FCC Test Report

APPLICANT : Planet Avvio LLC

EQUIPMENT: Mobile Phone

BRAND NAME : Avvio

MODEL NAME : Avvio A400 FCC ID : 2ALTA400X

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

CLASSIFICATION: Certification

The product was completed on Jul. 21, 2017. We, Sporton International (Shenzhen) 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 (Shenzhen) Inc., the test report shall not be reproduced except in full.

Brit Shih

TESTING

NVLAP LAB CODE 600156-0

Approved by: Eric Shih / Manager

Sporton International (Shenzhen) Inc.

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City
Guangdong Province 518055 China

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 1 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report No. : FC770404

Report Template No.: BU5-FD15B Version 1.3

TABLE OF CONTENTS

1.1.	Applicant	5
	Manufacturer	
	Product Feature of Equipment Under Test	
	Product Specification of Equipment Under Test	
	Modification of EUT	
	Test Location	
1.7.	Applicable Standards	7
1.8.	Test Mode	8
1.9.	Connection Diagram of Test System	9
	Support Unit used in test configuration and system	
1.11.	EUT Operation Test Setup	11
	Test of AC Conducted Emission Measurement	
2.2.	Test of Radiated Emission Measurement	16

APPENDIX A. SETUP PHOTOGRAPHS

Sporton International (ShenZhen) Inc.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 2 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

REVISION HISTORY

Report No. : FC770404

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC770404	Rev. 01	Initial issue of report	Aug. 08, 2017

 Sporton International (ShenZhen) Inc.
 Page Number
 : 3 of 23

 TEL: 86-755-8637-9589
 Report Issued Date
 : Aug. 08, 2017

 FAX: 86-755-8637-9595
 Report Version
 : Rev. 01

FCC ID: 2ALTA400X Report Template No.: BU5-FD15B Version 1.3

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
					Under limit
2.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	5.46 dB at
					0.15 MHz
					Under limit
2.0	15.109	15.109 Radiated Emission	< 15.109 limits	PASS	3.71 dB at
3.2					551.86 MHz
					for Quasi-Peak

Sporton International (ShenZhen) Inc.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 4 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

1. General Description

1.1. Applicant

Planet Avvio LLC

9725 NW 117th Ave., Medley, FL 33178, United States

1.2. Manufacturer

Heng Da Chuang Xin Technology Limited

Rm 1301 Block D, Tianan Cloud Pack Building 3th, Bantian Street, Longgang District, Shenzhen City, Guangdong Province, P. R. C. 518000

Report No. : FC770404

1.3. Product Feature of Equipment Under Test

	Product Feature
Equipment	Mobile Phone
Brand Name	Avvio
Model Name	Avvio A400
FCC ID	2ALTA400X
	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+
EUT supports Radios application	WLAN2.4G 802.11b/g/n HT20
	Bluetooth v2.1+EDR
IMELCONO	Conduction: 867400020316612/86740020316620
IMEI Code	Radiation: 867400020316612/867400020316620
HW Version	1611_V2
SW Version	Avvio776_Claro_V1.00
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.

