



FCC TEST REPORT

FCC ID: 2AGCW701

Product Name:	Wireless charger
Trademark:	N/A
Model Number:	OEXH701 OEXH702, OEXH703, OEXH705, OEXH706
Prepared For :	Hang Zhou Joye Technology Co., Ltd.
Address :	No.1218,Wenyi Road,Yu Hang District, Hangzhou, China
Prepared By :	Shenzhen BCTC Technology Co., Ltd.
Address :	No.101,Yousong Road,Longhua New District, Shenzhen,China Nanshan District, Shenzhen, China
Report No.:	BCTC-151012857



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TEST RESULT CERTIFICATION

Applicant's name **Hang Zhou Joye Technology Co., Ltd.**

Address No.1218,Wenyi Road,Yu Hang District, Hangzhou, China

Manufacture's Name **Hang Zhou Joye Technology Co., Ltd.**

Address No.1218,Wenyi Road,Yu Hang District, Hangzhou, China

Product description

Product name **Wireless charger**

Trademark N/A

Model and/or type reference : **OEXH701**

Serial Model : **OEXH702, OEXH703, OEXH705, OEXH706**

Standards FCC Part 15 C: 2014

Test Date: Oct. 18 - Oct. 25, 2015

Date of Report : Oct. 29, 2015

This device described above has been tested by BCTC, and the test results show that the equipment under And it is applicable only to the tested sample identified in the report.

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Prepared by(Engineer):

Eric Yang

Reviewer(Quality Manager):

Sophie Lee

Approved & Authorized Signer(Manager):

Casey Wang





1. GENERAL INFORMATION

1.1. Report information

- 1.1.1. This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BCTC approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BCTC in any way guarantees the later performance of the product/equipment.
- 1.1.2. The sample/s mentioned in this report is/are supplied by Applicant, BCTC therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.
- 1.1.3. Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BCTC, unless the applicant has authorized BCTC in writing to do so.

1.2. Measurement Uncertainty

Available upon request.

1.3. Test Facility

Site Description
Name of Firm : Shenzhen BCTC Technology Co., Ltd.

Site Location : A. Floor 3, 44 Building, Tanglang Industrial Park
B, Taoyuan Street, Nanshan District, Shenzhen,
China

1.4. Test Uncertainty

Conducted Emission = $\pm 2.66\text{dB}$
Uncertainty
Radiated Emission Uncertainty = $\pm 4.15\text{dB}$

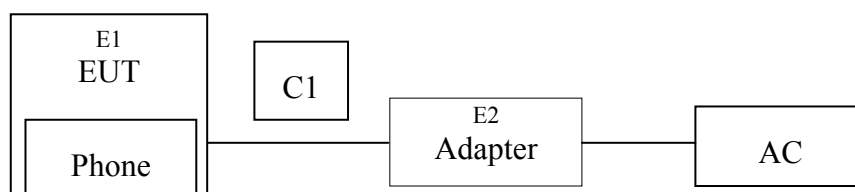


2. PRODUCT DESCRIPTION

2.1.EUT Description

Description	: Wireless charger
Applicant	: Hang Zhou Joye Technology Co., Ltd. No.1218,Wenyi Road,Yu Hang District,Hangzhou, China
Manufacturer	: Hang Zhou Joye Technology Co., Ltd. No.1218,Wenyi Road,Yu Hang District,Hangzhou, China
Modulation Type:	: MSK
Operation Frequency:	: 110K~205K
Channel number	: 2 channels
Model Number	: OEXH701
Serial Model	: OEXH702, OEXH703, OEXH705, OEXH706
Model Difference	: All the same, is different for outlook color, model name, Ring size.

2.2.Block Diagram of EUT Configuration



2.3.Test Conditions

Temperature: 23~25℃

Relative Humidity: 55~63 %



2.4. 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 charger	N/A	OEXH701	N/A	EUT
E-2	Adapter	N/A	ODL-28850100	N/A	
	Mobile phone	iPhone 5	A1530	N/A	
	Battery model	iPhone 5	A1530B	N/A	electric quantity:0%,50%,90%

Item	Shielded Type	Ferrite Core	Length	Note
C1	NO	NO	0.5M	

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”.

