FCC RF Test Report

APPLICANT : CT Asia (HK) Ltd.

EQUIPMENT : Smartphone

BRAND NAME : BLU
MODEL NAME : DASH X

FCC ID : YHLBLUDASHX

STANDARD : FCC 47 CFR Part 2, 22(H), 24(E), 27(L)

CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Aug. 12, 2015 and testing was completed on Aug. 23, 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 / TIA / EIA-603-C-2004 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: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL (SHENZHEN) INC.

1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 1 of 23 Report Issued Date : Sep. 10, 2015

Report No.: FG581207

Report Version : Rev. 01

TABLE OF CONTENTS

RE	EVISIO	N HISTORY	3
SL	JMMAF	RY OF TEST RESULT	4
1	GENI	ERAL DESCRIPTION	5
	1.1 1.2	ApplicantManufacturer	5
	1.3	Product Feature of Equipment Under Test	
	1.4	Product Specification subjective to this standard	
	1.5	Modification of EUT	
	1.6	Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator	
	1.7	Testing Location	
	1.8	Applicable Standards	8
2	TEST	CONFIGURATION OF EQUIPMENT UNDER TEST	9
	2.1	Test Mode	g
	2.2	Connection Diagram of Test System	10
	2.3	Support Unit used in test configuration	
	2.4	Measurement Results Explanation Example	10
3	CON	DUCTED TEST RESULT	11
	3.1	Measuring Instruments	11
	3.2	Test Setup	
	3.3	Test Result of Conducted Test	
	3.4	Conducted Output Power	
	3.5	Peak-to-Average Ratio	
	3.6	99% Occupied Bandwidth and 26dB Bandwidth Measurement	
	3.7 3.8	Conducted Band Edge Conducted Spurious Emission	
	3.9	Frequency Stability	
4		IATED TEST ITEMS	
	4.1	Measuring Instruments	
	4.2 4.3	Test Setup Test Result of Radiated Test	
	4.3 4.4	Effective Radiated Power and Effective Isotropic Radiated Power Measurement	
	4.5	Field Strength of Spurious Radiation Measurement	
5		OF MEASURING EQUIPMENT	
J	LIGI	OI MEAGONING EQUIFMENT	
6	UNC	ERTAINTY OF EVALUATION	23
ΑF	PEND	IX A. TEST RESULTS OF CONDUCTED TEST	
ΑF	PEND	IX B. TEST RESULTS OF RADIATED TEST	
ΑF	PEND	IX C. TEST SETUP PHOTOGRAPHS	

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 2 of 23
Report Issued Date : Sep. 10, 2015

Report No.: FG581207

Report Version : Rev. 01

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG581207	Rev. 01	Initial issue of report	Sep. 10, 2015

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 3 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.4	§2.1046	RSS-132 (5.4) RSS-133 (6.4) RSS-139 (6.5)	Conducted Output Power	Reporting Only	PASS	-
3.5	§24.232(d)	RSS-132 (5.4) RSS-133 (6.4) RSS-139 (6.5)	Peak-to-Average Ratio	< 13 dB	PASS	-
3.6	§2.1049 §22.917(b) §24.238(b) §27.53(g)	\$2.1049 RSS-GEN(6.6) 22.917(b) RSS-132(3.1) 24.238(b) RSS-133(3.1) Occupied Bandwidth		Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	RSS-132 (5.5) RSS-133 (6.5) RSS-139 (6.6)	Band Edge Measurement	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	\$2.1051 \$22.917(a) \$24.238(a) RSS-132 (5.5) RSS-133 (6.5) Conducted Emiss RSS-139 (6.6)		< 43+10log10(P[Watts])	PASS	-
	§2.1055 §22.355	RSS-GEN(6.11) RSS-132 (5.3)	Frequency Stability for	< 2.5 ppm for Part 22		
3.9	§2.1055 §24.235 §27.54	RSS-GEN(6.11) RSS-133 (6.3) RSS-139 (6.4)	Temperature & Voltage	Within Authorized Band	PASS	-
	§22.913(a)(2)	RSS-132(5.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
4.4	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
	§27.50(d)(4)	RSS-139 (6.5) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
4.5	§2.1053 §22.917(a) §24.238(a) §27.53(h)	RSS-132 (5.5) RSS-133 (6.5) RSS-139 (6.6)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 18.30 dB at 1697.600 MHz

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 4 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

1 General Description

1.1 Applicant

CT Asia (HK) Ltd.

Unit1309-11, 13th Floor 9 Wing Hong Street Cheung Sha Wan Kowloon, Hong Kong

1.2 Manufacturer

CT Asia (HK) Ltd.

Unit1309-11, 13th Floor 9 Wing Hong Street Cheung Sha Wan Kowloon, Hong Kong

1.3 Product Feature of Equipment Under Test

Product Feature					
Equipment	Smartphone				
Brand Name	BLU				
Model Name	DASH X				
FCC ID	YHLBLUDASHX				
	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink Only)				
ELIT cumperts Badies application	WLAN2.4GHz 802.11b/g/n HT20/HT40				
EUT supports Radios application	Bluetooth v3.0+EDR				
	Bluetooth v4.0 LE				
IMEL Code	Conducted: 353919026819353/353924026819353				
IMEI Code	Radiation: 353919026819122/353924026819122				
HW Version	V1.0				
SW Version	BLU_S5250_V01_GENERIC				
EUT Stage	Pre-Production				

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: YHLBLUDASHX Page Number : 5 of 23
Report Issued Date : Sep. 10, 2015

Report No.: FG581207

Report Version : Rev. 01

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard				
	GSM/GPF	RS/EDGE:		
	850:	824.2 MHz ~ 848.8 MHz		
	1900:	1850.2 MHz ~ 1909.8MHz		
Tx Frequency	WCDMA:			
	Band V:	826.4 MHz ~ 846.6 MHz		
	Band II:	1852.4 MHz ~ 1907.6 MHz		
	Band IV:	1712.4 MHz ~ 1752.6 MHz		
	GSM/GPF	RS/EDGE:		
	850:	869.2 MHz ~ 893.8 MHz		
	1900:	1930.2 MHz ~ 1989.8 MHz		
Rx Frequency	WCDMA:			
	Band V:	871.4 MHz ~ 891.6 MHz		
	Band II:	1932.4 MHz ~ 1987.6 MHz		
	Band IV:	2112.4 MHz ~ 2152.6 MHz		
	GSM/GPRS/EDGE:			
	850:	32.12 dBm		
	1900:	29.79 dBm		
Maximum Output Power to Antenna	WCDMA:			
	Band V:	22.99 dBm		
	Band II:	22.03 dBm		
	Band IV:	21.82 dBm		
Antenna Type	PIFA Anter	nna		
	GSM: GMS			
	GPRS: GM			
L	EDGE: GMSK / 8PSK			
Type of Modulation	WCDMA: QPSK (Uplink)			
	HSDPA: QPSK (Uplink)			
	HSUPA: QPSK (Uplink) HSPA+: 16QAM (Downlink Only)			

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 6 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)	Frequency Tolerance (ppm)	Emission Designator
Part 22	GSM850 GSM	GMSK	0.3428	0.0586 ppm	246KGXW
Part 22	GSM850 EDGE class 8	8PSK	0.0933	0.0681 ppm	245KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.0287	0.0693 ppm	4M16F9W
Part 24	GSM1900 GSM	GMSK	0.9226	0.0362 ppm	249KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.3837	0.0335 ppm	250KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.1567	0.0399 ppm	4M18F9W
Part 27	WCDMA Band IV RMC 12.2Kbps	QPSK	0.1038	0.0548 ppm	4M17F9W

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 7 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

1.7 Testing 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.	TH01-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					
Took Site No	Sporton Site No. FCC/IC Registration					
Test Site No.	03CH01-SZ	831040/4086F				

Note: The test site complies with ANSI C63.4 2009 requirement.

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- IC RSS-132 Issue 3
- IC RSS-133 Issue 6
- IC RSS-139 Issue 3
- IC RSS-Gen Issue 4

Remark:

- All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 8 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Test Configuration of Equipment Under Test 2

Test Mode 2.1

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated from 30 MHz to 10th harmonic.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

Test Modes							
Band	Radiated TCs	Conducted TCs					
GSM 850	■ GSM Link	■ GSM Link					
GSW 650	■ EDGE class 8 Link	■ EDGE class 8 Link					
GSM 1900	■ GSM Link	■ GSM Link					
GSW 1900	■ EDGE class 8 Link	■ EDGE class 8 Link					
WCDMA Band V	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link					
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link					
WCDMA Band IV	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link					

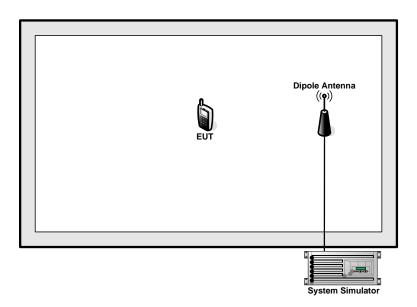
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX

: 9 of 23 Page Number Report Issued Date: Sep. 10, 2015

Report No. : FG581207

Report Version : Rev. 01

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

Item Equipment		Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	TOPWORD	3303DR	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.5 dB and a 10dB attenuator.

Example:

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
=
$$4.5 + 10 = 14.5$$
 (dB)

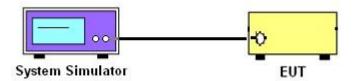
3 Conducted Test Result

3.1 Measuring Instruments

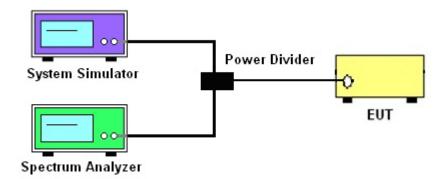
See list of measuring instruments of this test report.

