# **FCC Test Report**

APPLICANT : Sony Mobile Communications Inc.

**EQUIPMENT**: GSM/WCDMA/LTE Phone+Bluetooth, DTS/UNII

a/b/g/n and NFC

BRAND NAME : Sony

FCC ID : PY7-02885J

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION**: FCC Class B personal computers and peripherals

The product was received on Apr. 28, 2017 and testing was completed on Jul. 14, 2017. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Louis Wu / Manager

Louis Wu

Approved by: Jones Tsai / Manager

### SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

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Testing Laboratory 1190

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## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC742206-01	Rev. 01	Initial issue of report	Jul. 03, 2017
FC742206-01	Rev. 02	Revising radiated emission test data in section 3.2.5.	Jul. 14, 2017

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## **SUMMARY OF TEST RESULT**

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 14.10 dB at 0.190 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 10.27 dB at 829.900 MHz

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## 1. General Description

## 1.1. Applicant

### Sony Mobile Communications Inc.

4-12-3 Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

## 1.2. Manufacturer

### Sony Mobile Communications Inc.

4-12-3 Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan

## 1.3. Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, DTS/UNII a/b/g/n, NFC, and GPS

Product Specification subjective to this standard						
	WWAN: C-feed Antenna					
	WLAN: PIFA Antenna					
Antenna Type	Bluetooth: PIFA Antenna					
	GPS/Glonass: PIFA Antenna					
	NFC: Loop Antenna					

EUT Information List									
HW Version	SW Version	S/N	Performed Test Item						
Δ.			Conducted Emission						
A	0.32	RQ3004R80M	Radiated Spurious Emission						

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Accessory List						
Formbone 4	Model No. : MH410c					
Earphone 1	S/N: 1632A86600000E0					
F	Model No.: MH410c					
Earphone 2	S/N: N/A					
LICD Cable	Model No. : UCB20					
USB Cable	S/N: 1625A9100003A98					

#### Note:

- 1. Above EUT list and accessory list used are electrically identical per declared by manufacturer.
- 2. Above the accessories list are used to exercise the EUT during test.
- 3. For other wireless features of this EUT, test report will be issued separately.

## 1.4. Modification of EUT

No modifications are made to the EUT during all test items.

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### 1.5. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.					
	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Tech	nology Park,				
Test Site Location	Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.					
rest site Location	TEL: +886-3-327-3456					
	FAX: +886-3-328-4978					
Toot Site No	Sporton	Site No.				
Test Site No.	CO05-HY	03CH06-HY				

## 1.6. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2014

#### Remark:

- All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. For FCC 15 Subpart B Unintentional Radiators, device supporting USB interface or similar peripherals (defined as the Section 15.3 (r) Peripheral device) acting as a peripheral for personal computers shall be authorized as "The Class B personal computers and peripherals" per the Section 15.101 (a) Equipment authorization of unintentional radiators.
- 3. For other Unintentional Radiators features of this EUT, test reports are be issued separately. Per the Note of the Section 15.101, when device supports features (USB, FM Radio, digital devices...etc) more than one category of authorization, type of authorization shall be appropriately chosen for FCC 15B compliance rule, and the Section 15.101 (b), only those receivers that operate (tune) within the frequency range of 30-960 MHz, CB receivers and radar detectors are subject to the authorizations shown in paragraph (a) of the Section 15.101. However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of which is subject to certification, shall be authorized under the verification procedure.

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## 2. Test Configuration of Equipment Under Test

## 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type							
AC Conducted	Mode 1: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 1							
Emission	Mode 2: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 2							
Radiated	Mode 1: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 1							
Emissions	Mode 2: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 2							

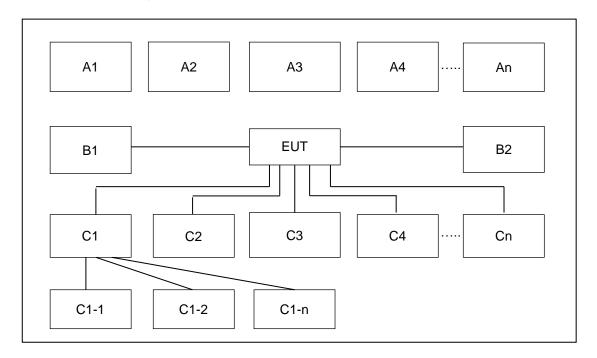
**Remark:** Data Link with Notebook means data application transferred mode between EUT and Notebook.

