



RADIO TEST REPORT

Report No:STS1810236W07

Issued for

The Good Box Co Labs LTD

Ground Floor Optimum House, Clippers Quay, Salford Quays M50 3XP UK

Product Name:	GOODBOX CORE		
Brand Name:	GOODBOX		
Model Name:	GB CORE		
Series Model:	Version 1		
FCC ID:	2ASHQ-GB-CORE-V01		
Test Standard:	FCC Part 22H and 24E		

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TEST RESULT CERTIFICATION

Applicant's name:	The Good Box Co Labs LTD
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Ground Floor Optimum House, Clippers Quay, Salford Quays M50 3XP Address....:

The Good Box Co Labs LTD Manufacture's Name:

Ground Floor Optimum House, Clippers Quay, Salford Quays M50 Address....::

3XP UK

Product discription

Product Name GOODBOX CORE

Brand Name GOODBOX

Model Name..... GB CORE

Series Model : Version 1

Test Standards FCC Part 22H and 24E

Test procedure KDB 971168 D01 v03r01,ANSI C63.26(2015)

This device described above has been tested by STS and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test:

01 Nov. 2018 ~ 03 Jan. 2019 Date of performance of tests:

Date of Issue: 08 Jan. 2018

Test Result:

Testing Engineer

(Chris chen)

Technical Manager

(Sunday Hu)

Authorized Signatory:

(Vita Li)



Page 3 of 30 Report No.: STS1810236W07

TABLE OF CONTENTS	Page
1 INTRODUCTION	6
1.1 TEST FACTORY	6
1.2 MEASUREMENT UNCERTAINTY	6
2 PRODUCT INFORMATION	7
3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
4 MEASUREMENT INSTRUMENTS	9
5 TEST ITEMS	10
5.1 CONDUCTED OUTPUT POWER	10
5.2 PEAK TO AVERAGE RATIO	11
5.3 TRANSMITTER RADIATED POWER (EIRP/ERP)	12
5.4 OCCUPIED BANDWIDTH	13
5.5 FREQUENCY STABILITY	14
5.6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS	15
5.7 BAND EDGE	16
5.8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	17
APPENDIX A.TESTRESULT	19
A1.CONDUCTED OUTPUT POWER	19
A2. PEAK-TO-AVERAGE RADIO	20
A3. TRANSMITTER RADIATED POWER (EIRP/ERP)	23
A4. OCCUPIED BANDWIDTH (99% OCCUPIED BANDWIDTH/26DB BAND	WIDTH)24
A5.FREQUENCY STABILITY	26
A6. SPURIOUS EMISSIONS AT ANTENNA TERMINALS	27
A7. BAND EDGE	28
A8. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	29
APPENDIX B. PHOTOS OF TEST SETUP	30



Page 4 of 30 Report No.: STS1810236W07

Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	08 Jan. 2018	STS1810236W07	ALL	Initial Issue





SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

The radiated emission testing was performed according to the procedures of KDB 971168 D01 v03r01 and ANSI C63.26(2015)

FCC Rules	Test Description	Test Limit	Test Result	Reference
2.1049	Conducted OutputPower	Reporting Only	PASS	
2.0146 24.232	Peak-to-AverageRatio	< 13 dB	PASS	
2.1046 22.913 24.232	Effective Radiated Power/Equivalent Isotropic Radiated Power	< 7 Watts max. ERP(Part 22) < 2 Watts max. EIRP(Part 24)	PASS	
2.1049 22.917 24.238	Occupied Bandwidth	Reporting Only	PASS	
2.1055 22.355 24.235	Frequency Stability	< 2.5 ppm (Part 22) Emission must remain in band (Part 24)	PASS	
2.1051 22.917 24.238	Spurious Emission at Antenna Terminals	< 43+10log10(P[Watts])	PASS	
2.1053 22.917 24.238	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	
2.1051 22.917 24.238	Band Edge	< 43+10log10(P[Watts])	PASS	



1 INTRODUCTION

1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.