3.2 Test Setup

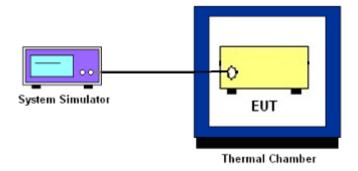
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 11 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

3.4 Conducted Output Power

3.4.1 Description of the Conducted Output Power

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

3.4.2 Test Procedures

- 1. The transmitter output port was connected to the system simulator.
- 2. Set EUT at maximum power through system simulator.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 12 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

- 1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.7.1.
- 2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
- 3. Set EUT to transmit at maximum output power.
- 4. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.
- 5. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer. Record the maximum PAPR level associated with a probability of 0.1%.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 13 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement

Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement 3.6.1

The 99% occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The emission bandwidth is defined as the width of the signal between two points, located at the two sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

3.6.2 Test Procedures

- 1. The testing follows FCC KDB 971168 D01 v02r02 Section 4.2.
- 2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
- 3. The RF output of the EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 4. The 99% occupied bandwidth were measured, set RBW= 1% of span, VBW= 3*RBW, peak detector, trace maximum hold.
- 5. The 26dB bandwidth were measured, set RBW= 1% of EBW, VBW= 3*RBW, peak detector, trace maximum hold.

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 14 of 23 Report Issued Date: Sep. 10, 2015

Report No.: FG581207

Report Version : Rev. 01

Conducted Band Edge 3.7

3.7.1 **Description of Conducted Band Edge Measurement**

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

3.7.2 Test Procedures

- 1. The testing follows FCC KDB 971168 D01 v02r02 Section 6.0.
- 2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
- 3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 4. The band edges of low and high channels for the highest RF powers were measured.
- 5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 6. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
 - = P(W) [43 + 10log(P)] (dB)
 - = [30 + 10log(P)] (dBm) [43 + 10log(P)] (dB)
 - = -13dBm.

SPORTON INTERNATIONAL (SHENZHEN) INC.

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

: 15 of 23 Page Number Report Issued Date: Sep. 10, 2015

Report No.: FG581207

Report Version : Rev. 01

3.8 **Conducted Spurious Emission**

3.8.1 **Description of Conducted Spurious Emission Measurement**

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 **Test Procedures**

- 1. The testing follows FCC KDB 971168 D01 v02r02 Section 6.0.
- 2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
- 3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 4. The middle channel for the highest RF power within the transmitting frequency was measured.
- 5. The conducted spurious emission for the whole frequency range was taken.
- 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
 - = P(W) [43 + 10log(P)] (dB)
- = [30 + 10log(P)] (dBm) [43 + 10log(P)] (dB)
- = -13dBm.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 16 of 23 Report Issued Date: Sep. 10, 2015 : Rev. 01

Report No.: FG581207

Report Version

3.9 Frequency Stability

3.9.1 **Description of Frequency Stability Measurement**

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

- 1. The testing follows FCC KDB 971168 D01 v02r02 Section 9.0.
- 2. The EUT was set up in the thermal chamber and connected with the system simulator.
- 3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
- 4. With power OFF, the temperature was raised in 10°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

- 1. The testing follows FCC KDB 971168 D01 v02r02 Section 9.0.
- 2. The EUT was placed in a temperature chamber at 25±5° C and connected with the system
- 3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
- 4. The variation in frequency was measured for the worst case.

FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX

TEL: 86-755-8637-9589

Page Number : 17 of 23 Report Issued Date: Sep. 10, 2015

Report No. : FG581207

Report Version : Rev. 01

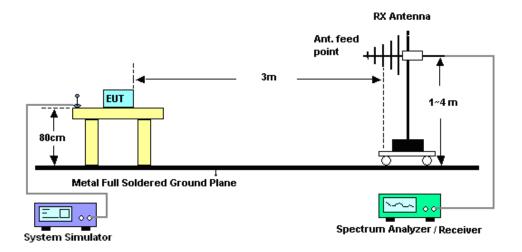
4 Radiated Test Items

4.1 Measuring Instruments

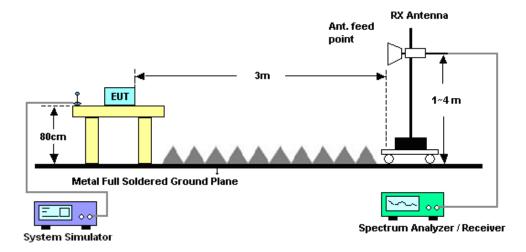
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 18 of 23
Report Issued Date : Sep. 10, 2015

Report No.: FG581207

Report Version : Rev. 01

4.4 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

4.4.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. The ERP of mobile transmitters must not exceed 7 Watts (Cellular Band) and the EIRP of mobile transmitters are limited to 2 Watts (PCS Band) and 1 Watts (AWS Band).

4.4.2 Test Procedures

- 1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-C-2004 Section 2.2.17.
- 2. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector per section 5. of KDB 971168 D01.
- 3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
- 4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, EIRP = LVL + Correction factor and ERP = EIRP - 2.15. Take the record of the output power at substitution antenna.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 19 of 23 Report Issued Date: Sep. 10, 2015

Report No. : FG581207

: Rev. 01 Report Version

	GSM/GPRS/EDGE	WCDMA/HSPA
SPAN	500kHz	10MHz
RBW	10kHz	100kHz
VBW	30kHz	300kHz
Detector	RMS	RMS
Trace	Average	Average
Average Type	Power	Power
Sweep Count	100	100

Page Number : 20 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

4.5 Field Strength of Spurious Radiation Measurement

4.5.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

Report No.: FG581207

4.5.2 Test Procedures

- The testing follows FCC KDB 971168 D01 v02r02 Section 5.8 and ANSI / TIA-603-C-2004 Section 2.2.12.
- 2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.
- The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- 4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- 5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
- 6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
- 7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- 8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- 9. Taking the record of output power at antenna port.
- 10. Repeat step 7 to step 8 for another polarization.
- 11. EIRP (dBm) = S.G. Power Tx Cable Loss + Tx Antenna Gain
- 12. ERP (dBm) = EIRP 2.15
- 13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Page Number

Report Version

: 21 of 23

: Rev. 01

Report Issued Date: Sep. 10, 2015

- 14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
 - = P(W) [43 + 10log(P)] (dB)
 - = [30 + 10log(P)] (dBm) [43 + 10log(P)] (dB)
 - = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9kHz~30GHz	Jan. 28, 2015	Aug. 14, 2015~ Aug. 15, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Aug. 07, 2015	Aug. 14, 2015~ Aug. 15, 2015	Aug. 06, 2016	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	May 26, 2015	Aug. 22, 2015~ Aug. 23, 2015	May 25, 2016	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz;Ma x 30dBm	Sep. 25, 2014	Aug. 22, 2015~ Aug. 23, 2015	Sep. 24, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	23188	30MHz~2GHz	Nov. 07, 2014	Aug. 22, 2015~ Aug. 23, 2015	Nov. 06, 2015	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Oct. 15, 2014	Aug. 22, 2015~ Aug. 23, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Sep. 04, 2014	Aug. 22, 2015~ Aug. 23, 2015	Sep. 03, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz / 30 dB	Jan. 28, 2015	Aug. 22, 2015~ Aug. 23, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 05, 2015	Aug. 22, 2015~ Aug. 23, 2015	May 04, 2016	Radiation (03CH01-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Jan. 28, 2015	Aug. 22, 2015~ Aug. 23, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	61601000198 5	N/A	NCR	Aug. 22, 2015~ Aug. 23, 2015	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 22, 2015~ Aug. 23, 2015	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 22, 2015~ Aug. 23, 2015	NCR	Radiation (03CH01-SZ)

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 22 of 23
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Uncertainty of Evaluation 6

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

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

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TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : 23 of 23 Report Issued Date: Sep. 10, 2015

Report No.: FG581207

Report Version : Rev. 01

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

Conducted Power (*Unit: dBm)						
Band		GSM850		GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GSM	32.03	32.09	<mark>32.12</mark>	29.79	29.54	29.45
GPRS class 8	32.02	32.07	32.10	29.78	29.53	29.43
GPRS class 10	30.02	30.08	30.09	27.62	27.32	27.08
GPRS class 11	28.49	28.53	28.56	26.10	25.89	25.72
GPRS class 12	27.51	27.57	27.60	25.16	24.98	24.84
EGPRS class 8	26.68	26.73	26.79	25.88	25.66	25.37
EGPRS class 10	24.51	24.56	24.60	23.83	23.60	23.30
EGPRS class 11	22.19	22.25	22.26	21.80	21.40	21.02
EGPRS class 12	20.86	20.89	20.95	20.30	20.02	19.79

Conducted Power (*Unit: dBm)									
Band	WC	DMA Bar	nd V	WC	WCDMA Band II		WCI	WCDMA Band IV	
Channel	4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
AMR 12.2K	22.98	22.87	22.92	22.00	21.72	21.43	21.80	21.76	21.73
RMC 12.2K	<mark>22.99</mark>	22.88	22.94	22.03	21.74	21.44	<mark>21.82</mark>	21.80	21.75
HSDPA Subtest-1	21.89	21.85	21.87	20.68	20.33	20.18	20.58	20.53	20.53
HSDPA Subtest-2	21.89	21.84	21.85	20.64	20.29	20.17	20.50	20.54	20.49
HSDPA Subtest-3	21.41	21.37	21.39	20.13	19.85	19.68	20.06	20.03	20.05
HSDPA Subtest-4	21.38	21.41	21.37	20.14	19.85	19.69	20.05	20.06	20.05
HSUPA Subtest-1	19.84	19.78	19.81	18.72	18.38	18.26	18.53	18.49	18.49
HSUPA Subtest-2	19.85	19.80	19.84	18.71	18.36	18.24	18.54	18.46	18.48
HSUPA Subtest-3	20.86	20.84	20.85	19.63	19.33	19.23	19.56	19.52	19.46
HSUPA Subtest-4	19.36	19.25	19.32	18.16	17.78	17.72	17.99	17.99	17.88
HSUPA Subtest-5	21.90	21.87	21.88	20.68	20.37	20.23	20.57	20.54	20.57

SPORTON INTERNATIONAL (SHENZHEN) INC.

FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX

TEL: 86-755-8637-9589

Page Number : A1 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Peak-to-Average Ratio

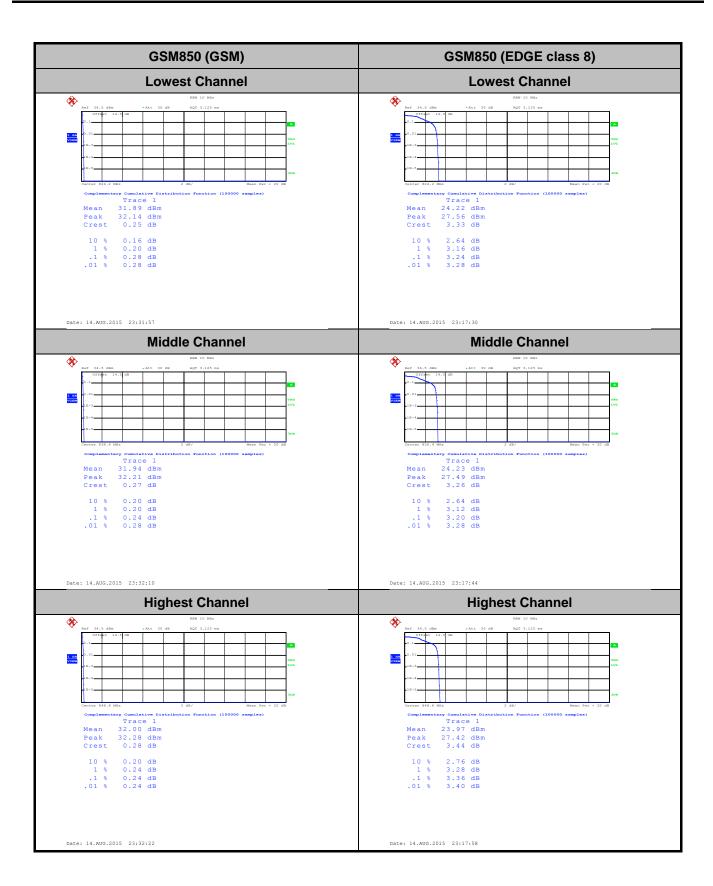
Mode	GSN	Limit: 13dB	
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.28	3.24	
Middle CH	0.24	3.20	PASS
Highest CH	0.24	3.36	

Mode	GSM	Limit: 13dB	
Mod.	GSM	Result	
Lowest CH	0.24	3.20	
Middle CH	0.24	3.16	PASS
Highest CH	0.24	3.20	1

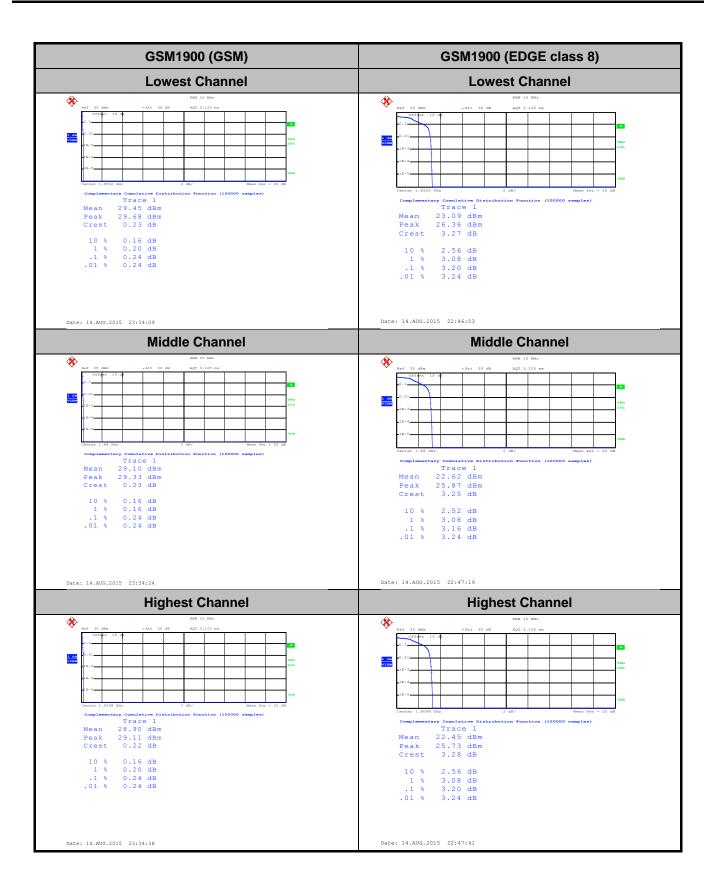
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	3.12	2.76	3.04	
Middle CH	2.76	2.72	2.40	PASS
Highest CH	2.96	2.28	3.04	

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A2 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

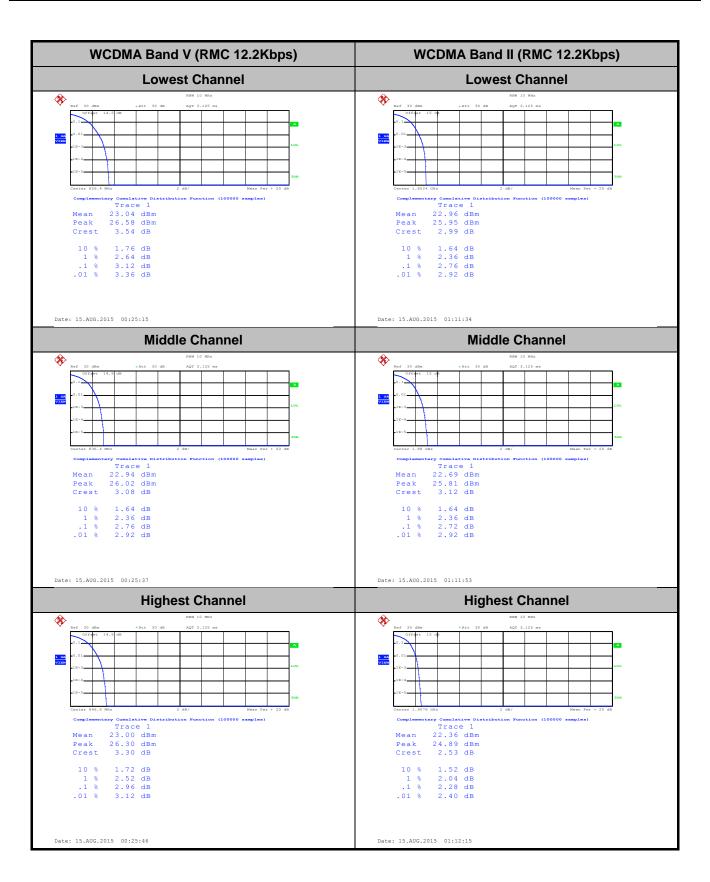


Page Number : A3 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



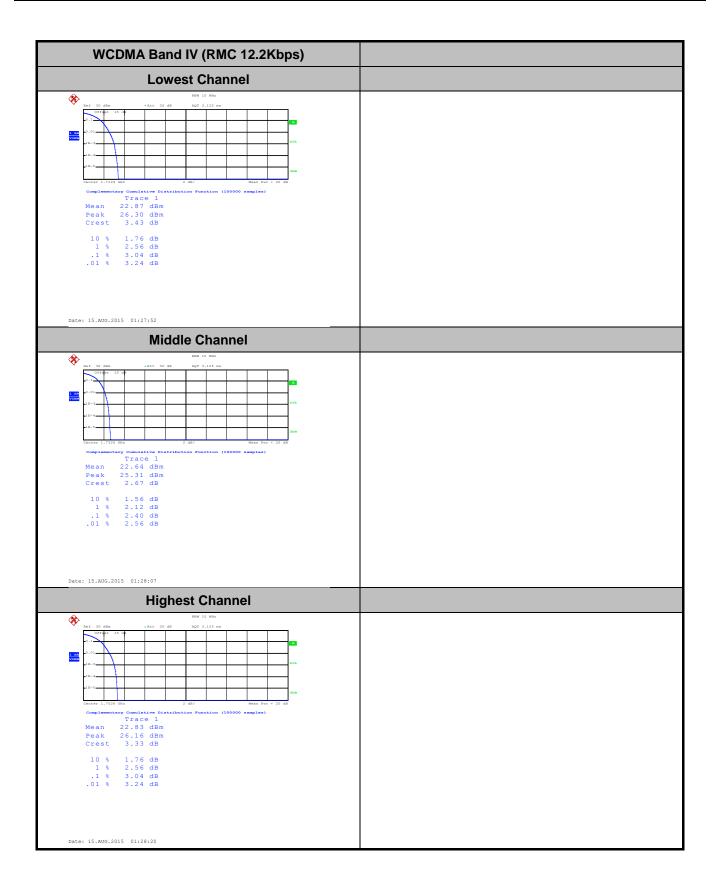
Page Number : A4 of A32 Report Issued Date : Sep. 10, 2015 Report Version : Rev. 01





