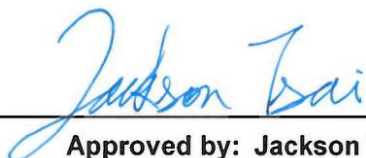


FCC Radio Test Report

FCC ID : 2BGXJ-UWRH301
Equipment : Smart Station
Brand Name : UniWhale
Model Name : UW-RH-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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PHOTOGRAPHS OF EUT v01	

History of this test report

[illegible]



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.:FR260824-01AW.

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 Hsaio

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	64.62
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	Client directly contact
Note 1: Field strength performed peak level at 3m.			

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	TDK	WT303012-12F2-ID	Wireless charging antenna coils	N/A

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From AC Adapter / Host system
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℃ / 50~52%	07/Mar/2024
RF Conducted	TH07-HY	Xun Hsieh	23.1~23.6℃ / 52~55%	07/Mar/2024
Radiated	03CH03-HY	Coco Shang-Kung	22.2~23.4℃ / 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
------------------------------	-----

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	64.62	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				
USB Cable	Brand Name	UniWhale	Model Name	UW-UC-301
	Signal Line	1.9 meter, non-shielded cable, w/o ferrite core		
Smart Baby Tag	Brand Name	UniWhale	Model Name	UW-RB-301

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

2.5 Support Equipment

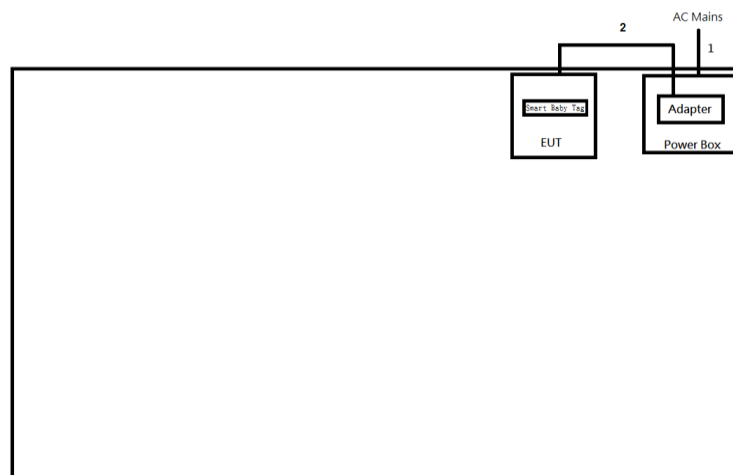
Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	Dell	Latitude7290	-	-
2	Adapter for NB	Dell	LA65NM130	-	-
3	AC Power cable	Power Sync	TPCMRN0018	-	-
4	Adapter	ASUS	Mcdslo AD33531	-	-

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Adapter	ASUS	Mcdslo AD33531	-	-

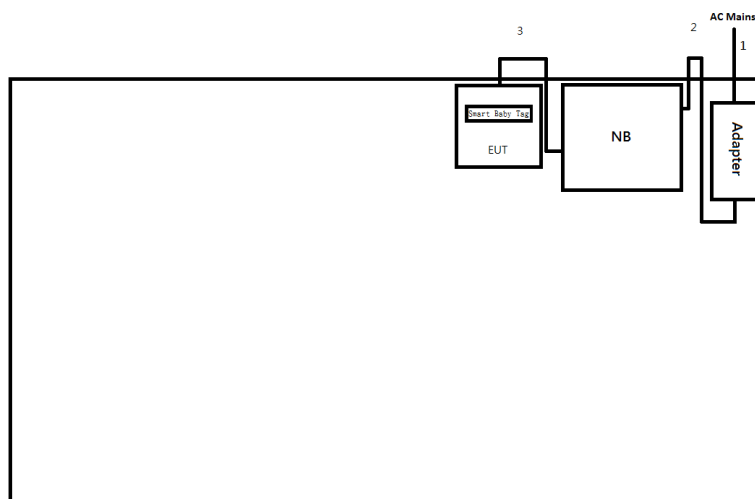
Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	Dell	Latitude7290	-	-
2	Adapter for NB	Dell	LA65NM130	-	-
3	AC Power cable	Power Sync	TPCMRN0018	-	-
4	Adapter	ASUS	Mcdslo AD33531	-	-

2.6 Test Setup Diagram

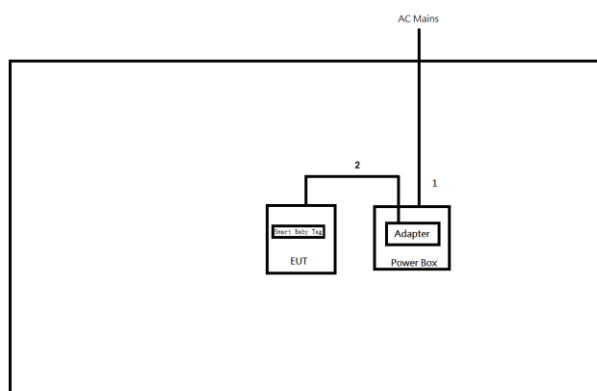
Test Setup Diagram – AC Line Conducted Emission Test (Adapter Mode)



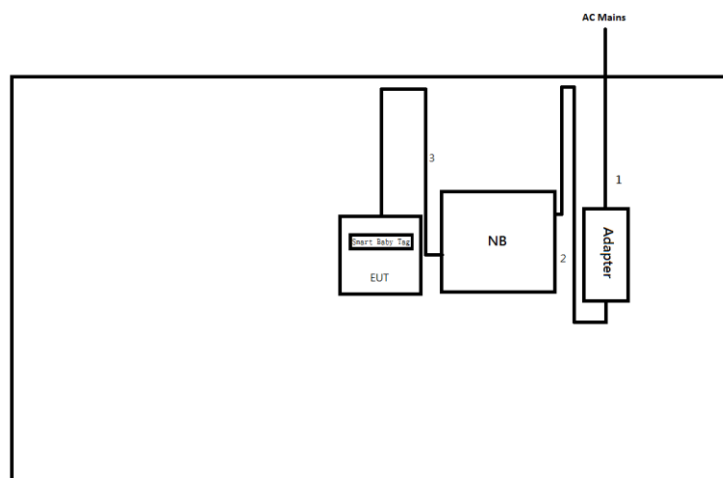
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.5	-
2	USB cable	No	1.9	-

