

No. 1 Workshop, M-10, Middle section, Science & Technology Park,

Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Report No.: SZEM161201075401

Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com
Page: 1 of 29

FCC Test Report

Application No.: SZEM1612010754CR

Applicant: Zhejiang Fousine Science & Technology Co., Ltd.

Manufacturer: Zhejiang Fousine Science & Technology Co., Ltd.

Factory: Zhejiang Fousine Science & Technology Co., Ltd.

Equipment Under Test (EUT):

EUT Name: BW Wireless Charging Stand, 2A input, black

Model No.: FSWA17WI015, BWA17WI015 ♣

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Trade Mark: Fousine/Blackweb FCC ID: 2AKP3-BWA17WI015

Standards: 47 CFR PART 18: 2015

 Date of Receipt:
 2016-12-16

 Date of Test:
 2016-12-29

 Date of Issue:
 2016-12-30

Test Result : PASS*

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:



Jack Zhang EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sqs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sqs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



Report No.: SZEM161201075401

Page: 2 of 29

2 Test Summary

| Test | Test Requirement | Test Method | Class / Severity | Result | |
|---------------------------------------|-------------------------|-----------------------|------------------|--------|--|
| Conducted Emission | 47 CFR PART 18: | FCC OST/ MP-5:1986 | 18.307(a) | Pass | |
| (150 kHz to 30 MHz) | 2015 | 1 00 001/ Wil -3.1900 | 10.307 (a) | 1 055 | |
| Radiated Emission (9 kHz to 30MHz) | 47 CFR PART 18: 2015 | FCC OST/ MP-5:1986 | 18.305(b) | Pass | |



Report No.: SZEM161201075401

Page: 3 of 29

3 Contents

| | | | Page |
|---|-----|----------------------------------------|-------|
| 1 | С | COVER PAGE | 1 |
| 2 | т | EST SUMMARY | 2 |
| 3 | С | CONTENTS | 3 |
| 4 | G | GENERAL INFORMATION | 4 |
| | 4.1 | CLIENT INFORMATION | 4 |
| | 4.2 | GENERAL DESCRIPTION OF EUT | |
| | 4.3 | DESCRIPTION OF SUPPORT UNITS | |
| | 4.4 | DETAILS OF TEST MODE | 5 |
| | 4.5 | TEST LOCATION | |
| | 4.6 | TEST FACILITY | |
| | 4.7 | DEVIATION FROM STANDARDS | |
| | 4.8 | ABNORMALITIES FROM STANDARD CONDITIONS | |
| 5 | E | EQUIPMENT LIST | 7 |
| 6 | т | EST RESULTS | 9 |
| | 6.1 | CONDUCTED EMISSIONS | 9 |
| | 6.2 | RADIATED EMISSIONS | |
| 7 | Р | PHOTOGRAPHS | 23 |
| | 7.1 | CONDUCTED EMISSION TEST SETUP | 23 |
| | 7.2 | RADIATED EMISSION TEST SETUP | |
| | 7.3 | EUT CONSTRUCTIONAL DETAILS | 24-29 |



Report No.: SZEM161201075401

Page: 4 of 29

4 General Information

4.1 Client Information

| Applicant: | Zhejiang Fousine Science & Technology Co., Ltd. |
|--------------------------|-------------------------------------------------|
| Address of Applicant: | 198 ChangYuan Rd,Yuyao,Zhejiang Prvn.,China |
| Manufacturer: | Zhejiang Fousine Science & Technology Co., Ltd. |
| Address of Manufacturer: | 198 ChangYuan Rd,Yuyao,Zhejiang Prvn.,China |
| Factory: | Zhejiang Fousine Science & Technology Co., Ltd. |
| Address of Factory: | 198 ChangYuan Rd,Yuyao,Zhejiang Prvn.,China |

4.2 General Description of EUT

| Product Name: | BW Wireless Charging Stand, 2A input, black |
|----------------------|---------------------------------------------|
| Model No.: | FSWA17WI015 |
| Trade Mark: | Fousine, Blackweb |
| Operation Frequency: | 110-205kHz |
| Antenna Type | Loop antenna |
| Rated input: | DC 5V, 2A/DC 9V, 1.8A |
| Rated output: | DC 5V, 1A/DC 9V,1.1A |
| Test voltage: | AC 120V/60Hz |
| Cable: | USB charging line: 100cm, unshielded |

Remark:

Model No.: FSWA17WI015, BSWA17WI015

Only the model FSWA17WI015 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above models, only different on model No..



Report No.: SZEM161201075401

Page: 5 of 29

4.3 Description of Support Units

The EUT has been tested with associated equipment below.

| Description | Manufacturer | Model No. | Serial No. |
|--------------------|---------------------|-----------------|-------------|
| Adapter | Apple | A1357 | REF. |
| · | | W010A051 | No.SEA0500 |
| Adapter | ZTE | STC-A5930A | DC 9V, 2.0A |
| mobile phone | Samsung | Galaxy S6 Edge+ | N/A |
| DC Electronic load | Provided by SGS Lab | N/A | N/A |

4.4 Details of Test Mode

| Mode 1 | Wireless charge mode(Full Load) |
|--------|---------------------------------|
| Mode 2 | Wireless charge mode(Half Load) |
| Mode 3 | Wireless charge mode(No-Load) |

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



Report No.: SZEM161201075401

Page: 6 of 29

4.6 Test Facility

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

· CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.7 Deviation from Standards

None.

