# **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 : PY7-32032B

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

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

The product was received on May 01, 2017 and testing was completed on Jul. 19, 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 1<sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 1 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

Testing Laboratory 1190

# **TABLE OF CONTENTS**

RE	EVISION HISTORY	3
SU	UMMARY OF TEST RESULT	4
1.	GENERAL DESCRIPTION	5
	1.1. Applicant	5
	1.2. Manufacturer	5
	1.3. Product Feature of Equipment Under Test	5
	1.4. Modification of EUT	
	1.5. Test Location	7
	1.6. Applicable Standards	7
2.	. TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
	2.1. Test Mode	8
	2.2. Connection Diagram of Test System	
	2.3. Support Unit used in test configuration and system	10
	2.4. EUT Operation Test Setup	10
3.	. TEST RESULT	11
	3.1. Test of AC Conducted Emission Measurement	11
	3.2. Test of Radiated Emission Measurement	17
4.	LIST OF MEASURING EQUIPMENT	24
5	LINCERTAINTY OF EVALUATION	25

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 2 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC742207-01	Rev. 01	Initial issue of report	Jul. 27, 2017

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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 3 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# **SUMMARY OF TEST RESULT**

Report Section	FCC Rule	Rule Description Limit Result		Remark	
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 11.80 dB at 0.158 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 11.77 dB at 33.240 MHz

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 4 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# 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

<u></u>						
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						
А	0.32	RQ3004VALU	Conducted Emission Radiated Spurious Emission						

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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 5 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

Accessory List						
Familian a 4	Model No. : MH410c					
Earphone 1	S/N: 1632A86600000E0					
Familiana 0	Model No. : MH410c					
Earphone 2	S/N: N/A					
LIOD Calala	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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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 6 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

### 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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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 7 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# 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:

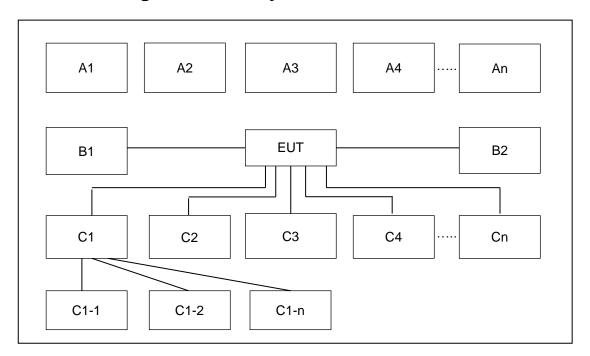
- 1. Data Link with Notebook means data application transferred mode between EUT and Notebook.
- 2. The worst case of RE is mode 1; only the test data of this mode was full test to 30GHz.

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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 8 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# 2.2. Connection Diagram of Test System



	Test Setup									
No.	Setup Peripherals	Connection Type		Test Mode						
NO.			1	2	-	-	-	•	-	
C1	Notebook	USB cable	Х	Χ						
C1-2	Music Player	USB Cable to C1	Х	Χ						
C1-3	AP Router	RJ-45 Cable to C1	Х	Χ						
C2	Earphone	Earphone jack	Х	Χ						
C3	SD card	SD I/O interface without cable	X	Х						

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 9 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# 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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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 10 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

## 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.

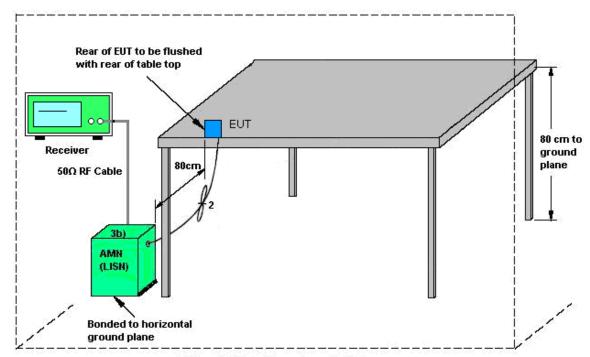
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 11 of 25

