

FCC RADIO TEST REPORT

FCC ID : PXT-RFDP-01

Equipment : RECHARGEABLE FALL DETECT PENDANT

Brand Name : RECHARGEABLE FALL BUTTON

Model Name : RFDP-01

Applicant : MobileHelp LLC
5050 Conference Way N, Suite 125, Boca Raton,
FL 33431, United States

Manufacturer : Daviscomms (Malaysia) Sdn Bhd
Plot 324A, Lorong Perindustrian Bukit Minyak 20,
MK13, Penang Science Park, 14100 Simpang
Ampat, Pulau Pinang

Standard : 47 CFR FCC Part 15.231

The product was received on Jan. 02, 2020, and testing was started from Jan. 07, 2020 and completed on Jan. 07, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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TEL : 886-3-327-3456
FAX : 886-3-327-0973
Report Template No.: HE1-C7 Ver2.1

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	Not Required	-
3.2	15.231(c)	Emission Bandwidth	PASS	-
3.3	15.231(b)/(e)	Fundamental Emissions	PASS	-
3.4	15.231(b)/(e)	Transmitter Radiated Unwanted Emissions	PASS	-
3.5	15.231(a)/(e)	Operation Restriction	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: Amber Chiu

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information				
Frequency Range (MHz)	Modulation	Ch. Frequency (MHz)	Channel Number	Fundamental Field Strength (dBuV/m)
433.92	ASK	433.92	1	75.51
Note 1: Field strength performed average level at 3m.				

1.1.2 Antenna Information

Antenna Category	
☒	Internal antenna (antenna permanently attached)
☐	External antenna (dedicated antennas) ; Unique antenna connector

Antenna General Information				
No.	Brand	Model	Ant. Type	Gain (dBi)
1	-	-	Omnidirectional	-18.8

1.1.3 Type of EUT

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 EUT Operational Condition

Supply Voltage	☒ AC mains	☒ DC	
Type of DC Source	☐ Internal DC supply	☒ External adapter	☒ Battery

1.1.5 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)	Duty Cycle Correction Factor [dB] – (20 log x)
☒ 100%	0

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

1.3 Testing Location Information

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)	
		TEL : 886-3-656-9065	FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conducted	CO04-HY	Edward Wang	23.3~24.2°C / 63~64%	07/Jan/2020
RF Conducted	TH06-HY	Gary Wang	23.1~26.6°C / 61~69%	07/Jan/2020
Radiated Emission	03CH02-HY	Edward Wang	22.1~23.2°C / 60~65%	07/Jan/2020

1.4 Measurement Uncertainty

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

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

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Modulation Used for Conformance Testing	
Test Mode	Field Strength (dBuV/m at 3 m)
ASK	75.51

2.2 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
Test Mode	Test Channel Frequencies (MHz)
ASK	433.92

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emission Bandwidth, Fundamental Emissions, Radiated Unwanted Emissions		
Test Condition	Radiated measurement		
User Position	☐ EUT will be placed in fixed position.		
	☐ EUT will be placed in mobile position and operating multiple positions.		
	☒ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.		
Operating Mode < 1GHz	1. Battery Mode		
	2. Charging Mode		
Operating Mode > 1GHz	1. Battery Mode		
Test Mode	ASK		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V		

The Worst Case Mode for Following Conformance Tests	
Tests Item	Operation Restriction (silent time and operated time)
Test Condition	Conducted measurement
Test Mode	Operated normally mode for worst duty cycle condition.

2.4 Support Equipment

Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Adapter	BP	SW0501000-A04	N/A
2	AC Power Cable	Power sync	PW-GPC180-3	N/A
3	Battery Charging Cradle	N/A	N/A	N/A

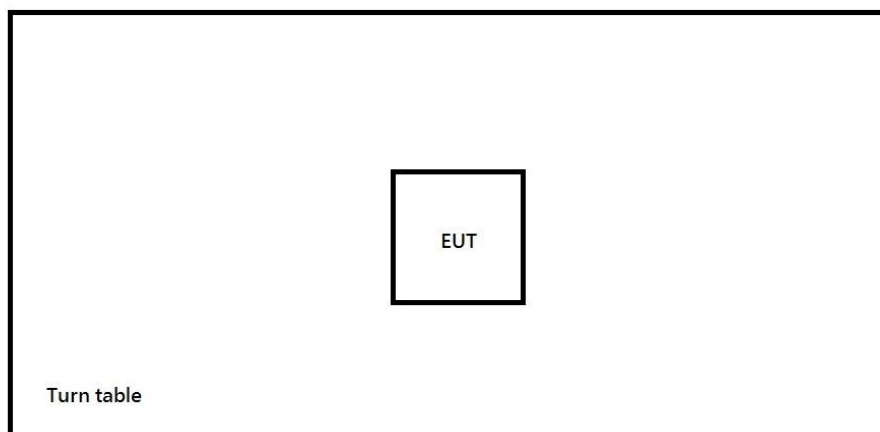
Note: Support equipment No.1 & 3 was provided by customer.

Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Adapter	BP	SW0501000-A04	N/A
2	AC Power Cable	Power sync	PW-GPC180-3	N/A
3	Battery Charging Cradle	N/A	N/A	N/A

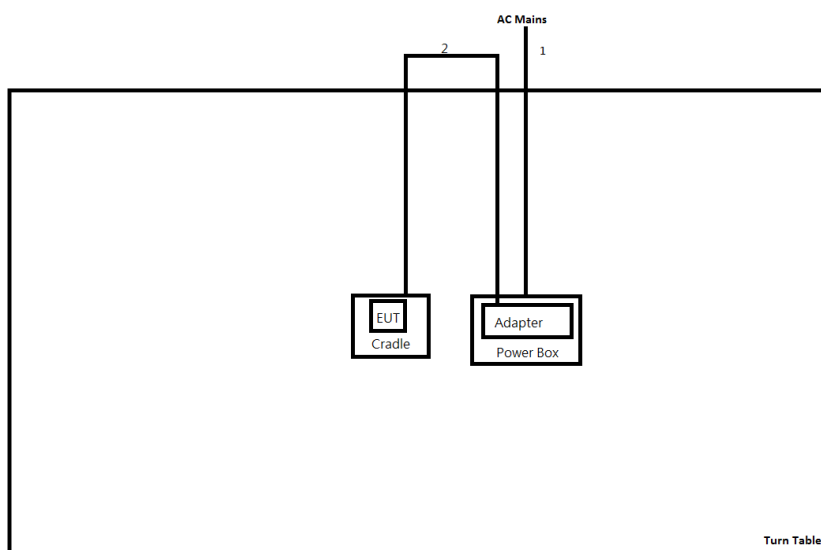
Note: Support equipment No.1 & 3 was provided by customer.

2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test- Battery mode



Test Setup Diagram - Radiated Test - Charging mode



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8m	
2	DC Power Cable	No	1.0m	

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.