2.5. TEST Results Summary

Table 1 Test Results Summary

Test Items	Test Results
Conducted disturbance	Pass
Radiated disturbance	Pass

Remark: “N/A” means “Not applicable.”

DESCRIPTION OF TEST MODES

For Conducted & Radiated Emission	
Final Test Mode	Description
Mode 1	TX Low Channel 110kHz
Mode 2	TX High channel 205kHz
Mode 3	RX Mode
Mode 4	Transfer mode(Battery's electric quantity reference item2.4)

we pretest all mode, the report only show the worst mode.



3. TEST EQUIPMENT USED

3.1. For Conducted Emission Test

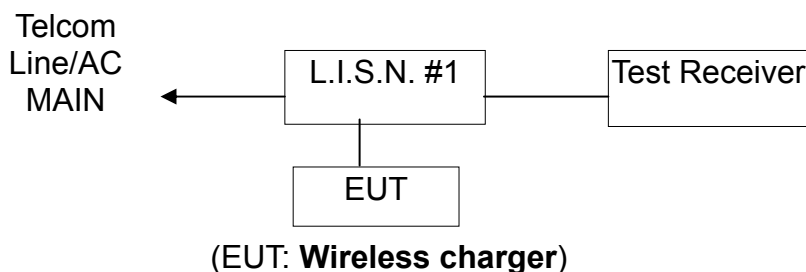
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Test Receiver	Rohde & Schwarz	ESHS30	828985/018	Aug. 24 15	1 Year
2	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	Aug. 24 15	1 Year
3	L.I.S.N.	Rohde & Schwarz	ESH2-Z5	834549/005	Aug. 24 15	1 Year

3.2. For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	ANRITSU	MS2661C	6200140915	Aug. 24 15	1 Year
2	Test Receiver	Rohde&Schwarz	ESHS30	828985/018	Aug. 24 15	1 Year
3	Bilog Antenna	Schwarzbeck	VULB9163	142	Aug. 24 15	1 Year
4	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	Aug. 24 15	1 Year
5	Cable	Schwarzbeck	AK9513	ACRX1	Aug. 24 15	1 Year
6	Cable	Rosenberger	N/A	FR2RX2	Aug. 24 15	1 Year
7	Cable	Schwarzbeck	AK9513	CRRX2	Aug. 24 15	1 Year
8	Cable	Schwarzbeck	AK9513	CRRX2	Aug. 24 15	1 Year
9	Single Phase Power Line Filter	MPE	23332C	N/A	Aug. 24 15	1 Year
10	Single Phase Power Line Filter	MPE	23333C	N/A	Aug. 24 15	1 Year
11	Signal Generator	HP	864A	3625U00573	Aug. 24 15	1 Year
12	Loop Antenna	ARA	PLA-1030/B	1029	Aug. 24 15	1 Year

4. CONDUCTED EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC Part 15 C: 2014

4.3. Conducted Emission Limit (Class B)

Frequency MHz	Limits dB(μ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

4.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet Part 15 B requirement and operating in a manner, which tends to maximize its emission characteristics in a normal application.

4.4.1. Wireless charger

Model Number: **OEXH701**

4.5. Operating Condition of EUT

4.5.1. Setup the EUT and simulators as shown in Section 5.1.

4.5.2. Turn on the power of all equipments.

4.5.3. Let the EUT work in test modes (energy transfer mode).



4.6. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver (R&S Test Receiver ESHS30) is used to test the emissions form both sides of AC line. The bandwidth of EMI test receiver is set at 9kHz.

The bandwidth of the test receiver (R&S Test Receiver ESHS30) is set at 10KHz.

4.7. Test Result

PASS

Please refer to the following pages.