Add.: 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,

Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

FCC Registration No.: 625569

IC Registration No.: 12108A; A2LA Certificate No.: 4338.01;

1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k=2 to indicate a 95% level of confidence. The measurement data shown herein meets or exceeds the UCISPR measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

No.	Item	Uncertainty
1	RF output power,conducted	±0.71dB
2	Unwanted Emissions,conducted	±0.63dB
3	All emissions,radiated 30-200MHz	±3.43dB
4	All emissions,radiated 200MHz-1GHz	±3.57dB
5	All emissions,radiated>1G	±4.13dB
6	Conducted Emission(9KHz-150KHz)	±3.18dB
7	Conducted Emission(150KHz-30MHz)	±2.70dB



2 PRODUCT INFORMATION

Product Name	GOODBOX CORE
Trade Name	GOODBOX
Model Name	GB CORE
Series Model	Version 1
Model Difference	Only different in model name.
Tx Frequency:	WCDMA: Band V: 824 MHz ~ 849 MHz
Rx Frequency:	WCDMA: Band V: 869 MHz ~ 894 MHz
Max RF Output Power:	WCDMABand V:22.55dBm
Type of Emission:	WCDMA850: 4M71F9W
SIM Card:	Only support single SIM Card.
Antenna:	PIFA Antenna
Antenna gain:	WCDMA 850: 0.28dBi
Power Supply:	DC 3.7V by battery
Battery parameter:	Capacity: 10050 mAh Rated Voltage: DC 3.7V Charge Limit: DC 4.2 V
Adapter:	Input: AC 100-240V, 450 mA, 50/60Hz Output: DC 12V, 2000mA
Extreme Vol. Limits:	DC 3.3 V to 4.2 V (Nominal DC 3.7V)
Extreme Temp. Tolerance:	-30°C to +50°C
Hardware version number:	GB-CORE-V01
Software version number:	GB-CORE-V1.0
** Note: The High Voltage 4.2	2V and Low Voltage 3.3 V was declared by manufacturer, The EUT

^{**} Note: The High Voltage 4.2V and Low Voltage 3.3 V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.



3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 and ANSI C63.26 2015 Power Meas. License Digital Systems 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 as following frequency range:

1. 30 MHz to 10th harmonic for WCDMA Band V.

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 TC			
WCDMA BAND V	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK		



4 MEASUREMENT INSTRUMENTS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
EMI Test Receiver	R&S	ESCI	101427	2018.10.13	2019.10.12
MXA Signal analyzer	Agilent	N9020A	MY49100060	2018.10.13	2019.10.12
Universal Radio Communication Tester	R&S	CMW500	131428	2018.03.11	2019.03.10
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2020.11.01
Horn Antenna	Schwarzbeck	BBHA 9120D(1201)	9120D-1343	2017.10.27	2020.10.26
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	N/A	2018.03.11	2021.03.10
Low frequency cable	EM	R01	N/A	2018.03.11	2019.03.10
Low frequency cable	EM	R06	N/A	2018.03.11	2019.03.10
High frequency cable	SCHWARZBECK	R04	N/A	2018.03.11	2019.03.10
High frequency cable	SCHWARZBECK	R02	N/A	2018.03.11	2019.03.10
Pre-mplifier (0.1M-3GHz)	EM	EM330	N/A	2018.03.09	2019.03.08
PreAmplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2018.10.13	2019.10.12
turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A

Equipment with a calibration date of "NCR" shown in this list was not used to make direct calibrated measurements.





5 TEST ITEMS

5.1 CONDUCTED OUTPUT POWER

Test overview

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.

Test procedures

- 1. The transmitter output port was connected to the system simulator.
- 2. Set eut at maximum power through the system simulator.
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Measure and record the power level from the system simulator.

Test setup



5.2 PEAK TO AVERAGE RATIO

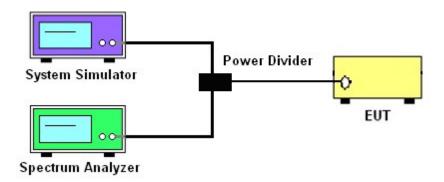
TEST OVERVIEW

According to §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 db.

TEST PROCEDURES

- 1. The testing follows fcckdb 971168 v03r01 section
- 2. The eut was connected to the and peak and av system simulator& spectrum analysis reads
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Set the test probe and measure average power of the spectrum analysis

TEST SETUP





5.3 TRANSMITTER RADIATED POWER (EIRP/ERP) TEST OVERVIEW

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI C63.26 2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

TEST PROCEDURE

- 1. The testing follows FCC KDB 971168 D01 Section 5.2.1. (for CDMA/WCDMA) and ANSI C63.26-2015 Section 5.2.
- 2. The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.
- 3. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
- 4. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
- 5. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a nonradiating cable. The absolute levels of the spurious emissions were measured by the substitution.
- 6. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to ANSI C63.26-2015. 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/ERP was calculated with the correction factor, ERP/EIRP = P.SG + GT LC

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMe as, typically dBW or dBm);

PMeas(PK) = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.



