# **FCC Test Report**

APPLICANT : CT Asia

**EQUIPMENT**: Mobile phone

BRAND NAME : BLU

MODEL NAME : Dash 3.5 Ce

FCC ID : YHLBLUDASH35CE

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION**: Certification

The product was received on Jan. 09, 2015 and testing was completed on Jan. 16, 2015. 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 C63.4-2009 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.

Reviewed by: Louis Wu / Manager

Louis Wu

Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL (SHENZHEN) INC.

1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town,

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SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 1 of 27 Report Issued Date : Jan. 26, 2015

Report No.: FC510904

Report Version : Rev. 01

### **TABLE OF CONTENTS**

RE	REVISION HISTORY3				
		RY OF TEST RESULT			
		ERAL DESCRIPTION			
••	1.1. 1.2. 1.3. 1.4. 1.5. 1.6. 1.7.	Applicant	5 5 7		
2.	TEST 2.1. 2.2. 2.3. 2.4.	Support Unit used in test configuration and system	8 10		
3.	3.1. 3.2.	Test of AC Conducted Emission Measurement  Test of Radiated Emission Measurement	13		
		OF MEASURING EQUIPMENT			
ΑP	PEND	IX A. SETUP PHOTOGRAPHS			

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE

: 2 of 27 Page Number Report Issued Date: Jan. 26, 2015 Report Version

: Rev. 01

### **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC510904	Rev. 01	Initial issue of report	Jan. 26, 2015

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 3 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

### **SUMMARY OF TEST RESULT**

Report Section	FCC Rule	Description	Limit	Result	Remark
					Under limit
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	8.81 dB at
					0.420 MHz
					Under limit
2.0	15.109	15.109 Radiated Emission	< 15.109 limits	PASS	2.16 dB at
3.2					32.43 MHz for
					Quasi-Peak

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 4 of 27 Report Issued Date : Jan. 26, 2015

Report No.: FC510904

Report Version : Rev. 01

# 1. General Description

# 1.1. Applicant

#### **CT** Asia

Unit 01, 15/F, Seaview Centre, 139-141 Hoi bun road, Kwun Tong, Kowloon, Hongkong

### 1.2. Manufacturer

#### Tinno Mobile Technology Corp.

4/F, H-3 Building, OCT Eastern industrial Park, No.1 XiangShan East Road., Nan Shan District, Shenzhen, P. R. China

### 1.3. Product Feature of Equipment Under Test

	Product Feature
Equipment	Mobile phone
Brand Name	BLU
Model Name	Dash 3.5 Ce
FCC ID	YHLBLUDASH35CE
	GSM/GPRS/
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/HT40/
	Bluetooth v3.0 + EDR/Bluetooth v4.0 LE
HW Version	V1.0
SW Version	S3510BP_PR_KK_BLU_US_09_03
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 (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 5 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

# 1.4. Product Specification subjective to this standard

Product Specification subjective to this standard				
	GSM850 : 824.2 MHz ~ 848.8 MHz GSM1900 : 1850.2 MHz ~ 1909.8MHz			
Tx Frequency	802.11b/g/n: 2412 MHz ~ 2462 MHz			
	Bluetooth: 2402 MHz ~ 2480 MHz			
	GSM850 : 869.2 MHz ~ 893.8 MHz			
Rx Frequency	GSM1900 : 1930.2 MHz ~ 1989.8 MHz			
KX Frequency	802.11b/g/n: 2412 MHz ~ 2462 MHz			
	Bluetooth: 2402 MHz ~ 2480 MHz			
	WWAN: IFA Antenna			
Antenna Type	WLAN: IFA Antenna			
	Bluetooth: IFA Antenna			
	GSM: GMSK			
	GPRS: GMSK			
	802.11b: DSSS (DBPSK / DQPSK / CCK)			
Type of Modulation	802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM )			
Type of Modulation	Bluetooth v4.0 LE : GFSK			
	Bluetooth (1Mbps) : GFSK			
	Bluetooth (2Mbps) : π /4-DQPSK			
	Bluetooth (3Mbps): 8-DPSK			

