# **RADIO TEST REPORT**

Report No: STS1705216F01

Issued for

# UNNECTO HOLDING LIMITED

# 13/F HARBOUR COMMERCIAL BUILDING,122-124 CONNAUGHT ROAD CENTRAL SHEUNG WAN HK,China

Product Name:	3G MOBILE PHONE
Brand Name:	unnecto ™
Model Name:	U616
Series Model:	N/A
FCC ID:	2ADR3U616
Test Standard:	FCC Part 22H and 24E

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# **TEST RESULT CERTIFICATION**

Applicant's name:	UNNECTO HOLDING LIMITED
Address:	13/F HARBOUR COMMERCIAL BUILDING,122-124 CONNAUGHT ROAD CENTRAL SHEUNG WAN HK,China
Manufacture's Name	TEM Mobile Limited
Address:	11/F, Block B, TCL Tower, Gaoxin South 1st road, Nanshan District, Shenzhen, Guangdong,China
Product name:	3G MOBILE PHONE
Brand name:	unnecto ™
Model and/or type reference :	U616
Standards	FCC Part 22H and 24E
Test procedure	ANSI/TIA 603-D (2010)

This device described above has been tested by BZT, 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 .....

Date of performance of tests ........ 24 May. 2017~27 May. 2017

Date of Issue ..... 01 Jun. 2017

Test Result ..... Pass

Testing Engineer :	les li	
	(Leo li )	esting · const
Technical Manager :	Jula	
	( Tony liu )	APPROVAL 8
Authorized Signatory :	Mati	HIRED . NOUTRY
	( Vita Li )	

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# **Revision History**

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Rev.	Issue Date	Report NO.	Effect Page	Contents
00	01 Jun. 2017	STS1705216F01	ALL	Initial Issue



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# SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

The radiated emission testing was performed according to the procedures of ANSI/TIA-603-D:

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2010,KDB 971168 D01 v02r02 and KDB 648474 D03 v01r04

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 Pow- er/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 BZT Testing Technology Co., Ltd. Add. : Buliding 17, Xinghua Road Xingwei industrial Park Fuyong, Baoan District, Shenzhen, Guangdong, China FCC Registration No.: 701733

#### 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.  $\circ$ 

No.	Item	Uncertainty
1	RF power, conducted	±0.70dB
2	Spurious emissions, conducted	±1.19dB
5	All emissions,radiated(<1G) 30MHz-200MHz	±2.83dB
6	All emissions,radiated(<1G) 200MHz-1000MHz	±2.94dB
7	All emissions,radiated(>1G)	±3.03dB
8	Temperature	±0.5°C
9	Humidity	±2%

# **2 PRODUCT INFORMATION**

Product Designation:	3G MOBILE PHONE	
Hardware version number:	B610MB	
Software version number:	Alps-mp-m0.mp23-V1.32.3_tem6570.ctlc.m_p1	
FCC ID:	2ADR3U616	
	GSM/GPRS:	
	850: 824.2 MHz ~ 848.8 MHz	
T	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	
	GSM/GPRS:	
	850: 869.2 MHz ~ 893.8 MHz	
Rx Frequency:	1900: 1930.2 MHz ~ 1989.8 MHz	
TXT Tequency.	WCDMA:	
	Band V: 871.4 MHz ~ 891.6 MHz	
	Band II: 1932.4 MHz ~ 1987.6 MHz	
Max RF Output Power:	GSM850:30.35dBm,PCS1900:27.56dBm GPRS850:30.33dBm,GPRS1900:27.55Bm WCDMABand V:21.65dBm,WCDMA Band II:20.90dBm	
Type of Emission:	GSM(850): 317KGXW; GSM(1900): 320KGXW GPRS(850): 318KG7W; GPRS(1900): 318KG7W WCDMA850: 4M64F9W WCDMA1900: 4M70F9W	
SIM Card:	SIM 1 and SIM 2 is a chipset unit and tested as single chipset,SIM 1 is used to tested	
Antenna:	PIFA Antenna	
Antonno noin.	GSM 850:2dBi ,PCS 1900: 2dBi	
Antenna gain:	WCDMA 850:2dBi, WCDMA1900: 2dBi	
Power Supply:	DC 3.7V by battery	
Battery parameter:	Capacity: 1400mAh, Rated Voltage: 3.7V	
GPRS/EDGE Class:	Multi-Class12	
Extreme Vol. Limits:	DC3.6 V to 4.2 V (Nominal DC3.7V)	
Extreme Temp. Tolerance:	-20℃ to +45℃	
· · ·	.2 V and Low Voltage 3.6 V was declared by manufacturer, The	
EUT couldn't be operate norr	nally with higher or lower voltage.	

