

Bauer Hockey, LLC

FCC & ISED Class II Permissive Change Report

Report Type:

FCC Part 15.225 & ISED RSS-210 RF report

Model:

1062222

REPORT NUMBER:

250100509HAN-001

ISSUE DATE:

May 8, 2025

DOCUMENT CONTROL NUMBER:

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TEST REPORT

Report no.: 250100509HAN-001

Applicant: Bauer Hockey, LLC
100 Domain Drive, Exeter, New Hampshire 03833, USA

Manufacturer: Bauer Hockey, LLC
100 Domain Drive, Exeter, New Hampshire 03833, USA

Factory: Shandong Xinlongsheng Rail Transit Co., Ltd.
No. 197 Shuangyuan Road, Jihongtan Street, Chengyang District, Qingdao
City, Shandong Province, China

FCC ID: 2BD6O-1062222

IC: 31890-1062222

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

47CFR Part 15 (2023): Radio Frequency Devices (Subpart C)

ANSI C63.10 (2020): American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

RSS-210 Issue 11 (June 2024): Licence-Exempt Radio Apparatus: Category I Equipment

RSS-Gen Issue 5, Amendment 2 (February 2021): General Requirements for Compliance of Radio Apparatus

PREPARED BY:

REVIEWED BY:



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Reviewer
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TEST REPORT

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Revision History

Report No.	Version	Description	Issued Date
250100509HAN-001	Rev. 01	Initial issue of report	May 8, 2025

Measurement result summary

TEST ITEM	FCC REFERENCE	IC REFERENCE	RESULT
Fundamental emission	15.225(a) (b) (c)	RSS-210 Issue 11 Clause B.6	Pass
Spurious emission	15.225(d)	RSS-210 Issue 11 Clause B.6	Pass
Conducted emissions	15.207	RSS-Gen Issue 5 Clause 8.8	Pass

Notes:

1. NA =Not Applicable
2. Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.
3. Additions, Deviations and Exclusions from Standards: None.

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Skate Sharpening Machine
Type/Model:	1062222
Description of EUT:	The report is C2PC report, 1 model of adaptor GM152-2400600-F was added.
Rating:	Unit: 24VDC, Max. 144W Adaptor: Input: 100-240V~, 50/60Hz, 2.5A Output: 24VDC, 6A, 144W
EUT type:	<input checked="" type="checkbox"/> Tabletop <input type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Serial numbers:	1250207-03-001
Sample received date:	February 7, 2025
Date of test:	February 7, 2025 ~ March 24, 2025

1.2 Technical Specification

Frequency Range:	13.56 MHz ~ 13.56 MHz
Modulation:	ASK
Antenna:	PCB antenna

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1.3 Description of Test Facility

Name : Intertek Testing Services (Shanghai FTZ) Co., Ltd.

Address : Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China

Telephone : 86 21 61278200

Telefax : 86 21 54262353

The test facility is : CNAS Accreditation Lab
recognized, certified, or Registration No. CNAS L21189
accredited by these FCC Accredited Lab
organizations Designation Number: CN0175
IC Registration Lab
CAB identifier.: CN0014
VCCI Registration Lab
Member No: 3598 (Registration No.: R-14243, G-10845, C-14723, T-
12252)
A2LA Accreditation Lab
Certificate Number: 3309.02

2 TEST SPECIFICATIONS

2.1 Standards or specification

47CFR Part 15 (2023): Radio Frequency Devices (Subpart C)

ANSI C63.10 (2020): American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

RSS-210 Issue 11 (June 2024): Licence-Exempt Radio Apparatus: Category I Equipment

RSS-Gen Issue 5, Amendment 2 (February 2021): General Requirements for Compliance of Radio Apparatus

2.2 Mode of operation during the test

While testing, the internal modulation and continuously transmission was applied.

2.3 Test software list

Test Items	Software	Manufacturer	Version
Conducted emission	SKET Auto EMC Test Software	Keleto	V3.0
Radiated emission	SKET Auto EMC Test Software	Keleto	V3.0

2.4 Test peripherals list

Item No	Description	Band and Model	S/No
-	-	-	-

2.5 Test environment condition:

Test items	Temperature	Humidity
Radiated emission	24°C	43% RH
Power line conducted emission	23°C	40% RH