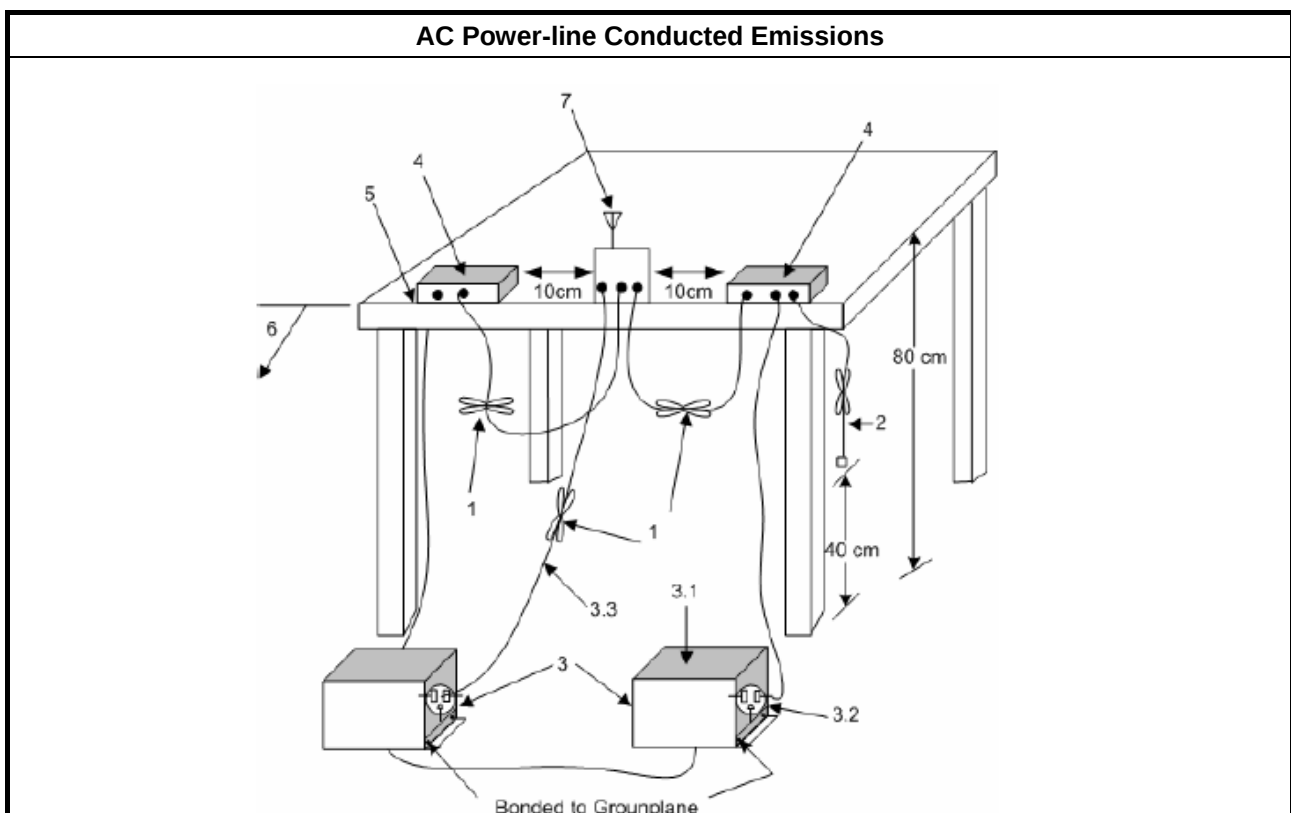
3.1.2 Measuring Instruments

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.

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
☒	Emission bandwidth falls completely within authorized band.
☒	$F_c(70\sim 900\text{MHz}): BW \leq f_c \times 0.25\%$
☐	$F_c(>900\text{MHz}): BW \leq f_c \times 0.5\%$

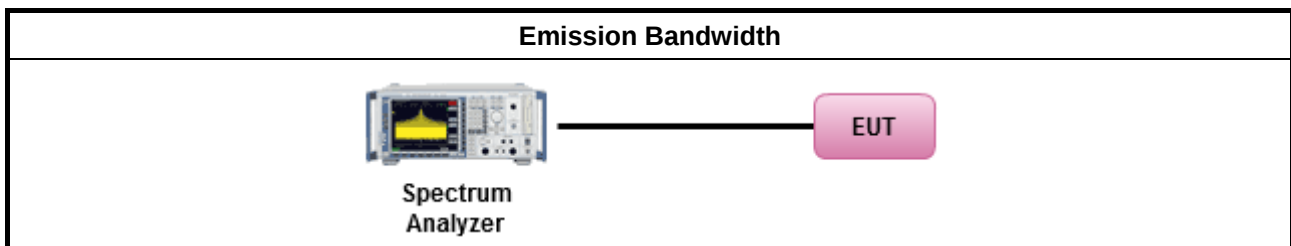
3.2.2 Measuring Instruments

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 6.9.3 for 20 dB emission bandwidth and 99% occupied bandwidth measurement.

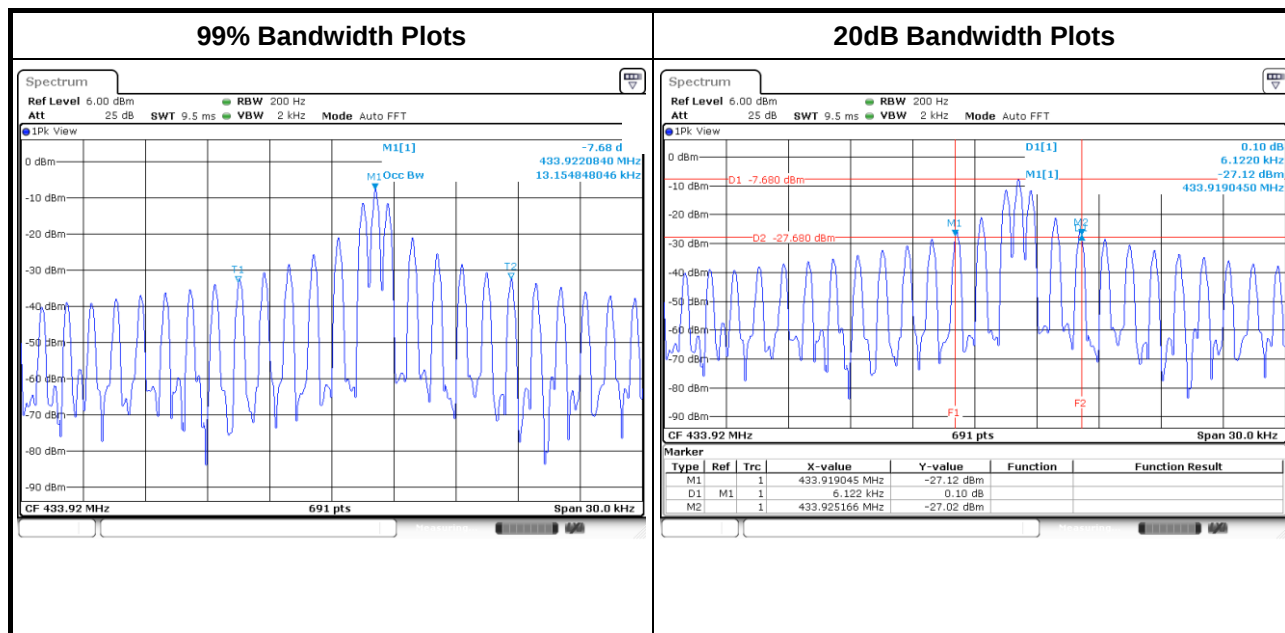
3.2.4 Test Setup





3.2.5 Test Result of Emission Bandwidth

Emission Bandwidth Result			
Modulation Mode	Frequency (MHz)	99% Bandwidth (kHz)	20dB BW (kHz)
ASK	433.92	13.15	6.12
Limit		N/A	1084.8
Result		Complied	



3.3 Fundamental Emissions

3.3.1 Fundamental Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Frequency Band (MHz)	Fundamental Limit (uV/m) at 3m	Fundamental Limit (dBuV/m) at 3m
40.66-40.70	2250	67
70-130	1250	61.9
130-174	1250-3750(**)	61.9-71.5
174-260	3750	71.5
260-470	3750-12500(**)	71.5-81.9
Above 470	12500	81.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Frequency Band (MHz)	Fundamental Limit (uV/m) at 3m	Fundamental Limit (dBuV/m) at 3m
40.66-40.70	1000	60
70-130	500	54
130-174	500-1500(**)	54-63.5
174-260	1500	63.5
260-470	1500-5000(**)	63.5-74
Above 470	5000	74
** 1. Linear interpolations. Based on the average value of the measured emissions.		