4.8 Abnormalities from Standard Conditions

None.



Report No.: SZEM161201075401

Page: 7 of 29

5 Equipment List

| | Conducted Emission | | | | | | | |
|------|--------------------|------------------------------------------------------|---------------------|------------------|------------------------|---------------------------|--|--|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. date (yyyy-mm-dd) | Cal.Due date (yyyy-mm-dd) | | |
| 1 | Shielding Room | ZhongYu Electron | GB-88 | SEM001-06 | 2016-05-13 | 2017-05-13 | | |
| 2 | LISN | Rohde & Schwarz | ENV216 | SEM007-01 | 2016-10-09 | 2017-10-09 | | |
| 3 | LISN | ETS-LINDGREN | 3816/2 | SEM007-02 | 2016-04-25 | 2017-04-25 | | |
| 4 | 8 Line ISN | Fischer Custom Communications Inc. | FCC-TLISN- T8-02 | EMC0120 | 2016-09-28 | 2017-09-28 | | |
| 5 | 4 Line ISN | Fischer Custom Communications Inc. FCC-TLISN- T4-02 | | EMC0121 | 2016-09-28 | 2017-09-28 | | |
| 6 | 2 Line ISN | Fischer Custom Communications Inc. | FCC-TLISN- T2-02 | EMC0122 | 2016-09-28 | 2017-09-28 | | |
| 7 | EMI Test Receiver | Rohde & Schwarz | ESCI | SEM004-02 | 2016-04-25 | 2017-04-25 | | |

| RE in Chamber | | | | | | | |
|---------------|---------------------------------------|-------------------------|-----------|------------------|------------------------|---------------------------|--|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. date (yyyy-mm-dd) | Cal.Due date (yyyy-mm-dd) | |
| 1 | 10m Semi-Anechoic Chamber | SAEMC | FSAC1018 | SEM001-03 | 2016-05-13 | 2017-05-13 | |
| 2 | EMI Test Receiver (9k-3GHz) | Rohde & Schwarz | ESCI | SEM004-01 | 2016-04-25 | 2017-04-25 | |
| 3 | Trilog-Broadband Antenna(30M-1GHz) | Schwarzbeck | VULB9168 | SEM003-18 | 2016-06-29 | 2019-06-29 | |
| 4 | Pre-amplifier | Sonoma Instrument Co | 310N | SEM005-03 | 2016-07-06 | 2017-07-06 | |
| 5 | Loop Antenna | ETS-Lindgren | 6502 | SEM003-08 | 2015-08-14 | 2018-08-14 | |



Report No.: SZEM161201075401

Page: 8 of 29

| | General used equipment | | | | | | | |
|------|---------------------------------------|-------------------------------------------------|-----------|------------------|------------------------|---------------------------|--|--|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal. date (yyyy-mm-dd) | Cal.Due date (yyyy-mm-dd) | | |
| 1 | Humidity/ Temperature Indicator | Shanghai Meteorological Industry Factory | ZJ1-2B | SEM002-03 | 2016-10-12 | 2017-10-12 | | |
| 2 | Humidity/ Temperature Indicator | Shanghai Meteorological Industry Factory | ZJ1-2B | SEM002-04 | 2016-10-12 | 2017-10-12 | | |
| 3 | Humidity/ Temperature Indicator | Mingle | N/A | SEM002-08 | 2016-10-12 | 2017-10-12 | | |
| 4 | Barometer | Changchun Meteorological Industry Factory | DYM3 | SEM002-01 | 2016-05-18 | 2017-05-18 | | |