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2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESR7	EC 6194	2026-02-17
<input checked="" type="checkbox"/>	A.M.N.	R&S	ESH2-Z5	EC 3119	2025-07-23
<input checked="" type="checkbox"/>	Attenuator	Hua Xiang	Ts5-10db-6g	EC 6194-1	2025-12-06
<input checked="" type="checkbox"/>	Shielded room	Zhongyu	-	EC 2838	2026-01-09
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Test Receiver	R&S	ESIB 26	EC 3045	2025-08-18
<input checked="" type="checkbox"/>	Bilog Antenna	TESEQ	CBL 6112B	EC 6411	2025-09-11
<input checked="" type="checkbox"/>	Active loop antenna	Schwarzbeck	FMZB1519	EC 5345	2025-08-10
<input checked="" type="checkbox"/>	Semi-anechoic chamber	Albatross project	-	EC 3048	2026-07-11
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
<input checked="" type="checkbox"/>	Thermo-Hygrograph	Testo	175h1	EC 6640	2025-08-29
<input checked="" type="checkbox"/>	Thermo-Hygrograph	Testo	175h1	EC 6643	2025-08-29

TEST REPORT

2.7 Measurement uncertainty

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Measurement	Frequency	Expanded Uncertainty ($k=2$)
Conducted emission at mains ports	9kHz ~ 150kHz	3.52 dB
	150kHz ~ 30MHz	3.19 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	3.06 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.02 dB
	6GHz ~ 18GHz	5.28 dB

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3 Fundamental Emission

Test result: PASS

3.1 Limit

Frequencies (MHz)	Limit at 30m (dBuV/m)	Limit at 3m (dBuV/m)
13.110 – 13.410	40.50	80.50
13.410 – 13.553	50.50	90.50
13.553 – 13.567	84.00	124.00
13.567 – 13.710	50.50	90.50
13.710 – 14.010	40.50	80.50

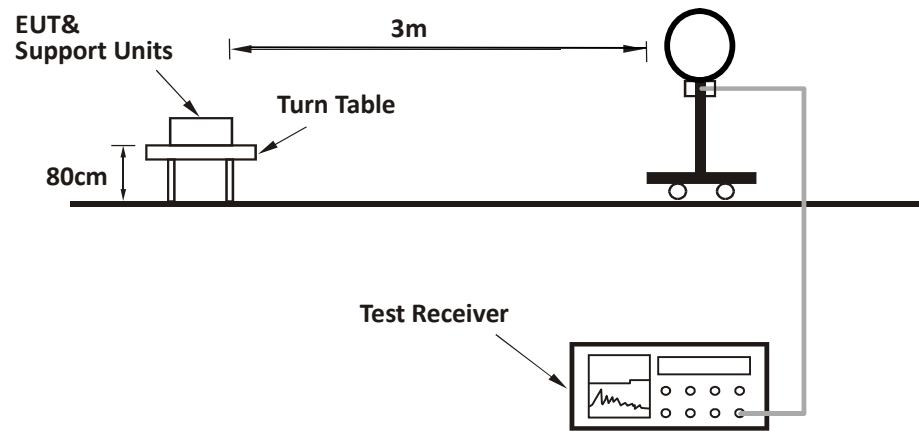
3.2 Measurement Procedure

- The EUT was placed on a 0.8m plank above the ground at a 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Both X and Y axes of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to PK Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