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## 2.2. Connection Diagram of Test System



	Test Setup									
No.	Catam Danimhanala	Commention True		Test Mode						
INO.	Setup Peripherals	Connection Type	1	2	-	-	-	-	-	
C1	Notebook	USB Cable	Х	Χ						
C1-1	Music Player	USB Cable to C1	Х	Χ						
C1-2	AP router	RJ-45 Cable to C1	Х	Χ						
C2	Earphone	Earphone jack	Х	Χ						
C3	SD card	SD I/O interface without Cable	Х	Х						

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## 2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Music Player	N/A	N/A	N/A	N/A	N/A
4.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

## 2.4. EUT Operation Test Setup

The data application (each file size is greater than 30Mbytes) is continuously transferred between the EUT and Notebook connected via USB cable, while Flight mode.

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## 3. Test Result

## 3.1. Test of AC Conducted Emission Measurement

#### 3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission	Conducted	limit (dBuV)
(MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

<sup>\*</sup>Decreases with the logarithm of the frequency.

## 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

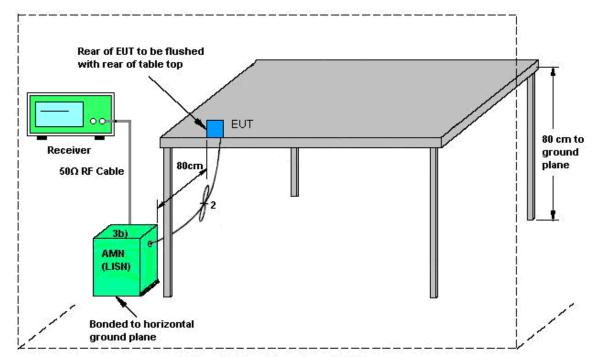
#### 3.1.3 Test Procedure

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

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## 3.1.4 Test Setup



AMN = Artificial mains network (LISN)

AE = Associated equipment

EUT = Equipment under test

ISN = Impedance stabilization network

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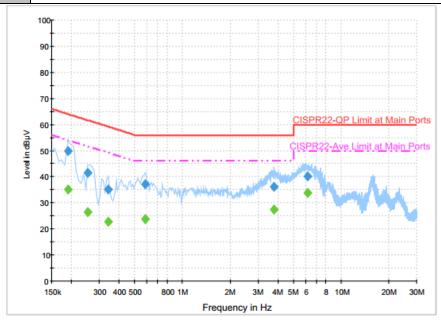
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## 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	<b>22~25</b> ℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line

Function Type: |Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 1



#### Final Result: Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	49.9	Off	L1	19.5	14.1	64.0
0.254000	41.4	Off	L1	19.5	20.2	61.6
0.342000	35.2	Off	L1	19.5	24.0	59.2
0.582000	37.0	Off	L1	19.5	19.0	56.0
3.790000	36.1	Off	L1	19.6	19.9	56.0
6.158000	40.1	Off	L1	19.6	19.9	60.0

### Final Result : Average

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Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	I IIICI		(dB)	(dB)	(dBµV)
0.190000	35.0	Off	L1	19.5	19.0	54.0
0.254000	26.6	Off	L1	19.5	25.0	51.6
0.342000	22.6	Off	L1	19.5	26.6	49.2
0.582000	23.8	Off	L1	19.5	22.2	46.0
3.790000	27.5	Off	L1	19.6	18.5	46.0
6.158000	33.8	Off	L1	19.6	16.2	50.0

