



FCC TEST REPORT

FCC ID:2BLLK-Q2

Report Number.....: **ZKT-250110L0904E**

Date of Test.....: Sept. 30, 2024 to Oct. 14, 2024

Date of issue.....: Jan. 3, 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 huanqiu Electronics Co., LTD.**

Address: 4307, 4th Floor, Seg Plaza, No. 1002 North Huaqiang Road, Fuqiang Community, Huaqiang North Street, Futian District, Shenzhen

Manufacturer's name: **Dongguan Jinduishi Electronics Co., LTD.**

Address: Room 501, Building 2, 21 Zhentang Road, Fenggang Town, Dongguan City, Guangdong Province

Test specification:

Standard.....: FCC CFR Title 47 Part 15 Subpart C

Test procedure.....: /

Non-standard test method: N/A

Test Report Form No......: TRF-EL-107_V0

Test Report Form(s) Originator.....: ZKT Testing

Master TRF: Dated: 2020-01-06

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.....: **Magnetic wireless charging mobile power supply**

Trademark: /

Model/Type reference.....: Q2

Q1, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20

Model difference.....: Q2 is tested model, other models are derivative models. The models are identical in circuit, only different on the model names, appearance color, shell shape and battery capacity. So the test data of Q2 can represent the remaining models.

Ratings.....: Battery capacity: 10000 mAh/DC 3.85V/38.5 Wh

Rated capacity: 5400mAh(5 V/3 A)

Input: 5 V/ 3A, 9 V/2 A(Type-c)

Output: PD Type-c 5 V/3 A, 9 V/2.22 A, 12 V/1.5 A(Max)

Wireless output: 5 W/7.5 W/10 W/15 W

Multi port output: 2 A



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. VERSION

Report No.	Version	Description	Approved
ZKT-250110L0904E	Rev.01	Initial issue of report	Jan. 3, 2025



2. TEST SUMMARY

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Spurious Emission	15.209(a)(f)	Pass
20dB Bandwidth	15.215	Pass

NOTE:
(1) "N/A" denotes test is not applicable in this Test Report



2.1 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

2.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	AC Conducted Emission Test	$\pm 1.38\text{dB}$
2	3m chamber Radiated spurious emission(9KHz-30MHz)	$U=4.5\text{dB}$
3	3m chamber Radiated spurious emission(30MHz-1GHz)	$U=4.8\text{dB}$
4	3m chamber Radiated spurious emission(1GHz-18GHz)	$U=4.9\text{dB}$
5	3m chamber Radiated spurious emission(18GHz-40GHz)	$U=5.0\text{dB}$
6	Conducted Adjacent channel power	$U=1.38\text{dB}$
7	Conducted output power uncertainty Above 1G	$U=1.576\text{dB}$
8	Conducted output power uncertainty below 1G	$U=1.28\text{dB}$
9	humidity uncertainty	$U=5.3\%$
10	Temperature uncertainty	$U=0.59^{\circ}\text{C}$



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

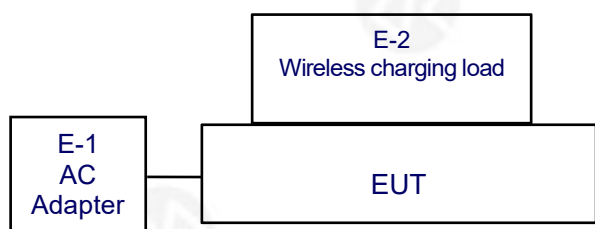
Product Name:	Magnetic wireless charging mobile power supply
Test Model No.:	Q2
Hardware version:	V1.0
Software version:	V1.0
Operation Frequency:	110.1-205KHz
Modulation type:	MSK
Antenna Type:	Inductive loop coil Antenna
Antenna gain:	0dBi
Power supply:	Battery capacity:10000 mAh/DC 3.85V/38.5 Wh Rated capacity:5400mAh(5 V/3 A) Input:5 V/ 3A, 9 V/2 A(Type-c) Output:PD Type-c 5 V/3 A, 9 V/2.22 A, 12 V/1.5 A(Max) Wireless output:5 W/7.5 W/10 W/15 W Multi port output:2 A

