

**FCC Test Report** 

APPLICANT : INQ Mobile Ltd. EQUIPMENT : mobile phone

BRAND NAME : INQ

MODEL NAME : T2-218U

FCC ID : ZEN0020241907

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

CLASSIFICATION : Certification

The product was received on Sep. 29, 2010 and completely tested on Jan. 25, 2011. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Roy Wu / Manager

IIac-MRA



Report No.: FD092959

SPORTON INTERNATIONAL (KUNSHAN) INC. No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 1 of 22
Report Issued Date : Mar. 28, 2011

Report Version : Rev. 02



## **TABLE OF CONTENTS**

RE	VISIO	N HISTORY	3
SU	MMAF	RY OF TEST RESULT	4
1.	GEN	ERAL DESCRIPTION	5
	1.1.	Applicant	5
	1.2.	Manufacturer	
	1.3.	Feature of Equipment Under Test	6
	1.4.	Test Site	7
	1.5.	Applied Standards	7
	1.6.	Ancillary Equipment List	8
2.	TES1	CONFIGURATION OF EQUIPMENT UNDER TEST	9
	2.1.	Test Mode	9
	2.2.	Connection Diagram of Test System	
	2.3.	Test Software	11
3.	TES1	「RESULT	12
	3.1.	Test of AC Conducted Emission Measurement	12
		Test of Radiated Emission Measurement	
4.	LIST	OF MEASURING EQUIPMENT	20
5.	UNC	ERTAINTY OF EVALUATION	21
ΑP	PEND	IX A. PHOTOGRAPHS OF EUT	
ΔΡ	PEND	IX B. SETUP PHOTOGRAPHS	

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 2 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



**REVISION HISTORY** 

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FD092959	Rev. 01	Initial issue of report	Feb. 15, 2011
FD092959	Rev. 02	Update report for revising FCC ID	Mar. 28, 2011

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 3 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



**SUMMARY OF TEST RESULT** 

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
				< 15.107 limits		Under limit
3.1	15.107	7.2.2	AC Conducted Emission	< RSS-Gen table 2 limits	PASS	11.02 dB at
				C NOO GEN LABIC 2 IIIIII.G		1.08 MHz
				< 15.109 limits or		Under limit
3.2	15.109 7.2.3.2 Radiated Emission	Radiated Emission	< RSS-Gen table 1 limits	PASS	3.16 dB at	
				(Section 6)		45.66 MHz

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 4 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02

# 1. General Description

# 1.1. Applicant

INQ Mobile Ltd.

PO Box 957, Offshore Incorporations Centre, Road Town, Tortola, British Virgin Islands

## 1.2. Manufacturer

Huizhou BYD Electronic Co., Ltd.

Xiangshui River, Economic Development Zone, Daya Bay, Huizhou, Guangdong, 516083, P.R.China

SPORTON INTERNATIONAL (KUNSHAN) INC.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 5 of 22 Report Issued Date: Mar. 28, 2011

Report No.: FD092959

: Rev. 02 Report Version



1.3. Feature of Equipment Under Test

Product Feature & Specification				
Equipment	mobile phone			
Brand Name	INQ			
Model Name	T2-218U			
FCC ID	ZEN0020241907			
Tx Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band V: 824 MHz ~ 849 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz WLAN: 2400 MHz ~ 2483.5 MHz			
Rx Frequency Range	GSM850: 869 MHz ~ 894 MHz GSM1900: 1930 MHz ~ 1990 MHz WCDMA Band V: 869 MHz ~ 894 MHz WCDMA Band II: 1930 MHz ~ 1990 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz WLAN: 2400 MHz ~ 2483.5 MHz GPS: 1.57542 GHz			
Antenna Type	Fixed Internal Antenna			
HW Version	W701T_MB_US_B4			
SW Version	BDLT_V0.3_GCF_20101217_B_eng			
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK WCDMA : QPSK HSDPA : QPSK / 16QAM HSUPA : BPSK Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : π/4-DQPSK Bluetooth EDR (3Mbps) : 8-DPSK 802.11b : DSSS (BPSK / QPSK / CCK) 802.11g : OFDM (BPSK / QPSK / 16QAM / 64QAM) GPS : BPSK			
EUT Stage	Identical Prototype			

**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 (KUNSHAN) INC.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 6 of 22 Report Issued Date : Mar. 28, 2011

