



FCC TEST REPORT

FCC ID:2BNUP-K007S

Report Number	ZKT-241125L16515E-1
Date of Test	Feb. 18, 2025 ~ Feb. 21, 2025
Date of issue	Feb. 25, 2025
Total number of pages	23
Test Result	PASS
Testing Laboratory	Shenzhen ZKT Technology Co., Ltd.
Address	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name	Shenzhen Bilio Technology Co., Ltd.
Address	No. 301, Building B6-1, Xiufeng Industrial City, Gankeng Community, Jihua Street, Longgang District, Shenzhen, China
Manufacturer's name	Shenzhen Bilio Technology Co., Ltd.
Address	No. 301, Building B6-1, Xiufeng Industrial City, Gankeng Community, Jihua Street, Longgang District, Shenzhen, China
Test specification:	
Standard	FCC Rules and Regulations Part 15 Subpart C Section 15.209 ANSI C63.10: 2013
Test procedure	/
Non-standard test method	N/A
Test Report Form No.	TRF-EL-111_V0
Test Report Form(s) Originator	ZKT Testing
Master TRF	Dated: 2022-02-21
This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.	
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Product name : Vacuum Suction Wireless Charging
Trademark : BOOLA
Model/Type reference : K007S, K77S, K003S, K33S
Ratings : DC 5V or 9V from adapter

Testing procedure and testing location:

Testing Laboratory : **Shenzhen ZKT Technology Co., Ltd.**
Address : 1/F, No. 101, Building B, No. 6, Tangwei Community
Industrial Avenue, Fuhai Street, Bao'an District,
Shenzhen, China

Tested by (name + signature) : Jim Liu

Reviewer (name + signature) : Jackson Fang

Approved (name + signature) : Lake Xie



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1 TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

Item	FCC Rules	Description Of Test	Result
1	FCC Part 15.207	Conducted Emission	Pass
2	FCC Part 15.209	Radiated Emission	Pass
3	FCC Part 15.203	Antenna Requirement	Pass



1.2 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.

Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225

Designation Number: CN1299

IC Registered No.: 27033

CAB identifier: CN0110



1.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9KHz ~ 150KHz	2.96	--
		150KHz ~ 30MHz	2.44	--

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9KHz ~ 30MHz	2.50	--
		30MHz ~ 1000MHz	4.80	--
		1000MHz ~ 6000MHz	4.13	--

1.4 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35 °C
Relative Humidity:	30~60 %
Air Pressure:	950~1050 hPa



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product:	Vacuum Suction Wireless Charging
Trade Mark:	BOOLA
Main Model:	K007S
Additional Model:	K77S, K003S, K33S
Model Difference:	All model's the function, software and electric circuit are the same, only with a product color and model named different. Test sample model: K007S.
FCC ID:	2BNUP-K007S
Operation Frequency:	110-205kHz
Modulation Type:	ASK
Antenna Type:	Coil Antenna
Antenna Gain:	0dBi
Battery:	N/A
Adapter:	N/A
Power Source:	DC 5V or 9V from adapter



2.2 CARRIER FREQUENCY OF CHANNELS

Test Channel	
Channel	Frequency (KHz)
01	156.4

2.3 TEST MODE

NO.	TEST MODE DESCRIPTION
1	Wireless charging Mode(Full load) (Connect to adapter)
2	Wireless charging Mode(Half load) (Connect to adapter)
3	Wireless charging Mode(Null load) (Connect to adapter)

Note: The mode 1 was the worst case and only the data of the worst case record in this report.

2.4 TEST SETUP

Operation of EUT during testing:



2.5 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	Vacuum Suction Wireless Charging	BOOLA	K007S	EUT
E-2	Adapter	N/A	N/A	AE
E-3	WPT Station (15W/10W/7.5W/5W)	N/A	N/A	AE

Note:

1. The support equipment was authorized by Declaration of Confirmation.
2. All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.