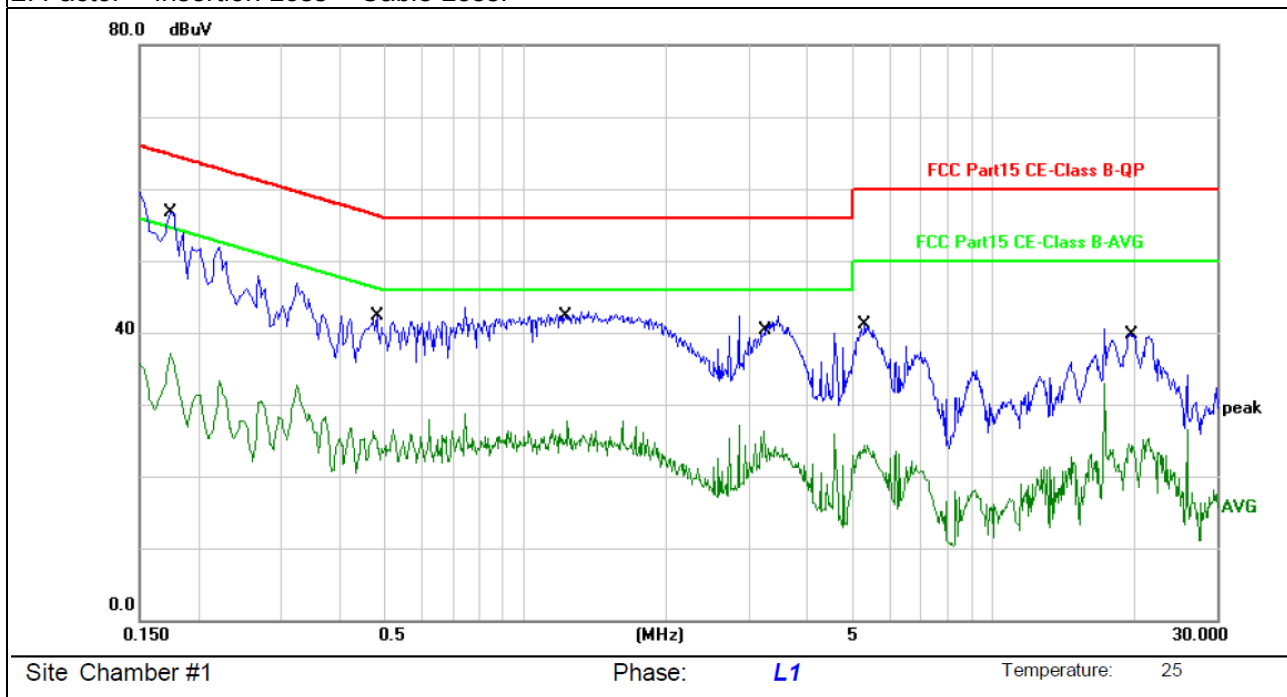


EUT:	Wireless charger	Model Name :	OEXH701
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 4

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
	MHz	dBuV	dB	dBuV	dBuV	dB		
1 *	0.1740	46.72	10.06	56.78	64.76	-7.98	QP	
2	0.1740	27.14	10.06	37.20	54.76	-17.56	AVG	
3	0.4820	32.27	10.11	42.38	56.30	-13.92	QP	
4	0.4820	17.80	10.11	27.91	46.30	-18.39	AVG	
5	1.2340	32.67	10.17	42.84	56.00	-13.16	QP	
6	1.2340	17.63	10.17	27.80	46.00	-18.20	AVG	
7	3.2300	32.15	10.18	42.33	56.00	-13.67	QP	
8	3.2300	16.02	10.18	26.20	46.00	-19.80	AVG	
9	5.3859	30.11	10.13	40.24	60.00	-19.76	QP	
10	5.3859	14.27	10.13	24.40	50.00	-25.60	AVG	
11	19.6900	29.60	10.17	39.77	60.00	-20.23	QP	
12	19.6900	15.07	10.17	25.24	50.00	-24.76	AVG	

