

# **FCC Test Report**

APPLICANT	: LG Electronics Mobile Comm USA
EQUIPMENT	: Smart phone
BRAND NAME	: LG
MODEL NAME	: LG-X240YK
FCC ID	: ZNFX240YK
STANDARD	: FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	: Certification

The product was received on Dec. 10, 2016 and testing was completed on Apr. 12, 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.

Louis Wu

Reviewed by: Louis Wu / Manager

Approved by: Jones Tsai / Manager



#### SPORTON INTERNATIONAL INC.

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**SPORTON INTERNATIONAL INC.** TEL : 886-3-327-3456 FAX : 886-3-328-4978 FCC ID : ZNFX240YK Page Number: 1 of 22Report Issued Date: Apr. 12, 2017Report Version: Rev. 03Report Template No.: BU5-FC15B Version 1.3



# TABLE OF CONTENTS

RE	VISIO	N HISTORY	3
SU	MMAR	Y OF TEST RESULT	4
1.	GENE	RAL DESCRIPTION	5
	1.1.	Applicant	
	1.2.	Manufacturer	
	1.3.	Product Feature of Equipment Under Test	
	1.4.	Product Specification of Equipment Under Test	
	1.5.	Modification of EUT	
	1.6.	Test Location	
	1.7.	Applicable Standards	7
2.	TEST	CONFIGURATION OF EQUIPMENT UNDER TEST	8
	2.1.	Test Mode	8
	2.2.	Connection Diagram of Test System	10
	2.3.	Support Unit used in test configuration and system	
	2.4.	EUT Operation Test Setup	11
3.	TEST	RESULT	12
	3.1.	Test of AC Conducted Emission Measurement	12
	3.2.	Test of Radiated Emission Measurement	
4.	LIST	OF MEASURING EQUIPMENT	21
5.	UNCE	RTAINTY OF EVALUATION	22
AP	PENDI	X A. SETUP PHOTOGRAPHS	



# **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC6D1013	Rev. 01	Initial issue of report	Mar. 13, 2017
FC6D1013	Rev. 02	Adding FM mode in this report.	Mar. 17, 2017
FC6D1013	Rev. 03	Adding FM Lowest and highest channel in this report.	Apr. 12, 2017



Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit
0.1	10.107	AC CONducted Emission		17,00	8.40 dB at 0.422 MHz
	15.109				Under limit
3.2		15.109 Radiated Emission	< 15.109 limits	PASS	6.62 dB at 956.600 MHz
					for Peak

# SUMMARY OF TEST RESULT



# **1. General Description**

### 1.1. Applicant

#### LG Electronics Mobile Comm USA

LG Twin Towers 20, Yeouido-Dong Youngdeungpo-Gu, Seoul 150-721, Republic Of Korea

### 1.2. Manufacturer

#### Arima Communications Corp.

6F,No.866,Jhongjheng Rd., Jhonghe Dist., New Taipei City 23586, Taiwan

### **1.3.** Product Feature of Equipment Under Test

Product Feature					
Equipment	Smart phone				
Brand Name	LG				
Model Name	LG-X240YK				
FCC ID	ZNFX240YK				
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE WLAN 11b/g/n HT20/HT40 Bluetooth BR/EDR/LE				
HW Version	Rev. 1.0				
SW Version	LGX240YKAT-00-V08a-CIS-XX-NOV-17-2016+0				
EUT Stage	Production Unit				

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Specification of Accessory				
	Brand Name	Sunlin		
AC Adapter	Model Name	EAY64009102(MCS-02WR2)		
Dettems	Brand Name	LG		
Battery	Model Name	EAC63382101 (BL-45F1F)		
Fornhono	Brand Name	Cresyn		
Earphone	Model Name	EAB64468401 (EMB-LGE41STGWA)		
USB Cable	Brand Name	KSD		
USD Cable	Model Name	EAD62377922 (DC03WK-G)		



1.4.	Product	Specification	of Eq	uipment	Under	Test

Standards-related Product Specification					
	GSM850: 824.2 MHz ~ 848.8 MHz				
	GSM1900: 1850.2 MHz ~ 1909.8MHz				
	WCDMA Band V: 826.4 MHz ~ 846.6 MHz				
Tx Frequency	LTE Band 5 : 824.7 MHz ~ 848.3 MHz				
	LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz				
	802.11b/g/n: 2412 MHz ~ 2462 MHz				
	Bluetooth: 2402 MHz ~ 2480 MHz				
	GSM850: 869.2 MHz ~ 893.8 MHz				
	GSM1900: 1930.2 MHz ~ 1989.8 MHz				
	WCDMA Band V: 871.4 MHz ~ 891.6 MHz				
	LTE Band 5 : 869.7 MHz ~ 893.3 MHz				
Rx Frequency	LTE Band 7 : 759.5 MHz ~ 801.5 MHz				
	802.11b/g/n: 2412 MHz ~ 2462 MHz				
	Bluetooth: 2402 MHz ~ 2480 MHz				
	GPS : 1.57542 GHz				
	FM : 87.5 MHz ~ 108 MHz				
	WWAN : PIFA Antenna				
	LTE : PIFA Antenna				
Antenna Type	WLAN : PIFA Antenna				
	Bluetooth : PIFA Antenna				
	FM : Integral Antenna (Earphone acting as FM antenna				
	deemed as an integral antenna) GSM: GMSK				
	GSM. GMSK GPRS: GMSK				
	EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK				
	WCDMA: QPSK (Uplink)				
	HSDPA:64 QAM (Downlink)				
	HSUPA: QPSK (Uplink)				
	LTE: QPSK / 16QAM				
Type of Modulation					
Type of modulation	802.11b : DSSS (DBPSK / DQPSK / CCK)				
	802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)				
	Bluetooth LE : GFSK				
	Bluetooth (1Mbps) : GFSK				
	Bluetooth (2Mbps) : π /4-DQPSK				
	Bluetooth (3Mbps) : 8-DPSK GPS : BPSK				
	GPS : BPSK FM : FM				
	רועו . רועו				