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 6 of 27 Report Issued Date : Jan. 26, 2015

Report No. : FC510904

Report Version : Rev. 01

#### 1.5. Modification of EUT

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

#### 1.6. **Test Location**

Test Site SPORTON INTERNATIONAL (SHENZHEN) INC.			
	1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town,		
	Nanshan District, Shenzhen, Guangdong, P. R. China		
Test Site Location	TEL: +86-755-8637-9589		
	FAX: +86-755-8637-9595		
Toot Site No	Sporton Site No.		
Test Site No.	CO01-SZ		

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.			
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China			
	TEL: +86-755- 3320-2398			
Test Site No.	Sporton Site No.	FCC Registration No.		
Test Site NO.	03CH01-SZ	831040		

### 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 C63.4-2009

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

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE

: 7 of 27 Page Number Report Issued Date: Jan. 26, 2015 Report Version

: Rev. 01

# 2. Test Configuration of Equipment Under Test

#### 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2009 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
			RE<1G	RE≥1G
1.	Charging Mode (EUT with adapter)	$\boxtimes$	$\boxtimes$	$\boxtimes$
2.	Data application transferred mode		$\bowtie$	$\boxtimes$
	(EUT connected with notebook)			

#### Abbreviations:

EMI AC: AC conducted emissions

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

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

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 8 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

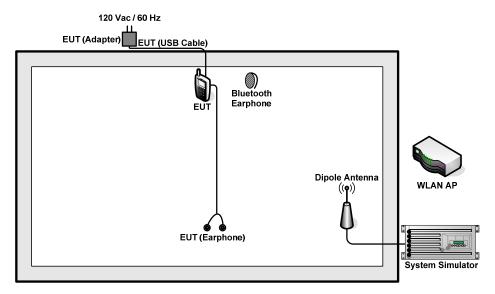
Test Items	EUT Configure Mode	Function Type
		Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Camera + SIM1 <fig.1></fig.1>
AC Conducted Emission	1/2	Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + MPEG4 + SIM2 <fig.1></fig.1>
		Mode 3: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + SIM1 <fig.2></fig.2>
		Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Camera + SIM1 <fig.1></fig.1>
Radiated Emissions < 1GHz	1/2	Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter + MPEG4 + SIM2 <fig.1></fig.1>
		Mode 3: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + SIM1 <fig.2></fig.2>
Radiated	1/0	Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + MPEG4 + SIM2 <fig.1></fig.1>
Emissions ≥ 1GHz	ns ≥ 1GHz	Mode 2: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + SIM1 <fig.2></fig.2>

#### Remark:

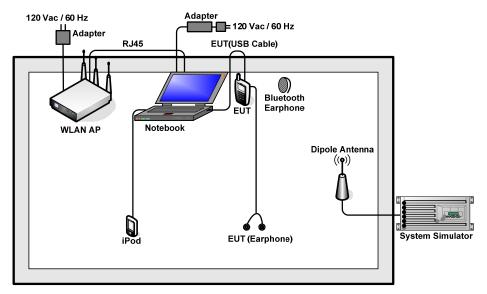
- 1. The worst case of AC is mode 2, and the USB Link mode of AC is mode 3, the test data of these modes are reported.
- 2. The worst case of RE < 1G is mode 2, and the USB Link mode of RE is mode 3, the test data of these modes are reported.
- 3. Link with notebook means data application transferred mode between EUT and notebook.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 9 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

# 2.2. Connection Diagram of Test System



<Fig.1>



<Fig.2>

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 10 of 27 Report Issued Date : Jan. 26, 2015

Report No.: FC510904

Report Version : Rev. 01

# 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	Agilent	8960	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded,1.8m
3.	WLAN AP	D-Link	DIR-615	N/A	N/A	Unshielded,1.8m
4.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 2.7m
5.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
6.	Bluetooth Earphone	Lenovo	LBH301	N/A	N/A	N/A
7.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2m DC O/P: Shielded, 1.8 m
8.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
9.	iPod nano 8GB	Apple	MC690 ZP/A	FCC DoC	Shielded, 1.2 m	N/A
10.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 11 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

