

FCC Radio Test Report

FCC ID : 2APXN-HSCL03WC
Equipment : Wireless Charger Module
Brand Name : hp
Model Name : HSC-L03WC
Applicant : ASAP Technology(Jiangxi) Co., Ltd
Ji'an Industrial Park, Ji'anJiangxi, 343100, China
Manufacturer : ASAP Technology(Jiangxi) Co., Ltd
Ji'an Industrial Park, Ji'anJiangxi, 343100, China
Standard : 47 CFR FCC Part 15.209

The product was received on Nov. 05, 2021, and testing was started from Nov. 15, 2021 and completed on Nov. 17, 2021. 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: Allen Lin

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



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	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
None

Reviewed by: Sam Tsai

Report Producer: Jenny Yang



1 General Description

1.1 Information

1.1.1 General Information

Wireless Power Transfer General Information			
Frequency Range	Modulation	Operating Freq. (kHz)	Field Strength (dBuV/m)
120-130 kHz	ASK	120	83.94
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	ARK	FZ-T50X5.3X0.802-7089A	coils	N/A

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From AC Adapter
Type of EUT	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.:
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.:
<input type="checkbox"/>	Other:

1.1.4 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle	
<input type="checkbox"/>	Operated normally mode for worst duty cycle
<input checked="" type="checkbox"/>	Operated test mode for worst duty cycle
Test Signal Duty Cycle (x)	
<input checked="" type="checkbox"/>	100%



1.1.5 Table for Multiple Listing

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

Model Name	Sample	Description
HSC-L03WC	1	All the samples are identical, the difference is size of case.
	2	

Note: There are two Samples and Sample 2 was used to perform the worst configuration and result of that was recorded as the final test result.

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 RF Exposure Wireless Charging Apps v03r01
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
<input checked="" type="checkbox"/>	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	Daniel Lin	21.7~22.1°C / 52~55%	16/Nov/2021~17/Nov/2021
RF Conducted	TH06-HY	Alan Chien	20.1~25.6°C / 51~60%	16/Nov/2021
Radiated	03CH03-HY	Justin Pan	20.1~24.9°C / 50~53%	15/Nov/2021
<input type="checkbox"/>	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
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 Channel Mode

Test Software Version	N/A
-----------------------	-----

Note: The EUT transmits RF signal continuously by itself.

Mode	Power Setting
WPC	-
0.12MHz	default

2.2 The Worst Case Configuration


Mode	Field Strength (dBuV/m at 3 m)	Charger Frequencies (kHz)
WPC	83.94	120

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 (120-130 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

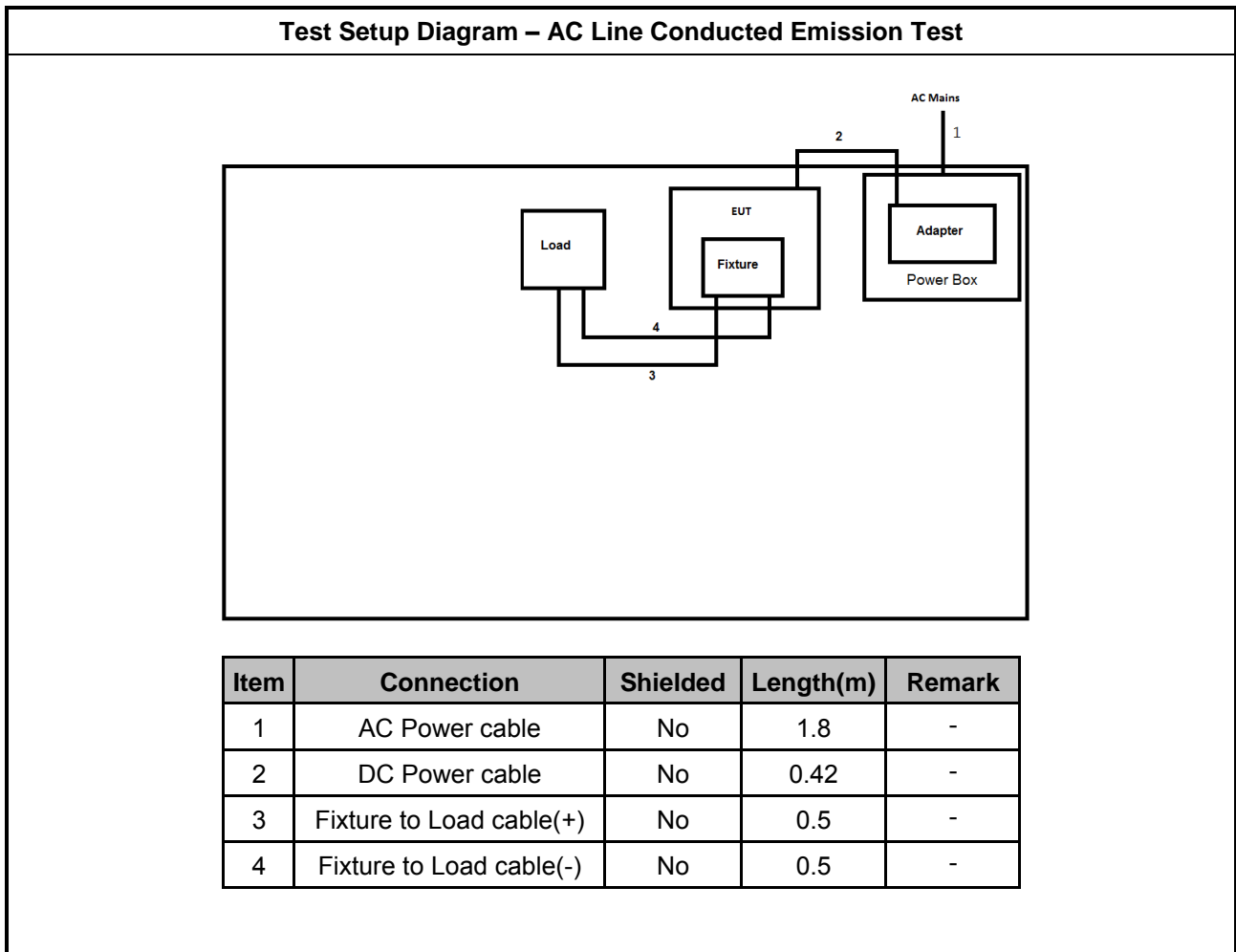
The Worst Case Mode for Following Conformance Tests	
Tests Item	Transmitter Radiated Emissions, Emission Bandwidth
Test Condition	Radiated measurement
Operating Mode	CTX
	1. Adapter Mode
Orthogonal Planes of EUT	Z Plane
	