### 1.5. Modification of EUT

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



### 1.6. Test Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	PORTON 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.	
Test Site Location	TEL: +886-3-327-3456	
	FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
	CO05-HY	

Test Site	SPORTON INTERNATIONAL INC.	
	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist,	
	Taoyuan City, Taiwan (R.O.C.)	
Test Site Location	TEL: +886-3-327-0868	
	FAX: +886-3-327-0855	
Test Site No.	Sporton Site No.	
	03CH10-HY	

### **1.7.** 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. 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).



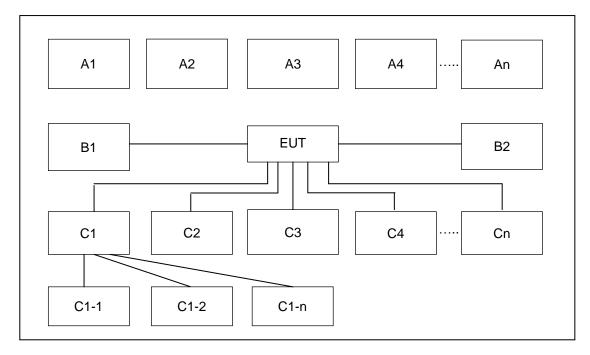
Test Items	Function Type			
	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + MPEG4 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Camera (Front) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 3: LTE Band 5 Idle + Bluetooth Idle + WLAN Idle + Camera (Rear) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
AC Conducted Emission	Mode 4: Flight mode + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1			
	Mode 5: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + FM Rx (98MHz) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 6: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + FM Rx (88MHz) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 7: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + FM Rx (108MHz) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + MPEG4 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 2: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Camera (Front) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 3: LTE Band 5 Idle + Bluetooth Idle + WLAN Idle + Camera (Rear) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
Radiated Emissions < 1GHz	Mode 4: Flight mode + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1			
	Mode 5: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + FM Rx (98MHz) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 6: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + FM Rx (88MHz) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
	Mode 7: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle + FM Rx (108MHz) + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1			
Radiated Emissions $\ge$ 1GHz	Mode 1: Flight mode + Earphone + Battery + USB Cable (Data Link with Notebook) + SIM 1			
Remark: 1. The worst case of AC is mode 1; only the test data of this mode was reported.				

2. The worst case of RE < 1G is mode 4; only the test data of this mode was reported.

3. Data Link with Notebook means data application transferred mode between EUT and Notebook.



# 2.2. Connection Diagram of Test System



	Conduction and Radiation Test Setup									
Na	Windoos Station	Connection Type		Test Mode						
No.	Wireless Station		1	2	3	4	5	6	7	
A1	BT Earphone	Bluetooth	Х	Х	х		х	Х	Х	
A2	System Simulator	GSM/WCDMA/LTE	Х	Х	х		х	х	Х	
A3	AP router	WiFi	Х	Х	х		х	Х	Х	
No.	Power Source	Connection Type	1	2	3	4	5	6	7	
B1	AC : 120V/60Hz	AC Power Cable	х	х	х		х	х	х	
No.	Setup Peripherals	Connection Type	1	2	3	4	5	6	7	
C1	Notebook	USB Cable				Х				
C1-1	IPod	USB Cable to C1				х				
C1-2	AP router	RJ-45 Cable to C1				х				
C2	Earphone	Earphone jack	Х	Х	х	Х	х	Х	Х	
C3	SD card	SD I/O interface without Cable	Х	х	х	х	х	х	х	



# 2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
4.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
5.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
6.	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
7.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

# 2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA or LTE idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

- 1. Data application is transferred between Laptop and EUT via USB cable.
- 2. Execute "Video player" to play MPEG4 files.
- 3. Turn on camera to capture images.
- 4. Turn on the Flight mode.
- 5. Turn on Radio and receive continuous signals from FM Generator during the test.



# 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

\*Decreases with the logarithm of the frequency.