3.2 Test mode

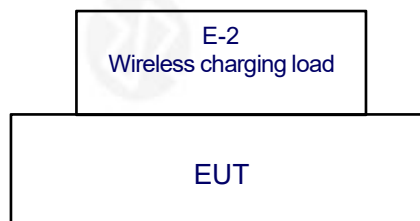
Test Modes:	
Mode 1	Charging mode + Wireless charging mode(5W)
Mode 2	Wireless charging(5W)
Mode 3	Wireless charging(7.5W)
Mode 4	Wireless charging(10W)
Mode 5	Wireless charging(15W)
Note: 1.All modes were tested, only the worst-case was recorded in the report. Mode 5 is the worst mode. 2.EUT support charging and discharging at the same time, Charging and discharging at the same time can only reach 5W.	

3.3 Block Diagram of EUT Configuration

Mode 1



Mode 2 & Mode 3 & Mode 4 & Mode 5:



3.4 Test Conditions

Temperature: 23~26℃

Relative Humidity: 54~63 %



3.5 Description Of Support Units (Conducted Mode)

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.	Series No.	Note
E-1	Wireless charging load	/	EESON	N/A	AE
E-2	AC Adapter	Xiaomi	MDY-12-ED	N/A	AE

Item	Shielded Type	Ferrite Core	Length	Note

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”.



3.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation emissions& Radio Test equipment

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	\	\



Conducted 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	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, 2023	Nov. 15, 2024
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	\	\



4. CONDUCTED EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quas-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

4.1.2 TEST PROCEDURE

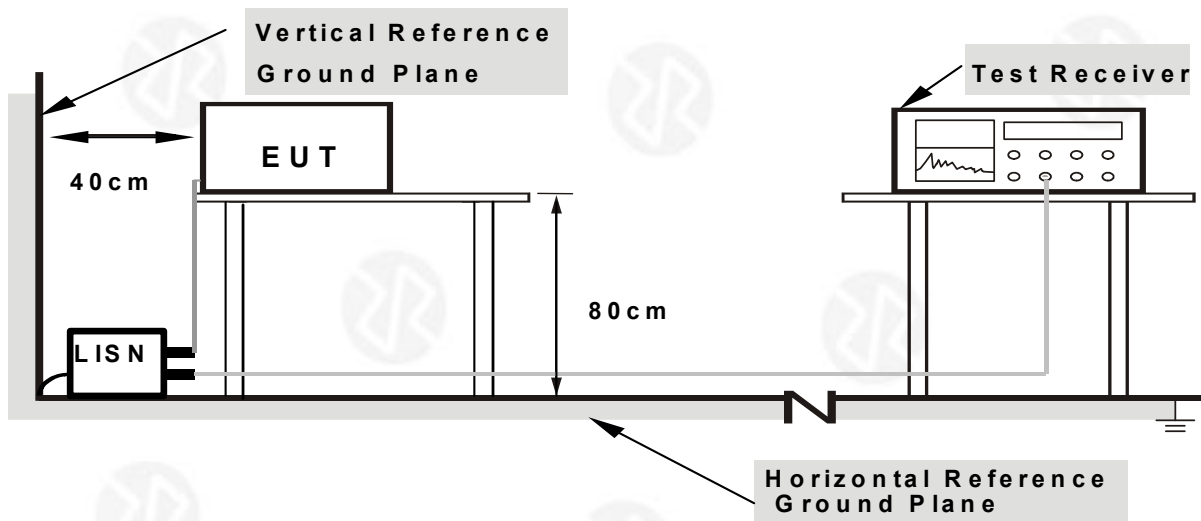
- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation



4.1.4 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

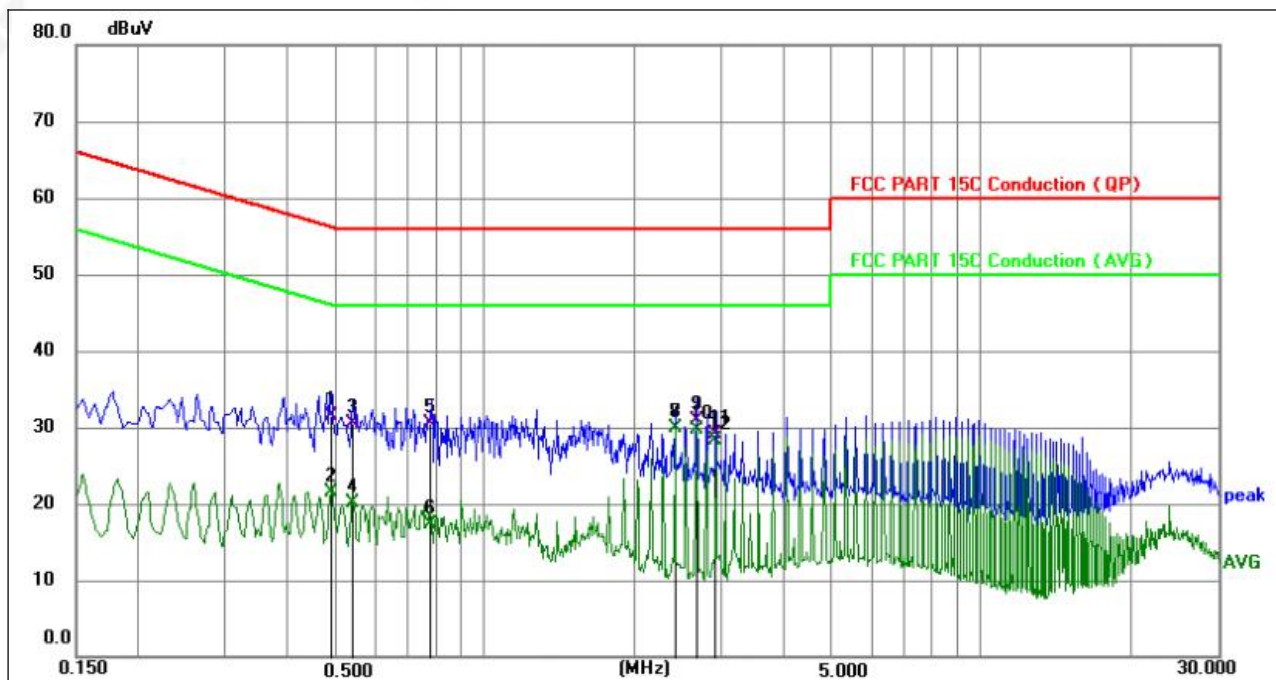
4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



4.1.6 Test Result

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	L
Test Voltage:	AC 120V/60Hz	Test mode	Mode 1