2.4 Support Equipment

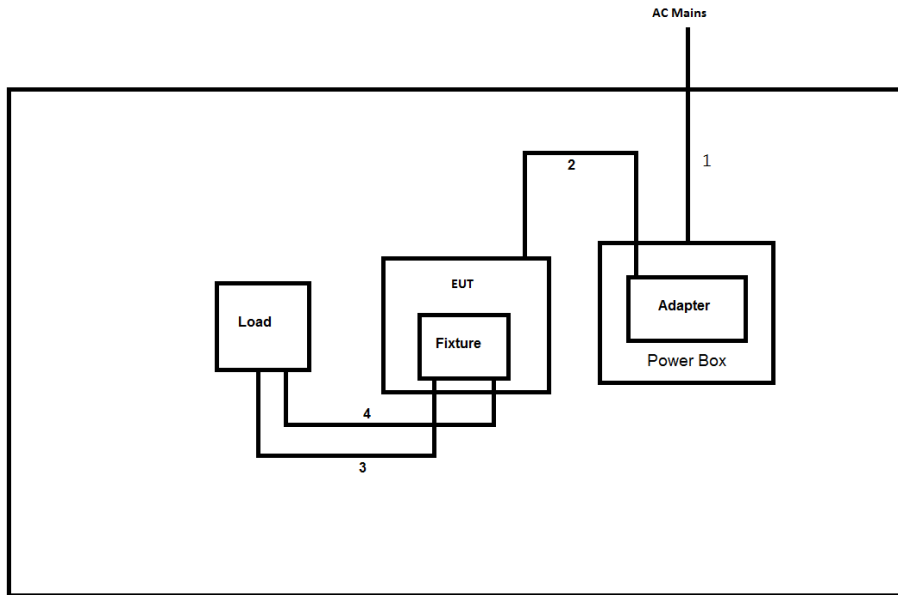
Support Equipment – AC Conduction, Conducted and Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Adapter	ASAP Technology Jiangxi	LACW012	-	Note 1
2	Load	luxshare	002	-	Note 1
3	Fixture	luxshare	RX001	-	Note 1

Note 1: Provided by Customer.

2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	DC Power cable	No	0.42	-
3	Fixture to Load cable(+)	No	0.5	-
4	Fixture to Load cable(-)	No	0.5	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

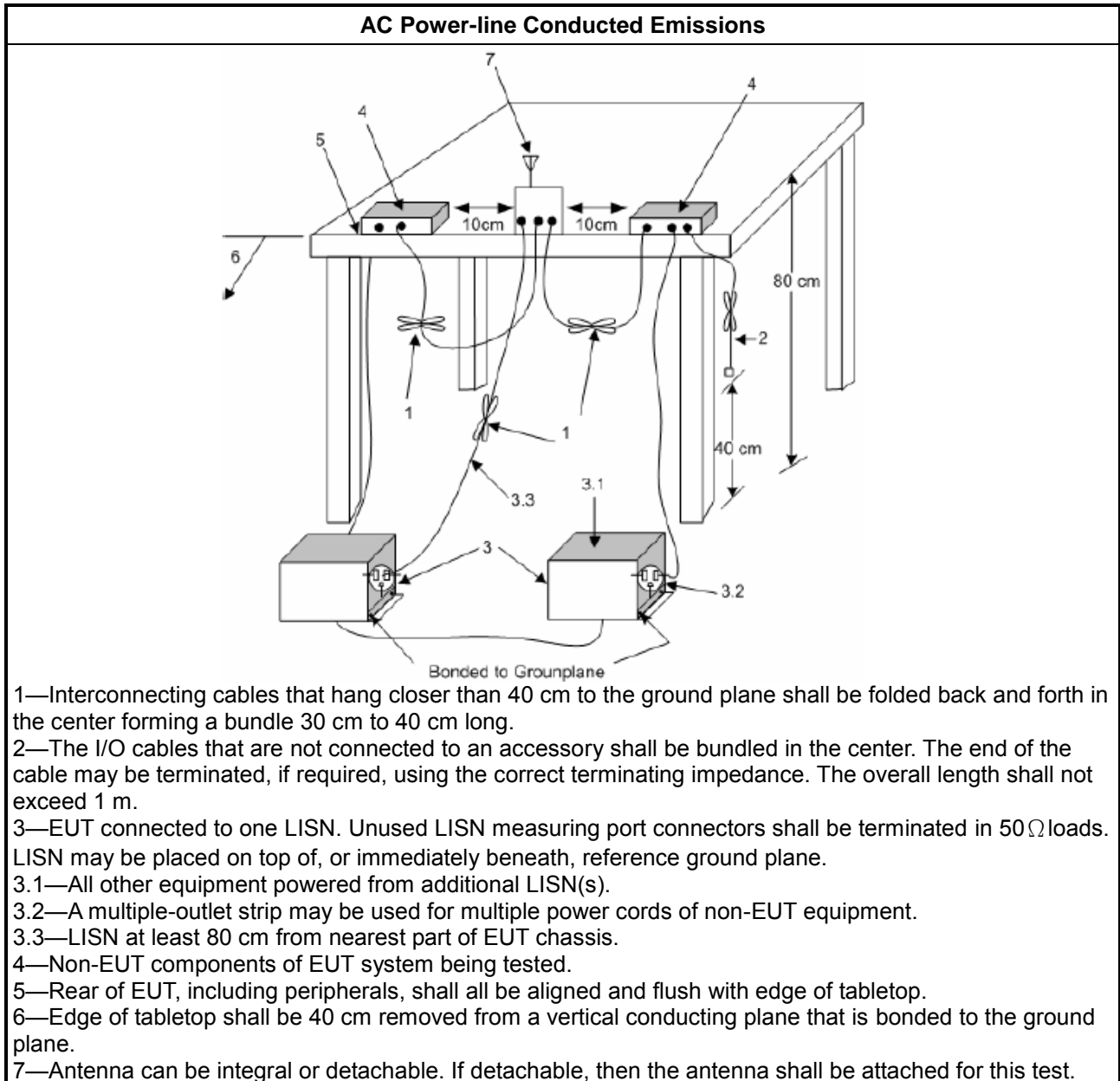
Test Method	
<input checked="" type="checkbox"/>	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.
<input checked="" type="checkbox"/>	If AC conducted emissions fall in operating band, then following below test method confirm final result.
<input type="checkbox"/>	Accept measurements 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.
<input checked="" type="checkbox"/>	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

