S T S LAB

FCC TEST REPORT

Report No.: STS2003171W01

Issued for

FUJIAN YOUTONG INDUSTRIES CO.,Ltd.

Building 7, Scud Industrial Park, No. 70, Rujiang East Road, Kuai' an, Mawei, Fuzhou, China

Product Name:	folding wireless charger stand
Brand Name:	N/A
Model Name:	WP003
Series Model:	N/A
FCC ID:	2AQBD-WP003
Test Standard:	FCC Part 15 Subpart C

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TEST RESULT CERTIFICATION

Applicant's Name .....: FUJIAN YOUTONG INDUSTRIES CO.,Ltd.

Address .....: Building 7, Scud Industrial Park, No. 70, Rujiang East Road, Kuai' an, Mawei, Fuzhou, China

Manufacture's Name .....: FUJIAN YOUTONG INDUSTRIES CO.,Ltd.

Address .....: Building 7, Scud Industrial Park, No. 70, Rujiang East Road, Kuai' an, Mawei, Fuzhou, China

Product Description

Product Name .....: folding wireless charger stand

Brand Name .....: N/A

Model Name .....: WP003

Series Model .....: N/A

Test Standards.....: FCC Part 15 Subpart C

Test Procedure .....: ANSI C63.10-2013

This device described above has been tested by STS, 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 of receipt of test item.....: 05 Mar. 2020

Date (s) of performance of tests .: 06 Mar. 2020 ~ 09 Mar. 2020

Date of Issue ..... : 10 Mar. 2020

Test Result .....: **Pass**

Testing Engineer : Chris Chen

(Chris Chen)

Technical Manager : Sean She

(Sean she)

Authorized Signatory : Vita Li

(Vita Li)

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	10 Mar. 2020	STS2003171W01	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.209（a）	Radiated emission, Spurious Emission	PASS	
2.1049	20 dB Bandwidth	PASS	

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC test Firm Registration Number: 625569
IC test Firm Registration Number: 12108A
A2LA Certificate No.: 4338.01

1.2 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** %.

No.	Item	Uncertainly
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 30-1GHz	±6.7dB
4	All emissions, radiated 1G-6GHz	±5.5dB
5	All emissions, radiated>6G	±5.8dB
6	Conducted Emission (9KHz-150KHz)	±4.43dB
7	Conducted Emission (150KHz-30MHz)	±5dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	folding wireless charger stand
Trade Name	N/A
Model Name	WP003
Series Model	N/A
Model Difference	N/A
Channel List	Please refer to the Note 2.
Antenna Type	Please refer to the Note 3.
Equipemnt Category	Non-ISM frequency
Operating frequency	110.5-205KHZ
Modulation Type	ASK
Power Rating:	Input: 5V 1A
Hardware version number	N/A
Software version number	N/A
Connecting I/O Port(s)	Please refer to the Note 1.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2.

Channel List					
Channel	Frequency (KHz)	Channel	Frequency (KHz)	Channel	Frequency (KHz)
00	170.8				

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	NOTE
1	N/A	WP003	Coil	N/A	Antenna

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Charging+TX Mode

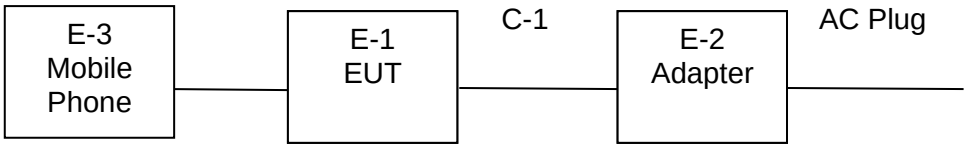
For Conducted Emission	
Final Test Mode	Description
Mode 1	Charging+TX Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	Charging+TX Mode