2.6 MEASUREMENT INSTRUMENTS LIST

Conduction Emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Sep. 30, 2024	Sep. 29, 2025
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	C-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Sep. 29, 2024	Sep. 28, 2025
5	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\

Radiation Emissions & Radiation Spurious Emissions Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Sep. 29, 2024	Sep. 28, 2025
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	00877	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Sep. 30, 2024	Sep. 29, 2025
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Sep. 30, 2024	Sep. 29, 2025
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Oct. 11, 2024	Oct. 10, 2025
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Sep. 29, 2024	Sep. 28, 2025
9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Sep. 29, 2024	Sep. 28, 2025
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Sep. 30, 2024	Sep. 29, 2025
11	Test Cable	N/A	R-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
12	Test Cable	N/A	R-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025



13	Test Cable	N/A	R-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
14	D.C. Power Supply	LongWei	TPR-6405D	N/A	N/A	\	\
15	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\
16	Turntable	MF	MF-7802BS	N/A	N/A	\	\
17	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\

RF Conducted Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	RF-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	Test Cable	N/A	RF-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Test Cable	N/A	RF-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
6	ESG Signal Generator	Agilent	E4421B	N/A	B.03.84	Sep. 29, 2024	Sep. 28, 2025
7	Signal Generator	Agilent	N5182A	N/A	A.01.87	Sep. 29, 2024	Sep. 28, 2025
8	Magnetic Field Probe Tester	Narda	ELT-400	0-0344	N/A	Nov. 16, 2024	Nov. 15, 2025
9	Van der Hoofden measuring head	Schwarzbeck Mess-elektronik	VDHH 9502	9502-039	N/A	Sep. 30, 2024	Sep. 29, 2025
10	Wideband Radio Communication Test	R&S	CMW500	106504	V 3.7.22	Sep. 30, 2024	Sep. 29, 2025
11	MWRF Power Meter Test system	MW	MW100-RF CB	N/A	N/A	Sep. 29, 2024	Sep. 28, 2025
12	D.C. Power Supply	LongWei	TPR-6405 D	N/A	N/A	\	\
13	RF Software	MW	MTS8310	V2.0.0.0	N/A	\	\

3 CONDUCTED EMISSION

3.1 TEST LIMIT

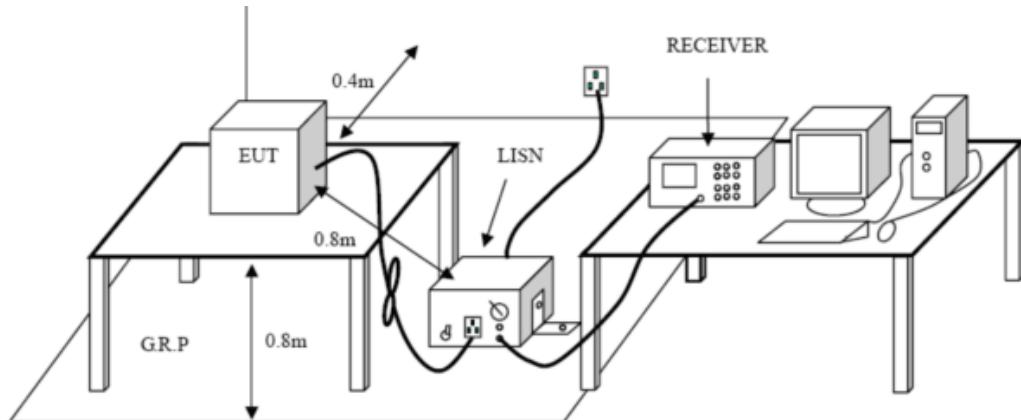
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dB μ V)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15~0.50	79	66	66~56*	56~46*
0.50~5.00	73	60	56	46
5.00~30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency.

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 TEST SETUP





3.3 TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is placed on a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

