pass	QP	908.364k	34.70	56.00	-21.30	19.62	Neutral	-	15.08	9.63	9.88
Mode 2	Pass	AV	908.364k	33.99	46.00	-12.01	19.62	Neutral	"Worst"	14.37	9.63	9.88
Mode 2	Pass	QP	1.823M	27.93	56.00	-28.07	19.66	Neutral	-	8.27	9.65	9.87

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comments	Raw (dBuV)	LISN (dB)	AT (dB)
Mode 2	Pass	AV	1.823M	25.10	46.00	-20.90	19.66	Neutral	-	5.44	9.65	9.87
Mode 2	Pass	QP	3.481M	23.19	56.00	-32.81	19.72	Neutral	-	3.47	9.66	9.88
Mode 2	Pass	AV	3.481M	17.37	46.00	-28.63	19.72	Neutral	-	-2.35	9.66	9.88
Mode 2	Pass	QP	5.131M	21.05	60.00	-38.95	19.75	Neutral	-	1.30	9.67	9.88
Mode 2	Pass	AV	5.131M	17.32	50.00	-32.68	19.75	Neutral	-	-2.43	9.67	9.88

Conducted Emissions at Powerline_Mode 1

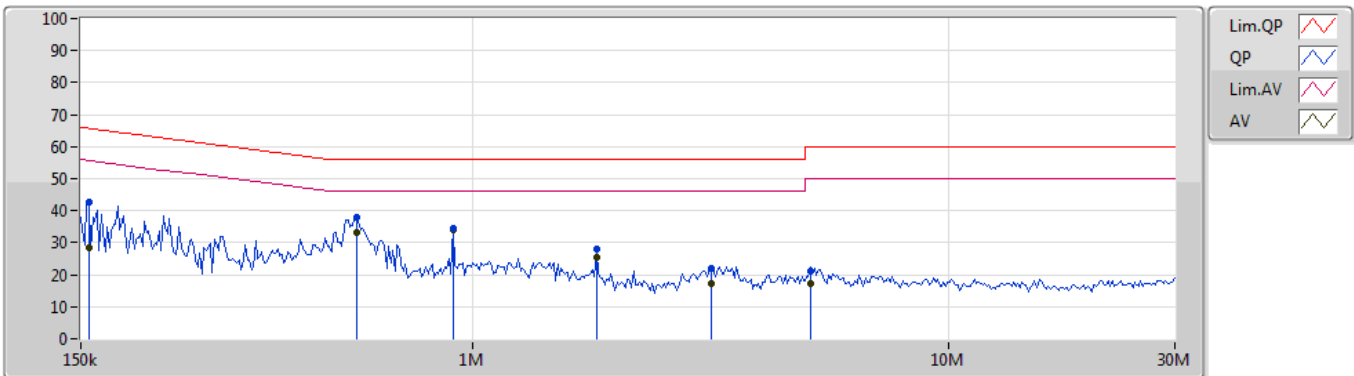
13/06/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	151.5k	42.11	65.92	-23.81	19.64	Line	-	22.47	9.66	0.11	9.87			
AV	151.5k	26.19	55.92	-29.73	19.64	Line	-	6.55	9.66	0.11	9.87			
QP	569.056k	38.04	56.00	-17.96	19.64	Line	-	18.40	9.64	0.13	9.87			
AV	569.056k	33.04	46.00	-12.96	19.64	Line	-	13.40	9.64	0.13	9.87			
QP	908.364k	34.10	56.00	-21.90	19.63	Line	-	14.47	9.64	0.11	9.88			
AV	908.364k	33.99	46.00	-12.01	19.63	Line	"Worst"	14.36	9.64	0.11	9.88			
QP	1.823M	29.03	56.00	-26.97	19.66	Line	-	9.37	9.65	0.14	9.87			
AV	1.823M	26.38	46.00	-19.62	19.66	Line	-	6.72	9.65	0.14	9.87			
QP	4.553M	21.33	56.00	-34.67	19.73	Line	-	1.60	9.66	0.19	9.88			
AV	4.553M	17.85	46.00	-28.15	19.73	Line	-	-1.88	9.66	0.19	9.88			
QP	8.19M	21.29	60.00	-38.71	19.81	Line	-	1.48	9.68	0.25	9.88			
AV	8.19M	17.68	50.00	-32.32	19.81	Line	-	-2.13	9.68	0.25	9.88			

Conducted Emissions at Powerline_Mode 1

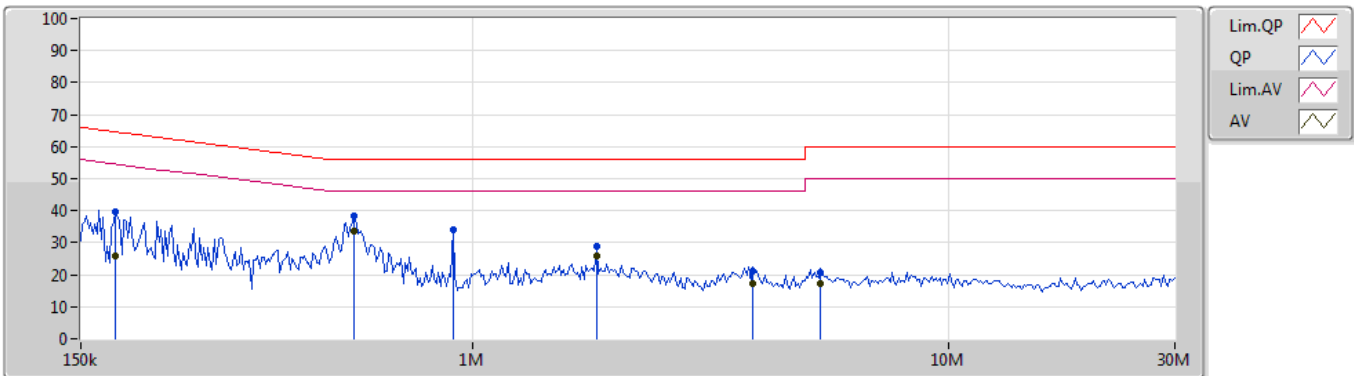
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Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	156.091k	42.75	65.67	-22.92	19.63	Neutral	-	23.12	9.65	0.11	9.87			
AV	156.091k	28.49	55.67	-27.18	19.63	Neutral	-	8.86	9.65	0.11	9.87			
QP	569.056k	38.12	56.00	-17.88	19.63	Neutral	-	18.49	9.63	0.13	9.87			
AV	569.056k	32.99	46.00	-13.01	19.63	Neutral	-	13.36	9.63	0.13	9.87			
QP	908.364k	34.64	56.00	-21.36	19.62	Neutral	-	15.02	9.63	0.11	9.88			
AV	908.364k	33.96	46.00	-12.04	19.62	Neutral	"Worst"	14.34	9.63	0.11	9.88			
QP	1.823M	28.00	56.00	-28.00	19.66	Neutral	-	8.34	9.65	0.14	9.87			
AV	1.823M	25.41	46.00	-20.59	19.66	Neutral	-	5.75	9.65	0.14	9.87			
QP	3.182M	21.99	56.00	-34.01	19.71	Neutral	-	2.28	9.66	0.17	9.88			
AV	3.182M	17.38	46.00	-28.62	19.71	Neutral	-	-2.33	9.66	0.17	9.88			
QP	5.131M	21.27	60.00	-38.73	19.75	Neutral	-	1.52	9.67	0.20	9.88			
AV	5.131M	17.42	50.00	-32.58	19.75	Neutral	-	-2.33	9.67	0.20	9.88			

Conducted Emissions at Powerline_Mode 2

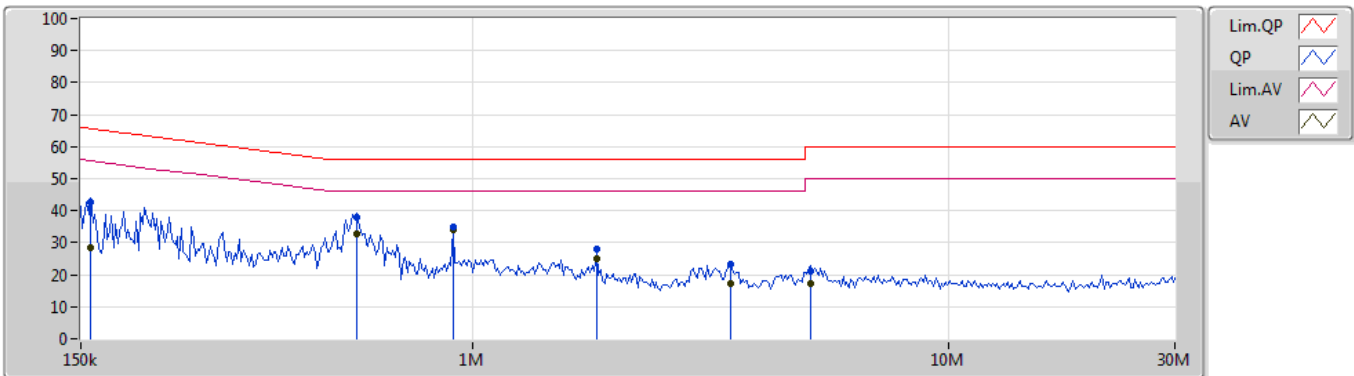
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Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT			
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)			
QP	177.646k	39.63	64.59	-24.96	19.63	Line	-	20.00	9.65	0.11	9.87			
AV	177.646k	25.78	54.59	-28.81	19.63	Line	-	6.15	9.65	0.11	9.87			
QP	563.422k	38.42	56.00	-17.58	19.64	Line	-	18.78	9.64	0.13	9.87			
AV	563.422k	33.46	46.00	-12.54	19.64	Line	-	13.82	9.64	0.13	9.87			
QP	908.364k	34.14	56.00	-21.86	19.63	Line	-	14.51	9.64	0.11	9.88			
AV	908.364k	34.04	46.00	-11.96	19.63	Line	"Worst"	14.41	9.64	0.11	9.88			
QP	1.823M	28.74	56.00	-27.26	19.66	Line	-	9.08	9.65	0.14	9.87			
AV	1.823M	25.90	46.00	-20.10	19.66	Line	-	6.24	9.65	0.14	9.87			
QP	3.883M	20.98	56.00	-35.02	19.73	Line	-	1.25	9.66	0.19	9.88			
AV	3.883M	17.22	46.00	-28.78	19.73	Line	-	-2.51	9.66	0.19	9.88			
QP	5.392M	20.63	60.00	-39.37	19.76	Line	-	0.87	9.67	0.21	9.88			
AV	5.392M	17.23	50.00	-32.77	19.76	Line	-	-2.53	9.67	0.21	9.88			