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

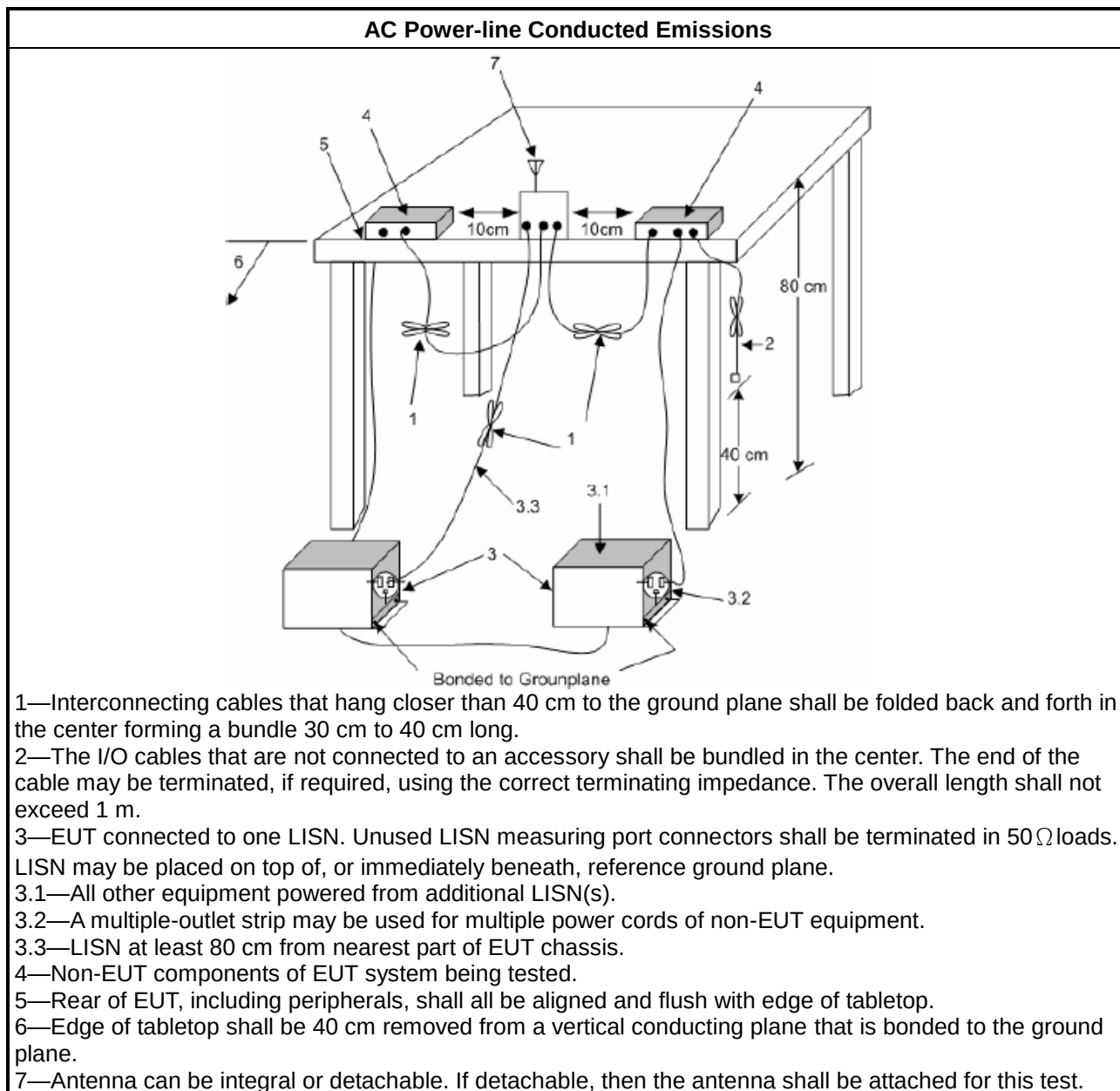
Test Method	
☒	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.
☒	If AC conducted emissions fall in operating band, then following below test method confirm final result.
☐	Accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (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

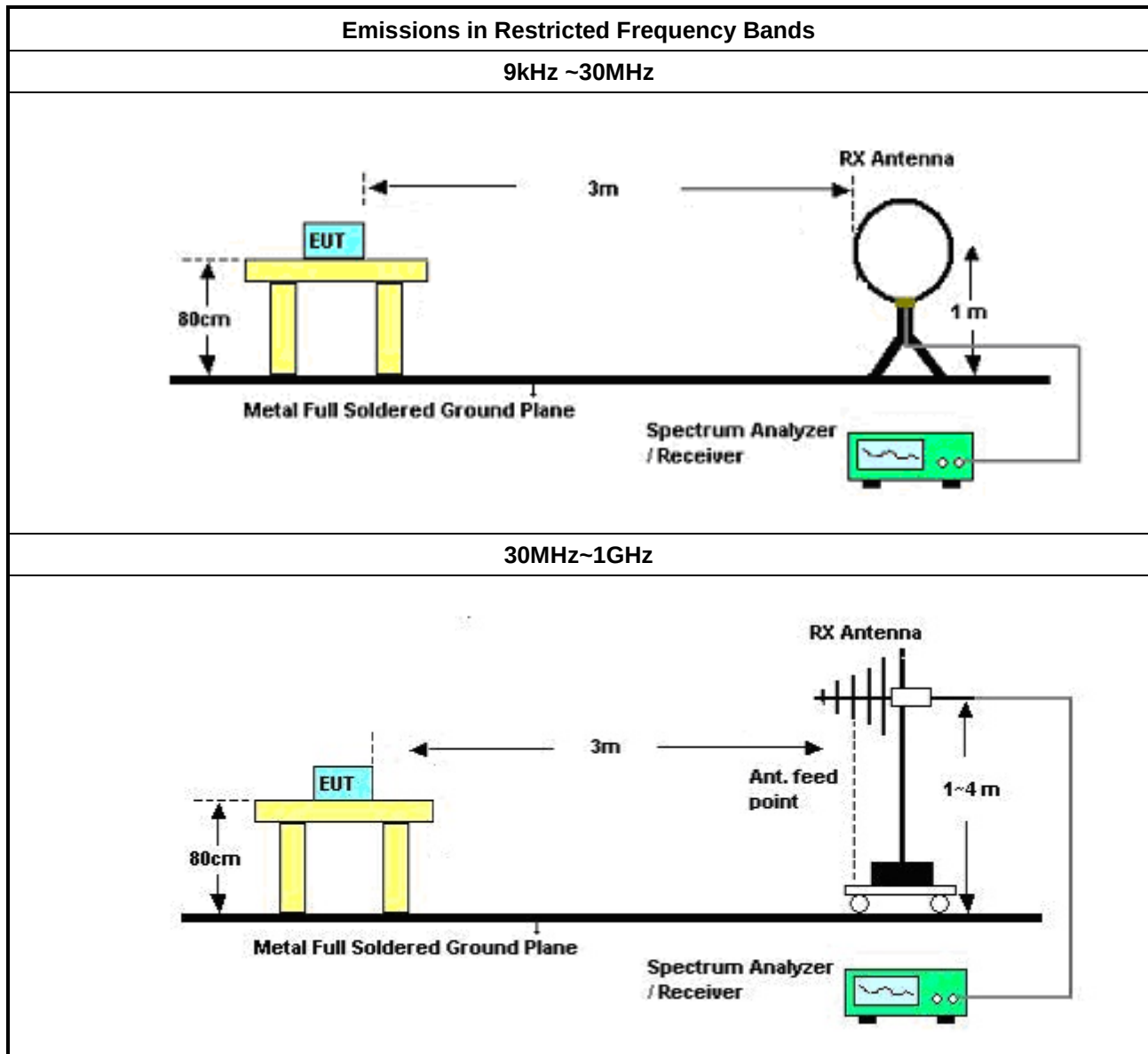
Test Method	
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 30MHz measurements 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