#### 3.1.2 Measuring Instruments

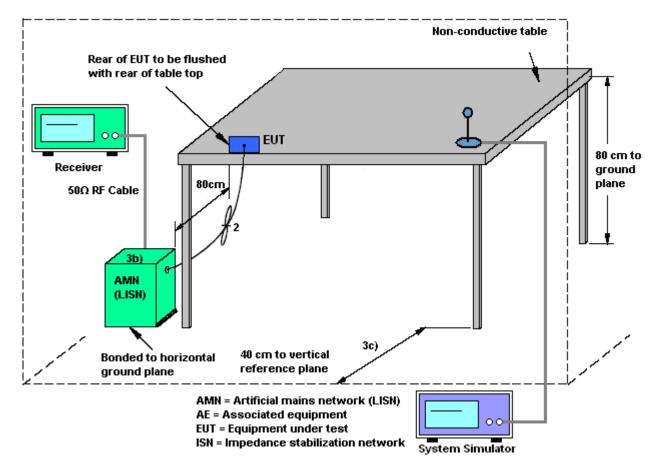
The measuring equipment is listed in the section 4 of this test report.

#### 3.1.3 Test Procedure

- 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.
- 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.



#### 3.1.4 Test Setup





#### 3.1.5 Test Result of AC Conducted Emission

Test Mode :     Mode 1       Test Engineer :     Arthur Height					Temp	erature :		21~25℃
Test Eng				Relative Humidity :		idity :	50~53%	
Test Vol	est Voltage : 120Vac / 60Hz				Phase :			Line
	GSM850 Idle + Bluetooth Id					LAN Idle	+ MPE	G4 + Earphone + Battery + USE
Functio	n Type :	Cable (Chargin	g from	Adapt	er) + S	IM 1		
		100 90 80 70 60 50 40 20 10			/\	PM	CISPR22 CISPR22	-QP Limit at Main Ports Ave Limit at Main Ports
Fir	nal Resu	₀ 150k 300 4 It : Quasi-Peak	400 500	800 1M	2M Frequer	3M 4M acy in Hz	5M 6 8	10M 20M 30M
	Frequency	150k 300 4 It : Quasi-Peak			Frequer	ncy in Hz Margin	Limit	
	Frequency (MHz)	It : Quasi-Peak Quasi-Peak (dBµV)	Filter	Line	Frequer Corr. (dB)	ncy in Hz Margin (dB)	Limit (dBµV)	
	Frequency (MHz) 0.150000	150k 300 4 It : Quasi-Peak γ Quasi-Peak (dBμV) 48.6	Filter	Line L1	Frequer Corr. (dB) 19.6	Margin (dB) 17.4	Limit (dBµV) 66.0	
	Frequency (MHz) 0.150000 0.174000	150k 300 4 It : Quasi-Peak (dBμV) 48.6 45.7	Filter Off Off	Line L1 L1	Frequer Corr. (dB) 19.6 19.6	Margin (dB) 17.4 19.1	Limit (dBµV) 66.0 64.8	
	Frequency (MHz) 0.150000 0.174000 0.198000	150k         300           It : Quasi-Peak           (dBμV)           48.6           45.7           42.0	Filter Off Off	Line L1 L1 L1	Frequer Corr. (dB) 19.6 19.6	Margin (dB) 17.4 19.1 21.7	Limit (dBµV) 66.0 64.8 63.7	
	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000	150k         300           It: Quasi-Peak           (dBμV)           48.6           45.7           42.0           38.2	Filter Off Off Off Off	Line L1 L1 L1 L1	Frequer Corr. (dB) 19.6 19.6 19.6	Margin (dB) 17.4 19.1 21.7 24.5	Limit (dBµV) 66.0 64.8 63.7 62.7	
	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000	150k     300       It : Quasi-Peak       (dBμV)       48.6       45.7       42.0       38.2       42.1	Filter Off Off Off Off Off	Line L1 L1 L1 L1 L1	Frequer Corr. (dB) 19.6 19.6 19.6 19.6	Margin (dB) 17.4 19.1 21.7 24.5 14.7	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8	
	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000	150k         300           It : Quasi-Peak           Quasi-Peak           (dBμV)           48.6           45.7           42.0           38.2           42.1           32.2	Filter Off Off Off Off Off Off	Line L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.6	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0	
- - - - - - - - - - - - - - - - - - -	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000 14.118000 nal Resu	150k     300       It : Quasi-Peak       (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average	Filter Off Off Off Off Off	Line L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0	
Fir	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000 14.118000 nal Resu Frequency	150k     300 4       It : Quasi-Peak (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average       Average	Filter Off Off Off Off Off Off Off	Line L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6 Margin	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0	
Fir	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000 14.118000 nal Resu Frequency (MHz)	150k     300       It : Quasi-Peak       (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average	Filter Off Off Off Off Off Off	Line L1 L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3 Corr. (dB)	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0 Limit (dBµV)	
Fit	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000 14.118000 nal Resu Frequency	150k     300 4       It : Quasi-Peak (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average       Average	Filter Off Off Off Off Off Off Off	Line L1 L1 L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6 Margin	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0	
Fit	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000 14.118000 nal Resu Frequency (MHz)	150k     300       It : Quasi-Peak       (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average       (dBμV)       36.9       35.1	Filter Off Off Off Off Off Off Off Filter Off Off	Line L1 L1 L1 L1 L1 L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3 Corr. (dB)	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6 Margin (dB)	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0 Limit (dBµV)	
Fit	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 7.550000 14.118000 Hal Resu Frequency (MHz) 0.150000	150k     300       It : Quasi-Peak       (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average       (dBμV)       36.9	Filter Off Off Off Off Off Off Off Filter	Line L1 L1 L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.9 20.3 Corr. (dB) 19.6	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6 Margin (dB) 19.1	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0 Limit (dBµV) 56.0	
Fit	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000 14.1180000 nal Resu Frequency (MHz) 0.150000 0.174000	150k     300       It : Quasi-Peak       (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average       (dBμV)       36.9       35.1	Filter Off Off Off Off Off Off Off Filter Off Off	Line L1 L1 L1 L1 L1 L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3 Corr. (dB) 19.6 19.6	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6 Margin (dB) 19.1 19.7	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0 60.0 Limit (dBµV) 56.0 54.8	
Fit	Frequency (MHz) 0.150000 0.174000 0.198000 0.222000 0.422000 7.550000 14.1180000 nal Resu Frequency (MHz) 0.150000 0.174000 0.198000	150k     300 4       It : Quasi-Peak (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average (dBμV)       36.9       35.1       32.1	Filter Off Off Off Off Off Off Off Filter Off Off Off	Line L1 L1 L1 L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3 Corr. (dB) 19.6 19.6 19.6	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6 Margin (dB) 19.1 19.7 21.6	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0 60.0 Limit (dBµV) 56.0 54.8 53.7	
- - - - - - - - - - - - - - - - - - -	Frequency (MHz) 0.150000 0.174000 0.222000 0.422000 7.550000 14.118000 nal Resu Frequency (MHz) 0.150000 0.174000 0.198000 0.222000	150k     300       It : Quasi-Peak       (dBμV)       48.6       45.7       42.0       38.2       42.1       32.2       31.4       It : Average       (dBμV)       36.9       35.1       32.1       27.6	Filter Off Off Off Off Off Off Off Filter Off Off Off Off	Line L1 L1 L1 L1 L1 L1 L1 L1 L1 L1	Frequer (dB) 19.6 19.6 19.6 19.6 19.6 19.9 20.3 Corr. (dB) 19.6 19.6 19.6 19.6	Margin (dB) 17.4 19.1 21.7 24.5 14.7 27.8 28.6 Margin (dB) 19.1 19.7 21.6 25.1	Limit (dBµV) 66.0 64.8 63.7 62.7 56.8 60.0 60.0 60.0 Limit (dBµV) 56.0 54.8 53.7 52.7	