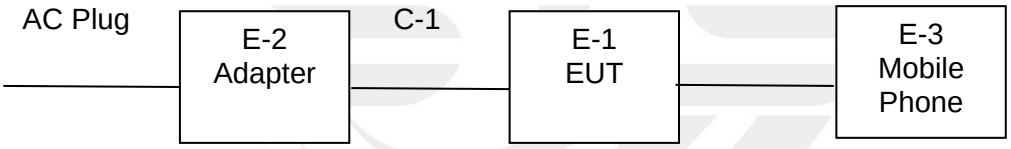
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Radiated Emission Test



Conducted EmissionTest



2.4 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-2	Adapter	LITEON	PA-1650-86	N/A	N/A
C-1	DC Cable	N/A	100cm	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-3	Load	N/A	N/A	N/A	N/A

Note:

(1) FCC DOC approved.
(2) FTP is Foiled Twisted Pair.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2019.07.29	2020.07.28
Signal Analyzer	Agilent	N9020A	MY51110105	2020.03.05	2021.03.04
Active loop Antenna	ZHINAN	ZN30900C	16035	2018.03.11	2021.03.10
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2020.11.10
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2019.10.09	2020.10.08
Temperature & Humidity	HH660	Mieo	N/A	2019.10.12	2020.10.11
Test SW	BULUN	BL410-E/18.905			

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2019.07.29	2020.07.28
LISN	R&S	ENV216	101242	2019.10.09	2020.10.08
LISN	EMCO	3810/2NM	23625	2019.10.09	2020.10.08
Temperature & Humidity	HH660	Mieo	N/A	2019.10.12	2020.10.11
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 CE)			

3. CONDUCTED EMISSION TEST RESULT (SECTION 15.207)

3.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 15.207 limit in the table below has to be followed.

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

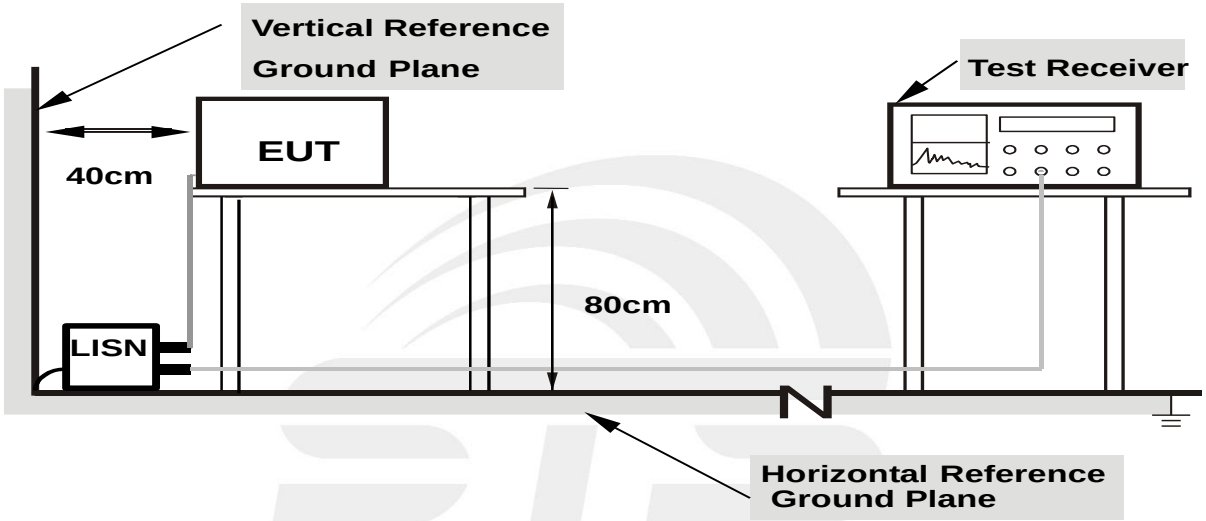
The following table is the setting of the receiver

Receiver Parameters	**Setting**
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 TEST PROCEDURE

a. 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.
b. 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.
c. 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.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 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