Report Issued Date : Jul. 27, 2017

Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

## 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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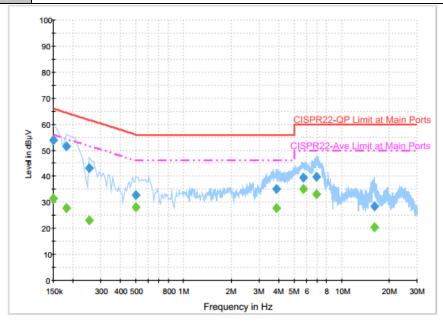
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 12 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

## 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	52~53%
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)
0.150000	53.8	Off	L1	19.6	12.2	66.0
0.182000	51.7	Off	L1	19.5	12.7	64.4
0.254000	43.1	Off	L1	19.5	18.5	61.6
0.502000	32.8	Off	L1	19.5	23.2	56.0
3.878000	35.2	Off	L1	19.6	20.8	56.0
5.758000	39.6	Off	L1	19.6	20.4	60.0
6.974000	39.8	Off	L1	19.6	20.2	60.0
16.078000	28.3	Off	L1	19.7	31.7	60.0

Final Result : Average

mai Kesuit . Average						
Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	31.6	Off	L1	19.6	24.4	56.0
0.182000	27.7	Off	L1	19.5	26.7	54.4
0.254000	23.2	Off	L1	19.5	28.4	51.6
0.502000	28.0	Off	L1	19.5	18.0	46.0
3.878000	27.8	Off	L1	19.6	18.2	46.0
5.758000	35.0	Off	L1	19.6	15.0	50.0
6.974000	33.1	Off	L1	19.6	16.9	50.0
16.078000	20.5	Off	L1	19.7	29.5	50.0

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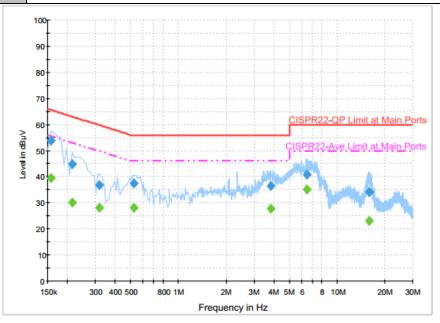
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 13 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3



Test Mode :	Mode 1	Temperature :	<b>23~24</b> ℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	52~53%
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)
0.158000	53.8	Off	N	19.5	11.8	65.6
0.214000	44.9	Off	N	19.5	18.1	63.0
0.318000	36.8	Off	N	19.5	23.0	59.8
0.526000	37.5	Off	N	19.5	18.5	56.0
3.822000	36.6	Off	N	19.6	19.4	56.0
6.470000	40.8	Off	N	19.6	19.2	60.0
15.886000	34.0	Off	N	19.8	26.0	60.0

Final Result : Average

	. , ., ., .,					
Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	i iitei	Lille	(dB)	(dB)	(dBµV)
0.158000	39.4	Off	N	19.5	16.2	55.6
0.214000	30.2	Off	N	19.5	22.8	53.0
0.318000	28.1	Off	N	19.5	21.7	49.8
0.526000	28.0	Off	N	19.5	18.0	46.0
3.822000	27.8	Off	N	19.6	18.2	46.0
6.470000	35.3	Off	N	19.6	14.7	50.0
15.886000	23.1	Off	N	19.8	26.9	50.0

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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 14 of 25 Report Issued Date: Jul. 27, 2017 Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

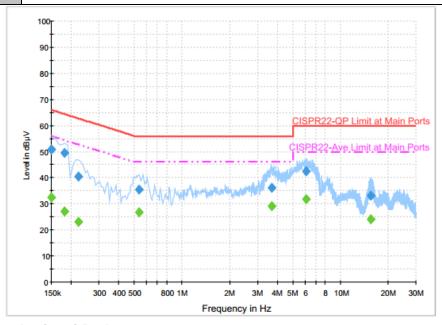
 Test Mode :
 Mode 2
 Temperature :
 23~24℃

 Test Engineer :
 Kai-Chun Chu
 Relative Humidity :
 52~53%

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Line

Report No.: FC742207-01

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	50.7	Off	L1	19.6	15.3	66.0
0.182000	49.3	Off	L1	19.5	15.1	64.4
0.222000	40.4	Off	L1	19.5	22.3	62.7
0.534000	35.4	Off	L1	19.5	20.6	56.0
3.694000	36.2	Off	L1	19.6	19.8	56.0
6.094000	42.5	Off	L1	19.6	17.5	60.0
15.534000	33.0	Off	L1	19.7	27.0	60.0