**SPORTON INTERNATIONAL INC.** TEL : 886-3-327-3456 FAX : 886-3-328-4978 FCC ID : ZNFX240YK



Test Mode :	Mode 1			Temp	erature :		21~25℃
Test Engineer :	Arthur Hsieh			Relati	ve Humi	dity :	50~53%
Test Voltage :	age: 120Vac / 60Hz			Phase :			Neutral
	GSM850 Idle + Bluetooth Id				_AN Idle	+ MPE	G4 + Earphone + Battery + USE
Function Type :	Cable (Chargir						
	100						
	90						
	80-						
	70						
						CISPR22	-QP Limit at Main Ports
						CIEDROD	Ave Limit at Main Date
	And Barrier 200	×		. <u></u>	···		<u>Ave Limit at Main Ports</u>
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	0	400 500	800 1M	2M Frequer		5M 6 8	10M 20M 30M
	0 150k 300		800 1M		3M 4M acy in Hz	5M 6 8	10M 20M 30M
	olt : Quasi-Peak		800 1M	Frequer	ncy in Hz		10M 20M 30M
Frequency	olt : Quasi-Peak		800 1M	Frequer	ncy in Hz Margin	Limit	
Frequency (MHz)	Ilt : Quasi-Peak Quasi-Peak (dBµV)	Filter	Line	Frequer Corr. (dB)	Margin (dB)	Limit (dBµV)	
Frequency	Ilt : Quasi-Peak Quasi-Peak (dBµV)	C		Frequer	ncy in Hz Margin	Limit	
Frequency (MHz) 0.150000	0 150k 300 → 150k 300 → 11t : Quasi-Peak (dBµV) 49.0	Filter Off	Line	Frequer Corr. (dB) 19.5	Margin (dB) 17.0	Limit (dBµV) 66.0	
Frequency (MHz) 0.150000 0.198000	0 150k 300 150k 300 0 150k 300 150k 300 0 150k 300 0 150k 300 150k 300 150	Filter Off Off	Line N N	Frequer Corr. (dB) 19.5 19.5	Margin (dB) 17.0 20.2	Limit (dBµV) 66.0 63.7	
Frequency (MHz) 0.150000 0.198000 0.222000	ult : Quasi-Peak Quasi-Peak (dBμV) 49.0 43.5 40.2	Filter Off Off Off	Line N N N	Frequer Corr. (dB) 19.5 19.5	Margin (dB) 17.0 20.2 22.5	Limit (dBµV) 66.0 63.7 62.7	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000	It:         Quasi-Peak (dBμV)           49.0         43.5           40.2         36.7           36.5         41.7	Filter Off Off Off Off Off Off Off	Line N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7	Limit (dBµV) 66.0 63.7 62.7 59.6 59.0 57.4	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000	Ilt : Quasi-Peak Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4	Filter Off Off Off Off Off Off Off Off	Line N N N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 19.5 20.4	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6	Limit (dBµV) 66.0 63.7 62.7 59.6 59.0 57.4 60.0	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000	Ilt : Quasi-Peak Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4	Filter Off Off Off Off Off Off Off	Line N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7	Limit (dBµV) 66.0 63.7 62.7 59.6 59.0 57.4	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000	Ilt : Quasi-Peak Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4	Filter Off Off Off Off Off Off Off Off	Line N N N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 19.5 20.4	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6	Limit (dBµV) 66.0 63.7 62.7 59.6 59.0 57.4 60.0	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000	Ilt : Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4 31.9 Ilt : Average	Filter Off Off Off Off Off Off Off Off Off	Line N N N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 19.5 20.4	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6	Limit (dBµV) 66.0 63.7 62.7 59.6 59.0 57.4 60.0	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000 Final Resu Frequency (MHz)	Ilt : Quasi-Peak Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.7 36.5 41.7 33.4 31.9 Ilt : Average (dBµV)	Filter Off Off Off Off Off Off Off Off	Line N N N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 19.5 20.4 20.6	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000 Final Resu Frequency (MHz) 0.150000	It : Quasi-Peak Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4 31.9 It : Average (dBµV) 36.0	Filter Off Off Off Off Off Off Off Off Off Filter	Line N N N N N N N Line N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 19.5 20.4 20.6 Corr. (dB) 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1 Margin (dB) 20.0	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0 60.0 Limit (dBµV) 56.0	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000 Final Resu Frequency (MHz) 0.150000 0.198000	It : Quasi-Peak Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4 31.9 It : Average (dBµV) 36.0 31.0	Filter Off Off Off Off Off Off Off Off Filter	Line N N N N N N N Line N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 20.4 20.6 Corr. (dB) 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1 Margin (dB) 20.0 22.7	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0 Limit (dBµV) 56.0 53.7	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000 Final Resu Frequency (MHz) 0.150000 0.222000	Ilt : Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4 31.9 Ilt : Average (dBµV) 36.0 31.0 27.3	Filter Off Off Off Off Off Off Off Off Off Of	Line N N N N N N N Line N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 20.4 20.6 Corr. (dB) 19.5 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1 Margin (dB) 20.0 22.7 25.4	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0 Limit (dBµV) 56.0 53.7 52.7	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000 Final Resu Frequency (MHz) 0.150000 0.198000 0.222000 0.326000	It : Quasi-Peak Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4 31.9 It : Average (dBµV) 36.0 31.0 27.3 26.1	Filter Off Off Off Off Off Off Off Off Off Of	Line N N N N N N N Line N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 20.4 20.6 Corr. (dB) 19.5 19.5 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1 Margin (dB) 20.0 22.7 25.4 23.5	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0 60.0 Limit (dBµV) 56.0 53.7 52.7 49.6	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 14.542000 17.774000 Final Resu Frequency (MHz) 0.150000 0.222000 0.326000 0.350000	It : Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4 31.9 (t : Average (dBµV) 36.0 31.0 27.3 26.1 27.2	Filter Off Off Off Off Off Off Off Off Off Of	Line N N N N N N N Line N N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 20.4 20.6 20.4 20.6 Corr. (dB) 19.5 19.5 19.5 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1 Margin (dB) 20.0 22.7 25.4 23.5 21.8	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0 60.0 Limit (dBµV) 56.0 53.7 52.7 49.6 49.0	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 0.422000 14.542000 17.774000 Final Resu Frequency (MHz) 0.150000 0.222000 0.326000 0.350000 0.422000	It : Quasi-Peak (dBµV) 49.0 43.5 40.2 36.7 36.5 41.7 33.4 31.9 It : Average (dBµV) 36.0 31.0 27.3 26.1 27.2 35.5	Filter Off Off Off Off Off Off Off Off Off Of	Line N N N N N N N N N N N N N N N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 20.4 20.6 Corr. (dB) 19.5 19.5 19.5 19.5 19.5 19.5 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1 Margin (dB) 20.0 22.7 25.4 23.5 21.8 11.9	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0 60.0 Limit (dBµV) 56.0 53.7 52.7 49.6 49.0 47.4	
Frequency (MHz) 0.150000 0.198000 0.222000 0.326000 0.350000 14.542000 17.774000 Final Resu Frequency (MHz) 0.150000 0.222000 0.326000 0.350000	It : Quasi-Peak         (dBμV)         49.0         43.5         40.2         36.7         36.5         41.7         33.4         31.9         It : Average (dBμV)         36.0         31.0         27.3         26.1         27.2         35.5         9         22.6	Filter Off Off Off Off Off Off Off Off Off Of	Line N N N N N N N Line N N N N N N	Frequer (dB) 19.5 19.5 19.5 19.5 19.5 20.4 20.6 20.4 20.6 Corr. (dB) 19.5 19.5 19.5 19.5 19.5	Margin (dB) 17.0 20.2 22.5 22.9 22.5 15.7 26.6 28.1 Margin (dB) 20.0 22.7 25.4 23.5 21.8	Limit (dBµV) 66.0 63.7 59.6 59.0 57.4 60.0 60.0 60.0 Limit (dBµV) 56.0 53.7 52.7 49.6 49.0	

**SPORTON INTERNATIONAL II** TEL : 886-3-327-3456 FAX : 886-3-328-4978 FCC ID : ZNFX240YK

Page Number: 15 of 22Report Issued Date: Apr. 12, 2017Report Version: Rev. 03Report Template No.: BU5-FC15B 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.