3.4 EUT OPERATING CONDITIONS

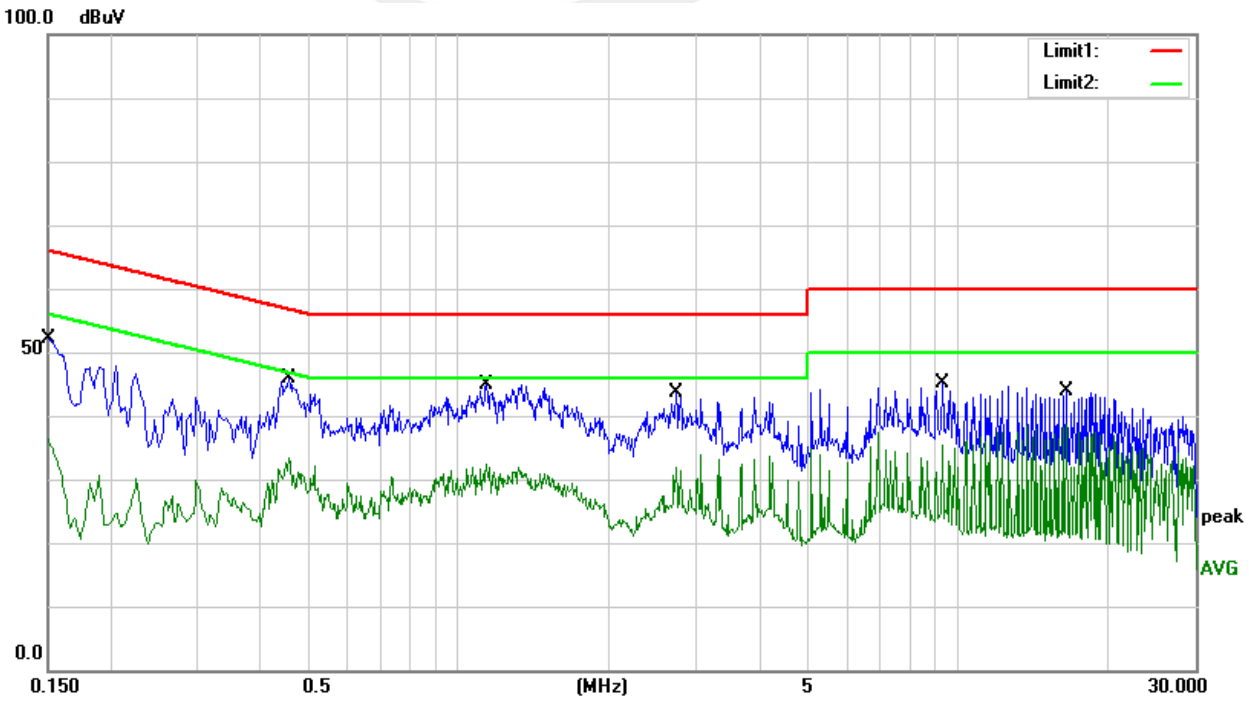
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.5 TEST RESULTS

Temperature:	23.4 ℃	Relative Humidity:	49%
Test Voltage:	120Vac 60Hz	Phase:	L
Test Mode:	Mode 1		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1500	32.31	19.79	52.10	66.00	-13.90	QP
2	0.1500	16.65	19.79	36.44	56.00	-19.56	AVG
3	0.4580	25.91	20.03	45.94	56.73	-10.79	QP
4	0.4580	13.43	20.03	33.46	46.73	-13.27	AVG
5	1.1380	25.07	19.80	44.87	56.00	-11.13	QP
6	1.1380	12.69	19.80	32.49	46.00	-13.51	AVG
7	2.7340	23.88	19.80	43.68	56.00	-12.32	QP
8	2.7340	14.17	19.80	33.97	46.00	-12.03	AVG
9	9.3260	24.90	20.14	45.04	60.00	-14.96	QP
10	9.3260	16.51	20.14	36.65	50.00	-13.35	AVG
11	16.5460	23.61	20.31	43.92	60.00	-16.08	QP
12	16.5460	18.27	20.31	38.58	50.00	-11.42	AVG