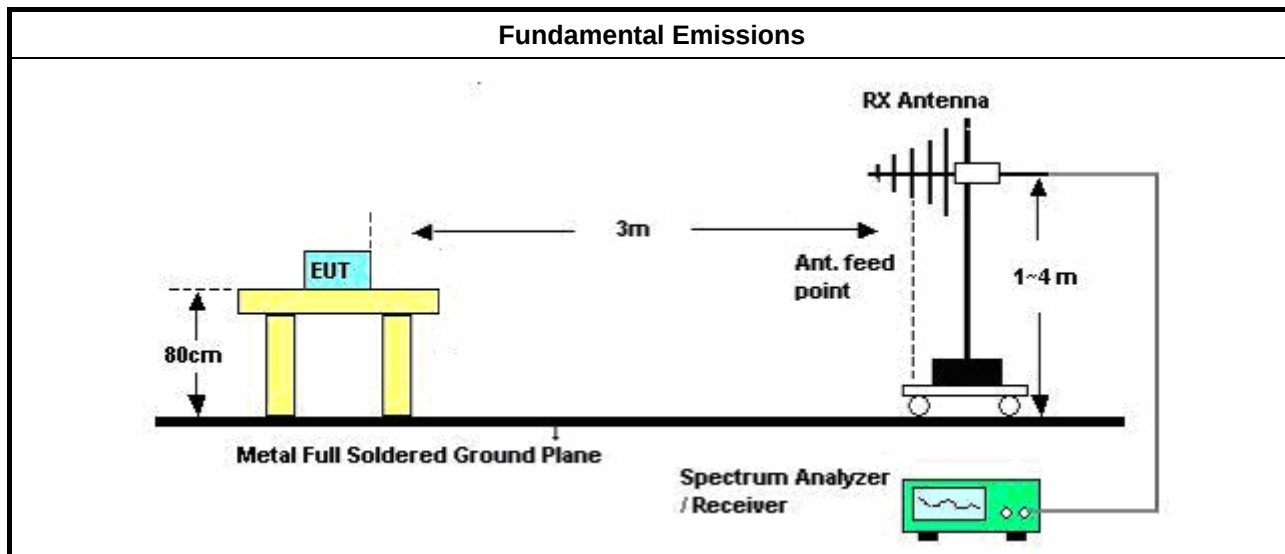
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

☒	For the transmitter emissions shall be measured using following options below:
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle $\geq$ 100%.
☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20\log(\text{dwell time}/100 \text{ ms})$. Average emission = peak emission + 20 log (duty cycle).
☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions

3.3.4 Test Setup



3.3.5 Test Result of Fundamental Emissions

Field Strength of Fundamental Emissions Result					
Modulation Mode	Frequency (MHz)	Fundamental (dBuV/m)@3m	Margin (dB)	Limit (dBuV/m)@3m	Type
ASK	433.92	75.51	5.31	80.82	Average
ASK	433.92	75.90	24.92	100.82	Peak
Result		Complied			
Note 1: Measurement worst emissions of receive antenna polarization: Horizontal					
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).					

3.4 Transmitter Radiated Unwanted Emissions

3.4.1 Transmitter Radiated Unwanted Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	Spurious Limit (uV/m) at 3m	Spurious Limit (dBuV/m) at 3m
40.66-40.70	225	47
70-130	125	41.9
130-174	125-375(**)	41.9-51.5
174-260	375	51.5
260-470	375-1250(**)	51.5-61.9
Above 470	1250	61.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	Spurious Limit (uV/m) at 3m	Spurious Limit (dBuV/m) at 3m
40.66-40.70	100	40
70-130	50	34
130-174	50-150(**)	34-43.5
174-260	150	43.5
260-470	150-500(**)	43.5-54
Above 470	500	54
** 1. Linear interpolations Based on the average value of the measured emissions.		

3.4.2 Measuring Instruments

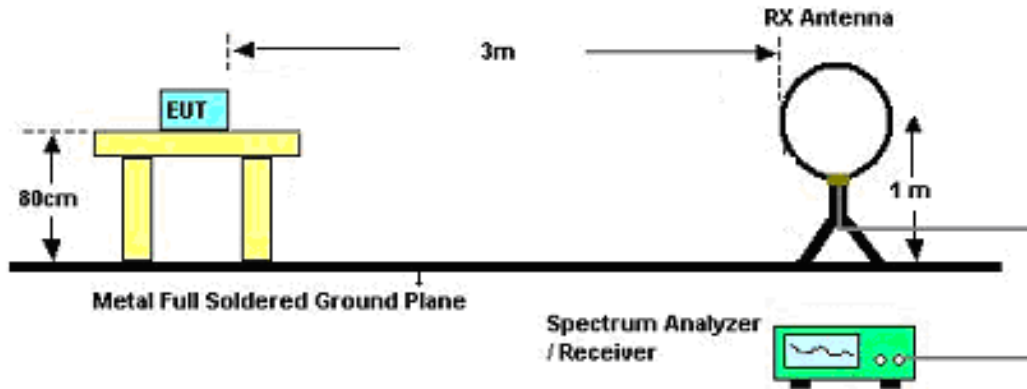
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method – General Information	
☒	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
☐	Refer as ANSI C63.10, clause 6.10.3 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
☒	For the transmitter unwanted emissions shall be measured using following options below:
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle $\geq$ 100%.
☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20\log$ (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For the transmitter bandedge emissions shall be measured using following options below:
☒	Refer as ANSI C63.10, clause 6.10 for band-edge testing.
☐	Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.
☒	For radiated measurement.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
☒	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.

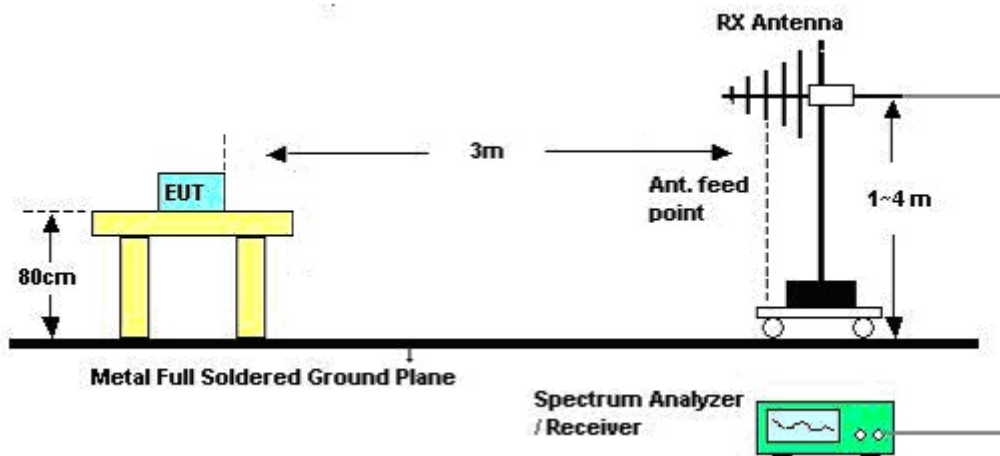
3.4.4 Test Setup

Transmitter Spurious and Out of Band Emissions (9 kHz - 30 MHz)