 Sporton International (ShenZhen) Inc.
 Page Number
 : 5 of 23

 TEL: 86-755-8637-9589
 Report Issued Date
 : Aug. 08, 2017

 FAX: 86-755-8637-9595
 Report Version
 : Rev. 01

FCC ID: 2ALTA400X Report Template No.: BU5-FD15B Version 1.3

1.4. Product Specification of Equipment Under Test

GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 246.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz 802.11b/g/n: 2412 MHz ~ 2480 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 WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS: 1.57542 GHz WWAN : Monopole Antenna WLAN : Monopole Antenna Bluetooth : Monopole Antenna GSM: GMSK GPRS: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK (Uplink) HSDPA : QPSK (Uplink) HSDPA : QPSK (Uplink) HSDPA : 16QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps) : \(\pi \) (A-DQPSK Bluetooth (2Mbps) : \(\pi \) (A-DQPSK Bluetooth (3Mbps) : \(\pi \) A-DQPSK	Standards-related Product Specification				
GSM1900: 1850.2 MHz ~ 1909.8MHz	Standards	·			
WCDMA Band V: 826.4 MHz ~ 846.6 MHz					
WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz					
## WCDMA Band II: 1852.4 MHZ ~ 1907.6 MHZ ## 802.11b/g/n: 2412 MHz ~ 2462 MHz ## Bluetooth: 2402 MHz ~ 2480 MHz ## GSM850: 869.2 MHz ~ 1989.8 MHz ## GSM1900: 1930.2 MHz ~ 1989.8 MHz ## WCDMA Band V: 871.4 MHz ~ 891.6 MHz ## WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz ## WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz ## ## 802.11b/g/n: 2412 MHz ~ 2462 MHz ## Bluetooth: 2402 MHz ~ 2480 MHz ## GPS: 1.57542 GHz ## WWAN: Monopole Antenna ## WAN: Monopole Antenna ## WAN: Monopole Antenna ## Bluetooth: Monopole Antenna ## GSM: GMSK ## GPRS: GMSK ## GPRS: GMSK ## EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK ## WCDMA: BPSK (Uplink) ## HSDPA: QPSK (Uplink) ## HSDPA: QPSK (Uplink) ## HSDPA: QPSK (Uplink) ## HSPA : 16QAM ## 802.11b : DSSS (DBPSK / DQPSK / CCK) ## 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) ## Bluetooth (1Mbps): GFSK ## Bluetooth (2Mbps): ## /4-DQPSK ## Bluetooth (3Mbps): 8-DPSK	Tx Frequency				
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 WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS: 1.57542 GHz WWAN: Monopole Antenna WLAN: Monopole Antenna Bluetooth: Monopole Antenna GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSPA+: 16QAM 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): π/4-DQPSK Bluetooth (3Mbps): 8-DPSK					
GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS: 1.57542 GHz WWAN : Monopole Antenna WLAN : Monopole Antenna Bluetooth: Monopole Antenna GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSPA+: 16QAM 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (3Mbps): #74-DQPSK Bluetooth (3Mbps): 8-DPSK Bluetooth (3Mbps): 8-DPSK					
WCDMA Band V: 871.4 MHz ~ 891.6 MHz					
Rx Frequency					
## 802.11b/g/n: 2412 MHz ~ 2462 MHz ## Bluetooth: 2402 MHz ~ 2480 MHz ## GPS : 1.57542 GHz ## WWAN : Monopole Antenna ## WLAN : Monopole Antenna ## Bluetooth : Monopole Antenna ## Bluetooth : Monopole Antenna ## GSM: GMSK ## GPRS: GMSK ## GPRS: GMSK ## EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK ## WCDMA : BPSK (Uplink) ## HSDPA : QPSK (Uplink) ## HSDPA : QPSK (Uplink) ## HSPA+ : 16QAM ## 802.11b : DSSS (DBPSK / DQPSK / CCK) ## 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) ## Bluetooth (1Mbps) : GFSK ## Bluetooth (2Mbps) : \pi /4-DQPSK ## Bluetooth (3Mbps) : 8-DPSK					
Bluetooth: 2402 MHz ~ 2480 MHz	Rx Frequency				
GPS : 1.57542 GHz					
Antenna Type WWAN: Monopole Antenna WLAN: Monopole Antenna Bluetooth: Monopole Antenna GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): π /4-DQPSK Bluetooth (3Mbps): 8-DPSK					
Antenna Type WLAN: Monopole Antenna Bluetooth: Monopole Antenna GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSVPA: QPSK (Uplink) HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK					
Bluetooth: Monopole Antenna GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK					
GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSUPA: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK	Antenna Type	·			
GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK					
EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK					
WCDMA: BPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK					
## HSDPA : QPSK (Uplink) ## HSUPA : QPSK (U		EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK			
HSUPA: QPSK (Uplink) HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): \pi /4-DQPSK Bluetooth (3Mbps): 8-DPSK		WCDMA: BPSK (Uplink)			
Type of Modulation HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): π /4-DQPSK Bluetooth (3Mbps): 8-DPSK		HSDPA: QPSK (Uplink)			
Type of Modulation HSPA+: 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): π /4-DQPSK Bluetooth (3Mbps): 8-DPSK		HSUPA: QPSK (Uplink)			
802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): π /4-DQPSK Bluetooth (3Mbps): 8-DPSK	Type of Modulation	` ' '			
802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): π /4-DQPSK Bluetooth (3Mbps): 8-DPSK					
Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π /4-DQPSK Bluetooth (3Mbps) : 8-DPSK		`			
Bluetooth (2Mbps) : π /4-DQPSK Bluetooth (3Mbps) : 8-DPSK		,			
Bluetooth (3Mbps): 8-DPSK		` ' '			
· · · ·					
		GPS : BPSK			