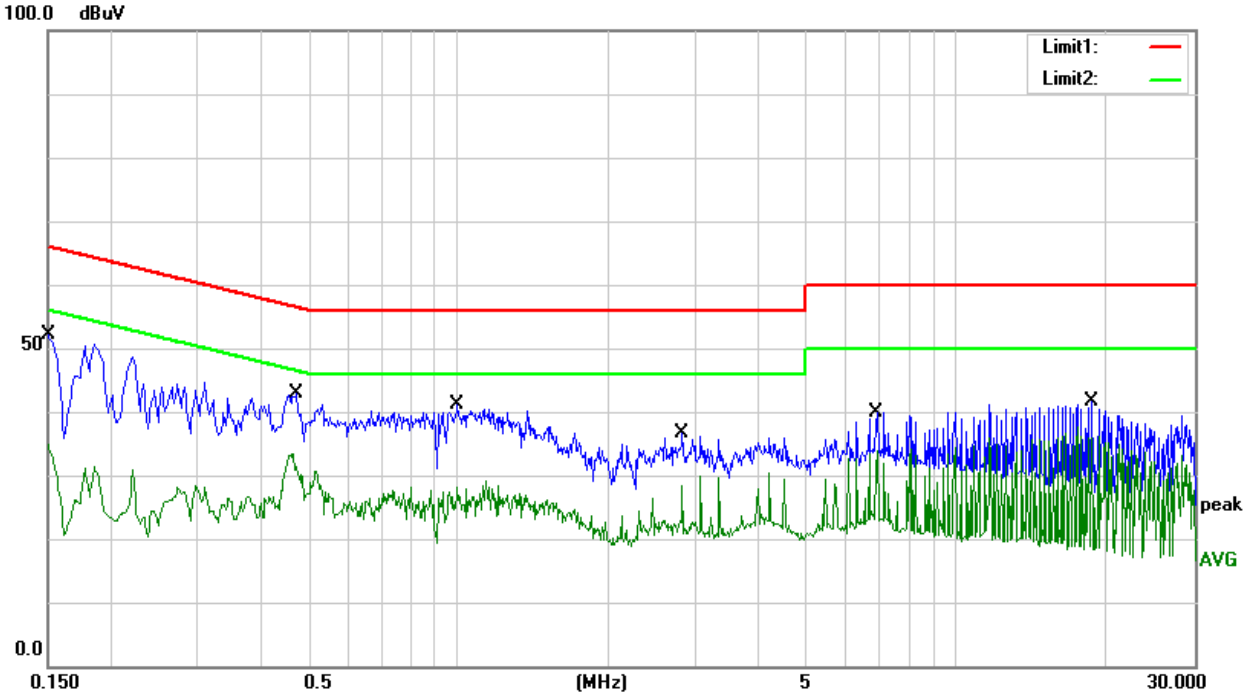
Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



Temperature:	23.4 ℃	Relative Humidity:	49%
Test Voltage:	120Vac 60Hz	Phase:	N
Test Mode:	Mode 1		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1500	32.22	19.79	52.01	66.00	-13.99	QP
2	0.1500	15.07	19.79	34.86	56.00	-21.14	AVG
3	0.4740	22.86	20.03	42.89	56.44	-13.55	QP
4	0.4740	13.34	20.03	33.37	46.44	-13.07	AVG
5	0.9980	21.24	19.80	41.04	56.00	-14.96	QP
6	0.9980	9.34	19.80	29.14	46.00	-16.86	AVG
7	2.8140	16.89	19.81	36.70	56.00	-19.30	QP
8	2.8140	10.15	19.81	29.96	46.00	-16.04	AVG
9	6.9180	20.06	19.88	39.94	60.00	-20.06	QP
10	6.9180	14.23	19.88	34.11	50.00	-15.89	AVG
11	18.7020	21.34	20.40	41.74	60.00	-18.26	QP
12	18.7020	17.28	20.40	37.68	50.00	-12.32	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



Note: The charging of < 1% Battery, 50% Battery, ＞99% Battery all has been tested, the worst case is charging of < 1% Battery, only shown the worst case in this report.