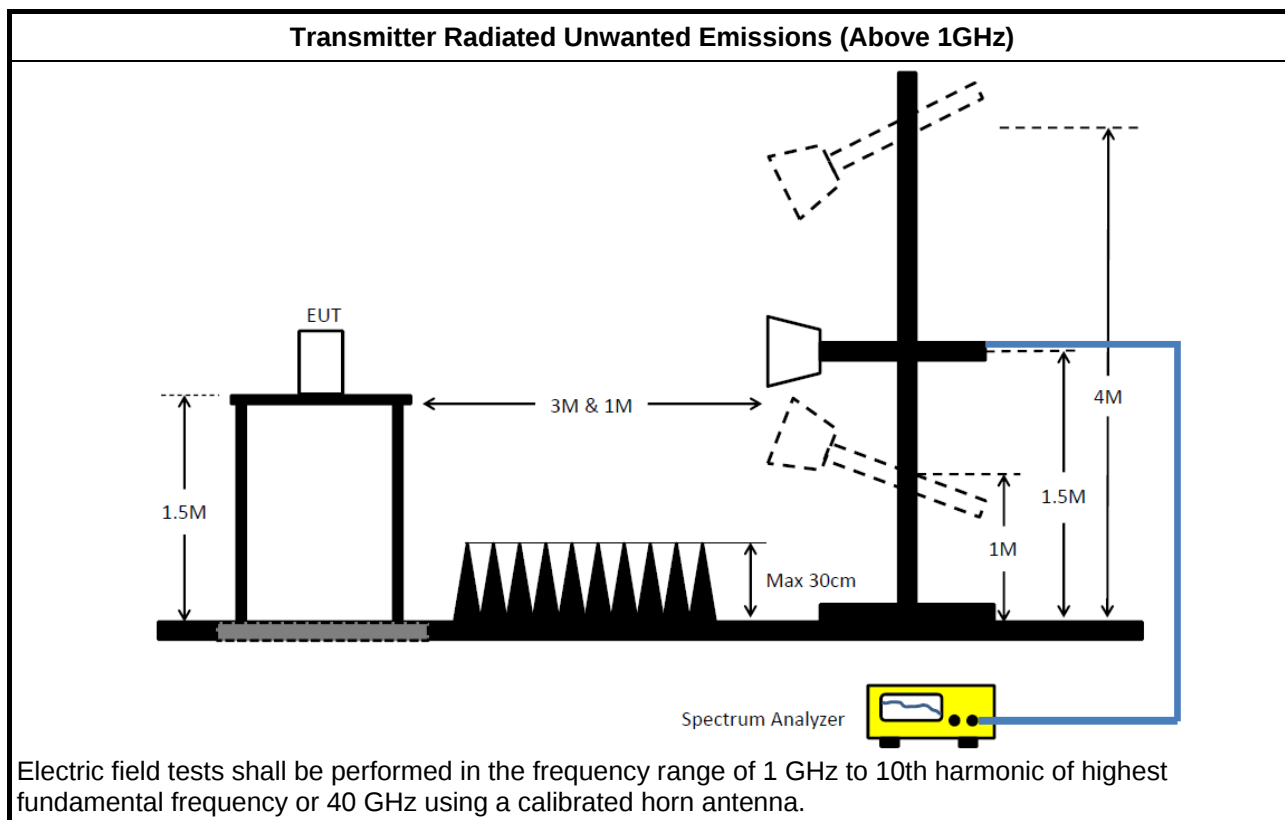


Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

Transmitter Radiated Unwanted Emissions (below 1GHz)



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna.



3.4.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

3.4.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
0.4G	-	-	-	-	-	-	-	-	-	-	-
SRD	Pass	PK	37.76M	36.99	40.00	-3.01	3	Vertical	0	1.00	-

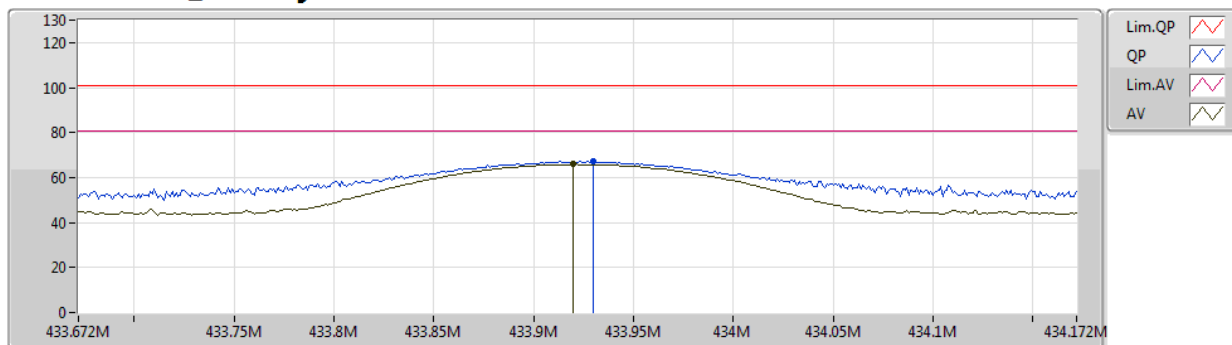


Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
SRD	-	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	433.92M	65.88	80.82	-14.94	3	Vertical	253	1.05	-
433.92MHz	Pass	PK	433.93M	67.04	100.82	-33.78	3	Vertical	253	1.05	-
433.92MHz	Pass	AV	433.92M	75.51	80.82	-5.31	3	Horizontal	10	2.38	-
433.92MHz	Pass	PK	433.92M	75.90	100.82	-24.92	3	Horizontal	10	2.38	-
433.92MHz	Pass	PK	867.84M	38.51	100.82	-62.31	3	Vertical	73	1.77	-
433.92MHz	Pass	AV	867.84M	35.26	80.82	-45.56	3	Vertical	73	1.77	-
433.92MHz	Pass	PK	867.85M	48.84	100.82	-51.98	3	Horizontal	189	0.99	-
433.92MHz	Pass	AV	867.85M	48.00	80.82	-32.82	3	Horizontal	189	0.99	-
433.92MHz	Pass	PK	90.14M	32.50	43.50	-11.00	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	119.24M	33.99	43.50	-9.51	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	249.22M	25.48	46.00	-20.52	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	536.34M	30.93	46.00	-15.07	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	631.4M	31.62	46.00	-14.38	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	722.58M	36.00	46.00	-10.00	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	41.64M	23.68	40.00	-16.32	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	90.14M	24.57	43.50	-18.93	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	216M	27.06	43.50	-16.44	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	551.86M	30.10	46.00	-15.90	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	637.22M	31.27	46.00	-14.73	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	740.04M	31.58	46.00	-14.42	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	714.82M	34.16	46.00	-11.84	3	Vertical	0	1.00	-
433.92MHz	Pass	PK	538.28M	30.37	46.00	-15.63	3	Vertical	0	1.00	-
433.92MHz	Pass	PK	301.6M	27.98	46.00	-18.02	3	Vertical	0	1.00	-
433.92MHz	Pass	PK	90.14M	35.51	43.50	-7.99	3	Vertical	0	1.00	-
433.92MHz	Pass	PK	37.76M	36.99	40.00	-3.01	3	Vertical	0	1.00	-
433.92MHz	Pass	PK	982.54M	34.33	54.00	-19.67	3	Vertical	0	1.00	-
433.92MHz	Pass	PK	90.14M	28.30	43.50	-15.20	3	Horizontal	360	1.00	-
433.92MHz	Pass	PK	158.04M	21.96	43.50	-21.54	3	Horizontal	360	1.00	-
433.92MHz	Pass	PK	282.2M	24.56	46.00	-21.44	3	Horizontal	360	1.00	-
433.92MHz	Pass	PK	520.82M	29.33	46.00	-16.67	3	Horizontal	360	1.00	-
433.92MHz	Pass	PK	778.84M	31.70	46.00	-14.30	3	Horizontal	360	1.00	-
433.92MHz	Pass	PK	897.18M	32.74	46.00	-13.26	3	Horizontal	360	1.00	-

SRD

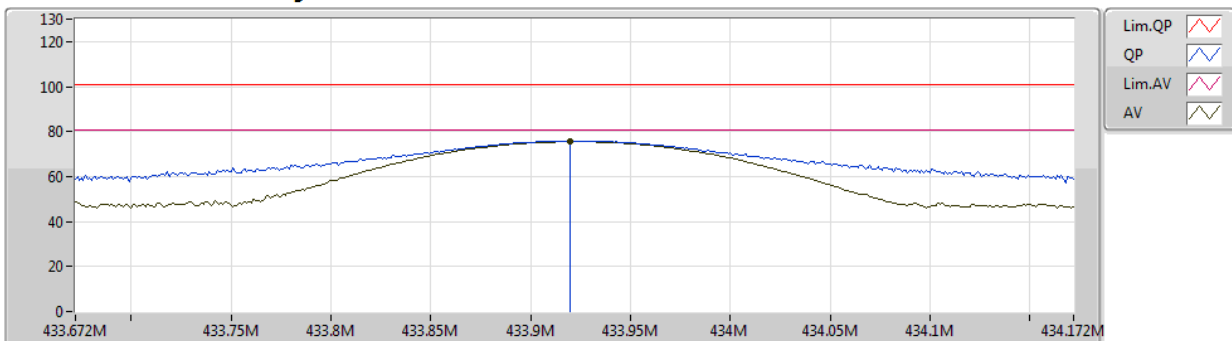
07/01/2020

433.92MHz_Battery


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	433.92M	65.88	80.82	-14.94	25.04	3	Vertical	253	1.05	-	40.84	21.83	3.21	-
PK	433.93M	67.04	100.82	-33.78	25.04	3	Vertical	253	1.05	-	42.00	21.83	3.21	-