Report No.: FD092959

Report Version : Rev. 02

## 1.4. Test Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.			
Test Site Location	TEL: +86-0512-5790-0158			
	FAX: +86-0512-5790-0958			
Tool Cita No	Sporton Site No.			
Test Site No.	CO01-KS 03CH01-KS			

## 1.5. Applied 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 C63.4-2003
- · IC RSS-Gen Issue 2

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

SPORTON INTERNATIONAL (KUNSHAN) INC.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 7 of 22
Report Issued Date : Mar. 28, 2011

Report No.: FD092959

Report Version : Rev. 02

FCC Test Report Report No.: FD092959

# 1.6. Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	PC	DELL	MT320	FCC DoC	N/A	Unshielded, 1.8 m
3.	(USB)Mouse	DELL	MO56UC	FCC DoC	Shielded, 1.8 m	N/A
4.	Bluetooth Earphone	Cellink	BTHS-6025-F	PQY-47108742003 57	N/A	N/A
5.	(USB)Keyboard	DELL	L100	FCC DoC	Shielded, 1.8 m with core	N/A
6.	Printer	HP	Laser Jet 1018	FCC DoC	Shielded, 1.8 m	Unshielded, 1.8 m
7.	Monitor	DELL	E1910Hc	FCC DoC	Shielded, 1.2 m	Unshielded, 1.8 m
8.	Router	LINKSYS	WRT600N	Q87-WRT600NV11	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
9.	Notebook	Acer	Trave Imate 2413Lci	QDS-BRCM1016	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
10.	GPS Station	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
11.	iPod	Apple	A1199	FCC DoC	Unshielded, 1.2 m	N/A

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 8 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02

# 2. Test Configuration of Equipment Under Test

## 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 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).

The following tables are showing the test modes as the worst cases and recorded in this report.

			Test Condition	
Item	EUT Configuration	EMI	EMI	EMI
		AC	RE<1G	RE≥1G
1.	Charging Mode (EUT with adapter)		$\boxtimes$	$\boxtimes$
2.	Charging Mode (EUT with PC)			Note 1

#### Abbreviations:

EMI AC: AC conducted emissions

EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz

EMI RE < 1G: EUT radiated emissions < 1GHz

Note 1: Testing for this mode is not required or not the worst case.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907

: 9 of 22 Page Number Report Issued Date: Mar. 28, 2011

Report No.: FD092959

Report Version : Rev. 02



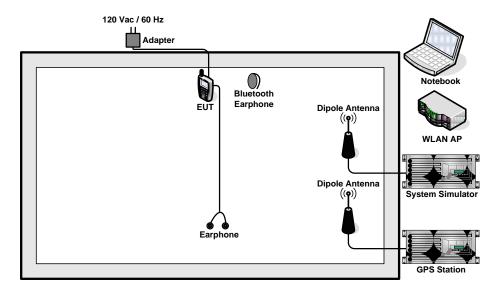
Test Items	EUT Configure Mode	Function Type
		Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + Adapter + Earphone + GPS Rx
AC Conducted Emission	1/2	Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + Earphone + GPS Rx + USB Cable (Link with PC)
		Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Adapter + Earphone + GPS Rx
		Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + Adapter + Earphone + GPS Rx
Radiated Emissions < 1GHz	z 1/2	Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + Earphone + GPS Rx + USB Cable (Link with PC)
		Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Adapter + Earphone + GPS Rx
Radiated Emissions ≥ 1GHz	1	Mode 1: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Adapter + Earphone + GPS Rx

#### 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 3; only the test data of this mode was reported.

## 2.2. Connection Diagram of Test System

#### <EUT with Adapter Mode>

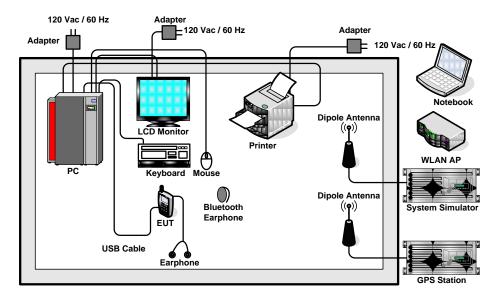


SPORTON INTERNATIONAL (KUNSHAN) INC.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 10 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02

Report No.: FD092959

### <EUT with USB Cable (Link with PC) Mode>



## 2.3. Test Software

The EUT was in GSM or WCDMA 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 execute the program "Winthrax.exe" installed in PC for active sync files transfer with EUT via USB cable during the test.