4. RADIATED& FIELD EMISSION TEST RESULT (SECTIOU 15.209)

4.1 Limit

Frequency [MHz]	Field Strength [uV/m]	Measurement Distance [Meters]
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

§ 15.209(d)The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.2 TEST PROCEDURE

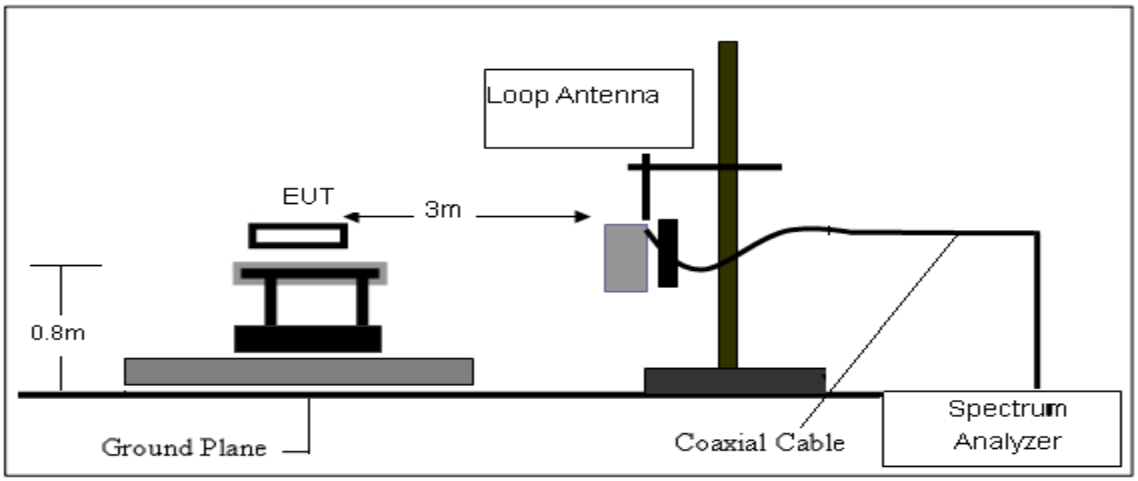
a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
d. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

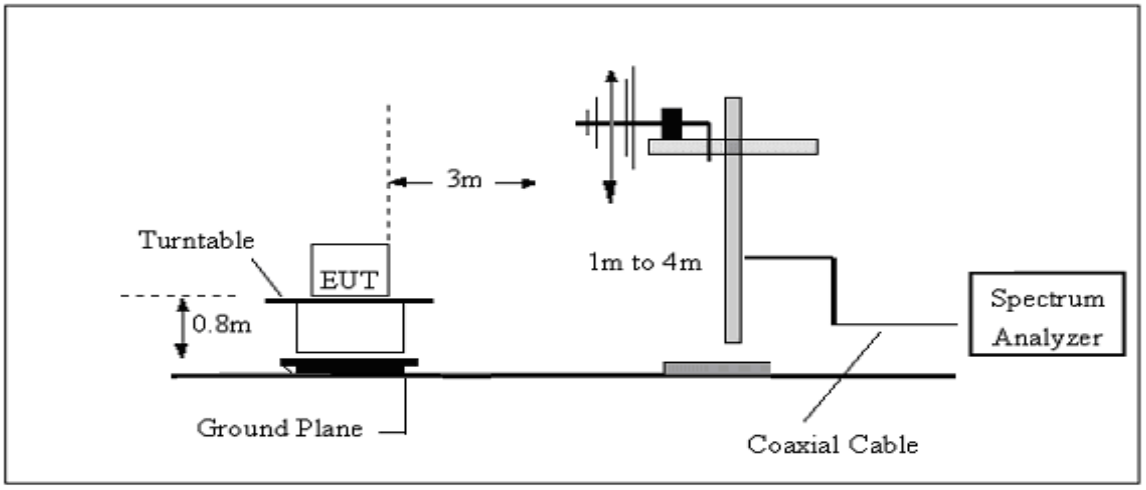
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