Page Number : A5 of A32 Report Issued Date: Sep. 10, 2015 Report Version : Rev. 01





Page Number : A6 of A32 Report Issued Date : Sep. 10, 2015 Report Version : Rev. 01

26dB Bandwidth

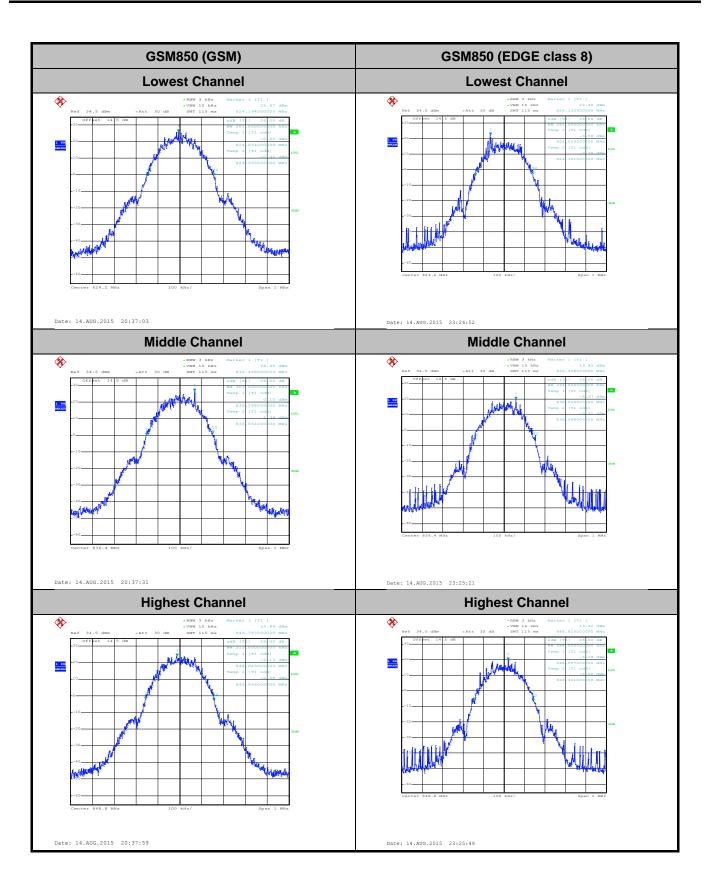
Mode	GSM850			
Mod.	GSM EDGE class 8			
Lowest CH	0.301	0.282		
Middle CH	0.303	0.294		
Highest CH	0.313	0.284		

Mode	GSM1900			
Mod.	GSM EDGE class 8			
Lowest CH	0.307	0.317		
Middle CH	0.309	0.299		
Highest CH	0.312	0.292		

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.69	4.69	4.69
Middle CH	4.69	4.70	4.71
Highest CH	4.67	4.73	4.69

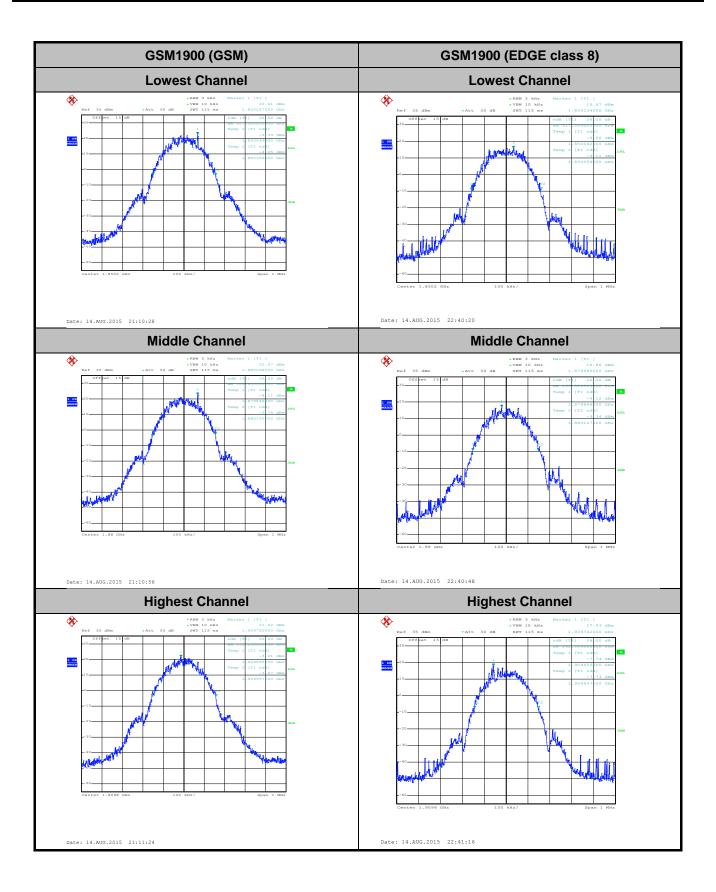
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TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A7 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



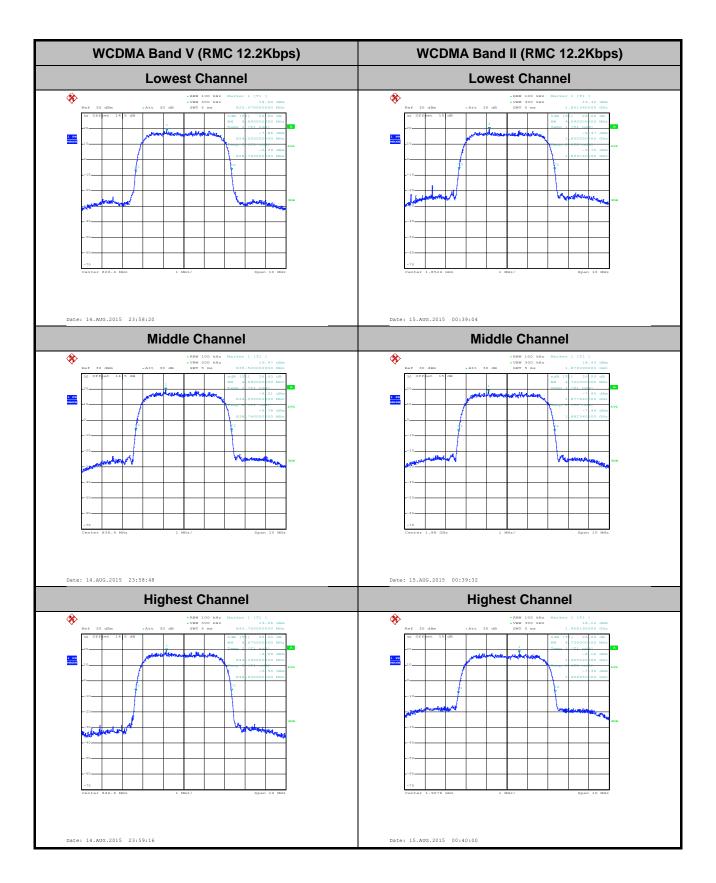
Page Number : A8 of A32 Report Issued Date : Sep. 10, 2015 Report Version : Rev. 01



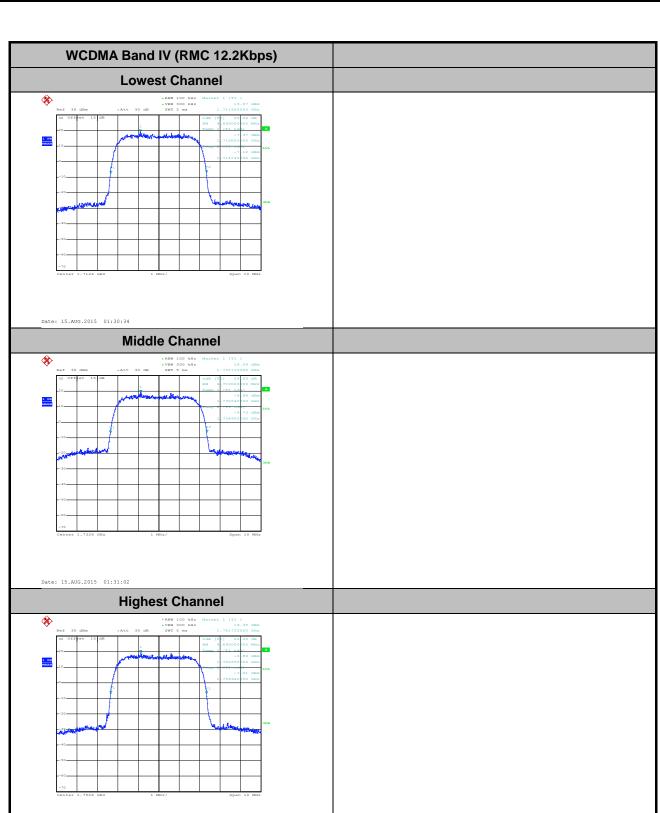


Page Number : A9 of A32 Report Issued Date : Sep. 10, 2015 : Rev. 01 Report Version





Page Number : A10 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



Date: 15.AUG.2015 01:31:30

Page Number : A11 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Occupied Bandwidth

Mode	GSM850			
Mod.	GSM EDGE class 8			
Lowest CH	0.245	0.245		
Middle CH	0.246	0.239		
Highest CH	0.245	0.241		