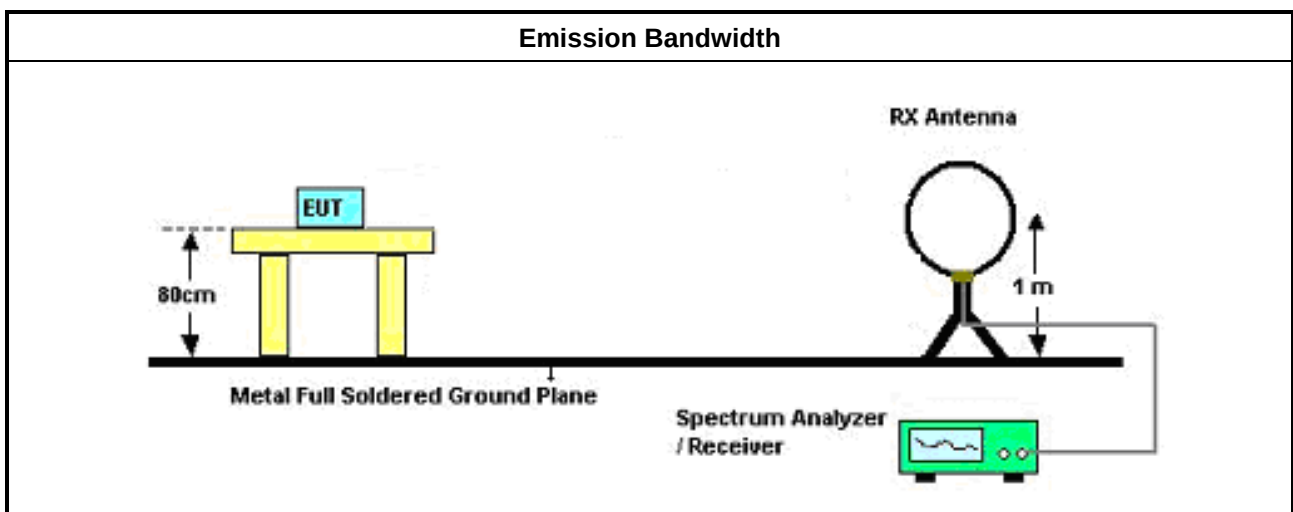
3.3.2 Measuring Instruments

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 Pulse Limiter	SCHWARZBECK	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

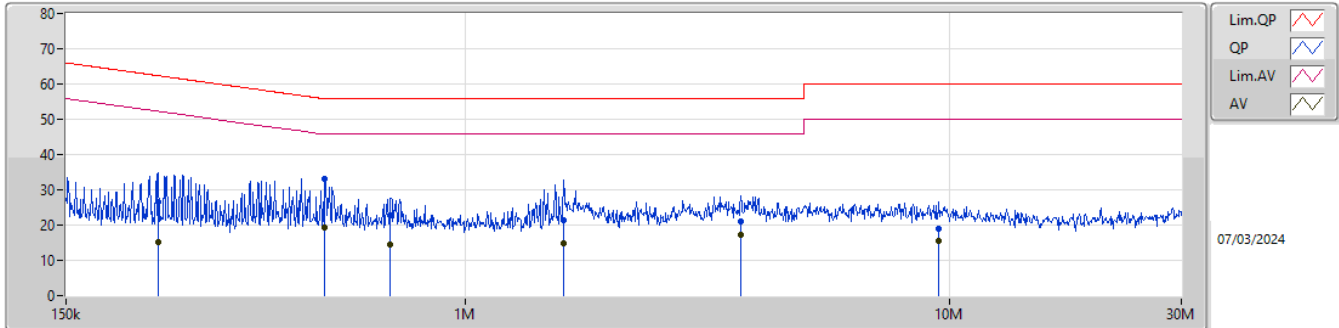
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	512.95k	33.24	56.00	-22.76	Line
Mode 2	Pass	AV	523.291k	28.95	46.00	-17.05	Neutral

Result

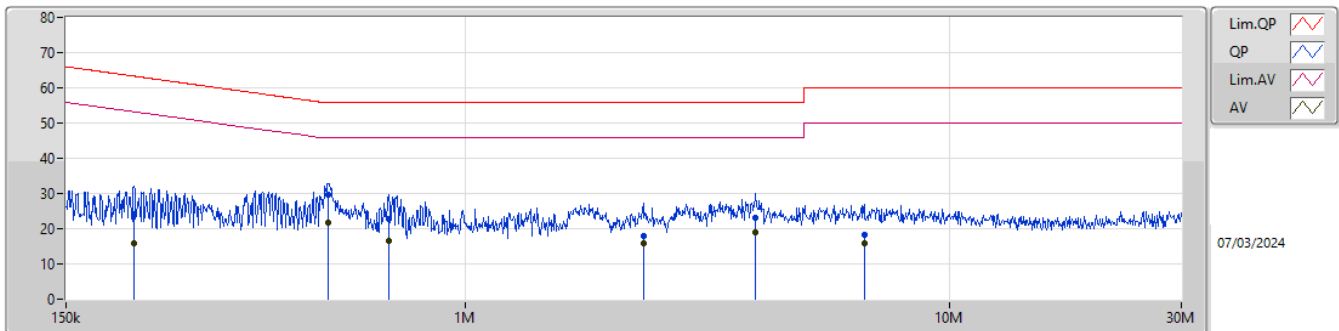
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	232.702k	26.69	62.35	-35.66	Line
Mode 1	Pass	AV	232.702k	15.13	52.35	-37.22	Line
Mode 1	Pass	QP	512.95k	33.24	56.00	-22.76	Line
Mode 1	Pass	AV	512.95k	19.25	46.00	-26.75	Line
Mode 1	Pass	QP	700.333k	22.76	56.00	-33.24	Line
Mode 1	Pass	AV	700.333k	14.58	46.00	-31.42	Line
Mode 1	Pass	QP	1.594M	21.37	56.00	-34.63	Line
Mode 1	Pass	AV	1.594M	14.75	46.00	-31.25	Line
Mode 1	Pass	QP	3.701M	20.95	56.00	-35.05	Line
Mode 1	Pass	AV	3.701M	17.30	46.00	-28.70	Line
Mode 1	Pass	QP	9.493M	18.85	60.00	-41.15	Line
Mode 1	Pass	AV	9.493M	15.58	50.00	-34.42	Line
Mode 1	Pass	QP	207.263k	24.19	63.30	-39.11	Neutral
Mode 1	Pass	AV	207.263k	15.80	53.30	-37.50	Neutral
Mode 1	Pass	QP	521.206k	29.71	56.00	-26.29	Neutral
Mode 1	Pass	AV	521.206k	21.75	46.00	-24.25	Neutral
Mode 1	Pass	QP	694.763k	22.79	56.00	-33.21	Neutral
Mode 1	Pass	AV	694.763k	16.46	46.00	-29.54	Neutral
Mode 1	Pass	QP	2.329M	18.02	56.00	-37.98	Neutral
Mode 1	Pass	AV	2.329M	15.82	46.00	-30.18	Neutral
Mode 1	Pass	QP	3.976M	23.00	56.00	-33.00	Neutral
Mode 1	Pass	AV	3.976M	18.81	46.00	-27.19	Neutral
Mode 1	Pass	QP	6.655M	18.23	60.00	-41.77	Neutral
Mode 1	Pass	AV	6.655M	15.94	50.00	-34.06	Neutral
Mode 2	Pass	QP	169.084k	43.08	65.01	-21.93	Line
Mode 2	Pass	AV	169.084k	26.54	55.01	-28.47	Line
Mode 2	Pass	QP	275.179k	24.62	60.95	-36.33	Line
Mode 2	Pass	AV	275.179k	14.99	50.95	-35.96	Line
Mode 2	Pass	QP	533.841k	32.12	56.00	-23.88	Line
Mode 2	Pass	AV	533.841k	25.36	46.00	-20.64	Line
Mode 2	Pass	QP	3.154M	22.27	56.00	-33.73	Line
Mode 2	Pass	AV	3.154M	18.17	46.00	-27.83	Line
Mode 2	Pass	QP	8.028M	26.88	60.00	-33.12	Line
Mode 2	Pass	AV	8.028M	22.05	50.00	-27.95	Line
Mode 2	Pass	QP	9.122M	30.72	60.00	-29.28	Line
Mode 2	Pass	AV	9.122M	24.98	50.00	-25.02	Line
Mode 2	Pass	QP	161.175k	45.71	65.41	-19.70	Neutral
Mode 2	Pass	AV	161.175k	29.10	55.41	-26.31	Neutral
Mode 2	Pass	QP	190.596k	40.09	64.01	-23.92	Neutral
Mode 2	Pass	AV	190.596k	24.05	54.01	-29.96	Neutral
Mode 2	Pass	QP	523.291k	37.02	56.00	-18.98	Neutral
Mode 2	Pass	AV	523.291k	28.95	46.00	-17.05	Neutral
Mode 2	Pass	QP	783.156k	18.40	56.00	-37.60	Neutral
Mode 2	Pass	AV	783.156k	14.58	46.00	-31.42	Neutral
Mode 2	Pass	QP	3.485M	22.96	56.00	-33.04	Neutral
Mode 2	Pass	AV	3.485M	18.72	46.00	-27.28	Neutral
Mode 2	Pass	QP	5.583M	23.89	60.00	-36.11	Neutral
Mode 2	Pass	AV	5.583M	19.45	50.00	-30.55	Neutral