4.3 TEST SETUP

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



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



4.4 TEST RESULTS

Temperature：	25.4℃	Relative Humidity：	55%
Test Voltage ：	DC 5V	Test Mode ：	TX Mode

4.4.1 Spurious Radiated Emission Below 30 MHz

Test voltage: DC 5V

Frequency	Reading	Detector	Ant. Factor	Cable	Emission	Limits	Margin
(KHz)	(dBμV)	(PK/QP/AV)	(dB/m)	Loss	Level (dBμV/m)	(dBμV/m)	(dB)
15	75.16	PK	26.27	0.1	101.53	144.08	-42.55
15	59.5	AV	26.27	0.1	85.87	124.08	-38.21
36	70.51	PK	22.03	0.1	92.64	136.48	-43.84
36	55.45	AV	22.03	0.1	77.58	116.48	-38.90
110	77.48	PK	10.04	0.1	87.62	126.78	-39.16
110	62.41	AV	10.04	0.1	72.55	106.78	-34.23
170.8	96.68	PK	9.43	0.1	106.21	122.95	-16.74
170.8	80.6	AV	9.43	0.1	90.13	102.95	-12.82
495	64.38	QP	1.15	0.1	65.63	73.71	-8.08
21735	69.37	QP	-17.9	0.9	52.37	69.54	-17.17

1. “*” Means Fundamental frequency
2. Emission Level [dBμV/m] = Reading [dBμV] + Ant. Factor [dB/m] + Cable Loss [dB]
3. Margin [dB] = Emission Level [dBμV/m] – Limit [dBμV/m]
4. Limit calculation: Limit at specified distance + 40log (300/3) = Limit + 80 dB for up to 0.49 MHz
   Limit at specified distance + 40log (30/3) = Limit + 40 dB for above 0.49 MHz, Below 30 MHz
5. During the radiated emission test, the measurement antenna was aligned along the site axis and orthogonal to the axis, only the worst-case data recorded.
6. The charging of < 1% Battery, 50% Battery, ＞99% Battery all has been tested, the worst case is charging of < 1% Battery, only shown the worst case in this report.

4.4.2 Spurious Radiated Emission below 1 GHz

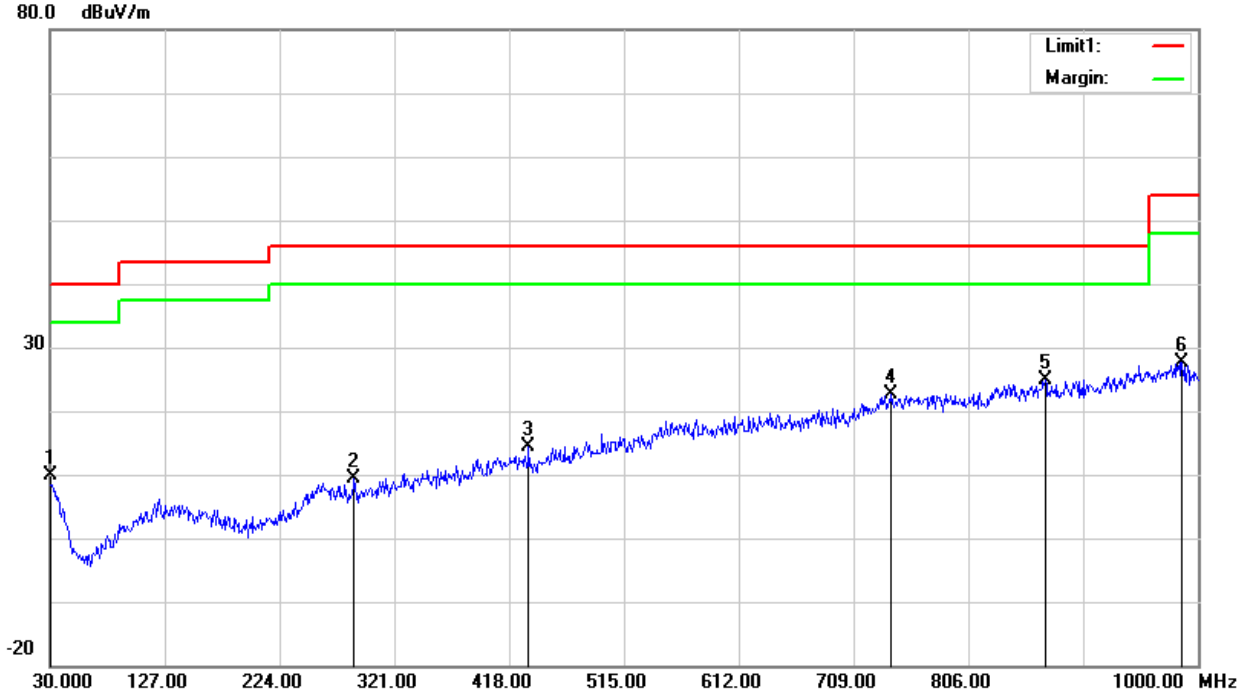
Temperature：	23.1 ℃	Relative Humidity：	52%
Test Voltage ：	DC 5V	Test Mode ：	Mode 1