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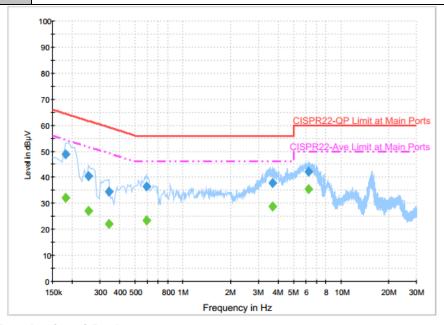
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Test Mode :	Mode 1	Temperature :	22~25℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

Function Type: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 1



## Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	48.7	Off	N	19.5	15.7	64.4
0.254000	40.5	Off	N	19.5	21.1	61.6
0.342000	34.3	Off	N	19.5	24.9	59.2
0.590000	36.4	Off	N	19.5	19.6	56.0
3.710000	37.7	Off	N	19.6	18.3	56.0
6.222000	42.3	Off	N	19.6	17.7	60.0

#### Final Result : Average

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Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	1 iiici	Line	(dB)	(dB)	(dBµV)
0.182000	32.1	Off	N	19.5	22.3	54.4
0.254000	27.1	Off	N	19.5	24.5	51.6
0.342000	22.2	Off	N	19.5	27.0	49.2
0.590000	23.4	Off	N	19.5	22.6	46.0
3.710000	28.6	Off	N	19.6	17.4	46.0
6.222000	35.4	Off	N	19.6	14.6	50.0

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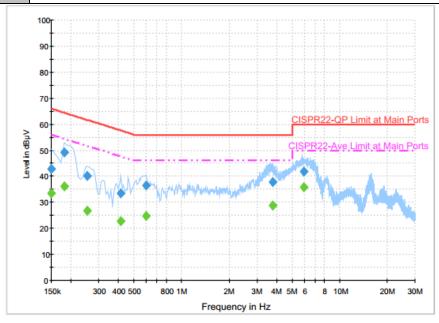
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Test Mode :	Mode 2	Temperature :	<b>22~25</b> ℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line

Function Type: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 2



## Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	42.7	Off	L1	19.6	23.3	66.0
0.182000	49.3	Off	L1	19.5	15.1	64.4
0.254000	40.0	Off	L1	19.5	21.6	61.6
0.414000	33.4	Off	L1	19.5	24.2	57.6
0.598000	36.5	Off	L1	19.5	19.5	56.0
3.798000	37.9	Off	L1	19.6	18.1	56.0
5.966000	41.8	Off	L1	19.6	18.2	60.0

Final Result : Average

Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	1 11101	Line	(dB)	(dB)	(dBµV)
0.150000	33.3	Off	L1	19.6	22.7	56.0
0.182000	36.1	Off	L1	19.5	18.3	54.4
0.254000	26.6	Off	L1	19.5	25.0	51.6
0.414000	22.8	Off	L1	19.5	24.8	47.6
0.598000	24.7	Off	L1	19.5	21.3	46.0
3.798000	28.9	Off	L1	19.6	17.1	46.0
5.966000	35.7	Off	L1	19.6	14.3	50.0

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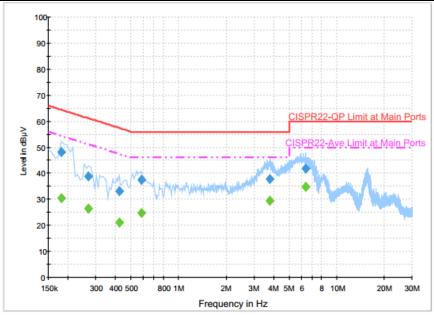
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Report No.: FC742206-01

Test Mode :	Mode 2	Temperature :	<b>22~25</b> ℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	51~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

Function Type: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 2



### Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	48.1	Off	N	19.5	16.3	64.4
0.270000	38.7	Off	N	19.5	22.4	61.1
0.422000	33.0	Off	N	19.5	24.4	57.4
0.582000	37.3	Off	N	19.5	18.7	56.0
3.790000	37.9	Off	N	19.6	18.1	56.0
6.350000	41.8	Off	N	19.6	18.2	60.0