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



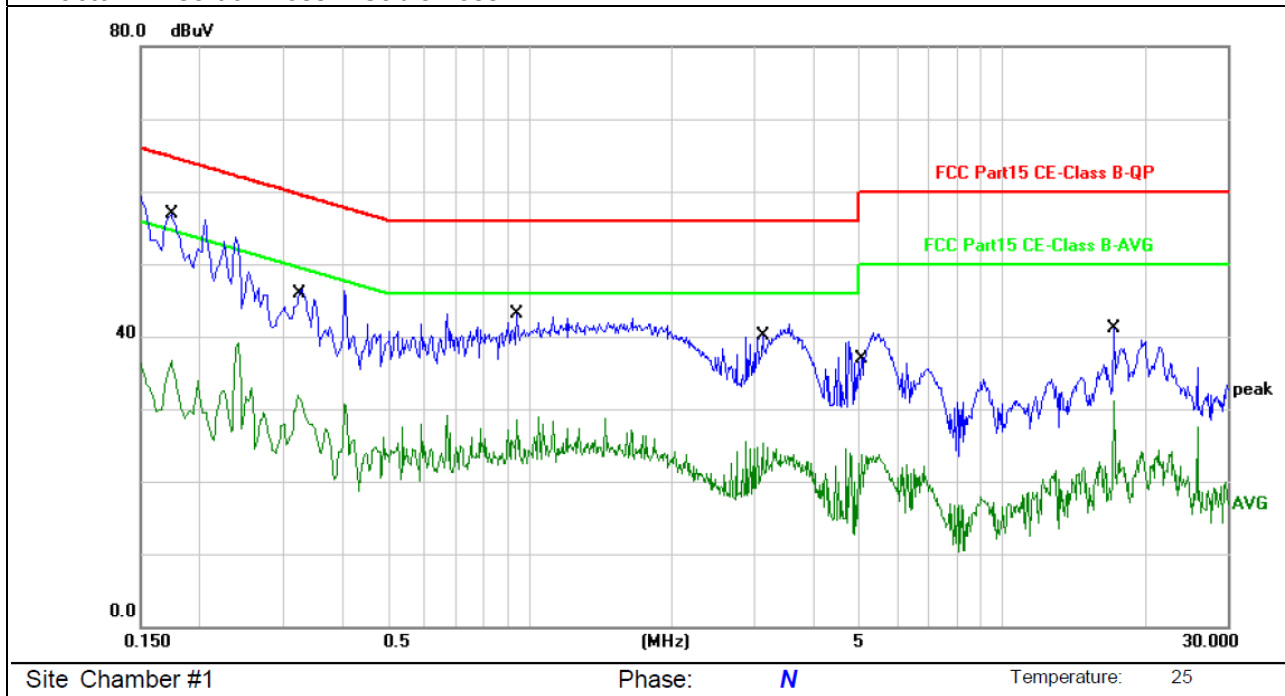


EUT:	Wireless charger	Model Name. :	OEXH701
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 4

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1740	46.90	10.06	56.96	64.76	-7.80	QP	
2		0.1740	26.58	10.06	36.64	54.76	-18.12	AVG	
3		0.3220	36.39	10.10	46.49	59.65	-13.16	QP	
4		0.3220	21.83	10.10	31.93	49.65	-17.72	AVG	
5		0.9420	32.92	10.16	43.08	56.00	-12.92	QP	
6		0.9420	18.69	10.16	28.85	46.00	-17.15	AVG	
7		3.1220	31.43	10.19	41.62	56.00	-14.38	QP	
8		3.1220	15.18	10.19	25.37	46.00	-20.63	AVG	
9		5.0420	30.30	10.15	40.45	60.00	-19.55	QP	
10		5.0420	13.64	10.15	23.79	50.00	-26.21	AVG	
11		17.2740	30.88	10.16	41.04	60.00	-18.96	QP	
12		17.2740	20.86	10.16	31.02	50.00	-18.98	AVG	

Remark:

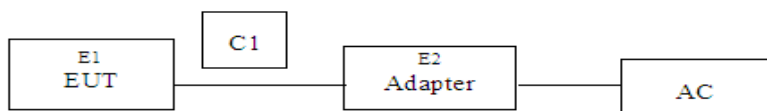
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