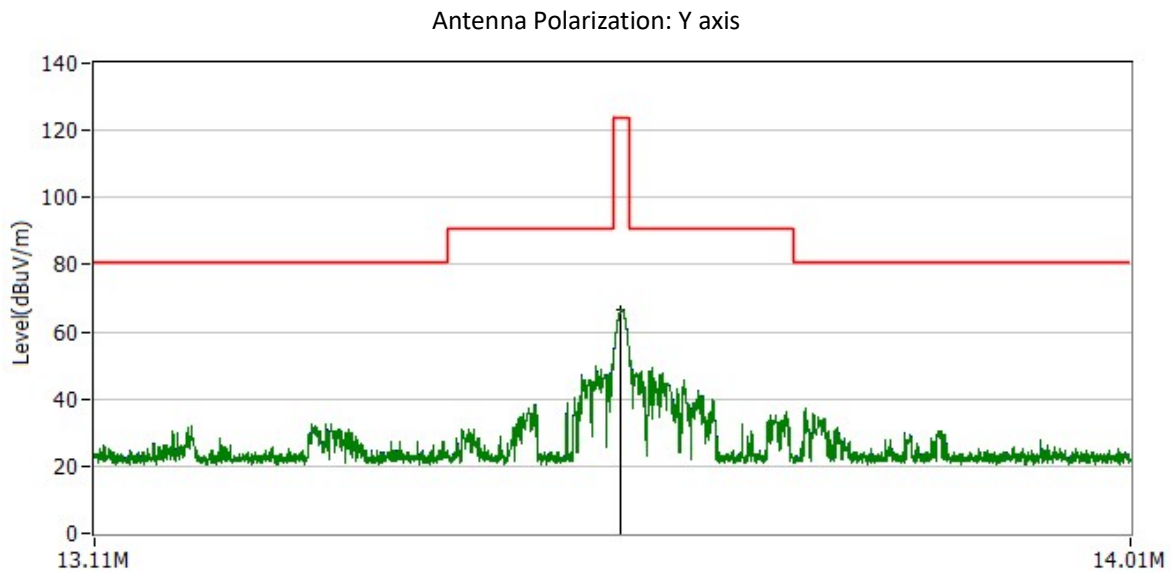
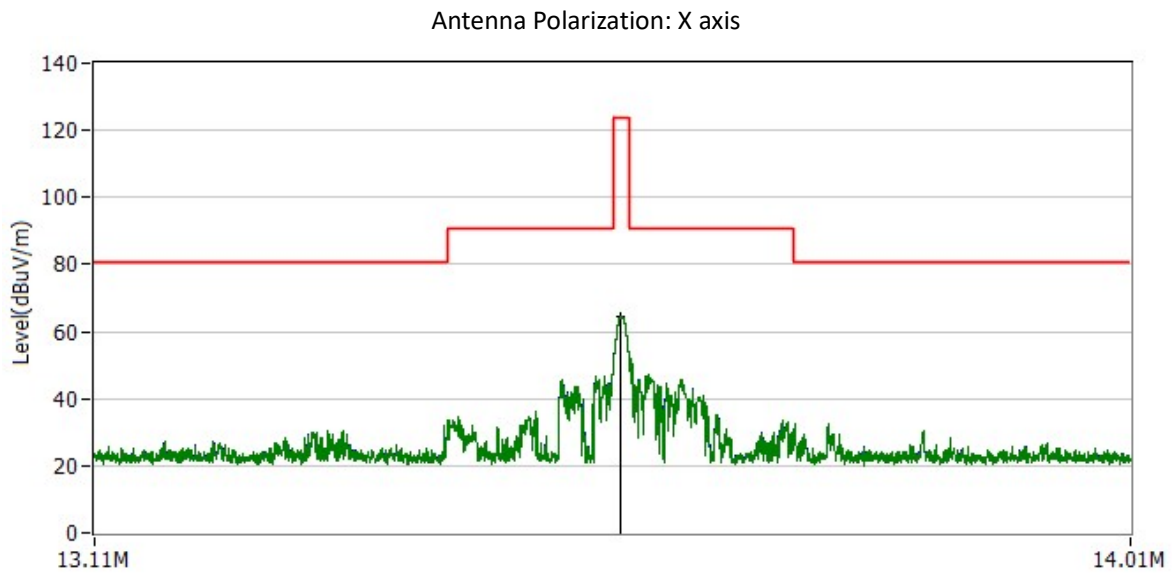
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

3.3 Test Configuration

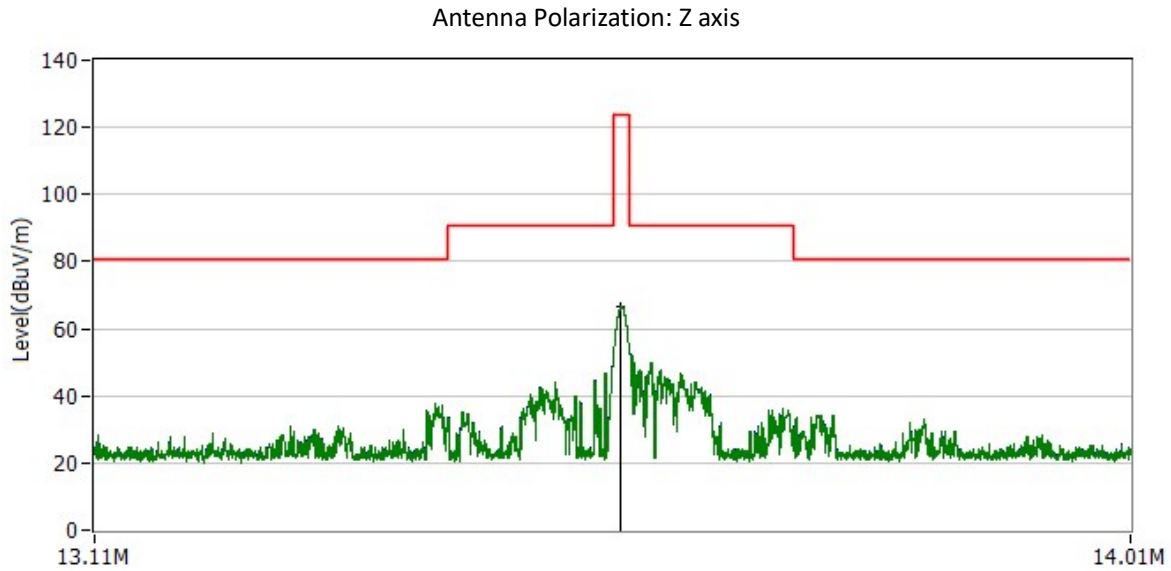


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3.4 Test Results of Fundamental Emissions