SRD

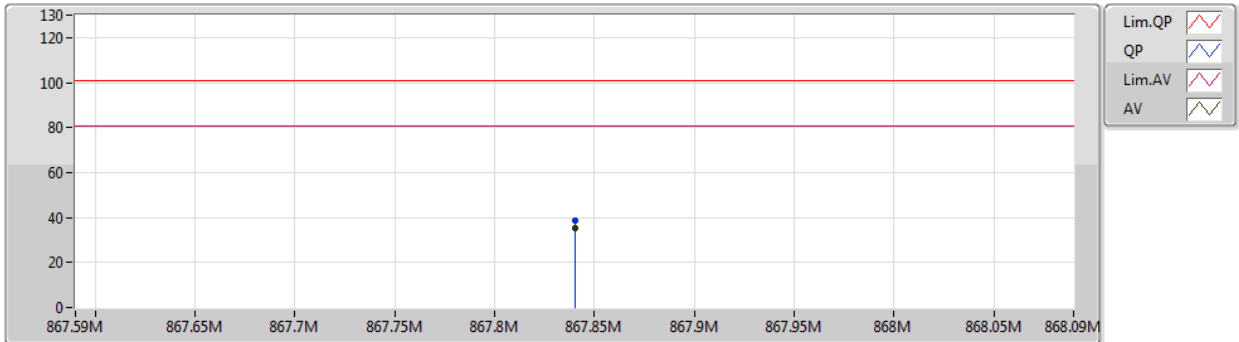
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433.92MHz_Battery


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	433.92M	75.51	80.82	-5.31	25.04	3	Horizontal	10	2.38	-	50.47	21.83	3.21	-
PK	433.92M	75.90	100.82	-24.92	25.04	3	Horizontal	10	2.38	-	50.86	21.83	3.21	-

SRD
433.92MHz_Battery

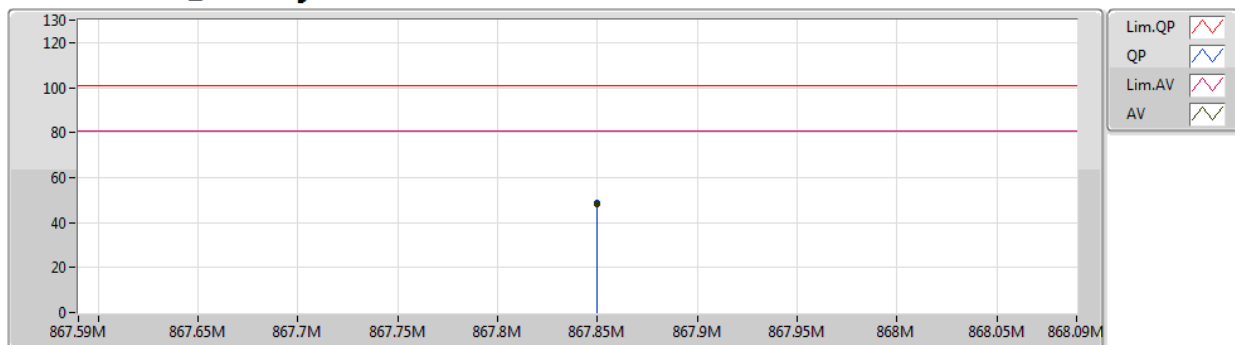
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Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	867.84M	35.26	80.82	-45.56	1.84	3	Vertical	73	1.77	-	33.42	25.48	4.29	27.93
PK	867.84M	38.51	100.82	-62.31	1.84	3	Vertical	73	1.77	-	36.67	25.48	4.29	27.93

SRD
433.92MHz_Battery

07/01/2020

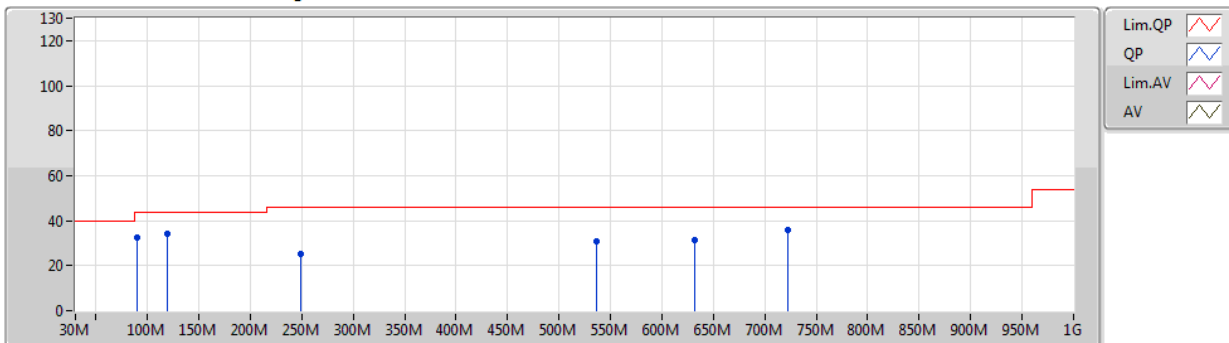


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	867.85M	48.00	80.82	-32.82	1.84	3	Horizontal	189	0.99	-	46.16	25.48	4.29	27.93
PK	867.85M	48.84	100.82	-51.98	1.84	3	Horizontal	189	0.99	-	47.00	25.48	4.29	27.93

SRD

433.92MHz_Battery

07/01/2020

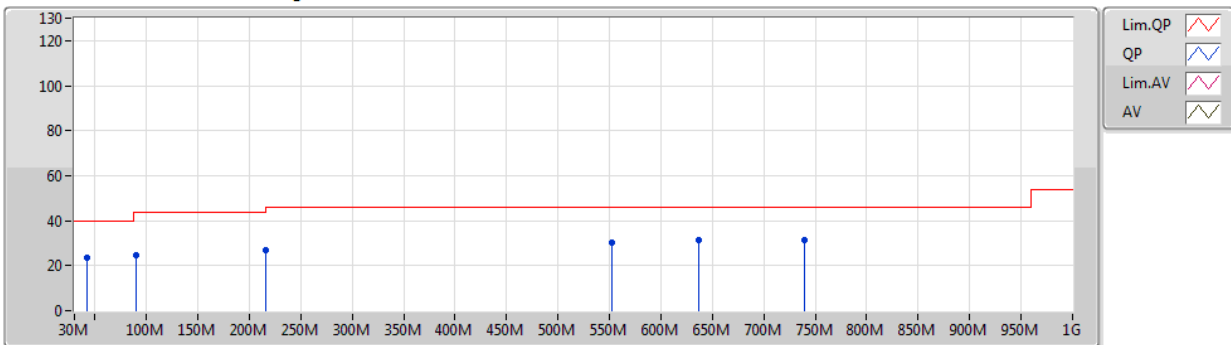


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	90.14M	32.50	43.50	-11.00	-12.52	3	Vertical	360	1.00	-	45.02	13.84	1.39	27.75
PK	119.24M	33.99	43.50	-9.51	-8.87	3	Vertical	360	1.00	-	42.86	17.21	1.65	27.73
PK	249.22M	25.48	46.00	-20.52	-6.98	3	Vertical	360	1.00	-	32.46	17.47	2.73	27.18
PK	536.34M	30.93	46.00	-15.07	-1.71	3	Vertical	360	1.00	-	32.64	23.36	3.51	28.58
PK	631.4M	31.62	46.00	-14.38	-0.54	3	Vertical	360	1.00	-	32.16	24.24	3.75	28.53
PK	722.58M	36.00	46.00	-10.00	0.14	3	Vertical	360	1.00	-	35.86	24.42	4.08	28.36