The following table shows the highest levels of radiated emissions on polarizations of vertical

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.0000	22.74	-12.85	9.89	40.00	-30.11	QP
287.0500	24.70	-15.31	9.39	46.00	-36.61	QP
434.4900	24.52	-10.12	14.40	46.00	-31.60	QP
741.0100	24.86	-2.11	22.75	46.00	-23.25	QP
870.9900	25.32	-0.55	24.77	46.00	-21.23	QP
986.4200	25.30	2.27	27.57	54.00	-26.43	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit



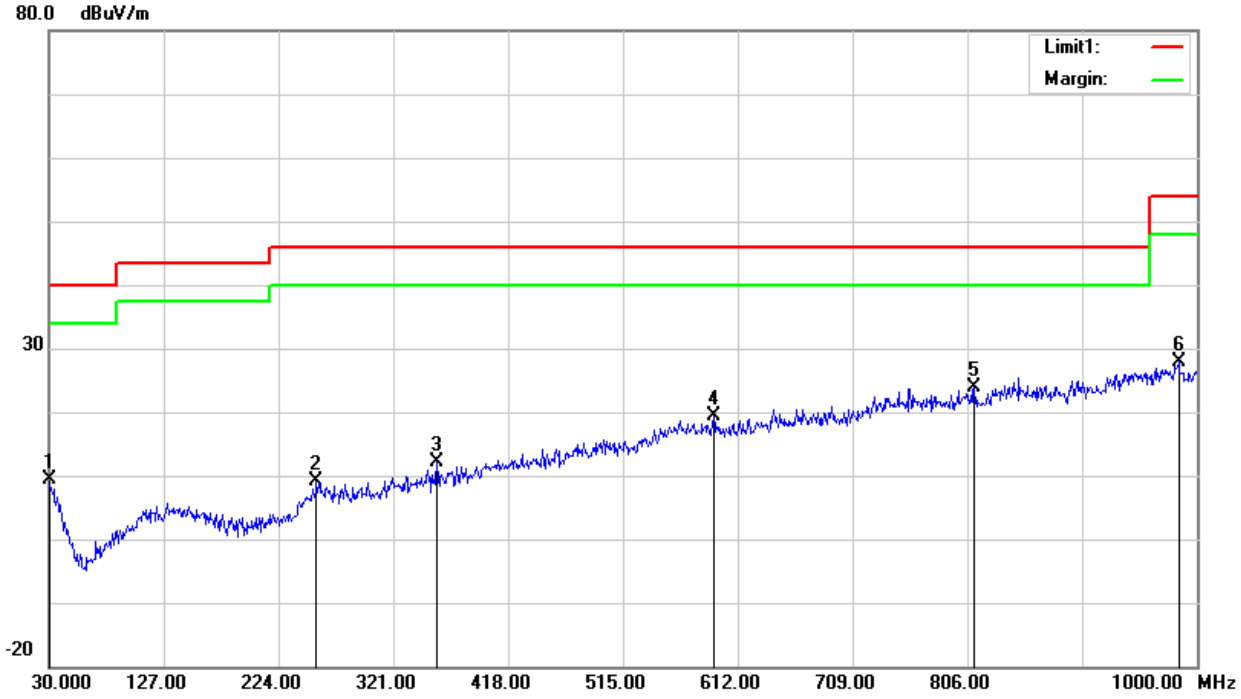
Temperature：	23.1 ℃	Relative Humidity：	52%
Test Voltage ：	DC 5V	Test Mode ：	Mode 1