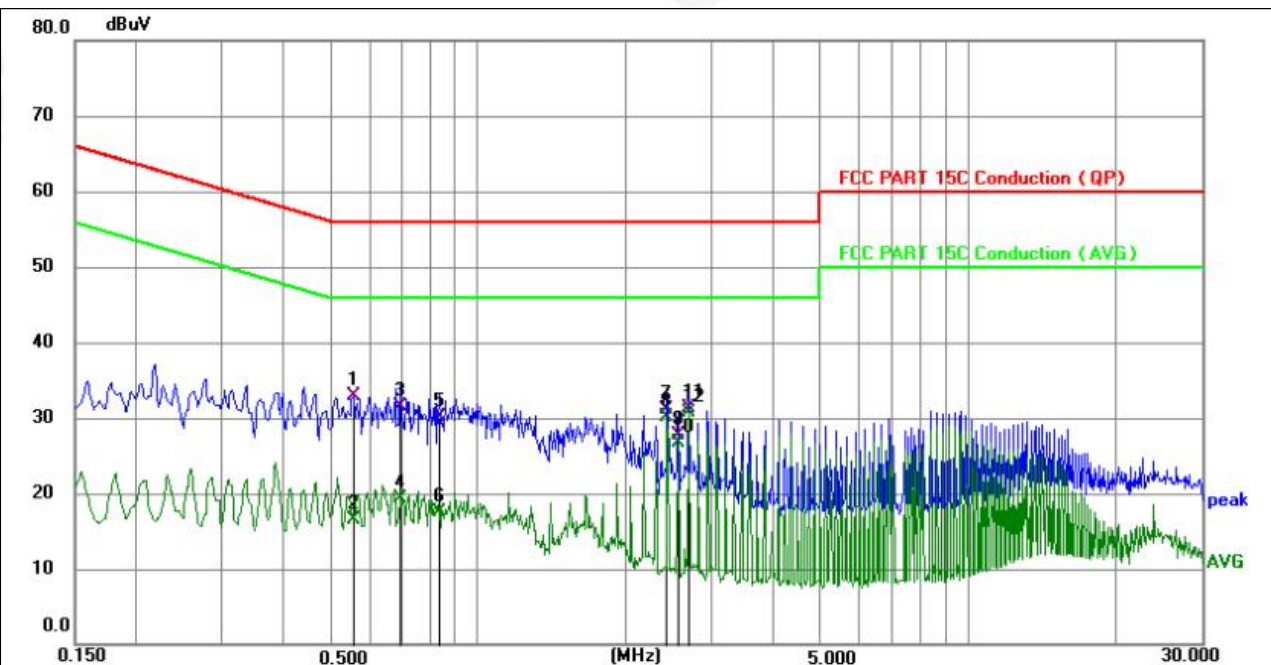
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.4874	21.46	10.01	31.47	56.21	-24.74	QP	P	
2	0.4874	11.56	10.01	21.57	46.21	-24.64	AVG	P	
3	0.5414	20.48	10.02	30.50	56.00	-25.50	QP	P	
4	0.5414	10.18	10.02	20.20	46.00	-25.80	AVG	P	
5	0.7799	20.48	10.04	30.52	56.00	-25.48	QP	P	
6	0.7799	7.27	10.04	17.31	46.00	-28.69	AVG	P	
7	2.4134	19.93	10.07	30.00	56.00	-26.00	QP	P	
8 *	2.4134	19.79	10.07	29.86	46.00	-16.14	AVG	P	
9	2.6655	20.75	10.06	30.81	56.00	-25.19	QP	P	
10	2.6655	19.66	10.06	29.72	46.00	-16.28	AVG	P	
11	2.9219	19.07	10.07	29.14	56.00	-26.86	QP	P	
12	2.9219	18.27	10.07	28.34	46.00	-17.66	AVG	P	

Notes:

- 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3.Measurement Level = Reading level + Correct Factor



Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	N
Test Voltage:	AC 120V/60Hz	Test mode	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.5550	22.84	10.02	32.86	56.00	-23.14	QP	P	
2	0.5550	6.39	10.02	16.41	46.00	-29.59	AVG	P	
3	0.6900	21.37	10.04	31.41	56.00	-24.59	QP	P	
4	0.6900	9.34	10.04	19.38	46.00	-26.62	AVG	P	
5	0.8340	20.04	10.05	30.09	56.00	-25.91	QP	P	
6	0.8340	7.44	10.05	17.49	46.00	-28.51	AVG	P	
7	2.4315	21.07	10.07	31.14	56.00	-24.86	QP	P	
8	2.4315	19.98	10.07	30.05	46.00	-15.95	AVG	P	
9	2.5620	17.72	10.06	27.78	56.00	-28.22	QP	P	
10	2.5620	16.57	10.06	26.63	46.00	-19.37	AVG	P	
11	2.6880	21.21	10.07	31.28	56.00	-24.72	QP	P	
12 *	2.6880	20.65	10.07	30.72	46.00	-15.28	AVG	P	

Notes:

- 1.An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3.Measurement Level = Reading level + Correct Factor



5. RADIATED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 1GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average

5.1 Radiated Emission Limits

Limits for frequency below 30MHz

Frequency	Limit (uV/m)	Measurement Distance(m)	Remark
0.009-0.490	2400/F(kHz)	300	Quasi-peak Value
0.490-1.705	24000/F(kHz)	30	Quasi-peak Value
1.705-30	30	30	Quasi-peak Value

