

FCC Radio Test Report

FCC ID : 2BGXJ-UWRB301
Equipment : Smart Baby Tag
Brand Name : UniWhale
Model Name : UW-RB-301
Applicant : SIRIUXENSE INC
16192 Coastal Hwy Lewes, DE 19958 United States
Manufacturer : SIRIUXENSE INC
16192 Coastal Hwy Lewes, DE 19958 United States
Standard : 47 CFR FCC Part 15, Subpart C

The product was received on Feb. 23, 2024, and testing was started from Mar. 07, 2024 and completed on Mar. 07, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua 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 test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



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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	15.209	Transmitter Radiated Emissions	PASS	-
3.3	15.215(c)	Emission Bandwidth	PASS	-

Note : From Sporton Project No.:FR260823-01AW.

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: Barry Hsiao

Report Producer: Debby Hung

1 General Description

1.1 Information

1.1.1 General Information

Wireless Power Transfer General Information			
Frequency Range	Modulation	Operating Freq. (kHz)	Field Strength (dBuV/m)
110-205 kHz	ASK	146.53	64.63
Power Transfer Method	Output power from each primary coil	That may have multiple primary coils	Operating Method
Magnetic induction and only single primary coil	≤ 15W	No	Directly contact with WPT source
Note 1: Field strength performed peak level at 3m.			

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	APPS Electronics Limited	AE-DPLI2303-115K	Wireless charging antenna coils	N/A

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From Battery
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 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
☒	Operated normally mode for worst duty cycle
☐	Operated test mode for worst duty cycle
Test Signal Duty Cycle (x)	
☒	100%

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

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

- ♦ KDB 680106 D01 Wireless Power Transfer v04
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	21.1~21.4°C / 50~52%	07/Mar/2024
RF Conducted	TH07-HY	Xun Hsieh	23.1~23.6°C / 52~55%	07/Mar/2024
Radiated	03CH03-HY	Coco Shang-Kung	22.2~23.4°C / 50~51%	07/Mar/2024
☐ Wen 33rd. St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
	TEL: 886-3-318-0787		FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				

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
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Transmitter Radiated Emissions	4.8 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	2.30 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	N/A
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Note: The EUT transmits RF signal continuously by itself.

Mode	Power Setting
WPC	-
0.1465MHz	default

2.2 The Worst Case Configuration

Mode	Field Strength (dBuV/m at 3 m)	Charger Frequencies (kHz)
WPC	64.63	146.53

Note.1: Wireless charger were performed all charging conditions including variable loading and non-charging operation, the worst mode is full charging loading.

Note.2: Wireless charger frequencies are variable frequency range (110-205 kHz) and depend on charging loading.

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 Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
	1. Adapter Mode
	2. USB Mode

The Worst Case Mode for Following Conformance Tests			
Tests Item	Transmitter Radiated Emissions, Emission Bandwidth		
Test Condition	Radiated measurement		
Operating Mode	CTX		
	1. Adapter Mode		
	2. USB Mode		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

2.4 Accessories

Accessories				
Battery	Brand Name	KONNOC BATTERY	Model Name	LIR2032H
	Power Rating	4.2 Vdc, 3700 mAh	Type	Li-ion, Yes
Smart Station	Brand Name	UniWhale	Model Name	UW-RH-301

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

2.5 Support Equipment

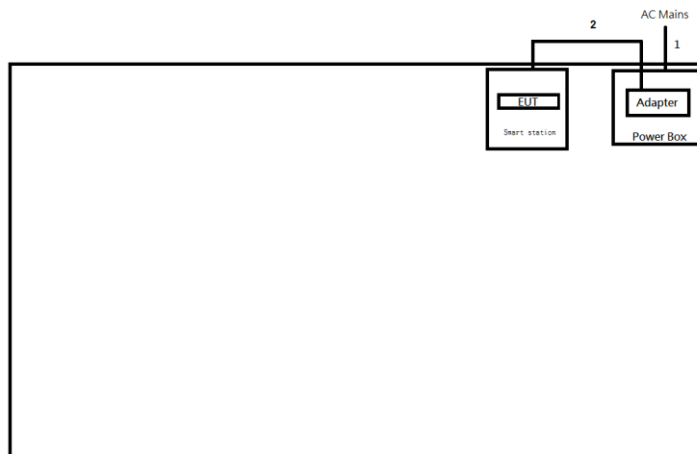
Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	Dell	Latitude7290	-	-
2	Adapter for NB	Dell	LA65NM130	-	-
3	AC Power cable	Power Sync	TPCMRN0018	-	-
4	Adapter	ASUS	Mcdslo AD33531	-	-
5	USB Cable	UniWhale	UW-UC-301	-	Provided by Customer
6	Smart Station	UniWhale	UW-RH-301	-	Provided by Customer

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	USB Cable	UniWhale	UW-UC-301	-	Provided by Customer
2	Smart Station	UniWhale	UW-RH-301	-	Provided by Customer
3	Adapter	ASUS	Mcdslo AD33531	-	-

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	Dell	Latitude7290	-	-
2	Adapter for NB	Dell	LA65NM130	-	-
3	AC Power cable	Power Sync	TPCMRN0018	-	-
4	Adapter	ASUS	Mcdslo AD33531	-	-
5	USB Cable	UniWhale	UW-UC-301	-	Provided by Customer
6	Smart Station	UniWhale	UW-RH-301	-	Provided by Customer

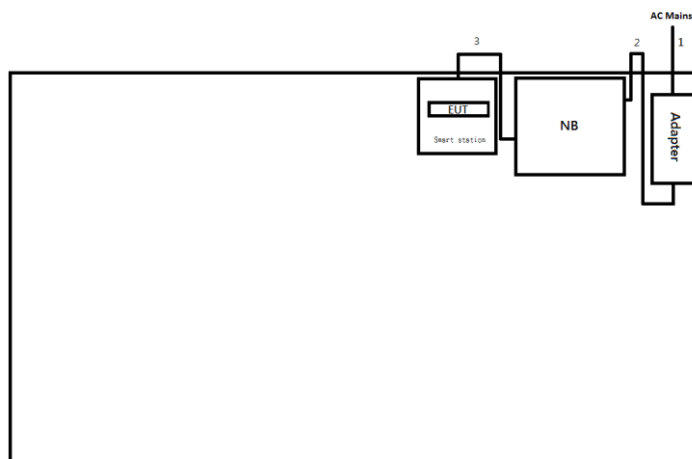
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test (Adapter mode)

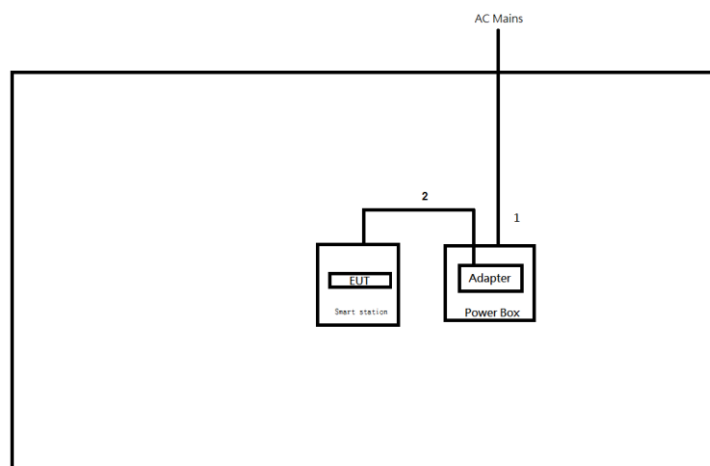


Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.5	-
2	USB cable	No	1.9	-

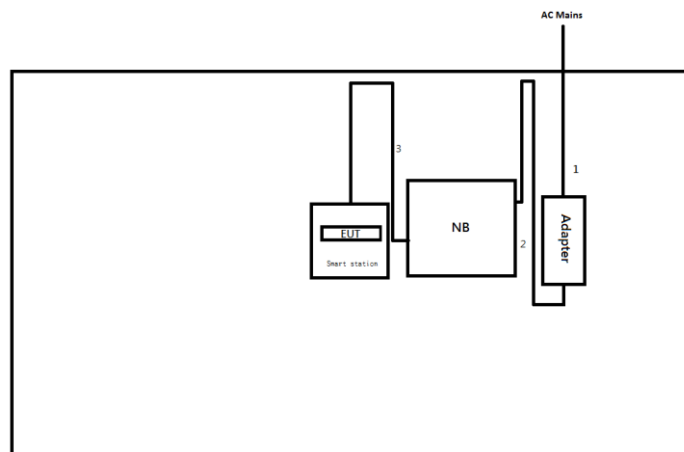
Test Setup Diagram – AC Line Conducted Emission Test (USB mode)