SRD

433.92MHz_Battery

07/01/2020

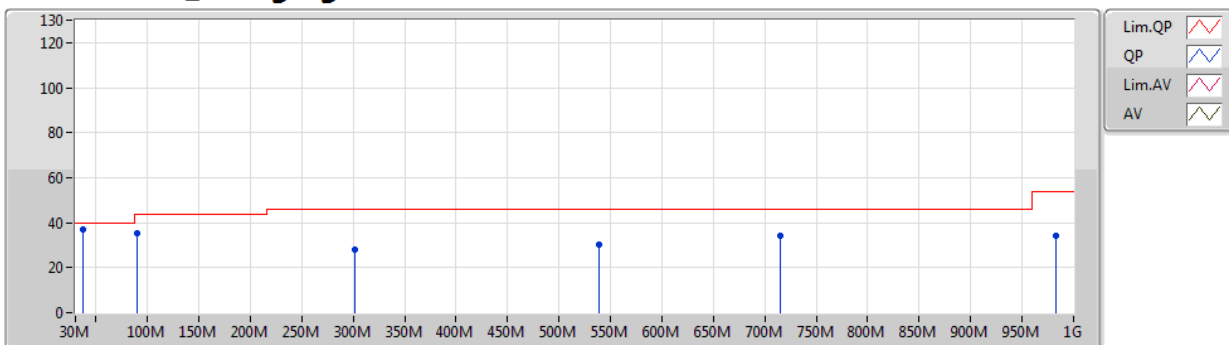


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	41.64M	23.68	40.00	-16.32	-10.28	3	Horizontal	0	1.00	-	33.96	16.72	0.68	27.68
PK	90.14M	24.57	43.50	-18.93	-12.52	3	Horizontal	0	1.00	-	37.09	13.84	1.39	27.75
PK	216M	27.06	43.50	-16.44	-10.54	3	Horizontal	0	1.00	-	37.60	14.29	2.50	27.33
PK	551.86M	30.10	46.00	-15.90	-1.28	3	Horizontal	0	1.00	-	31.38	23.76	3.59	28.63
PK	637.22M	31.27	46.00	-14.73	-0.52	3	Horizontal	0	1.00	-	31.79	24.25	3.76	28.53
PK	740.04M	31.58	46.00	-14.42	0.58	3	Horizontal	0	1.00	-	31.00	24.82	4.11	28.35

SRD

433.92MHz_Charging

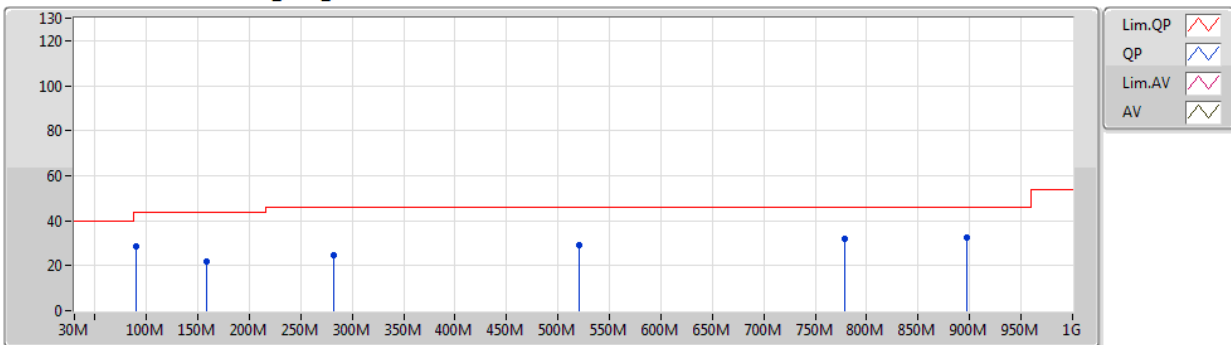
07/01/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	714.82M	34.16	46.00	-11.84	-0.02	3	Vertical	0	1.00	-	34.18	24.28	4.07	28.37
PK	538.28M	30.37	46.00	-15.63	-1.61	3	Vertical	0	1.00	-	31.98	23.45	3.52	28.58
PK	301.6M	27.98	46.00	-18.02	-5.87	3	Vertical	0	1.00	-	33.85	18.31	3.00	27.18
PK	90.14M	35.51	43.50	-7.99	-12.52	3	Vertical	0	1.00	-	48.03	13.84	1.39	27.75
PK	37.76M	36.99	40.00	-3.01	-8.44	3	Vertical	0	1.00	-	45.43	18.67	0.57	27.68
PK	982.54M	34.33	54.00	-19.67	3.95	3	Vertical	0	1.00	-	30.38	26.25	4.98	27.28

SRD
433.92MHz_Charging

07/01/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	90.14M	28.30	43.50	-15.20	-12.52	3	Horizontal	360	1.00	-	40.82	13.84	1.39	27.75
PK	158.04M	21.96	43.50	-21.54	-10.53	3	Horizontal	360	1.00	-	32.49	15.13	1.93	27.59
PK	282.2M	24.56	46.00	-21.44	-6.27	3	Horizontal	360	1.00	-	30.83	18.00	2.90	27.17
PK	520.82M	29.33	46.00	-16.67	-2.43	3	Horizontal	360	1.00	-	31.76	22.65	3.42	28.50
PK	778.84M	31.70	46.00	-14.30	1.01	3	Horizontal	360	1.00	-	30.69	25.09	4.15	28.23
PK	897.18M	32.74	46.00	-13.26	2.21	3	Horizontal	360	1.00	-	30.53	25.59	4.33	27.71

**3.4.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)****Summary**

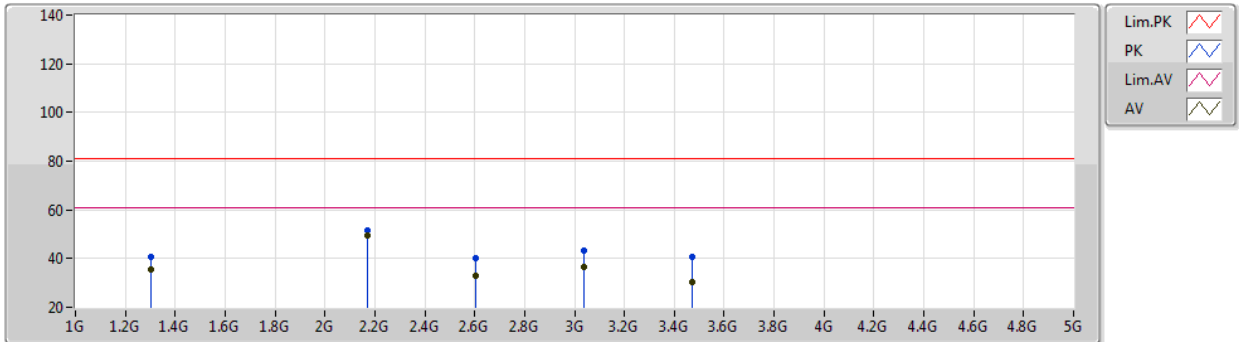
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
0.4G	-	-	-	-	-	-	-	-	-	-	-
SRD	Pass	AV	2.1696G	49.68	60.82	-11.14	3	Vertical	248	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
SRD	-	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	1.30174G	35.75	60.82	-25.07	3	Vertical	121	3.00	-
433.92MHz	Pass	AV	2.1696G	49.68	60.82	-11.14	3	Vertical	248	1.00	-
433.92MHz	Pass	AV	2.60353G	32.91	60.82	-27.91	3	Vertical	95	1.00	-
433.92MHz	Pass	AV	3.03746G	36.66	60.82	-24.16	3	Vertical	226	1.04	-
433.92MHz	Pass	AV	3.47122G	30.49	60.82	-30.33	3	Vertical	183	1.23	-
433.92MHz	Pass	PK	1.30184G	40.51	80.82	-40.31	3	Vertical	121	3.00	-
433.92MHz	Pass	PK	2.1696G	51.70	80.82	-29.12	3	Vertical	248	1.00	-
433.92MHz	Pass	PK	2.60323G	40.14	80.82	-40.68	3	Vertical	95	1.00	-
433.92MHz	Pass	PK	3.03689G	43.11	80.82	-37.71	3	Vertical	226	1.04	-
433.92MHz	Pass	PK	3.47207G	40.72	80.82	-40.10	3	Vertical	183	1.23	-
433.92MHz	Pass	AV	1.30176G	40.78	60.82	-20.04	3	Horizontal	19	1.34	-
433.92MHz	Pass	AV	2.1696G	41.32	60.82	-19.50	3	Horizontal	328	1.59	-
433.92MHz	Pass	AV	2.60352G	39.04	60.82	-21.78	3	Horizontal	172	1.26	-
433.92MHz	Pass	AV	3.03744G	38.11	60.82	-22.71	3	Horizontal	357	1.49	-
433.92MHz	Pass	AV	3.47136G	30.29	60.82	-30.53	3	Horizontal	286	1.11	-
433.92MHz	Pass	PK	1.30173G	39.31	80.82	-41.51	3	Horizontal	19	1.34	-
433.92MHz	Pass	PK	2.16966G	44.64	80.82	-36.18	3	Horizontal	328	1.59	-
433.92MHz	Pass	PK	2.60364G	42.94	80.82	-37.88	3	Horizontal	172	1.26	-
433.92MHz	Pass	PK	3.03726G	43.91	80.82	-36.91	3	Horizontal	357	1.49	-
433.92MHz	Pass	PK	3.47172G	40.30	80.82	-40.52	3	Horizontal	286	1.11	-