Report No.: SZEM161201075401

Page: 9 of 29

6 Test Results

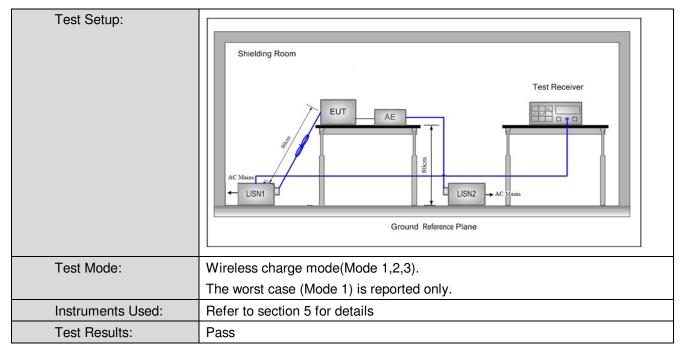
6.1 Conducted Emissions

| Test Requirement: | 47 CFR PART 18.307(a) | | | | | | |
|-----------------------|---------------------------------------------------------------------------|--------------------------|-----------------------------------------|--|--|--|--|
| Test Frequency Range: | 150kHz to 30MHz | | | | | | |
| Limit: | Fraguera vanga (MIII-) | Limit (dBuV) | | | | | |
| | Frequency range (MHz) | Quasi-peak | Average | | | | |
| | 0.15-0.5 | 66 to 56* | 56 to 46* | | | | |
| | 0.5-5 | 56 | 46 | | | | |
| | 5-30 | 60 | 50 | | | | |
| | * Decreases with the logarithn | n of the frequency. | | | | | |
| Test Procedure: | The mains terminal disturbance voltage test was conducted in a shid room. | | | | | | |
| | 2) The EUT was connected to | AC power source thro | ough a LISN 1 (Line | | | | |
| | Impedance Stabilization N | etwork) which provides | s a $50\Omega/50\mu H + 5\Omega$ linear | | | | |
| | impedance. The power cables of all other units of the EUT were | | | | | | |
| | connected to a second LISN 2, which was bonded to the ground | | | | | | |
| | reference plane in the sam | e way as the LISN 1 fo | or the unit being | | | | |
| | measured. A multiple socket outlet strip was used to connect multiple | | | | | | |
| | power cables to a single L | SN provided the rating | of the LISN was not | | | | |
| | exceeded. | | | | | | |
| | 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the | | | | | | |
| | ground reference plane. A | nd for floor-standing ar | rangement, the EUT was | | | | |
| | placed on the horizontal gr | ound reference plane, | | | | | |
| | 4) The test was performed wi | th a vertical ground ref | erence plane. The rear | | | | |
| | of the EUT shall be 0.4 m | from the vertical groun | d reference plane. The | | | | |
| | vertical ground reference | plane was bonded to th | e horizontal ground | | | | |
| | reference plane. The LISN | 1 was placed 0.8 m fr | om the boundary of the | | | | |
| | unit under test and bonded | I to a ground reference | plane for LISNs | | | | |
| | mounted on top of the grou | und reference plane. T | his distance was | | | | |
| | between the closest points | of the LISN 1 and the | EUT. All other units of | | | | |
| | the EUT and associated ed | quipment was at least (| 0.8 m from the LISN 2. | | | | |
| | 5) In order to find the maximum | um emission, the relati | ve positions of | | | | |
| | equipment and all of the in | terface cables must be | changed on | | | | |
| | conducted measurement. | | | | | | |



Report No.: SZEM161201075401

Page: 10 of 29



Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

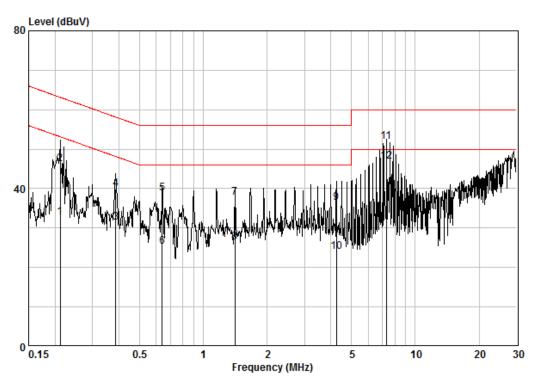
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



Report No.: SZEM161201075401

Page: 11 of 29

Mode 1 Live Line:



Site : Shielding Room Condition : CE LINE Job No. : 10754CR Test Mode : 1

: 5v

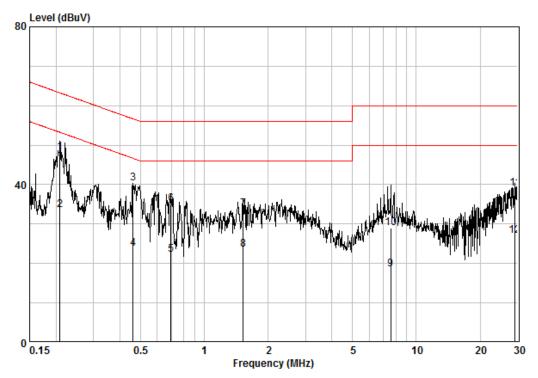
| | | Cable | LISN | Read | | Limit | Over | |
|------|---------|-------|--------|-------|-------|-------|--------|---------|
| | Freq | Loss | Factor | Level | Level | Line | Limit | Remark |
| | MHz | dB | dB | dBuV | dBuV | dBuV | dB | |
| 1 | 0.21167 | 0.02 | 9.60 | 23.11 | 32.73 | 53.14 | -20.41 | AVERAGE |
| 2 | 0.21167 | 0.02 | 9.60 | 36.63 | 46.25 | 63.14 | -16.89 | QP |
| 3 | 0.38724 | 0.02 | 9.60 | 21.68 | 31.30 | 48.12 | -16.82 | AVERAGE |
| 4 | 0.38724 | 0.02 | 9.60 | 30.27 | 39.89 | 58.12 | -18.23 | QP |
| 5 | 0.64058 | 0.02 | 9.61 | 29.08 | 38.72 | 56.00 | -17.28 | QP |
| 6 | 0.64058 | 0.02 | 9.61 | 15.66 | 25.29 | 46.00 | -20.71 | AVERAGE |
| 7 | 1.411 | 0.03 | 9.59 | 28.05 | 37.67 | 56.00 | -18.33 | QP |
| 8 | 1.411 | 0.03 | 9.59 | 16.71 | 26.32 | 46.00 | -19.68 | AVERAGE |
| 9 | 4.247 | 0.02 | 9.64 | 26.69 | 36.35 | 56.00 | -19.65 | QP |
| 10 | 4.247 | 0.02 | 9.64 | 14.32 | 23.98 | 46.00 | -22.02 | AVERAGE |
| 11 @ | 7.300 | 0.09 | 9.68 | 42.10 | 51.87 | 60.00 | -8.13 | QP |
| 12 @ | 7.300 | 0.09 | 9.68 | 37.10 | 46.87 | 50.00 | -3.13 | Average |