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.5	-
3	USB cable	No	1.9	-

Test Setup Diagram - Radiated Test (Adapter mode)


Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.5	-
2	USB cable	No	1.9	-

Test Setup Diagram - Radiated Test (USB mode)


Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	1.5	-
3	USB cable	No	1.9	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

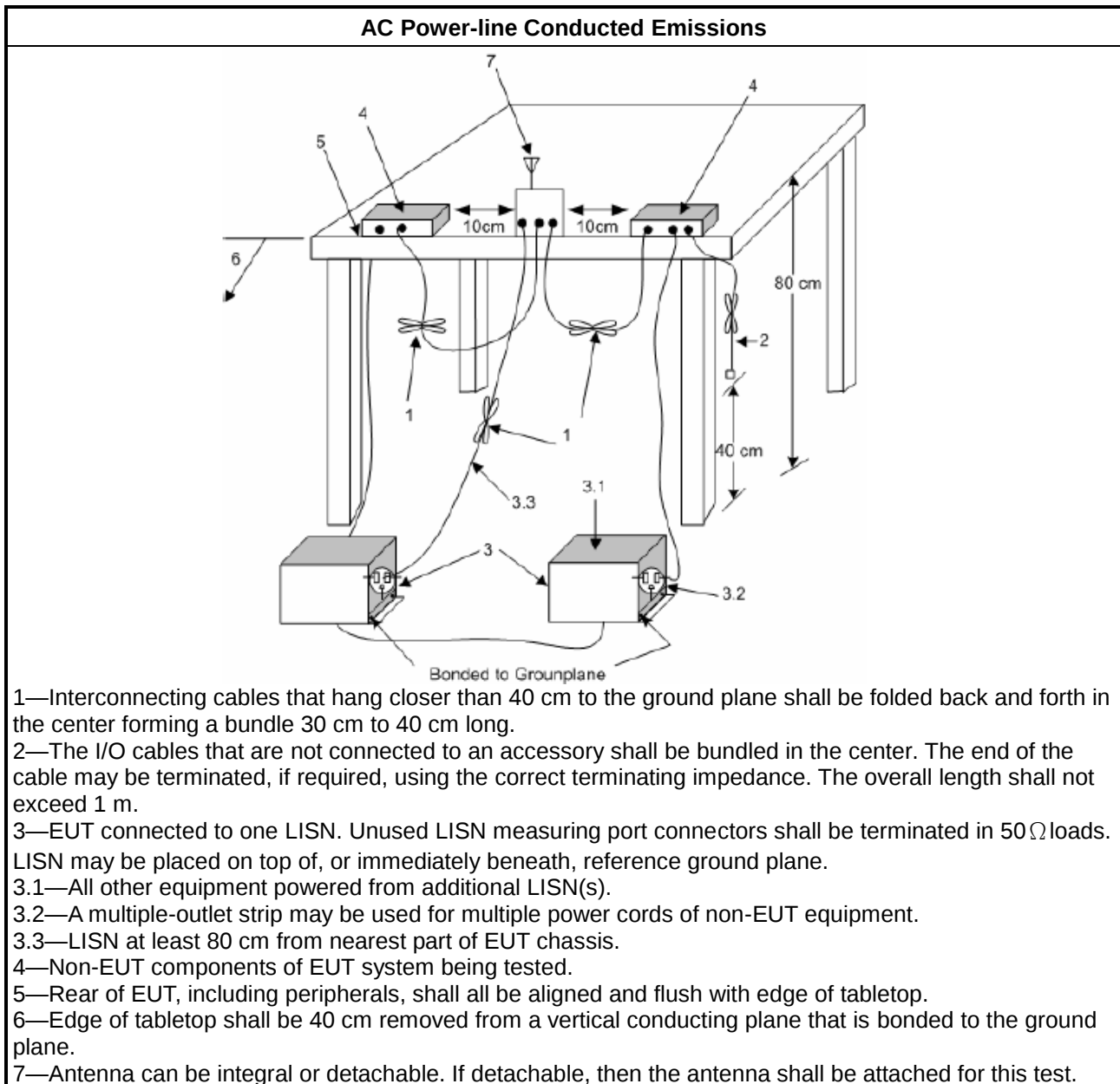
Test Method	
☒	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.
☒	If AC conducted emissions fall in operating band, then following below test method confirm final result.
☐	Accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (1) Perform the AC line conducted tests with the antenna connected to determine compliance with FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load to determine compliance with FCC 15.207 limits within the transmitter's fundamental emission band.
☒	For a device with a permanent antenna operating at or below 30 MHz, accept measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) Perform the AC line conducted tests with the permanent antenna to determine compliance with the FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load in lieu of the permanent antenna to determine compliance with the FCC 15.207 limits within the transmitter's fundamental emission band.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup



3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Transmitter Radiated Emissions

3.2.1 Transmitter Radiated Emissions Limit

Transmitter Radiated 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: the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 1GHz measurements employing a CISPR quasi-peak detector.

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

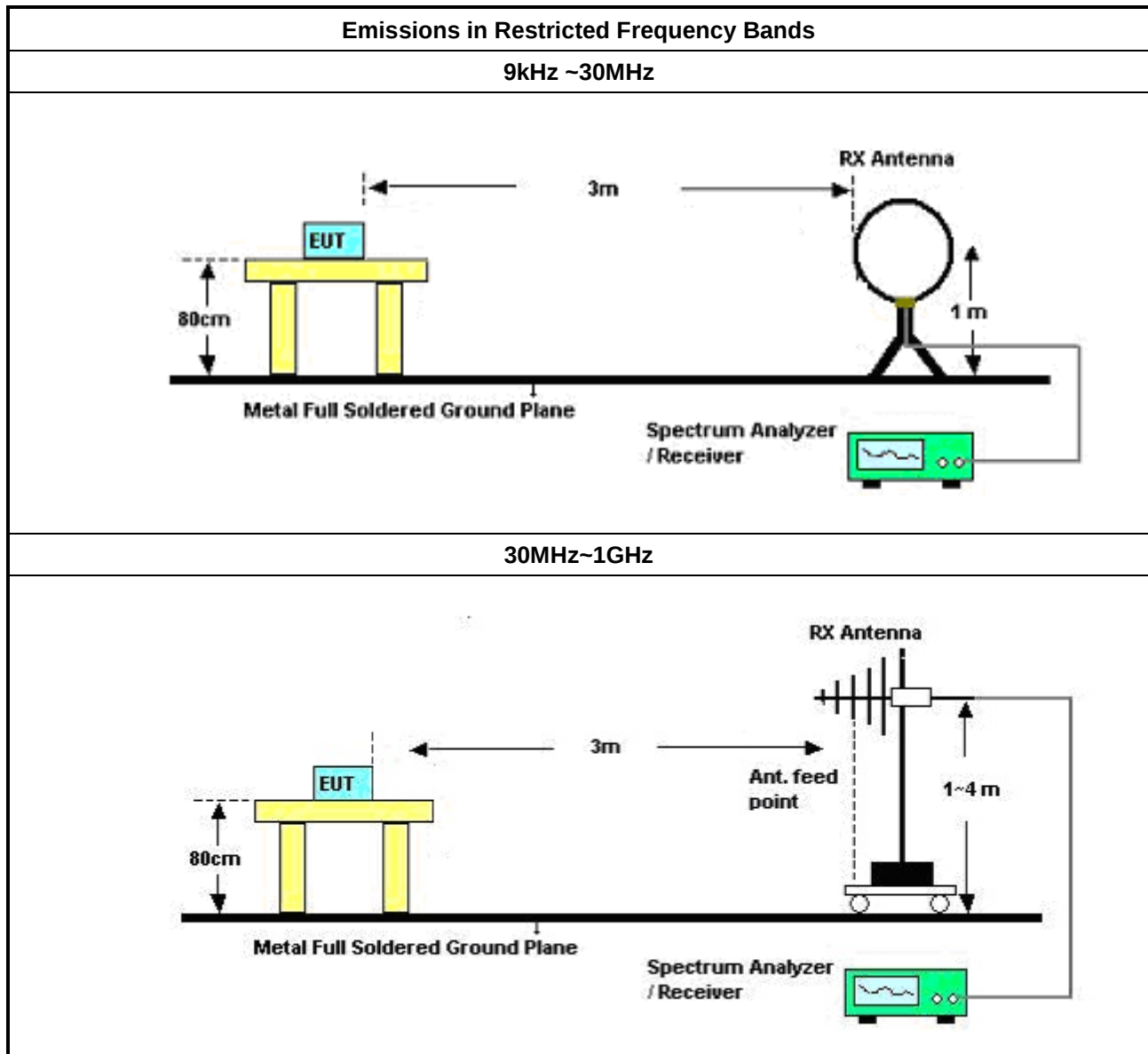
Test Method	
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 30MHz measurements employing a CISPR quasi-peak detector. Test distance is 3 m.
☒	At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods.
☐	The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor.
☒	The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
☒	For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.
☒	The any unwanted emissions level shall not exceed the fundamental emission level.
☒	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
☒	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.