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# **3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST**

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

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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 GSM850 and WCDMA Band V.

2. 30 MHz to 10th harmonic for GSM1900 and WCDMA Band II.

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 GPRS CLASS 12 LINK	GSM LINK GPRS CLASS 12 LINK	
GSM 1900	GSM LINK GPRS CLASS 12 LINK	GSM LINK GPRS CLASS 12 LINK	
WCDMA BAND V	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	
WCDMA BAND II	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	

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#### 4 MEASUREMENT INSTRUMENTS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibra- tion	Calibrated Until
Spectrum Analyzer	Agilent	E4407B	MY50140340	2016.10.23	2017.10.22
Signal Analyzer	Agilent	N9020A	MY49100060	2016.10.23	2017.10.22
Test Receiver	R&S	ESCI	101427	2016.10.23	2017.10.22
Communication Tester	Agilent	8960	MY48360751	2016.10.23	2017.10.22
Communication Tester	R&S	CMU200	112012	2016.10.23	2017.10.22
Test Receiver	R&S	ESCI	102086	2016.10.23	2017.10.22
Bilog Antenna	TESEQ	CBL6111D	34678	2014.11.24	2017.11.23
Bilog Antenna (Calibration antenna)	TESEQ	CBL6111D	34678	2014.11.24	2017.11.23
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1343	2015.03.05	2018.03.04
Horn Antenna (Calibration antenna)	Schwarzbeck	BBHA 9120D	9120D-1343	2015.03.05	2018.03.04
MXA SIGNAL Analyzer	Agilent	N9020A	MY49100060	2016.10.23	2017.10.22
Double Ridge Horn An- tenna	COM-POWER CORPORATION	AH-840	AHA-840	2016.10.23	2017.10.22
Low frequency cable	N/A	R01	N/A	NCR	NCR
High frequency cable	SCHWARZBECK	AK9515H	SN-96286/96287	NCR	NCR
Vector signal generator	Agilent	E8257D-521	MY45141029	2016.10.23	2017.10.22
Power amplifier	DESAY	ZHL-42W	9638	2016.10.23	2017.10.22
Band Reject fil- ter(1920-1980MHz)	COM-MW	ZBSF-1920-1980	0092	2016.10.23	2017.10.22
Band Reject fil- ter(880-915MHz)	COM-MW	ZBSF-C897.5-35	707	2016.10.23	2017.10.22
Band Reject fil- ter(1710-1785MHz)	COM-MW	ZBSF-C1747.5-75	708	2016.10.23	2017.10.22
Band Reject fil- ter(1850-1910MHz)	COM-MW	ZBSF-C1880-60	709	2016.10.23	2017.10.22
Band Reject fil- ter(2500-2570MHz)	COM-MW	ZBSF-C2535-70	710	2016.10.23	2017.10.22
Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	2016.10.23	2017.10.22

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

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# 5 TEST ITEMS 5.1 CONDUCTED OUTPUT POWER

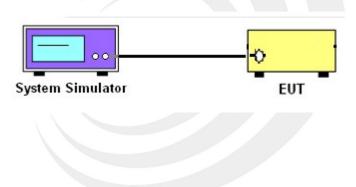
#### Test overview

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

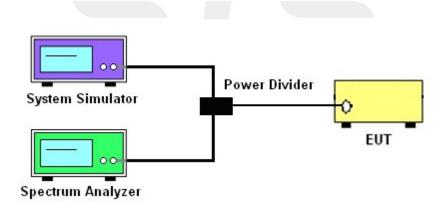
#### TEST OVERVIEW

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 v02r02 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



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# 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/TIA-603-D-2010 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

 The testing follows FCC KDB 971168 D01 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-D-2010 Section 2.2.17.
 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 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 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.

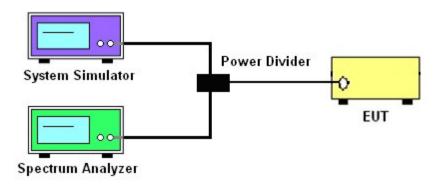
All modes of operation were investigated and the worst case configuration results are reported in this section.