Conducted Emissions at Powerline_Mode 1



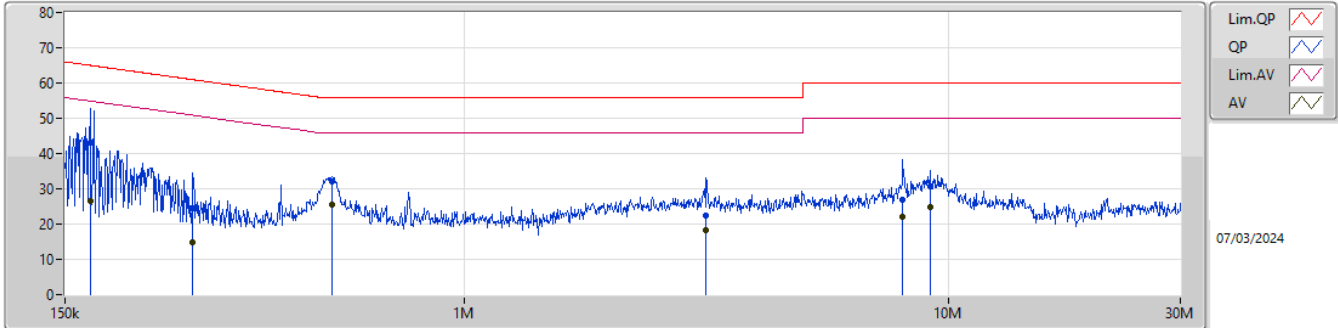
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	232.702k	26.69	62.35	-35.66	19.41	Line	-	7.28	9.61	0.10	9.70						
AV	232.702k	15.13	52.35	-37.22	19.41	Line	-	-4.28	9.61	0.10	9.70						
QP	512.95k	33.24	56.00	-22.76	19.49	Line	-	13.75	9.61	0.11	9.77						
AV	512.95k	19.25	46.00	-26.75	19.49	Line	-	-0.24	9.61	0.11	9.77						
QP	700.333k	22.76	56.00	-33.24	19.49	Line	-	3.27	9.61	0.10	9.78						
AV	700.333k	14.58	46.00	-31.42	19.49	Line	-	-4.91	9.61	0.10	9.78						
QP	1.594M	21.37	56.00	-34.63	19.52	Line	-	1.85	9.62	0.10	9.80						
AV	1.594M	14.75	46.00	-31.25	19.52	Line	-	-4.77	9.62	0.10	9.80						
QP	3.701M	20.95	56.00	-35.05	19.50	Line	-	1.45	9.64	0.07	9.79						
AV	3.701M	17.30	46.00	-28.70	19.50	Line	-	-2.20	9.64	0.07	9.79						
QP	9.493M	18.85	60.00	-41.15	19.50	Line	-	-0.65	9.66	0.05	9.79						
AV	9.493M	15.58	50.00	-34.42	19.50	Line	-	-3.92	9.66	0.05	9.79						