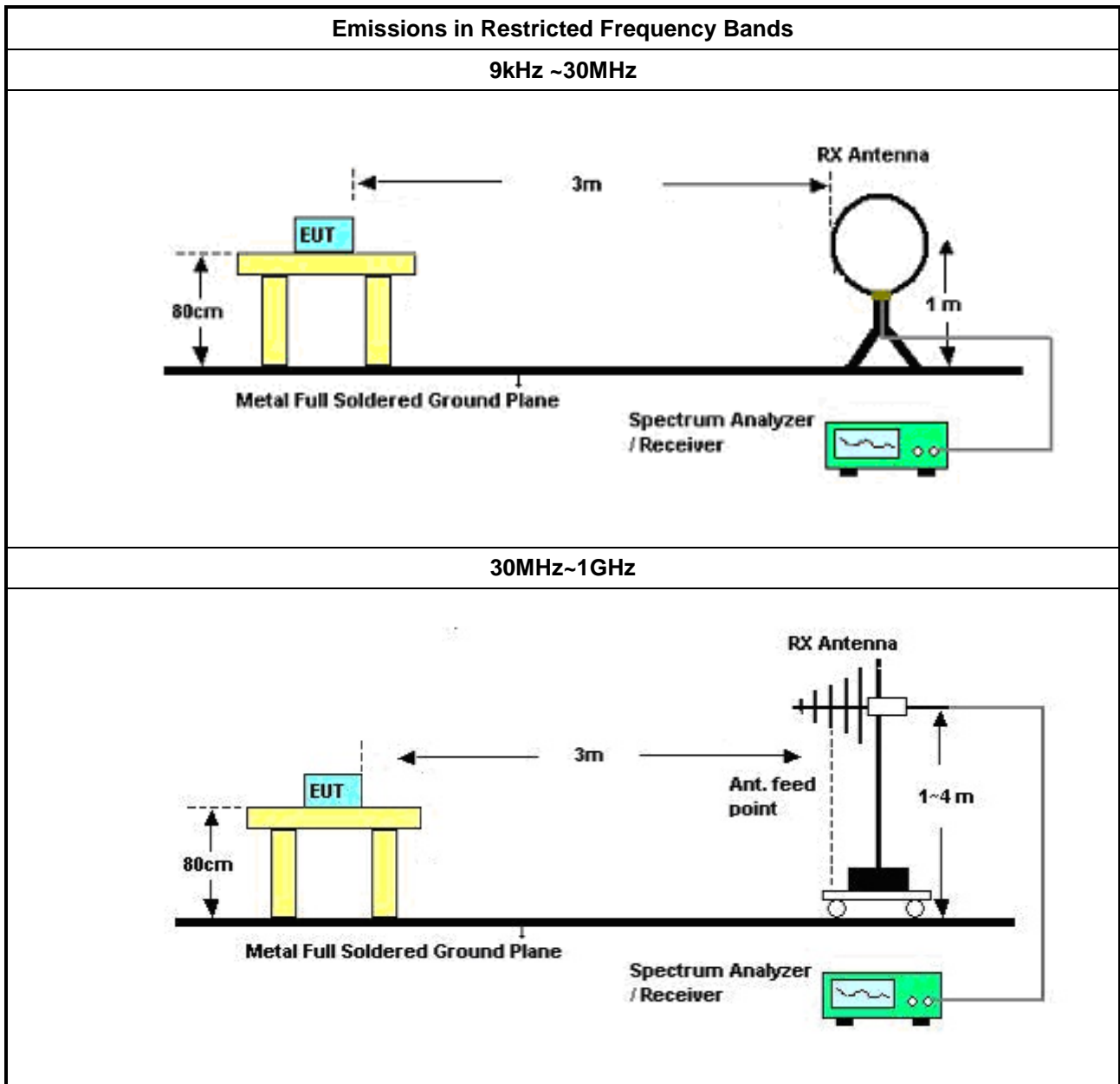
Test Method	
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m.
<input checked="" type="checkbox"/>	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 30MHz measurements employing a CISPR quasi-peak detector. Test distance is 3 m.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	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.
<input checked="" type="checkbox"/>	The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	The any unwanted emissions level shall not exceed the fundamental emission level.
<input checked="" type="checkbox"/>	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
<input checked="" type="checkbox"/>	KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
<input checked="" type="checkbox"/>	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.
<input checked="" type="checkbox"/>	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(Preamp 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