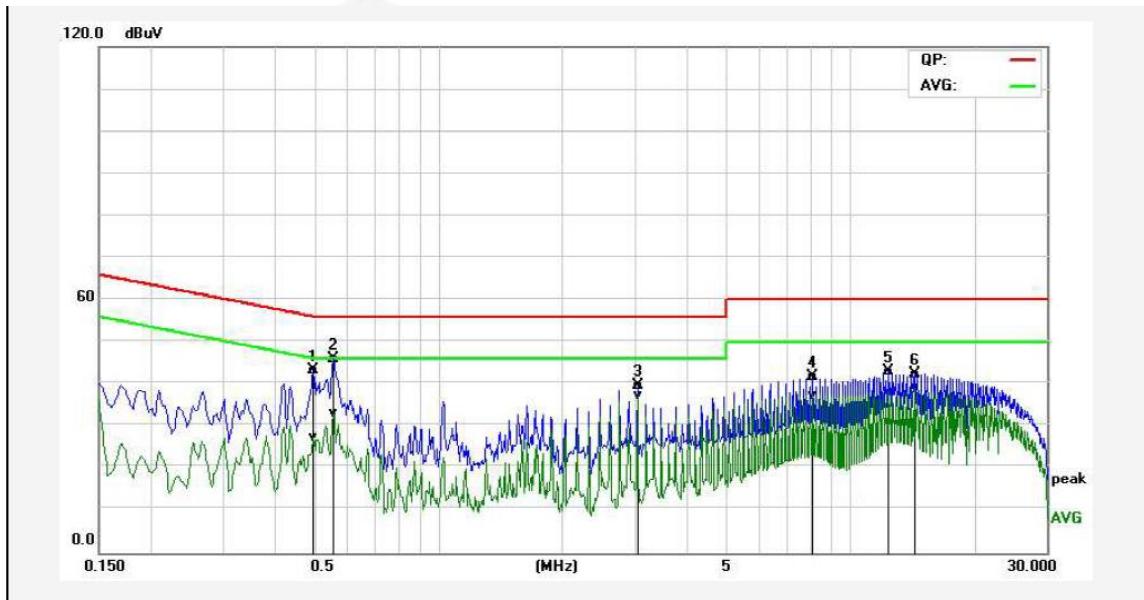
3.4 TEST RESULT

PASS

Remark: EUT was tested at AC 120V and 240V, only the worst result of AC 120V was reported.



Temperature:	26°C	Relative Humidity:	60%
Test Date:	Feb. 20, 2025	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Line
Test Mode:	Transmitting mode 1 of 156.4kHz		



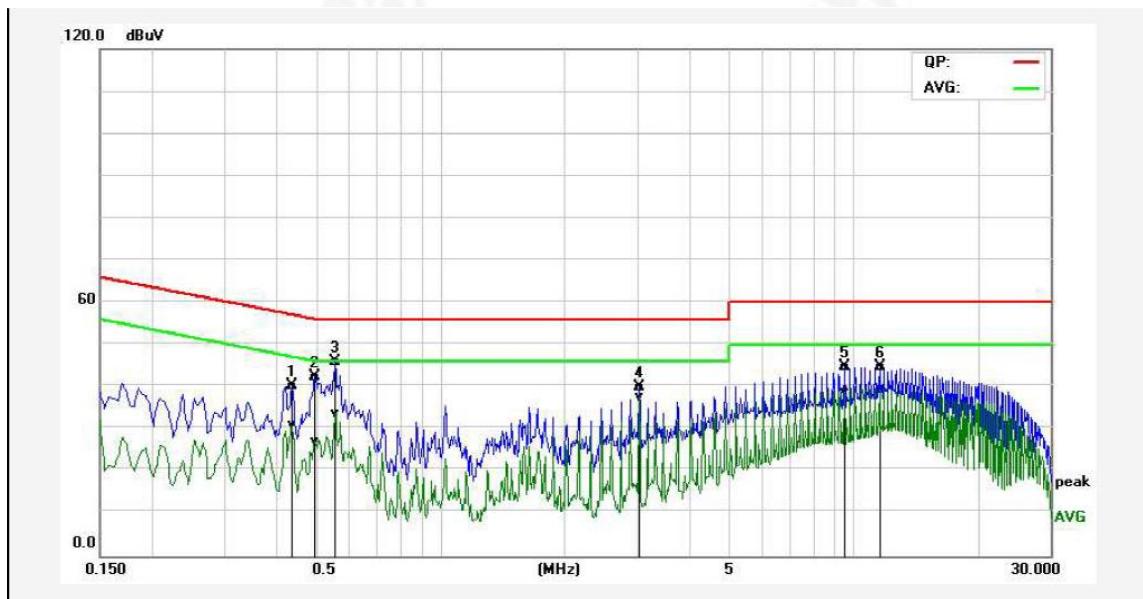
No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.4980	33.38	17.29	10.08	43.46	27.37	56.03	46.03	-12.57	-18.66	Pass
2P	0.5580	35.88	22.95	10.08	45.96	33.03	56.00	46.00	-10.04	-12.97	Pass
3*	3.0500	29.28	26.89	10.34	39.62	37.23	56.00	46.00	-16.38	-8.77	Pass
4P	8.1300	31.19	26.97	10.53	41.72	37.50	60.00	50.00	-18.28	-12.50	Pass
5P	12.3420	32.48	27.57	10.63	43.11	38.20	60.00	50.00	-16.89	-11.80	Pass
6P	14.2980	31.85	28.51	10.69	42.54	39.20	60.00	50.00	-17.46	-10.80	Pass