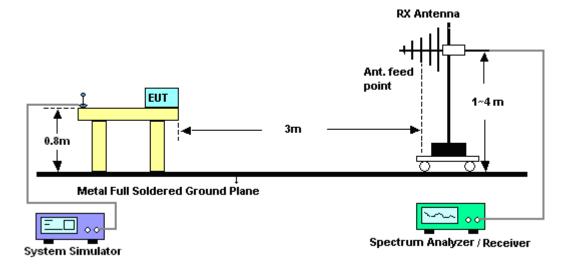
#### 3.2.3. Test Procedures

- 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.
- 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

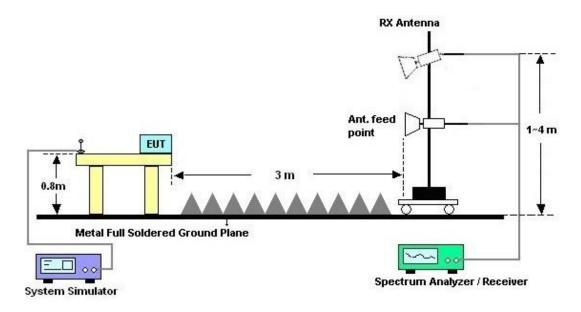


#### 3.2.4. Test Setup of Radiated Emission

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



#### For radiated emissions above 1GHz

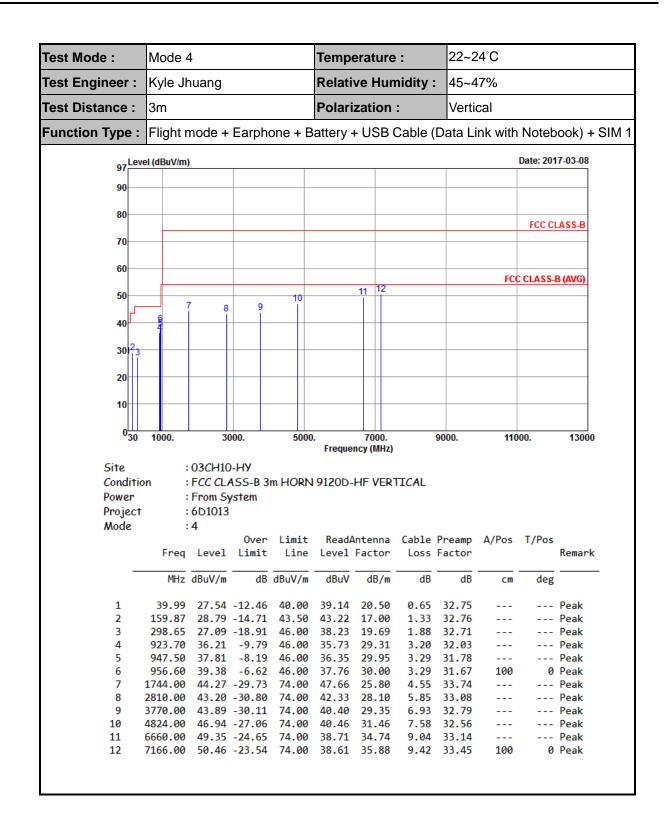




#### 3.2.5. Test Result of Radiated Emission

Fest Mode :	Mode 4	Mode 4				erature	<b>:</b>	22~2	4°C			
Fest Engineer :	Kyle Jł	nuang			Relati	Relative Humidity :			45~47%			
Fest Distance :	3m				Polarization :			Horiz	Horizontal			
Function Type :	Flight r	node +	Earpho	one + B	attery -	+ USB	Cable (	Data Li	ata Link with Notebook) -			
oz Le	vel (dBuV/m)	)								Date: 201	7-03-08	
90												
50												
80										500.01	ACCD	
70										FUUU	ASS-B	
10												
60												
						11 12			FC	C CLASS-	B (AVG)	
50		7 8		9 10		11						
40												
	4											
30 2												
20												
20												
10		_										
	1 11		1									
030	1000.	30	000.	5000		7000.		9000.	110	000.	13000	
				5000		7000. ncy (MHz)		9000.	110	)00.	13000	
Site	:	03CH10	)-HY		Freque	ncy (MHz)			110	000.	13000	
	on :	03CH10 FCC CL/	-НУ 455-В 31	5000 m HORN	Freque	ncy (MHz)			110	000.	13000	
Site Conditi	on :	03CH10	-НУ 455-В 31		Freque	ncy (MHz)			110	000.	13000	
Site Conditi Power	: on : :	03CH10 FCC CL/ From Sy	I-HY ASS-B 31 Vstem	m HORN	Freque	ncy (MHz) HF HOR	RIZONT	AL			13000	
Site Conditi Power Project	on : : : :	03CH10 FCC CL/ From Sy 6D1013 4	I-HY ASS-B3 Istem Over	m HORN Limit	Freque 9120D- ReadA	ncy (MHz) HF HOR Antenna	RIZONT. Cable	AL Preamp				
Site Conditi Power Project	on : : : :	03CH10 FCC CL/ From Sy 6D1013	I-HY ASS-B3 Istem Over	m HORN Limit	Freque	ncy (MHz) HF HOR Antenna	RIZONT. Cable	AL			13000 Remark	
Site Conditi Power Project	on : F Freq	03CH10 FCC CL/ From Sy 6D1013 4	O-HY ASS-B3 (stem) Over Limit	m HORN Limit	Freque 9120D- ReadA	ncy (MHz) HF HOR Antenna	RIZONT. Cable	AL Preamp				
Site Conditi Power Project	on : Freq MHz 30.54	03CH10 FCC CL/ From Sy 6D1013 4 Level dBuV/m 23.39	-HY ASS-B 3 /stem Over Limit 	m HORN Limit Line dBuV/m 40.00	Freque 9120D- Read/ Leve1 dBuV 29.96	HF HOR Antenna Factor dB/m 25.54	Cable Loss dB	AL Preamp Factor	A/Pos	T/Pos 		