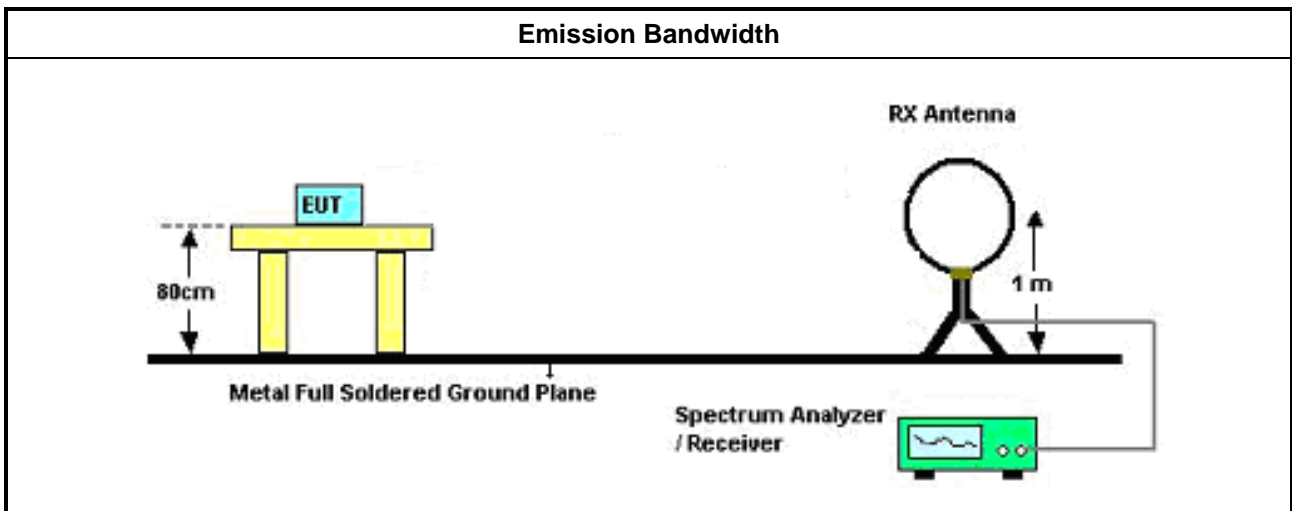
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> 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.
<input checked="" type="checkbox"/> 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	ESR3	102051	9kHz ~ 3.6GHz	21/May/2021	20/May/2022
LISN	R&S	ENV216	100003	9kHz ~ 30MHz	15/Dec/2020	14/Dec/2021
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9kHz~200MHz	03/Mar/2021	02/Mar/2022
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	26/Oct/2021	25/Oct/2022

Instrument for Conducted Test

Instrument	Manufacturer / Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101029	10Hz~40GHz	20/Oct/2021	19/Oct/2022

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	03/Aug/2021	02/Aug/2022
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	12/Oct/2021	11/Oct/2022
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	13/Apr/2021	12/Apr/2022
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMC1	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	17/Oct/2021	16/Oct/2022
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	16/Jun/2021	15/Jun/2022
RF Cable-R03m	Jye Bao	RG142	MY37335/4+CB021-1+CB021-2	30MHz~1GHz	17/Mar/2021	16/Mar/2022
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	19/Apr/2021	18/Apr/2022



Summary

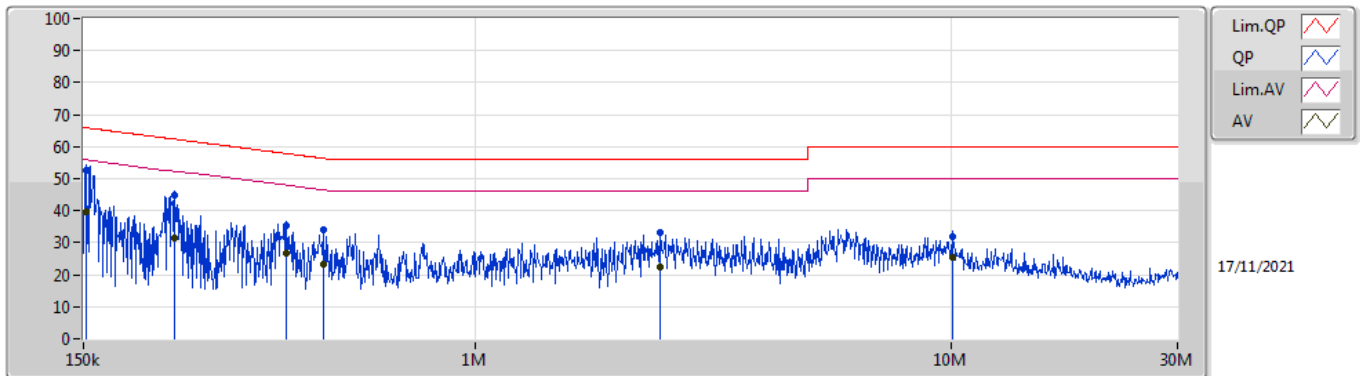
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	151.807k	52.73	65.90	-13.17	Line