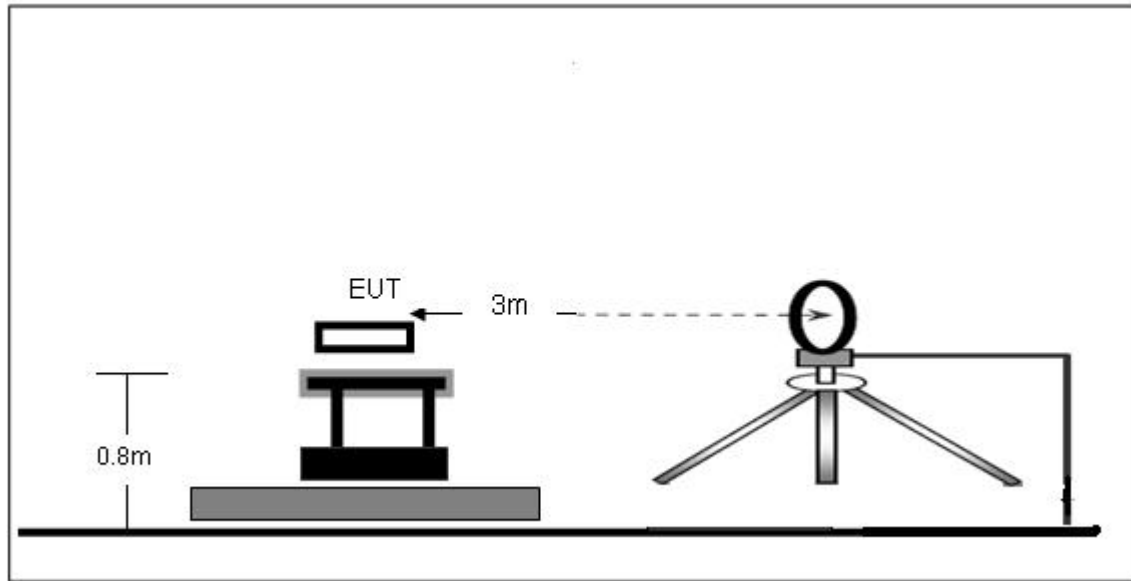
Limits for frequency Above 30MHz

Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

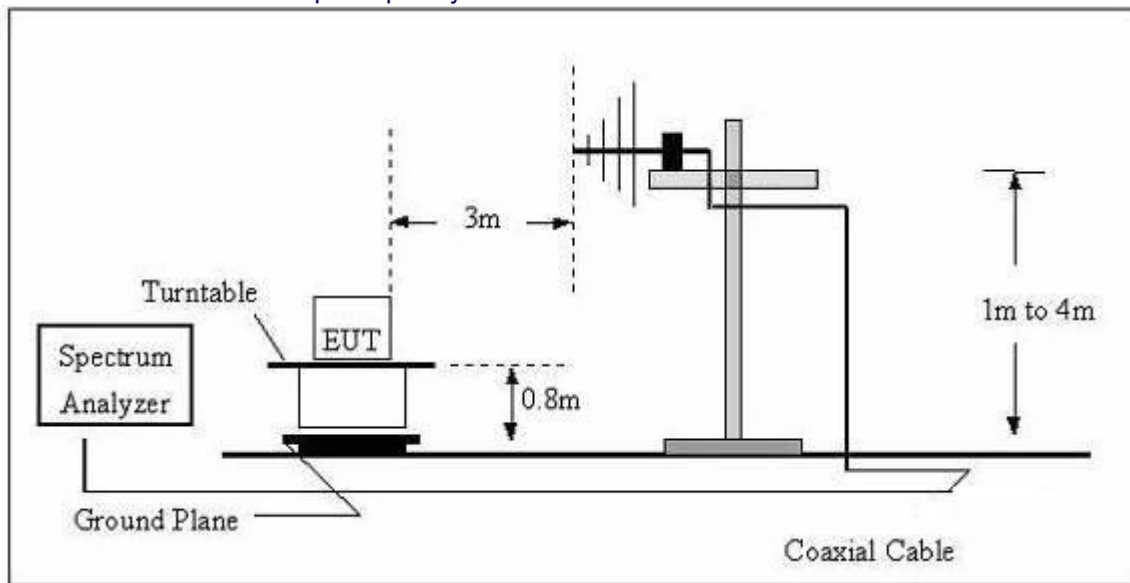


5.2 Anechoic Chamber Test Setup Diagram

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.205 limits.

5.3 Test Procedure

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna (calibrated by dipole antenna) are used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement.