#### 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  $\geq$  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/TIA-603-D-2010. 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  $\pm 0.00025\%$  ( $\pm 2.5$  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

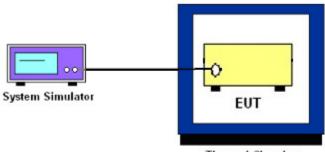
1. The testing follows FCC KDB 971168 D01 Section 9.0.

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



Thermal Chamber

 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

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# 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 v02r02 Section 6.0. and ANSI/TIA-603-D-2010-Section 2.2.13.2(d)

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.

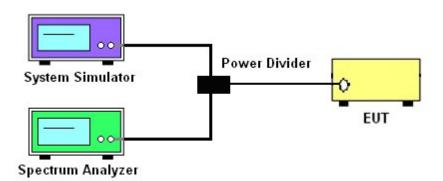
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= 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 v02r02 Section 6.0. and ANSI/TIA-603-D-2010-Section 2.2.13.2(d)

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.

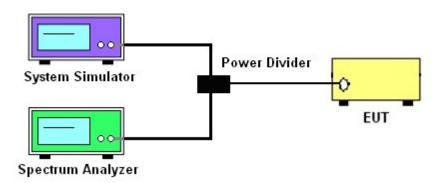
7.The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= P(W) - [43 + 10log(P)] (dB)

= [30 + 10log(P)] (dBm) - [43 + 10log(P) ] (dB)

= -13dBm.

#### TEST SETUP



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# 5.8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

# Test overview

Radiated spurious emissions measurements are performed using the substitution method described inANSI/TIA-603-D-2010 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/TIA-603-D-2010-Section 2.2.12.2(b)

- 2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 3. VBW ≥ 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);

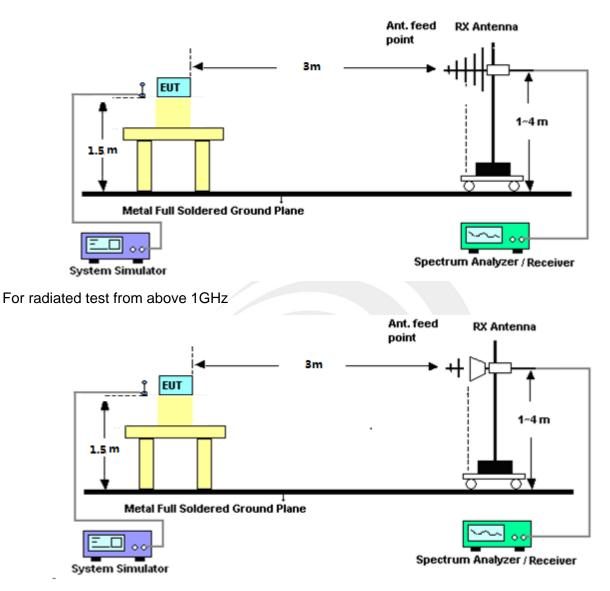
P.SG = measured transmitter output power or PSD, in dBm or dBW;

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



# APPENDIX ATESTRESULT A1CONDUCTED OUTPUT POWER

# GSM 850:

Mode	Frequency (MHz)	AVG Power
GSM850	824.2	30.35
	836.6	30.29
	848.8	30.32
	824.2	30.33
GPRS850	836.6	30.28
	848.8	30.31

# PCS 1900:

Mode	Frequency (MHz)	AVG Power
	1850.2	27.25
GSM1900	1880.0	27.28
	1909.8	27.56
	1850.2	27.23
GPRS1900	1880.0	27.26
	1909.8	27.55

#### UMTS BAND V

Mode	Frequency(MHz)	AVG Power
	826.4	21.64
WCDMA 850 RMC	836.6	21.65
Kine	846.6	21.63
	826.4	21.62
HSDPA Subtest 1	836.6	21.63
Sublest	846.6	21.61
	826.4	21.15
HSDPA Subtest 2	836.6	21.16
Sublesi 2	846.6	21.20
	826.4	20.78
HSDPA Subtest 3	836.6	20.71
Sublesi S	846.6	20.76
10000	826.4	20.44
HSDPA Subtest 4	836.6	20.34
Sublesi 4	846.6	20.31
	826.4	21.56
HSUPA Subtest 1	836.6	21.61
Sublesi	846.6	21.18
	826.4	20.69
HSUPA Subtest 2	836.6	20.70
Sublesi 2	846.6	20.24
	826.4	20.63
HSUPA	836.6	20.22
Subtest 3	846.6	19.87
	826.4	20.21
HSUPA	836.6	19.77
Subtest 4	846.6	19.41
	826.4	18.80
HSUPA	836.6	18.31
Subtest 5	846.6	17.96