TEST REPORT



Antenna Polarization	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
X	13.56	64.70	19.00	124.00	59.30	PK
Y	13.56	66.50	19.00	124.00	57.50	PK
Z	13.56	66.40	19.00	124.00	57.60	PK

Remark: 1. Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.
 2. Corrected Reading = Original Receiver Reading + Correct Factor
 3. Margin = Limit - Corrected Reading

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,
 Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,
 Limit = 40.00dBuV/m.
 Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;
 Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;
 Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

4 Spurious Emission

Test result: **PASS**

4.1 Limit

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

4.2 Measurement Procedure

For Radiated emission below 30MHz:

- f) The EUT was placed on a 0.8m plank above the ground at a 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- g) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- h) Both X and Y axes of the antenna are set to make the measurement.
- i) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- j) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

- 2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz:

- a) The EUT was placed on a 0.8m plank above the ground at a 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

TEST REPORT

- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

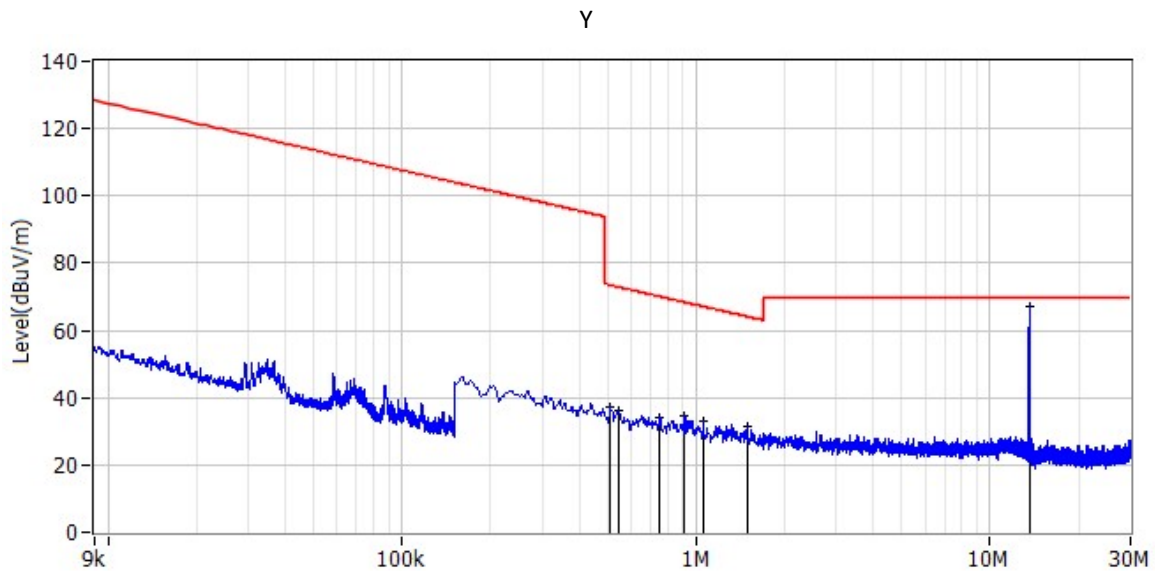
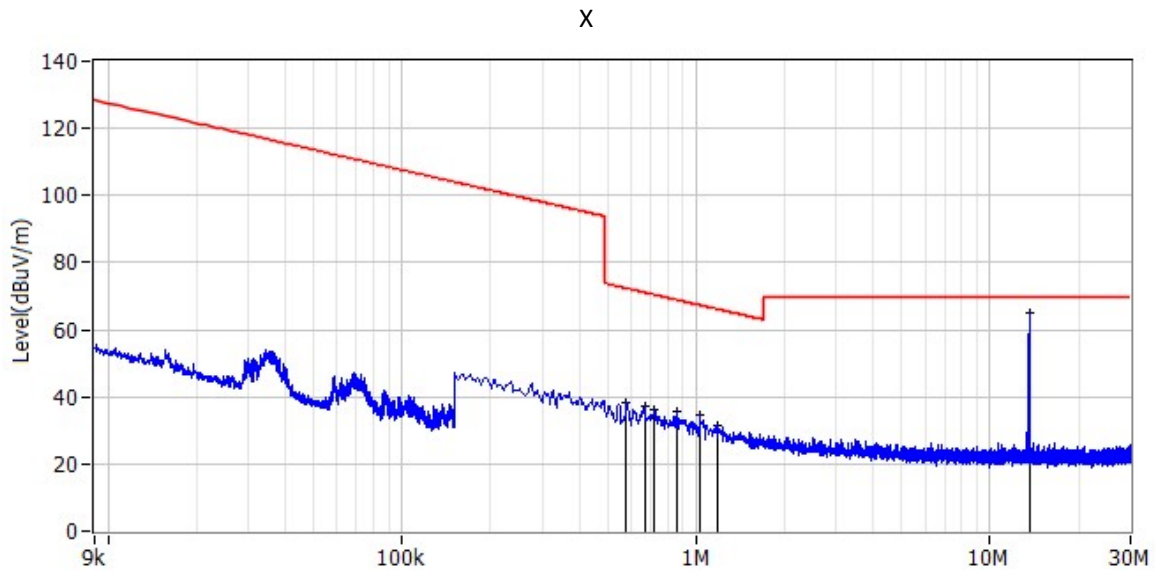
- 1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- 3. All modes of operation were evaluated and the worst-case emissions were reported