5.4 DEVIATION FROM TEST STANDARD

No deviation



5.5 Test Result

Measurement data:

Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80

Limit dBuV/m @3m = Limit dBuV/m @30m + 40

9 kHz~30 MHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	coaxial
Test Voltage:	DC 3.85V	Test Modes:	Mode 5



Remarks:

Pre-scan in the all of mode, the worst case in of was recorded.

Factor = antenna factor + cable loss – pre-amplifier.

Emission Level = Meter Reading - Factor

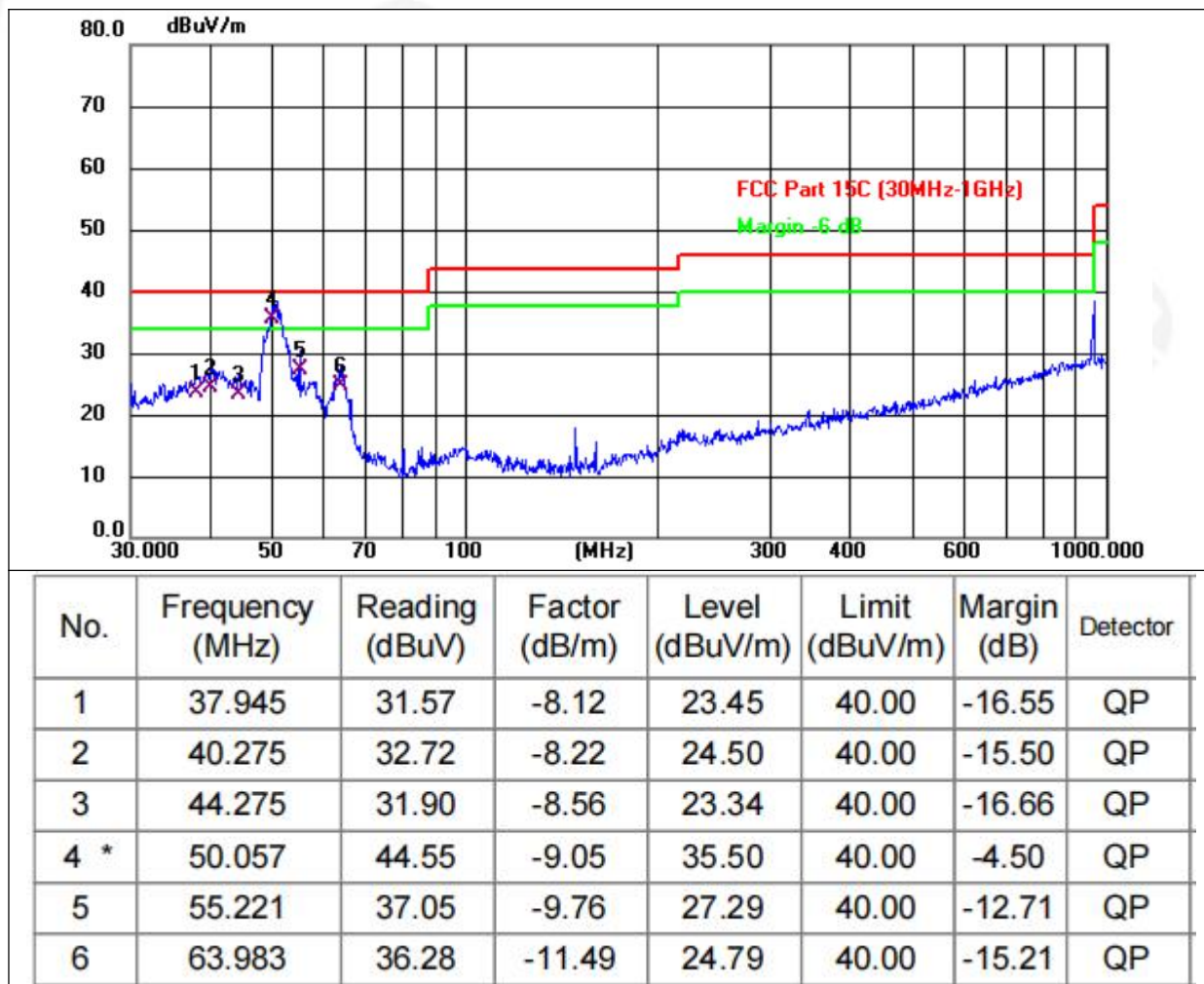
Margin = Emission Level- Limit.