Report No.: SZEM161201075401

Page: 12 of 29

Neutral Line:



Site : Shielding Room Condition : CE NEUTRAL Job No. : 10754CR Test Mode : 1

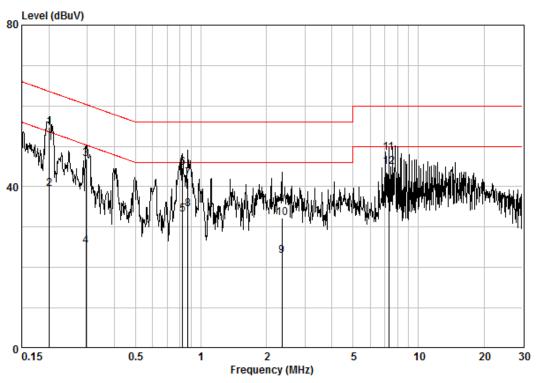
est Mode :1 :5v

| | | | Cable | LISN | Read | | Limit | Over | | |
|----|---|---------|-------|--------|-------|-------|-------|--------|---------|--|
| | | Freq | Loss | Factor | Level | Level | Line | Limit | Remark | |
| | - | MHz | dB | dB | dBuV | dBuV | dBuV | dB | | |
| 1 | @ | 0.20833 | 0.02 | 9.62 | 38.45 | 48.09 | 63.27 | -15.18 | QP | |
| 2 | | 0.20833 | 0.02 | 9.62 | 23.84 | 33.48 | 53.27 | -19.79 | AVERAGE | |
| 3 | | 0.46122 | 0.02 | 9.63 | 30.60 | 40.25 | 56.67 | -16.43 | QP | |
| 4 | | 0.46122 | 0.02 | 9.63 | 14.07 | 23.71 | 46.67 | -22.96 | AVERAGE | |
| 5 | | 0.69725 | 0.02 | 9.63 | 12.51 | 22.16 | 46.00 | -23.84 | AVERAGE | |
| 6 | | 0.69725 | 0.02 | 9.63 | 25.37 | 35.02 | 56.00 | -20.98 | QP | |
| 7 | | 1.527 | 0.03 | 9.64 | 24.20 | 33.87 | 56.00 | -22.13 | QP | |
| 8 | | 1.527 | 0.03 | 9.64 | 13.78 | 23.45 | 46.00 | -22.55 | AVERAGE | |
| 9 | | 7.566 | 0.09 | 9.75 | 8.63 | 18.47 | 50.00 | -31.53 | AVERAGE | |
| 10 | | 7.566 | 0.09 | 9.75 | 19.10 | 28.94 | 60.00 | -31.06 | QP | |
| 11 | | 29.216 | 0.15 | 10.22 | 28.65 | 39.02 | 60.00 | -20.98 | QP | |
| 12 | | 29.216 | 0.15 | 10.22 | 16.70 | 27.07 | 50.00 | -22.93 | AVERAGE | |



Report No.: SZEM161201075401

Page: 13 of 29



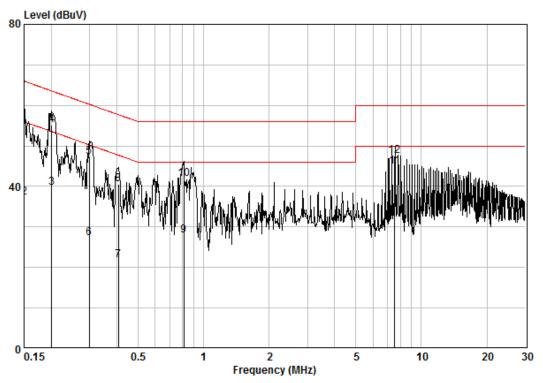
Site : Shielding Room Condition : CE LINE Job No. : 10754CR Test Mode : 1

| | 9V | Freq | Cable Loss | LISN Factor | | | Limit Line | Over Limit | Remark |
|------|----|---------|---------------|----------------|-------|-------|---------------|---------------|---------|
| | - | MHz | dB | dB | dBuV | dBuV | dBuV | dB | |
| 1 | | 0.20075 | 0.02 | 9.60 | 45.08 | 54.70 | 63.58 | -8.88 | QP |
| 2 | | 0.20075 | 0.02 | 9.60 | 29.74 | 39.36 | 53.58 | -14.22 | AVERAGE |
| 3 | | 0.29554 | 0.02 | 9.59 | 37.26 | 46.87 | 60.37 | -13.50 | QP |
| 4 | | 0.29554 | 0.02 | 9.59 | 15.68 | 25.30 | 50.37 | -25.07 | AVERAGE |
| 5 | | 0.82172 | 0.03 | 9.60 | 23.52 | 33.16 | 46.00 | -12.84 | AVERAGE |
| 6 | | 0.82172 | 0.03 | 9.60 | 35.13 | 44.76 | 56.00 | -11.24 | QP |
| 7 | | 0.87103 | 0.03 | 9.61 | 32.38 | 42.03 | 56.00 | -13.98 | QP |
| 8 | | 0.87103 | 0.03 | 9.61 | 24.71 | 34.35 | 46.00 | -11.65 | AVERAGE |
| 9 | | 2.358 | 0.03 | 9.63 | 13.14 | 22.79 | 46.00 | -23.21 | AVERAGE |
| 10 | | 2.358 | 0.03 | 9.63 | 22.71 | 32.36 | 56.00 | -23.64 | QP |
| 11 | | 7.290 | 0.09 | 9.68 | 38.67 | 48.44 | 60.00 | -11.56 | QP |
| 12 @ | | 7.290 | 0.09 | 9.68 | 35.03 | 44.80 | 50.00 | -5.20 | AVERAGE |