SPORTON INTERNATIONAL (KUNSHAN) INC.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 11 of 22 Report Issued Date: Mar. 28, 2011 Report Version : Rev. 02

### 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

See list of measuring instruments 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 with Maximum Hold Mode.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 12 of 22
Report Issued Date : Mar. 28, 2011

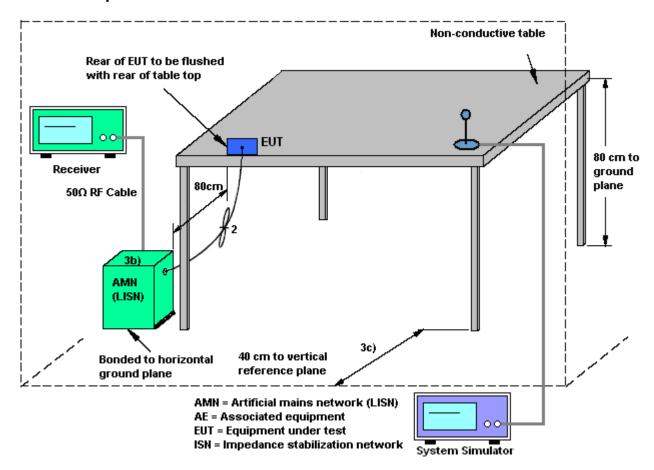
Report No.: FD092959

Report Version : Rev. 02



Report No.: FD092959

## 3.1.4 Test Setup



TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 13 of 22 Report Issued Date : Mar. 28, 2011 Report Version : Rev. 02



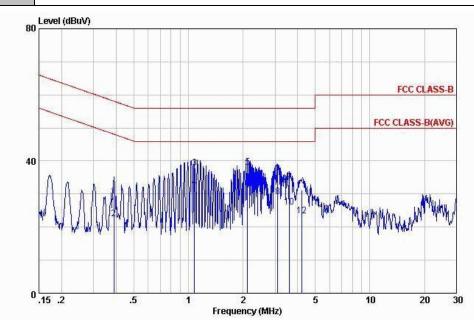
3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1			Tempe	rature	:	21~22°	C		
Test Engineer :	Huiliu Liu			Relative Humidity :			42~43%	42~43%		
Test Voltage :	120Vac / 60	0Hz		Phase	:		Line			
Function Type :	GSM850 Ic	lle + Blueto	ooth Idl	e + WL	AN Idle	e + Ada	apter + Ea	arphone +	GPS Rx	
Remark :	All emission	ns not repo	orted h	ere are	more t	han 10	dB belov	v the presc	cribed limit	
4						WM (************************************	Proces (no low blood)	FCC CLASS		
Site	.15 .2 : COO1-KS m: FCC CLASS-I	.5 3 LISN-10080	1 7 LINE	2 Frequenc	cy (MHz)	5	10	20	30	

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 14 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



**21~22**℃ Test Mode: Mode 1 Temperature: Huiliu Liu 42~43% Test Engineer: Relative Humidity: 120Vac / 60Hz Phase: Test Voltage: Neutral GSM850 Idle + Bluetooth Idle + WLAN Idle + Adapter + Earphone + GPS Rx Function Type: All emissions not reported here are more than 10 dB below the prescribed limit. Remark:



Site : COO1-KS

Condition: FCC CLASS-B LISN-100807 NEUTRAL

LOW TROOPS			
Mode	:	mode	1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
87.	MHz	dBuV	dB	dBuV	dBuV	dB	dB	<u> </u>
1	0.39	29.44	-28.65	58.09	19.10	-0.08	10.42	QP
2	0.39	22.54	-25.55	48.09	12.20	-0.08	10.42	Average
3	1.08	37.89	-18.11	56.00	27.50	-0.09	10.48	QP
2 3 4 5 6 7 8 9	1.08	32.19	-13.81	46.00	21.80	-0.09	10.48	Average
5	2.11	38.13	-17.87	56.00	27.70	-0.11	10.54	QP
6	2.11	31.63	-14.37	46.00	21.20	-0.11	10.54	Average
7	3.11	35.93	-20.07	56.00	25.50	-0.12	10.55	QP -
8	3.11	29.23	-16.77	46.00	18.80	-0.12	10.55	Average
9	3.58	33.55	-22.45	56.00	23.09	-0.12	10.58	QP
10	3.58	26.15	-19.85	46.00	15.69	-0.12	10.58	Average
11	4.23	31.27	-24.73	56.00	20.81	-0.13	10.59	QP
12	4.23	23.47	-22.53	46.00	13.01	-0.13	10.59	Average

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 15 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



3.2. Test of Radiated Emission Measurement

### 3.2.1. Limit of Radiated Emission

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

Frequency	Field Strength	Measurement Distance		
(MHz)	(microvolts/meter)	(meters)		
0.009 – 0.490	2400/F(kHz)	300		
0.490 – 1.705	24000/F(kHz)	30		
1.705 – 30.0	30	30		
30 – 88	100	3		
88 – 216	150	3		
216 - 960	200	3		
Above 960	500	3		

## 3.2.2. Measuring Instruments

See list of measuring instruments of this test report.