The amplitude of emissions which are attenuated by more than 20db below the permissible value has no need to be reported.



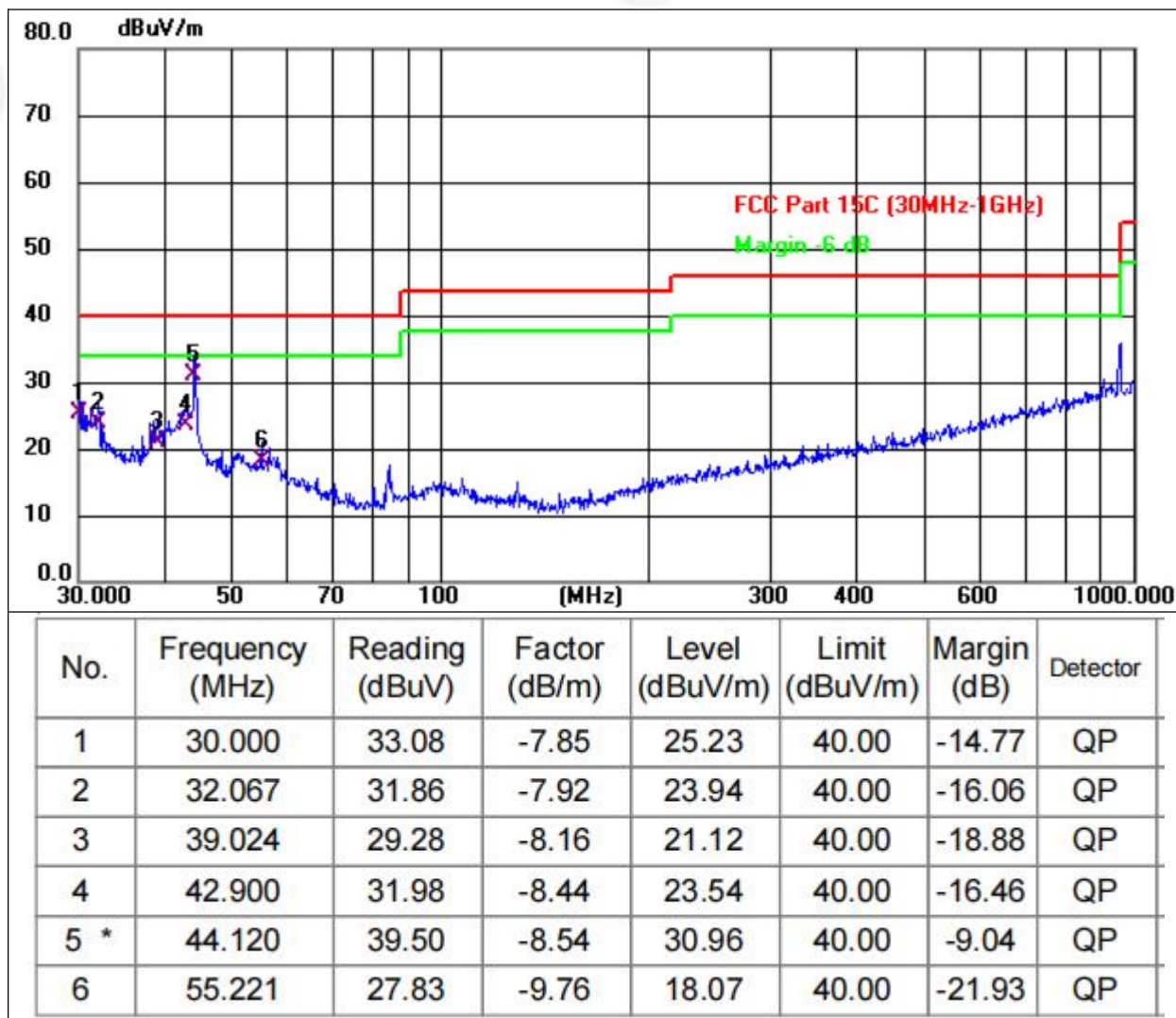
30MHz-1GHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 3.85V	Test Modes:	Mode 5





Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 3.85V	Test Modes:	Mode 5



Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.