TEST REPORT

4.3 Test Results of Radiated Emissions

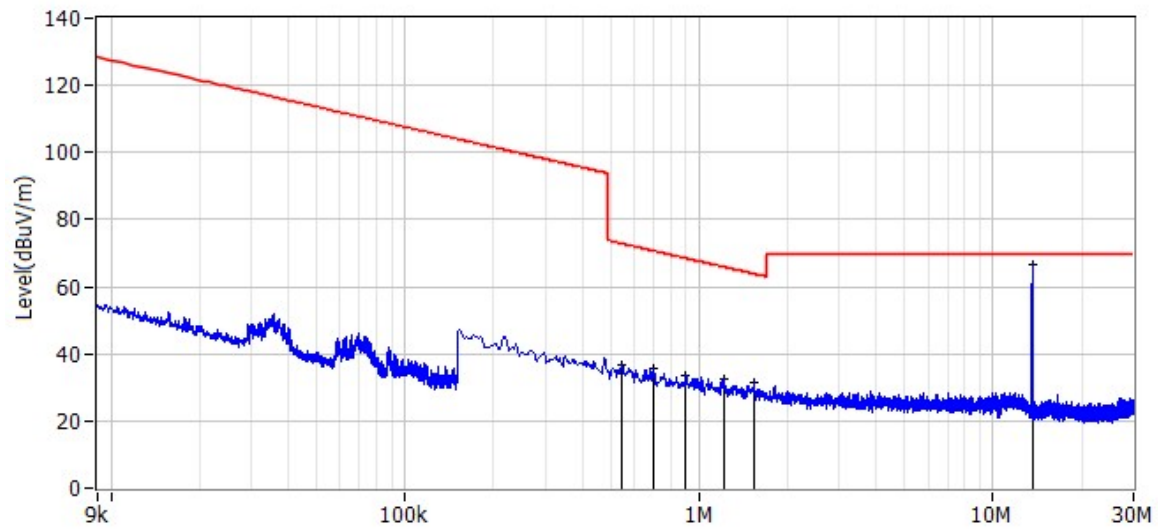
The EUT has been tested in all two orthogonal planes, it has the worst case when it is in horizontal position for both below 30MHz & above 30MHz.

Test Curve (below 30MHz):



TEST REPORT

Z



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Test data below 30MHz:

Frequency	Limit (dBuV/m)	Corrected Reading (dBuV/m)	Margin (dB)	Factor (dB/m)	Detector	Polarity
579.840kHz	72.30	38.30	34.00	18.90	PK	X
666.405kHz	71.10	37.00	34.10	18.90	PK	X
723.120kHz	70.40	36.40	34.00	18.90	PK	X
863.415kHz	68.90	35.40	33.50	18.90	PK	X
1.034MHz	67.30	34.40	32.90	19.00	PK	X
1.180MHz	66.20	31.70	34.50	19.00	PK	X
511.185kHz	73.40	37.00	36.40	18.90	PK	Y
544.020kHz	72.90	36.30	36.60	18.90	PK	Y
752.970kHz	70.10	33.90	36.20	18.90	PK	Y
914.160kHz	68.40	34.50	33.90	18.90	PK	Y
1.057MHz	67.10	32.80	34.30	19.00	PK	Y
1.496MHz	64.10	31.40	32.70	19.00	PK	Y
547.005kHz	72.80	36.70	36.10	18.90	PK	Z
702.225kHz	70.70	35.50	35.20	18.90	PK	Z
902.220kHz	68.50	33.70	34.80	18.90	PK	Z
1.216MHz	65.90	32.40	33.50	19.00	PK	Z
1.544MHz	63.80	31.30	32.50	19.00	PK	Z