SPORTON INTERNATIONAL (KUNSHAN) INC.

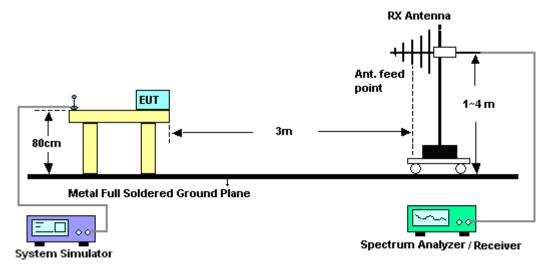
TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 16 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



#### 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 meter and 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.
- 7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported
- 8. Emission level (dBuV/m) = 20 log Emission level (uV/m)
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

## 3.2.4. Test Setup of Radiated Emission



SPORTON INTERNATIONAL (KUNSHAN) INC.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 17 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



## 3.2.5. Test Result of Radiated Emission

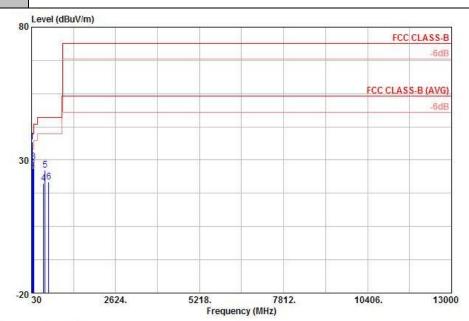
Test Mode :	Mode :	Mode 3			Temperature :		21~22	21~22°C				
Test Engineer :	Jason	Jason Chia			Relative Humidity :			42~43	42~43%			
Test Distance :	3m				Polari	zation	•	Horiz	ontal			
Function Type	WCDN Rx	WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Adapter + Rx						+ Earpl	hone +			
	Level (dB	Level (dBuV/m)										
	- F								FC	C CLASS	285	
	-									-6d	В	
									FCC CLA	SS-B (AV	3)	
										-6d	257	
	30 24											
										1		
-	20 30	20	524.	52	218.		812.	10	406.	13	0000	
Site	: 03CHO	L-KS			Freque	ncy (MHz)						
	on: FCC CI		n LF ANT	_100803 Н	ORIZONTA	L						
Mode	: Mode :	3	Over	Limit	Read	intenna	Cable	Preamp	Ant	Table		
360		Level	Limit	Line	Level			Factor	Pos		Remark	
		dBuV/m		dBuV/m	dBuV	dB/m	dB	dB	CM	deg	7	
1 2	36.21 102.36	27.57	-15.93	40.00	44.26	14.65 10.87	0.42		200	10000	Peak Peak	
3 4	300.00	25.43 27.23	-18.77	43.50 46.00 46.00	41.78	8.44 13.00	0.57 0.72 0.73	28.27		(510000)	Peak Peak	
	402 20	21.40	-24.60	46.00	33.00	16.01	0.73	28.45	S-1-1-1		Peak Peak	
5 6	402.20											

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 18 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



21~22°C Test Mode: Mode 3 Temperature : Jason Chia Relative Humidity: 42~43% Test Engineer: **Test Distance:** 3m Polarization: Vertical WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Adapter + Earphone + GPS

**Function Type:** Rx



: 03CH01-KS

Condition: FCC CLASS-B 3m LF ANT\_100803 VERTICAL

: Mode 3

		•	09-00-000	4	( A C C C C C C C C C C C C C C C C C C	V20020100000000000000000000000000000000	A	50 <b>4</b> 0.45 0.70 0.00	405-000-00		
	Freq	Level	Over Limit			Antenna Factor		Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	$\overline{\mathtt{dBuV/m}}$	dBu₹	dB/m	dB	dB -	CM	deg	
1!	45.66	36.84	-3.16	40.00	55.34	9.25	0.27	28.02	100	218	Peak
1 ! 2 3	67.26	26.91	-13.09	40.00	49.29	5.25	0.33	27.96		200	Peak
3	88.86	29.27	-14.23	43.50	48.26	8.61	0.39	27.99	-	5 <del>-333-4</del>	Peak
4	402.20	21.17	-24.83	46.00	32.77	16.01	0.84	28.45	(Septembrie)	Sentono	Peak
5	445.60	26.19	-19.81	46.00	37.49	16.28	0.90	28.48			Peak
6	559.70	21.87	-24.13	46.00	30.71	18.51	1.01	28.36			Peak