1.5. Modification of EUT

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

Sporton International (ShenZhen) Inc. Page Number TEL: 86-755-8637-9589 Report Issued Date: Aug. 08, 2017

FAX: 86-755-8637-9595 Report Version : Rev. 01 FCC ID: 2ALTA400X

Report Template No.: BU5-FD15B Version 1.3

: 6 of 23

1.6. Test Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No are CN5018 and CN5019.

Report No. : FC770404

Test Site	Sporton International (Shenzhen) Inc.			
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China			
Test Site Location	TEL: +86-755-8637-9589			
	FAX: +86-755-8637-9595			
Test Site No.	Sporton Site No.	FCC Test Firm Registration No.		
lest Site NO.	CO01-SZ	251365		

Test Site	Sporton International (Shenzhen) Inc.			
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China			
	TEL: +86-755-3320-2398			
Took Site No	Sporton Site No.	FCC Test Firm Registration No.		
Test Site No.	03CH01-SZ	577730		

Note: The test site complies with ANSI C63.4 2014 requirement.

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:

1. All test items were verified and recorded according to the standards and without any deviation during the test.

 Sporton International (ShenZhen) Inc.
 Page Number
 : 7 of 23

 TEL: 86-755-8637-9589
 Report Issued Date
 : Aug. 08, 2017

 FAX: 86-755-8637-9595
 Report Version
 : Rev. 01

FCC ID: 2ALTA400X Report Template No.: BU5-FD15B Version 1.3

Test Configuration of Equipment Under Test

1.8. 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 + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + Camera(Rear) + SIM 1 < fig1>
AC Conducted	Mode 2: GSM1900 Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + Camera(Front) + SIM1 <fig1></fig1>
Emission	Mode 3: WCDMA Band V Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + MP4 + SIM1 <fig1></fig1>
	Mode 4: WCDMA Band II Idle + USB Cable(Data Link from Notebook) + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + GPS RX + SIM1 <fig2></fig2>
	Mode 1: GSM850 Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + Camera(Rear) + SIM 1 <fig1></fig1>
Radiated	Mode 2: GSM1900 Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + Camera(Front) + SIM1 <fig1></fig1>
Emissions < 1GHz	Mode 3: WCDMA Band V Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + MP4 + SIM1 <fig1></fig1>
	Mode 4: WCDMA Band II Idle + USB Cable(Data Link from Notebook) + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + GPS RX + SIM1 <fig2></fig2>
Radiated Emissions ≥ 1GHz	Mode 1: GSM850 Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Idle(2.4G) + Camera(Rear) + SIM 1 <fig1></fig1>

Remark:

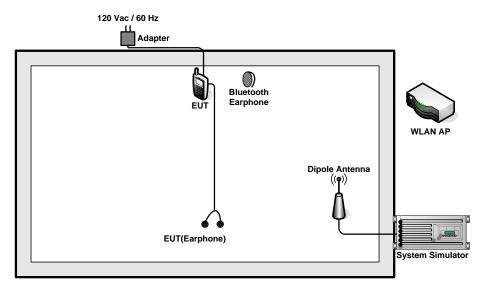
- 1. The worst case of AC is mode 4, only the test data of the mode was reported.
- The worst case of RE < 1G is mode 1; and data link mode is mode 4, the test data of these modes were reported.
- Data Link with Notebook means data application transferred mode between EUT and Notebook

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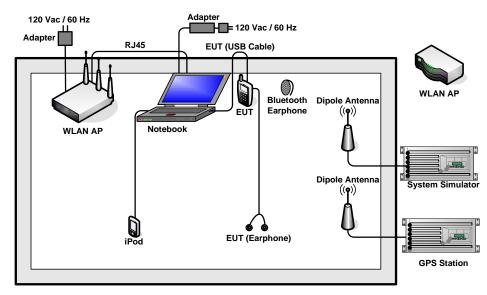
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 8 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