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#### UMTS BAND II

Mode	Frequency(MHz)	AVG Power
	1852.4	20.90
WCDMA 1900 RMC	1880	20.43
RMC	1907.6	20.41
	1852.4	20.88
HSDPA Subtest 1	1880	20.41
Sublest 1	1907.6	20.39
	1852.4	20.44
HSDPA Subtest 2	1880	19.92
Sublest 2	1907.6	19.98
	1852.4	20.01
HSDPA Subtest 3	1880	19.47
Sublest 5	1907.6	19.52
110000	1852.4	19.56
HSDPA Subtest 4	1880	19.11
Sublest 4	1907.6	19.16
	1852.4	20.86
HSUPA Subtest 1	1880	20.36
Sublest	1907.6	19.90
	1852.4	20.02
HSUPA Subtest 2	1880	19.39
Sublest 2	1907.6	18.92
	1852.4	19.98
HSUPA Subtest 3	1880	18.99
SUDIESI S	1907.6	18.50
	1852.4	19.58
HSUPA Subtest 4	1880	18.60
Subiesi 4	1907.6	18.19
	1852.4	18.09
HSUPA Subtest 5	1880	17.17
Sublest 3	1907.6	16.71

Shenzhen STS Test Services Co., Ltd.

Report No.: STS1705216F01

# A2 PEAK-TO-AVERAGE RADIO

PCS 1900:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1850.2	27.37	27.25	0.12
PCS1900	1880	27.39	27.28	0.11
	1909.8	27.67	27.56	0.11
	1850.2	27.35	27.23	0.12
GPRS1900	1880	27.37	27.26	0.11
	1909.8	27.65	27.55	0.10

# UMTS BAND II:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1852.4	23.89	20.90	2.99
WCDMA 1900 RMC	1880	23.30	20.43	2.87
	1907.6	23.38	20.41	2.97
	1852.4	23.65	20.88	2.77
HSDPA 1900	1880	23.12	20.41	2.71
	1907.6	23.04	20.39	2.65
	1852.4	23.62	20.86	2.76
HSUPA 1900	1880	22.88	20.36	2.52
	1907.6	22.74	19.90	2.84

# 23 of 55

#### A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

Radiated Power (ERP) for GSM 850 MHZ								
		Result						
Mode	Frequency	S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	Conclusion	
	824.2	21.79	0.44	6.5	27.85	Horizontal	Pass	
	824.2	23.59	0.44	6.5	29.65	Vertical	Pass	
COMPEO	836.6	21.80	0.45	6.5	27.85	Horizontal	Pass	
GSM850	836.6	23.57	0.45	6.5	29.62	Vertical	Pass	
	848.8	21.96	0.46	6.5	28.00	Horizontal	Pass	
	848.8	23.69	0.46	6.5	29.73	Vertical	Pass	
	824.2	21.80	0.44	6.5	27.86	Horizontal	Pass	
	824.2	23.39	0.44	6.5	29.45	Vertical	Pass	
	836.6	21.57	0.45	6.5	27.62	Horizontal	Pass	
GPRS850	836.6	23.56	0.45	6.5	29.61	Vertical	Pass	
	848.8	21.99	0.46	6.5	28.03	Horizontal	Pass	
	848.8	23.51	0.46	6.5	29.55	Vertical	Pass	

Shenzhen STS Test Services Co., Ltd.

Report No.: STS1705216F01

	Radiated Power (EIRP) for PCS 1900 MHZ							
				R	esult			
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion	
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP.		
	1850.2	17.05	2.41	10.35	24.99	Horizontal	Pass	
	1850.2	18.78	2.41	10.35	26.72	Vertical	Pass	
PCS1900	1880	16.84	2.42	10.35	24.77	Horizontal	Pass	
PC51900	1880	18.82	2.42	10.35	26.75	Vertical	Pass	
	1909.8	17.18	2.43	10.35	25.1	Horizontal	Pass	
	1909.8	18.91	2.43	10.35	26.83	Vertical	Pass	
	1850.2	16.78	2.41	10.35	24.72	Horizontal	Pass	
	1850.2	18.66	2.41	10.35	26.6	Vertical	Pass	
	1880	16.84	2.42	10.35	24.77	Horizontal	Pass	
GPRS1900	1880	18.68	2.42	10.35	26.61	Vertical	Pass	
	1909.8	16.95	2.43	10.35	24.87	Horizontal	Pass	
	1909.8	18.77	2.43	10.35	26.69	Vertical	Pass	

Shenzhen STS Test Services Co., Ltd.