Conducted Emissions at Powerline_Mode 1



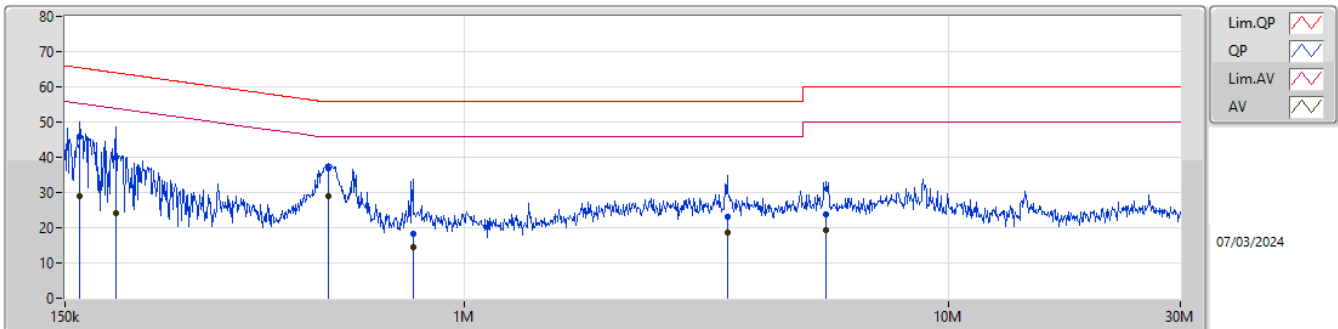
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	207.263k	24.19	63.30	-39.11	19.38	Neutral	-	4.81	9.61	0.09	9.68						
AV	207.263k	15.80	53.30	-37.50	19.38	Neutral	-	-3.58	9.61	0.09	9.68						
QP	521.206k	29.71	56.00	-26.29	19.49	Neutral	-	10.22	9.61	0.11	9.77						
AV	521.206k	21.75	46.00	-24.25	19.49	Neutral	-	2.26	9.61	0.11	9.77						
QP	694.763k	22.79	56.00	-33.21	19.49	Neutral	-	3.30	9.61	0.10	9.78						
AV	694.763k	16.46	46.00	-29.54	19.49	Neutral	-	-3.03	9.61	0.10	9.78						
QP	2.329M	18.02	56.00	-37.98	19.52	Neutral	-	-1.50	9.62	0.10	9.80						
AV	2.329M	15.82	46.00	-30.18	19.52	Neutral	-	-3.70	9.62	0.10	9.80						
QP	3.976M	23.00	56.00	-33.00	19.50	Neutral	-	3.50	9.64	0.07	9.79						
AV	3.976M	18.81	46.00	-27.19	19.50	Neutral	-	-0.69	9.64	0.07	9.79						
QP	6.655M	18.23	60.00	-41.77	19.52	Neutral	-	-1.29	9.67	0.06	9.79						
AV	6.655M	15.94	50.00	-34.06	19.52	Neutral	-	-3.58	9.67	0.06	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	169.084k	43.08	65.01	-21.93	19.42	Line	-	23.66	9.61	0.08	9.73						
AV	169.084k	26.54	55.01	-28.47	19.42	Line	-	7.12	9.61	0.08	9.73						
QP	275.179k	24.62	60.95	-36.33	19.43	Line	-	5.19	9.61	0.10	9.72						
AV	275.179k	14.99	50.95	-35.96	19.43	Line	-	-4.44	9.61	0.10	9.72						
QP	533.841k	32.12	56.00	-23.88	19.49	Line	-	12.63	9.61	0.11	9.77						
AV	533.841k	25.36	46.00	-20.64	19.49	Line	-	5.87	9.61	0.11	9.77						
QP	3.154M	22.27	56.00	-33.73	19.50	Line	-	2.77	9.63	0.08	9.79						
AV	3.154M	18.17	46.00	-27.83	19.50	Line	-	-1.33	9.63	0.08	9.79						
QP	8.028M	26.88	60.00	-33.12	19.50	Line	-	7.38	9.66	0.05	9.79						
AV	8.028M	22.05	50.00	-27.95	19.50	Line	-	2.55	9.66	0.05	9.79						
QP	9.122M	30.72	60.00	-29.28	19.50	Line	-	11.22	9.66	0.05	9.79						
AV	9.122M	24.98	50.00	-25.02	19.50	Line	-	5.48	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	161.175k	45.71	65.41	-19.70	19.43	Neutral	-	26.28	9.62	0.07	9.74						
AV	161.175k	29.10	55.41	-26.31	19.43	Neutral	-	9.67	9.62	0.07	9.74						
QP	190.596k	40.09	64.01	-23.92	19.39	Neutral	-	20.70	9.61	0.09	9.69						
AV	190.596k	24.05	54.01	-29.96	19.39	Neutral	-	4.66	9.61	0.09	9.69						
QP	523.291k	37.02	56.00	-18.98	19.49	Neutral	-	17.53	9.61	0.11	9.77						
AV	523.291k	28.95	46.00	-17.05	19.49	Neutral	-	9.46	9.61	0.11	9.77						
QP	783.156k	18.40	56.00	-37.60	19.50	Neutral	-	-1.10	9.61	0.10	9.79						
AV	783.156k	14.58	46.00	-31.42	19.50	Neutral	-	-4.92	9.61	0.10	9.79						
QP	3.485M	22.96	56.00	-33.04	19.51	Neutral	-	3.45	9.64	0.08	9.79						
AV	3.485M	18.72	46.00	-27.28	19.51	Neutral	-	-0.79	9.64	0.08	9.79						
QP	5.583M	23.89	60.00	-36.11	19.51	Neutral	-	4.38	9.66	0.06	9.79						
AV	5.583M	19.45	50.00	-30.55	19.51	Neutral	-	-0.06	9.66	0.06	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	2.001M	52.27	69.50	-17.23	19.91	3	Horizontal	0	1.00

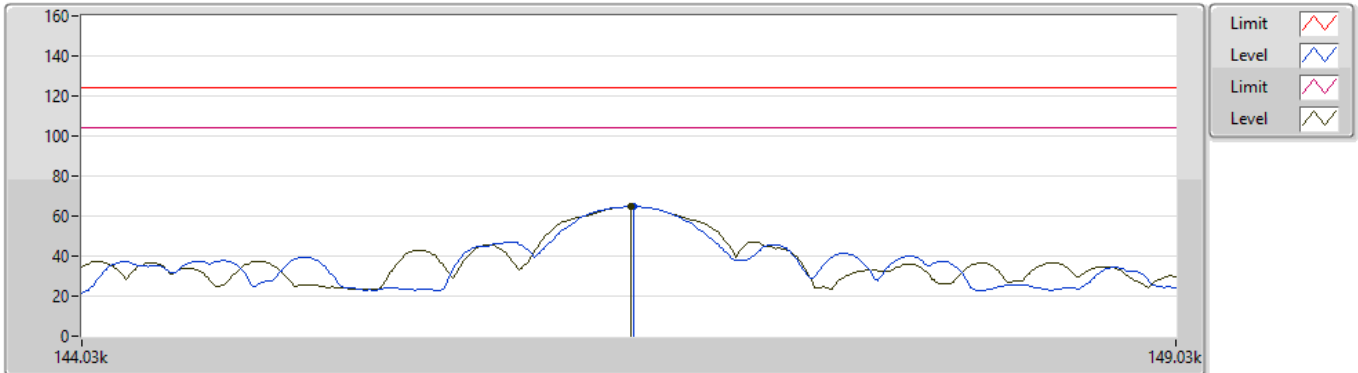
Result

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	64.61	104.28	-39.67	19.91	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	146.53k	64.62	124.28	-59.66	19.91	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	34.944k	34.39	136.74	-102.35	20.71	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	99.24k	31.24	107.66	-76.42	19.67	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	126.03k	31.62	125.60	-93.98	19.81	3	Horizontal	0	1.00
0.1465MHz_Adapter	Pass	PK	388.8k	50.32	115.80	-65.48	20.48	3	Horizontal	360	1.00
0.1465MHz_Adapter	Pass	PK	687.3k	43.23	70.87	-27.64	20.24	3	Horizontal	360	1.00
0.1465MHz_Adapter	Pass	PK	2.001M	51.60	69.50	-17.90	19.91	3	Horizontal	360	1.00
0.1465MHz_USB	Pass	AV	146.53k	64.58	104.28	-39.70	19.91	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	146.54k	64.60	124.28	-59.68	19.91	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	35.226k	34.56	136.66	-102.10	20.68	3	Horizontal	360	1.00
0.1465MHz_USB	Pass	PK	100.65k	35.39	107.54	-72.15	19.68	3	Horizontal	360	1.00
0.1465MHz_USB	Pass	PK	129.696k	36.27	125.34	-89.07	19.83	3	Horizontal	360	1.00
0.1465MHz_USB	Pass	PK	388.8k	48.72	115.80	-67.08	20.48	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	687.3k	42.79	70.87	-28.08	20.24	3	Horizontal	0	1.00
0.1465MHz_USB	Pass	PK	2.001M	52.27	69.50	-17.23	19.91	3	Horizontal	0	1.00

100-300kHz

0.1465MHz_Adapter

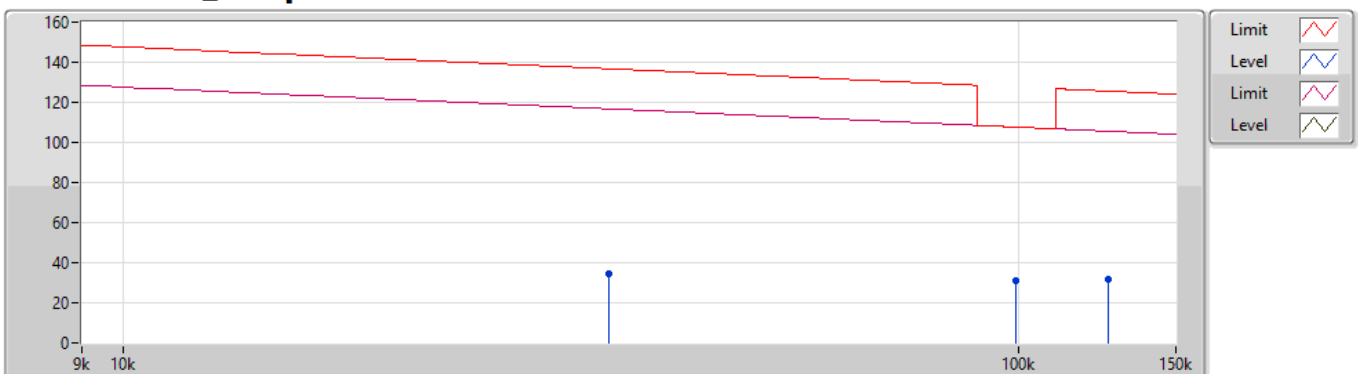
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100-300kHz