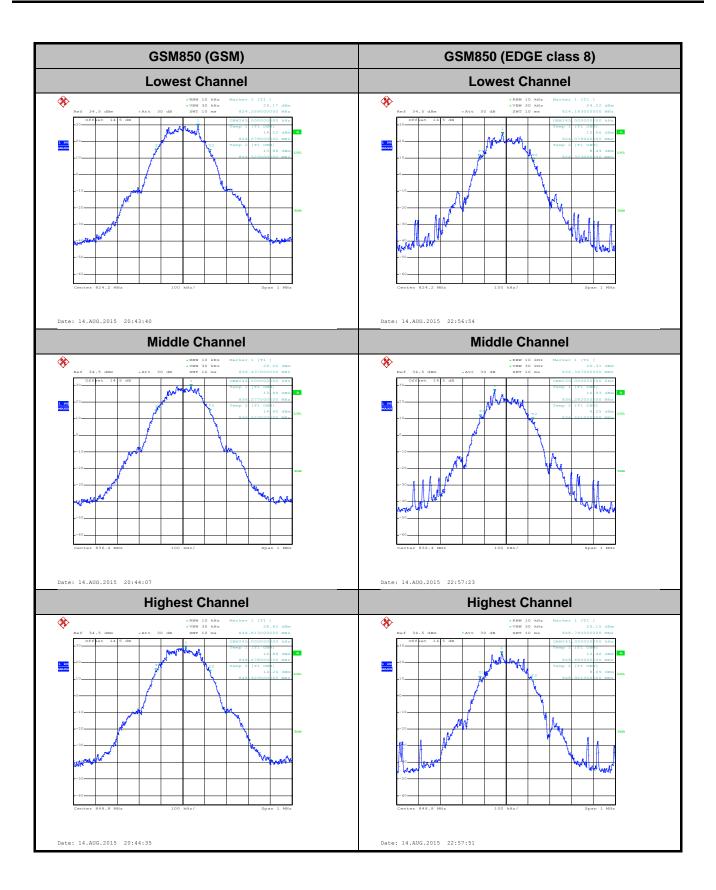
Mode	GSM1900			
Mod.	GSM EDGE class 8			
Lowest CH	0.249	0.250		
Middle CH	0.245	0.243		
Highest CH	0.245	0.243		

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.16	4.17	4.16
Middle CH	4.15	4.16	4.17
Highest CH	4.16	4.18	4.17

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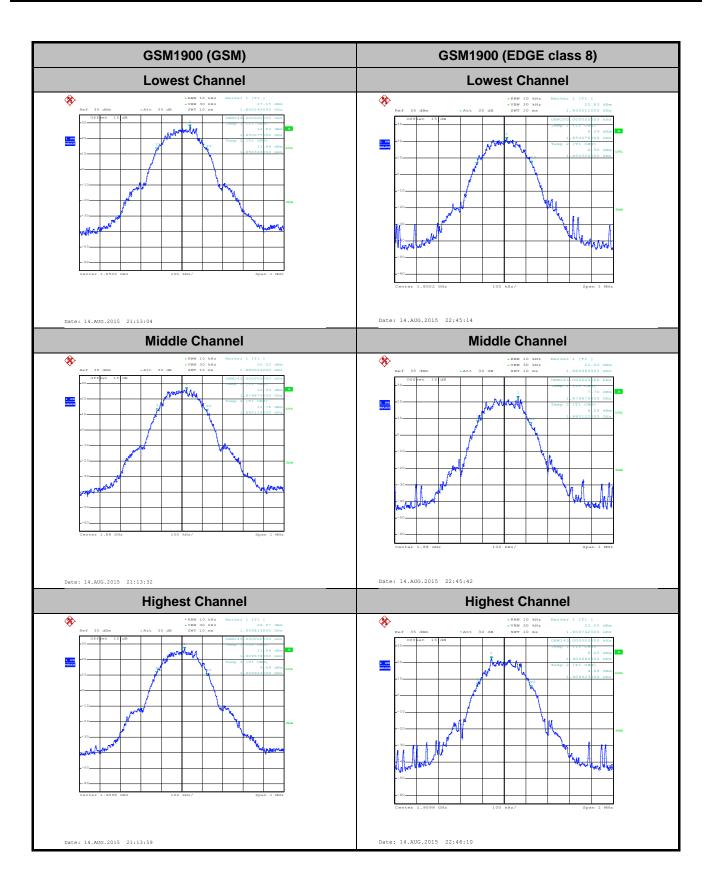
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A12 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



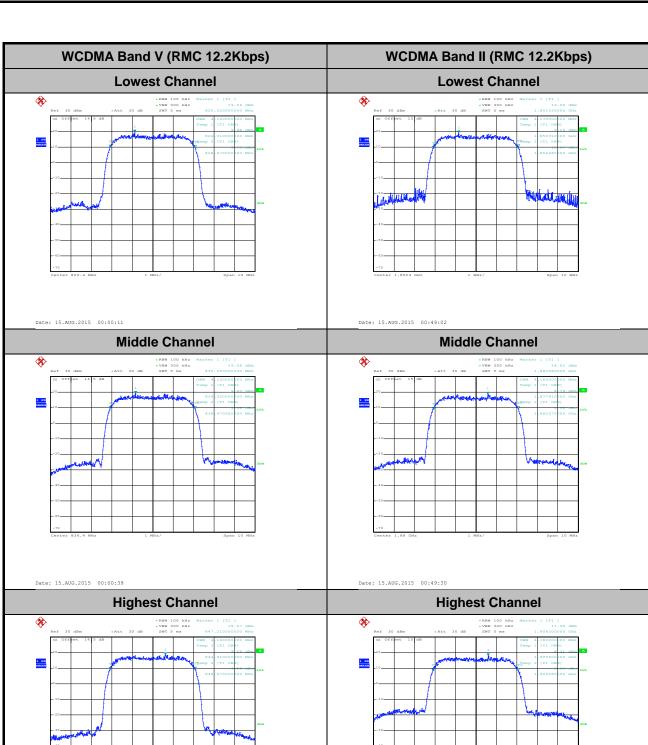


Page Number : A13 of A32 Report Issued Date : Sep. 10, 2015 Report Version : Rev. 01

FCC RF Test Report



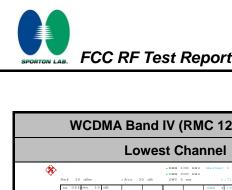
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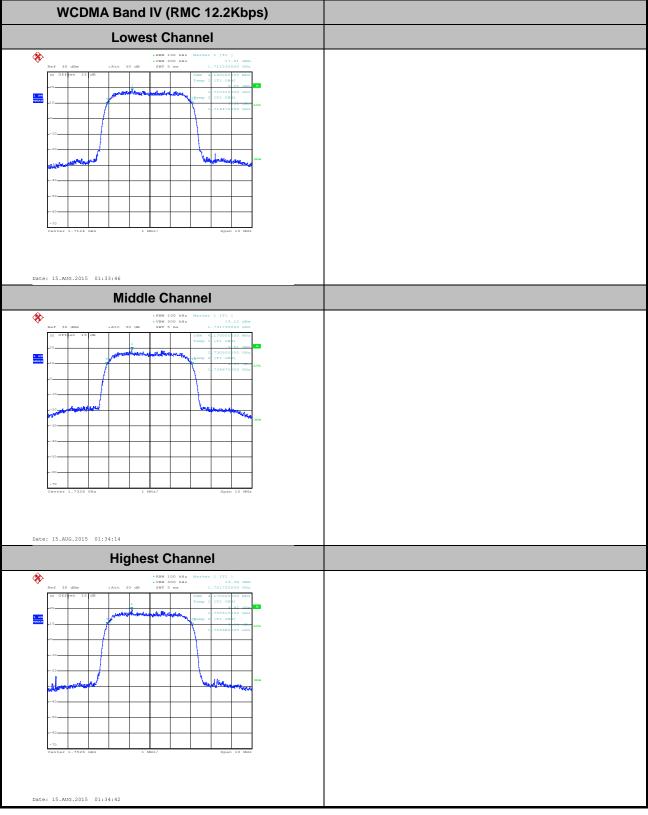


Date: 15.AUG.2015 00:01:07

Page Number : A15 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Date: 15.AUG.2015 00:49:58



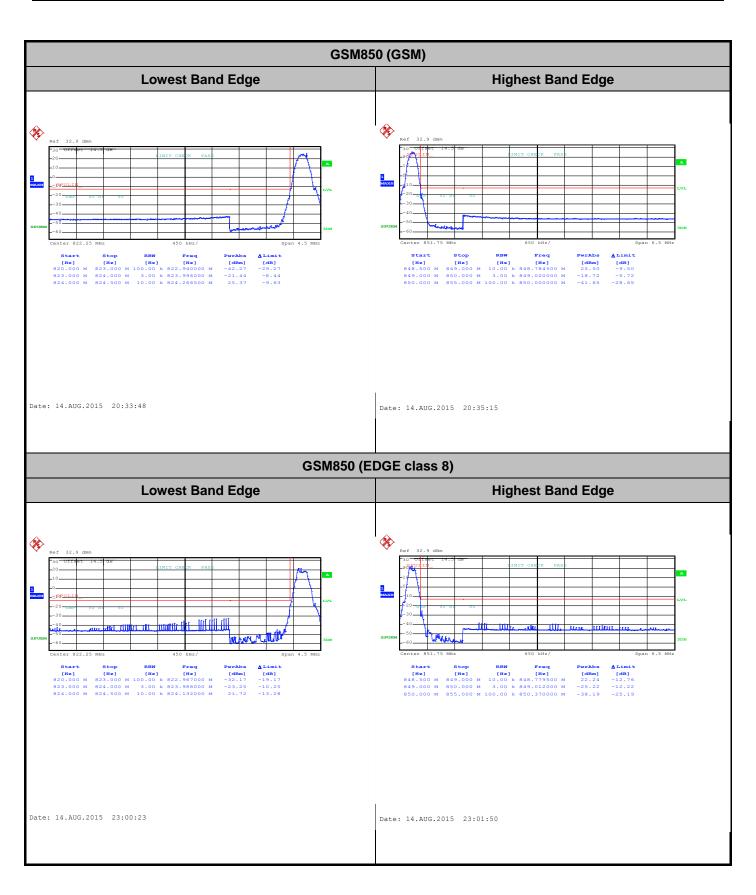


Page Number : A16 of A32 Report Issued Date: Sep. 10, 2015 Report Version : Rev. 01