1.9. Connection Diagram of Test System







<fig2>

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TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 9 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

1.10. 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,1.8m
2.	GPS Station	ADIVIE	MP9000	N/A	N/A	Unshielded,1.8m
3.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
4.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,1.8m
5.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
6.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
7.	iPod nano 8GB	Apple	MC690ZP/A	FCC DoC	Shielded, 1.2m	N/A
8.	iPod	Apple	MC525 ZP/A	DoC	Shielded, 1.0m	N/A
9.	NOTE BOOK	Lenovo	E450	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
10.	NOTE BOOK	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8m
11.	SD Card	N/A	MicroSD HC	FCC DoC	N/A	N/A
12.	SD Card	Kingston	MicroSD HC	FCC DoC	N/A	N/A

Sporton International (ShenZhen) Inc.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 10 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

1.11. EUT Operation Test Setup

The EUT was in GSM or WCDMA or EDGE or HSDPA 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 Notebook and EUT via USB cable.
- 2. Execute "GPS Test" to make the EUT receive continuous signals from GPS station.
- 3. Execute "Video Player" to play MPEG4 files.
- 4. Turn on camera to capture images.

Sporton International (ShenZhen) Inc.
TEL: 86-755-8637-9589

FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 11 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

2. Test Result

2.1. 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.

Report No.: FC770404

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.
- 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.

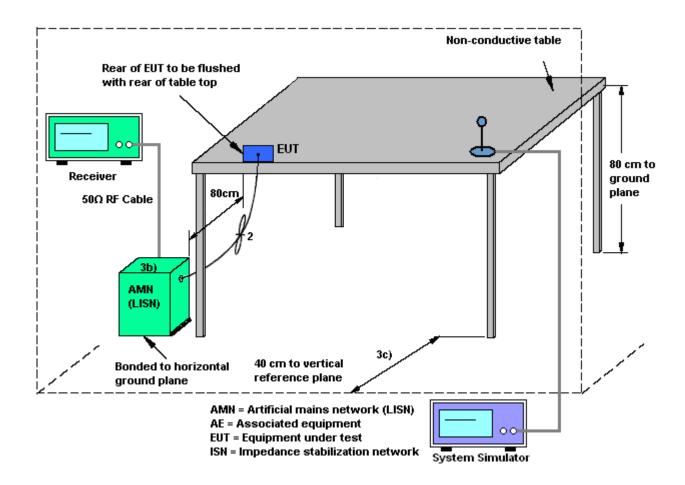
 Sporton International (ShenZhen) Inc.
 Page Number
 : 12 of 23

 TEL: 86-755-8637-9589
 Report Issued Date
 : Aug. 08, 2017

 FAX: 86-755-8637-9595
 Report Version
 : Rev. 01

FCC ID : 2ALTA400X Report Template No.: BU5-FD15B Version 1.3

3.1.4 Test Setup

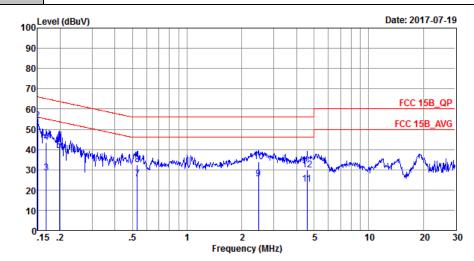


TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 13 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 4	Temperature :	22~25 ℃		
Test Engineer :	НаоНаі ҮЕ	Relative Humidity :	50~55%		
Test Voltage :	120Vac / 60Hz	Phase :	Line		
Function Type :	WCDMA Band II Idle + USB Cable(Data Link from Notebook) + Earphone				
Function Type :	 Bluetooth Idle + WLAN Idle(2.4G) + GPS RX + SIN	/ 11		