Result

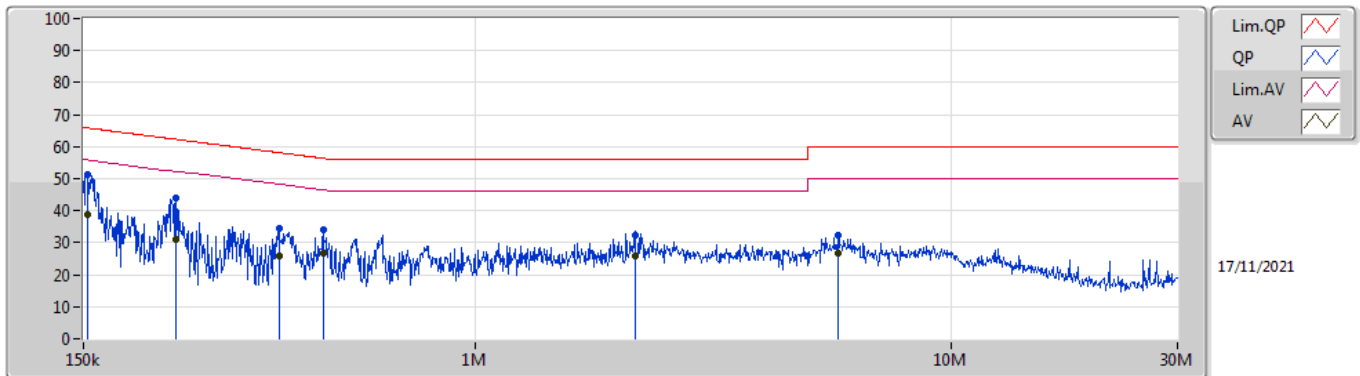
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	151.807k	52.73	65.90	-13.17	Line	-
Mode 1	Pass	AV	151.807k	39.87	55.90	-16.03	Line	-
Mode 1	Pass	QP	233.633k	44.87	62.31	-17.44	Line	-
Mode 1	Pass	AV	233.633k	31.56	52.31	-20.75	Line	-
Mode 1	Pass	QP	400.483k	35.46	57.84	-22.38	Line	-
Mode 1	Pass	AV	400.483k	26.60	47.84	-21.24	Line	-
Mode 1	Pass	QP	479.294k	33.86	56.34	-22.48	Line	-
Mode 1	Pass	AV	479.294k	23.24	46.34	-23.10	Line	-
Mode 1	Pass	QP	2.443M	32.99	56.00	-23.01	Line	-
Mode 1	Pass	AV	2.443M	22.62	46.00	-23.38	Line	-
Mode 1	Pass	QP	10.079M	31.69	60.00	-28.31	Line	-
Mode 1	Pass	AV	10.079M	25.54	50.00	-24.46	Line	-
Mode 1	Pass	QP	153.024k	51.43	65.83	-14.40	Neutral	-
Mode 1	Pass	AV	153.024k	38.96	55.83	-16.87	Neutral	-
Mode 1	Pass	QP	234.567k	43.76	62.29	-18.53	Neutral	-
Mode 1	Pass	AV	234.567k	30.88	52.29	-21.41	Neutral	-
Mode 1	Pass	QP	386.35k	34.41	58.14	-23.73	Neutral	-
Mode 1	Pass	AV	386.35k	25.89	48.14	-22.25	Neutral	-
Mode 1	Pass	QP	479.294k	33.91	56.34	-22.43	Neutral	-
Mode 1	Pass	AV	479.294k	26.64	46.34	-19.70	Neutral	-
Mode 1	Pass	QP	2.167M	32.45	56.00	-23.55	Neutral	-
Mode 1	Pass	AV	2.167M	25.97	46.00	-20.03	Neutral	-
Mode 1	Pass	QP	5.81M	32.49	60.00	-27.51	Neutral	-
Mode 1	Pass	AV	5.81M	26.57	50.00	-23.43	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	151.807k	52.73	65.90	-13.17	19.64	Line	-	33.09	9.69	0.04	9.91			
AV	151.807k	39.87	55.90	-16.03	19.64	Line	-	20.23	9.69	0.04	9.91			
QP	233.633k	44.87	62.31	-17.44	19.63	Line	-	25.24	9.68	0.04	9.91			
AV	233.633k	31.56	52.31	-20.75	19.63	Line	-	11.93	9.68	0.04	9.91			
QP	400.483k	35.46	57.84	-22.38	19.64	Line	-	15.82	9.67	0.06	9.91			
AV	400.483k	26.60	47.84	-21.24	19.64	Line	-	6.96	9.67	0.06	9.91			
QP	479.294k	33.86	56.34	-22.48	19.64	Line	-	14.22	9.67	0.06	9.91			
AV	479.294k	23.24	46.34	-23.10	19.64	Line	-	3.60	9.67	0.06	9.91			
QP	2.443M	32.99	56.00	-23.01	19.72	Line	-	13.27	9.69	0.11	9.92			
AV	2.443M	22.62	46.00	-23.38	19.72	Line	-	2.90	9.69	0.11	9.92			
QP	10.079M	31.69	60.00	-28.31	19.92	Line	-	11.77	9.79	0.20	9.93			
AV	10.079M	25.54	50.00	-24.46	19.92	Line	-	5.62	9.79	0.20	9.93			

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	153.024k	51.43	65.83	-14.40	19.64	Neutral	-	31.79	9.69	0.04	9.91			
AV	153.024k	38.96	55.83	-16.87	19.64	Neutral	-	19.32	9.69	0.04	9.91			
QP	234.567k	43.76	62.29	-18.53	19.63	Neutral	-	24.13	9.68	0.04	9.91			
AV	234.567k	30.88	52.29	-21.41	19.63	Neutral	-	11.25	9.68	0.04	9.91			
QP	386.35k	34.41	58.14	-23.73	19.64	Neutral	-	14.77	9.67	0.06	9.91			
AV	386.35k	25.89	48.14	-22.25	19.64	Neutral	-	6.25	9.67	0.06	9.91			
QP	479.294k	33.91	56.34	-22.43	19.64	Neutral	-	14.27	9.67	0.06	9.91			
AV	479.294k	26.64	46.34	-19.70	19.64	Neutral	-	7.00	9.67	0.06	9.91			
QP	2.167M	32.45	56.00	-23.55	19.70	Neutral	-	12.75	9.68	0.10	9.92			
AV	2.167M	25.97	46.00	-20.03	19.70	Neutral	-	6.27	9.68	0.10	9.92			
QP	5.81M	32.49	60.00	-27.51	19.83	Neutral	-	12.66	9.75	0.16	9.92			
AV	5.81M	26.57	50.00	-23.43	19.83	Neutral	-	6.74	9.75	0.16	9.92			