0.1465MHz_Adapter

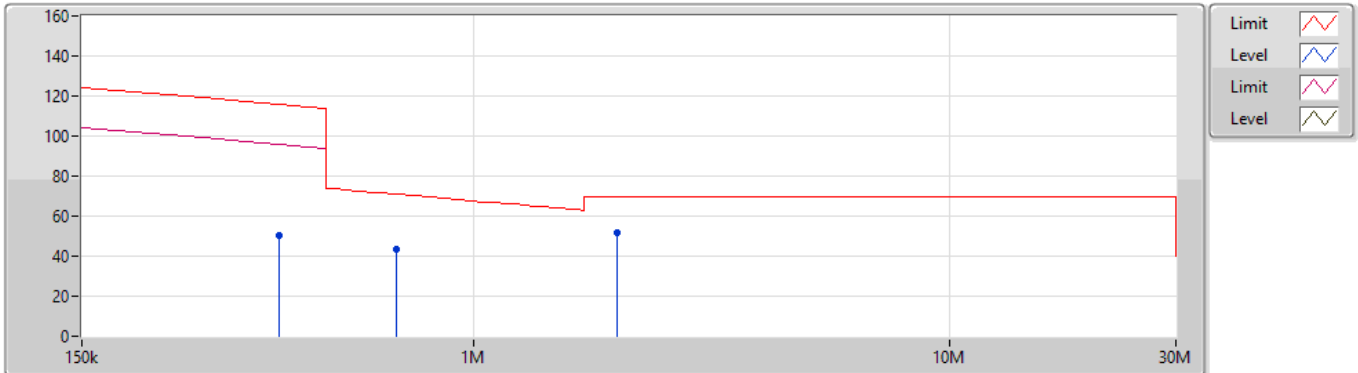
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100-300kHz

0.1465MHz_Adapter

07/03/2024

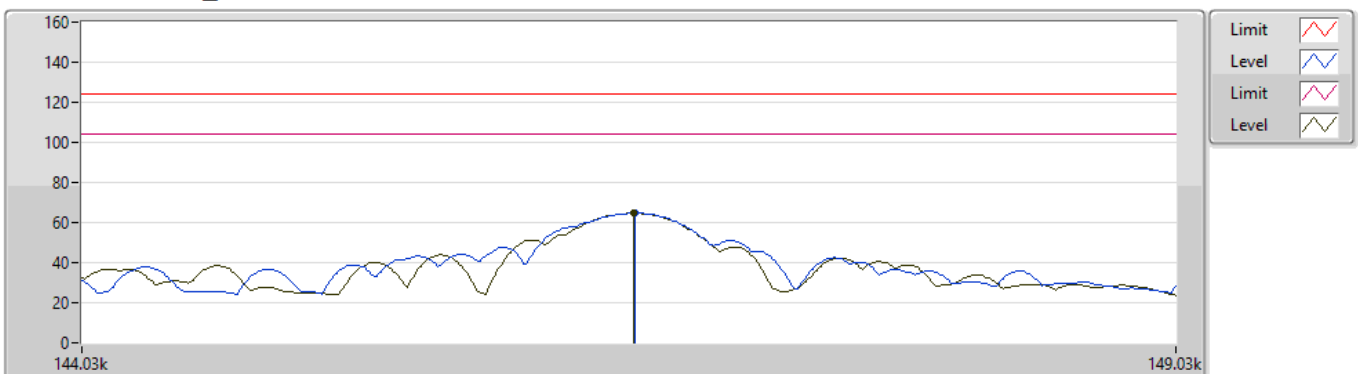


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)	
PK	388.8k	50.32	115.80	-65.48	20.48	3	Horizontal	360	1.00	29.84	20.37	0.11	-	
PK	687.3k	43.23	70.87	-27.64	20.24	3	Horizontal	360	1.00	22.99	20.10	0.14	-	
PK	2.001M	51.60	69.50	-17.90	19.91	3	Horizontal	360	1.00	31.69	19.70	0.21	-	

100-300kHz

0.1465MHz_USB

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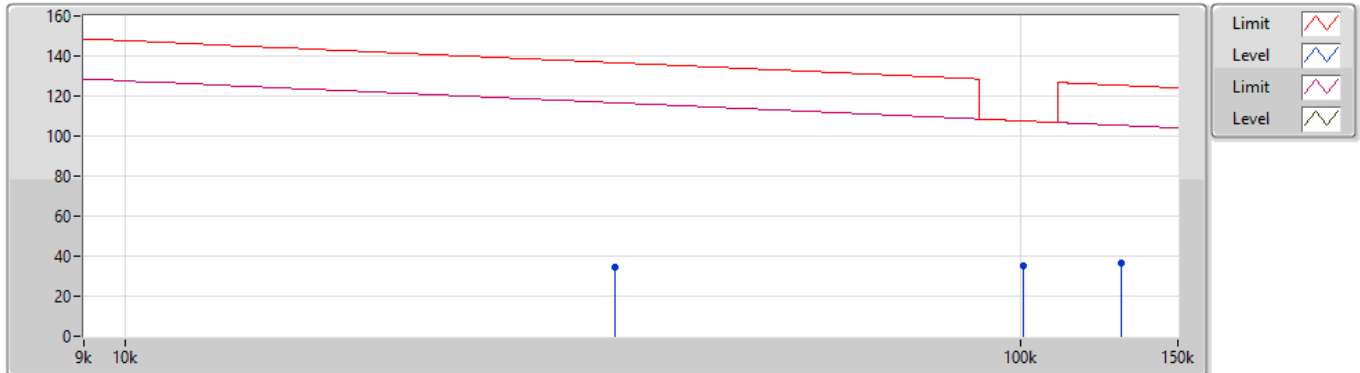


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)	
AV	146.53k	64.58	104.28	-39.70	19.91	3	Horizontal	0	1.00	44.67	19.82	0.09	-	
PK	146.54k	64.60	124.28	-59.68	19.91	3	Horizontal	0	1.00	44.69	19.82	0.09	-	