Site : CO01-SZ Condition: FCC 15B_QP LISN_20170301_L LINE

Project : (FC) 770404

Mode : Mode 4 IMEI : 867400020316612/86740020316620

		_	Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu₹	dB	dBuV	dBu₹	dB	dB	
1 *	0.15	50.54	-5.46	56.00	40.10	0.03	10.41	Average
2	0.15	54.14	-11.86	66.00	43.70	0.03	10.41	QP
3	0.17	28.27	-26.81	55.08	17.90	0.03	10.34	Average
4	0.17	43.67	-21.41	65.08	33.30	0.03	10.34	QP
5	0.20	39.46	-14.25	53.71	29.20	0.03	10.23	Average
6	0.20	43.36	-20.35	63.71	33.10	0.03	10.23	QP
7	0.53	25.30	-20.70	46.00	15.10	0.02	10.18	Average
8	0.53	32.60	-23.40	56.00	22.40	0.02	10.18	QP
9	2.47	25.62	-20.38	46.00	15.29	0.14	10.19	Average
10	2.47	34.02	-21.98	56.00	23.69	0.14	10.19	QP
11	4.57	23.05	-22.95	46.00	12.60	0.18	10.27	Average
12	4.57	30.05	-25.95	56.00	19.60	0.18	10.27	QP

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X

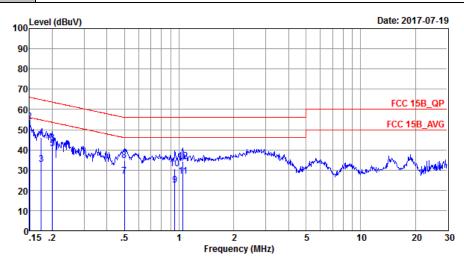
Page Number : 14 of 23 Report Issued Date: Aug. 08, 2017 Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3



Test Mode :	Mode 4	Temperature :	22~25℃			
Test Engineer :	HaoHai YE	Relative Humidity :	50~55%			
Test Voltage :	120Vac / 60Hz	Phase :	Neutral			
	GSM1900 Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN					

Function Type: Idle(2.4G) + Camera(Front) + SIM1



: CO01-SZ

Condition: FCC 15B_QP LISN_20170301_N NEUTRAL

Project : (FC)770404 Mode : Mode 4 Mode

: 867400020316612/86740020316620 IMEI

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
_	MHz	dBu∀	dB	dBuV	dBu∀	dB	dB	
1 *	0.15	50.14	-5.86	56.00	39.70	0.03	10.41	Average
2	0.15	53.74	-12.26	66.00	43.30	0.03	10.41	QP
3	0.17	32.74	-22.03	54.77	22.40	0.03	10.31	Average
4	0.17	46.14	-18.63	64.77	35.80	0.03	10.31	QP
5	0.20	40.55	-13.03	53.58	30.30	0.03	10.22	Average
6	0.20	43.15	-20.43	63.58	32.90	0.03	10.22	QP
7	0.50	27.00	-19.01	46.01	16.80	0.02	10.18	Average
8	0.50	34.70	-21.31	56.01	24.50	0.02	10.18	QP
9	0.95	22.60	-23.40	46.00	12.40	0.05	10.15	Average
10	0.95	30.80	-25.20	56.00	20.60	0.05	10.15	QP
11	1.05	26.90	-19.10	46.00	16.70	0.05	10.15	Average
12	1.05	34.30	-21.70	56.00	24.10	0.05	10.15	QP

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X

Page Number : 15 of 23 Report Issued Date: Aug. 08, 2017 Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

2.2. Test of Radiated Emission Measurement

2.2.1. Limit of Radiated Emission

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

Report No.: FC770404

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

2.2.2. Measuring Instruments

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

2.2.3. 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 μ V/m) = 20 log Emission level (μ V/m)
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

 Sporton International (ShenZhen) Inc.
 Page Number
 : 16 of 23

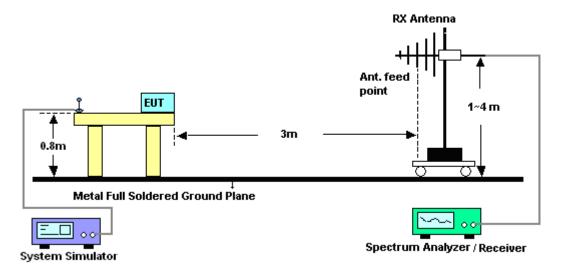
 TEL: 86-755-8637-9589
 Report Issued Date
 : Aug. 08, 2017