Remark:1. Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

2. The test mode 1 was the worst case and only the data of the worst case record in this report.



Temperature:	26°C	Relative Humidity:	60%
Test Date:	Feb. 20, 2025	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Neutral
Test Mode:	Transmitting mode 1 of 156.4kHz		



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.4380	30.11	21.01	10.10	40.21	31.11	57.10	47.10	-16.89	-15.99	Pass
2P	0.4980	32.33	17.01	10.08	42.41	27.09	56.03	46.03	-13.62	-18.94	Pass
3P	0.5580	35.90	23.74	10.08	45.98	33.82	56.00	46.00	-10.02	-12.18	Pass
4*	3.0340	29.71	27.20	10.33	40.04	37.53	56.00	46.00	-15.96	-8.47	Pass
5P	9.5380	34.18	28.39	10.57	44.75	38.96	60.00	50.00	-15.25	-11.04	Pass
6P	11.5659	34.08	28.80	10.62	44.70	39.42	60.00	50.00	-15.30	-10.58	Pass

Remark: 1. Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.
2. The test mode 1 was the worst case and only the data of the worst case record in this report.



4 RADIATED EMISSION

4.1 TEST LIMIT

CFR 47 Part 15, section 15.205

Only spurious emissions are permitted in any of the frequency bands listed the tables in these sections:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
\ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293.	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

CFR 47 Part 15, section 15.209

The emissions from an intentional radiator shall not exceed the limits in the tables in these sections using an average detector:

Frequency (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



Limit calculation and transfer to 3m distance as showed in the following table:

Frequency (MHz)	Limit (dBuV/m)	Distance (m)
0.009-0.490	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	3
0.490-1.705	$20\log(24000/F(\text{KHz}))+40\log(30/3)$	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

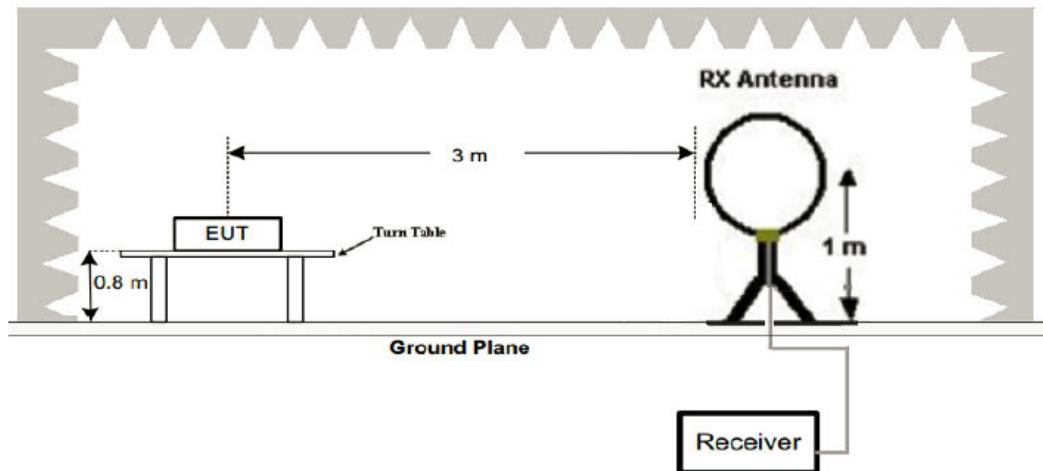
CFR 47 Part 15, section 15.35

When average radiated emission measurements are specified, the limit on the peak level of the radio Frequency emission is 20dB above the maximum permitted average emission limit.