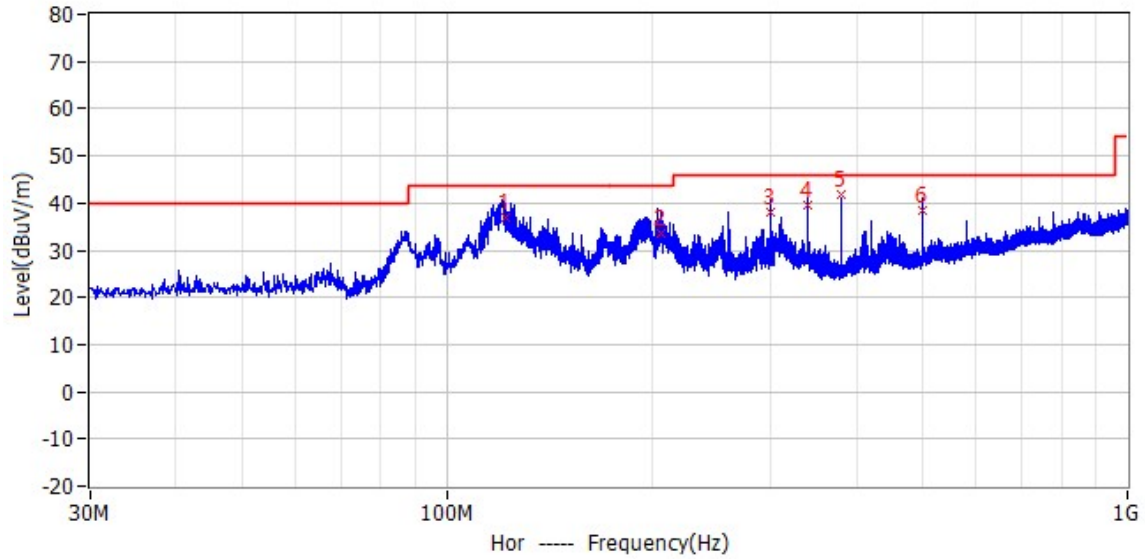
- Remark: 1. Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.
 2. Corrected Reading = Original Receiver Reading + Correct Factor
 3. Margin = Limit - Corrected Reading
 4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,
 Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,
 Limit = 40.00dBuV/m.
 Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;
 Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;
 Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

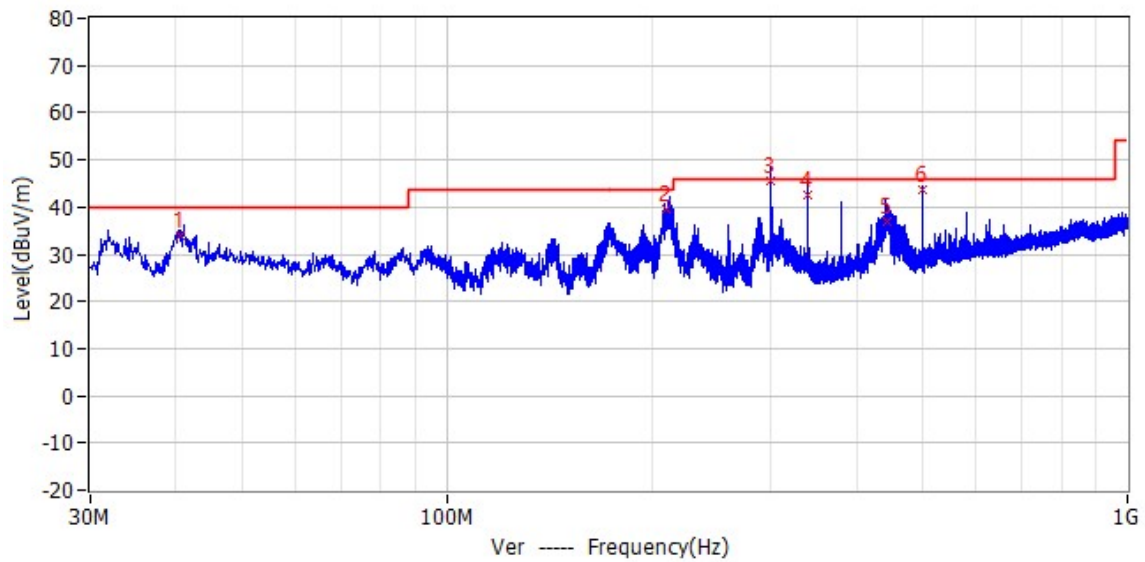
TEST REPORT

Test Curve (30MHz to 1000MHz):

Horizontal



Vertical



TEST REPORT

Test data (30MHz to 1000MHz)