The following table shows the highest levels of radiated emissions on polarizations of horizontal

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.0000	22.34	-12.85	9.49	40.00	-30.51	QP
256.0100	24.49	-15.24	9.25	46.00	-36.75	QP
357.8600	25.01	-12.91	12.10	46.00	-33.90	QP
591.6300	25.21	-5.82	19.39	46.00	-26.61	QP
811.8200	25.94	-1.99	23.95	46.00	-22.05	QP
984.4800	25.38	2.40	27.78	54.00	-26.22	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit



Note: The charging of < 1% Battery, 50% Battery, ＞99% Battery all has been tested, the worst case is charging of < 1% Battery, only shown the worst case in this report.

5. 20 DB BANDWIDTH TEST

5.1 Limit

FCC Part 2.1049, Only applicable to report.

5.2 TEST SETUP

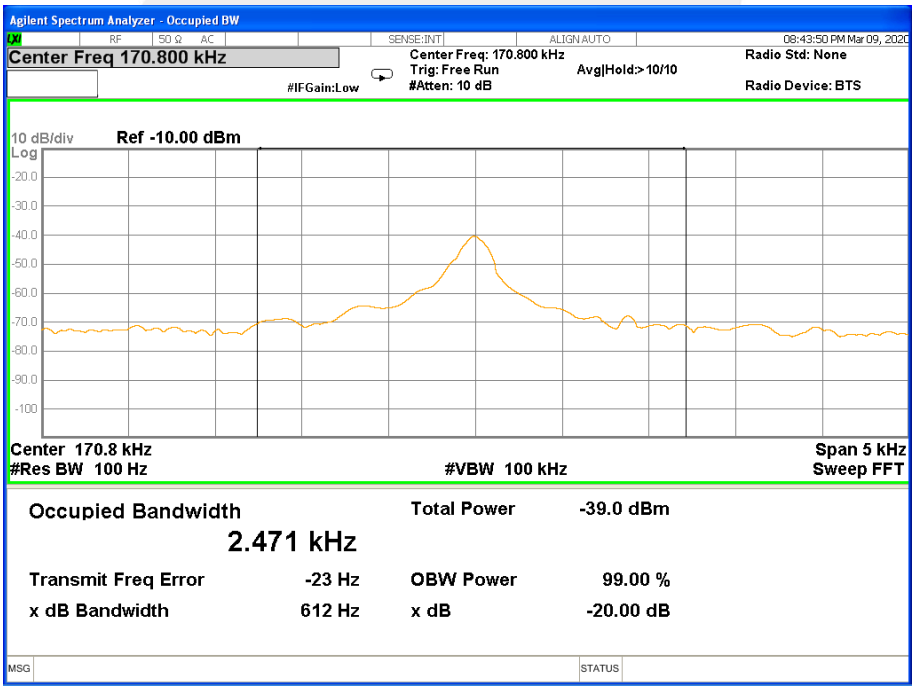
Spectrum Parameter	Setting
Span Frequency	approximately 2 to 3 times the 20 dB bandwidth
RB	greater than 1 % of the 20 dB bandwidth,
VB	equal to the RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

The test program and configuration,Refer to 4.2 and 4.3

5.3 TEST RESULTS

OperatingFrequency（kHz）	20 dB Bandwhidth(Hz)
170.8	612

CH00



Note: The charging of < 1% Battery, 50% Battery, ＞99% Battery all has been tested, the worst case is charging of < 1% Battery, only shown the worst case in this report.

APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※