Site Conditi Power Project Mode – 1 2	on : Freq MHz 30.54 188.22	03CH10 FCC CL/ From Sy 6D1013 4 Level dBuV/m 23.39 25.86	0-HY 455-B 3 /stem 0ver Limit 	m HORN Limit Line dBuV/m 40.00 43.50	Freque 9120D- Read/ Leve1 dBuV 29.96 41.55	HF HOR Antenna Factor dB/m 25.54 15.58	Cable Loss dB 0.65 1.48	AL Preamp Factor dB 32.76 32.75	A/Pos	T/Pos 	Remark Peak Peak	
Site Conditi Power Project Mode  1 2 3	on : Freq MHz 30.54 188.22 266.52	03CH10 FCC CL/ From Sy 6D1013 4 Level dBuV/m 23.39 25.86 28.36	-HY 455-B 3 /stem Over Limit -16.61 -17.64 -17.64	m HORN Limit Line dBuV/m 40.00 43.50 46.00	Freque 9120D- Read/ Leve1 dBuV 29.96 41.55 39.80	HF HOR Antenna Factor dB/m 25.54 15.58 19.52	Cable Loss dB 0.65 1.48 1.76	AL Preamp Factor dB 32.76 32.75 32.72	A/Pos 	T/Pos 	Remark  Peak Peak Peak	
Site Conditi Power Project Mode 1 2 3 4	on : Freq MHz 30.54 188.22 266.52 479.90	03CH10 FCC CL/ From Sy 6D1013 4 Level dBuV/m 23.39 25.86 28.36 31.21	Over Limit -16.61 -17.64 -14.79	m HORN Limit Line dBuV/m 40.00 43.50 46.00 46.00	Freque 9120D- Read/ Level dBuV 29.96 41.55 39.80 37.97	HF HOR Antenna Factor dB/m 25.54 15.58 19.52 23.80	Cable Loss dB 0.65 1.48 1.76 2.30	AL Preamp Factor dB 32.76 32.75 32.72 32.86	A/Pos 	T/Pos 	Remark Peak Peak Peak Peak Peak	
Site Conditi Power Project Mode  1 2 3	on : Freq MHz 30.54 188.22 266.52 479.90 944.70	03CH10 FCC CL/ From Sy 6D1013 4 Level dBuV/m 23.39 25.86 28.36 31.21 36.65	Over Limit -16.61 -17.64 -14.79 -9.35	m HORN Limit Line dBuV/m 40.00 43.50 46.00	Freque 9120D- Read/ Leve1 dBuV 29.96 41.55 39.80 37.97 35.29	ncy (MHz) HF HOR Antenna Factor dB/m 25.54 15.58 19.52 23.80 29.87	Cable Loss dB 0.65 1.48 1.76 2.30 3.29	AL Preamp Factor dB 32.76 32.75 32.72	A/Pos 	T/Pos 	Remark  Peak Peak Peak	
Site Conditi Power Project Mode 1 2 3 4 5 6 7	on : Freq MHz 30.54 188.22 266.52 479.90 944.70 996.50 1998.00	03CH10 FCC CL/ From Sy 6D1013 4 Level 3.39 25.86 28.36 31.21 36.65 43.04 43.87	Over Limit -16.61 -17.64 -14.79 -9.35 -10.96 -30.13	m HORN Limit Line dBuV/m 40.00 43.50 46.00 46.00 46.00 54.00 74.00	Freque 9120D- Read/ Level dBuV 29.96 41.55 39.80 37.97 35.29 40.91 46.22	ncy (MHz) HF HOR Antenna Factor dB/m 25.54 15.58 19.52 23.80 29.87 30.00 26.20	Cable Loss dB 0.65 1.48 1.76 2.30 3.29 3.38 4.84	AL Preamp Factor dB 32.76 32.75 32.72 32.86 31.80 31.25 33.39	A/Pos cm  100 	T/Pos deg   0 	Remark Peak Peak Peak Peak Peak Peak Peak	