#### Final Result : Average

•	aooa						
	Frequency	Average	Filter	Line	Corr.	Margin	Limit
	(MHz)	(dBµV)			(dB)	(dB)	(dBµV)
	0.182000	30.3	Off	N	19.5	24.1	54.4
	0.270000	26.3	Off	N	19.5	24.8	51.1
	0.422000	21.2	Off	N	19.5	26.2	47.4
	0.582000	24.6	Off	N	19.5	21.4	46.0
	3.790000	29.4	Off	N	19.6	16.6	46.0
	6.350000	34.8	Off	N	19.6	15.2	50.0

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## 3.2. Test of Radiated Emission Measurement

#### 3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

### 3.2.2. Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

#### 3.2.3. Test Procedures

- 1. The EUT was placed on a turntable with 0.8 meter above ground.
- 2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest radiation.
- 4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- 6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
- 7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
- 8. Emission level  $(dB\mu V/m) = 20 \log Emission level (\mu V/m)$
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level.

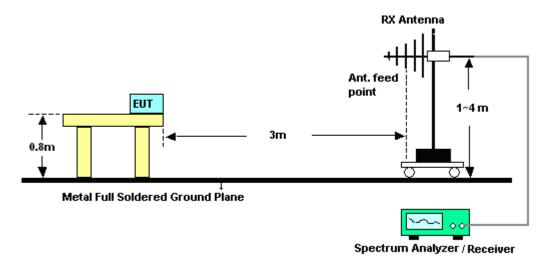
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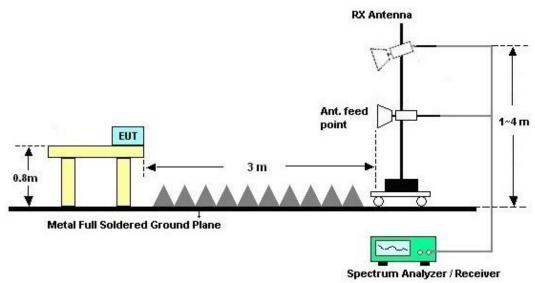
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## 3.2.4. Test Setup of Radiated Emission

### For radiated emissions from 30MHz to 1GHz



### For radiated emissions from 1GHz to 18GHz

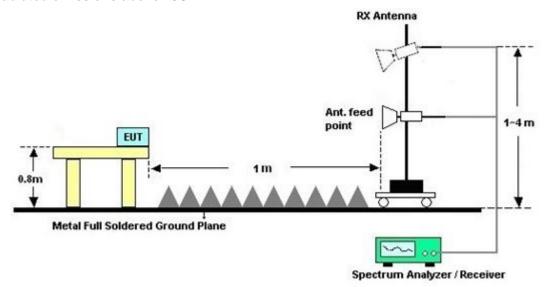


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### For radiated emissions above 18GHz



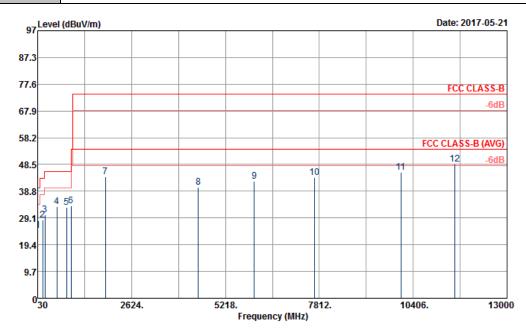
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## 3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 1	Temperature :	22~25°C
Test Engineer :	Donny Tang	Relative Humidity :	51~55%
Test Distance :	3m	Polarization :	Horizontal