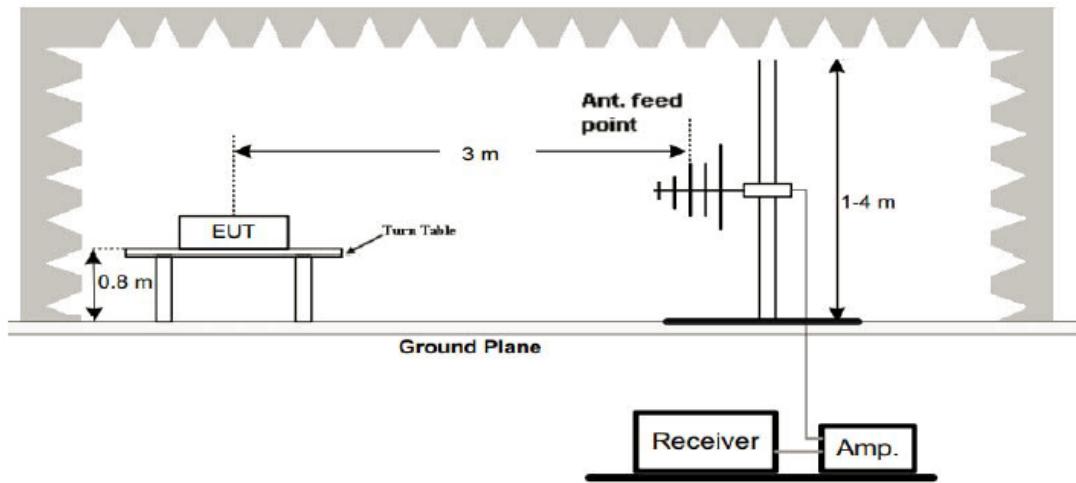
Transmitter Spurious Emissions 9KHz-30MHz			
	9-150KHz	150-490KHz	490KHz-30MHz
Resolution Bandwidth	200Hz	9KHz	9KHz
Video Bandwidth	2KHz	100KHz	100KHz
Detector	Peak	Peak	Peak
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep Time	Auto	Auto	Auto

4.2 TEST SETUP

1. Radiated Emission Test-Up Frequency Below 30MHz



2. Radiated Emission Test-Up Frequency 30MHz~1GHz





4.3 TEST PROCEDURE

1. Measurement distance is 3m.
2. For the measurement range up to 30MHz in the following plots the field strength result from 3m.
3. Distance measurement are extrapolated to 300m and 30m distance respectively, by 40dB/decade. According to part 15.31(f)(2), per antenna factor scaling.
4. Measurements below 1000MHz are performed with a peak detector and compared to average limits. Measurements with an average detector are not required.

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 TEST RESULT

PASS

For 9KHz-30MHz Test Results:

Coaxial:

Frequency (MHz)	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limits 3m (dBuV/m)	Margin (dBuV/m)
0.156	PK	63.75	15.48	79.23	105.67	-26.44
0.689	PK	40.38	15.98	56.36	70.21	-13.85
1.845	PK	29.64	16.2	45.84	69.5	-23.66
2.732	PK	36.27	15.2	51.47	69.5	-18.03
5.468	PK	39.86	15.68	55.54	69.5	-13.96
8.891	PK	38.54	15.6	54.14	69.5	-15.36

Coplanar:

Frequency (MHz)	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limits 3m (dBuV/m)	Margin (dBuV/m)
0.156	PK	61.37	15.48	76.85	105.67	-28.82
0.753	PK	45.46	15.98	61.44	69.94	-8.50
1.814	PK	33.58	16.2	49.78	69.5	-19.72
2.907	PK	31.87	15.2	47.07	69.5	-22.43
5.629	PK	30.36	15.68	46.04	69.5	-23.46
8.546	PK	30.49	15.6	46.09	69.5	-23.41



For 30MHz-1GHz Test Results:

Temperature:	25°C	Relative Humidity:	60%
Test Date:	Feb. 20, 2025	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Horizontal
Test Mode:	Transmitting mode 1 of 156.4kHz		