### Final Result : Average

	. / we.age					
Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	I litter	Lille	(dB)	(dB)	(dBµV)
0.150000	32.4	Off	L1	19.6	23.6	56.0
0.182000	27.0	Off	L1	19.5	27.4	54.4
0.222000	22.9	Off	L1	19.5	29.8	52.7
0.534000	26.7	Off	L1	19.5	19.3	46.0
3.694000	29.1	Off	L1	19.6	16.9	46.0
6.094000	31.7	Off	L1	19.6	18.3	50.0
15.534000	24.2	Off	L1	19.7	25.8	50.0

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 15 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

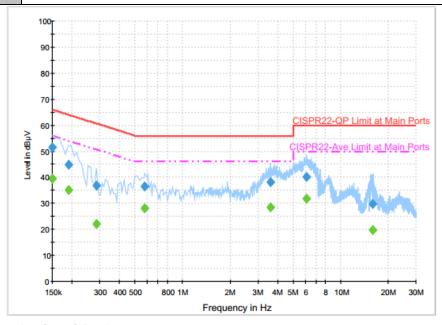
Report Template No.: BU5-FD15B Version 1.3

 Test Mode :
 Mode 2
 Temperature :
 23~24℃

 Test Engineer :
 Kai-Chun Chu
 Relative Humidity :
 52~53%

 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)
0.150000	51.5	Off	N	19.5	14.5	66.0
0.190000	44.9	Off	N	19.5	19.1	64.0
0.286000	36.7	Off	N	19.5	23.9	60.6
0.574000	36.4	Off	N	19.5	19.6	56.0
3.614000	38.0	Off	N	19.5	18.0	56.0
6.094000	40.3	Off	N	19.6	19.7	60.0
15.990000	29.8	Off	N	19.8	30.2	60.0

### Final Result : Average

	171101490					
Frequency	Average	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	I IIICI	Lille	(dB)	(dB)	(dBµV)
0.150000	39.5	Off	N	19.5	16.5	56.0
0.190000	35.0	Off	N	19.5	19.0	54.0
0.286000	22.0	Off	N	19.5	28.6	50.6
0.574000	27.9	Off	N	19.5	18.1	46.0
3.614000	28.3	Off	N	19.5	17.7	46.0
6.094000	31.9	Off	N	19.6	18.1	50.0
15.990000	19.8	Off	N	19.8	30.2	50.0

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 16 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

#### 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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TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 17 of 25

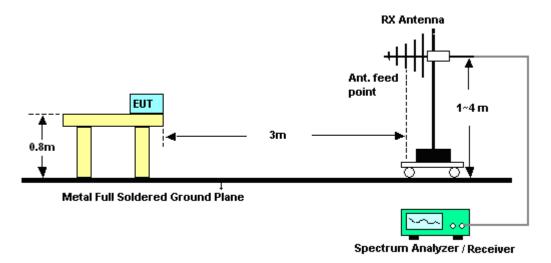
Report Issued Date : Jul. 27, 2017

Report Version : Rev. 01

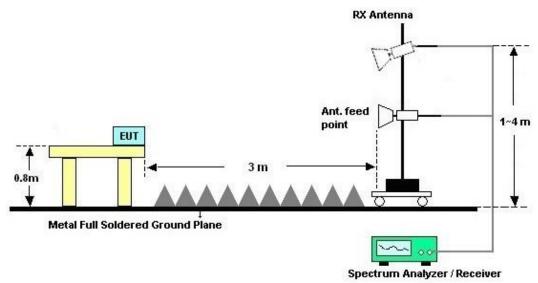
Report Template No.: BU5-FD15B Version 1.3

# 3.2.4. Test Setup of Radiated Emission

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



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

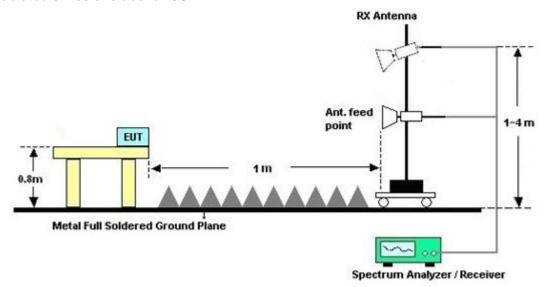


SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 18 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