Function Type: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 1



Site : 03CH06-HY

Condition : FCC CLASS-B 3m 9120D\_1156\_160817 HORIZONTAL

Project : 742206-01
Power : From System
Memo : Mode 1

			0ver	Limit	Read/	Intenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	Cm	deg	
1	30.00	24.70	-15.30	40.00	30.34	24.30	1.90	31.84			Peak
2	167.43	28.50	-15.00	43.50	42.56	15.64	2.08	31.78			Peak
3	228.72	30.38	-15.62	46.00	43.97	16.07	2.10	31.76			Peak
4	557.60	33.16	-12.84	46.00	35.89	26.10	3.17	32.00			Peak
5	829.20	32.93	-13.07	46.00	32.37	29.09	3.33	31.86			Peak
6	948.90	33.58	-12.42	46.00	30.74	30.90	3.06	31.12	100	142	Peak
7	1906.00	44.11	-29.89	74.00	71.94	26.42	6.15	60.40			Peak
8	4467.00	40.20	-33.80	74.00	59.97	30.89	10.65	61.31			Peak
9	6018.00	42.47	-31.53	74.00	55.80	34.63	11.17	59.13			Peak
10	7670.00	43.75	-30.25	74.00	53.66	37.90	11.99	59.80			Peak
11	10068.00	45.57	-28.43	74.00	51.31	41.26	13.52	60.52			Peak
12	11564.00	48.69	-25.31	74.00	48.39	42.25	16.09	58.04	100	131	Peak

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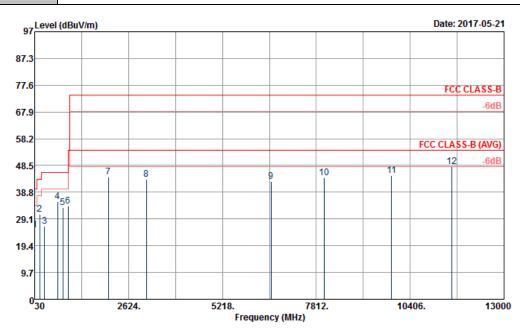
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Report No.: FC742206-01

Test Mode :	Mode 1	Temperature :	22~25°C
Test Engineer :	Donny Tang	Relative Humidity :	51~55%
Test Distance :	3m	Polarization :	Vertical

Function Type: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 1



Site : 03CH06-HY

Condition : FCC CLASS-B 3m 9120D\_1156\_160817 VERTICAL

Project : 742206-01 Power : From System Memo : Mode 1

			0ver	Limit	ReadA	ntenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	32.16	25.06	-14.94	40.00	31.75	23.24	1.91	31.84			Peak
2	169.59	30.76	-12.74	43.50	45.00	15.48	2.06	31.78			Peak
3	298.92	26.58	-19.42	46.00	36.88	19.16	2.28	31.74			Peak
4	666.10	35.50	-10.50	46.00	37.82	26.44	3.33	32.09	100	150	Peak
5	810.30	33.31	-12.69	46.00	33.39	28.51	3.35	31.94			Peak
6	955.90	33.74	-12.26	46.00	30.71	31.03	3.06	31.06			Peak
7	2064.00	44.37	-29.63	74.00	71.59	26.76	6.42	60.40			Peak
8	3114.00	43.46	-30.54	74.00	67.56	28.89	7.89	60.88			Peak
9	6564.00	42.66	-31.34	74.00	54.57	35.68	12.34	59.93			Peak
10	8024.00	44.03	-29.97	74.00	52.60	37.92	12.71	59.20			Peak
11	9890.00	44.81	-29.19	74.00	50.44	40.91	14.06	60.60			Peak
12	11554.00	48.09	-25.91	74.00	47.79	42.25	16.09	58.04	100	191	Peak

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22~25°C Test Mode: Mode 2 Temperature : Test Engineer: **Donny Tang** Relative Humidity: 51~55% Test Distance: Polarization: Horizontal Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 2 **Function Type:** 117 Level (dBuV/m) Date: 2017-07-14 102.4 87.8 FCC CLASS-B\_ 73.1 FCC CLASS-B (AVG) 58.5 11 12 15 10 43.9 29.3 14.6 6024. 12018. 18012. 24006. 30000 Frequency (MHz) Site : 03CH06-HY Condition  $: FCC\ CLASS-B\_\_1m\ 9120D\_1156\_160817\ HORIZONTAL$ Project : 742206-01 Power : From System Memo : Mode 2