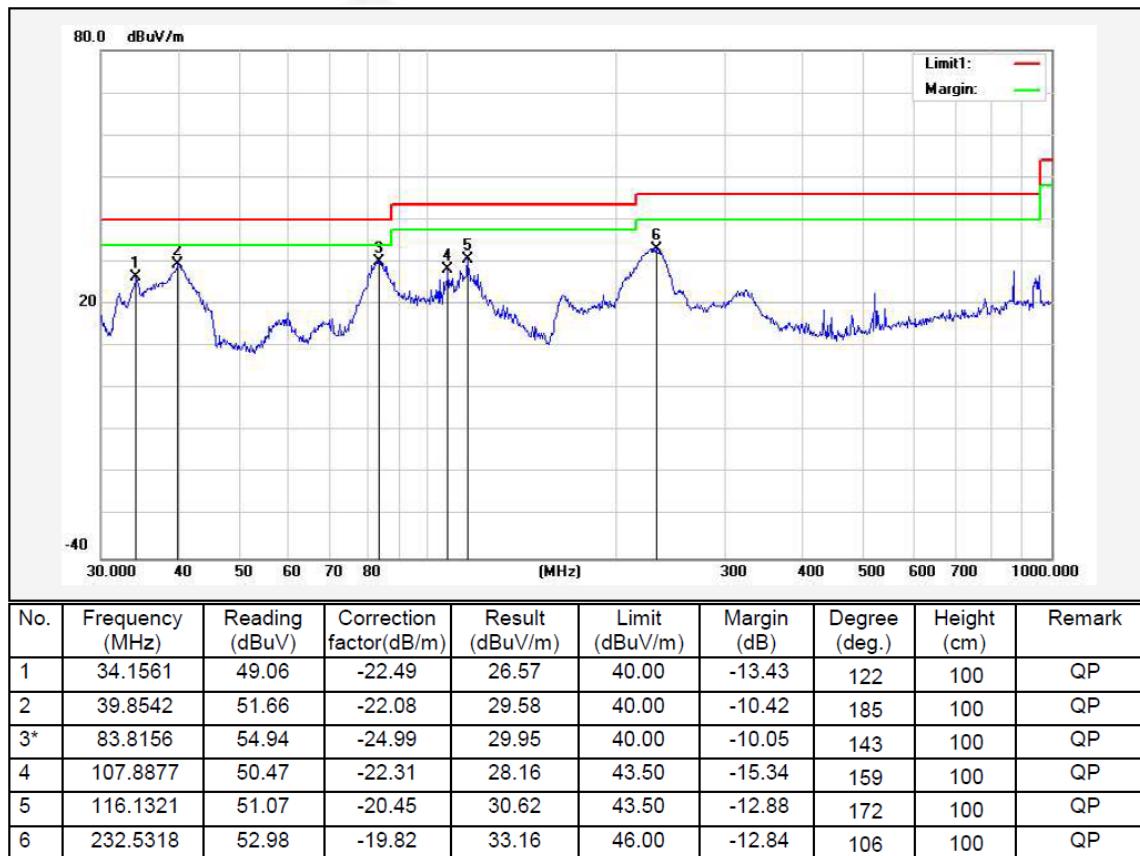


No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	39.5757	37.68	-23.25	14.43	40.00	-25.57	138	100	QP
2*	113.3163	49.58	-20.84	28.74	43.50	-14.76	125	100	QP
3	164.9075	41.36	-20.23	21.13	43.50	-22.37	195	100	QP
4	244.2321	50.19	-19.56	30.63	46.00	-15.37	144	100	QP
5	323.3204	45.50	-17.51	27.99	46.00	-18.01	167	100	QP
6	478.8456	36.60	-14.36	22.24	46.00	-23.76	179	100	QP

Remark: Result = Reading Level + Factor, Margin = Result – Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier



Temperature:	25°C	Relative Humidity:	60%
Test Date:	Feb. 20, 2025	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Vertical
Test Mode:	Transmitting mode 1 of 156.4kHz		



Remark: Result = Reading Level + Factor, Margin = Result – Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

Remark:

- * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- The test mode 1 was the worst case and only the data of the worst case record in this report.