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 19 of 22 Report Issued Date: Mar. 28, 2011 Report Version : Rev. 02



Report No.: FD092959

# 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Jun. 22, 2010	Jun. 21, 2011	Conduction (CO01-KS)
LISN	MessTec	AN3016	60103	9kHz~30MHz	Jan. 07, 2011	Jan. 06, 2012	Conduction (CO01-KS)
LISN	MessTec	AN3016	60105	9kHz~30MHz	Jan. 07, 2011	Jan. 06, 2012	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	N/A	Nov. 10, 2010	Nov. 09, 2011	Conduction (CO01-KS)
DC- LISN	MessTec	AN20200	060102	0.1MHz~108MH z	Jan. 07, 2011	Jan. 06, 2012	Conduction (CO01-KS)
DC- LISN	MessTec	AN20200	060107	0.1MHz~108MH z	Jan. 07, 2011	Jan. 06, 2012	Conduction (CO01-KS)
ISN	TESEQ	ISNT800	27103	9kHz – 30MHz	Dec. 02, 2010	Dec. 01, 2011	Conduction (CO01-KS)
ISN	TESEQ	ISNT400A	25675	9kHz – 30MHz	Dec. 02, 2010	Dec. 01, 2011	Conduction (CO01-KS)
ISN	TESEQ	ISNST08	26583	9kHz – 30MHz	Dec. 02, 2010	Dec. 01, 2011	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESCI	100724	9kHz – 2.75GHz	Mar. 09, 2010	Mar. 08, 2011	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Jan. 07, 2011	Jan. 06, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 07, 2010	Dec. 06, 2011	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 07, 2011	Jan. 06, 2012	Radiation (03CH01-KS)
Amplifier	Wireless	FPA-6592G	060004	30MHz~2GHz	Dec. 09, 2010	Dec. 08, 2011	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Jan. 07, 2011	Jan. 06, 2012	Radiation (03CH01-KS)
Actice hore antenna	com-power	AHA-118	701023	1G-18GHz	Nov. 09, 2010	Nov. 08, 2011	Radiation (03CH01-KS)
Signal Generator	R&S	SMR40	100455	10MHz~40GHz	Jan. 06, 2011	Jan. 05, 2012	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15-40GHz	Oct. 15, 2010	Oct. 14, 2011	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH01-KS)
System Simulator	R&S	CMU200	837587/066	Full-Band	Jan. 07, 2011	Jan. 06, 2012	-
GPS Station	T&E	GS-50	N/A	N/A	N/A	N/A	-

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907

: 20 of 22 Page Number Report Issued Date: Mar. 28, 2011 Report Version : Rev. 02



# 5. Uncertainty of Evaluation

### <u>Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)</u>

	Uncerta		
Contribution	dB	Probability Distribution	u(X <sub>i</sub> )
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty Uc(y)		1.13	
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))		2.26	

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

	Uncerta		
Contribution	dB	Probability Distribution	u(X <sub>i</sub> )
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty Uc(y)		1.27	
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))		2.54	

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 21 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02



## Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

	Uncertai	nty of X <sub>i</sub>			
Contribution	dB	Probability Distribution	u(X <sub>i</sub> )	C <sub>i</sub>	C <sub>i</sub> * u(X <sub>i</sub> )
Receiver Reading	±0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	±1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	±0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site Imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma$ 1 = 0.197 Antenna VSWR $\Gamma$ 2 = 0.194 Uncertainty = 20Log(1- $\Gamma$ 1* $\Gamma$ 2)	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty Uc(y)		2.	36		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))		4.	72		

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : 22 of 22
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02

# Appendix A. Photographs of EUT

Please refer to Sporton report number EP092959 as below.

SPORTON INTERNATIONAL (KUNSHAN) INC.

TEL: 86-0512-5790-0158 FAX: 86-0512-5790-0958 FCC ID: ZEN0020241907 Page Number : A1 of A1
Report Issued Date : Mar. 28, 2011
Report Version : Rev. 02