5. RADIATED EMISSION MEASUREMENT

5.1. Block Diagram of Test Setup

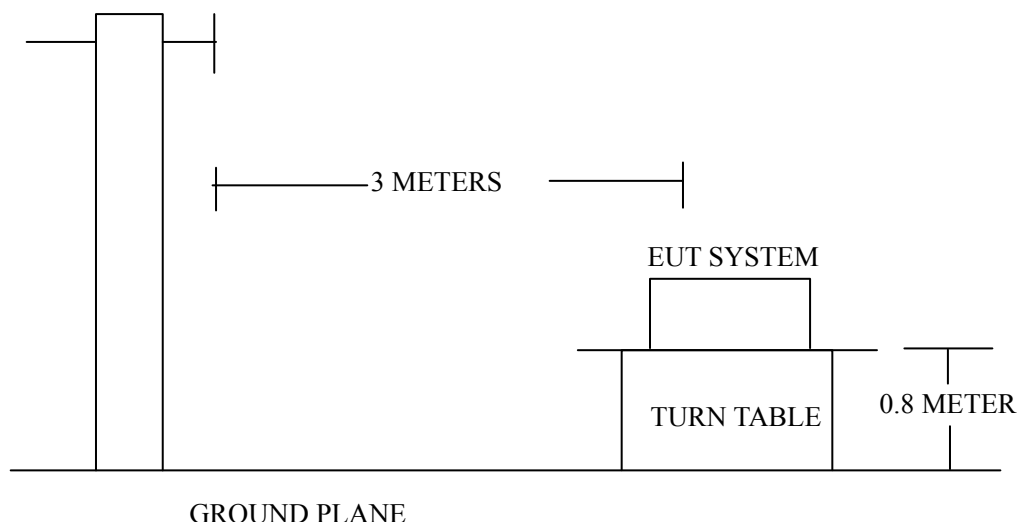
5.1.1. Block Diagram of connection between the EUT and the simulators



(EUT: **Wireless charger**)

5.1.2. Anechoic Chamber Test Setup Diagram

ANTENNA TOWER



5.2. Test Standard

FCC Part 15 C: 2014

5.3. Radiated Emission Limit(Class B)

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB μ V/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

Note:(1) The smaller limit shall apply at the edge between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT or system.



5.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

Operating Condition of EUT

5.4.1.Setup the EUT as shown on Section 6.1

5.4.2.Turn on the power of all equipments.

5.4.3.Let the EUT work in test mode(communication mode).

5.5.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.

The bandwidth setting on the test receiver is 120 KHz.

The EUT is tested in Anechoic Chamber. The frequency range from 30MHz to 1000MHz is checked. All the test results are listed in Section 6.6.

5.6.Test Result

PASS

Please refer to the following pages.

**9KHz-30MHz**

EUT:	Wireless charger	Model Name :	OEXH701
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	DC5V For Adapter		
Test Mode :	Mode 4		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