SRD
433.92MHz_TX

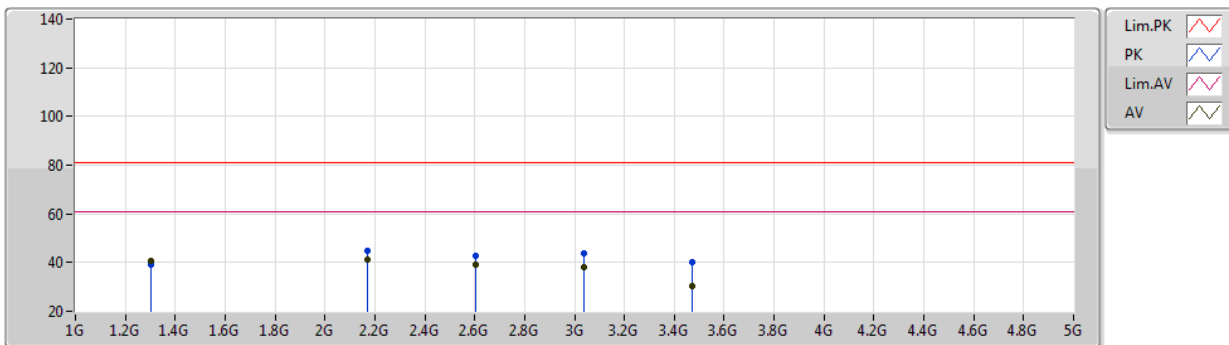
07/01/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.30174G	35.75	60.82	-25.07	-5.02	3	Vertical	121	3.00	-	40.77	25.90	3.52	34.44
AV	2.1696G	49.68	60.82	-11.14	-1.98	3	Vertical	248	1.00	-	51.66	27.80	4.46	34.24
AV	2.60353G	32.91	60.82	-27.91	-1.64	3	Vertical	95	1.00	-	34.55	27.71	4.97	34.32
AV	3.03746G	36.66	60.82	-24.16	-0.04	3	Vertical	226	1.04	-	36.70	28.65	5.47	34.16
AV	3.47122G	30.49	60.82	-30.33	0.12	3	Vertical	183	1.23	-	30.37	28.61	5.65	34.14
PK	1.30184G	40.51	80.82	-40.31	-5.02	3	Vertical	121	3.00	-	45.53	25.90	3.52	34.44
PK	2.1696G	51.70	80.82	-29.12	-1.98	3	Vertical	248	1.00	-	53.68	27.80	4.46	34.24
PK	2.60323G	40.14	80.82	-40.68	-1.64	3	Vertical	95	1.00	-	41.78	27.71	4.97	34.32
PK	3.03689G	43.11	80.82	-37.71	-0.04	3	Vertical	226	1.04	-	43.15	28.65	5.47	34.16
PK	3.47207G	40.72	80.82	-40.10	0.13	3	Vertical	183	1.23	-	40.59	28.62	5.65	34.14

SRD
433.92MHz_TX

07/01/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.30176G	40.78	60.82	-20.04	-5.02	3	Horizontal	19	1.34	-	45.80	25.90	3.52	34.44
AV	2.1696G	41.32	60.82	-19.50	-1.98	3	Horizontal	328	1.59	-	43.30	27.80	4.46	34.24
AV	2.60352G	39.04	60.82	-21.78	-1.64	3	Horizontal	172	1.26	-	40.68	27.71	4.97	34.32
AV	3.03744G	38.11	60.82	-22.71	-0.04	3	Horizontal	357	1.49	-	38.15	28.65	5.47	34.16
AV	3.47136G	30.29	60.82	-30.53	0.12	3	Horizontal	286	1.11	-	30.17	28.61	5.65	34.14
PK	1.30173G	39.31	80.82	-41.51	-5.02	3	Horizontal	19	1.34	-	44.33	25.90	3.52	34.44
PK	2.16966G	44.64	80.82	-36.18	-1.98	3	Horizontal	328	1.59	-	46.62	27.80	4.46	34.24
PK	2.60364G	42.94	80.82	-37.88	-1.64	3	Horizontal	172	1.26	-	44.58	27.71	4.97	34.32
PK	3.03726G	43.91	80.82	-36.91	-0.04	3	Horizontal	357	1.49	-	43.95	28.65	5.47	34.16
PK	3.47172G	40.30	80.82	-40.52	0.13	3	Horizontal	286	1.11	-	40.17	28.62	5.65	34.14

3.5 Operation Restriction

3.5.1 Operation Restriction Limit

Operation Restriction Limit	
☒	Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released.
☐	Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation.
☐	Periodic transmissions: permitted with total transmission time of 2 sec per hour or less.
☐	Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.

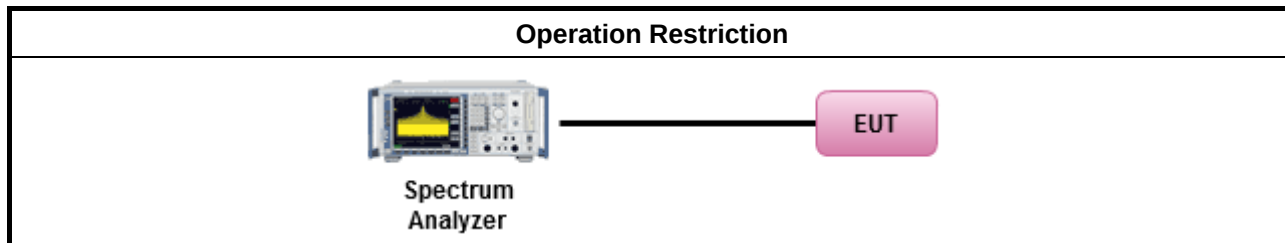
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.
Periodic transmissions (lower field strength)

3.5.3 Test Procedures

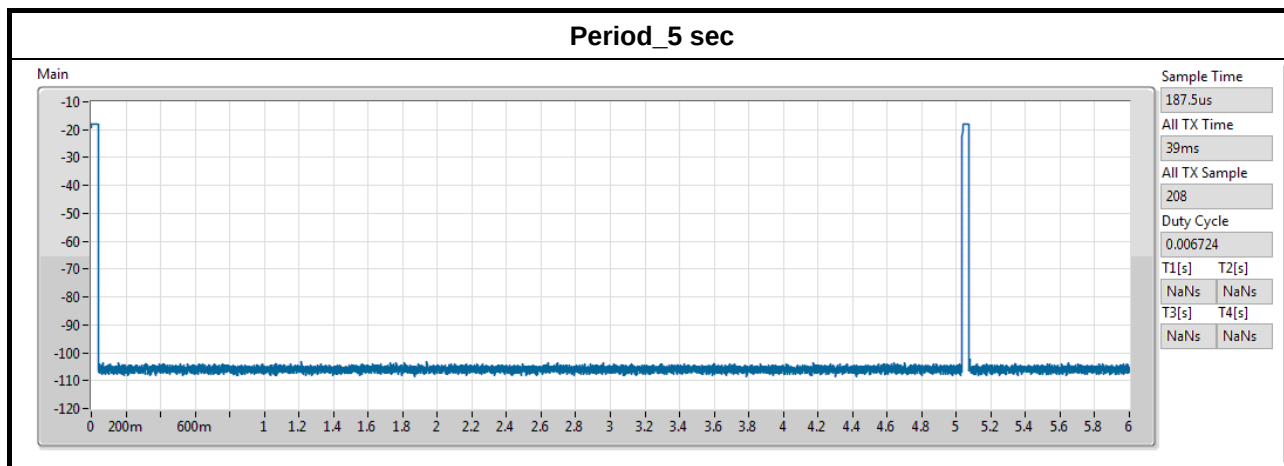
Test Method
☒ Refer as ANSI C63.10, clause 7.4 for periodic operation measurement.