			0ver	Limit	ReadA	ntenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	193.89	20 00	-14.70	43.50	43.84	14.78	1.95	31.77			Peak
2	230.34	31.43	-14.57	46.00	44.82	16.27	2.10	31.76			Peak
3	274.35	32.81	-13.19	46.00	43.25	19.07	2.24	31.75			Peak
4	829.90	35.73	-10.27	46.00	35.12	29.13	3.33	31.85	100	216	Peak
5	913.20	32.86	-13.14	46.00	31.01	29.99	3.30	31.44			Peak
6	954.50	32.87	-13.13	46.00	29.89	30.99	3.06	31.07			Peak
7	1916.00	43.36	-30.64	74.00	71.14	26.47	6.15	60.40			Peak
8	3900.00	42.56	-31.44	74.00	63.57	30.33	10.11	61.45			Peak
9	6782.00	42.76	-31.24	74.00	54.93	36.04	11.86	60.07			Peak
10	8516.00	43.97	-30.03	74.00	50.77	38.49	13.93	59.22			Peak
11	10264.00	45.41	-28.59	74.00	50.70	41.14	13.85	60.28			Peak
12	11254.00	47.45	-26.55	74.00	48.51	41.75	15.54	58.35			Peak
13	17955.00	49.93	-24.07	74.00	42.77	49.36	15.09	57.29	100	0	Peak
14	27276.00	47.33	-36.21	83.54	73.80	0.00	27.83	54.30			Peak
15	28788.00	48.22	-35.32	83.54	73.71	0.00	28.85	54.34			Peak

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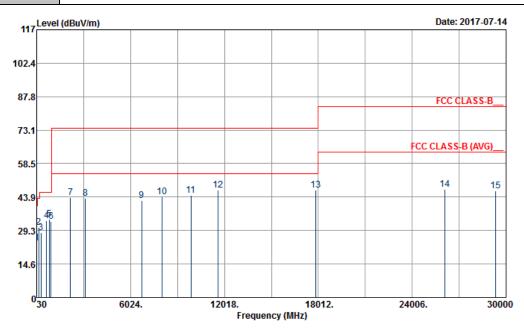


 Test Mode :
 Mode 2
 Temperature :
 22~25°C

 Test Engineer :
 Donny Tang
 Relative Humidity :
 51~55%

 Test Distance :
 3m
 Polarization :
 Vertical

Function Type: Flight Mode + USB Cable (Data Link with Notebook) + Battery + Earphone 2



Site : 03CH06-HY

Condition : FCC CLASS-B\_\_ 1m SHF-EHF HORN VERTICAL

Project : 742206-01 Power : From System Memo : Mode 2

MICHIO		MIOGE									
			0ver	Limit	Read/	Antenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
											_
1	30.00	23.75	-16.25	40.00	29.39	24.30	1.90	31.84			Peak
2	171.48	30.56	-12.94	43.50	44.95	15.34	2.05	31.78			Peak
3	298.65	28.25	-17.75	46.00	38.55	19.16	2.28	31.74			Peak
4	666.10	33.49	-12.51	46.00	35.81	26.44	3.33	32.09			Peak
5	833.40	34.33	-11.67	46.00	33.62	29.22	3.33	31.84	100	167	Peak
6	945.40	33.25	-12.75	46.00	30.47	30.85	3.08	31.15			Peak
7	2180.00	43.69	-30.31	74.00	70.74	26.84	6.51	60.40			Peak
8	3138.00	43.36	-30.64	74.00	67.50	28.82	7.95	60.91			Peak
9	6734.00	42.45	-31.55	74.00	54.53	35.96	11.99	60.03			Peak
10	8024.00	44.03	-29.97	74.00	52.60	37.92	12.71	59.20			Peak
11	9890.00	44.81	-29.19	74.00	50.44	40.91	14.06	60.60			Peak
12	11628.00	47.08	-26.92	74.00	47.04	41.92	16.22	58.10			Peak
13	17865.00	47.08	-26.92	74.00	42.46	46.90	14.99	57.27	100	0	Peak
14	26088.00	47.31	-36.23	83.54	34.76	39.50	27.09	54.04			Peak
15	29316.00	46.68	-36.86	83.54	31.82	40.30	28.86	54.30			Peak