Conducted Emissions at Powerline_Mode 2

13/06/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	157.652k	42.58	65.58	-23.00	19.63	Neutral	-	22.95	9.65	0.11	9.87			
AV	157.652k	28.54	55.58	-27.04	19.63	Neutral	-	8.91	9.65	0.11	9.87			
QP	569.056k	38.05	56.00	-17.95	19.63	Neutral	-	18.42	9.63	0.13	9.87			
AV	569.056k	32.71	46.00	-13.29	19.63	Neutral	-	13.08	9.63	0.13	9.87			
QP	908.364k	34.70	56.00	-21.30	19.62	Neutral	-	15.08	9.63	0.11	9.88			
AV	908.364k	33.99	46.00	-12.01	19.62	Neutral	"Worst"	14.37	9.63	0.11	9.88			
QP	1.823M	27.93	56.00	-28.07	19.66	Neutral	-	8.27	9.65	0.14	9.87			
AV	1.823M	25.10	46.00	-20.90	19.66	Neutral	-	5.44	9.65	0.14	9.87			
QP	3.481M	23.19	56.00	-32.81	19.72	Neutral	-	3.47	9.66	0.18	9.88			
AV	3.481M	17.37	46.00	-28.63	19.72	Neutral	-	-2.35	9.66	0.18	9.88			
QP	5.131M	21.05	60.00	-38.95	19.75	Neutral	-	1.30	9.67	0.20	9.88			
AV	5.131M	17.32	50.00	-32.68	19.75	Neutral	-	-2.43	9.67	0.20	9.88			

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	721.25k	1.051M	1M05F1D	717.5k	1.048M

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

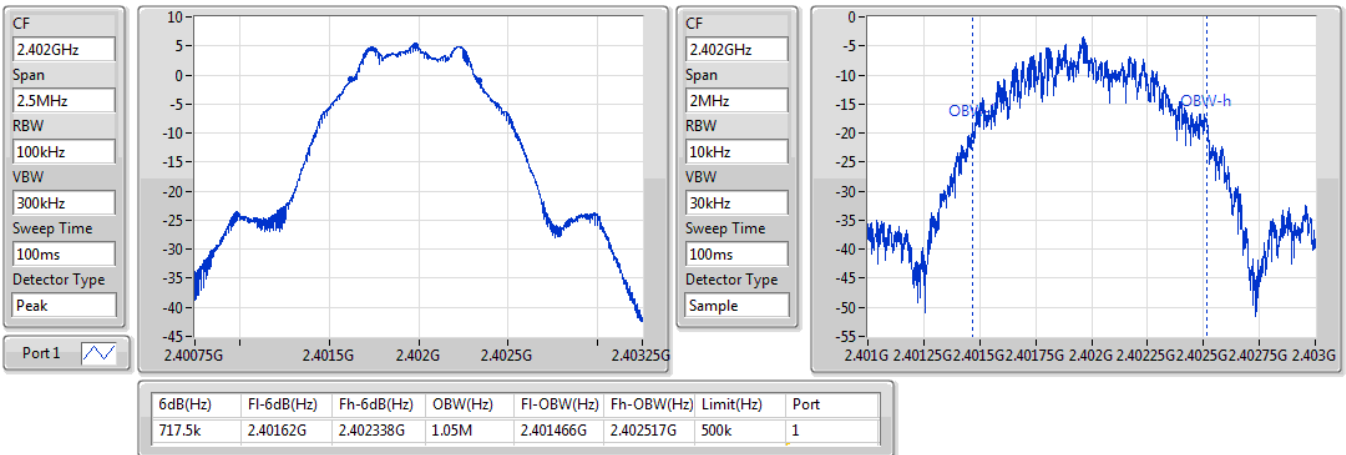
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	717.5k	1.05M
2440MHz	Pass	500k	721.25k	1.048M
2480MHz	Pass	500k	717.5k	1.051M

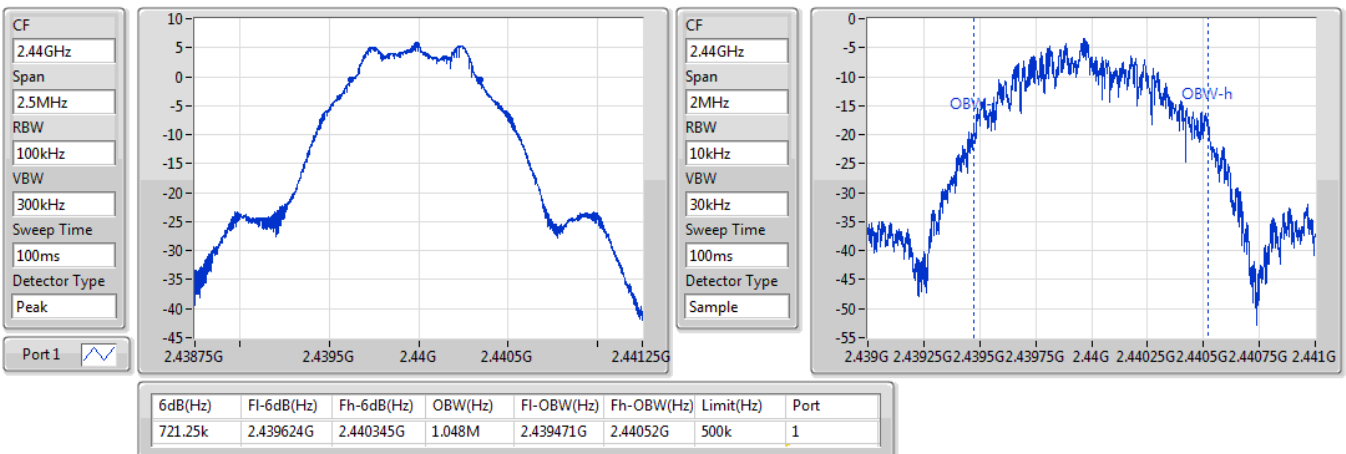
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-LE(1Mbps)
2402MHz

10/06/2020

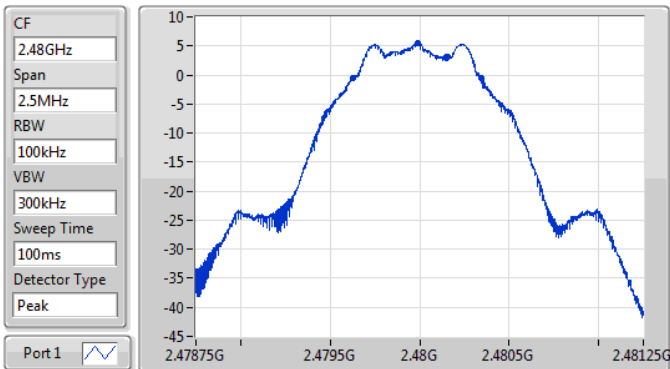

BT-LE(1Mbps)
2440MHz

10/06/2020



BT-LE(1Mbps)

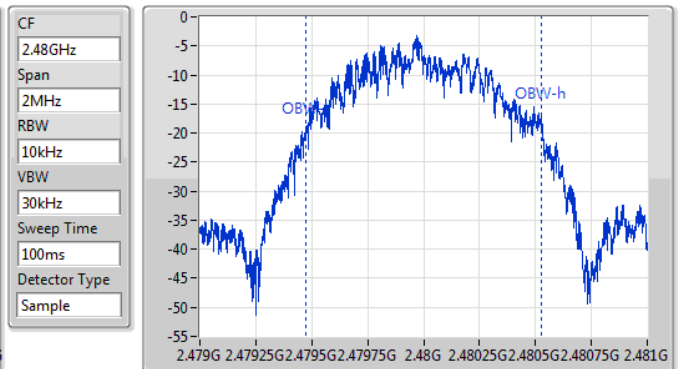
2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
717.5k	2.479628G	2.480345G	1.051M	2.479475G	2.480527G	500k	1

EBW

10/06/2020





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	6.99	0.00500



Average Power-DTS

Appendix C

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.46	6.60	30.00
2440MHz	Pass	2.46	6.91	30.00
2480MHz	Pass	2.46	6.99	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-8.18

RBW=3 kHz.