3.2.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.2.5 Test Setup



3.2.6 Transmitter Radiated Emissions (Below 30MHz)

Refer as Appendix B

3.2.7 Transmitter Radiated Emissions (Above 30MHz)

Refer as Appendix B

3.3 Emission Bandwidth

3.3.1 Emission Bandwidth Limit

Emission Bandwidth Limit
N/A

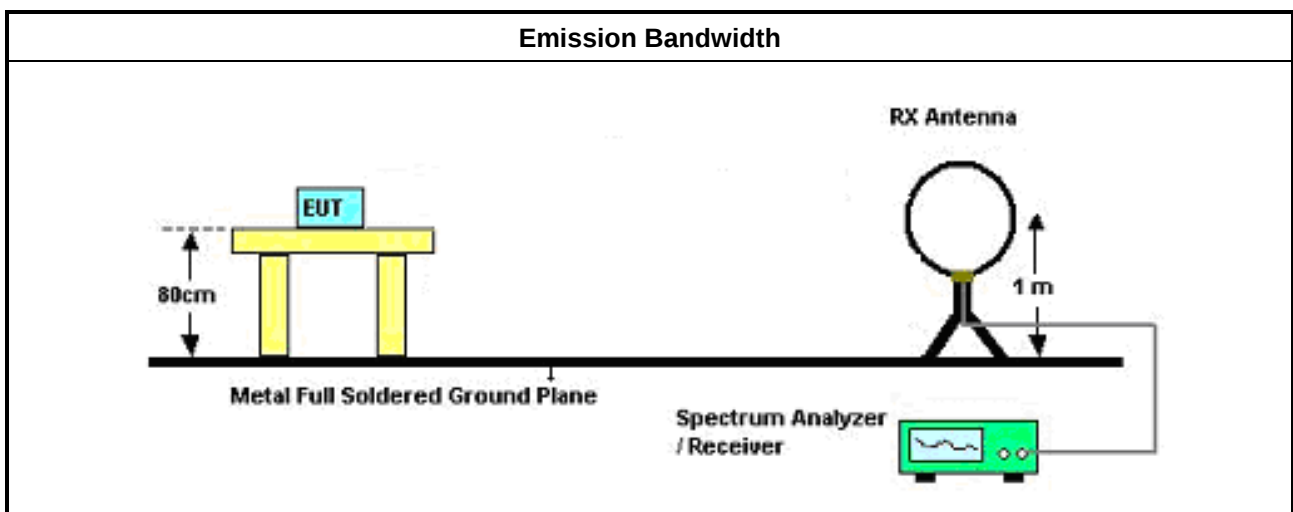
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method
☒ Because the measured signal is CW or CW-like adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.
☒ For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.

3.3.4 Test Setup



3.3.5 Test Result of Emission Bandwidth

Refer as Appendix C

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer / Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	16/May/2023	15/May/2024
Two-Line V-Network	R&S	ENV 216	101295	9kHz ~ 30MHz	05/Feb/2024	04/Feb/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	27/Feb/2024	26/Feb/2025
Impuls Begrenzer Puls e Limiter	SCHWARZBEC K	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	18/Oct/2023	17/Oct/2024
SENSE-EMI	Sporton	V5.11.3	NA	NA	NA	NA

Instrument for Conducted Test

Instrument	Manufacturer / Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	9kHz~40GHz	02/Feb/2024	01/Feb/2025
SENSE-NFC	Sporton	V5.11.0	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer / Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	30/Jul/2023	29/Jul/2024
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	16/May/2023	15/May/2024
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2023	25/Oct/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	23/Mar/2023	22/Mar/2024
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMC	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	15/Oct/2023	14/Oct/2024
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	13/Jun/2023	12/Jun/2024
RF Cable-R03m	Jye Bao	RG142	03CH03-cable-02	30MHz~1GHz	13/Jun/2023	12/Jun/2024
Amplifier	Aglient	8447D	2944A08033	100kHz~1.3GHz	14/Sep/2023	13/Sep/2024
SENSE-303417	Sporton	V5.10.4	N/A	N/A	N/A	N/A



Conducted Emissions at Powerline

Appendix A

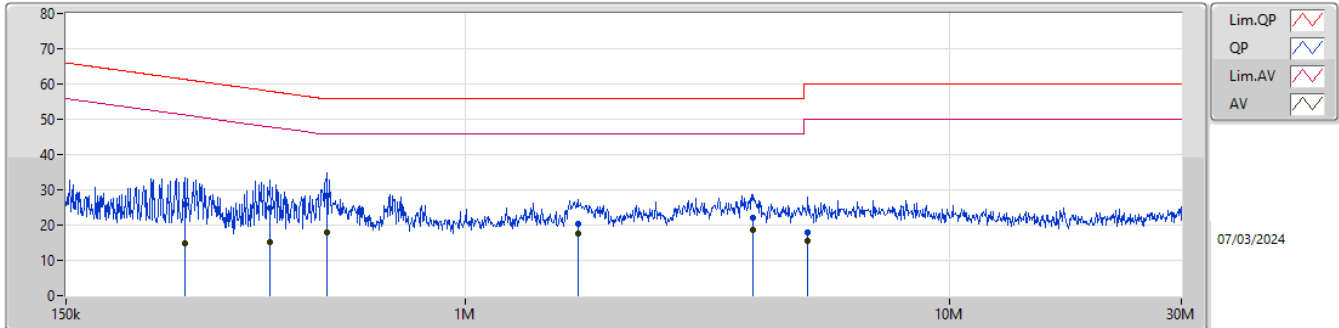
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	519.13k	21.91	46.00	-24.09	Neutral
Mode 2	Pass	AV	531.714k	29.81	46.00	-16.19	Neutral