5.4 OCCUPIED BANDWIDTH

TEST OVERVIEW

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

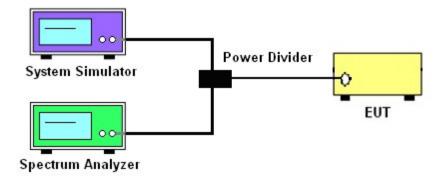
The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

All modes of operation were investigated and the worst case configuration results are reported in this section.

TEST PROCEDURE

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW ≥ 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within
- 1 5% of the 99% occupied bandwidth observed in Step 7

TEST SETUP





5.5 FREQUENCY STABILITY Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26 2015. The frequency stability of the transmitter is measured by:

- a.) Temperature: The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 24 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure

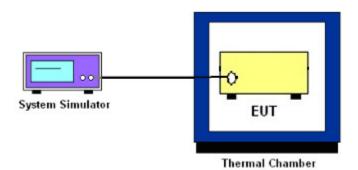
Temperature Variation

- 1. The testing follows fcckdb 971168 D01 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.

Voltage Variation

- 1. The testing follows FCC KDB 971168 D01 Section 9.0.
- 2. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
- 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.

TEST SETUP



5.6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS Test Overview

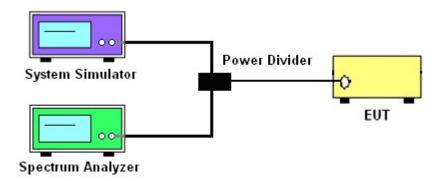
The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

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

Test procedure

- 1. The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26-2015-Section 5.5
- 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.

Test Setup





5.7 BAND EDGE

OVERVIEW

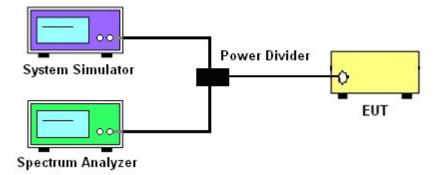
All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.

TEST PROCEDURE

- 1.The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26-2015-Section 5.7
- 2. Start and stop frequency were set such that the band edge would be placed in the center of the Plot.
- 3. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
- 4. 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.
- 5. The band edges of low and high channels for the highest RF powers were measured.
- 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 7. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
- = P(W) [43 + 10log(P)] (dB)
- = [30 + 10log(P)] (dBm) [43 + 10log(P)] (dB)
- = -13dBm.

TEST SETUP





5.8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT Test overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signalsoperating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized horn antennas. All measurements are performed as peak measurements while the EUT isoperating at maximum power and at the appropriate frequencies.

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

Test procedure

- 1. The testing FCC KDB 971168 D01 Section 5.8 and ANSI C63.26-2015-Section 5.5.
- 2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 3. VBW \geq 3 x RBW
- 4. Span = 1.5 times the OBW
- 5.No. of sweep points > 2 x span/RBW
- 6. Detector = Peak
- 7. Trace mode = max hold
- 8. The trace was allowed to stabilize
- 9. Effective Isotropic Spurious Radiation was measured by substitution method according to TIA/EIA-603-D. 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/ERP was calculated with the correction factor,

ERP/EIRP = P.SG + GT - LC

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, t ypically dBW or dBm);

P.SG = measured transmitter output power or PSD, in dBm or dBW;

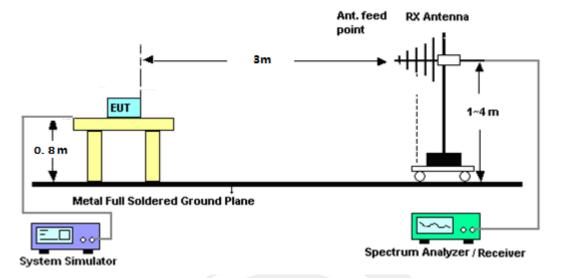
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