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

Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



30MHz-1GHz

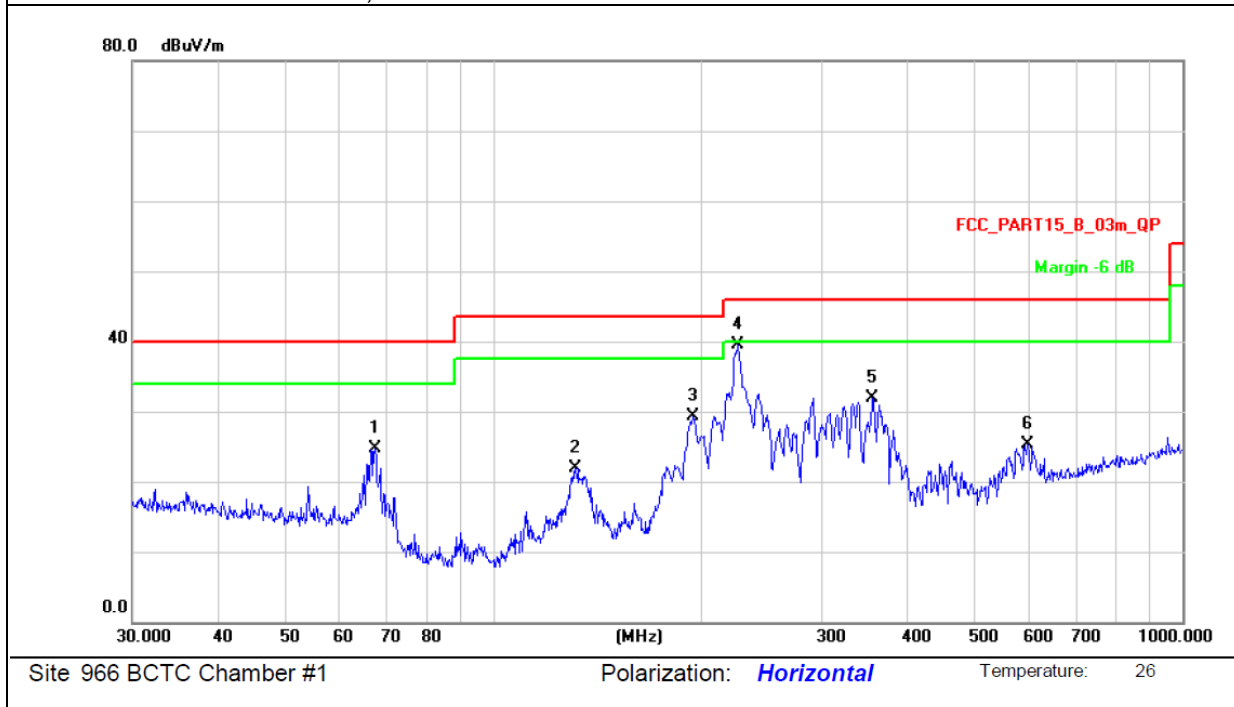
EUT:	Wireless charger	Model Name :	OEXH701
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	DC5V For Adapter		
Test Mode :	Mode 4		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		67.4382	38.17	-13.50	24.67	40.00	-15.33	QP		
2		131.7577	35.86	-13.98	21.88	43.50	-21.62	QP		
3		195.1365	45.14	-15.90	29.24	43.50	-14.26	QP		
4	*	226.8936	54.68	-15.23	39.45	46.00	-6.55	QP		
5		355.4273	43.27	-11.29	31.98	46.00	-14.02	QP		
6		597.2234	31.04	-5.77	25.27	46.00	-20.73	QP		

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All interfaces was connected, and BT TX mode was link.





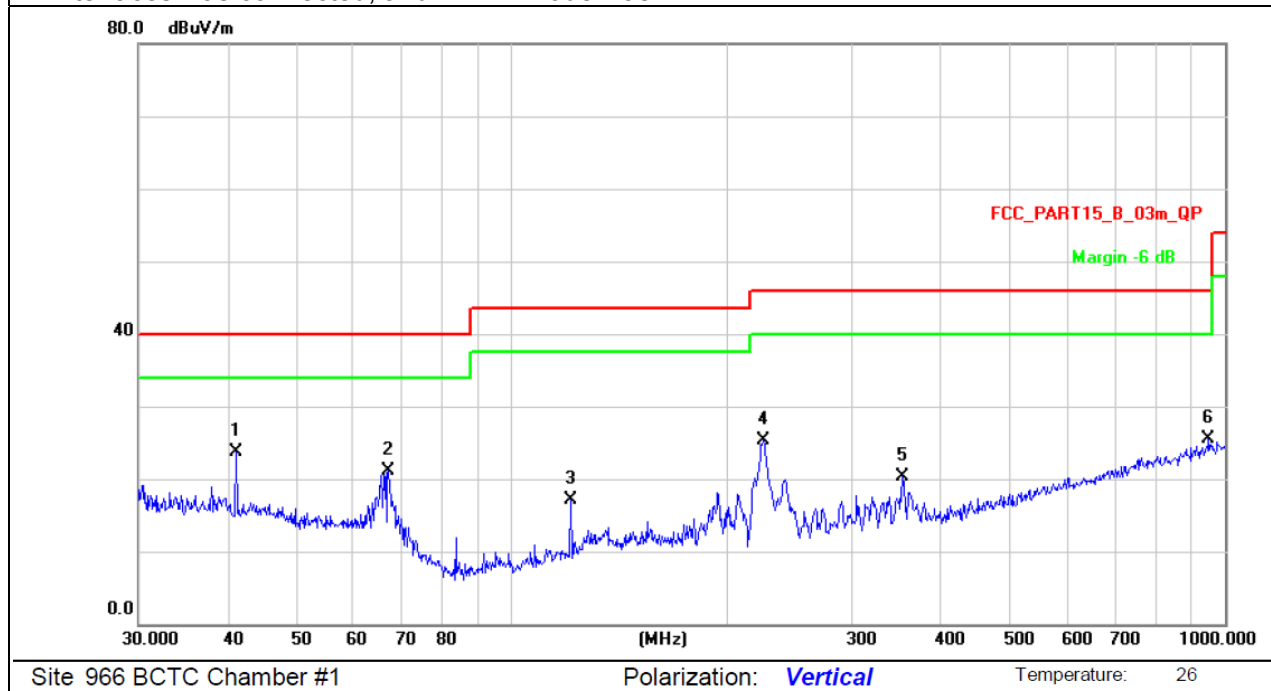
EUT:	Wireless charger	Model Name :	OEXH701
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage :	DC5V For Adapter		
Test Mode :	Mode 4		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	41.1320	32.69	-8.99	23.70	40.00	-16.30	QP		
2		67.2022	34.43	-13.41	21.02	40.00	-18.98	QP		
3		121.1231	31.71	-14.64	17.07	43.50	-26.43	QP		
4		225.3080	40.65	-15.32	25.33	46.00	-20.67	QP		
5		352.9433	31.56	-11.33	20.23	46.00	-25.77	QP		
6		948.7610	26.04	-0.48	25.56	46.00	-20.44	QP		

