FCC RADIO TEST REPORT

FCC ID: 2AWF9-GBD01A

Product Name： 3 IN 1 WIRELESS CHARGER STAND

Trade Mark： N/A

Main Model： D01

Additional Model： D03,D04,D05

Report No.： UNIA21081626ER-61

Prepared for

ShenZhenshi GYBB Technology Co., Ltd.

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Prepared by

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TEST RESULT CERTIFICATION

Applicant ..... : ShenZhenshi GYBB Technology Co., Ltd.

Address ..... : 11F, Building 11#, E-commerce Intl. Centre, China South City, Pinghu, LongGang, Shenzhen, Guangdong, China

Manufacturer ..... : ShenZhenshi GYBB Technology Co., Ltd.

Address ..... : 11F, Building 11#, E-commerce Intl. Centre, China South City, Pinghu, LongGang, Shenzhen, Guangdong, China

Product description

Product Name ..... : 3 IN 1 WIRELESS CHARGER STAND

Trade Mark ..... : N/A

Model Name ..... : D01, D03, D04, D05

Test Methods ..... : FCC Rules and Regulations Part 15 Subpart C Section 15.209
ANSI C63.10: 2013

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., 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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Date of Test ..... :

Date (s) of performance of tests ..... : Aug. 17, 2021 ~ Sep. 16, 2021

Date of Issue ..... : Sep. 16, 2021

Test Result ..... : Pass

Prepared by: kahn.yang

Kahn yang/Editor

Reviewer: Sky dong

Sky dong/Supervisor

Approved & Authorized Signer: liuze

Liuze/Manager

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1 TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

ITEM	STANDARD	RESULT
CONDUCTED EMISSION	FCC Part 15.207	COMPLIANT
RADIATED EMISSION	FCC Part 15.209	COMPLIANT
ANTENNA REQUIREMENT	FCC Part 15.203	COMPLIANT

1.2 TEST LOCATION

Test Laboratory : Shenzhen United Testing Technology Co., Ltd.

Address : 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

A2LA Certificate Number: 4747.01
The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885
The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 21947
The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± 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	

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name:	3 IN 1 WIRELESS CHARGER STAND
Trade Mark:	N/A
Main Model:	D01
Additional Model:	D03, D04, D05
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: D01
FCC ID:	2AWF9-GBD01A
Operation Frequency:	115 KHz -220KHz
Test Frequency:	127.2KHz
Number of Channels:	1CH
Modulation Type:	ASK
Antenna Type:	Coil Antenna
Antenna Gain:	0dBi
Battery:	N/A
Adapter:	N/A
Power Supply(Input):	DC 5V/9V/12V by adapter
Wireless Charging Output power:	5W/7.5W/10W/15W

2.2 CARRIER FREQUENCY OF CHANNELS

Channel	Frequency (KHz)
01	127.2

2.3 TEST MODE

The EUT was programmed to be in transmitting mode.

Test mode No.	TEST Mode DESCRIPTION
1	ANT 1 TX
2	ANT 2 TX
3	ANT 3 TX

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	Vehicle wireless charging bracket	N/A	D02	EUT
E-2	Mobile phone	Xiaomi	M9	AE
E-3	Wireless Load	YBZ	15W	AE
E-2	Smartwatch	Apple	S2	AE

Item	Shielded Type	Ferrite Core	Length	Note
A-1	Yes	NO	100	USB cable

Note:

1. The support equipment was authorized by Declaration of Confirmation.
2. For detachable type I/O cable should be specified the length in cm in『Length』column.
3. “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.6 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
Conduction Emissions Measurement					
1	Conducted Emission Test Software	EZ-EMC	Ver.CCS-3A1-CE	N/A	N/A
2	AMN	Schwarzbeck	NNLK8121	8121370	2021.10.12
3	AAN	TESEQ	T8-Cat6	38888	2021.10.12
4	Pulse Limiter	CYBRTEK	EM5010	E115010056	2022.05.17
5	EMI Test Receiver	Rohde&Schwarz	ESCI	101210	2021.10.12
Radiated Emissions Measurement					
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2021.10.18
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2022.03.01
4	PREAMP	HP	8449B	3008A00160	2021.10.18
5	PREAMP	HP	8447D	2944A07999	2022.05.17
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2021.10.12
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2021.10.12
8	Signal Generator	Agilent	E4421B	MY4335105	2021.11.11
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2021.10.12
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2021.10.12
11	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2022.05.17
12	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2022.05.17
13	RF power divider	Anritsu	K241B	992289	2021.10.12
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2021.10.12
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2022.05.17
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2022.05.17
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2022.05.17
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2021.11.04
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2022.05.17
20	Signal Generator	Agilent	N5183A	MY47420153	2022.05.17
21	Spctrum Analyzer	Rohde&Schwarz	FSP 40	100501	2022.05.17
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2022.05.17
23	Frequency Meter	VICTOR	VC2000	997406086	2022.05.17
24	DC Power Source	HYELEC	HY5020E	055161818	2022.05.17