Report No.: SZEM161201075401

Page: 14 of 29



Site : Shielding Room Condition : CE NEUTRAL Iob No. : 10754CR

Test Mode : 1

| | 9V | Freq | Cable Loss | LISN Factor | | | Limit Line | Over Limit | Remark |
|------|----|---------|---------------|----------------|-------|-------|---------------|---------------|---------|
| | | MHz | dB | dB | dBuV | dBuV | dBuV | dB | |
| 1 | | 0.15000 | 0.02 | 9.62 | 45.11 | 54.75 | 66.00 | -11.25 | QP |
| 2 | | 0.15000 | 0.02 | 9.62 | 27.54 | 37.18 | 56.00 | -18.82 | AVERAGE |
| 3 | | 0.20075 | 0.02 | 9.62 | 30.09 | 39.73 | 53.58 | -13.85 | AVERAGE |
| 4 | | 0.20075 | 0.02 | 9.62 | 45.50 | 55.14 | 63.58 | -8.44 | QP |
| 5 | | 0.29869 | 0.02 | 9.62 | 37.77 | 47.41 | 60.28 | -12.87 | QP |
| 6 | | 0.29869 | 0.02 | 9.62 | 17.55 | 27.19 | 50.28 | -23.09 | AVERAGE |
| 7 | | 0.40615 | 0.02 | 9.62 | 12.11 | 21.75 | 47.73 | -25.98 | AVERAGE |
| 8 | | 0.40615 | 0.02 | 9.62 | 30.87 | 40.51 | 57.73 | -17.22 | QP |
| 9 | | 0.81305 | 0.03 | 9.64 | 18.27 | 27.94 | 46.00 | -18.06 | AVERAGE |
| 10 | | 0.81305 | 0.03 | 9.64 | 32.21 | 41.87 | 56.00 | -14.13 | QP |
| 11 @ | | 7.539 | 0.09 | 9.75 | 35.00 | 44.84 | 50.00 | -5.16 | AVERAGE |
| 12 | | 7.539 | 0.09 | 9.75 | 37.60 | 47.44 | 60.00 | -12.56 | QP |



Report No.: SZEM161201075401

Page: 15 of 29

6.2 Radiated Emissions

| Test Requirement: | 47 CFR PART 18.305(b) | | | | | | |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--|
| Test Site: | Measurement Distance: 10m (Semi-Anechoic Chamber) | | | | | | |
| Receiver Setup: | Frequency | Detecto | or | RBW | VBW | | |
| | 9kHz~150kHz | Quasi-pe | eak | 200Hz | ≥RBW | | |
| | 150kHz~30MHz | Quasi-pe | eak | 9kHz | ≥RBW | | |
| | 30MHz~1GHz | Quasi-pe | eak | 100kHz | ≥RBW | | |
| Limit: | Equipment | Operating frequency | | | Field strength limit (uV/m) | Distance (meters) | |
| | Any type unless otherwise specified (miscellaneous) | Any ISM frequency | Below | | 25 25×SQRT (power/500) | 300 ¹ 300 | |
| | | Any non-ISM frequency | Below 500 o | / 500 r more | 15 15×SQRT (power/500) | 300 ¹ 300 | |
| | Industrial heaters and RF stabilized arc welders | On or below 5,725 MHz Above 5,725 MHz | Any Any | | 10 (²) | 1,600 (²) | |
| | Medical diathermy | Any ISM frequency Any non-ISM frequency | Any Any | | 25 15 | 300 300 | |
| | Ultrasonic | Below 490 kHz | | r more | 2,400/F(kHz) 2,400/F(kHz)× SQRT(power/500) | 300 ³ 300 | |
| | | 490 to 1,600 kHz Above 1,600 kHz | Any Any | | 24,000/F(kHz) 15 | 30 30 | |
| | Induction cooking ranges | Below 90 kHz On or above 90 kHz | Any Any | | 1,500 300 | ⁴ 30 ⁴ 30 | |
| | 1 Field strength may n equipment operating be strength otherwise per 2 Reduced to the great 3 Field strength may n equipment is not permeter for over 500 watt 4 Induction cooking rates subject to the field strength frequency; the RI According to the claus | pelow 1000 Normitted here retest extent pot exceed 10 nitted the incomplete series. Inges manufatength limits for the article of Power ger | MHz in for possible publication publicatio | s not permitte ower over 500 le. m at 1600 me e in field stren ed prior to Fel scellaneous 5(b), The op ed by equipr | ed the increase Dwatts. eters. Consume of the otherwise of the state | er permitted , shall be t. ncy is non-500(watts); | |
| Test Setup: | 3 2 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | (9) | | | | 1: 1: | |
| | l | | | | | | |



Report No.: SZEM161201075401

Page: 16 of 29

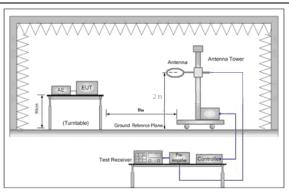


Figure 1. Below 30MHz

Test Procedure:

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber(30MHz-1000MHz) and 10 meter semi-anechoic chamber(9kHz-30MHz). The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 10 meters(30MHz-1000MHz) and 10 meter(9kHz-30MHz) away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Above 30MHz:The Analyzer/Receiver scanned from 30MHz to 1000MHz.The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. Below 30MHz: The Analyzer/Receiver scanned from 9kHz to 30MHz. The antenna height is 2 meters above the ground to determine the maximum value of the field strength.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 2 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h. Repeat above procedures until all frequencies measured was complete.
- i. Measurement Requirement:

According to the clause 18.305(c)notes 2.