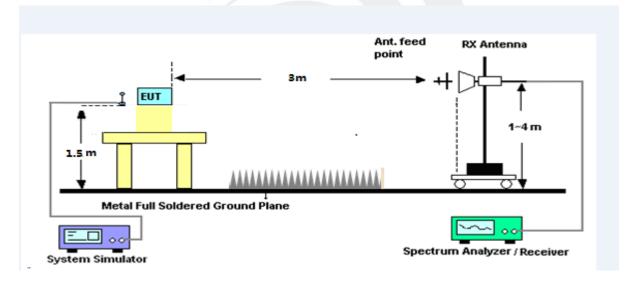


TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz





APPENDIX A.TESTRESULT A1.CONDUCTED OUTPUT POWER UMTS BAND V

Mode	Frequency(MHz)	AVG Power
\\\\OD\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	826.4	<mark>22.55</mark>
WCDMA 850 RMC	836.6	22.41
RIVIC	846.6	22.50
11000	826.4	21.48
HSDPA Subtest 1	836.6	21.36
Sublest 1	826.4 836.6 846.6 826.4 836.6 846.6 826.4 836.6 846.6 826.4 836.6 846.6 826.4 836.6 846.6 826.4 836.6 846.6 826.4 836.6	21.40
11000	826.4	21.01
HSDPA Subtest 2	836.6	20.88
Sublest 2	846.6	20.96
HODDA	826.4	20.71
HSDPA Subtest 3	836.6	20.38
Sublest 5	846.6	20.59
11000	826.4	20.33
HSDPA Subtest 4	836.6	19.95
Sublest 4	846.6	20.14
11011174	826.4	21.45
HSUPA Subtest 1	836.6	21.26
Sublest	846.6	20.96
1101104	826.4	20.51
HSUPA Subtest 2	836.6	20.27
Sublest 2	846.6	20.02
1101104	826.4	20.48
HSUPA Subtest 3	836.6	19.83
Sublest 3	846.6	19.55
1101.12.4	826.4	20.15
HSUPA Subtest 4	836.6	19.39
Sublest 4	846.6	19.24
	826.4	18.68
HSUPA	836.6	17.93
Subtest 5	846.6	17.74



A2. PEAK-TO-AVERAGE RADIO

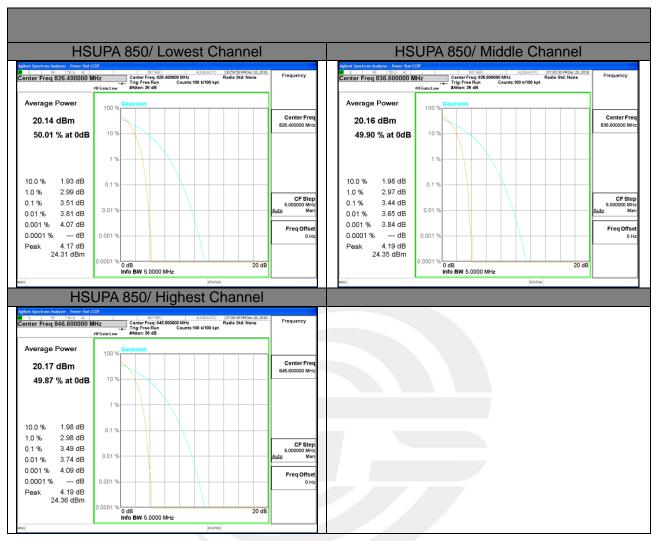
Mode	Frequency	PAR	
Mode	(MHz)	(dB)	
	826.4	3.03	
WCDMA 850 RMC	836.6	3.04	
	846.6	3.01	
	826.4	3.65	
HSDPA 850	836.6	3.41	
	846.6	3.62	
	826.4	3.51	
HSUPA 850	836.6	3.44	
	846.6	3.49	



WCDMA BAND V









A3. TRANSMITTER RADIATED POWER (EIRP/ERP)

Radiated Power (ERP) for WCDMA Band V							
		Result					
Mode	Frequency	S G. Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P (dBm)	Polarization Of Max.ERP	Conclusion
	826.4	14.61	0.44	6.5	20.67	Horizontal	Pass
	826.4	16.44	0.44	6.5	22.50	Vertical	Pass
Band V	836.6	13.87	0.45	6.5	19.92	Horizontal	Pass
Dallu V	836.6	15.79	0.45	6.5	21.84	Vertical	Pass
	846.4	14.11	0.46	6.5	20.15	Horizontal	Pass
	846.4	15.88	0.46	6.5	21.92	Vertical	Pass
Limit	Limit E.R.P<7W=38.45dBm						

Note: Test is divided into three directions, X/Y/Z. X pattern for the worst.