Frequency	Limit (dBuV/m)	Corrected Reading (dBuV/m)	Margin (dB)	Correct Factor (dB/m)	Detector	Polar
121.946MHz	43.50	36.77	6.73	12.10	QP	Hor
206.524MHz	43.50	33.53	9.97	10.60	QP	Hor
300.012MHz	46.00	37.95	8.05	14.60	QP	Hor
340.007MHz	46.00	39.50	6.50	15.60	QP	Hor
380.000MHz	46.00	41.95	4.05	16.60	QP	Hor
500.012MHz	46.00	38.48	7.52	19.00	QP	Hor
40.650MHz	40.00	34.03	5.97	13.80	QP	Ver
210.782MHz	43.50	39.71	3.79	10.60	QP	Ver
300.010MHz	46.00	45.57	0.43	14.60	QP	Ver
340.003MHz	46.00	42.66	3.34	15.60	QP	Ver
443.473MHz	46.00	36.81	9.19	18.10	QP	Ver
500.003MHz	46.00	43.80	2.20	19.00	QP	Ver

- Remark: 1. Correct Factor = Antenna Factor + Cable Loss (+ Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.
 2. Corrected Reading = Original Receiver Reading + Correct Factor
 3. Margin = Limit - Corrected Reading
 4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,
 Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,
 Limit = 40.00dBuV/m.
 Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;
 Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;
 Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

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5 Conducted emissions

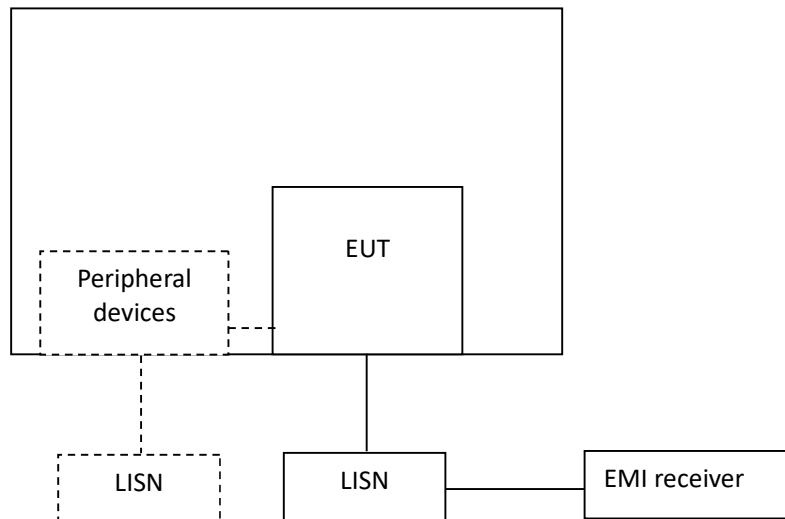
Test result: **PASS**

5.1 Limit

Frequency of Emission (MHz)	Conducted Emissions Limit (dBuV)	
	QP	AV
0.15-0.5	66 to 56*	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

5.2 Test Configuration



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Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