At frequencies at or above 30MHz:

Limit3m(dBuV)=Limitxm(dBuV)+20log(xm/3m)

At frequencies below 30MHz:

Limit10m(dBuV)=Limitxm(dBuV)+40log(xm/10m)

Remark: x replace the number 10,30,300.



Report No.: SZEM161201075401

Page: 17 of 29

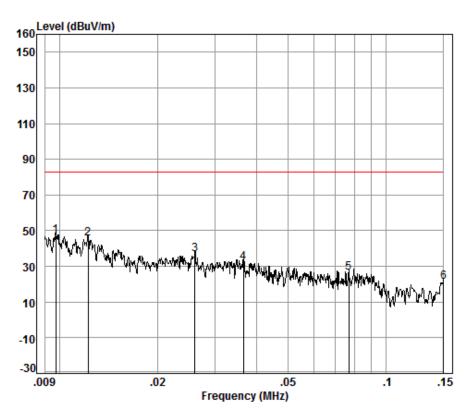
| Test Mode: | Wireless charge mode(Mode 1,2,3). |
|-------------------|-------------------------------------------|
| | The worst case (Mode 1) is reported only. |
| Instruments Used: | Refer to section 5 for details |
| Test Results: | Pass |



Report No.: SZEM161201075401

Page: 18 of 29

0.009MHz-30MHz Test mode: 1



Condition: 10m Job No. : 10754CR

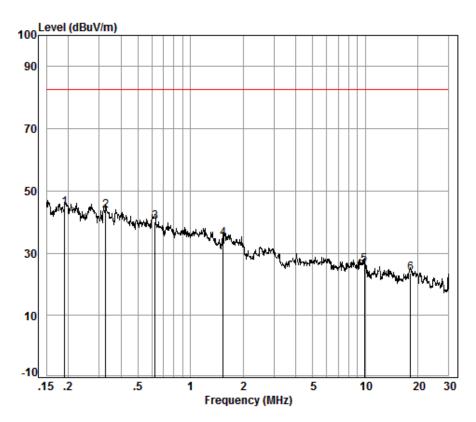
Test Mode: 1 : 5v

| | | Cable | Ant | Preamp | Read | | Limit | 0ver |
|------|------|-------|--------|--------|-------|--------|--------|--------|
| | Freq | Loss | Factor | Factor | Level | Level | Line | Limit |
| | | | | | | | | |
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB |
| | | | | | | | | |
| 1 pp | 0.01 | 0.29 | 19.48 | 32.80 | 60.14 | 47.11 | 82.61 | -35.50 |
| 2 | 0.01 | 0.27 | 18.05 | 32.80 | 59.97 | 45.49 | 82.61 | -37.12 |
| 3 | 0.03 | 0.19 | 14.26 | 32.80 | 55.27 | 36.92 | 82.61 | -45.69 |
| 4 | 0.04 | 0.15 | 13.29 | 32.80 | 51.26 | 31.90 | 82.61 | -50.71 |
| 5 | 0.08 | 0.08 | 12.09 | 32.80 | 47.15 | 26.52 | 82.61 | -56.09 |
| 6 | 0.15 | 0.07 | 11.70 | 32.81 | 42.26 | 21.22 | 82.61 | -61.39 |



Report No.: SZEM161201075401

Page: 19 of 29



Condition: 10m

Job No. : 10754CR

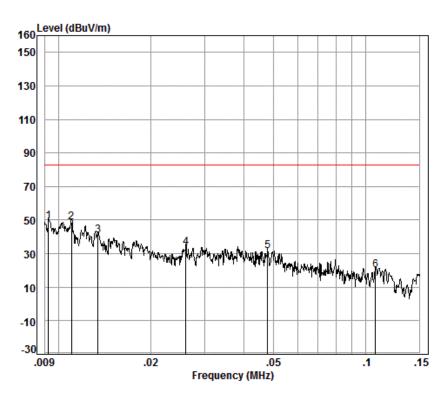
Test Mode: 1 : 5v

| | | Cable | Ant | Preamp | Read | | Limit | 0ver |
|------|-------|-------|--------|--------|-------|--------|--------|--------|
| | Freq | Loss | Factor | Factor | Level | Level | Line | Limit |
| | | | | | | | | |
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB |
| | | | | | | | | |
| 1 pp | 0.19 | 0.07 | 11.84 | 32.81 | 65.35 | 44.45 | 82.61 | -38.16 |
| 2 | 0.33 | 0.09 | 11.88 | 32.83 | 64.49 | 43.63 | 82.61 | -38.98 |
| 3 | 0.63 | 0.15 | 11.87 | 32.84 | 60.93 | 40.11 | 82.61 | -42.50 |
| 4 | 1.54 | 0.30 | 12.06 | 32.86 | 55.13 | 34.63 | 82.61 | -47.98 |
| 5 | 9.86 | 0.49 | 10.72 | 32.90 | 48.00 | 26.31 | 82.61 | -56.30 |
| 6 | 18.14 | 0.65 | 9.81 | 32.94 | 45.96 | 23.48 | 82.61 | -59.13 |