Site Conditi Power Project Mode 1 2 3 4 5 6 7 8	on : Freq MHz 30.54 188.22 266.52 479.90 944.70 996.50 1998.00 2856.00	03CH10 FCC CL/ From Sy 6D1013 4 Level 3.39 25.86 28.36 31.21 36.65 43.04 43.87 43.63	Over Limit -16.61 -17.64 -14.79 -9.35 -10.96 -30.13 -30.37	m HORN Limit Line dBuV/m 40.00 43.50 46.00 46.00 46.00 54.00 74.00 74.00	Freque 9120D- Read/ Level dBuV 29.96 41.55 39.80 37.97 35.29 40.91 46.22 42.58	ncy (MHz) HF HOR Antenna Factor dB/m 25.54 15.58 19.52 23.80 29.87 30.00 26.20 28.20	Cable Loss dB 0.65 1.48 1.76 2.30 3.29 3.38 4.84 5.91	AL Preamp Factor dB 32.76 32.75 32.72 32.86 31.80 31.25 33.39 33.06	A/Pos	T/Pos deg   0 	Remark Peak Peak Peak Peak Peak Peak Peak Pea	
Site Conditi Power Project Mode 1 2 3 4 5 6 7 8 9	on : Freq MHz 30.54 188.22 266.52 479.90 944.70 996.50 1998.00 2856.00 4340.00	03CH10 FCC CL/ From Sy 6D1013 4 Level 3.39 25.86 28.36 31.21 36.65 43.04 43.87 43.63 45.41	Over Limit -16.61 -17.64 -14.79 -9.35 -10.96 -30.13 -30.37 -28.59	m HORN Limit Line dBuV/m 40.00 43.50 46.00 46.00 46.00 54.00 74.00 74.00 74.00	Freque 9120D- 9120D- Level dBuV 29.96 41.55 39.80 37.97 35.29 40.91 46.22 42.58 40.42	ncy (MHz) HF HOR Antenna Factor dB/m 25.54 15.58 19.52 23.80 29.87 30.00 26.20 28.20 30.47	Cable Loss dB 0.65 1.48 1.76 2.30 3.29 3.38 4.84 5.91 7.16	AL Preamp Factor dB 32.76 32.75 32.72 32.86 31.80 31.25 33.39 33.06 32.64	A/Pos	T/Pos deg   0  	Remark Peak Peak Peak Peak Peak Peak Peak Pea	
Site Conditi Power Project Mode 1 2 3 4 5 6 7 8	on : Freq MHz 30.54 188.22 266.52 479.90 944.70 996.50 1998.00 2856.00	03CH10 FCC CL/ From Sy 6D1013 4 Level dBuV/m 23.39 25.86 28.36 31.21 36.65 43.04 43.87 43.63 45.41 46.61	Over Limit -16.61 -17.64 -14.79 -9.35 -10.96 -30.13 -30.37 -28.59 -27.39	m HORN Limit Line dBuV/m 40.00 43.50 46.00 46.00 54.00 74.00 74.00 74.00 74.00	Freque 9120D- 8ead4 Leve1 dBuV 29.96 41.55 39.80 37.97 35.29 40.91 46.22 42.58 40.42 39.75	ncy (MHz) HF HOR Antenna Factor dB/m 25.54 15.58 19.52 23.80 29.87 30.00 26.20 28.20 30.47 31.59	Cable Loss dB 0.65 1.48 1.76 2.30 3.29 3.38 4.84 5.91 7.16 7.82	AL Preamp Factor dB 32.76 32.75 32.72 32.86 31.80 31.25 33.39 33.06	A/Pos	T/Pos deg   0  	Remark Peak Peak Peak Peak Peak Peak Peak Pea	