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.46	-9.18	8.00
2440MHz	Pass	2.46	-8.59	8.00
2480MHz	Pass	2.46	-8.18	8.00

DG = Directional Gain; RBW=3 kHz;

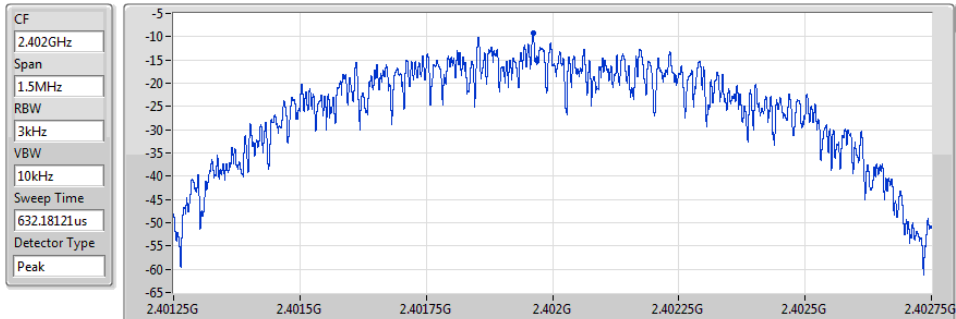
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

BT-LE(1Mbps)

PSD

2402MHz

10/06/2020



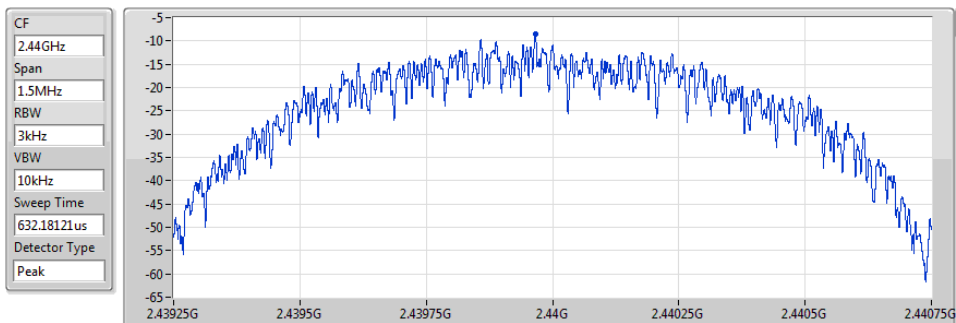
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-9.18	-9.18	-9.18

BT-LE(1Mbps)

PSD

2440MHz

10/06/2020



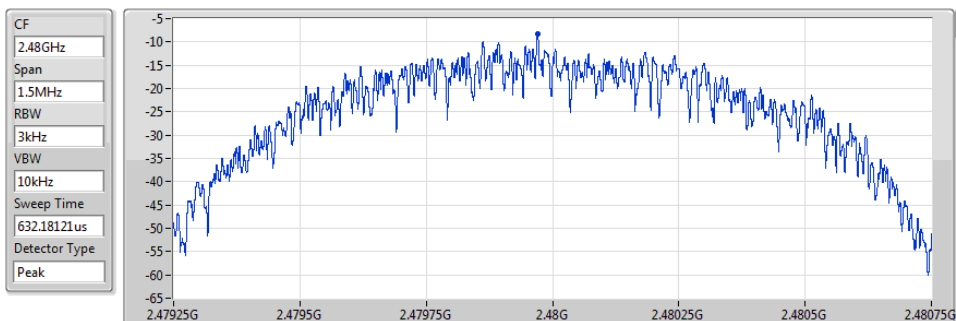
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-8.59	-8.59	-8.59

BT-LE(1Mbps)

PSD

2480MHz

10/06/2020



Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-8.18	-8.18	-8.18



Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.48003G	5.40	-24.60	2.10358G	-55.46	2.39995G	-51.22	2.4G	-51.72	2.4921G	-53.33	24.33073G	-42.42	1



Result

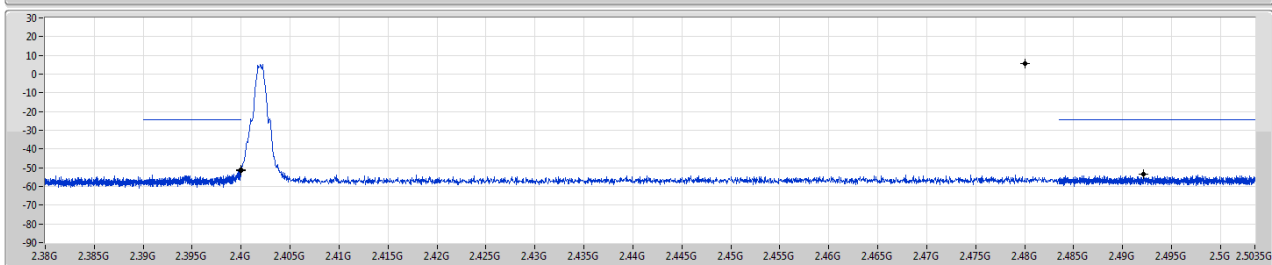
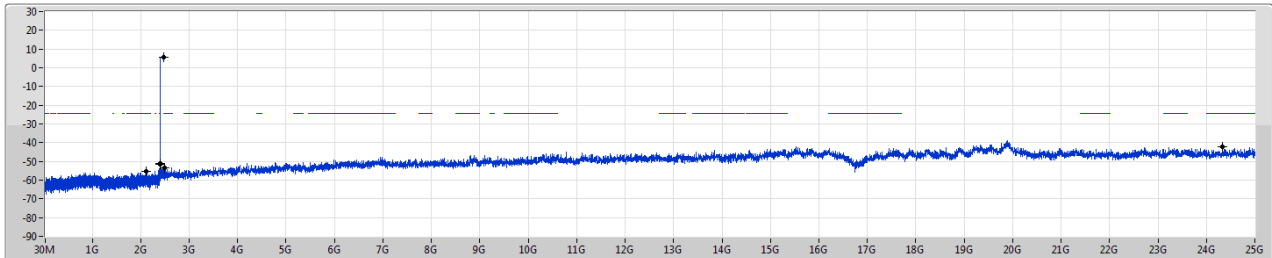
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.48003G	5.40	-24.60	2.10358G	-55.46	2.39995G	-51.22	2.4G	-51.72	2.4921G	-53.33	24.33073G	-42.42	1
2440MHz	Pass	2.48003G	5.40	-24.60	2.12767G	-56.13	2.39056G	-53.81	2.4835G	-55.86	2.49852G	-52.73	23.56304G	-42.29	1
2480MHz	Pass	2.48003G	5.40	-24.60	2.01105G	-55.63	2.398G	-54.27	2.4835G	-55.14	2.48786G	-53.09	21.90954G	-41.67	1

BT-LE(1Mbps)

2402MHz

CSE NdB

10/06/2020



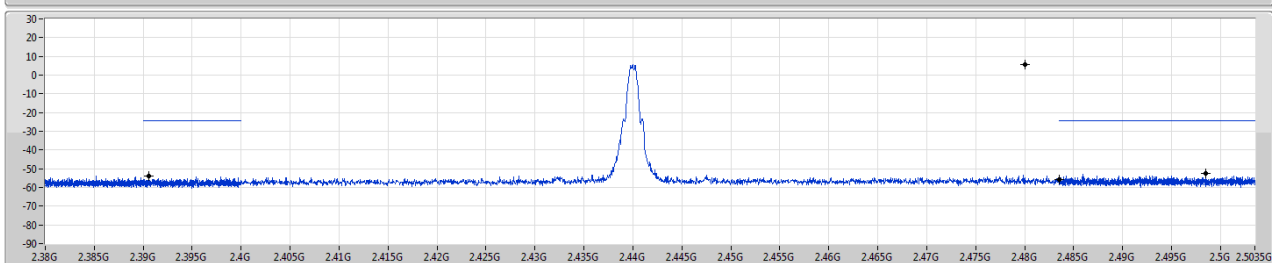
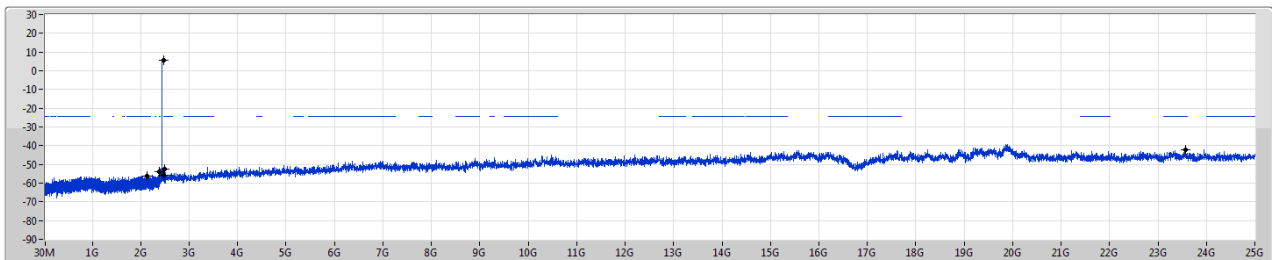
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48003G	5.40	-24.60	2.10358G	-55.46	2.39995G	-51.22	2.4G	-51.72	2.4921G	-53.33	2.43073G	-42.42	1

BT-LE(1Mbps)