 FAX: 86-755-8637-9595
 Report Version
 : Rev. 01

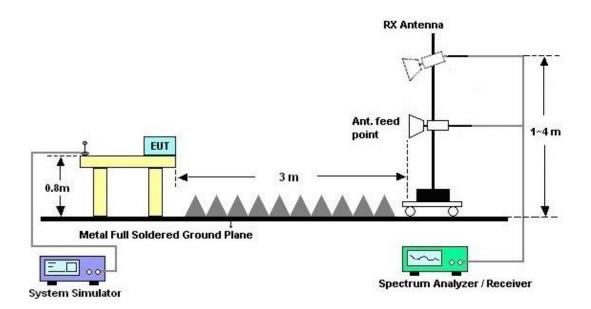
FCC ID : 2ALTA400X Report Template No.: BU5-FD15B Version 1.3

2.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



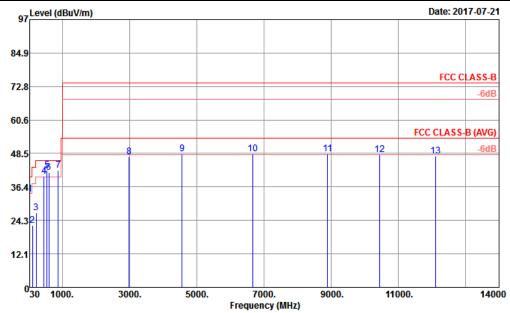
Sporton International (ShenZhen) Inc.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 17 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

2.2.5. Test Result of Radiated Emission

Test Mode :	Mode 1	Temperature :	24~25°C			
Test Engineer :	Clear Peng	•	48~49%			
Test Distance :	3m	Polarization :	Horizontal			
Function Type	GSM850 Idle + Charging from Adapter + Earphone + Bluetooth Idle					
Function Type :	Idle(2.4G) + Camera(Rear) + SIM 1					
Remark :	#7 is system simulator signal which can be ignored.					



Site

: 03CH01-SZ : FCC CLASS-B 3m HF_ANT_9120D_1355_03 HORIZONTAL Condition

Mode IMEI

: Mode 1 : 867400020316612/867400020316620

Plane

Plan	e		: Y					
				Over	Limit	Read		
		Freq	Level	Limit	Line	Level	Factor	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	
1		30.00	33.82	-6.18	40.00	38.69	-4.87	Peak
2		114.39	22.47	-21.03	43.50	34.08	-11.61	Peak
3		224.00	27.11	-18.89	46.00	39.75	-12.64	Peak
4	!	455.83	40.34	-5.66	46.00	44.72	-4.38	Peak
5	!	551.86	42.29	-3.71	46.00	46.52	-4.23	QP
6	!	600.36	41.64	-4.36	46.00	45.13	-3.49	Peak
7	!	881.66	42.34			41.74	0.60	Peak
8		2990.00	47.39	-26.61	74.00	66.75	-19.36	Peak
9		4564.00	48.24	-25.76	74.00	63.38	-15.14	Peak
10		6674.00	48.28	-25.72	74.00	55.93	-7.65	Peak
11		8898.00	48.24	-25.76	74.00	53.37	-5.13	Peak
12		10438.00	48.05	-25.95	74.00	50.17	-2.12	Peak
13		12120.00	47.61	-26.39	74.00	50.64	-3.03	Peak

Sporton International (ShenZhen) Inc.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X

Page Number : 18 of 23 Report Issued Date: Aug. 08, 2017 Report Version : Rev. 01