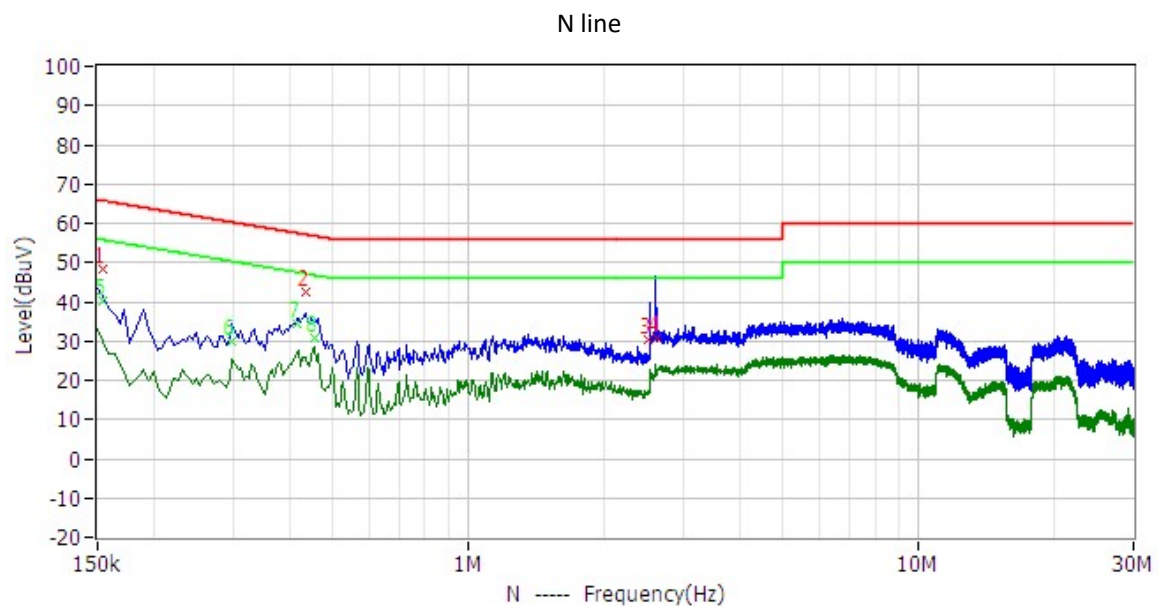
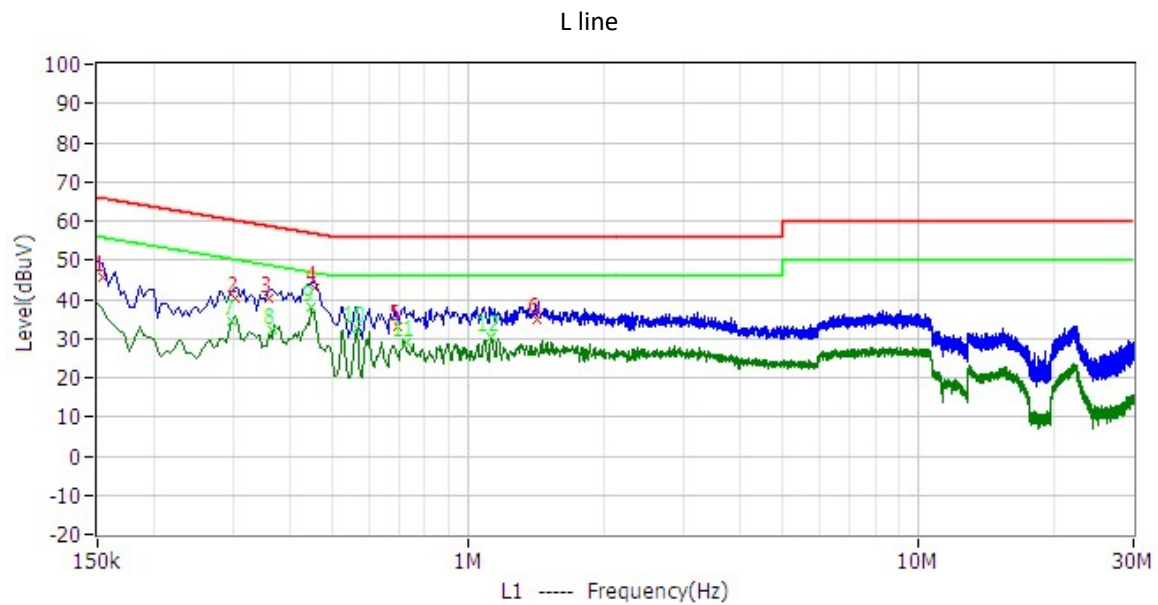
Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

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5.4 Test Results of Conducted Emissions

Test Curve:



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Frequency	Limit (dBuV)	Level (dBuV)	Delta (dB)	Correct Factor (dB)	Detector	Phase
154.500kHz	65.75	45.57	20.18	10.00	QP	L1
303.000kHz	60.16	40.39	19.77	10.00	QP	L1
361.500kHz	58.69	40.26	18.43	10.00	QP	L1
456.000kHz	56.77	42.79	13.98	10.00	QP	L1
694.500kHz	56.00	32.99	23.01	10.10	QP	L1
1.424MHz	56.00	34.66	21.34	10.10	QP	L1
298.500kHz	50.28	34.25	16.03	10.00	CAV	L1
366.000kHz	48.59	32.14	16.45	10.00	CAV	L1
447.000kHz	46.93	37.99	8.94	10.00	CAV	L1
564.000kHz	46.00	32.54	13.46	10.10	CAV	L1
726.000kHz	46.00	28.81	17.19	10.10	CAV	L1
1.127MHz	46.00	30.22	15.78	10.10	CAV	L1
154.500kHz	65.75	48.19	17.56	10.10	QP	N
433.500kHz	57.19	42.37	14.82	10.00	QP	N
2.499MHz	56.00	30.46	25.54	10.10	QP	N
2.616MHz	56.00	30.63	25.37	10.10	QP	N
154.500kHz	55.75	40.04	15.71	10.10	CAV	N
298.500kHz	50.28	29.95	20.33	10.10	CAV	N
415.500kHz	47.54	34.42	13.12	10.00	CAV	N
456.000kHz	46.77	30.81	15.96	10.00	CAV	N

- Remark: 1. Correct Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.
 2. Level = Original Receiver Reading + Correct Factor
 3. Delta = Level - Limit
 4. If the PK Level is lower than AV limit, the AV test can be elided.

***** END *****