2440MHz

CSE NdB

10/06/2020



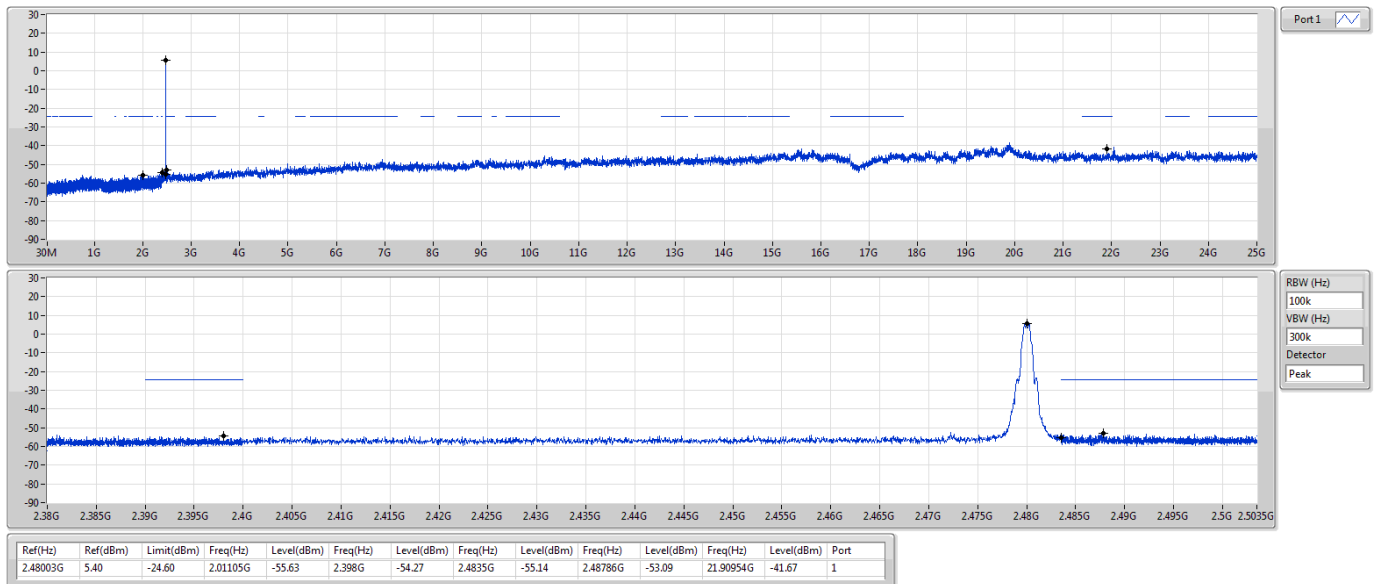
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48003G	5.40	-24.60	2.12767G	-56.13	2.39056G	-53.81	2.4835G	-55.86	2.49652G	-52.73	2.56304G	-42.29	1

BT-LE(1Mbps)

2480MHz

CSE NdB

10/06/2020





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	912.7M	36.78	46.00	-9.22	3	Vertical	360	1.00	-

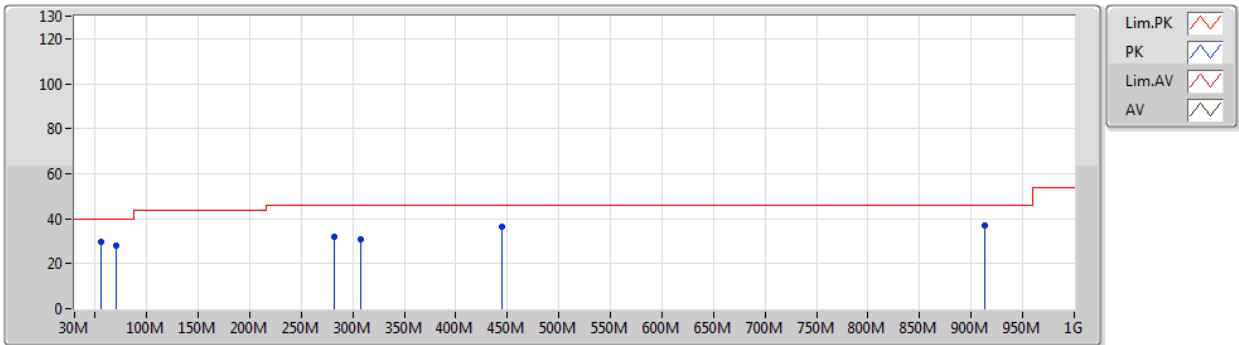
Result

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	55.22M	29.72	40.00	-10.28	3	Vertical	360	1.00	-
2440MHz	Pass	PK	70.74M	28.02	40.00	-11.98	3	Vertical	360	1.00	-
2440MHz	Pass	PK	282.2M	31.97	46.00	-14.03	3	Vertical	360	1.00	-
2440MHz	Pass	PK	307.42M	30.66	46.00	-15.34	3	Vertical	360	1.00	-
2440MHz	Pass	PK	445.16M	36.25	46.00	-9.75	3	Vertical	360	1.00	-
2440MHz	Pass	PK	912.7M	36.78	46.00	-9.22	3	Vertical	360	1.00	-
2440MHz	Pass	PK	78.5M	24.90	40.00	-15.10	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	183.26M	26.16	43.50	-17.34	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	253.1M	32.58	46.00	-13.42	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	332.64M	33.10	46.00	-12.90	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	355.92M	35.55	46.00	-10.45	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	555.74M	30.36	46.00	-15.64	3	Horizontal	0	1.00	-

BT-LE(1Mbps)

2440MHz_Switching power supply

12/06/2020

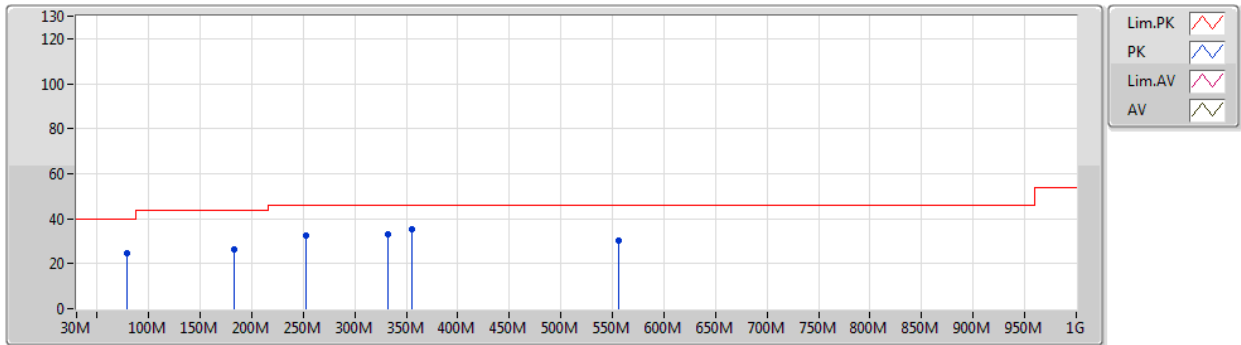


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	55.22M	29.72	40.00	-10.28	-25.08	3	Vertical	360	1.00	-	54.80	11.41	0.60	37.09
PK	70.74M	28.02	40.00	-11.98	-24.99	3	Vertical	360	1.00	-	53.01	11.36	0.61	36.96
PK	282.2M	31.97	46.00	-14.03	-17.18	3	Vertical	360	1.00	-	49.15	17.92	1.36	36.46
PK	307.42M	30.66	46.00	-15.34	-16.73	3	Vertical	360	1.00	-	47.39	18.31	1.41	36.45
PK	445.16M	36.25	46.00	-9.75	-12.83	3	Vertical	360	1.00	-	49.08	22.06	1.79	36.68
PK	912.7M	36.78	46.00	-9.22	-6.53	3	Vertical	360	1.00	-	43.31	28.09	2.83	37.45

BT-LE(1Mbps)

2440MHz_Switching power supply

12/06/2020



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	78.5M	24.90	40.00	-15.10	-24.04	3	Horizontal	0	1.00	-	48.94	12.21	0.70	36.95
PK	183.26M	26.16	43.50	-17.34	-21.28	3	Horizontal	0	1.00	-	47.44	14.02	1.10	36.40
PK	253.1M	32.58	46.00	-13.42	-17.00	3	Horizontal	0	1.00	-	49.58	18.12	1.31	36.43
PK	332.64M	33.10	46.00	-12.90	-16.21	3	Horizontal	0	1.00	-	49.31	18.85	1.47	36.53
PK	355.92M	35.55	46.00	-10.45	-15.41	3	Horizontal	0	1.00	-	50.96	19.61	1.52	36.54
PK	555.74M	30.36	46.00	-15.64	-10.32	3	Horizontal	0	1.00	-	40.68	24.76	2.02	37.10



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	2.4876G	46.91	54.00	-7.09	3	Horizontal	93	1.44	-