Report No.: FC770404

Report Template No.: BU5-FD15B Version 1.3



24~25°C Test Mode: Mode 1 Temperature: Test Engineer: Clear Peng **Relative Humidity:** 48~49% Test Distance: Polarization: 3m Vertical GSM850 Idle + Charging from Adapter + Earphone + Bluetooth Idle + WLAN Function Type: Idle(2.4G) + Camera(Rear) + SIM 1 Remark: #7 is system simulator signal which can be ignored. 97 Level (dBuV/m) Date: 2017-07-21 84.9 FCC CLASS-B 72.8 60.6 FCC CLASS-B (AVG) 10 48.5 12.1 0<mark>30</mark> 9000. 11000. 14000 1000. 3000. 5000. 7000. Frequency (MHz) : 03CH01-SZ : FCC CLASS-B 3m HF_ANT_9120D_1355_03 VERTICAL Condition Mode : Mode 1 IMEI : 867400020316612/867400020316620 Plane Over Limit Read Freq Level Limit Line Level Factor Remark MHz dBuV/m dB dBuV/m dBuV 1 ! 30.00 34.80 -5.20 40.00 39.67 -4.87 Peak 21.86 -18.14 37.03 -15.17 Peak 78.50 40.00 20.72 -25.28 46.00 278.32 31.91 -11.19 Peak 37.36 -8.64 46.00 42.85 -5.49 Peak 551.86 41.09 -4.91 46.00 45.32 -4.23 Peak 600.36 36.29 -9.71 46.00 39.78 -3.49 Peak 881.66 39.58 38.98 0.60 Peak 2988.00 47.66 -26.34 74.00 67.02 -19.36 Peak 4590.00 47.61 -26.39 74.00 62.66 -15.05 Peak

10

11

12

6670.00

8334.00

9888.00

11910.00

48.49 -25.51

48.41 -25.59 47.95 -26.05

48.21 -25.79

74.00

74.00

74.00

74.00

56.14

53.84

51.32

50.42

-7.65 Peak

-5.43 Peak

-3.37 Peak

-2.21 Peak

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 19 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

299.73

321.00

400.10

498.10

1878.00

2520.00

6880.00

8514.00

10954.00

12

34.33 -11.67

30.99 -15.01

29.83 -16.17

46.69 -27.31

48.22 -25.78

47.87 -26.13 47.84 -26.16

12836.00 47.58 -26.42 74.00

61.93

4362.00 48.17 -25.83

46.00

46.00

74.00

74.00

74.00

74.00

24~25°C Test Mode: Mode 4 Temperature: Test Engineer: Clear Peng **Relative Humidity:** 48~49% Test Distance: Polarization: 3m Horizontal WCDMA Band II Idle + USB Cable(Data Link from Notebook) + Earphone + Function Type: Bluetooth Idle + WLAN Idle(2.4G) + GPS RX + SIM1 Remark: #7 is system simulator signal which can be ignored. 97 Level (dBuV/m) Date: 2017-07-21 84.9 FCC CLASS-B 72.8 -6dB 60.6 FCC CLASS-B (AVG) 48.5 36.4 24.3 12.1 0<mark>3</mark>0 1000. 3000. 5000. 7000. 9000. 11000. 14000 Frequency (MHz) Site : 03CH01-SZ Condition : FCC CLASS-B 3m HF_ANT_9120D_1355_03 HORIZONTAL Mode : Mode 4 : 867400020316612/867400020316620 IMEI Plane Over Limit Freq Level Limit Line Level Factor Remark MHz dBuV/m dB dBuV/m dBuV dB/m 31.35 25.65 -14.35 40.00 30.80 -5.15 Peak 199.83 26.63 -16.87 43.50 40.11 -13.48 Peak 32.22 -13.78 46.00

42.98 -10.76 Peak

44.21 -9.88 Peak

87.50 -25.57 Peak

68.86 -22.17 Peak

64.18 -16.01 Peak

35.38

52.82

48.77

51.96

-5.00 Peak

-5.55 Peak

-7.74 Peak

-4.95 Peak

-0.93 Peak

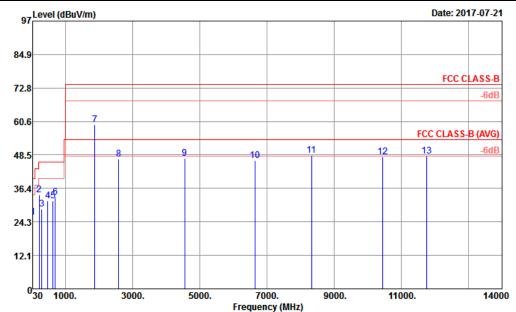
-4.38 Peak

Report No. : FC770404

Sporton International (ShenZhen) Inc.	Page Number	: 20 of 23
TEL: 86-755-8637-9589	Report Issued Date	: Aug. 08, 2017
EAY : 86-755-8637-0505	Penort Version	· Pay 01