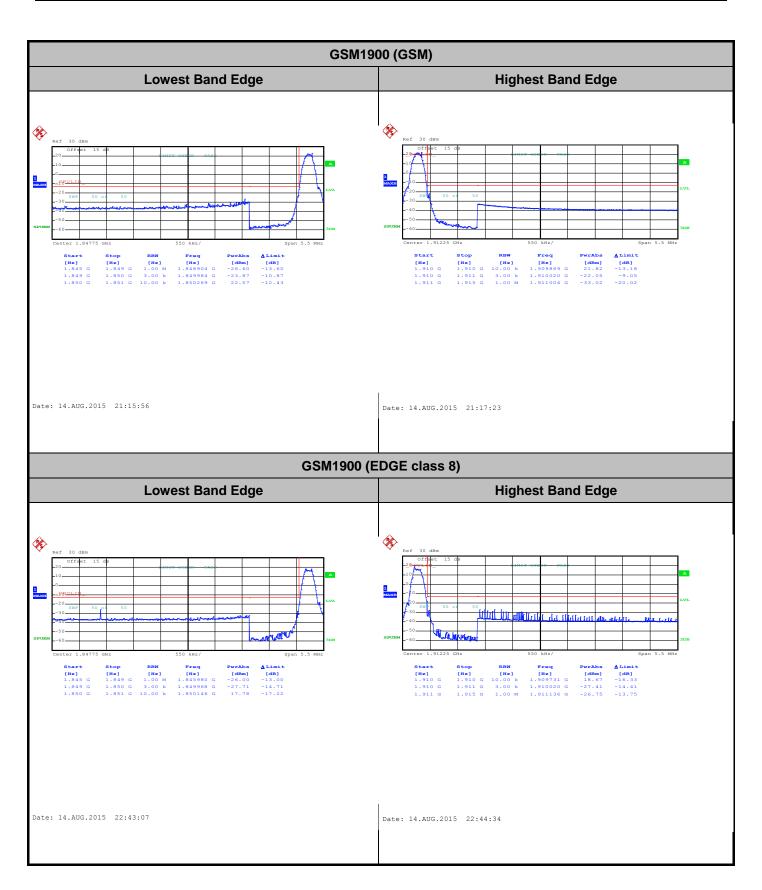
Conducted Band Edge

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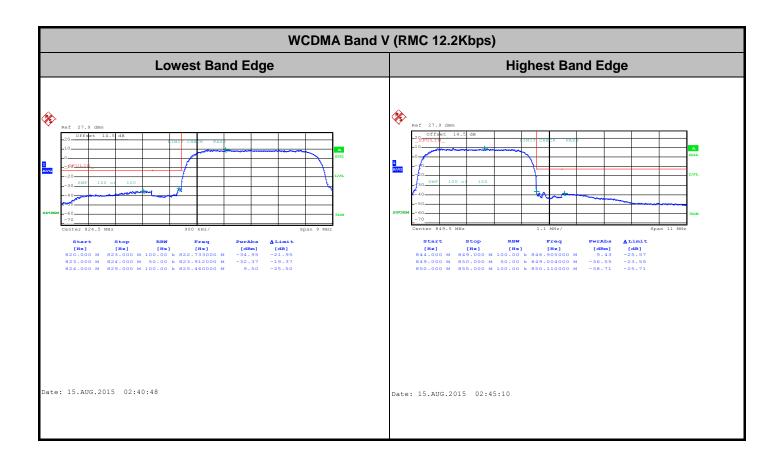
TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A17 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



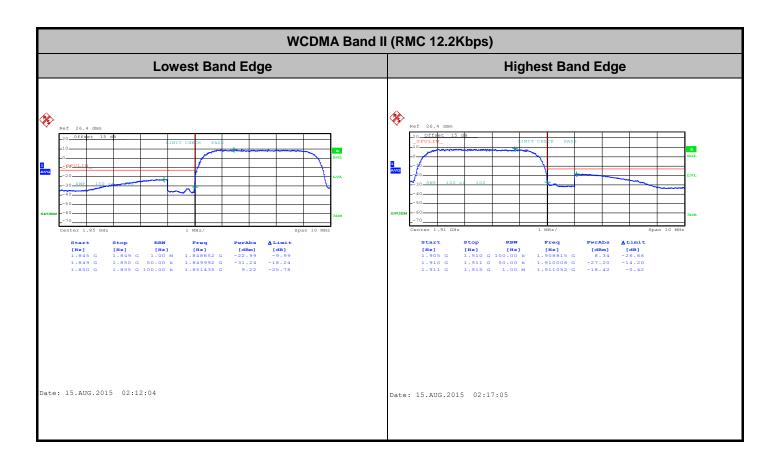
Page Number : A18 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



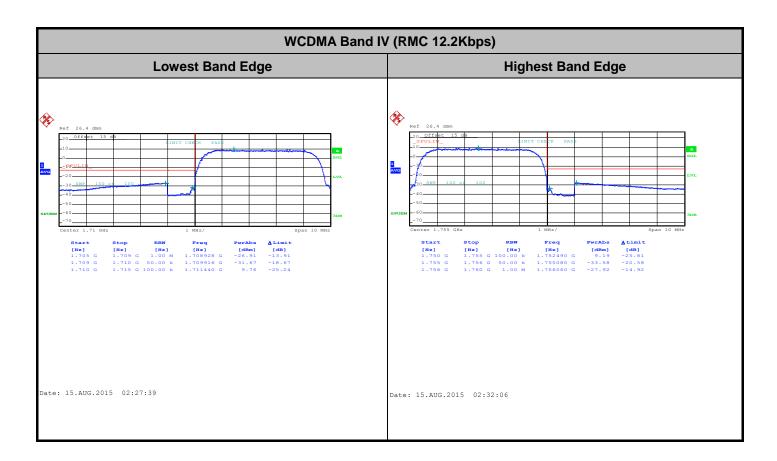
Page Number : A19 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



Page Number : A20 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



Page Number : A21 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01



Page Number : A22 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Conducted Spurious Emission

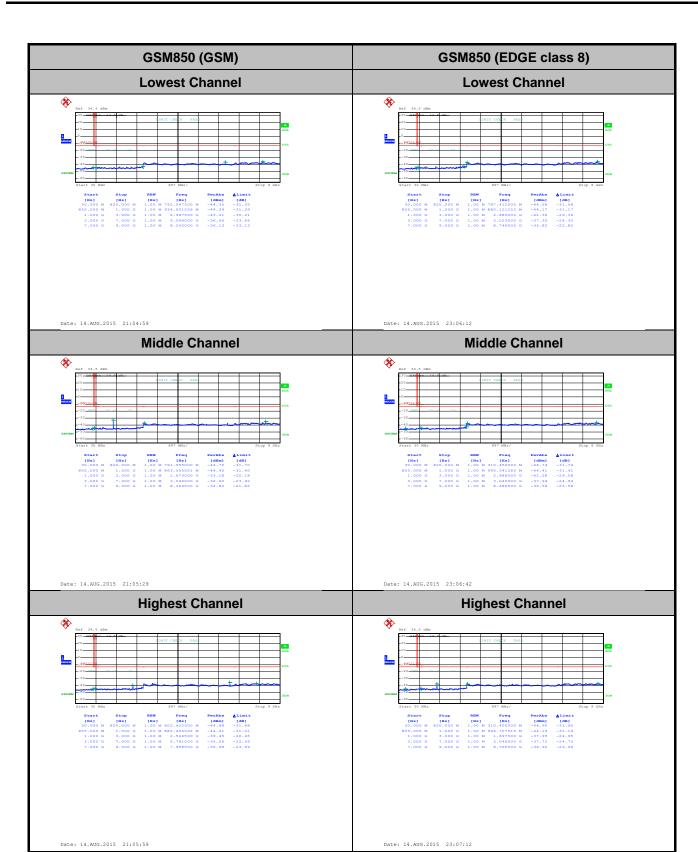
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TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX

: A23 of A32 Page Number Report Issued Date: Sep. 10, 2015

Report No. : FG581207

Report Version : Rev. 01



Page Number : A24 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

GSM1900 (GSM) GSM1900 (EDGE class 8) **Lowest Channel Lowest Channel** * Date: 14.AUG.2015 21:24:44 Date: 14.AUG.2015 21:31:22 **Middle Channel Middle Channel Highest Channel Highest Channel** * *