Report No.: SZEM161201075401

Page: 20 of 29



Condition: 10m Job No. : 10754CR

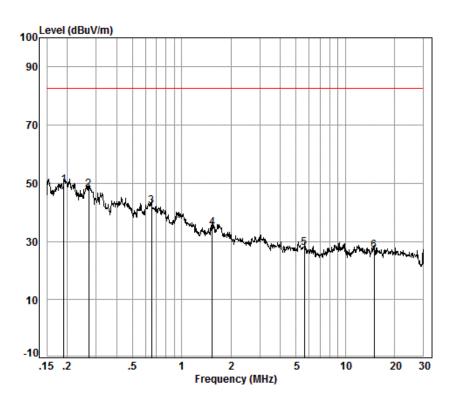
Test Mode: 1 : 9v

| | Freq | | | Preamp Factor | | | | |
|------|------|------|-------|------------------|-------|--------|--------|--------|
| _ | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB |
| 1 pp | 0.01 | 0.30 | 19.79 | 32.80 | 61.95 | 49.24 | 82.61 | -33.37 |
| 2 | 0.01 | 0.28 | 18.70 | 32.80 | 62.47 | 48.65 | 82.61 | -33.96 |
| 3 | 0.01 | 0.26 | 17.46 | 32.80 | 56.01 | 40.93 | 82.61 | -41.68 |
| 4 | 0.03 | 0.19 | 14.26 | 32.80 | 52.27 | 33.92 | 82.61 | -48.69 |
| 5 | 0.05 | 0.13 | 12.52 | 32.80 | 51.51 | 31.36 | 82.61 | -51.25 |
| 6 | 0.11 | 0.05 | 11.95 | 32.80 | 41.02 | 20.22 | 82.61 | -62.39 |



Report No.: SZEM161201075401

Page: 21 of 29



Condition: 10m Job No. : 10754CR

Test Mode: 1 : 9v

| | Freq | | | Preamp Factor | | | | Over Limit |
|------|-------|------|-------|------------------|-------|--------|--------|---------------|
| _ | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB |
| 1 pp | 0.19 | 0.07 | 11.84 | 32.81 | 70.35 | 49.45 | 82.61 | -33.16 |
| 2 | 0.27 | 0.09 | 11.96 | 32.82 | 68.47 | 47.70 | 82.61 | -34.91 |
| 3 | 0.65 | 0.16 | 11.90 | 32.84 | 62.89 | 42.11 | 82.61 | -40.50 |
| 4 | 1.54 | 0.30 | 12.06 | 32.86 | 55.13 | 34.63 | 82.61 | -47.98 |
| 5 | 5.62 | 0.44 | 11.70 | 32.89 | 48.55 | 27.80 | 82.61 | -54.81 |
| 6 | 14.99 | 0.60 | 10.40 | 32.93 | 48.71 | 26.78 | 82.61 | -55.83 |



Report No.: SZEM161201075401

Page: 22 of 29

Test Result: For DC 5V

| Frequency (MHz) | Level @ 10m (dBuV/m) | Level @ 300m (dBuV/m) | Limit @ 300m (dBuV/m) | Margin (dB) | Ant. Polarization |
|--------------------|-------------------------|--------------------------|--------------------------|-------------|-------------------|
| 0.00974 | 47.11 | -11.97 | 23.52 | -35.49 | X |
| 0.01223 | 45.49 | -13.59 | 23.52 | -37.11 | Х |
| 0.02599 | 36.92 | -22.16 | 23.52 | -45.68 | Х |
| 0.03654 | 31.9 | -27.18 | 23.52 | -50.7 | Х |
| 0.07679 | 26.52 | -32.56 | 23.52 | -56.08 | Х |
| 0.15 | 21.22 | -37.86 | 23.52 | -61.38 | X |
| 0.19039 | 44.45 | -14.63 | 23.52 | -38.15 | Х |
| 0.32685 | 43.63 | -15.45 | 23.52 | -38.97 | Х |
| 0.62715 | 40.11 | -18.97 | 23.52 | -42.49 | Х |
| 1.535 | 34.63 | -24.45 | 23.52 | -47.97 | Х |
| 9.861 | 26.31 | -32.77 | 23.52 | -56.29 | X |
| 18.135 | 23.48 | -35.6 | 23.52 | -59.12 | Х |