FCC ID: 2ALTA400X Report Template No.: BU5-FD15B Version 1.3 Report No.: FC770404

Test Mode :	Mode 4	Temperature :	24~25°C				
Test Engineer :	Clear Peng	Relative Humidity :	48~49%				
Test Distance :	3m	Polarization :	Vertical				
Eurotion Type	WCDMA Band II Idle + USB Cable(Data Link from Notebook) + Earphone						
Function Type :	Bluetooth Idle + WLAN Idle(2.4G) + GPS RX + SIM1						
Remark :	#7 is system simulator signal which can be ignored.						



Site Condition

: 03CH01-SZ : FCC CLASS-B 3m HF_ANT_9120D_1355_03 VERTICAL

Over Limit Read

Mode

: Mode 4 : 867400020316612/867400020316620 IMEI

Plane

	Freq	Level	Limit	Line	Level	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	
1	30.27	25.89	-14.11	40.00	30.76	-4.87	Peak
2	220.62	34.06	-11.94	46.00	46.81	-12.75	Peak
3	299.73	28.80	-17.20	46.00	39.56	-10.76	Peak
4	481.30	31.80	-14.20	46.00	36.86	-5.06	Peak
5	638.10	31.98	-14.02	46.00	34.90	-2.92	Peak
6	698.30	33.36	-12.64	46.00	34.84	-1.48	Peak
7	1880.00	59.35			84.92	-25.57	Peak
8	2590.00	47.13	-26.87	74.00	69.04	-21.91	Peak
9	4554.00	47.40	-26.60	74.00	62.61	-15.21	Peak
10	6644.00	46.45	-27.55	74.00	54.14	-7.69	Peak
11	8334.00	48.41	-25.59	74.00	53.84	-5.43	Peak
12	10436.00	47.84	-26.16	74.00	49.96	-2.12	Peak
13	11766.00	47.99	-26.01	74.00	49.69	-1.70	Peak

Sporton International (ShenZhen) Inc.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X

Page Number : 21 of 23 Report Issued Date: Aug. 08, 2017 Report Version : Rev. 01

Report Template No.: BU5-FD15B Version 1.3

3. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristic s	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Jan.06, 2017	Jul. 19, 2017	Jan. 05, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Jan.05, 2017	Jul. 19, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Jan.05, 2017	Jul. 19, 2017	Jan. 04, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Va c	Jul. 19, 2017	Jul. 19, 2017	Jul. 18, 2018	Conduction (CO01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GH z	Apr. 20, 2017	Jul. 21, 2017	Apr. 19, 2018	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	23188	30MHz-2GHz	Apr. 25, 2017	Jul. 21, 2017	Apr. 24, 2018	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Nov. 19, 2016	Jul. 21, 2017	Nov. 18, 2017	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 20, 2017	Jul. 21, 2017	Apr.19, 2018	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P- R	1707137	1GHz~18GHz	Oct. 11, 2016	Jul. 21, 2017	Oct 10, 2017	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Jul. 21, 2017	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jul. 21, 2017	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jul. 21, 2017	NCR	Radiation (03CH01-SZ)

NCR: No Calibration Required.

Sporton International (ShenZhen) Inc.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: 2ALTA400X Page Number : 22 of 23
Report Issued Date : Aug. 08, 2017
Report Version : Rev. 01

Report No. : FC770404

Report Template No.: BU5-FD15B Version 1.3

4. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of	2.5dB
Confidence of 95% (U = 2Uc(y))	2.306

Report No. : FC770404

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1GHz)

Measuring Uncertainty for a Level of	5.4.ID
Confidence of 95% (U = 2Uc(y))	5.1dB

Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of	5.2dB
Confidence of 95% (U = 2Uc(y))	J.20D

 Sporton International (ShenZhen) Inc.
 Page Number
 : 23 of 23

 TEL: 86-755-8637-9589
 Report Issued Date
 : Aug. 08, 2017

 FAX: 86-755-8637-9595
 Report Version
 : Rev. 01

FCC ID: 2ALTA400X Report Template No.: BU5-FD15B Version 1.3