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All interfaces was connected, and BT TX mode was link.





APPENDIX I (PHOTOS OF THE EUT)

EUT Photo 1



EUT Photo 2



EUT Photo 3



EUT Photo 4



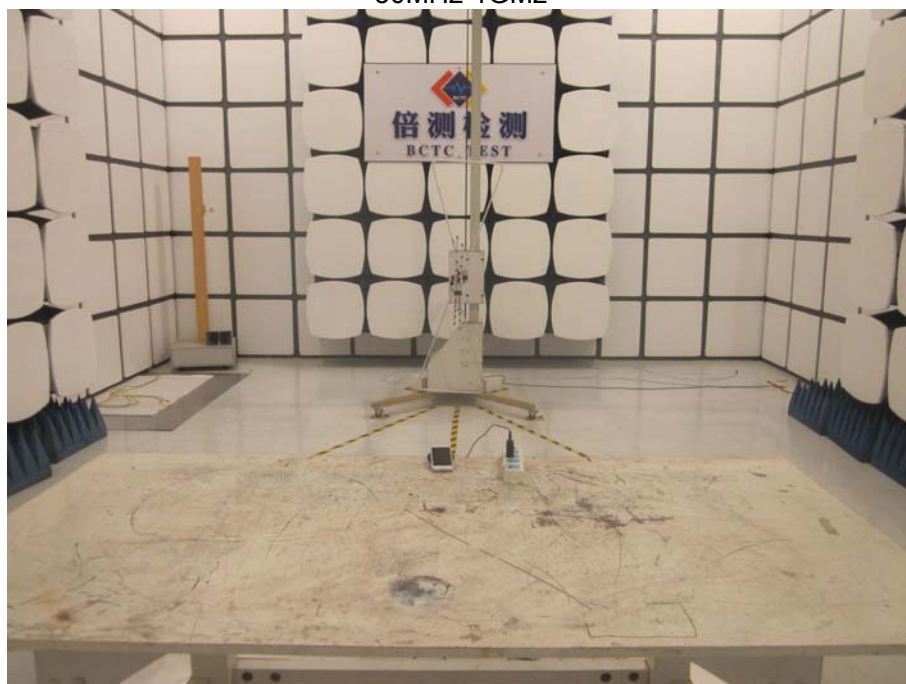


APPENDIX II (TEST PHOTOS OF THE EUT)

9KMz-30MHz



30MHz-1GMz





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