Result

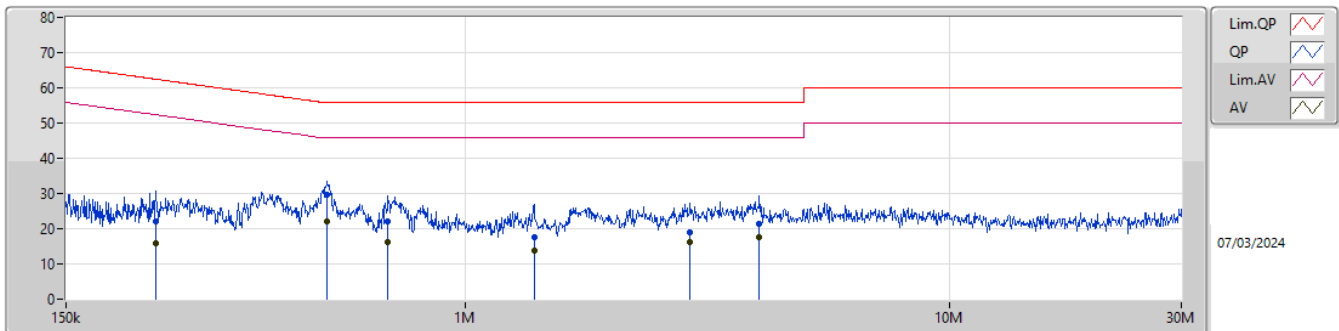
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	263.357k	25.89	61.32	-35.43	Line
Mode 1	Pass	AV	263.357k	14.78	51.32	-36.54	Line
Mode 1	Pass	QP	395.716k	24.89	57.95	-33.06	Line
Mode 1	Pass	AV	395.716k	15.07	47.95	-32.88	Line
Mode 1	Pass	QP	519.13k	28.42	56.00	-27.58	Line
Mode 1	Pass	AV	519.13k	18.01	46.00	-27.99	Line
Mode 1	Pass	QP	1.706M	20.44	56.00	-35.56	Line
Mode 1	Pass	AV	1.706M	17.62	46.00	-28.38	Line
Mode 1	Pass	QP	3.929M	21.91	56.00	-34.09	Line
Mode 1	Pass	AV	3.929M	18.65	46.00	-27.35	Line
Mode 1	Pass	QP	5.093M	17.88	60.00	-42.12	Line
Mode 1	Pass	AV	5.093M	15.60	50.00	-34.40	Line
Mode 1	Pass	QP	229.932k	22.20	62.44	-40.24	Neutral
Mode 1	Pass	AV	229.932k	15.91	52.44	-36.53	Neutral
Mode 1	Pass	QP	519.13k	29.59	56.00	-26.41	Neutral
Mode 1	Pass	AV	519.13k	21.91	46.00	-24.09	Neutral
Mode 1	Pass	QP	691.995k	22.15	56.00	-33.85	Neutral
Mode 1	Pass	AV	691.995k	16.10	46.00	-29.90	Neutral
Mode 1	Pass	QP	1.386M	17.44	56.00	-38.56	Neutral
Mode 1	Pass	AV	1.386M	13.93	46.00	-32.07	Neutral
Mode 1	Pass	QP	2.912M	18.87	56.00	-37.13	Neutral
Mode 1	Pass	AV	2.912M	16.37	46.00	-29.63	Neutral
Mode 1	Pass	QP	4.04M	21.29	56.00	-34.71	Neutral
Mode 1	Pass	AV	4.04M	17.68	46.00	-28.32	Neutral
Mode 2	Pass	QP	167.071k	46.36	65.10	-18.74	Line
Mode 2	Pass	AV	167.071k	27.31	55.10	-27.79	Line
Mode 2	Pass	QP	193.664k	39.28	63.88	-24.60	Line
Mode 2	Pass	AV	193.664k	21.42	53.88	-32.46	Line
Mode 2	Pass	QP	521.206k	32.88	56.00	-23.12	Line
Mode 2	Pass	AV	521.206k	27.17	46.00	-18.83	Line
Mode 2	Pass	QP	2.492M	23.52	56.00	-32.48	Line
Mode 2	Pass	AV	2.492M	19.44	46.00	-26.56	Line
Mode 2	Pass	QP	6.602M	25.15	60.00	-34.85	Line
Mode 2	Pass	AV	6.602M	20.79	50.00	-29.21	Line
Mode 2	Pass	QP	9.343M	32.92	60.00	-27.08	Line
Mode 2	Pass	AV	9.343M	26.98	50.00	-23.02	Line
Mode 2	Pass	QP	159.893k	44.67	65.46	-20.79	Neutral
Mode 2	Pass	AV	159.893k	25.00	55.46	-30.46	Neutral
Mode 2	Pass	QP	531.714k	36.32	56.00	-19.68	Neutral
Mode 2	Pass	AV	531.714k	29.81	46.00	-16.19	Neutral
Mode 2	Pass	QP	2.202M	23.06	56.00	-32.94	Neutral
Mode 2	Pass	AV	2.202M	19.31	46.00	-26.69	Neutral
Mode 2	Pass	QP	3.57M	23.21	56.00	-32.79	Neutral
Mode 2	Pass	AV	3.57M	18.79	46.00	-27.21	Neutral
Mode 2	Pass	QP	5.927M	23.60	60.00	-36.40	Neutral
Mode 2	Pass	AV	5.927M	18.77	50.00	-31.23	Neutral
Mode 2	Pass	QP	8.835M	26.00	60.00	-34.00	Neutral
Mode 2	Pass	AV	8.835M	20.35	50.00	-29.65	Neutral

Conducted Emissions at Powerline_Mode 1



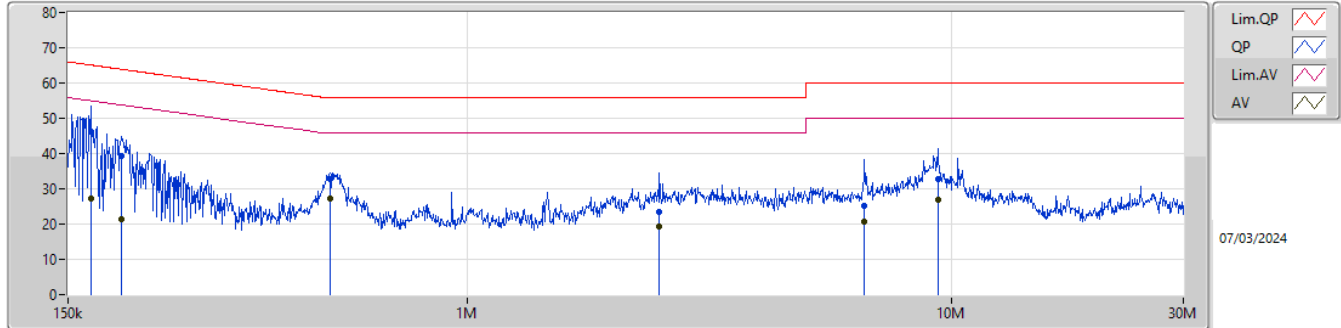
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)								
QP	263.357k	25.89	61.32	-35.43	19.42	Line	-	6.47	9.61	0.10	9.71								
AV	263.357k	14.78	51.32	-36.54	19.42	Line	-	-4.64	9.61	0.10	9.71								
QP	395.716k	24.89	57.95	-33.06	19.49	Line	-	5.40	9.61	0.12	9.76								
AV	395.716k	15.07	47.95	-32.88	19.49	Line	-	-4.42	9.61	0.12	9.76								
QP	519.13k	28.42	56.00	-27.58	19.49	Line	-	8.93	9.61	0.11	9.77								
AV	519.13k	18.01	46.00	-27.99	19.49	Line	-	-1.48	9.61	0.11	9.77								
QP	1.706M	20.44	56.00	-35.56	19.53	Line	-	0.91	9.62	0.11	9.80								
AV	1.706M	17.62	46.00	-28.38	19.53	Line	-	-1.91	9.62	0.11	9.80								
QP	3.929M	21.91	56.00	-34.09	19.50	Line	-	2.41	9.64	0.07	9.79								
AV	3.929M	18.65	46.00	-27.35	19.50	Line	-	-0.85	9.64	0.07	9.79								
QP	5.093M	17.88	60.00	-42.12	19.50	Line	-	-1.62	9.65	0.06	9.79								
AV	5.093M	15.60	50.00	-34.40	19.50	Line	-	-3.90	9.65	0.06	9.79								