5 ANTENNA REQUIREMENT

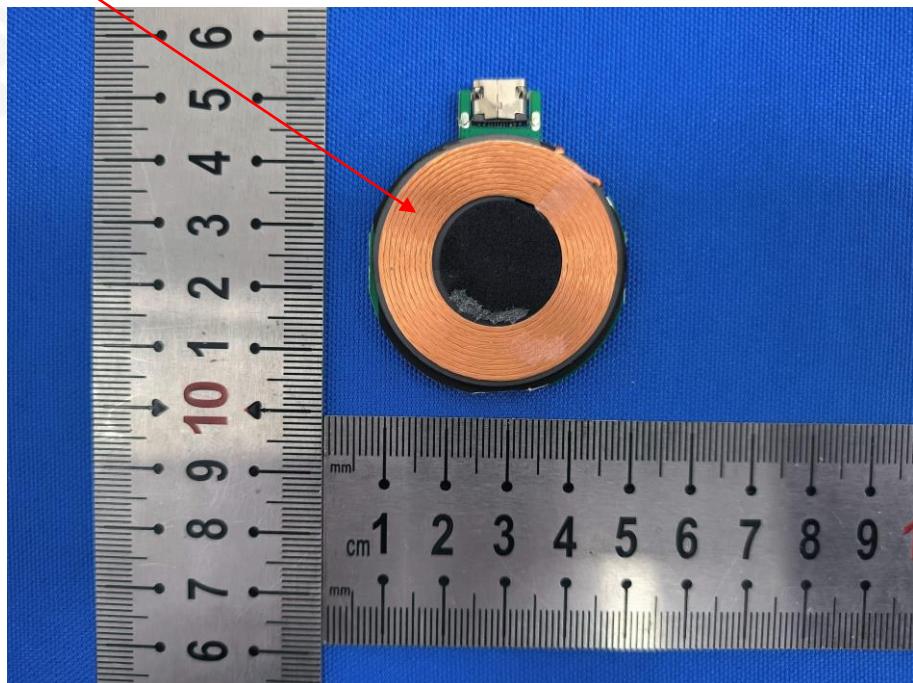
Standard Applicable:

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna Connected Construction:

The antenna used in this product is Coil Antenna, The directional gains of antenna used for transmitting is 0dBi.

ANTENNA:





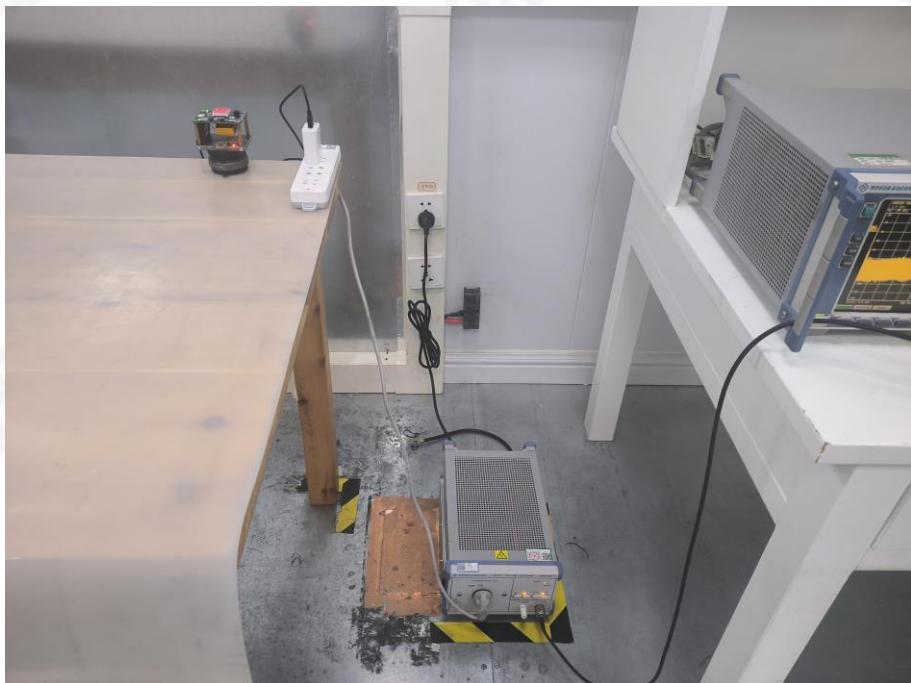
6 PHOTO OF TEST

6.1 RADIATED EMISSION





6.2 CONDUCTED EMISSION



End of Report