3.5.4 Test Setup



3.5.5 Test Result of Operation Restriction

Operation Condition	Pulse Duration (s)	Limits (s)
Transmission time (TX-on)	0.0388125	5.00



4 Test Equipment and Calibration Data

< AC Conducted Test >

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	04/Nov/2019	05/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	12/Sep/2019	11/Sep/2020
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	24/Sep/2019	23/Sep/2020

NCR : Non-Calibration Require

< Conducted Test >

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	19/Feb/2019	18/Feb/2020
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	19/Feb/2019	18/Feb/2020
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	19/Feb/2019	18/Feb/2020

< Radiated Test >

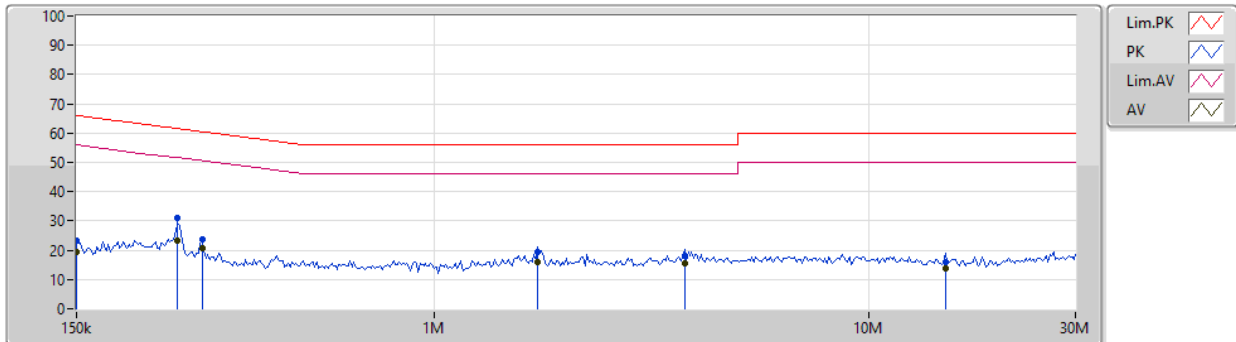
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	29/Aug/2019	28/Aug/2020
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz 3m	29/Aug/2019	28/Aug/2020
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	02/Jul/2019	01/Jul/2020
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	16/Oct/2019	15/Oct/2020
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Mar/2019	25/Mar/2020
RF Cable-high 6m	SUHNER	SUCOFLEX104	10567868 / SN805193/4	1GHz~40GHz	09/Apr/2019	08/Apr/2020
RF Cable-high 7m	SUHNER	SUCOFLEX104	10567868 / SN805192/4	1GHz~40GHz	09/Apr/2019	08/Apr/2020
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz ~ 1GHz	11/Oct/2019	10/Oct/2020
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 01543	1GHz ~ 18GHz	03/Jun/2019	02/Jun/2020

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Adapter Mode		

AC Conduction_Mode 1

07/01/2020



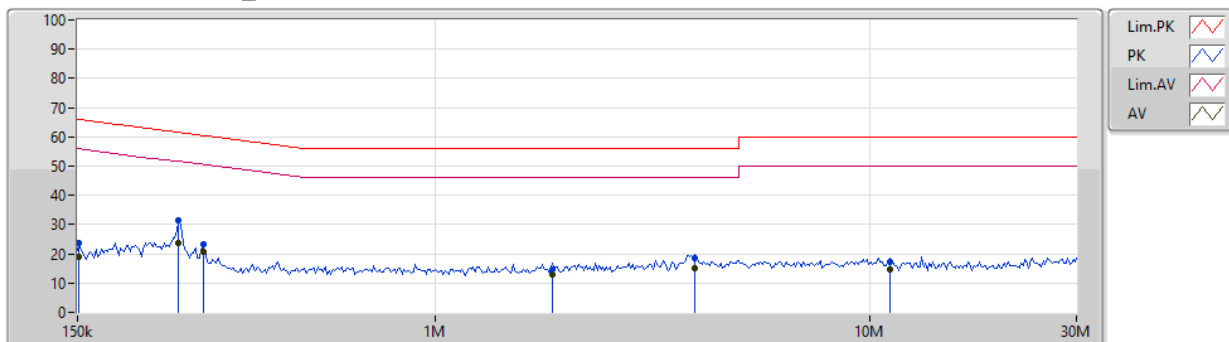
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	150k	23.32	66.00	-42.68	19.63	Neutral	-	3.69	9.65	0.11	9.87			
AV	150k	19.25	56.00	-36.75	19.63	Neutral	-	-0.38	9.65	0.11	9.87			
QP	256.712k	30.89	61.54	-30.65	19.63	Neutral	-	11.26	9.64	0.12	9.87			
AV	256.712k	23.18	51.54	-28.36	19.63	Neutral	"Worst"	3.55	9.64	0.12	9.87			
QP	292.162k	23.67	60.46	-36.79	19.62	Neutral	-	4.05	9.63	0.12	9.87			
AV	292.162k	20.82	50.46	-29.64	19.62	Neutral	-	1.20	9.63	0.12	9.87			
QP	1.734M	19.36	56.00	-36.64	19.66	Neutral	-	-0.30	9.65	0.14	9.87			
AV	1.734M	15.83	46.00	-30.17	19.66	Neutral	-	-3.83	9.65	0.14	9.87			
QP	3.769M	18.07	56.00	-37.93	19.72	Neutral	-	-1.65	9.66	0.18	9.88			
AV	3.769M	15.32	46.00	-30.68	19.72	Neutral	-	-4.40	9.66	0.18	9.88			
QP	15.028M	16.08	60.00	-43.92	19.90	Neutral	-	-3.82	9.71	0.31	9.88			
AV	15.028M	13.92	50.00	-36.08	19.90	Neutral	-	-5.98	9.71	0.31	9.88			

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Adapter Mode		

AC Conduction_Mode 1

07/01/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	151.5k	23.57	65.92	-42.35	19.64	Line	-	3.93	9.66	0.11	9.87			
AV	151.5k	18.79	55.92	-37.13	19.64	Line	-	-0.85	9.66	0.11	9.87			
QP	256.712k	31.40	61.54	-30.14	19.64	Line	-	11.76	9.65	0.12	9.87			
AV	256.712k	23.52	51.54	-28.02	19.64	Line	"Worst"	3.88	9.65	0.12	9.87			
QP	292.162k	23.47	60.46	-36.99	19.63	Line	-	3.84	9.64	0.12	9.87			
AV	292.162k	20.79	50.46	-29.67	19.63	Line	-	1.16	9.64	0.12	9.87			
QP	1.86M	14.73	56.00	-41.27	19.66	Line	-	-4.93	9.65	0.14	9.87			
AV	1.86M	12.88	46.00	-33.12	19.66	Line	-	-6.78	9.65	0.14	9.87			
QP	3.961M	18.35	56.00	-37.65	19.73	Line	-	-1.38	9.66	0.19	9.88			
AV	3.961M	15.18	46.00	-30.82	19.73	Line	-	-4.55	9.66	0.19	9.88			
QP	11.149M	17.16	60.00	-42.84	19.84	Line	-	-2.68	9.68	0.28	9.88			
AV	11.149M	14.63	50.00	-35.37	19.84	Line	-	-5.21	9.68	0.28	9.88			