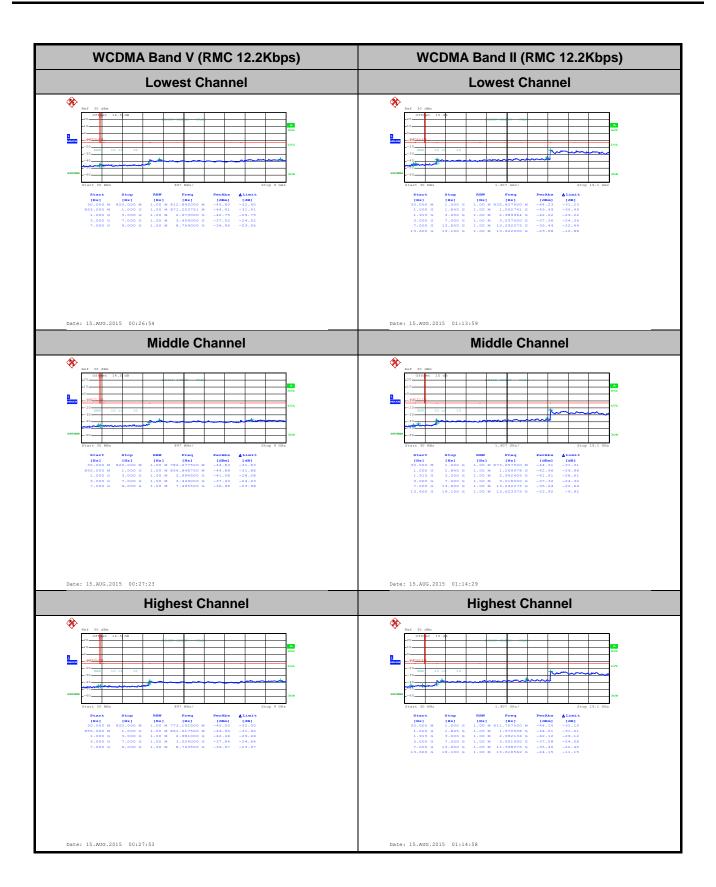
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Date: 14.AUG.2015 21:25:44

Page Number : A25 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Date: 14.AUG.2015 21:32:22





Page Number : A26 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

WCDMA Band IV (RMC 12.2Kbps) **Lowest Channel** * Date: 15.AUG.2015 01:18:52 **Middle Channel Highest Channel** *

SPORTON INTERNATIONAL (SHENZHEN) INC.

Date: 15.AUG.2015 01:19:51

Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation	on (ppm)	Result
50	Normal Voltage	0.0143	0.0167	
40	Normal Voltage	0.0096	0.0108	
30	Normal Voltage	0.0036	0.0060	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0454	0.0550	
0	Normal Voltage	0.0466	0.0586	
-10	Normal Voltage	0.0502	0.0598	PASS
-20	Normal Voltage	0.0550	0.0646	
-30	Normal Voltage	0.0586	0.0681	
20	Maximum Voltage	0.0012	0.0012	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0024	0.0012	

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A28 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviatio	n (ppm)	Result
50	Normal Voltage	0.0053	0.0053	
40	Normal Voltage	0.0032	0.0027	
30	Normal Voltage	0.0011	0.0011	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0309	0.0271	
0	Normal Voltage	0.0319	0.0282	
-10	Normal Voltage	0.0340	0.0303	PASS
-20	Normal Voltage	0.0351	0.0319	
-30	Normal Voltage	0.0362	0.0335	
20	Maximum Voltage	0.0005	0.0011	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0011	0.0005	

Note:

- 1. Normal Voltage = 3.7 V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage =4.2 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

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TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A29 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Test Conditions	Middle Channel	WCDMA Band V (RMC 12.2Kbps)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0693	
40	Normal Voltage	0.0622	
30	Normal Voltage	0.0693	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0024	
0	Normal Voltage	0.0072	
-10	Normal Voltage	0.0084	PASS
-20	Normal Voltage	0.0634	
-30	Normal Voltage	0.0155	
20	Maximum Voltage	0.0012	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0024	

Page Number : A30 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0399	
40	Normal Voltage	0.0383	
30	Normal Voltage	0.0362	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0021	
-10	Normal Voltage	0.0037	PASS
-20	Normal Voltage	0.0048	
-30	Normal Voltage	0.0064	
20	Maximum Voltage	0.0335	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

Note:

- 1. Normal Voltage = 3.7 V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage =4.2 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A31 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0548	
40	Normal Voltage	0.0525	
30	Normal Voltage	0.0496	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0029	
-10	Normal Voltage	0.0035	PASS
-20	Normal Voltage	0.0052	
-30	Normal Voltage	0.0069	
20	Maximum Voltage	0.0012	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

- 1. Normal Voltage = 3.7 V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage =4.2 V
- **2.** The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : A32 of A32
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Appendix B. Test Results of Radiated Test

ERP/EIRP

Channel	Mode	Horiz	ontal	Vertical		
Channel	wode	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)	
Lowest	CCMOSO	25.35	0.3428	21.31	0.1352	
Middle	GSM850 GSM	25.05	0.3199	21.17	0.1309	
Highest	GSIVI	24.61	0.2891	21.21	0.1321	
Lowest	0014050	17.86	0.0611	13.88	0.0244	
Middle	GSM850 EDGE class 8	19.70	0.0933	14.62	0.0290	
Highest	EDGE Class o	19.42	0.0875	14.36	0.0273	
Lowest	WCDMA Bond V	13.75	0.0237	6.45	0.0044	
Middle	WCDMA Band V RMC 12.2Kbps	14.58	0.0287	7.21	0.0053	
Highest		14.24	0.0265	6.93	0.0049	
Limit	ERP < 7W	Re	sult	PA	SS	

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B1 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Channal	Mede	Horiz	ontal	Vertical		
Channel	Mode	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)	
Lowest	CCM4000	29.22	0.8356	28.45	0.6998	
Middle	GSM1900	27.42	0.5521	28.74	0.7482	
Highest	- GSM	29.65	0.9226	29.17	0.8260	
Lowest	00144000	24.36	0.2729	25.84	0.3837	
Middle	GSM1900 EDGE class 8	23.36	0.2168	25.57	0.3606	
Highest	EDGE class o	24.80	0.3020	25.75	0.3758	
Lowest	WCDMA Bond II	21.22	0.1324	21.77	0.1503	
Middle	WCDMA Band II RMC 12.2Kbps	20.26	0.1062	21.95	0.1567	
Highest		20.32	0.1076	21.11	0.1291	
Limit	EIRP < 2W	Re	sult	PASS		

Channel	Mode	Horiz	ontal	Vertical		
Channel	wode	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)	
Lowest		19.17	0.0826	16.70	0.0468	
Middle	WCDMA Band IV	19.78	0.0951	17.68	0.0586	
Highest	RMC 12.2Kbps	20.16	0.1038	18.41	0.0693	
Limit	EIRP < 1W	Re	sult	PA	SS	

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B2 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

Radiated Spurious Emission

				GSM8	50 (GSM)				
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
	1648.4	-34.71	-13	-21.71	-51.41	-41.39	0.57	9.40	Н
	2472.6	-43.33	-13	-30.33	-65.50	-51.03	0.75	10.60	Н
Lowest	3296.8	-39.89	-13	-26.89	-67.57	-49.47	0.87	12.60	Н
Lowest	1648.4	-38.61	-13	-25.61	-55.90	-45.29	0.57	9.40	V
	2472.6	-38.93	-13	-25.93	-64.77	-46.63	0.75	10.60	V
	3296.8	-41.07	-13	-28.07	-70.99	-50.65	0.87	12.60	V
	1672	-32.55	-13	-19.55	-49.24	-39.23	0.57	9.40	Н
	2510	-43.71	-13	-30.71	-66.04	-51.41	0.75	10.60	Н
Middle	3346	-45.00	-13	-32.00	-70.93	-54.58	0.87	12.60	Н
Middle	1672	-38.40	-13	-25.40	-55.69	-45.08	0.57	9.40	V
	2510	-41.01	-13	-28.01	-66.63	-48.71	0.75	10.60	V
	3346	-40.95	-13	-27.95	-70.94	-50.53	0.87	12.60	V
	1697.6	-31.30	-13	-18.30	-48.04	-37.98	0.57	9.40	Н
	2546.4	-45.56	-13	-32.56	-67.54	-53.26	0.75	10.60	Н
Lliaboot	3395.2	-46.91	-13	-33.91	-71.81	-56.49	0.87	12.60	Н
Highest	1697.6	-38.47	-13	-25.47	-55.76	-45.15	0.57	9.40	V
	2546.4	-43.26	-13	-30.26	-68.34	-50.96	0.75	10.60	V
	3395.2	-43.34	-13	-30.34	-72.22	-52.92	0.87	12.60	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

SPORTON INTERNATIONAL (SHENZHEN) INC.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B3 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

				GSM850 (E	DGE class 8	3)			
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
	1648.4	-33.76	-13	-20.76	-50.50	-40.44	0.57	9.40	Н
	2472.6	-45.96	-13	-32.96	-67.92	-53.66	0.75	10.60	Н
Lowest	3296.8	-47.33	-13	-34.33	-72.03	-56.91	0.87	12.60	Н
Lowest	1648.4	-40.72	-13	-27.72	-57.93	-47.40	0.57	9.40	V
	2472.6	-47.18	-13	-34.18	-70.57	-54.88	0.75	10.60	V
	3296.8	-42.85	-13	-29.85	-71.80	-52.43	0.87	12.60	V
	1672	-34.93	-13	-21.93	-51.61	-41.61	0.57	9.40	Н
	2510	-47.88	-13	-34.88	-69.30	-55.58	0.75	10.60	Н
Middle	3346	-45.51	-13	-32.51	-71.11	-55.09	0.87	12.60	Н
ivildale	1672	-40.02	-13	-27.02	-57.25	-46.70	0.57	9.40	V
	2510	-46.41	-13	-33.41	-69.91	-54.11	0.75	10.60	V
	3346	-43.64	-13	-30.64	-72.47	-53.22	0.87	12.60	V
	1697.6	-41.79	-13	-28.79	-58.04	-48.47	0.57	9.40	Н
	2546.4	-47.61	-13	-34.61	-69.07	-55.31	0.75	10.60	Н
l liada a a t	3395.2	-47.33	-13	-34.33	-72.03	-56.91	0.87	12.60	Н
Highest	1697.6	-44.96	-13	-31.96	-61.52	-51.64	0.57	9.40	V
	2546.4	-47.79	-13	-34.79	-71.01	-55.49	0.75	10.60	V
	3395.2	-43.26	-13	-30.26	-72.15	-52.84	0.87	12.60	V