Report No.: STS1705216F01

Radiated Power (ERP) for WCDMA Band V								
			Result					
Mode	Frequency	S G.Level	Cable	Gain	PMeas E.R.P	Polarization	Conclusion	
		(dBm)	loss	(dBi)	(dBm)	Of Max.ERP		
	826.4	13.26	0.44	6.5	19.32	Horizontal	Pass	
	826.4	15.03	0.44	6.5	21.09	Vertical	Pass	
Band V	836.6	13.31	0.45	6.5	19.36	Horizontal	Pass	
Danu V	836.6	15.05	0.45	6.5	21.10	Vertical	Pass	
	846.6	13.27	0.46	6.5	19.31	Horizontal	Pass	
	846.6	14.98	0.46	6.5	21.02	Vertical	Pass	

Radiated Power (EIRP) for WCDMA Band II							
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion
	(dBm) loss (dBi) E.I.R.P.(dBm)		E.I.R.P.(dBm)	Of Max.EIRP			
	1852.4	10.67	2.41	10.35	18.61	Horizontal	Pass
	1852.4	12.45	2.41	10.35	20.39	Vertical	Pass
Band II	1880	10.25	2.42	10.35	18.18	Horizontal	Pass
Danu II	1880	11.99	2.42	10.35	19.92	Vertical	Pass
	1907.6	10.3	2.43	10.35	18.22	Horizontal	Pass
	1907.6	12.03	2.43	10.35	19.95	Vertical	Pass

Shenzhen STS Test Services Co., Ltd.

Report No.: STS1705216F01

Occupied Bandwidth for GSM 850 band					
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth		
Mode	Frequency(MHZ)	(99%)( kHz)	(-26dBc)( kHz)		
Low Channel	824.2	244.34	316.3		
Middle Channel	836.6	243.99	313.7		
High Channel	848.8	246.36	317.4		
	Occupied Band	width for GPRS 850 band			
Mode		Occupied Bandwidth	Emission Bandwidth		
Mode	Frequency(MHz)	(99%)( kHz)	(-26dBc)( kHz)		
Low Channel	824.2	244.29	315.5		
Middle Channel	836.6	241.57	318.0		
High Channel	848.8	243.58	309.2		

# A4 OCCUPIED BANDWIDTH(99% OCCUPIED BANDWIDTH/26DB BANDWIDTH)

Occupied Bandwidth for GSM1900 band						
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
Widde	T Tequency(IVIT IZ)	(99%)( kHz)	(-26dBc)( kHz)			
Low Channel	1850.2	246.31	318.0			
Middle Channel	1880.0	244.49	320.2			
High Channel	1909.8	245.85	316.5			
	Occupied Bandy	width for GPRS 1900 band				
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(MHz)	(99%)( kHz)	(-26dBc)( kHz)			
Low Channel	1850.2	244.47	307.9			
Middle Channel	1880.0	245.54	315.0			
High Channel	1909.8	242.41	318.2			

Shenzhen STS Test Services Co., Ltd.

Occupied Bandwidth for UMTS band V						
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(MHZ)	(99%)( MHz)	(-26dBc)( MHz)			
Low Channel	826.4	4.1511	4.632			
Middle Channel	836.6	4.1449	4.628			
High Channel	846.6	4.1517	4.638			

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Occupied Bandwidth for UMTS band II						
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
		(99%)( MHz)	(-26dBc)( MHz)			
Low Channel	1852.4	4.1634	4.700			
Middle Channel	1880	4.1611	4.682			
High Channel	1907.6	4.1746	4.702			



Shenzhen STS Test Services Co., Ltd.