### 2.4. EUT Operation Test Setup

The EUT was in GSM idle mode during the testing. The EUT was synchronized to the BCCH, and was 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. Execute the program, "Winthrax" under WIN7 installed in notebook for files transfer with EUT via USB cable.
- 2. Execute "Video Player" to play MPEG4 files.
- 3. Turn on camera to capture images.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE

: 12 of 27 Page Number Report Issued Date: Jan. 26, 2015

Report No.: FC510904

Report Version : Rev. 01

### 3. Test Result

#### 3.1. Test of AC Conducted Emission Measurement

#### 3.1.1 Limits of AC Conducted Emission

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

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

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

### 3.1.2 Measuring Instruments

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

#### 3.1.3 Test Procedure

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

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 13 of 27 Report Issued Date : Jan. 26, 2015

Report No.: FC510904

Report Version : Rev. 01

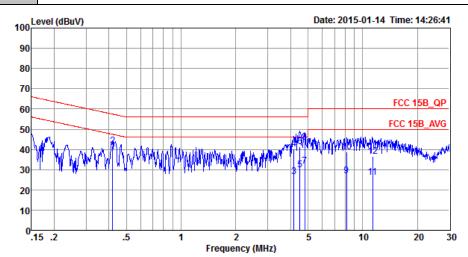
### 3.1.4 Test Setup



TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 14 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

### 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 2	Temperature :	21~22℃	
Test Engineer :	Jack Tian	Relative Humidity :	41~42%	
Test Voltage :	120Vac / 60Hz	Phase :	Line	
Function Tune	GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from			
Function Type :	Adapter) + MPEG4 + SIM2			



Site : CO01-SZ Condition: FCC 15B\_QP LISN\_L\_20140304 LINE

Project : (FC) 510904 Mode : Mode 2

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBu∀	dB	dBu∇	dBu∀	dB	dB	
1	*	0.42	38.65	-8.81	47.46	28.19	0.29	10.17	Average
2		0.42	41.85	-15.61	57.46	31.39	0.29	10.17	QP
3		4.18	26.51	-19.49	46.00	15.90	0.38	10.23	Average
4		4.18	40.11	-15.89	56.00	29.50	0.38	10.23	QP
5		4.50	29.83	-16.17	46.00	19.20	0.40	10.23	Average
6		4.50	41.23	-14.77	56.00	30.60	0.40	10.23	QP
7		4.80	31.85	-14.15	46.00	21.20	0.41	10.24	Average
8		4.80	43.55	-12.45	56.00	32.90	0.41	10.24	QP
9		8.15	26.89	-23.11	50.00	16.10	0.49	10.30	Average
10		8.15	38.59	-21.41	60.00	27.80	0.49	10.30	QP
11		11.38	26.28	-23.72	50.00	15.00	0.89	10.39	Average
12		11.38	36.48	-23.52	60.00	25.20	0.89	10.39	QP

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 15 of 27 Report Issued Date: Jan. 26, 2015 Report Version : Rev. 01