#### For radiated emissions above 18GHz



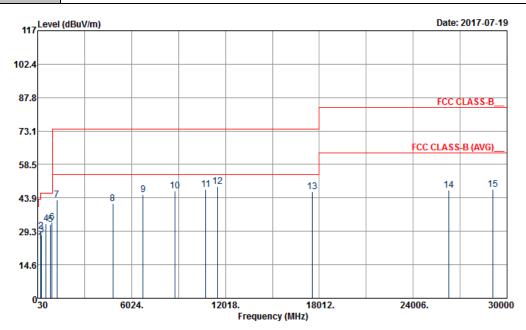
TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 19 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

#### 3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 1	Temperature :	22~25°C
Test Engineer :	Derreck Chen	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\_\_ 1m 9120D\_1156\_160817 HORIZONTAL

 $\begin{array}{ll} \text{Power} & : \text{From System} \\ \text{Memo} & : \text{Mode 1} \end{array}$ 

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark deg MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm--- Peak 1 201.45 24.74 -18.76 43.50 39.66 14.90 1.95 31.77 \_\_\_ 29.31 -16.69 46.00 224.13 43.45 15.55 2.07 31.76 Peak 27.63 -18.37 46.00 38.23 277.32 18.90 2.25 31.75 --- Peak 557.60 32.43 -13.57 46.00 35.16 26.10 3.17 32.00 --- Peak 857.20 32.14 -13.86 46.00 31.12 29.43 3.32 31.73 --- Peak 6 949.60 33.26 -12.74 46.00 30.41 30.91 3.05 100 174 Peak 31.11 7 1246.00 43.02 -30.98 74.00 74.26 25.14 4.82 Peak 61.20 4842.00 41.55 -32.45 --- Peak 58.44 59.47 8 74.00 31.52 11.06 6766.00 45.25 -28.75 74.00 56.67 36.01 11.86 59.29 --- Peak 10 8784.00 46.87 -27.13 74.00 52.13 38.27 14.61 58.14 ------ Peak 11 10770.00 47.50 -26.50 74.00 49.32 41.00 14.73 57.55 --- Peak 15.95 12 11502.00 48.80 -25.20 74.00 46.85 42.50 56.50 100 0 Peak 13 17568.00 46.71 -27.29 74.00 44.49 44.66 14.77 57.21 --- Peak ---26292.00 47.35 -36.19 83.54 74.23 --- Peak 14 0.00 27.24 54.12 15 29088.00 47.65 -35.89 83.54 72.96 0.00 28.99 54.30 --- Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 20 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

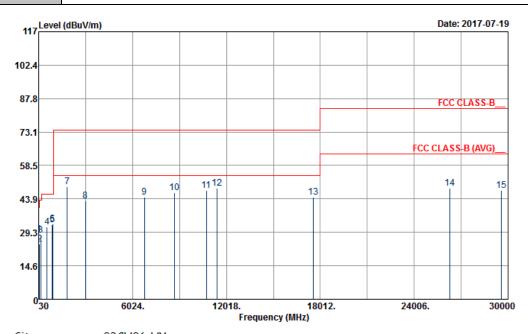


 Test Mode :
 Mode 1
 Temperature :
 22~25°C

 Test Engineer :
 Derreck Chen
 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\_\_ 1m SHF-EHF HORN VERTICAL