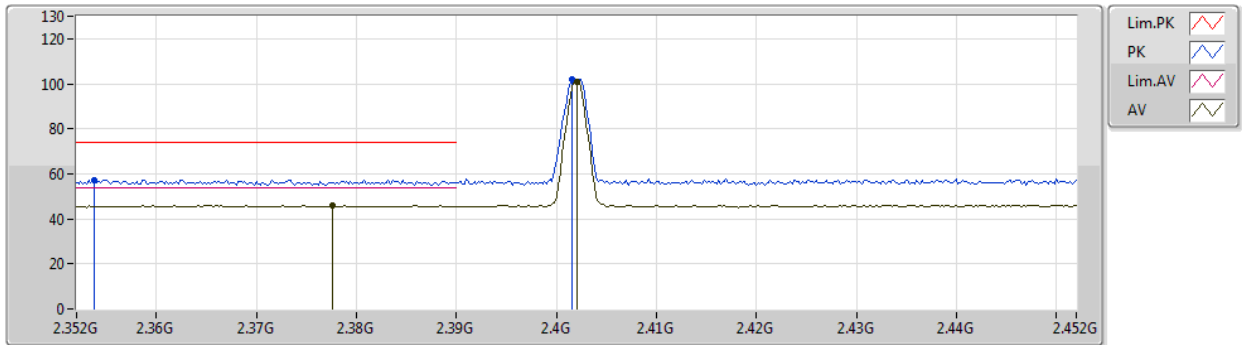
Result

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	2.3776G	46.02	54.00	-7.98	3	Vertical	52	2.67	-
2402MHz	Pass	AV	2.402G	101.06	Inf	-Inf	3	Vertical	52	2.67	-
2402MHz	Pass	PK	2.3538G	57.43	74.00	-16.57	3	Vertical	52	2.67	-
2402MHz	Pass	PK	2.4016G	102.05	Inf	-Inf	3	Vertical	52	2.67	-
2402MHz	Pass	AV	2.3802G	46.08	54.00	-7.92	3	Horizontal	106	1.50	-
2402MHz	Pass	AV	2.402G	101.02	Inf	-Inf	3	Horizontal	106	1.50	-
2402MHz	Pass	PK	2.3558G	57.75	74.00	-16.25	3	Horizontal	106	1.50	-
2402MHz	Pass	PK	2.4018G	102.01	Inf	-Inf	3	Horizontal	106	1.50	-
2402MHz	Pass	AV	4.80339G	33.79	54.00	-20.21	3	Vertical	330	1.80	-
2402MHz	Pass	PK	4.80195G	45.98	74.00	-28.02	3	Vertical	330	1.80	-
2402MHz	Pass	AV	4.80352G	34.13	54.00	-19.87	3	Horizontal	96	1.50	-
2402MHz	Pass	PK	4.80337G	45.91	74.00	-28.09	3	Horizontal	96	1.50	-
2440MHz	Pass	AV	2.3544G	46.00	54.00	-8.00	3	Vertical	58	2.10	-
2440MHz	Pass	AV	2.44G	101.67	Inf	-Inf	3	Vertical	58	2.10	-
2440MHz	Pass	AV	2.492G	46.42	54.00	-7.58	3	Vertical	58	2.10	-
2440MHz	Pass	PK	2.3688G	58.66	74.00	-15.34	3	Vertical	58	2.10	-
2440MHz	Pass	PK	2.4404G	102.63	Inf	-Inf	3	Vertical	58	2.10	-
2440MHz	Pass	PK	2.4852G	57.91	74.00	-16.09	3	Vertical	58	2.10	-
2440MHz	Pass	AV	2.3468G	45.90	54.00	-8.10	3	Horizontal	95	1.49	-
2440MHz	Pass	AV	2.44G	101.82	Inf	-Inf	3	Horizontal	95	1.49	-
2440MHz	Pass	AV	2.498G	46.25	54.00	-7.75	3	Horizontal	95	1.49	-
2440MHz	Pass	PK	2.3732G	58.05	74.00	-15.95	3	Horizontal	95	1.49	-
2440MHz	Pass	PK	2.4396G	102.77	Inf	-Inf	3	Horizontal	95	1.49	-
2440MHz	Pass	PK	2.4936G	58.27	74.00	-15.73	3	Horizontal	95	1.49	-
2440MHz	Pass	AV	4.87934G	33.61	54.00	-20.39	3	Vertical	274	1.50	-
2440MHz	Pass	PK	4.88131G	45.67	74.00	-28.33	3	Vertical	274	1.50	-
2440MHz	Pass	AV	4.87995G	34.25	54.00	-19.75	3	Horizontal	115	1.01	-
2440MHz	Pass	PK	4.87896G	45.63	74.00	-28.37	3	Horizontal	115	1.01	-
2480MHz	Pass	AV	2.48G	99.41	Inf	-Inf	3	Vertical	46	1.49	-
2480MHz	Pass	AV	2.4916G	46.56	54.00	-7.44	3	Vertical	46	1.49	-
2480MHz	Pass	PK	2.4798G	100.35	Inf	-Inf	3	Vertical	46	1.49	-
2480MHz	Pass	PK	2.4978G	58.87	74.00	-15.13	3	Vertical	46	1.49	-
2480MHz	Pass	AV	2.48G	101.85	Inf	-Inf	3	Horizontal	93	1.44	-
2480MHz	Pass	AV	2.4876G	46.91	54.00	-7.09	3	Horizontal	93	1.44	-
2480MHz	Pass	PK	2.4798G	102.80	Inf	-Inf	3	Horizontal	93	1.44	-
2480MHz	Pass	PK	2.4918G	58.75	74.00	-15.25	3	Horizontal	93	1.44	-
2480MHz	Pass	AV	4.96017G	34.57	54.00	-19.43	3	Vertical	324	1.50	-
2480MHz	Pass	PK	4.95912G	46.52	74.00	-27.48	3	Vertical	324	1.50	-
2480MHz	Pass	AV	4.96052G	34.18	54.00	-19.82	3	Horizontal	170	1.80	-
2480MHz	Pass	PK	4.95972G	46.17	74.00	-27.83	3	Horizontal	170	1.80	-

BT-LE(1Mbps)

2402MHz_TX

11/06/2020

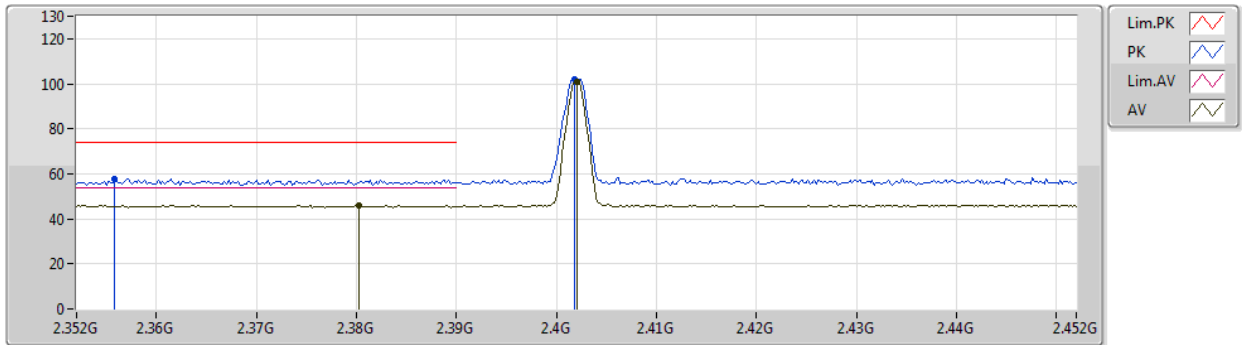


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3776G	46.02	54.00	-7.98	32.73	3	Vertical	52	2.67	-	13.29	27.67	5.06	-
AV	2.402G	101.06	Inf	-Inf	32.70	3	Vertical	52	2.67	-	68.36	27.60	5.10	-
PK	2.3538G	57.43	74.00	-16.57	32.75	3	Vertical	52	2.67	-	24.68	27.74	5.01	-
PK	2.4016G	102.05	Inf	-Inf	32.70	3	Vertical	52	2.67	-	69.35	27.60	5.10	-

BT-LE(1Mbps)

2402MHz_TX

11/06/2020

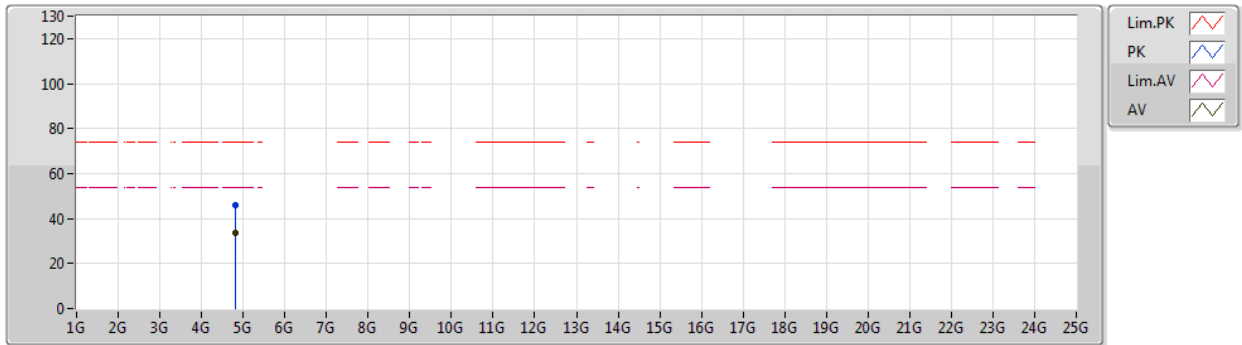


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3802G	46.08	54.00	-7.92	32.72	3	Horizontal	106	1.50	-	13.36	27.66	5.06	-
AV	2.402G	101.02	Inf	-Inf	32.70	3	Horizontal	106	1.50	-	68.32	27.60	5.10	-
PK	2.3558G	57.75	74.00	-16.25	32.74	3	Horizontal	106	1.50	-	25.01	27.73	5.01	-
PK	2.4018G	102.01	Inf	-Inf	32.70	3	Horizontal	106	1.50	-	69.31	27.60	5.10	-

BT-LE(1Mbps)

2402MHz_TX

11/06/2020

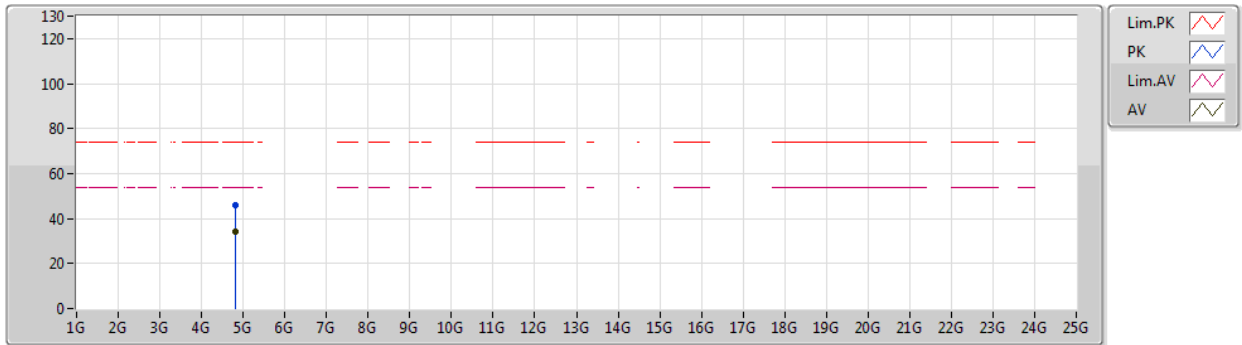


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80339G	33.79	54.00	-20.21	4.10	3	Vertical	330	1.80	-	29.69	31.10	7.30	34.30
PK	4.80195G	45.98	74.00	-28.02	4.10	3	Vertical	330	1.80	-	41.88	31.10	7.30	34.30