Conducted Emissions at Powerline_Mode 1



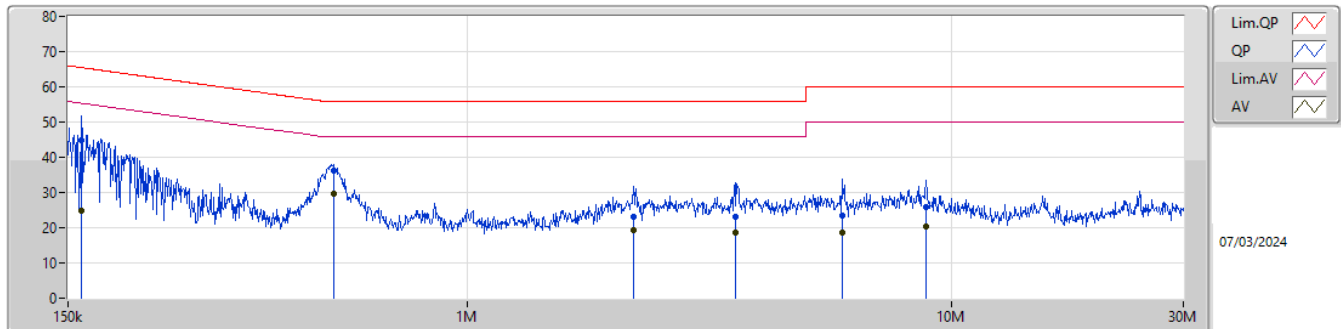
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)								
QP	229.932k	22.20	62.44	-40.24	19.41	Neutral	-	2.79	9.61	0.10	9.70								
AV	229.932k	15.91	52.44	-36.53	19.41	Neutral	-	-3.50	9.61	0.10	9.70								
QP	519.13k	29.59	56.00	-26.41	19.49	Neutral	-	10.10	9.61	0.11	9.77								
AV	519.13k	21.91	46.00	-24.09	19.49	Neutral	-	2.42	9.61	0.11	9.77								
QP	691.995k	22.15	56.00	-33.85	19.49	Neutral	-	2.66	9.61	0.10	9.78								
AV	691.995k	16.10	46.00	-29.90	19.49	Neutral	-	-3.39	9.61	0.10	9.78								
QP	1.386M	17.44	56.00	-38.56	19.51	Neutral	-	-2.07	9.61	0.10	9.80								
AV	1.386M	13.93	46.00	-32.07	19.51	Neutral	-	-5.58	9.61	0.10	9.80								
QP	2.912M	18.87	56.00	-37.13	19.51	Neutral	-	-0.64	9.63	0.09	9.79								
AV	2.912M	16.37	46.00	-29.63	19.51	Neutral	-	-3.14	9.63	0.09	9.79								
QP	4.04M	21.29	56.00	-34.71	19.50	Neutral	-	1.79	9.64	0.07	9.79								
AV	4.04M	17.68	46.00	-28.32	19.50	Neutral	-	-1.82	9.64	0.07	9.79								

Conducted Emissions at Powerline_Mode 2



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	167.071k	46.36	65.10	-18.74	19.41	Line	-	26.95	9.61	0.07	9.73						
AV	167.071k	27.31	55.10	-27.79	19.41	Line	-	7.90	9.61	0.07	9.73						
QP	193.664k	39.28	63.88	-24.60	19.39	Line	-	19.89	9.61	0.09	9.69						
AV	193.664k	21.42	53.88	-32.46	19.39	Line	-	2.03	9.61	0.09	9.69						
QP	521.206k	32.88	56.00	-23.12	19.49	Line	-	13.39	9.61	0.11	9.77						
AV	521.206k	27.17	46.00	-18.83	19.49	Line	-	7.68	9.61	0.11	9.77						
QP	2.492M	23.52	56.00	-32.48	19.53	Line	-	3.99	9.63	0.10	9.80						
AV	2.492M	19.44	46.00	-26.56	19.53	Line	-	-0.09	9.63	0.10	9.80						
QP	6.602M	25.15	60.00	-34.85	19.50	Line	-	5.65	9.65	0.06	9.79						
AV	6.602M	20.79	50.00	-29.21	19.50	Line	-	1.29	9.65	0.06	9.79						
QP	9.343M	32.92	60.00	-27.08	19.50	Line	-	13.42	9.66	0.05	9.79						
AV	9.343M	26.98	50.00	-23.02	19.50	Line	-	7.48	9.66	0.05	9.79						

Conducted Emissions at Powerline_Mode 2



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	159.893k	44.67	65.46	-20.79	19.43	Neutral	-	25.24	9.62	0.07	9.74						
AV	159.893k	25.00	55.46	-30.46	19.43	Neutral	-	5.57	9.62	0.07	9.74						
QP	531.714k	36.32	56.00	-19.68	19.49	Neutral	-	16.83	9.61	0.11	9.77						
AV	531.714k	29.81	46.00	-16.19	19.49	Neutral	-	10.32	9.61	0.11	9.77						
QP	2.202M	23.06	56.00	-32.94	19.52	Neutral	-	3.54	9.62	0.10	9.80						
AV	2.202M	19.31	46.00	-26.69	19.52	Neutral	-	-0.21	9.62	0.10	9.80						
QP	3.57M	23.21	56.00	-32.79	19.51	Neutral	-	3.70	9.64	0.08	9.79						
AV	3.57M	18.79	46.00	-27.21	19.51	Neutral	-	-0.72	9.64	0.08	9.79						
QP	5.927M	23.60	60.00	-36.40	19.51	Neutral	-	4.09	9.66	0.06	9.79						
AV	5.927M	18.77	50.00	-31.23	19.51	Neutral	-	-0.74	9.66	0.06	9.79						
QP	8.835M	26.00	60.00	-34.00	19.52	Neutral	-	6.48	9.68	0.05	9.79						
AV	8.835M	20.35	50.00	-29.65	19.52	Neutral	-	0.83	9.68	0.05	9.79						



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
WPT	-	-	-	-	-	-	-	-	-	-	-
100-300kHz	Pass	PK	2.06M	52.16	69.50	-17.34	19.91	3	Horizontal	0	1.00

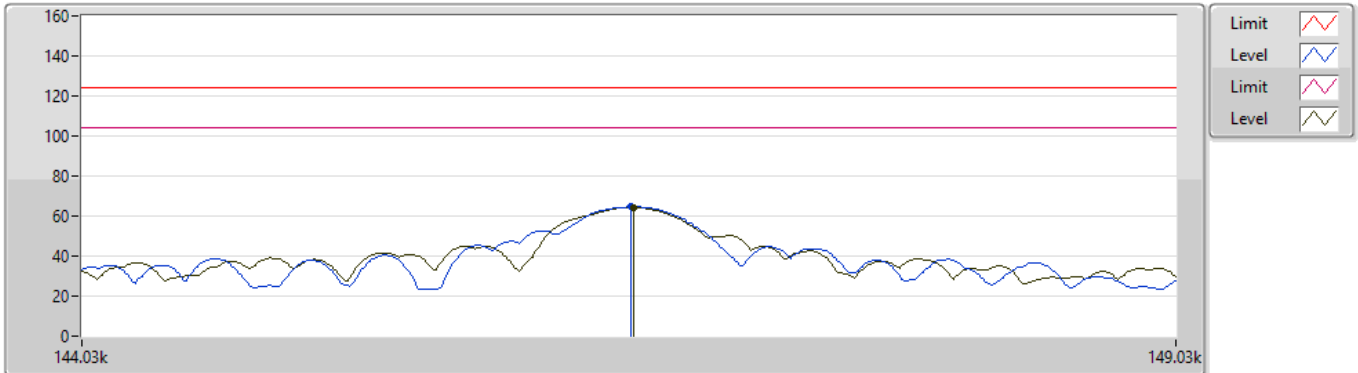
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
100-300kHz	-	-	-	-	-	-	-	-	-	-	-
0.1465MHz_Adapter	Pass	AV	146.52k	64.15	104.28	-40.13	19.91	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	146.53k	64.63	124.28	-59.65	19.91	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	34.944k	34.86	136.74	-101.88	20.71	3	Horizontal	360	1.00
0.1465MHz_Adapter	Pass	PK	99.522k	33.26	107.64	-74.38	19.67	3	Horizontal	360	1.00
0.1465MHz_Adapter	Pass	PK	125.184k	30.81	125.64	-94.83	19.81	3	Horizontal	360	1.00
0.1465MHz_Adapter	Pass	PK	388.8k	49.85	115.80	-65.95	20.48	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	687.3k	43.62	70.87	-27.25	20.24	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	2.06M	52.16	69.50	-17.34	19.91	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	AV	146.51k	64.10	104.28	-40.18	19.91	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	146.53k	64.60	124.28	-59.68	19.91	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	35.508k	33.69	136.60	-102.91	20.66	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	98.676k	31.03	107.72	-76.69	19.65	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	131.67k	28.07	125.22	-97.15	19.84	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	388.8k	49.03	115.80	-66.77	20.48	3	Horizontal	360	1.00
0.1465MHz_USB	Pass	PK	687.3k	41.25	70.87	-29.62	20.24	3	Horizontal	360	1.00
0.1465MHz_USB	Pass	PK	2.001M	51.99	69.50	-17.51	19.91	3	Horizontal	360	1.00