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## 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration	Test Date	Due Date	Remark
mstrument	Wallulacturei	Woder No.	Serial No.	Citaracteristics	Date	lest Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 14, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	May 14, 2017	Aug. 29, 2017	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	May 02, 2017	May 14, 2017	May 01, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	May 14, 2017	Nov. 28, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 06, 2016	May 14, 2017	Dec. 05, 2017	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 05, 2017	May 14, 2017	Jan. 04, 2018	Conduction (CO05-HY)
Test Software	N/A	EMC32	8.40.0	N/A	N/A	May 14, 2017	N/A	Conduction (CO05-HY)
Bilog Antenna	Schaffner	CBL6111C&N- 6-06	2725&AT-N06 01	30MHz~1GHz	Oct. 15, 2016	May 20, 2017~ May 21, 2017	Oct. 14, 2017	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Dec. 29, 2016	May 20, 2017~ May 21, 2017	Dec. 28, 2017	Radiation (03CH06-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 17, 2016	Jul. 14, 2017	Oct. 16, 2017	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Aug. 05, 2016	May 20, 2017~ May 21, 2017	Aug. 04, 2017	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917058 4	18GHz- 40GHz	Nov. 08, 2016	May 20, 2017~ Jul. 14, 2017	Nov. 07, 2017	Radiation (03CH06-HY)
Preamplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 25, 2017	May 20, 2017~ May 21, 2017	Apr. 25, 2018	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1850117	1GHz ~ 18GHz	Apr. 25, 2017	May 20, 2017~ May 21, 2017	Apr. 24, 2018	Radiation (03CH06-HY)
Preamplifier	MITEQ	TTA 1840-35-HG	1887435	18GHz~40GHz	Oct. 13, 2016	May 20, 2017~ Jul. 14, 2017	Oct. 12, 2017	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	30MHz~1GHz	Sep. 30, 2016	May 20, 2017~ May 21, 2017	Sep. 29, 2017	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4 MY28419/4M Y28654/4	9KHz~40GHz	Sep. 12, 2016	May 20, 2017~ Jul. 14, 2017	Sep. 11, 2017	Radiation (03CH06-HY)
Controller	INN-CO	EM1000	060782	Control Turn table & Ant Mast	N/A	May 20, 2017~ Jul. 14, 2017	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF78020821 2	1m~4m	N/A	May 20, 2017~ Jul. 14, 2017	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	May 20, 2017~ Jul. 14, 2017	N/A	Radiation (03CH06-HY)
Hygrometer	WISEWIND	410	BU5004	N/A	Mar. 20, 2017	May 20, 2017~ Jul. 14, 2017	Mar. 19, 2018	Radiation (03CH06-HY)
Test Software	Audix	E3	6.2009-8-24	N/A	N/A	May 20, 2017~ Jul. 14, 2017	N/A	Radiation (03CH06-HY)

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## 5. Uncertainty of Evaluation

### **Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)**

Measuring Uncertainty for a Level of	2.70
Confidence of 95% (U = 2Uc(y))	2.70

## Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of	2.00
Confidence of 95% (U = 2Uc(y))	3.90

## **Uncertainty of Radiated Emission Measurement (1000 MHz ~ 30000 MHz)**

Measuring Uncertainty for a Level of	4.70
Confidence of 95% (U = 2Uc(y))	4.70

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