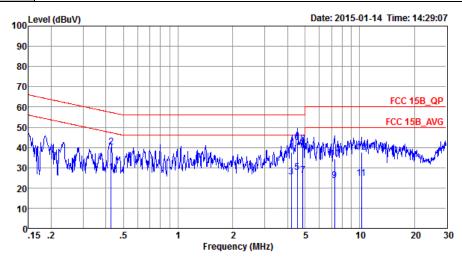


Test Mode: Mode 2
Temperature: 21~22°C

Test Engineer: Jack Tian
Relative Humidity: 41~42%

Test Voltage: 120Vac / 60Hz
Phase: Neutral

GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + MPEG4 + SIM2



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_N\_20140304 NEUTRAL

Project : (FC)510904 Mode : Mode 2

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu₹	dB	dBu∀	dBu₹	dB	dB	
1	0.43	27.86	-19.43	47.29	17.31	0.39	10.16	Average
2	0.43	40.16	-17.13	57.29	29.61	0.39	10.16	QP
3	4.20	25.30	-20.70	46.00	14.60	0.47	10.23	Average
4	4.20	37.80	-18.20	56.00	27.10	0.47	10.23	QP
5	4.53	27.81	-18.19	46.00	17.10	0.48	10.23	Average
6 *	4.53	42.31	-13.69	56.00	31.60	0.48	10.23	QP
7	4.87	26.03	-19.97	46.00	15.30	0.49	10.24	Average
8	4.87	41.53	-14.47	56.00	30.80	0.49	10.24	QP
9	7.29	23.56	-26.44	50.00	12.81	0.47	10.28	Average
10	7.29	34.26	-25.74	60.00	23.51	0.47	10.28	QP
11	10.23	24.69	-25.31	50.00	13.60	0.76	10.33	Average
12	10.23	37.69	-22.31	60.00	26.60	0.76	10.33	_

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 16 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01



Test Mode: Mode 3

Temperature: 21~22°C

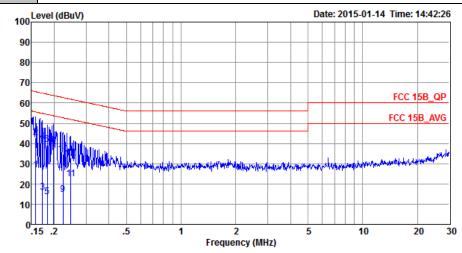
Test Engineer: Jack Tian

Relative Humidity: 41~42%

Test Voltage: 120Vac / 60Hz

Phase: Line

GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + SIM1



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_L\_20140304 LINE

Project : (FC)510904 Mode : Mode 3

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∀	dB	dBu₹	dBu∀	dB	dB	
1	0.16	26.97	-28.59	55.56	16.40	0.22	10.35	Average
2	0.16	42.87	-22.69	65.56	32.30	0.22	10.35	QP
3	0.17	15.95	-38.91	54.86	5.40	0.22	10.33	Average
4	0.17	41.05	-23.81	64.86	30.50	0.22	10.33	QP
5	0.18	13.73	-40.60	54.33	3.20	0.22	10.31	Average
6	0.18	39.53	-24.80	64.33	29.00	0.22	10.31	QP
7 *	0.20	35.42	-18.25	53.67	24.90	0.22	10.30	Average
8	0.20	39.22	-24.45	63.67	28.70	0.22	10.30	QP
9	0.22	14.90	-37.80	52.70	4.40	0.23	10.27	Average
10	0.22	34.70	-28.00	62.70	24.20	0.23	10.27	QP
11	0.25	22.68	-29.18	51.86	12.19	0.24	10.25	Average
12	0.25	32.98	-28.88	61.86	22.49	0.24	10.25	QP

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 17 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01