3 CONDUCTED EMISSION

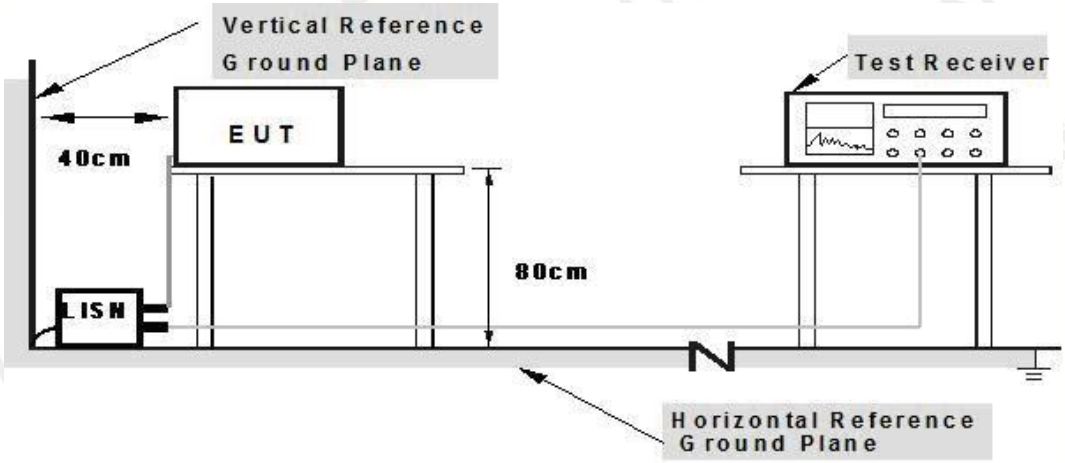
3.1 TEST LIMIT

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

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	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



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

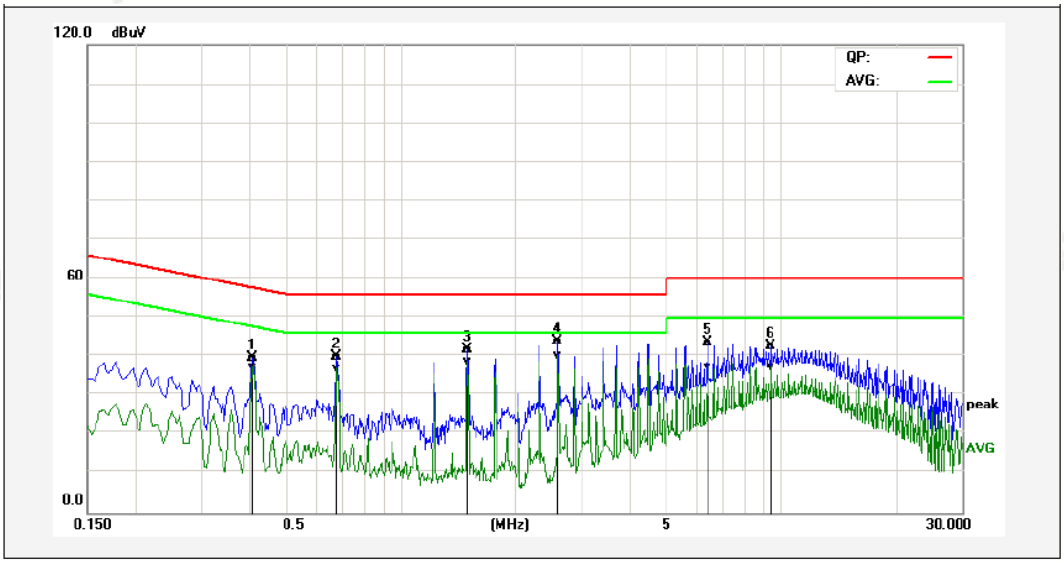
3.3 TEST PROCEDURE

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.