Power : From System
Memo : Mode 1

Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Line Level Factor Remark Freq Level Limit Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB deg cm28.23 -11.77 40.00 35.45 1.91 31.84 177 Peak 1 33.24 22.71 100 82.65 24.15 -15.85 40.00 40.51 13.46 2.00 31.82 Peak 3 28.01 -15.49 43.50 41.99 166.35 15.71 2.09 31.78 --- Peak 31.56 -14.44 46.00 34.29 557.60 26.10 3.17 32.00 --- Peak 32.43 -13.57 46.00 5 902.70 30.94 29.64 3.37 31.52 --- Peak 934.90 33.02 -12.98 46.00 30.50 30.61 3.15 31.24 --- Peak 7 1858.00 49.08 -24.92 74.00 77.70 26.28 6.07 60.97 --- Peak 8 3028.00 43.04 -30.96 74.00 67.52 29.07 7.76 61.31 --- Peak 9 6788.00 44.66 -29.34 74.00 56.05 36.04 11.86 59.29 Peak --- Peak 10 8724.00 46.49 -27.51 74.00 51.88 38.33 14.35 58.07 ---10748.00 47.47 -26.53 74.00 49.42 41.00 11 14.67 57.62 --- Peak 12 11396.00 48.45 -25.55 74.00 47.03 42.20 15.82 56.60 100 0 Peak 13 17541.00 44.79 -29.21 74.00 44.16 43.10 14.74 57.21 --- Peak ---14 26292.00 48.51 -35.03 83.54 35.89 39.50 27.24 54.12 Peak --- Peak 15 29556.00 47.68 -35.86 83.54 32.91 40.28 28.81 54.32

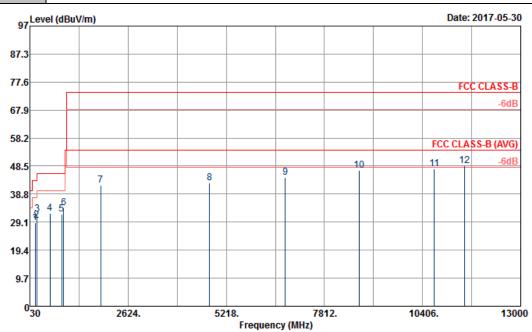
SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 21 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

Test Mode :	Mode 2	Temperature :	22~25°C
Test Engineer :	Derreck Chen	Relative Humidity :	51~55%
Test Distance :	3m	Polarization :	Horizontal

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



Site : 03CH06-HY

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

**Power** : From System Memo : Mode 2

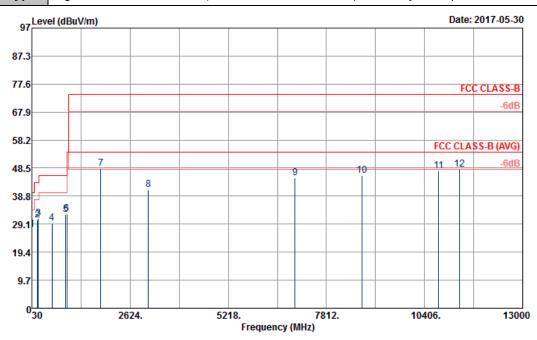
			0ver	Limit	ReadA	ntenna	Cable	Preamp	A/Pos	T/Pos	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	170.13	28.79	-14.71	43.50	43.03	15.48	2.06	31.78			Peak
2	213.33	29.63	-13.87	43.50	44.34	15.05	2.01	31.77			Peak
3	220.35	31.95	-14.05	46.00	46.52	15.14	2.05	31.76			Peak
4	557.60	32.04	-13.96	46.00	34.77	26.10	3.17	32.00			Peak
5	868.40	31.96	-14.04	46.00	30.98	29.33	3.34	31.69			Peak
6	921.60	33.91	-12.09	46.00	31.79	30.24	3.24	31.36	100	129	Peak
7	1906.00	41.92	-32.08	74.00	70.33	26.42	6.15	60.98			Peak
8	4782.00	42.66	-31.34	74.00	59.93	31.40	10.95	59.62			Peak
9	6774.00	44.70	-29.30	74.00	56.09	36.04	11.86	59.29			Peak
10	8740.00	47.12	-26.88	74.00	52.55	38.31	14.35	58.09			Peak
11	10714.00	47.54	-26.46	74.00	49.63	41.00	14.60	57.69			Peak
12	11508.00	48.55	-25.45	74.00	46.63	42.50	15.95	56.53	100	145	Peak

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 22 of 25 Report Issued Date: Jul. 27, 2017 Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

Test Mode :	Mode 2	Temperature :	22~25°C
Test Engineer :	Derreck Chen	Relative Humidity :	51~55%
Test Distance :	3m	Polarization :	Vertical