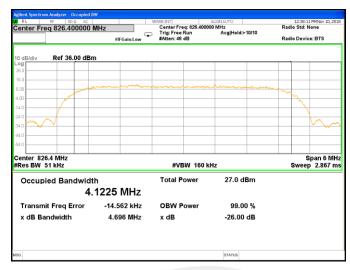
A4. OCCUPIED BANDWIDTH (99% OCCUPIED BANDWIDTH/26dB BANDWIDTH)

Occupied Bandwidth for UMTS band V								
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth					
		(99%)(MHz)	(-26dBc)(MHz)					
Low Channel	826.4	4.1225	4.696					
Middle Channel	836.6	4.1258	4.673					
High Channel	846.6	4.1313	4.701					





UMTS BAND V CH 4132



UMTS BAND V CH 4183



UMTS BAND V CH 4233





A5.FREQUENCY STABILITY

Normal Voltage = 3.7V.; Battery End Point (BEP) = 3.3V.; Maximum Voltage =4.5 V

WCDMA V Middle Channel/836.6MHz										
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result					
50		13.55	0.016		PASS					
40		21.64	0.026							
30		24.97	0.030							
20	Normal Voltage	14.64	0.017							
10		36.21	0.043							
0		12.27	0.015	2.5ppm						
-10		35.45	0.042							
-20		22.03	0.026							
-30		16.50	0.020							
25	Maximum Voltage	27.92	0.033							
25	BEP	26.54	0.032							

^{1.} The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



A6. SPURIOUS EMISSIONS AT ANTENNA TERMINALS WCDMA Band V (RMC 12.2Kbps)

Lowest Channel



Middle Channel



Highest Channel





WCDMA Band VRMC 12.2Kbps

Lowest Band Edge



Highest Band Edge





A8. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT UMTS band V(30-9000)MHz