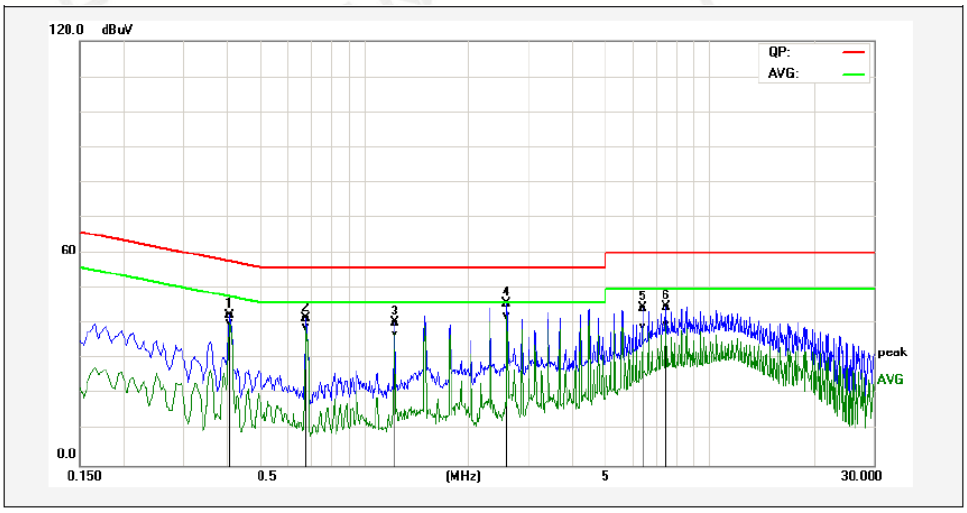
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Aug. 18, 2021	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Line
Test Mode:	Transmitting mode		



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	0.4100	30.01	27.47	9.82	39.83	37.29	57.65	47.65	-17.82	-10.36	Pass
2P	0.6820	30.37	27.13	9.81	40.18	36.94	56.00	46.00	-15.82	-9.06	Pass
3P	1.5020	31.86	29.13	9.86	41.72	38.99	56.00	46.00	-14.28	-7.01	Pass
4*	2.5940	34.10	30.55	9.92	44.02	40.47	56.00	46.00	-11.98	-5.53	Pass
5P	6.4100	33.62	27.37	9.93	43.55	37.30	60.00	50.00	-16.45	-12.70	Pass
6P	9.4140	32.89	27.40	9.98	42.87	37.38	60.00	50.00	-17.13	-12.62	Pass

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

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Aug. 18, 2021	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Neutral
Test Mode:	Transmitting mode		



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	0.4100	32.81	30.74	9.71	42.52	40.45	57.65	47.65	-15.13	-7.20	Pass
2P	0.6820	31.78	29.35	9.71	41.49	39.06	56.00	46.00	-14.51	-6.94	Pass
3P	1.2300	30.68	27.43	9.74	40.42	37.17	56.00	46.00	-15.58	-8.83	Pass
4*	2.5940	36.03	32.44	9.82	45.85	42.26	56.00	46.00	-10.15	-3.74	Pass
5P	6.4100	34.61	29.19	9.83	44.44	39.02	60.00	50.00	-15.56	-10.98	Pass
6P	7.5020	35.02	29.83	9.84	44.86	39.67	60.00	50.00	-15.14	-10.33	Pass

Note:

1. Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.
2. All antennas 1, 2, and 3 are tested. the antenna 1 is the worst case and recorded in the 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
\1\ 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:

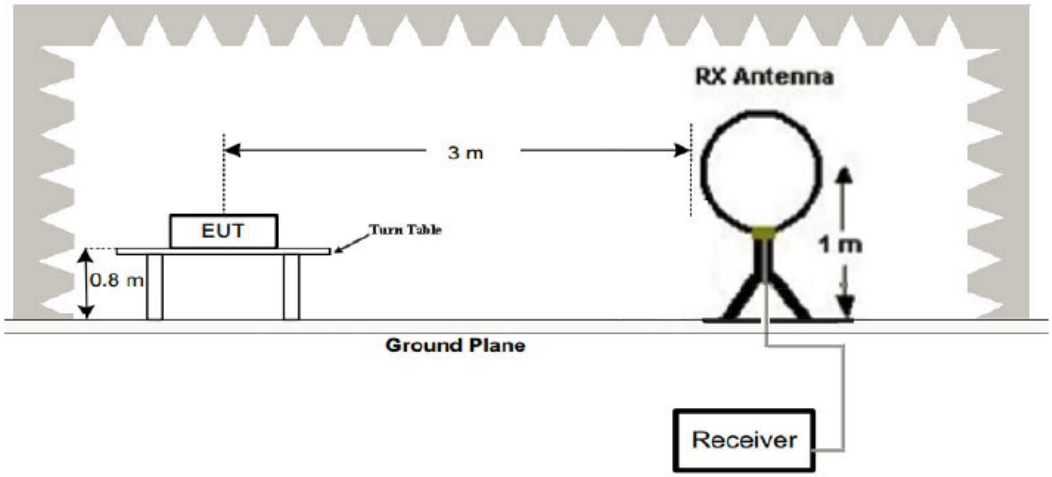
Frequency (MHz)	Limit (dBuV/m)	Distance (m)
0.009-0.490	20log(2400/F(KHz))+40log(300/3)	3
0.490-1.705	20log(24000/F(KHz))+40log(30/3)	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

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.

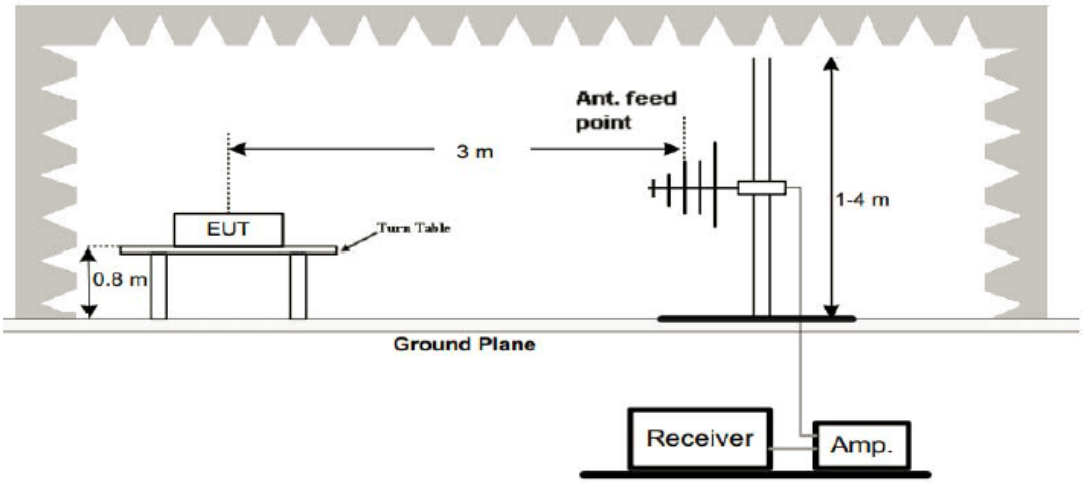
Transmitter Spurious Emissions 9KHz-30MHz			
	9-150KHz	150-490KHz	490KHz-30MHz
Resolution Bandwidth	200Hz	9KHz	9KHz
Video Bandwidth	2KHz	100KHz	100KHz
Detector	Peak	Peak	Peak
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep Time	Auto	Auto	Auto