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
WPT	-	-	-	-	-	-	-	-	-	-	-	-
100-300kHz	Pass	PK	51.34M	20.75	40.00	-19.25	-13.67	3	Vertical	0	1.00	-



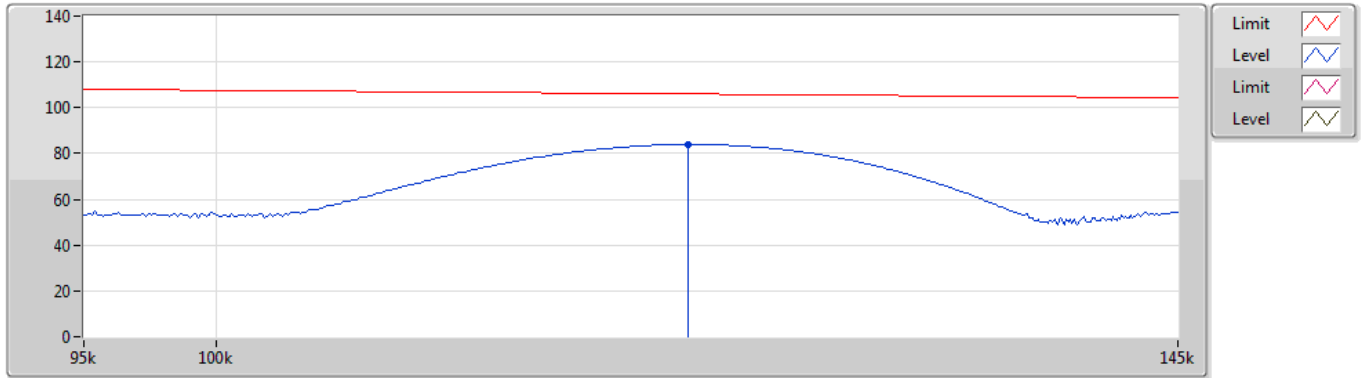
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
100-300kHz	-	-	-	-	-	-	-	-	-	-	-	-
0.12MHz_TX	Pass	PK	120k	83.94	106.01	-22.07	20.06	3	Horizontal	0	1.00	-
0.12MHz_TX	Pass	PK	77.244k	66.25	109.83	-43.58	20.36	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	98.676k	41.85	107.71	-65.86	19.97	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	104.034k	42.08	107.25	-65.17	19.98	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	3.016M	41.39	69.50	-28.11	20.34	3	Horizontal	0	1.00	-
0.12MHz_TX	Pass	PK	8.986M	40.28	69.50	-29.22	22.44	3	Horizontal	0	1.00	-
0.12MHz_TX	Pass	PK	12.747M	39.66	69.50	-29.84	23.10	3	Horizontal	0	1.00	-

100-300kHz

15/11/2021

0.12MHz_TX

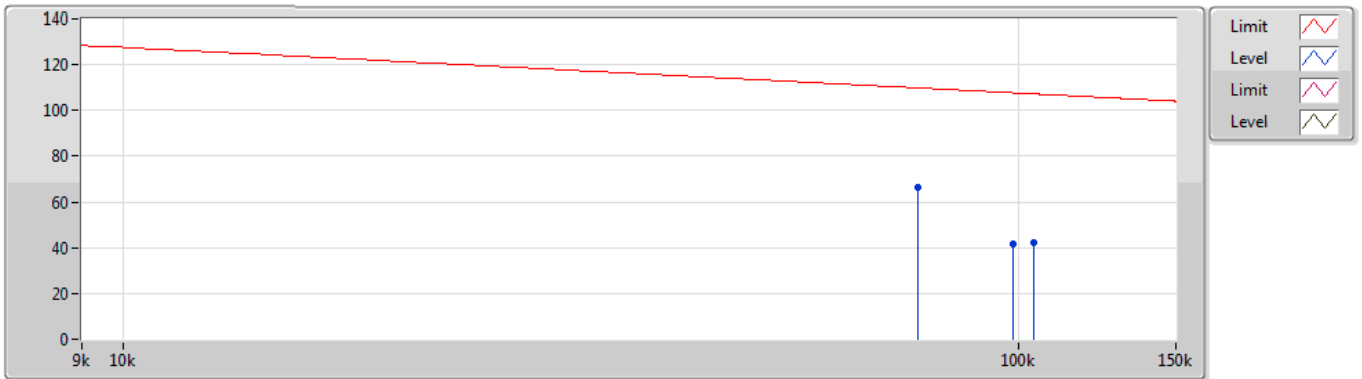


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	120k	83.94	106.01	-22.07	20.06	3	Horizontal	0	1.00	-	63.88	20.00	0.06	-