S band V(30-9000)MHz										
	WCDMA E	Band V: (3	0-9000)M	Hz						
The wost testresults channel 4132/826.4MHz										
S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity				
			(dBm)	(dBm)	(dB)					
-40.62	9.40	4.75	-35.97	-13.00	-22.97	Н				
-40.16	10.60	8.39	-37.95	-13.00	-24.95	Н				
-30.92	12.00	11.79	-30.71	-13.00	-17.71	Н				
-43.94	9.40	4.75	-39.29	-13.00	-26.29	V				
-45.43	10.60	8.39	-43.22	-13.00	-30.22	V				
-42.57	12.00	11.79	-42.36	-13.00	-29.36	V				
The Worst Test Results Channel 4183/836.6MHz										
S G.Lev (dBm) Ant(d	Ant(dDi)	(dBi) Loss	PMea	Limit	Margin	Polarity				
	Ant(dBI)		(dBm)	(dBm)	(dB)					
-40.35	9.50	4.76	-35.61	-13.00	-22.61	Н				
-39.45	10.70	8.40	-37.15	-13.00	-24.15	Н				
-31.57	12.20	11.80	-31.17	-13.00	-18.17	Н				
-44.30	9.40	4.75	-39.65	-13.00	-26.65	V				
-45.41	10.60	8.39	-43.20	-13.00	-30.20	V				
-42.74	12.20	11.82	-42.36	-13.00	-29.36	V				
The Worst Test Results Channel 4233/846.6MHz										
S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity				
			(dBm)	(dBm)	(dB)					
-40.36	9.60	4.77	-35.53	-13.00	-22.53	Н				
-39.58	10.80	8.50	-37.28	-13.00	-24.28	Н				
-31.62	12.50	11.90	-31.02	-13.00	-18.02	Н				
-43.68	9.60	4.77	-38.85	-13.00	-25.85	V				
-44.87	10.80	8.50	-42.57	-13.00	-29.57	V				
-42.61	12.50	11.90	-42.01	-13.00	-29.01	V				
	The wood S G.Lev (dBm) -40.62 -40.16 -30.92 -43.94 -45.43 -42.57 The Wood S G.Lev (dBm) -40.35 -39.45 -31.57 -44.30 -45.41 -42.74 The Wood S G.Lev (dBm) -40.36 -39.58 -31.62 -43.68 -44.87	WCDMA B The wst testres S G.Lev (dBm) Ant(dBi) -40.62 9.40 -40.16 10.60 -30.92 12.00 -43.94 9.40 -45.43 10.60 -42.57 12.00 The Worst Test Research S G.Lev (dBm) Ant(dBi) -39.45 10.70 -31.57 12.20 -44.30 9.40 -45.41 10.60 -42.74 12.20 The Worst Test Research S G.Lev (dBm) Ant(dBi) -40.36 9.60 -39.58 10.80 -31.62 12.50 -43.68 9.60 -44.87 10.80	WCDMA Band V: (3 The wost testresults changed (dBm) Ant(dBi) Loss -40.62 9.40 4.75 -40.16 10.60 8.39 -30.92 12.00 11.79 -43.94 9.40 4.75 -45.43 10.60 8.39 -42.57 12.00 11.79 The Worst Test Results Changed (dBm) -40.35 9.50 4.76 -39.45 10.70 8.40 -31.57 12.20 11.80 -44.30 9.40 4.75 -45.41 10.60 8.39 -42.74 12.20 11.82 The Worst Test Results Changed (dBm) S G.Lev (dBm) Ant(dBi) Loss (dBm) -40.36 9.60 4.77 -39.58 10.80 8.50 -31.62 12.50 11.90 -43.68 9.60 4.77 -44.87 10.80 8.50	WCDMA Band V: (30-9000)MI The wost testresults channel 4132/8 S G.Lev (dBm) Ant(dBi) Loss PMea (dBm) -40.62 9.40 4.75 -35.97 -40.16 10.60 8.39 -37.95 -30.92 12.00 11.79 -30.71 -43.94 9.40 4.75 -39.29 -45.43 10.60 8.39 -43.22 -42.57 12.00 11.79 -42.36 The Worst Test Results Channel 4183 S G.Lev (dBm) Ant(dBi) Loss PMea (dBm) -40.35 9.50 4.76 -35.61 -39.45 10.70 8.40 -37.15 -31.57 12.20 11.80 -31.17 -44.30 9.40 4.75 -39.65 -45.41 10.60 8.39 -43.20 -42.74 12.20 11.82 -42.36 The Worst Test Results Channel 4233 S G.Lev (dBm) Ant(dBi) Loss PMea (dBm) <	The wost testresults channel 4132/826.4MHz S G.Lev (dBm) -40.62 9.40 4.75 -35.97 -13.00 -40.16 10.60 8.39 -37.95 -13.00 -30.92 12.00 11.79 -30.71 -13.00 -45.43 10.60 8.39 -43.22 -13.00 -42.57 12.00 11.79 -42.36 -13.00 The Worst Test Results Channel 4183/836.6MHz S G.Lev (dBm) -40.35 9.50 4.76 -35.61 -13.00 -31.57 12.20 11.80 -31.17 -13.00 -44.30 9.40 4.75 -39.65 -13.00 -45.41 10.60 8.39 -43.22 -13.00 -45.43 10.70 8.40 -37.15 -13.00 -31.57 12.20 11.80 -31.17 -13.00 -44.30 9.40 4.75 -39.65 -13.00 -45.41 10.60 8.39 -43.20 -13.00 -45.41 10.60 8.39 -43.20 -13.00 -45.41 10.60 8.39 -43.20 -13.00 -42.74 12.20 11.82 -42.36 -13.00 -42.74 12.20 11.82 -42.36 -13.00 -42.74 12.20 11.82 -42.36 -13.00 -42.74 12.20 11.82 -42.36 -13.00 -42.74 12.20 11.82 -42.36 -13.00 -42.74 12.20 11.82 -42.36 -13.00 -42.74 12.20 11.82 -42.36 -13.00 -43.68 9.60 4.77 -35.53 -13.00 -39.58 10.80 8.50 -37.28 -13.00 -31.62 12.50 11.90 -31.02 -13.00 -43.68 9.60 4.77 -38.85 -13.00 -44.87 10.80 8.50 -42.57 -13.00	WCDMA Band V: (30-9000)MHz The wost testresults channel 4132/826.4MHz S G.Lev (dBm) Ant(dBi) Loss PMea (dBm) Limit (dBm) Margin (dB) -40.62 9.40 4.75 -35.97 -13.00 -22.97 -40.16 10.60 8.39 -37.95 -13.00 -24.95 -30.92 12.00 11.79 -30.71 -13.00 -17.71 -43.94 9.40 4.75 -39.29 -13.00 -26.29 -45.43 10.60 8.39 -43.22 -13.00 -26.29 -45.43 10.60 8.39 -43.22 -13.00 -29.36 The Worst Test Results Channel 4183/836.6MHz S G.Lev (dBm) Ant(dBi) Loss PMea Limit Margin (dB) Margin (dB) -40.35 9.50 4.76 -35.61 -13.00 -22.61 -39.45 10.70 8.40 -37.15 -13.00 -24.15 -31.57 12.20 11.80 -31.17 -13.00 -26.65				

Note: (1) Below 30MHz no Spurious found is the worst condition.

- (2) Above 3GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value
- (3)Test is divided into three directions, X/Y/Z. X pattern for the worst.





APPENDIX B. PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

*****END OF THE REPORT***