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



: 03CH06-HY Site

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

**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	30.27	27.40	-12.60	40.00	33.04	24.30	1.90	31.84			Peak
2	175.26	30.58	-12.92	43.50	45.26	15.08	2.02	31.78			Peak
3	201.99	31.13	-12.37	43.50	46.05	14.90	1.95	31.77	100	137	Peak
4	557.60	29.32	-16.68	46.00	32.05	26.10	3.17	32.00			Peak
5	922.30	32.46	-13.54	46.00	30.32	30.26	3.24	31.36			Peak
6	952.40	32.71	-13.29	46.00	29.79	30.96	3.05	31.09			Peak
7	1848.00	48.26	-25.74	74.00	76.88	26.28	6.07	60.97	100	174	Peak
8	3108.00	41.19	-32.81	74.00	65.73	28.89	7.89	61.32			Peak
9	6982.00	45.19	-28.81	74.00	56.23	36.37	11.80	59.21			Peak
10	8758.00	46.01	-27.99	74.00	51.34	38.30	14.48	58.11			Peak
11	10778.00	47.62	-26.38	74.00	49.44	41.00	14.73	57.55			Peak
12	11340.00	48.14	-25.86	74.00	47.11	42.00	15.68	56.65			Peak

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 23 of 25 Report Issued Date: Jul. 27, 2017 Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration	Test Date	Due Date	Remark
AC Power					Date			Conduction
Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 28, 2017	N/A	(CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	May 28, 2017	Aug. 29, 2017	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	May 02, 2017	May 28, 2017	May 01, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	May 28, 2017	Nov. 28, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 06, 2016	May 28, 2017	Dec. 05, 2017	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 05, 2017	May 28, 2017	Jan. 04, 2018	Conduction (CO05-HY)
Test Software	N/A	EMC32	8.40.0	N/A	N/A	May 28, 2017	N/A	Conduction (CO05-HY)
Bilog Antenna	Schaffner	CBL6111C&N- 6-06	2725&AT-N06 01	30MHz~1GHz	Oct. 15, 2016	May 30, 2017	Oct. 14, 2017	Radiation (03CH06-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz~26.5GHz	Dec. 29, 2016	May 30, 2017	Dec. 28, 2017	Radiation (03CH06-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 17, 2016	Jul. 19, 2017	Oct. 16, 2017	Radiation (03CH06-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1156	1GHz~18GHz	Aug. 05, 2016	May 30, 2017	Aug. 04, 2017	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917058 4	18GHz- 40GHz	Nov. 08, 2016	May 30, 2017~ Jul. 19, 2017	Nov. 07, 2017	Radiation (03CH06-HY)
Preamplifier	SONOMA	310N	186713	9kHz~1GHz	Apr. 25, 2017	May 30, 2017	Apr. 24, 2018	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1850117	1GHz ~ 18GHz	Apr. 25, 2017	May 30, 2017	Apr. 24, 2018	Radiation (03CH06-HY)
Preamplifier	MITEQ	TTA 1840-35-HG	1887435	18GHz~40GHz	Oct. 13, 2016	May 31, 2017~ Jul. 19, 2017	Oct. 12, 2017	Radiation (03CH06-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	30MHz~1GHz	Sep. 30, 2016	May 30, 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 30, 2017~ Jul. 19, 2017	Sep. 11, 2017	Radiation (03CH06-HY)
Controller	INN-CO	EM1000	060782	Control Turn table & Ant Mast	N/A	May 30, 2017~ Jul. 19, 2017	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF78020821 2	1m~4m	N/A	May 30, 2017~ Jul. 19, 2017	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0-360 degree	N/A	May 30, 2017~ Jul. 19, 2017	N/A	Radiation (03CH06-HY)
Hygrometer	WISEWIND	410	BU5004	N/A	May 20, 2017	May 30, 2017~ Jul. 19, 2017	May 19, 2018	Radiation (03CH06-HY)
Test Software	Audix	E3	6.2009-8-24	N/A	N/A	May 30, 2017~ Jul. 19, 2017	N/A	Radiation (03CH06-HY)

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 24 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

# 5. Uncertainty of Evaluation

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

	- <del>-</del>
Measuring Uncertainty for a Level of	
•	2.70
Confidence of 95% (U = 2Uc(y))	

### 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

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-328-4978 FCC ID: PY7-32032B Page Number : 25 of 25
Report Issued Date : Jul. 27, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3