BT-LE(1Mbps)

2402MHz_TX

11/06/2020

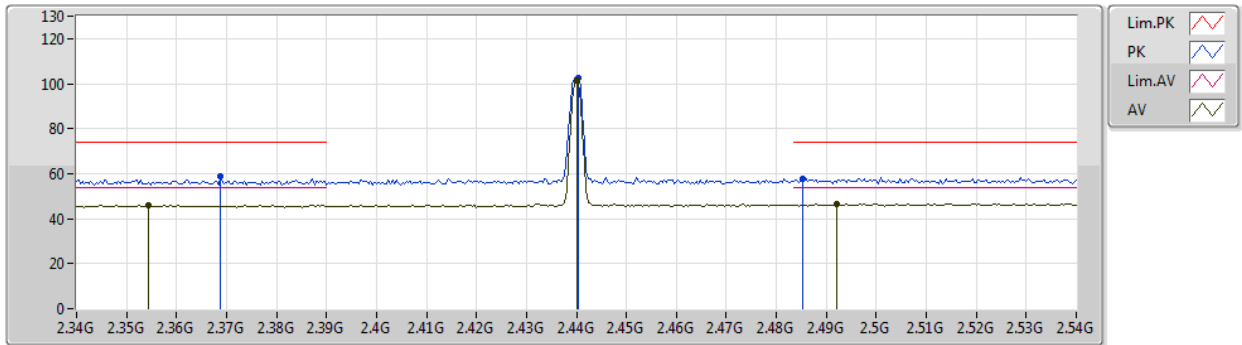


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80352G	34.13	54.00	-19.87	4.10	3	Horizontal	96	1.50	-	30.03	31.10	7.30	34.30
PK	4.80337G	45.91	74.00	-28.09	4.10	3	Horizontal	96	1.50	-	41.81	31.10	7.30	34.30

BT-LE(1Mbps)

2440MHz_TX

11/06/2020

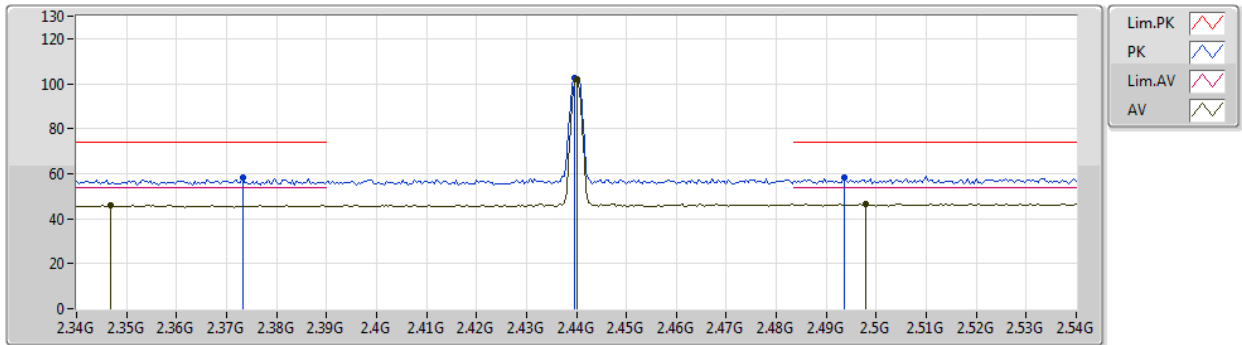


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3544G	46.00	54.00	-8.00	32.75	3	Vertical	58	2.10	-	13.25	27.74	5.01	-
AV	2.44G	101.67	Inf	-Inf	32.76	3	Vertical	58	2.10	-	68.91	27.60	5.16	-
AV	2.492G	46.42	54.00	-7.58	32.84	3	Vertical	58	2.10	-	13.58	27.60	5.24	-
PK	2.3688G	58.66	74.00	-15.34	32.73	3	Vertical	58	2.10	-	25.93	27.69	5.04	-
PK	2.4404G	102.63	Inf	-Inf	32.76	3	Vertical	58	2.10	-	69.87	27.60	5.16	-
PK	2.4852G	57.91	74.00	-16.09	32.83	3	Vertical	58	2.10	-	25.08	27.60	5.23	-

BT-LE(1Mbps)

2440MHz_TX

11/06/2020

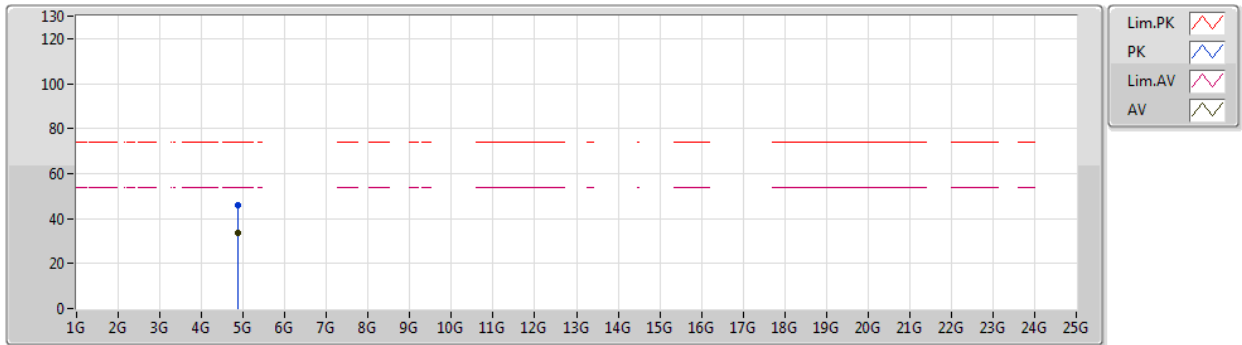


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3468G	45.90	54.00	-8.10	32.75	3	Horizontal	95	1.49	-	13.15	27.76	4.99	-
AV	2.44G	101.82	Inf	-Inf	32.76	3	Horizontal	95	1.49	-	69.06	27.60	5.16	-
AV	2.498G	46.25	54.00	-7.75	32.85	3	Horizontal	95	1.49	-	13.40	27.60	5.25	-
PK	2.3732G	58.05	74.00	-15.95	32.73	3	Horizontal	95	1.49	-	25.32	27.68	5.05	-
PK	2.4396G	102.77	Inf	-Inf	32.76	3	Horizontal	95	1.49	-	70.01	27.60	5.16	-
PK	2.4936G	58.27	74.00	-15.73	32.84	3	Horizontal	95	1.49	-	25.43	27.60	5.24	-

BT-LE(1Mbps)

2440MHz_TX

11/06/2020

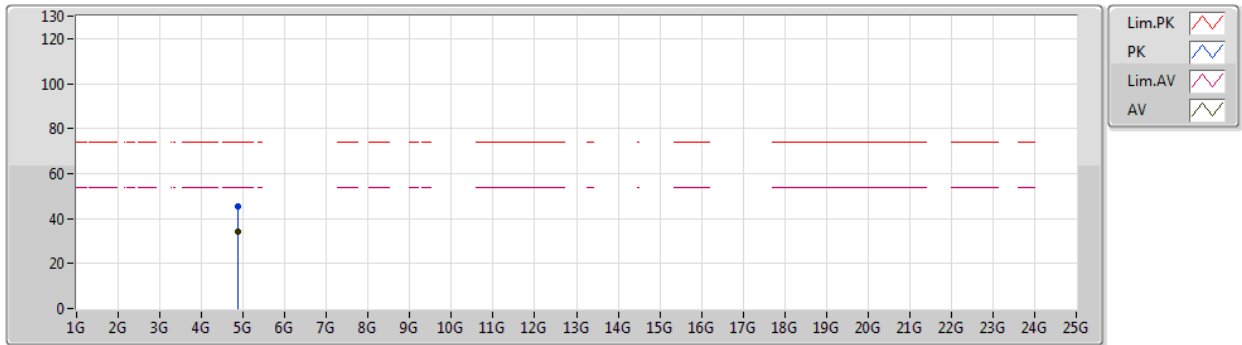


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87934G	33.61	54.00	-20.39	4.28	3	Vertical	274	1.50	-	29.33	31.18	7.38	34.28
PK	4.88131G	45.67	74.00	-28.33	4.28	3	Vertical	274	1.50	-	41.39	31.18	7.38	34.28

BT-LE(1Mbps)