100-300kHz

15/11/2021

0.12MHz_TX

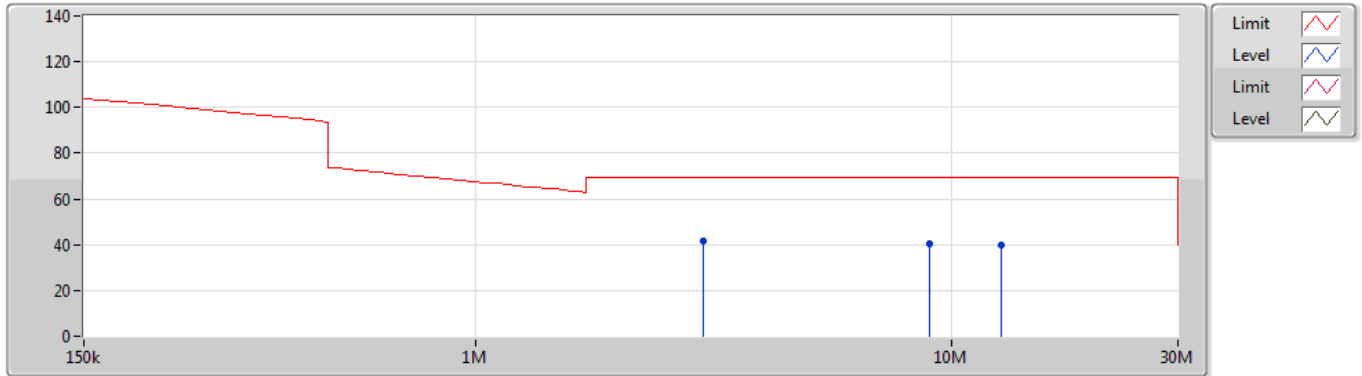


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	77.244k	66.25	109.83	-43.58	20.36	3	Horizontal	360	1.00	-	45.89	20.31	0.05	-
PK	98.676k	41.85	107.71	-65.86	19.97	3	Horizontal	360	1.00	-	21.88	19.92	0.05	-
PK	104.034k	42.08	107.25	-65.17	19.98	3	Horizontal	360	1.00	-	22.10	19.92	0.06	-

100-300kHz

15/11/2021

0.12MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	3.016M	41.39	69.50	-28.11	20.34	3	Horizontal	0	1.00	-	21.05	20.10	0.24	-
PK	8.986M	40.28	69.50	-29.22	22.44	3	Horizontal	0	1.00	-	17.84	22.01	0.43	-
PK	12.747M	39.66	69.50	-29.84	23.10	3	Horizontal	0	1.00	-	16.56	22.58	0.52	-



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
WPT	-	-	-	-	-	-	-	-	-	-	-	-
100-300kHz	Pass	PK	158.04M	33.30	43.50	-10.20	-10.10	3	Horizontal	360	1.00	-



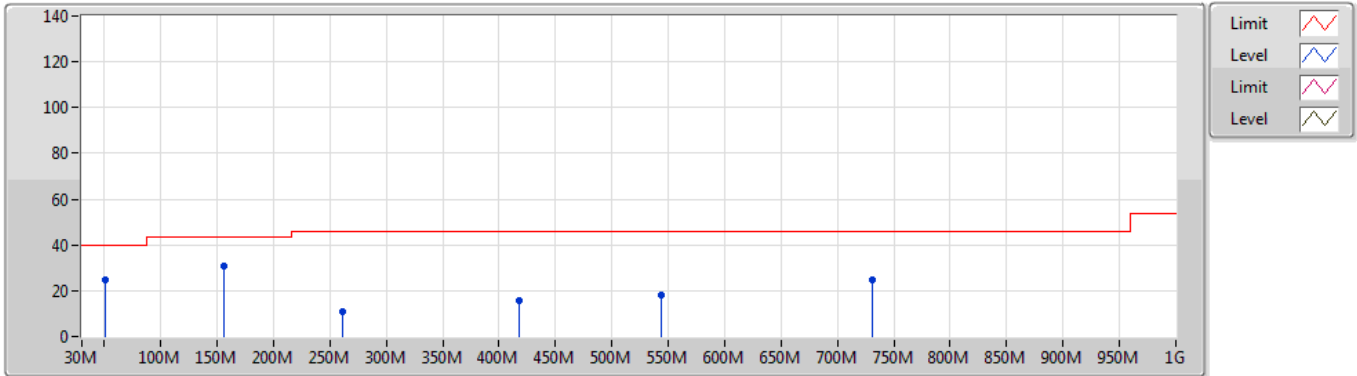
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
100-300kHz	-	-	-	-	-	-	-	-	-	-	-	-
0.12MHz_TX	Pass	PK	51.34M	24.88	40.00	-15.12	-13.67	3	Vertical	0	1.00	-
0.12MHz_TX	Pass	PK	156.1M	30.53	43.50	-12.97	-10.06	3	Vertical	0	1.00	-
0.12MHz_TX	Pass	PK	260.86M	11.14	46.00	-34.86	-5.40	3	Vertical	0	1.00	-
0.12MHz_TX	Pass	PK	418M	15.90	46.00	-30.10	-2.10	3	Vertical	0	1.00	-
0.12MHz_TX	Pass	PK	544.1M	18.00	46.00	-28.00	0.25	3	Vertical	0	1.00	-
0.12MHz_TX	Pass	PK	730.34M	24.95	46.00	-21.05	1.48	3	Vertical	0	1.00	-
0.12MHz_TX	Pass	PK	57.16M	17.07	40.00	-22.93	-14.56	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	158.04M	33.30	43.50	-10.20	-10.10	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	258.92M	12.10	46.00	-33.90	-5.45	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	418M	16.87	46.00	-29.13	-2.10	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	538.28M	19.88	46.00	-26.12	0.04	3	Horizontal	360	1.00	-
0.12MHz_TX	Pass	PK	722.58M	24.46	46.00	-21.54	1.23	3	Horizontal	360	1.00	-