100-300kHz

0.1465MHz_Adapter

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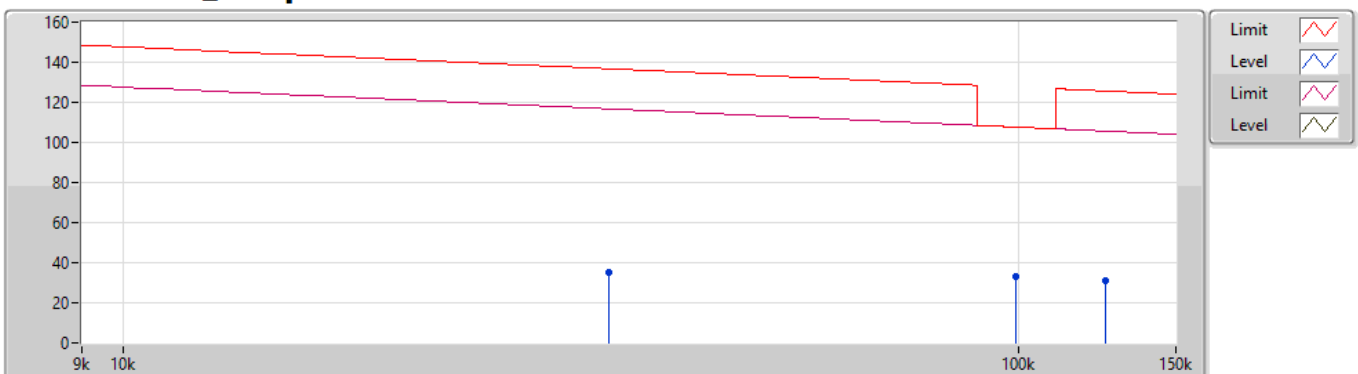


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	146.53k	64.15	104.28	-40.13	19.91	3	Horizontal	0	1.00	44.24	19.82	0.09	-
PK	146.52k	64.63	124.28	-59.65	19.91	3	Horizontal	0	1.00	44.72	19.82	0.09	-

100-300kHz

0.1465MHz_Adapter

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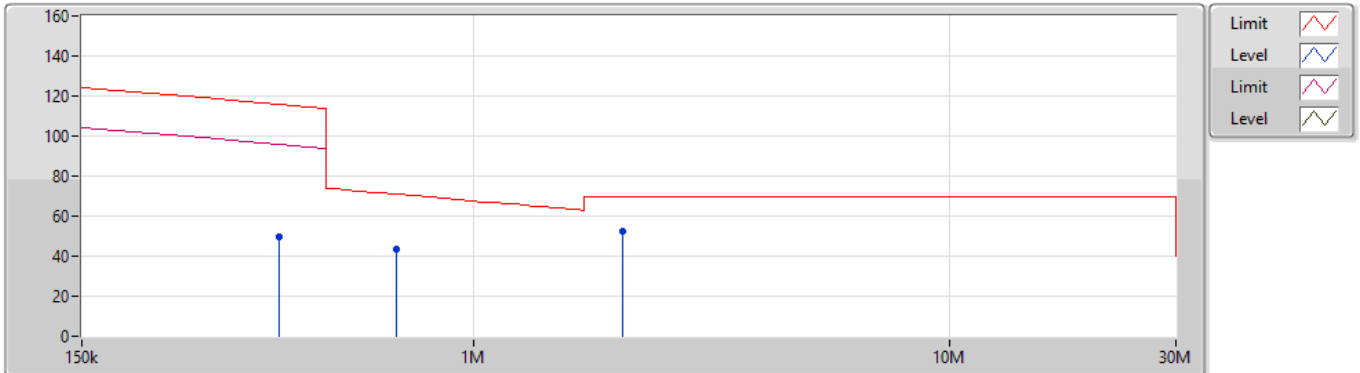


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	34.944k	34.86	136.74	-101.88	20.71	3	Horizontal	360	1.00	14.15	20.63	0.08	-
PK	99.522k	33.26	107.64	-74.38	19.67	3	Horizontal	360	1.00	13.59	19.59	0.08	-
PK	125.184k	30.81	125.64	-94.83	19.81	3	Horizontal	360	1.00	11.00	19.73	0.08	-

100-300kHz

0.1465MHz_Adapter

07/03/2024

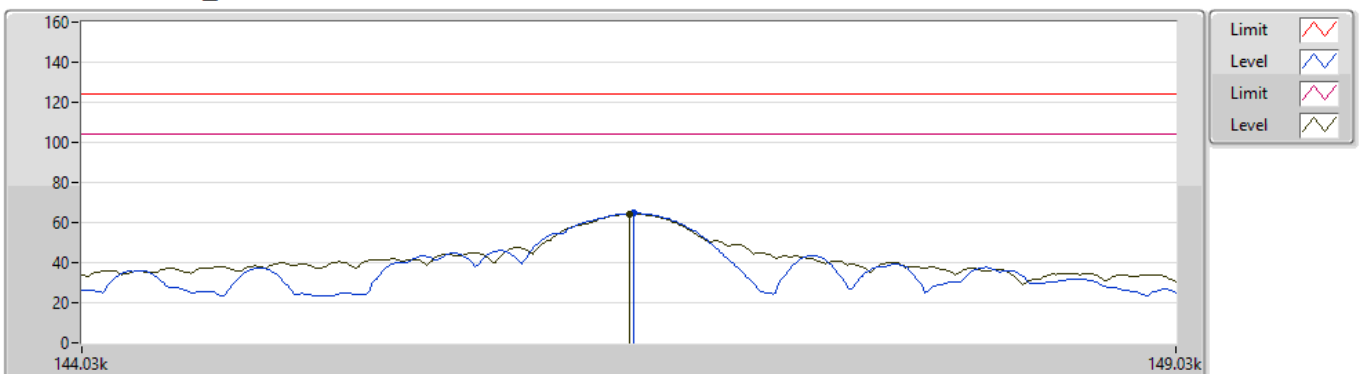


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)	
PK	388.8k	49.85	115.80	-65.95	20.48	3	Horizontal	0	1.00	29.37	20.37	0.11	-	
PK	687.3k	43.62	70.87	-27.25	20.24	3	Horizontal	0	1.00	23.38	20.10	0.14	-	
PK	2.06M	52.16	69.50	-17.34	19.91	3	Horizontal	0	1.00	32.25	19.70	0.21	-	

100-300kHz

0.1465MHz_USB

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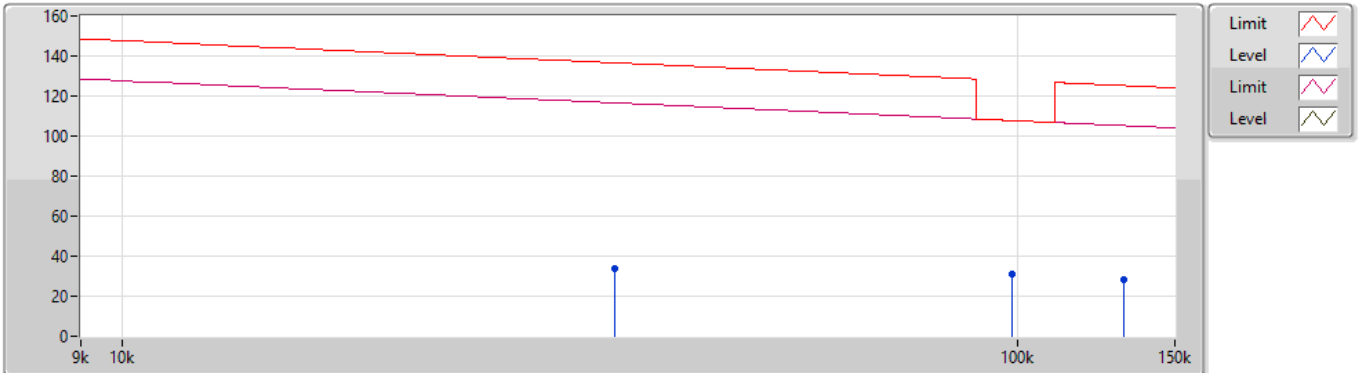