2440MHz_TX

11/06/2020

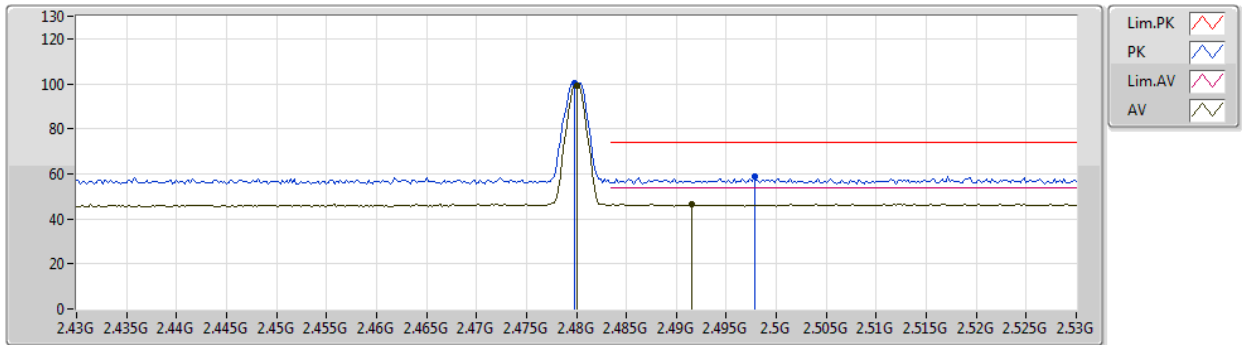


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87995G	34.25	54.00	-19.75	4.28	3	Horizontal	115	1.01	-	29.97	31.18	7.38	34.28
PK	4.87896G	45.63	74.00	-28.37	4.28	3	Horizontal	115	1.01	-	41.35	31.18	7.38	34.28

BT-LE(1Mbps)

2480MHz_TX

11/06/2020

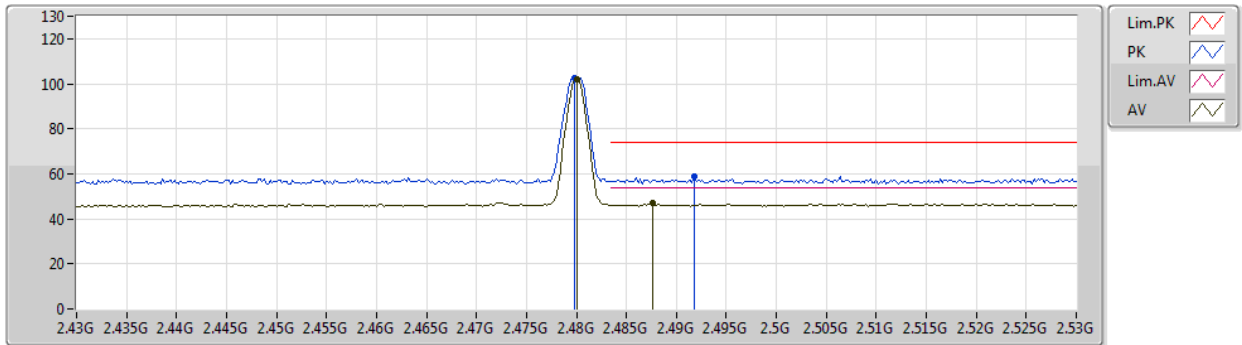


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	99.41	Inf	-Inf	32.82	3	Vertical	46	1.49	-	66.59	27.60	5.22	-
AV	2.4916G	46.56	54.00	-7.44	32.84	3	Vertical	46	1.49	-	13.72	27.60	5.24	-
PK	2.4798G	100.35	Inf	-Inf	32.82	3	Vertical	46	1.49	-	67.53	27.60	5.22	-
PK	2.4978G	58.87	74.00	-15.13	32.85	3	Vertical	46	1.49	-	26.02	27.60	5.25	-

BT-LE(1Mbps)

2480MHz_TX

11/06/2020

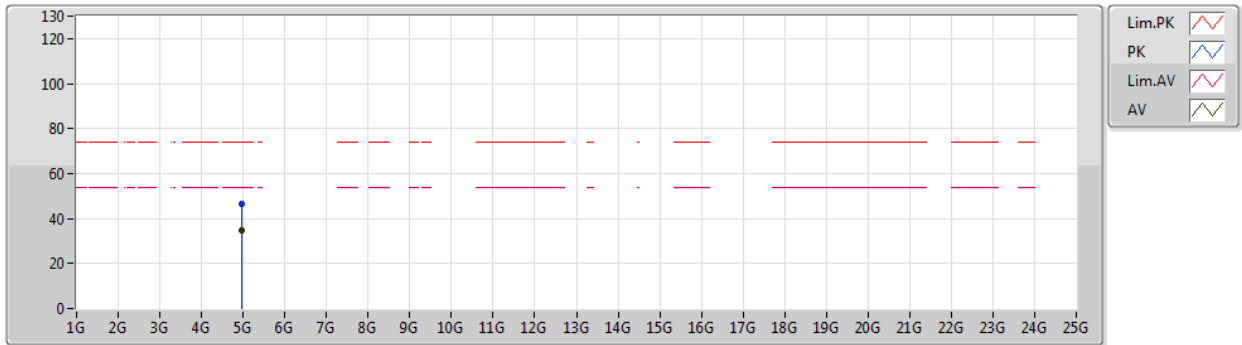


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	101.85	Inf	-Inf	32.82	3	Horizontal	93	1.44	-	69.03	27.60	5.22	-
AV	2.4876G	46.91	54.00	-7.09	32.83	3	Horizontal	93	1.44	-	14.08	27.60	5.23	-
PK	2.4798G	102.80	Inf	-Inf	32.82	3	Horizontal	93	1.44	-	69.98	27.60	5.22	-
PK	2.4918G	58.75	74.00	-15.25	32.84	3	Horizontal	93	1.44	-	25.91	27.60	5.24	-

BT-LE(1Mbps)

2480MHz_TX

11/06/2020

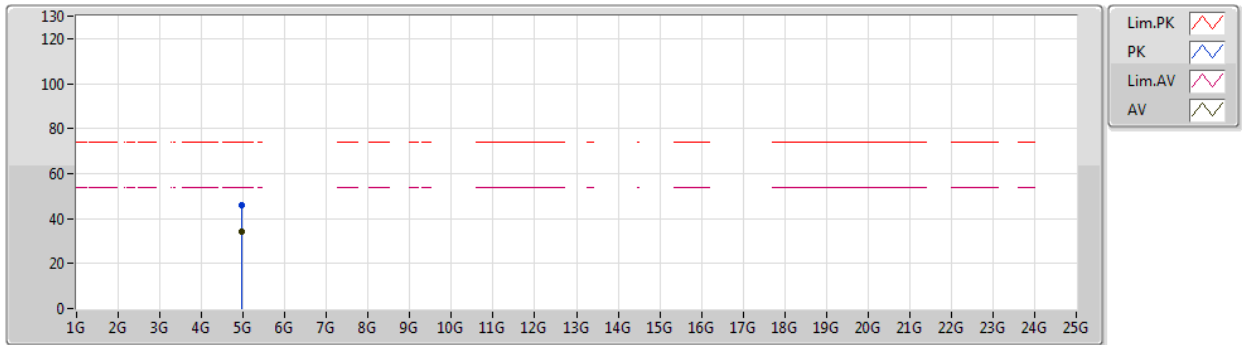


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.96017G	34.57	54.00	-19.43	4.68	3	Vertical	324	1.50	-	29.89	31.38	7.46	34.16
PK	4.95912G	46.52	74.00	-27.48	4.68	3	Vertical	324	1.50	-	41.84	31.38	7.46	34.16

BT-LE(1Mbps)

2480MHz_TX

11/06/2020



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	4.96052G	34.18	54.00	-19.82	4.68	3	Horizontal	170	1.80	-	29.50	31.38	7.46	34.16
PK	4.95972G	46.17	74.00	-27.83	4.68	3	Horizontal	170	1.80	-	41.49	31.38	7.46	34.16



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	912.7M	36.78	46.00	-9.22	3	Vertical	360	1.00	-

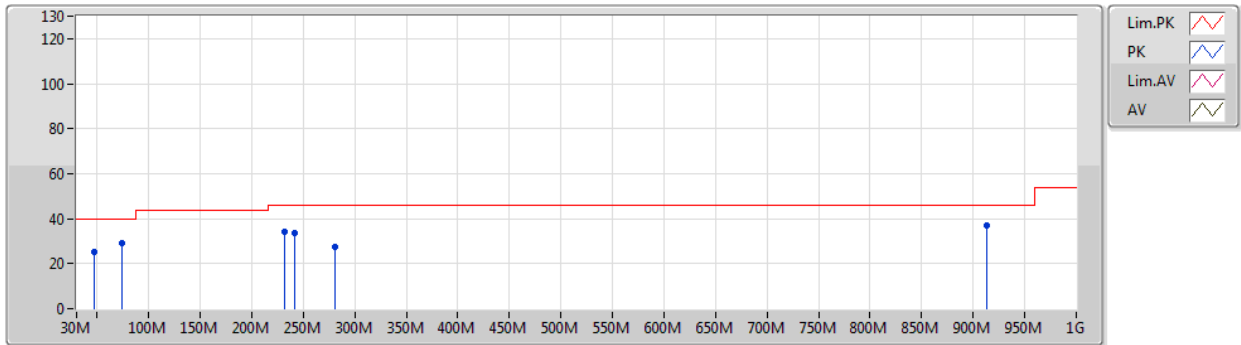
Result

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	47.46M	25.19	40.00	-14.81	3	Vertical	360	1.00	-
2440MHz	Pass	PK	74.62M	29.02	40.00	-10.98	3	Vertical	360	1.00	-
2440MHz	Pass	PK	231.76M	34.31	46.00	-11.69	3	Vertical	360	1.00	-
2440MHz	Pass	PK	241.46M	33.41	46.00	-12.59	3	Vertical	360	1.00	-
2440MHz	Pass	PK	280.26M	27.71	46.00	-18.29	3	Vertical	360	1.00	-
2440MHz	Pass	PK	912.7M	36.78	46.00	-9.22	3	Vertical	360	1.00	-
2440MHz	Pass	PK	57.16M	28.68	40.00	-11.32	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	119.24M	25.22	43.50	-18.28	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	262.8M	35.72	46.00	-10.28	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	291.9M	33.94	46.00	-12.06	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	332.64M	28.93	46.00	-17.07	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	355.92M	31.54	46.00	-14.46	3	Horizontal	0	1.00	-