100-300kHz

0.1465MHz_USB

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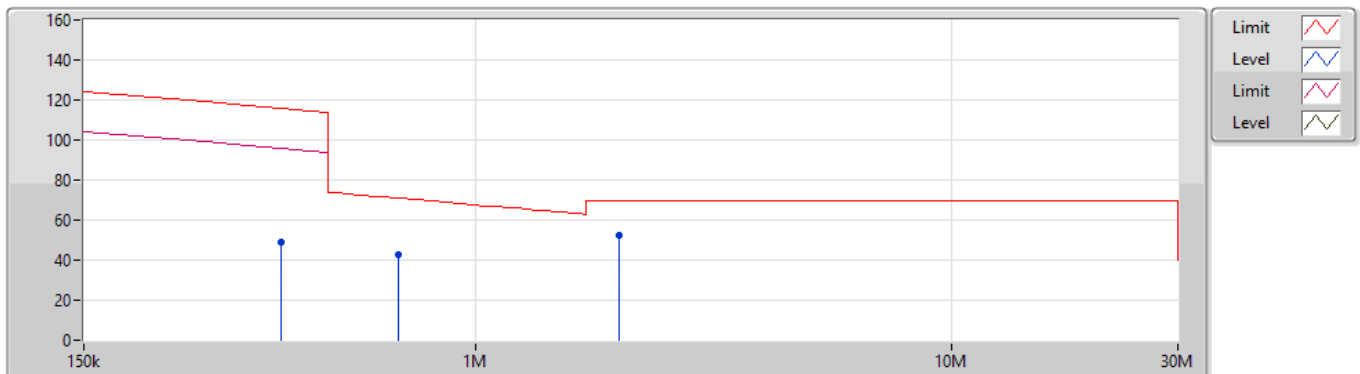


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	35.226k	34.56	136.66	-102.10	20.68	3	Horizontal	360	1.00	13.88	20.60	0.08	-
PK	100.65k	35.39	107.54	-72.15	19.68	3	Horizontal	360	1.00	15.71	19.60	0.08	-
PK	129.696k	36.27	125.34	-89.07	19.83	3	Horizontal	360	1.00	16.44	19.75	0.08	-

100-300kHz

0.1465MHz_USB

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	48.72	115.80	-67.08	20.48	3	Horizontal	0	1.00	28.24	20.37	0.11	-
PK	687.3k	42.79	70.87	-28.08	20.24	3	Horizontal	0	1.00	22.55	20.10	0.14	-
PK	2.001M	52.27	69.50	-17.23	19.91	3	Horizontal	0	1.00	32.36	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	43.81M	37.33	40.00	-2.67	-10.43	3	Vertical	73	1.00

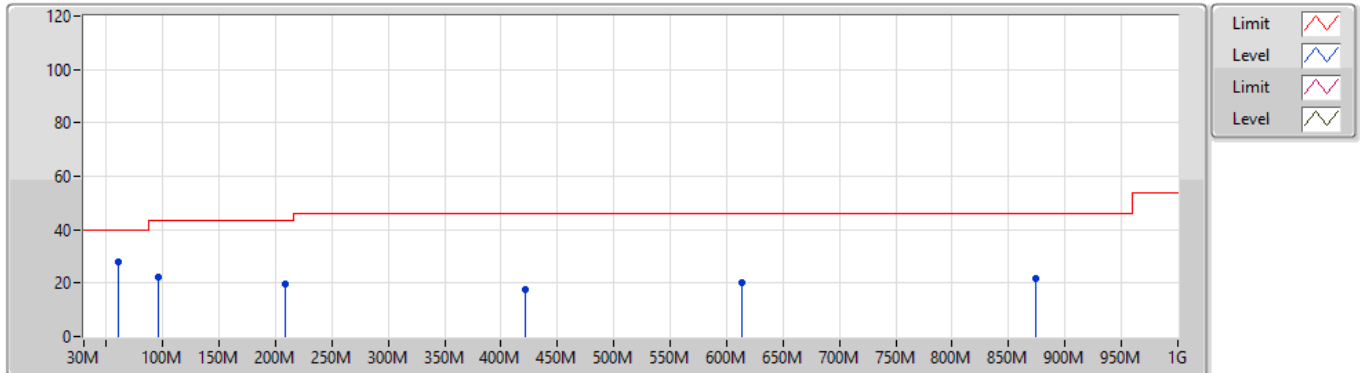
Result

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	27.92	40.00	-12.08	-14.61	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	95.96M	22.27	43.50	-21.23	-10.32	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	208.48M	19.76	43.50	-23.74	-10.38	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	421.88M	17.52	46.00	-28.48	-2.24	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	613.94M	20.04	46.00	-25.96	0.37	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	873.9M	21.61	46.00	-24.39	3.14	3	Vertical	360	3.00
0.1465MHz_Adapter	Pass	PK	59.1M	30.53	40.00	-9.47	-14.69	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	171.62M	28.07	43.50	-15.43	-10.22	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	206.54M	30.13	43.50	-13.37	-10.29	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	383.08M	26.13	46.00	-19.87	-3.78	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	540.22M	30.16	46.00	-15.84	0.43	3	Horizontal	0	3.00
0.1465MHz_Adapter	Pass	PK	897.18M	31.59	46.00	-14.41	2.97	3	Horizontal	0	3.00
0.1465MHz_USB	Pass	PK	92.08M	33.79	43.50	-9.71	-11.03	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	216.24M	28.30	46.00	-17.70	-10.62	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	299.66M	28.09	46.00	-17.91	-5.72	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	546.04M	31.81	46.00	-14.19	0.45	3	Vertical	360	3.00
0.1465MHz_USB	Pass	PK	598.42M	34.12	46.00	-11.88	0.26	3	Vertical	360	3.00
0.1465MHz_USB	Pass	QP	43.81M	37.33	40.00	-2.67	-10.43	3	Vertical	73	1.00
0.1465MHz_USB	Pass	PK	99.84M	36.87	43.50	-6.63	-9.55	3	Horizontal	360	3.00
0.1465MHz_USB	Pass	PK	159.98M	34.48	43.50	-9.02	-10.03	3	Horizontal	360	3.00
0.1465MHz_USB	Pass	PK	235.64M	31.89	46.00	-14.11	-8.58	3	Horizontal	360	3.00
0.1465MHz_USB	Pass	PK	295.78M	30.69	46.00	-15.31	-5.87	3	Horizontal	360	3.00
0.1465MHz_USB	Pass	PK	499.48M	29.37	46.00	-16.63	-1.35	3	Horizontal	360	3.00
0.1465MHz_USB	Pass	PK	633.34M	30.03	46.00	-15.97	0.53	3	Horizontal	360	3.00

100-300kHz

0.1465MHz_Adapter

07/03/2024

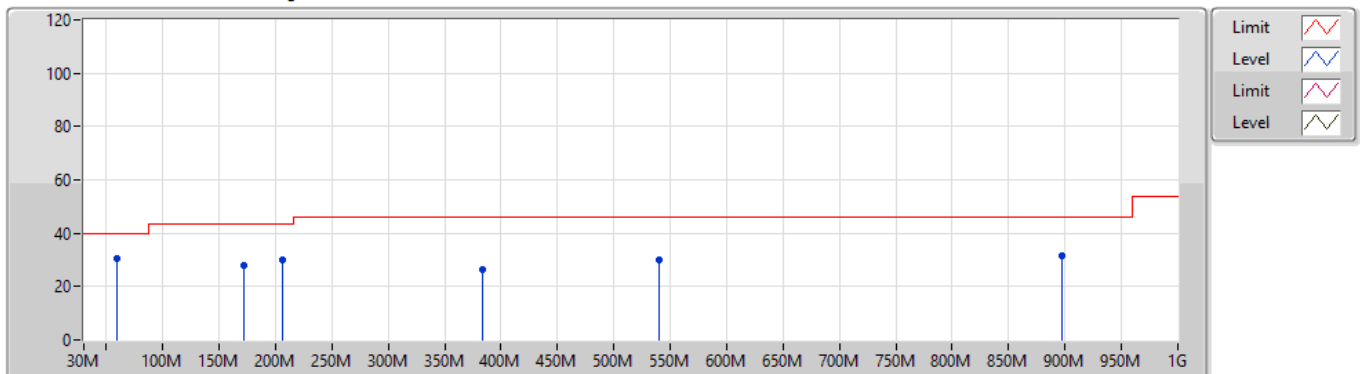


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	61.04M	27.92	40.00	-12.08	-14.61	3	Vertical	360	3.00	42.53	11.66	1.27	27.54
PK	95.96M	22.27	43.50	-21.23	-10.32	3	Vertical	360	3.00	32.59	15.52	1.60	27.44
PK	208.48M	19.76	43.50	-23.74	-10.38	3	Vertical	360	3.00	30.14	14.30	2.41	27.09
PK	421.88M	17.52	46.00	-28.48	-2.24	3	Vertical	360	3.00	19.76	21.86	3.48	27.58
PK	613.94M	20.04	46.00	-25.96	0.37	3	Vertical	360	3.00	19.67	24.13	4.39	28.15
PK	873.9M	21.61	46.00	-24.39	3.14	3	Vertical	360	3.00	18.47	25.80	5.19	27.85