For DC 9V

| 101 00 00 | | | | | |
|--------------------|-------------------------|--------------------------|--------------------------|-------------|-------------------|
| Frequency (MHz) | Level @ 10m (dBuV/m) | Level @ 300m (dBuV/m) | Limit @ 300m (dBuV/m) | Margin (dB) | Ant. Polarization |
| 0.00928 | 49.24 | -9.84 | 23.52 | -33.36 | Х |
| 0.01102 | 48.65 | -10.43 | 23.52 | -33.95 | X |
| 0.01346 | 40.93 | -18.15 | 23.52 | -41.67 | X |
| 0.02599 | 33.92 | -25.16 | 23.52 | -48.68 | Х |
| 0.04787 | 31.36 | -27.72 | 23.52 | -51.24 | Х |
| 0.10763 | 20.22 | -38.86 | 23.52 | -62.38 | Х |
| 0.19039 | 49.45 | -9.63 | 23.52 | -33.15 | Х |
| 0.27152 | 47.7 | -11.38 | 23.52 | -34.9 | Х |
| 0.6543 | 42.11 | -16.97 | 23.52 | -40.49 | Х |
| 1.535 | 34.63 | -24.45 | 23.52 | -47.97 | Х |
| 5.623 | 27.8 | -31.28 | 23.52 | -54.8 | Х |
| 14.986 | 26.78 | -32.3 | 23.52 | -55.82 | Х |

Remark:

According to the clause 2.3 of MP-5:1986, the hightest frequency is 205kHz, So the Range of frequency measurements is 9kHz to 30MHz.



Report No.: SZEM161201075401

Page: 23 of 29

7 Photographs

Test Model No.: FSWA17WI015

7.1 Conducted Emission Test Setup



7.2 Radiated Emission Test Setup





Report No.: SZEM161201075401

Page: 24 of 29

7.3 EUT Constructional Details

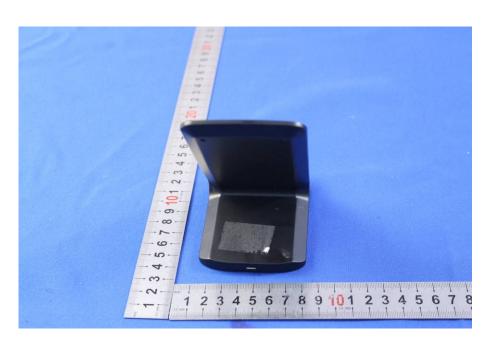


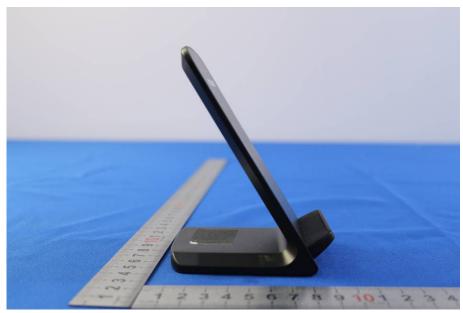




Report No.: SZEM161201075401

Page: 25 of 29



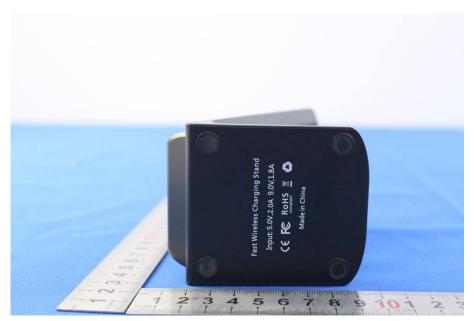




Report No.: SZEM161201075401

Page: 26 of 29

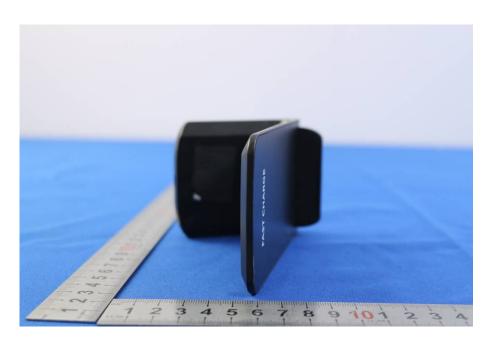


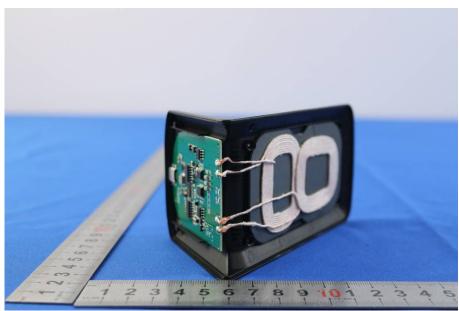




Report No.: SZEM161201075401

Page: 27 of 29

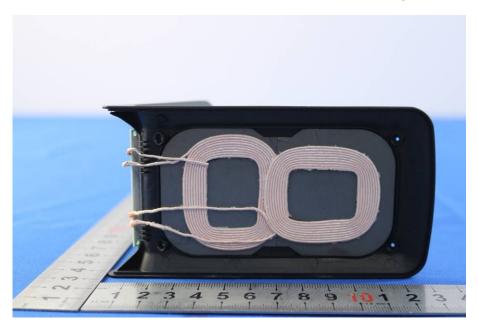


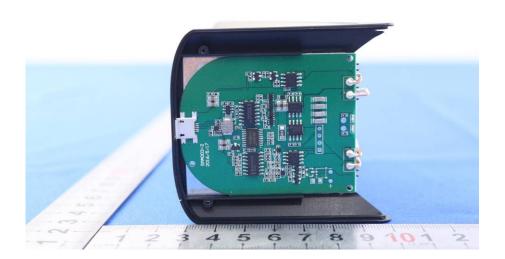




Report No.: SZEM161201075401

Page: 28 of 29







Report No.: SZEM161201075401

Page: 29 of 29