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

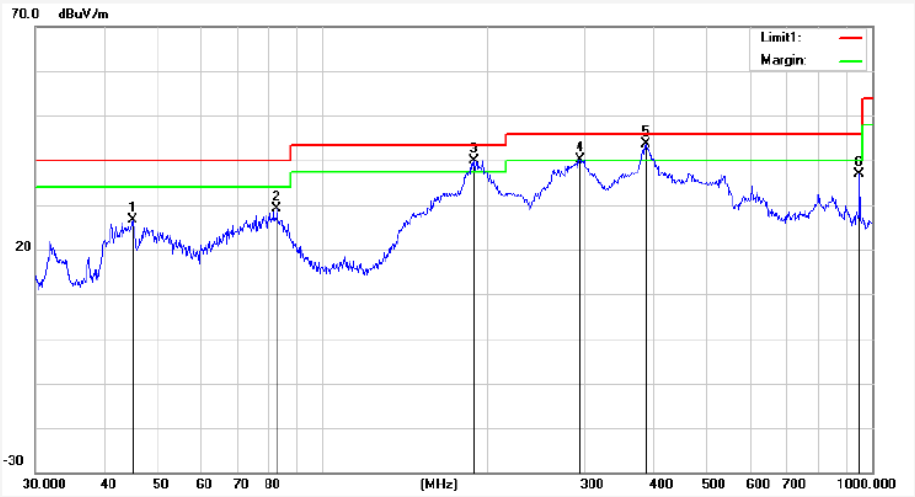
For 9KHz-30MHz Test Results:

Frequency (MHz)	Detector Mode (PK/QP)	Reading (dBuV	Factor (dB)	Level (dBuV/m)	Limits 3m (dBuV/m)	Margin (dBuV/m)
0.1272	PK	69.15	15.48	84.63	105.51	-20.88
2.85	PK	39.38	15.98	55.36	69.5	-14.14
3.16	PK	28.83	16.2	45.03	69.5	-24.47
4.346	PK	34.68	15.2	49.88	69.5	-19.62
5.257	PK	32.49	15.68	48.17	69.5	-21.33
10.836	PK	34.41	15.6	50.01	69.5	-19.49

Note:
1. All antennas 1, 2, and 3 are tested. the antenna 1 is the worst case and recorded in the report.
2. Level(dBuV/m)=Reading(dBuV)+Factor(dB/m)
   Factor(dB/m)=Antenna Factor(dB/m)+Cable loss(dB)+Attenuation(dB)for Attenuator
   Margin=Level-Limit
   For 0.1272MHz
   Limit(dBuV/m)=20log(2400/F(kHz))+40log(300/3)=105.51dBuV/m.

For 30MHz-1GHz Test Results:

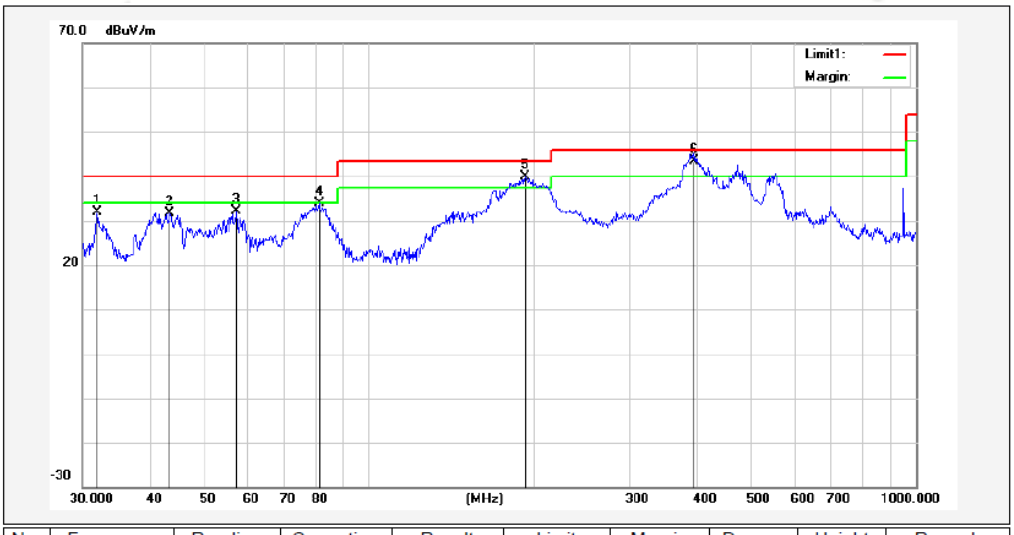
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Aug. 17, 2021	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Horizontal
Test Mode:	Transmitting mode		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	45.0583	45.09	-18.42	26.67	40.00	-13.33	105	100	peak
2	82.6482	50.69	-21.50	29.19	40.00	-10.81	108	100	peak
3!	188.4123	57.90	-18.07	39.83	43.50	-3.67	210	100	peak
4!	294.1136	55.25	-15.07	40.18	46.00	-5.82	233	100	peak
5*	387.9920	57.11	-13.37	43.74	46.00	-2.26	354	100	QP
6	948.7610	43.04	-6.15	36.89	46.00	-9.11	77	100	peak