100-300kHz

15/11/2021

0.12MHz_TX

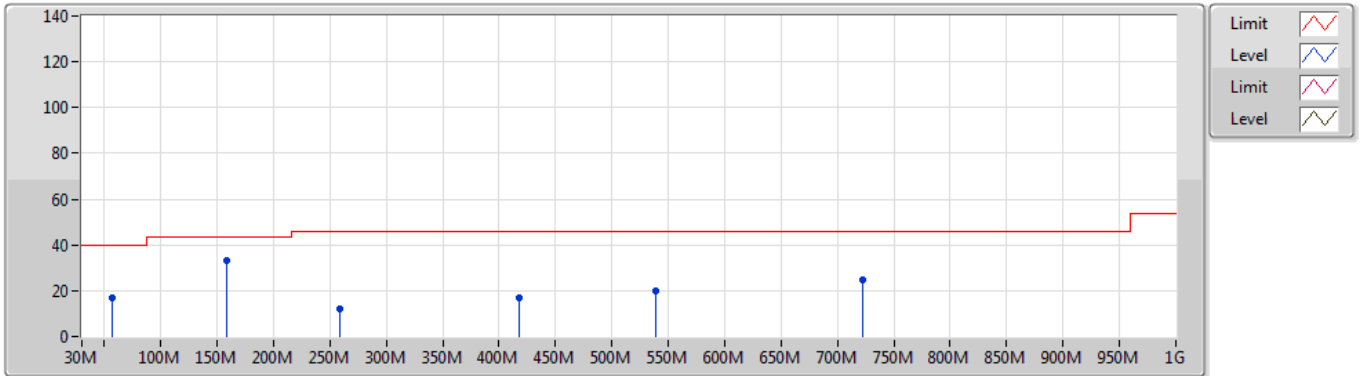


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	51.34M	24.88	40.00	-15.12	-13.67	3	Vertical	0	1.00	-	38.55	12.79	1.16	27.62
PK	156.1M	30.53	43.50	-12.97	-10.06	3	Vertical	0	1.00	-	40.59	15.06	2.10	27.22
PK	260.86M	11.14	46.00	-34.86	-5.40	3	Vertical	0	1.00	-	16.54	18.62	2.72	26.74
PK	418M	15.90	46.00	-30.10	-2.10	3	Vertical	0	1.00	-	18.00	21.80	3.53	27.43
PK	544.1M	18.00	46.00	-28.00	0.25	3	Vertical	0	1.00	-	17.75	24.28	4.06	28.09
PK	730.34M	24.95	46.00	-21.05	1.48	3	Vertical	0	1.00	-	23.47	24.76	4.73	28.01

100-300kHz

15/11/2021

0.12MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	57.16M	17.07	40.00	-22.93	-14.56	3	Horizontal	360	1.00	-	31.63	11.81	1.24	27.61
PK	158.04M	33.30	43.50	-10.20	-10.10	3	Horizontal	360	1.00	-	43.40	14.99	2.12	27.21
PK	258.92M	12.10	46.00	-33.90	-5.45	3	Horizontal	360	1.00	-	17.55	18.57	2.71	26.73
PK	418M	16.87	46.00	-29.13	-2.10	3	Horizontal	360	1.00	-	18.97	21.80	3.53	27.43
PK	538.28M	19.88	46.00	-26.12	0.04	3	Horizontal	360	1.00	-	19.84	24.04	4.03	28.03
PK	722.58M	24.46	46.00	-21.54	1.23	3	Horizontal	360	1.00	-	23.23	24.54	4.71	28.02

Summary

Mode	15dB (Hz)	FI-15dB (Hz)	Fh-15dB (Hz)	OBW (Hz)	Limit (Range)
0.12M	-	-	-	-	-
WPC	2.418k	118.78000k	121.19750k	2.734k	-

Result

Mode	Result	15dB (Hz)	FI-15dB (Hz)	Fh-15dB (Hz)	OBW (Hz)	FI-OBW (Hz)	Fh-OBW (Hz)	Limit (Range)
WPC	-	-	-	-	-	-	-	-
0.12MHz_TnomVnom	Pass	2.418k	118.78000k	121.19750k	2.734k	118.73563k	121.46927k	-

WPC

EBW

0.12MHz_TnomVnom

Ch Freq
120kHz

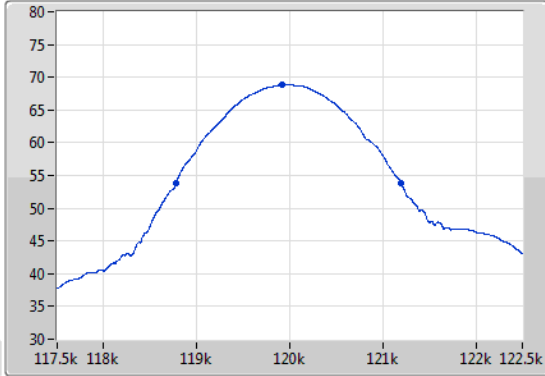
Span
5kHz

RBW
1kHz

VBW
3kHz

Sweep Time
10ms

Detector Type
Peak



Ch Freq
120kHz

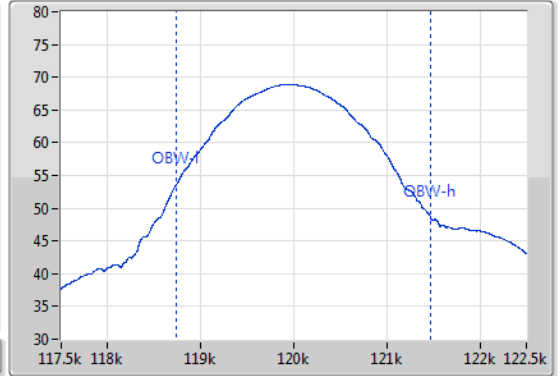
Span
5kHz

RBW
1kHz

VBW
3kHz

Sweep Time
10ms

Detector Type
Peak



15dB(Hz)	Fl-15dB(Hz)	Fh-15dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Range)
2.418k	118.78000k	121.19750k	2.734k	118.73563k	121.46927k	-