6. BANDWIDTH TEST

1. Set RBW = 10 Hz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

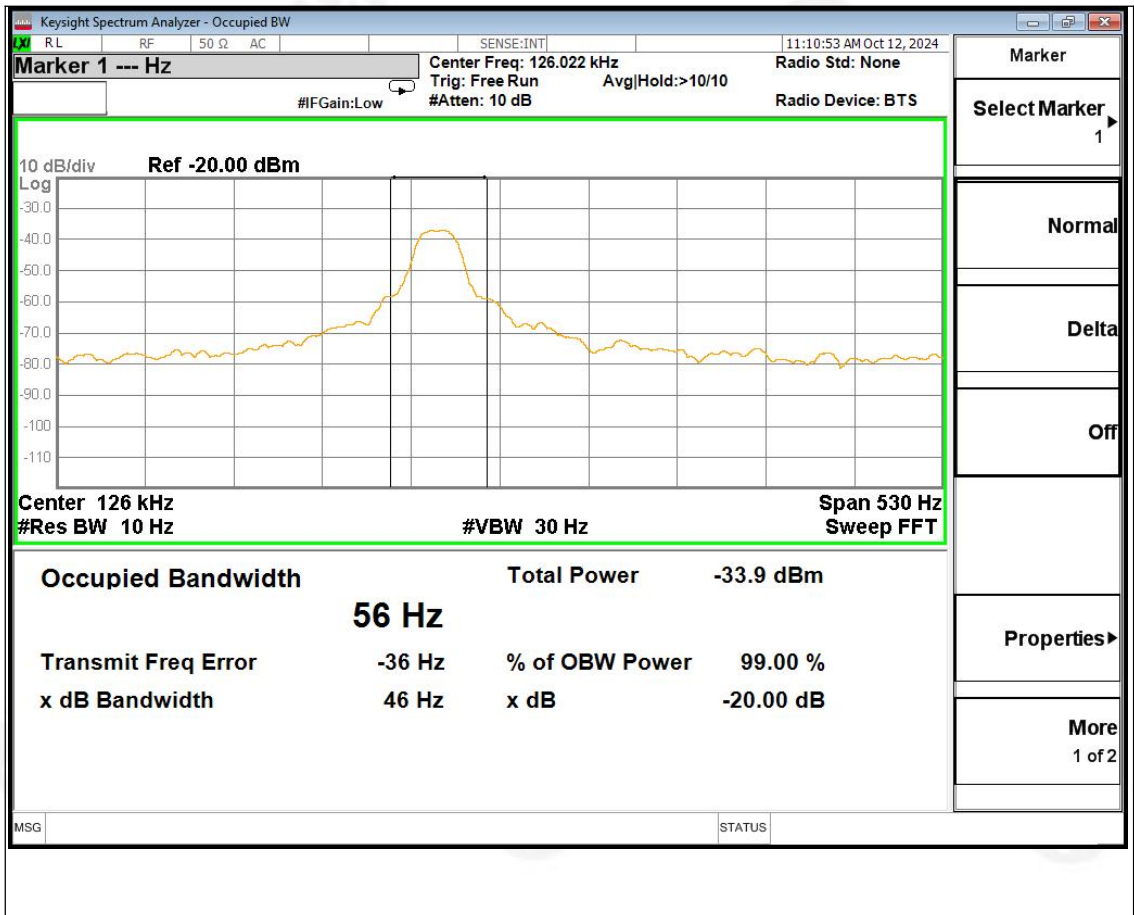
TEST SETUP





Temperature:	25.3 °C	Relative Humidity:	56%
Pressure:	101kPa		

Frequency (KHz)	20dB bandwidth (KHz)	Result
126.0	0.046	Pass





7. ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203 /247(b)(4)
15.203 requirement: 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
15.247(b) (4) requirement: (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
EUT Antenna:	
The antenna is Inductive loop coil Antenna, the best case gain of the antennas is 0dBi, reference to the appendix II for details	



8. TEST SETUP PHOTO

Reference to the appendix I for details.

9. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

***** **END OF REPORT** *****