BT-LE(1Mbps)RX

2440MHz_Switching power supply

12/06/2020

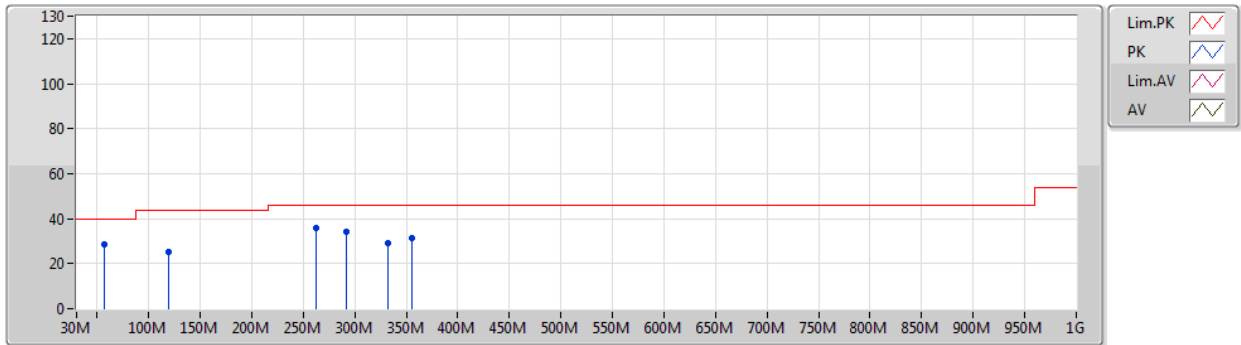


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	47.46M	25.19	40.00	-14.81	-22.23	3	Vertical	360	1.00	-	47.42	14.46	0.50	37.19
PK	74.62M	29.02	40.00	-10.98	-24.46	3	Vertical	360	1.00	-	53.48	11.72	0.69	36.87
PK	231.76M	34.31	46.00	-11.69	-19.72	3	Vertical	360	1.00	-	54.03	15.45	1.23	36.40
PK	241.46M	33.41	46.00	-12.59	-18.62	3	Vertical	360	1.00	-	52.03	16.52	1.27	36.41
PK	280.26M	27.71	46.00	-18.29	-17.24	3	Vertical	360	1.00	-	44.95	17.86	1.36	36.46
PK	912.7M	36.78	46.00	-9.22	-6.53	3	Vertical	360	1.00	-	43.31	28.09	2.83	37.45

BT-LE(1Mbps)RX

2440MHz_Switching power supply

12/06/2020



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	57.16M	28.68	40.00	-11.32	-25.33	3	Horizontal	0	1.00	-	54.01	11.18	0.60	37.11
PK	119.24M	25.22	43.50	-18.28	-19.21	3	Horizontal	0	1.00	-	44.43	16.50	0.80	36.51
PK	262.8M	35.72	46.00	-10.28	-16.12	3	Horizontal	0	1.00	-	51.84	18.98	1.33	36.43
PK	291.9M	33.94	46.00	-12.06	-16.90	3	Horizontal	0	1.00	-	50.84	18.17	1.38	36.45
PK	332.64M	28.93	46.00	-17.07	-16.21	3	Horizontal	0	1.00	-	45.14	18.85	1.47	36.53
PK	355.92M	31.54	46.00	-14.46	-15.41	3	Horizontal	0	1.00	-	46.95	19.61	1.52	36.54



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	6.48G	35.97	54.00	-18.03	3	Vertical	360	1.00	-

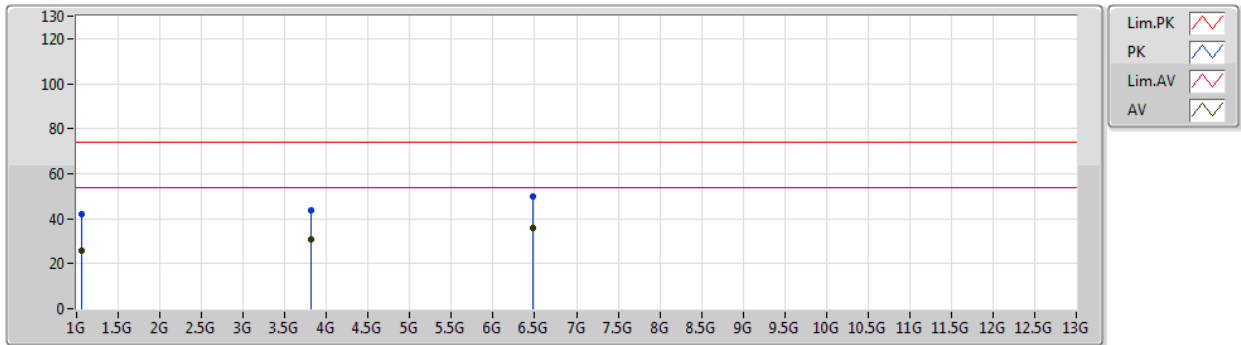
Result

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	AV	1.06G	25.83	54.00	-28.17	3	Vertical	360	1.00	-
2440MHz	Pass	AV	3.82G	30.75	54.00	-23.25	3	Vertical	360	1.00	-
2440MHz	Pass	AV	6.48G	35.97	54.00	-18.03	3	Vertical	360	1.00	-
2440MHz	Pass	PK	1.06G	41.78	74.00	-32.22	3	Vertical	360	1.00	-
2440MHz	Pass	PK	3.82G	43.79	74.00	-30.21	3	Vertical	360	1.00	-
2440MHz	Pass	PK	6.484G	50.00	74.00	-24.00	3	Vertical	360	1.00	-
2440MHz	Pass	AV	2.5G	27.31	54.00	-26.69	3	Horizontal	0	1.00	-
2440MHz	Pass	AV	3.772G	30.02	54.00	-23.98	3	Horizontal	0	1.00	-
2440MHz	Pass	AV	5.68G	32.87	54.00	-21.13	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	2.5G	42.27	74.00	-31.73	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	3.772G	43.73	74.00	-30.27	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	5.68G	47.31	74.00	-26.69	3	Horizontal	0	1.00	-

BT-LE(1Mbps)RX

2440MHz_RX

11/06/2020

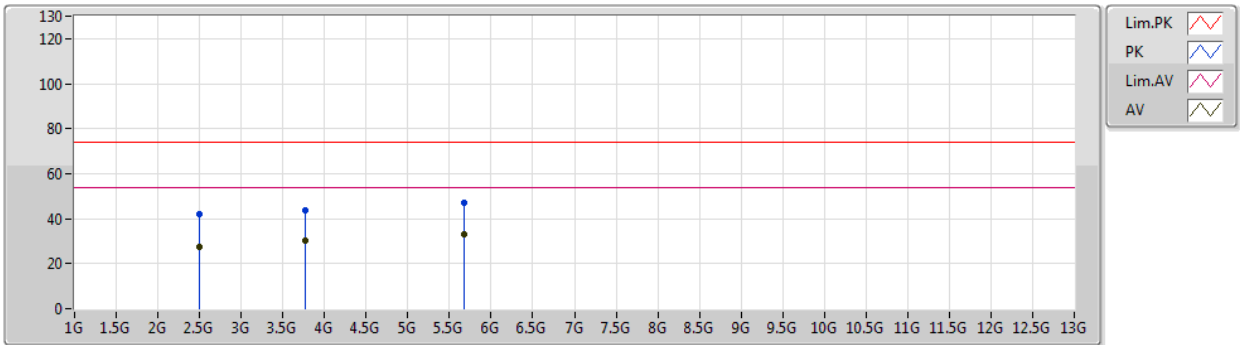


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.06G	25.83	54.00	-28.17	-7.22	3	Vertical	360	1.00	-	33.05	24.48	3.22	34.92
AV	3.82G	30.75	54.00	-23.25	1.79	3	Vertical	360	1.00	-	28.96	29.38	6.81	34.40
AV	6.48G	35.97	54.00	-18.03	7.83	3	Vertical	360	1.00	-	28.14	34.12	8.14	34.43
PK	1.06G	41.78	74.00	-32.22	-7.22	3	Vertical	360	1.00	-	49.00	24.48	3.22	34.92
PK	3.82G	43.79	74.00	-30.21	1.79	3	Vertical	360	1.00	-	42.00	29.38	6.81	34.40
PK	6.484G	50.00	74.00	-24.00	7.85	3	Vertical	360	1.00	-	42.15	34.14	8.14	34.43

BT-LE(1Mbps)RX

11/06/2020

2440MHz_RX



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	2.5G	27.31	54.00	-26.69	-0.89	3	Horizontal	0	1.00	-	28.20	27.60	5.25	33.74
AV	3.772G	30.02	54.00	-23.98	1.64	3	Horizontal	0	1.00	-	28.38	29.27	6.77	34.40
AV	5.68G	32.87	54.00	-21.13	5.37	3	Horizontal	0	1.00	-	27.50	31.88	7.84	34.35
PK	2.5G	42.27	74.00	-31.73	-0.89	3	Horizontal	0	1.00	-	43.16	27.60	5.25	33.74
PK	3.772G	43.73	74.00	-30.27	1.64	3	Horizontal	0	1.00	-	42.09	29.27	6.77	34.40
PK	5.68G	47.31	74.00	-26.69	5.37	3	Horizontal	0	1.00	-	41.94	31.88	7.84	34.35



Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;BT-LE	2.46	6.99	9.45	0.50	9.95	0.00989	20	0.00197	1.00000