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

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Aug. 17, 2021	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Vertical
Test Mode:	Transmitting mode		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	31.9544	40.48	-8.67	31.81	40.00	-8.19	87	100	peak
2	43.3534	48.93	-17.19	31.74	40.00	-8.26	104	100	peak
3	57.3922	53.66	-21.46	32.20	40.00	-7.80	217	100	peak
4	81.2116	55.42	-21.56	33.86	40.00	-6.14	228	100	peak
5!	193.0945	57.68	-17.73	39.95	43.50	-3.55	320	100	peak
6*	393.4723	56.41	-13.14	43.27	46.00	-2.73	115	100	QP

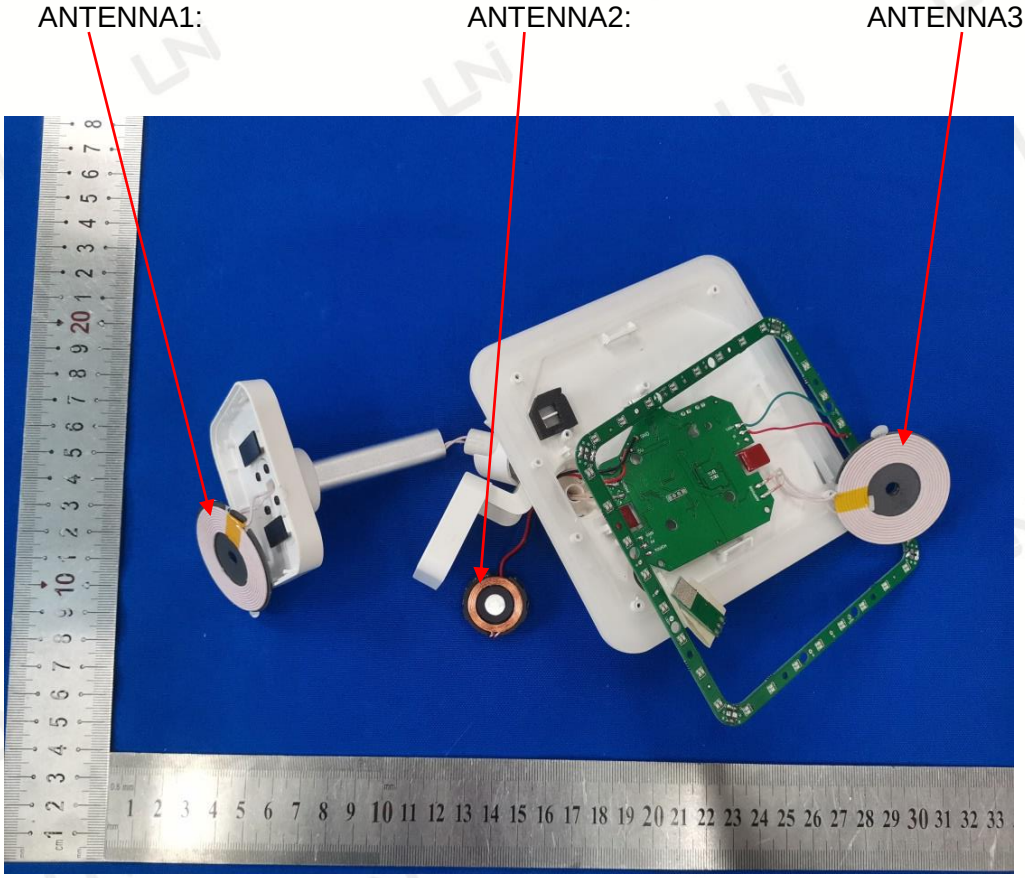
Remark: Absolute Level = Reading Level + Factor, Margin = Absolute Level – Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

Remark：
1. * 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.
2. The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
3. Note: All antennas 1, 2, and 3 are tested. the antenna 1 is the worst case and recorded in the 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.