Test Mode: Mode 3

Temperature: 21~22°C

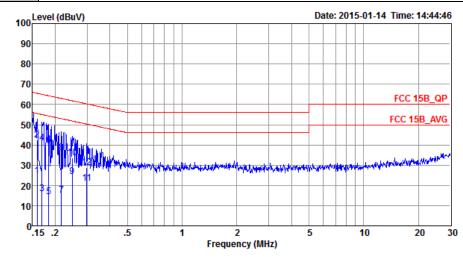
Test Engineer: Jack Tian

Relative Humidity: 41~42%

Test Voltage: 120Vac / 60Hz

Phase: Neutral

GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + SIM1



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_N\_20140304 NEUTRAL

Project : (FC)510904 Mode : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu∇	dB	dBu∇	dBu∇	dB	dB	
1	0.16	24.67	-30.85	55.52	13.99	0.33	10.35	Average
2 4	0.16	42.47	-23.05	65.52	31.79	0.33	10.35	QP
3	0.17	15.86	-39.13	54.99	5.20	0.33	10.33	Average
4	0.17	40.86	-24.13	64.99	30.20	0.33	10.33	QP
5	0.18	14.24	-40.04	54.28	3.61	0.32	10.31	Average
6	0.18	39.74	-24.54	64.28	29.11	0.32	10.31	QP
7	0.22	15.30	-37.66	52.96	4.69	0.33	10.28	Average
8	0.22	36.00	-26.96	62.96	25.39	0.33	10.28	QP
9	0.25	24.19	-27.63	51.82	13.61	0.34	10.24	Average
10	0.25	33.49	-28.33	61.82	22.91	0.34	10.24	QP
11	0.30	20.86	-29.42	50.28	10.30	0.36	10.20	Average
12	0.30	28.86	-31.42	60.28	18.30	0.36	10.20	QP

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 18 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

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

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 19 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

#### 3.2.2. Measuring Instruments

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

#### 3.2.3. Test Procedures

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

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE

· 20 of 27 Page Number Report Issued Date: Jan. 26, 2015

Report No.: FC510904

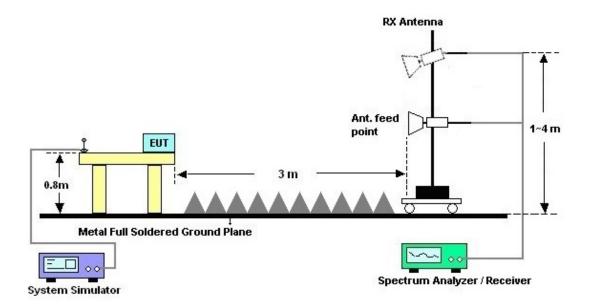
Report Version : Rev. 01

### 3.2.4. Test Setup of Radiated Emission

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

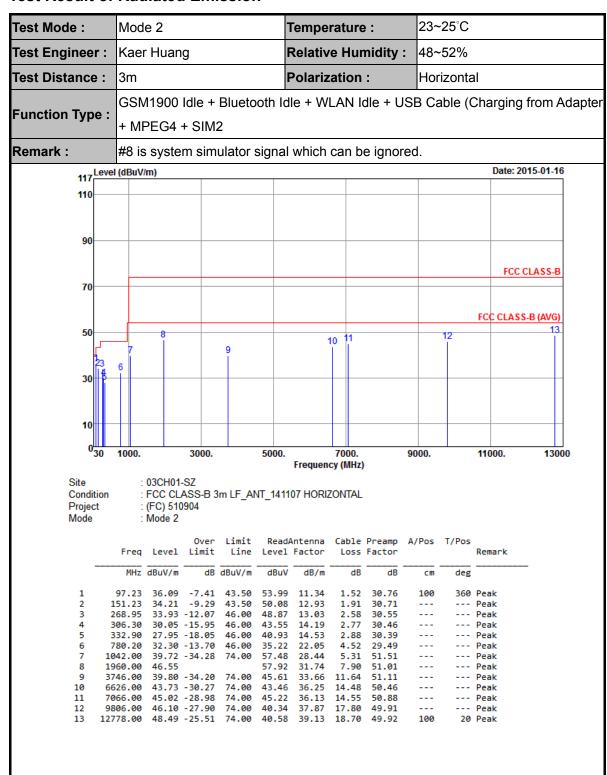


#### For radiated emissions above 1GHz



TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 21 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

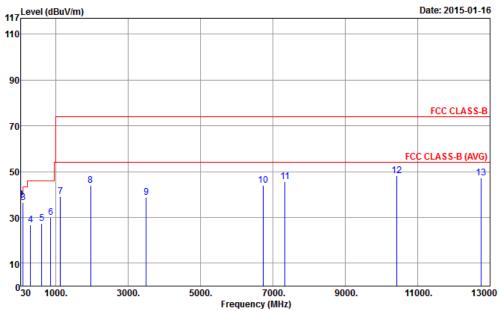
#### 3.2.5. Test Result of Radiated Emission



TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 22 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

Report No. : FC510904

Test Mode :	Mode 2	Temperature :	23~25°C				
Test Engineer :	Kaer Huang	Relative Humidity :	48~52%				
Test Distance :	3m	Polarization :	Vertical				
Function Type	GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter						
Function Type :	+ MPEG4 + SIM2						
Remark :	#8 is system simulator signal which can be ignored.						
l evel	Date: 2015-01-16						



Site : 03CH01-SZ

Condition Project : FCC CLASS-B 3m LF\_ANT\_141107 VERTICAL : (FC) 510904

Mode : Mode 2

	Freq	Level	Over Limit	Limit Line		Antenna Factor		Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	32.43	37.84	-2.16	40.00	49.63	18.07	0.88	30.74	100	360	QP
2	38.37	37.63	-2.37	40.00	52.42	15.01	0.95	30.75	200	360	QP
3	98.04	36.57	-6.93	43.50	54.34	11.46	1.53	30.76			Peak
4	305.60	26.58	-19.42	46.00	40.09	14.18	2.77	30.46			Peak
5	615.00	27.31	-18.69	46.00	33.06	19.79	4.07	29.61			Peak
6	857.90	30.14	-15.86	46.00	32.42	21.98	4.83	29.09			Peak
7	1128.00	39.20	-34.80	74.00	56.75	28.25	5.54	51.34			Peak
8	1960.00	44.00			55.37	31.74	7.90	51.01			Peak
9	3496.00	38.66	-35.34	74.00	44.68	33.40	10.96	50.38			Peak
10	6732.00	44.03	-29.97	74.00	43.85	36.21	14.54	50.57			Peak
11	7334.00	45.54	-28.46	74.00	45.47	36.24	14.71	50.88			Peak
12	10426.00	48.39	-25.61	74.00	42.94	38.43	17.36	50.34	200	360	Peak
13	12752.00	47.13	-26.87	74.00	39.20	39.15	18.68	49.90			Peak

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 23 of 27 Report Issued Date: Jan. 26, 2015 Report Version : Rev. 01



23~25°C Test Mode: Mode 3 Temperature: Test Engineer: Kaer Huang **Relative Humidity:** 48~52% Polarization: Test Distance: 3m Horizontal GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Function Type: Notebook) + SIM1 Remark: #7 is system simulator signal which can be ignored. 117 Level (dBuV/m) Date: 2015-01-14 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 10 30 0<mark>30</mark> 3000. 7000. 9000. 11000. 13000 1000. 5000. Frequency (MHz) Site : 03CH01-SZ Condition : FCC CLASS-B 3m LF\_ANT\_141107 HORIZONTAL Project : (FC) 510904 Mode : Mode 3 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark dB dBuV/m dBuV MHz dBuV/m dB/m dB dB deg cm 165.54 34.04 -9.46 43.50 50.75 12.00 2.00 --- Peak 199.56 40.58 -2.92 43.50 57.45 11.60 2.20 30.67 42.19 -3.81 46.00 57 OP 240.06 58.09 12.25 2.43 30.58 119 --- Peak 344.80 34.19 -11.81 46.00 46.96 2.95 14.69 30.41 ------ Peak 720.00 39.30 -6.70 46.00 43.91 20.73 4.34 29.68 --- Peak 794.90 36.00 -10.00 46.00 38.45 22.39 4.58 29.42 881.70 36.56 38.95 21.77 4.89 29.05 --- Peak 2304.00 40.17 -33.83 --- Peak 74.00 49.97 46.93 32.51 8.34 50.65 3434.00 40.57 -33.43 33.36 74.00 10.74 --- Peak 50.46 43.50 6850.00 43.46 -30.54 74.00 36.16 14.51 50.71 --- Peak 7744.00 44.66 -29.34 74.00 10332.00 48.27 -25.73 74.00 43.29 36.40 15.59 50.62 --- Peak 12 42.70 38.37 17.46 50.26 120 85 Peak 12002.00 48.09 -25.91 74.00 40.35 39.50 --- Peak 18.19