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B4 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

				GSM19	00 (GSM)				
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
	3700.4	-44.13	-13	-31.13	-72.77	-55.86	0.87	12.60	Н
	5550.6	-40.11	-13	-27.11	-70.43	-52.14	1.07	13.10	Н
Lowest	7400.8	-43.24	-13	-30.24	-74.90	-52.67	1.87	11.30	Н
Lowest	3700.4	-43.86	-13	-30.86	-72.31	-55.59	0.87	12.60	V
	5550.6	-39.44	-13	-26.44	-70.79	-51.47	1.07	13.10	V
	7400.8	-43.16	-13	-30.16	-75.05	-52.59	1.87	11.30	V
	3760	-43.90	-13	-30.90	-72.54	-55.63	0.87	12.60	Н
	5640	-40.90	-13	-27.90	-71.22	-52.93	1.07	13.10	Н
Middle	7520	-43.92	-13	-30.92	-75.58	-53.35	1.87	11.30	Н
Middle	3760	-43.74	-13	-30.74	-72.19	-55.47	0.87	12.60	V
	5640	-38.55	-13	-25.55	-70.38	-50.58	1.07	13.10	V
	7520	-43.01	-13	-30.01	-74.9	-52.44	1.87	11.30	V
	3819.6	-44.35	-13	-31.35	-72.99	-56.08	0.87	12.60	Н
	5729.4	-42.19	-13	-29.19	-72.51	-54.22	1.07	13.10	Н
l limbact	7639.2	-43.50	-13	-30.50	-75.16	-52.93	1.87	11.30	Н
Highest	3819.6	-44.39	-13	-31.39	-72.84	-56.12	0.87	12.6	V
	5729.4	-39.02	-13	-26.02	-70.53	-51.05	1.07	13.1	V
	7639.2	-43.83	-13	-30.83	-75.72	-53.26	1.87	11.3	V

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B5 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

				GSM1900 (E	EDGE class	8)			
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
	3700.4	-44.35	-13	-31.35	-72.99	-56.08	0.87	12.60	Н
	5550.6	-43.31	-13	-30.31	-73.63	-55.34	1.07	13.10	Н
Lowest	7400.8	-43.66	-13	-30.66	-75.32	-53.09	1.87	11.30	Н
Lowest	3700.4	-44.11	-13	-31.11	-72.56	-55.84	0.87	12.6	V
	5550.6	-42.32	-13	-29.32	-73.45	-54.35	1.07	13.1	V
	7400.8	-43.54	-13	-30.54	-75.43	-52.97	1.87	11.3	V
	3760	-43.59	-13	-30.59	-72.23	-55.32	0.87	12.60	Н
	5640	-43.21	-13	-30.21	-73.53	-55.24	1.07	13.10	Н
Middle	7520	-44.03	-13	-31.03	-75.69	-53.46	1.87	11.30	Н
Middle	3760	-44.83	-13	-31.83	-73.28	-56.56	0.87	12.60	V
	5640	-42.34	-13	-29.34	-73.47	-54.37	1.07	13.10	V
	7520	-43.36	-13	-30.36	-75.25	-52.79	1.87	11.30	V
	3819.6	-44.58	-13	-31.58	-73.22	-56.31	0.87	12.60	Н
	5729.4	-42.99	-13	-29.99	-73.31	-55.02	1.07	13.10	Н
L limbas d	7639.2	-43.80	-13	-30.80	-75.46	-53.23	1.87	11.30	Н
Highest	3819.6	-44.79	-13	-31.79	-73.24	-56.52	0.87	12.6	V
	5729.4	-41.59	-13	-28.59	-72.72	-53.62	1.07	13.1	V
	7639.2	-44.06	-13	-31.06	-75.95	-53.49	1.87	11.3	V

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B6 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

WCDMA Band V(RMC 12.2Kbps)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1652.8	-54.29	-13	-41.29	-68.50	-60.97	0.57	9.40	Н
	2479.2	-49.30	-13	-36.30	-70.22	-57.00	0.75	10.60	Н
	3305.6	-48.41	-13	-35.41	-72.78	-57.99	0.87	12.60	Н
	1652.8	-55.19	-13	-42.19	-69.97	-61.87	0.57	9.40	V
	2479.2	-46.91	-13	-33.91	-70.36	-54.61	0.75	10.60	V
	3305.6	-43.43	-13	-30.43	-72.29	-53.01	0.87	12.60	V
Middle	1672	-54.75	-13	-41.75	-68.96	-61.43	0.57	9.40	Н
	2510	-49.36	-13	-36.36	-70.28	-57.06	0.75	10.60	Н
	3346	-47.80	-13	-34.80	-72.27	-57.38	0.87	12.60	Н
	1672	-35.91	-13	-22.91	-69.67	-42.59	0.57	9.40	V
	2510	-47.19	-13	-34.19	-70.58	-54.89	0.75	10.60	V
	3346	-42.33	-13	-29.33	-71.39	-51.91	0.87	12.60	V
Highest	1693.2	-55.46	-13	-42.46	-69.67	-62.14	0.57	9.40	Н
	2539.8	-49.65	-13	-36.65	-70.57	-57.35	0.75	10.60	Н
	3386.4	-46.96	-13	-33.96	-71.84	-56.54	0.87	12.60	Н
	1693.2	-55.02	-13	-42.02	-69.80	-61.70	0.57	9.40	V
	2539.8	-46.61	-13	-33.61	-70.09	-54.31	0.75	10.60	V
	3386.4	-43.03	-13	-30.03	-71.95	-52.61	0.87	12.60	V

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B7 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

WCDMA Band II(RMC 12.2Kbps)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3704.8	-42.92	-13	-29.92	-71.56	-54.65	0.87	12.60	Н
	5557.2	-43.31	-13	-30.31	-73.63	-55.34	1.07	13.10	Н
	7409.6	-43.25	-13	-30.25	-74.91	-52.68	1.87	11.30	Н
	3704.8	-44.11	-13	-31.11	-72.56	-55.84	0.87	12.60	V
	5557.2	-42.34	-13	-29.34	-73.47	-54.37	1.07	13.10	V
	7409.6	-42.59	-13	-29.59	-74.48	-52.02	1.87	11.30	V
	3760	-44.09	-13	-31.09	-72.73	-55.82	0.87	12.60	Н
	5640	-42.85	-13	-29.85	-73.17	-54.88	1.07	13.10	Н
Middle	7520	-43.70	-13	-30.70	-75.36	-53.13	1.87	11.30	Н
	3760	-43.74	-13	-30.74	-72.19	-55.47	0.87	12.60	V
	5640	-41.63	-13	-28.63	-72.76	-53.66	1.07	13.10	V
	7520	-43.53	-13	-30.53	-75.42	-52.96	1.87	11.30	V
Highest	3815.2	-43.65	-13	-30.65	-72.29	-55.38	0.87	12.60	Н
	5722.8	-42.73	-13	-29.73	-73.05	-54.76	1.07	13.10	Н
	7630.4	-43.24	-13	-30.24	-74.90	-52.67	1.87	11.30	Н
	3815.2	-44.67	-13	-31.67	-73.12	-56.40	0.87	12.60	V
	5722.8	-42.15	-13	-29.15	-73.28	-54.18	1.07	13.10	V
	7630.4	-43.77	-13	-30.77	-75.66	-53.20	1.87	11.30	V

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B8 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01

WCDMA Band IV(RMC 12.2Kbps)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3424.8	-44.23	-13	-31.23	-70.86	-56.02	0.81	12.60	Н
	5137.2	-42.77	-13	-29.77	-72.29	-54.52	0.95	12.70	Н
	6849.6	-44.46	-13	-31.46	-74.86	-55.03	1.13	11.70	Н
	3424.8	-49.16	-13	-36.16	-71.44	-60.95	0.81	12.60	V
	5137.2	-48.48	-13	-35.48	-73.01	-60.23	0.95	12.70	V
	6849.6	-41.77	-13	-28.77	-73.58	-52.34	1.13	11.70	V
Middle	3465.2	-44.12	-13	-31.12	-70.75	-55.91	0.81	12.60	Н
	5197.8	-43.31	-13	-30.31	-72.83	-55.06	0.95	12.70	Н
	6930.4	-44.05	-13	-31.05	-74.45	-54.62	1.13	11.70	Н
	3465.2	-49.08	-13	-36.08	-71.36	-60.87	0.81	12.60	V
	5197.8	-48.17	-13	-35.17	-72.7	-59.92	0.95	12.70	V
	6930.4	-43.31	-13	-30.31	-75.12	-53.88	1.13	11.70	V
Highest	3505.2	-43.85	-13	-30.85	-70.48	-55.64	0.81	12.60	Н
	5257.8	-43.64	-13	-30.64	-73.16	-55.39	0.95	12.70	Н
	7010.4	-44.58	-13	-31.58	-74.98	-55.15	1.13	11.70	Н
	3505.2	-49.21	-13	-36.21	-71.49	-61.00	0.81	12.6	V
	5257.8	-48.64	-13	-35.64	-73.17	-60.39	0.95	12.7	V
	7010.4	-43.13	-13	-30.13	-74.94	-53.70	1.13	11.7	V

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: YHLBLUDASHX Page Number : B9 of B9
Report Issued Date : Sep. 10, 2015
Report Version : Rev. 01