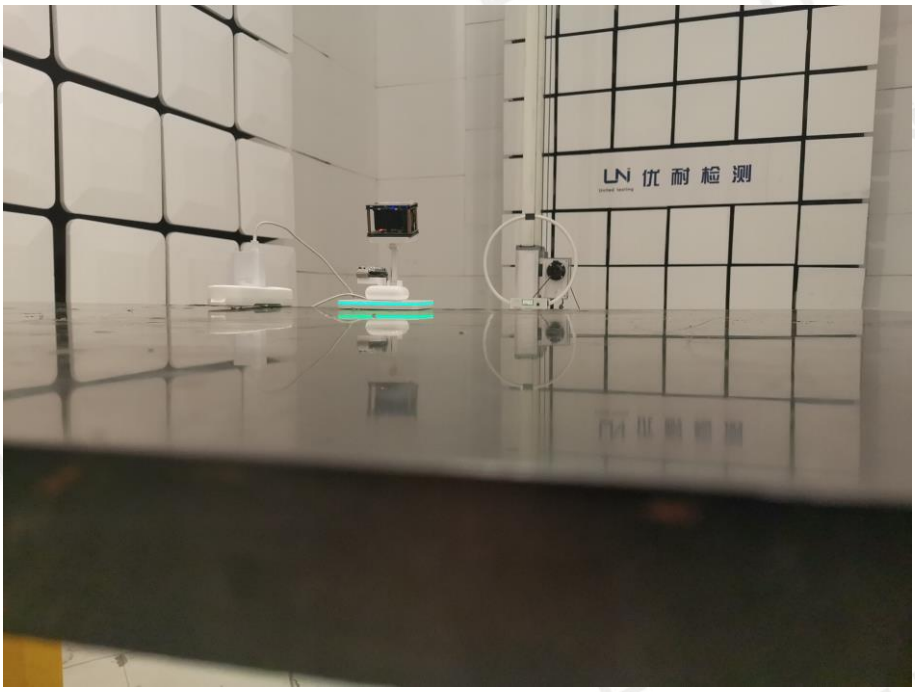
Antenna Connected Construction:
The antenna used in this product is a Coil Antenna, The directional gains of antenna used for transmitting is 0dBi.



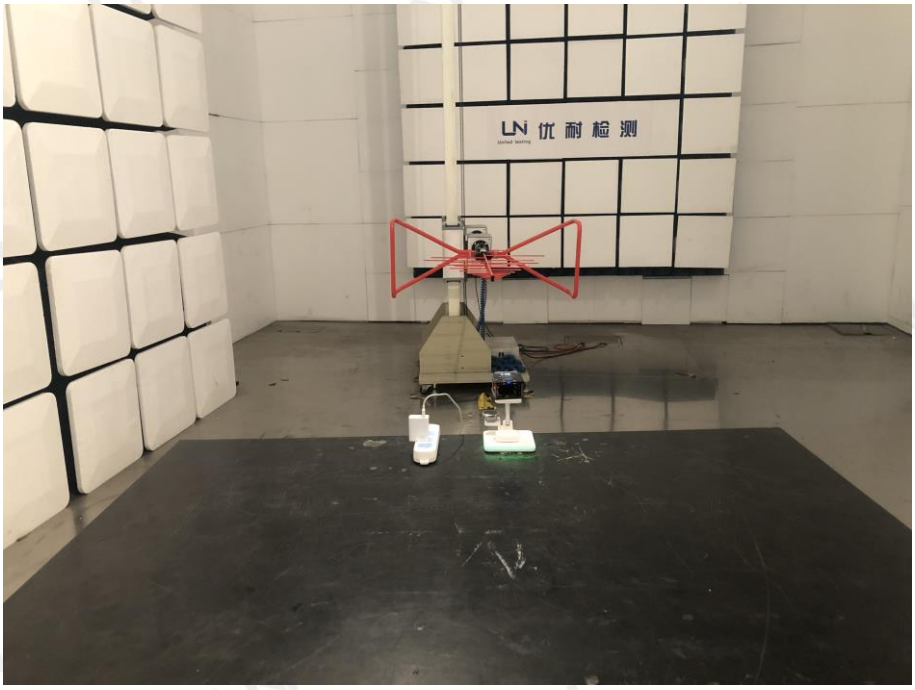
6 PHOTO OF TEST

6.1 RADIATED EMISSION

Below 30MHz



30MHz-1GHz



6.2 CONDUCTED EMISSION

*****End of Report*****