100-300kHz

0.1465MHz_Adapter

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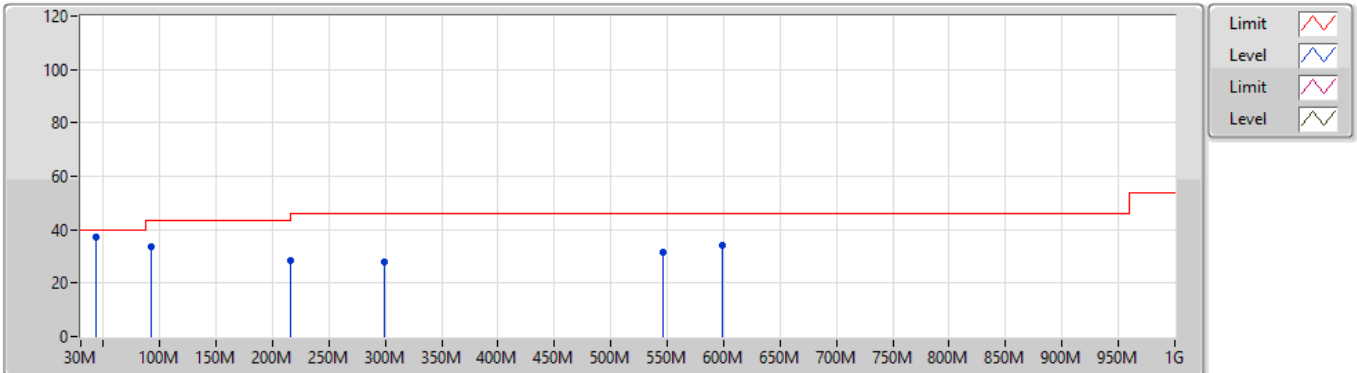


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	59.1M	30.53	40.00	-9.47	-14.69	3	Horizontal	0	3.00	45.22	11.60	1.25	27.54
PK	171.62M	28.07	43.50	-15.43	-10.22	3	Horizontal	0	3.00	38.29	14.79	2.17	27.18
PK	206.54M	30.13	43.50	-13.37	-10.29	3	Horizontal	0	3.00	40.42	14.40	2.40	27.09
PK	383.08M	26.13	46.00	-19.87	-3.78	3	Horizontal	0	3.00	29.91	20.22	3.30	27.30
PK	540.22M	30.16	46.00	-15.84	0.43	3	Horizontal	0	3.00	29.73	24.67	3.96	28.20
PK	897.18M	31.59	46.00	-14.41	2.97	3	Horizontal	0	3.00	28.62	25.59	5.24	27.86

100-300kHz

07/03/2024

0.1465MHz_USB

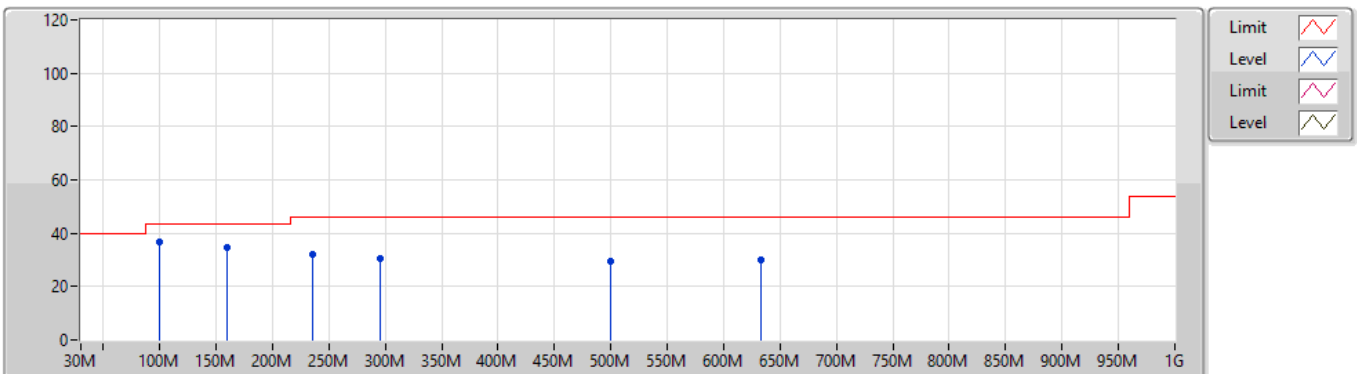


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	92.08M	33.79	43.50	-9.71	-11.03	3	Vertical	360	3.00	44.82	14.85	1.57	27.45
PK	216.24M	28.30	46.00	-17.70	-10.62	3	Vertical	360	3.00	38.92	14.01	2.45	27.08
PK	299.66M	28.09	46.00	-17.91	-5.72	3	Vertical	360	3.00	33.81	18.33	2.91	26.96
PK	546.04M	31.81	46.00	-14.19	0.45	3	Vertical	360	3.00	31.36	24.71	3.98	28.24
PK	598.42M	34.12	46.00	-11.88	0.26	3	Vertical	360	3.00	33.86	24.04	4.36	28.14
QP	43.81M	37.33	40.00	-2.67	-10.43	3	Vertical	73	1.00	47.76	16.06	1.07	27.56

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	99.84M	36.87	43.50	-6.63	-9.55	3	Horizontal	360	3.00	46.42	16.26	1.64	27.45
PK	159.98M	34.48	43.50	-9.02	-10.03	3	Horizontal	360	3.00	44.51	15.10	2.09	27.22
PK	235.64M	31.89	46.00	-14.11	-8.58	3	Horizontal	360	3.00	40.47	15.93	2.55	27.06
PK	295.78M	30.69	46.00	-15.31	-5.87	3	Horizontal	360	3.00	36.56	18.21	2.89	26.97
PK	499.48M	29.37	46.00	-16.63	-1.35	3	Horizontal	360	3.00	30.72	22.77	3.85	27.97
PK	633.34M	30.03	46.00	-15.97	0.53	3	Horizontal	360	3.00	29.50	24.28	4.42	28.17

Summary

Mode	20dB (Hz)	FI-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	Limit (Range)
0.1465M	-	-	-	-	-
100-300kHz	2.572k	146.01875k	148.59125k	2.186k	-

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	146.01875k	148.59125k	2.186k	146.21146k	148.39753k	-

100-300kHz

EBW

0.1465MHz_TnomVnom

07/03/2024