# 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Mar. 07, 2017 ~ Apr. 12, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Mar. 07, 2017 ~ Apr. 12, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	Mar. 07, 2017 ~ Apr. 12, 2017	Nov. 28, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 06, 2016	Mar. 07, 2017 ~ Apr. 12, 2017	Dec. 05, 2017	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Oct. 26, 2016	Mar. 08, 2017 ~ Apr. 10, 2017	Oct. 25, 2017	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	35413&02	30MHz~1GHz	Jan. 07, 2017	Mar. 08, 2017 ~ Apr. 10, 2017	Jan. 06, 2018	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 30, 2016	Mar. 08, 2017 ~ Apr. 10, 2017	Sep. 29, 2017	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Oct. 26, 2016	Mar. 08, 2017 ~ Apr. 10, 2017	Oct. 25, 2017	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 17, 2016	Mar. 08, 2017 ~ Apr. 10, 2017	Oct. 16, 2017	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Mar. 08, 2017 ~ Apr. 10, 2017	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Mar. 08, 2017 ~ Apr. 10, 2017	N/A	Radiation (03CH10-HY)
Preamplifier	Jet-Power	JPA00101800- 30-10P	1601180002	1GHz~18GHz	Jul. 27, 2016	Mar. 08, 2017 ~ Apr. 10, 2017	Jul. 26, 2017	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	N/A	Mar. 10, 2016	Mar. 08, 2017	Mar. 09, 2017	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY53290045	N/A	Jan. 19, 2017	Mar. 15, 2017 ~ Apr. 10, 2017	Jan. 18, 2018	Radiation (03CH10-HY)



# 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	5.00
Confidence of 95% (U = 2Uc(y))	5.60

#### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 13000 MHz)

Measuring Uncertainty for a Level of	5.90
Confidence of 95% (U = 2Uc(y))	5.90