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)	
AV	146.51k	64.10	104.28	-40.18	19.91	3	Horizontal	0	1.00	44.19	19.82	0.09	-	
PK	146.53k	64.60	124.28	-59.68	19.91	3	Horizontal	0	1.00	44.69	19.82	0.09	-	

100-300kHz

07/03/2024

0.1465MHz_USB

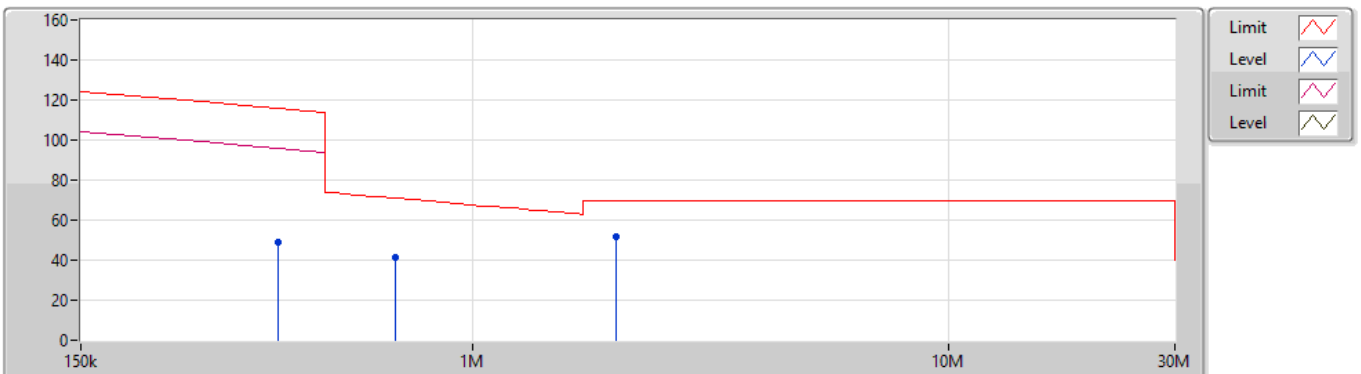


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	35.508k	33.69	136.60	-102.91	20.66	3	Horizontal	0	1.00	13.03	20.58	0.08	-
PK	98.676k	31.03	107.72	-76.69	19.65	3	Horizontal	0	1.00	11.38	19.57	0.08	-
PK	131.67k	28.07	125.22	-97.15	19.84	3	Horizontal	0	1.00	8.23	19.76	0.08	-

100-300kHz

07/03/2024

0.1465MHz_USB



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	388.8k	49.03	115.80	-66.77	20.48	3	Horizontal	360	1.00	28.55	20.37	0.11	-
PK	687.3k	41.25	70.87	-29.62	20.24	3	Horizontal	360	1.00	21.01	20.10	0.14	-
PK	2.001M	51.99	69.50	-17.51	19.91	3	Horizontal	360	1.00	32.08	19.70	0.21	-



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
WPT	-	-	-	-	-	-	-	-	-	-	-
100-300kHz	Pass	QP	43.82M	37.62	40.00	-2.38	-10.43	3	Vertical	20	1.00

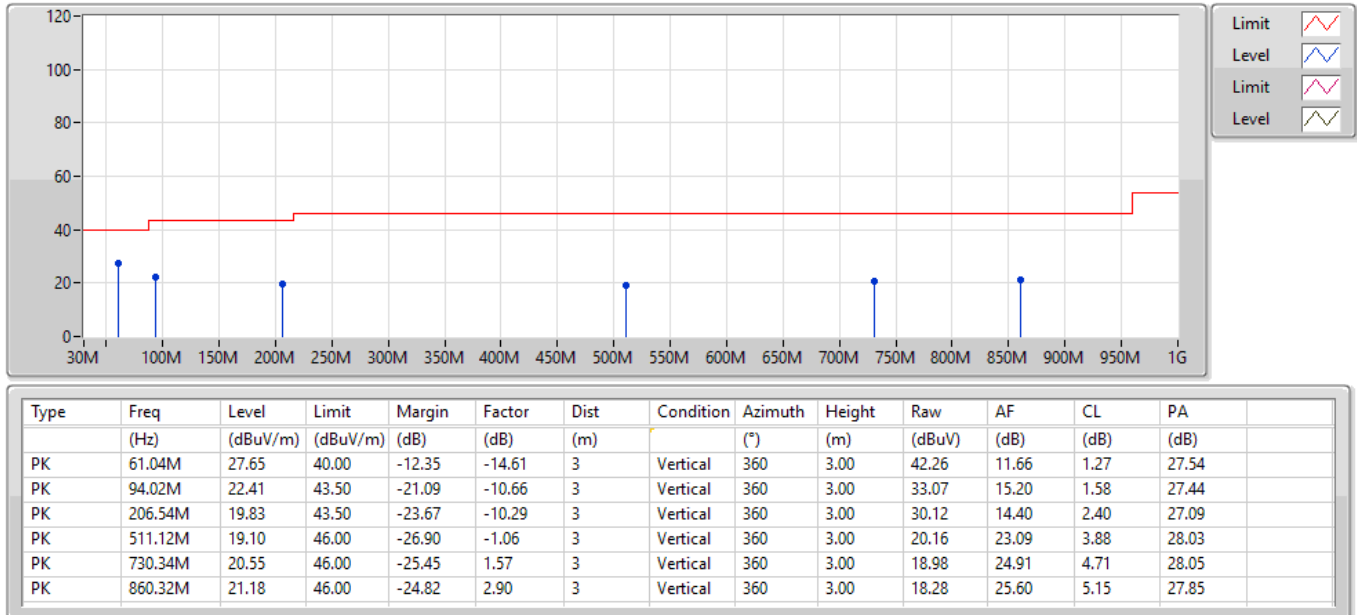
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
100-300kHz	-	-	-	-	-	-	-	-	-	-	-
0.1465MHz_Adapter	Pass	PK	61.04M	27.65	40.00	-12.35	-14.61	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	94.02M	22.41	43.50	-21.09	-10.66	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	206.54M	19.83	43.50	-23.67	-10.29	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	511.12M	19.10	46.00	-26.90	-1.06	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	730.34M	20.55	46.00	-25.45	1.57	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	860.32M	21.18	46.00	-24.82	2.90	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	61.04M	30.02	40.00	-9.98	-14.61	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	169.68M	28.83	43.50	-14.67	-10.20	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	206.54M	28.54	43.50	-14.96	-10.29	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	433.52M	28.01	46.00	-17.99	-2.09	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	646.92M	30.07	46.00	-15.93	0.45	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	866.14M	31.17	46.00	-14.83	2.95	3	Horizontal	0	3.00
0.1465MHz_USB	Pass	PK	101.78M	34.32	43.50	-9.18	-9.22	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	161.92M	27.95	43.50	-15.55	-10.11	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	291.9M	26.02	46.00	-19.98	-5.96	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	346.22M	26.25	46.00	-19.75	-4.70	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	515M	29.61	46.00	-16.39	-1.08	3	Vertical	360	3.00
0.1465MHz_USB	Pass	QP	43.82M	37.62	40.00	-2.38	-10.43	3	Vertical	20	1.00
0.1465MHz_USB	Pass	PK	99.84M	37.34	43.50	-6.16	-9.55	3	Horizontal	0	3.00
0.1465MHz_USB	Pass	PK	159.98M	33.69	43.50	-9.81	-10.03	3	Horizontal	0	3.00
0.1465MHz_USB	Pass	PK	227.88M	33.56	46.00	-12.44	-9.52	3	Horizontal	0	3.00
0.1465MHz_USB	Pass	PK	291.9M	32.73	46.00	-13.27	-5.96	3	Horizontal	0	3.00
0.1465MHz_USB	Pass	PK	499.48M	30.38	46.00	-15.62	-1.35	3	Horizontal	0	3.00
0.1465MHz_USB	Pass	PK	598.42M	32.52	46.00	-13.48	0.26	3	Horizontal	0	3.00