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 24 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01



23~25°C Test Mode: Mode 3 Temperature: Test Engineer: **Relative Humidity:** 48~52% Kaer Huang Polarization: Test Distance: 3m Vertical GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Function Type: Notebook) + SIM1 Remark: #7 is system simulator signal which can be ignored. 117 Level (dBuV/m) Date: 2015-01-14 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 10 30 10 1000. 3000. 5000. 7000. 9000. 11000. 13000 Frequency (MHz) : 03CH01-SZ Site : FCC CLASS-B 3m LF\_ANT\_141107 VERTICAL Condition Project (FC) 510904 Mode : Mode 3 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Remark Loss Factor dB dBuV/m dBuV dB MHz dBuV/m dB/m dB cm deg 42.96 24.04 -15.96 40.00 40.55 13.25 1.00 30.76 --- Peak 199.56 34.68 -8.82 43.50 51.55 360 Peak --- Peak --- Peak 240.06 32.14 -13.86 46.00 48.04 12.25 2.43 30.58 345.50 30.56 -15.44 46.00 43.33 14.69 2.95 30.41 36.02 -9.98 46.00 29.70 598.90 42.09 19.69 3.94 --- Peak 36.29 -9.71 46.00 794.20 38.77 22.37 4.58 29.43 --- Peak 881.70 39.71 42.10 21.77 4.89 29.05 --- Peak --- Peak 1050.00 41.61 -32.39 74.00 59.37 28.41 5.31 51.48 3190.00 39.04 -34.96 74.00 --- Peak ---46.38 33.21 10.18 50.73 43.84 -30.16 74.00 44.01 --- Peak 10 6926.00 36.13 14.50 50.80 44.11 -29.89 42.94 74.00 36.38 15.46 --- Peak 9956.00 45.95 -28.05 74.00 39.68 38.06 18.14 49.93 --- Peak 11734.00 48.29 -25.71 74.00 40.30 39.33 18.67 50.01 100 50 Peak

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 25 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01

# 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Jan. 14, 2015	Feb. 20, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 04, 2014	Jan. 14, 2015	Mar. 03, 2015	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 04, 2014	Jan. 14, 2015	Mar. 03, 2015	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Sep. 29, 2014	Jan. 14, 2015	Sep. 28, 2015	Conduction (CO01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Jan. 14, 2015~ Jan. 16, 2015	Feb. 20, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	May 26, 2014	Jan. 14, 2015~ Jan. 16, 2015	May 25, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	37877	30MHz~2GHz	Oct. 15, 2014	Jan. 14, 2015~ Jan. 16, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 15, 2014	Jan. 14, 2015~ Jan. 16, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz	Feb. 21, 2014	Jan. 14, 2015~ Jan. 16, 2015	Feb. 20, 2015	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 08, 2014	Jan. 14, 2015~ Jan. 16, 2015	May 07, 2015	Radiation (03CH01-SZ)
AC Source(AVR)	Chroma	61601	616010001985	100Vac~250Vac	Mar. 25, 2014	Jan. 14, 2015~ Jan. 16, 2015	Mar. 24, 2015	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	Jan. 14, 2015~ Jan. 16, 2015	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	Jan. 14, 2015~ Jan. 16, 2015	NCR	Radiation (03CH01-SZ)

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 26 of 27
Report Issued Date : Jan. 26, 2015
Report Version : Rev. 01



# 5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of	2.3 dB
Confidence of 95% (U = 2Uc(y))	2.3 UB

#### <u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

Measuring Uncertainty for a Level of	3.9 dB
Confidence of 95% (U = 2Uc(y))	3.9 UD

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASH35CE Page Number : 27 of 27 Report Issued Date: Jan. 26, 2015

Report No. : FC510904

Report Version : Rev. 01