100-300kHz

0.1465MHz_Adapter

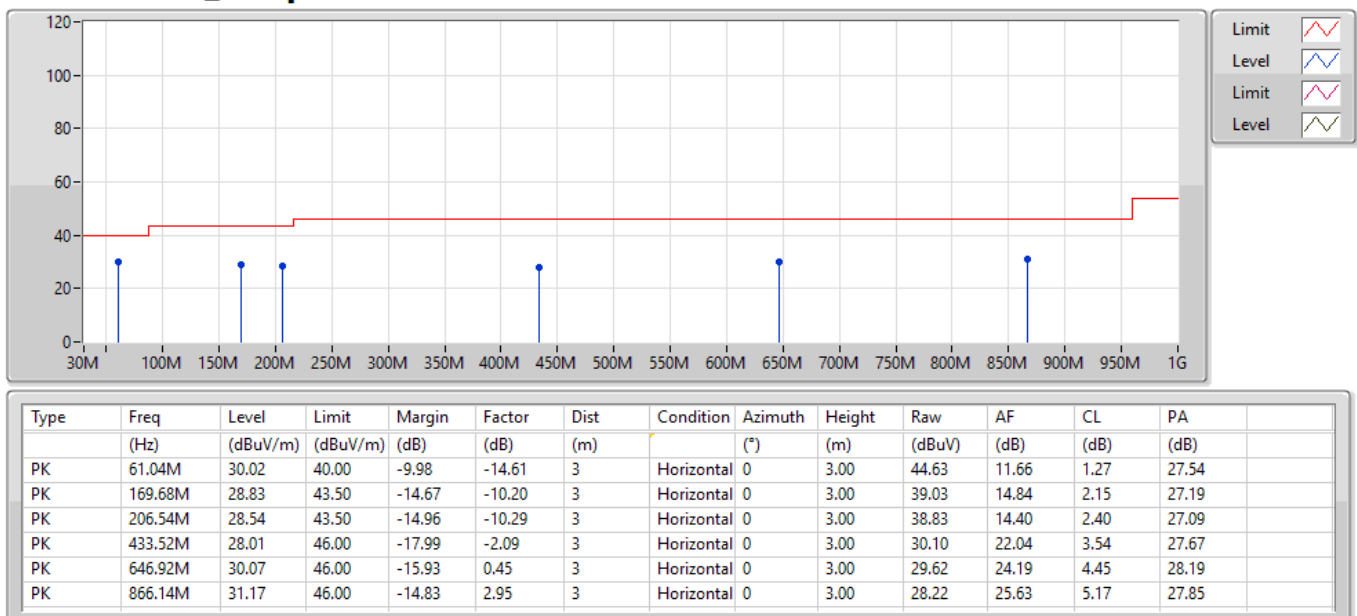
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100-300kHz

0.1465MHz_Adapter

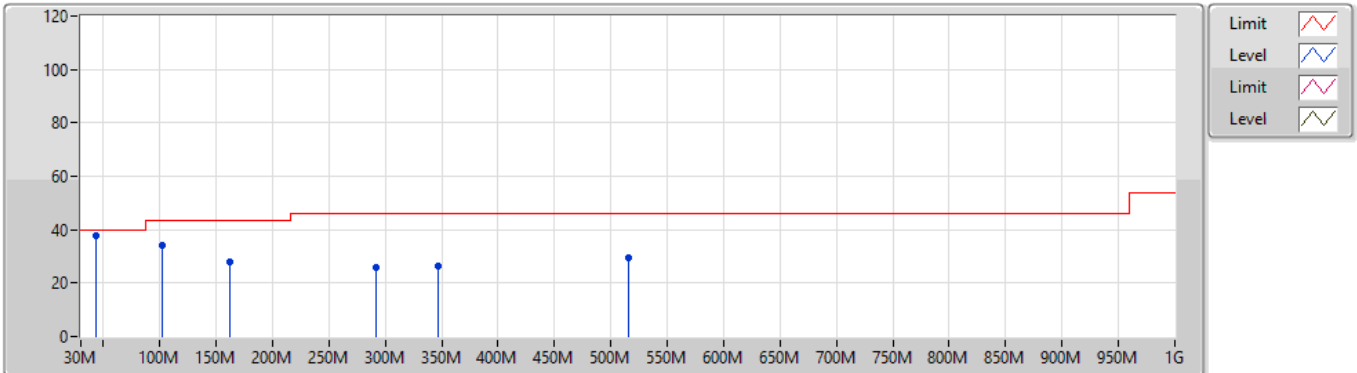
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100-300kHz

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0.1465MHz_USB

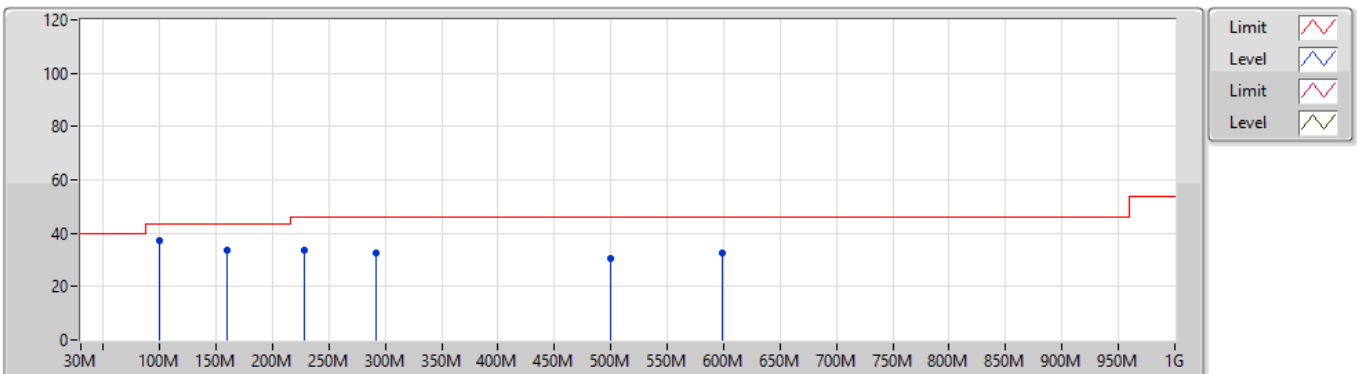


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	101.78M	34.32	43.50	-9.18	-9.22	3	Vertical	360	3.00	43.54	16.56	1.66	27.44
PK	161.92M	27.95	43.50	-15.55	-10.11	3	Vertical	360	3.00	38.06	15.00	2.10	27.21
PK	291.9M	26.02	46.00	-19.98	-5.96	3	Vertical	360	3.00	31.98	18.15	2.86	26.97
PK	346.22M	26.25	46.00	-19.75	-4.70	3	Vertical	360	3.00	30.95	19.23	3.15	27.08
PK	515M	29.61	46.00	-16.39	-1.08	3	Vertical	360	3.00	30.69	23.09	3.89	28.06
QP	43.82M	37.62	40.00	-2.38	-10.43	3	Vertical	20	1.00	48.05	16.06	1.07	27.56

100-300kHz

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0.1465MHz_USB



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	99.84M	37.34	43.50	-6.16	-9.55	3	Horizontal	0	3.00	46.89	16.26	1.64	27.45
PK	159.98M	33.69	43.50	-9.81	-10.03	3	Horizontal	0	3.00	43.72	15.10	2.09	27.22
PK	227.88M	33.56	46.00	-12.44	-9.52	3	Horizontal	0	3.00	43.08	15.04	2.51	27.07
PK	291.9M	32.73	46.00	-13.27	-5.96	3	Horizontal	0	3.00	38.69	18.15	2.86	26.97
PK	499.48M	30.38	46.00	-15.62	-1.35	3	Horizontal	0	3.00	31.73	22.77	3.85	27.97
PK	598.42M	32.52	46.00	-13.48	0.26	3	Horizontal	0	3.00	32.26	24.04	4.36	28.14

Summary

Mode	20dB (Hz)	FI-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	Limit (Range)
0.1465M	-	-	-	-	-
100-300kHz	2.572k	145.97500k	148.54750k	2.184k	-

Result

Mode	Result	20dB (Hz)	FI-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	FI-OBW (Hz)	Fh-OBW (Hz)	Limit (Range)
100-300kHz	-	-	-	-	-	-	-	-
0.1465MHz_TnomVnom	Pass	2.572k	145.97500k	148.54750k	2.184k	146.16926k	148.35375k	-

100-300kHz

EBW

0.1465MHz_TnomVnom

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