#### GSM 850 CH 128



#### GSM 850 CH 190





#### GSM 850 CH 251

# Shenzhen STS Test Services Co., Ltd.

 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

 Tel: + 86-755
 3688
 6287
 Http://www.stsapp.com
 E-mail: sts@stsapp.com



#### GPRS 850 CH 128



GPRS 850 CH 190



 
 SENSE:INT
 ALIGNAUTO

 Center Freq: 648.800000 MHz
 Trig: Freq Run

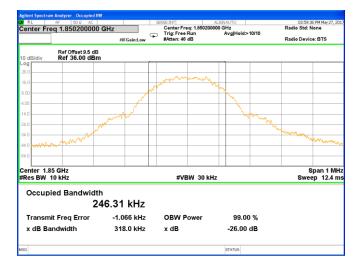
 Trig: Freq Run
 Avg|Held>10/10

 #Atten: 46 dB
 Avg|Held>10/10
 03:36:59 PM May Radio Std: None Center Freq 848.800000 MHz Radio Device: BTS #IFGain:Low Ref Offset 8.5 dB Ref 36.00 dBm Center 848.8 MHz #Res BW 10 kHz Span 1 MHz Sweep 12.4 ms #VBW 30 kHz Occupied Bandwidth 243.58 kHz Transmit Freq Error 810 Hz OBW Power 99.00 % x dB Bandwidth 309.2 kHz x dB -26.00 dB STATUS

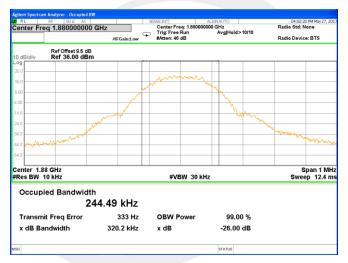
#### GPRS 850 CH 251

#### Shenzhen STS Test Services Co., Ltd.

#### PCS 1900 CH 512



# PCS 1900 CH 661



PCS 1900 CH 810



Shenzhen STS Test Services Co., Ltd.

#### GPRS 1900 CH 512



#### GPRS 1900 CH 661

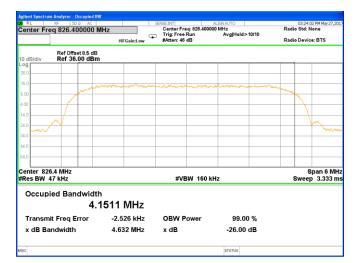


GPRS	1900	CH	81	0
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Shenzhen STS Test Services Co., Ltd.

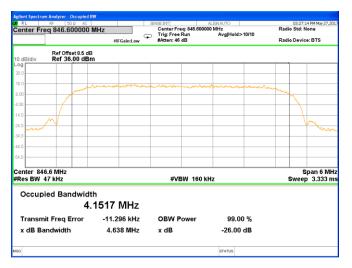
#### UMTS BAND V CH 4132



# UMTS BAND V CH 4183

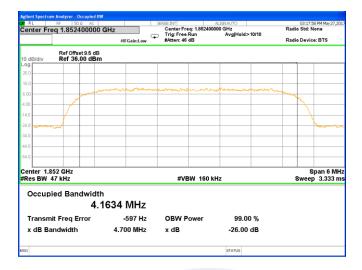
	1			
1.0 1.0	m			- Vm
4.0				
1.0				
enter 836 Res BW 4			(Hz	Span 6 M Sweep 3.333

#### UMTS BAND V CH 4233



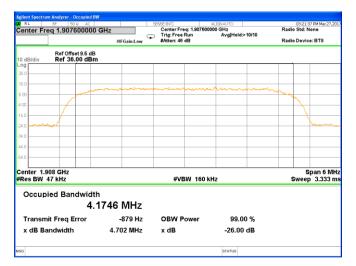
Shenzhen STS Test Services Co., Ltd.

#### UMTS BAND II CH 9262



#### UMTS BAND II CH 9400

Agilent Spectrum Analyze RL RF Center Freq 1.8	50 Ω AC		Center Freq: 1.880000	ALIGNAUTO 000 GHz Avg Held>10/10	03:20:17 PM May 27,201 Radio Std: None Radio Device: BTS
	Offset 9.5 dB 36.00 dBn				
26.0					
16.0		and the second second second	Annon and and and and and and and and and an	wanna	~~~.
4.00					and the second s
14.0					
24.0					human
34.0					
44.0					
54.0					
Center 1.88 GHz #Res BW 47 kHz			#VBW 160 k	Hz	Span 6 MH Sweep 3.333 m
Occupied B		հ 1611 MHz			
Transmit Free	q Error	-324 Hz	OBW Power	99.00 %	
x dB Bandwid	ith	4.682 MHz	x dB	-26.00 dB	
sg				STATUS	



#### UMTS BAND II CH 9538

Shenzhen STS Test Services Co., Ltd.

Report No.: STS1705216F01

# A5 FREQUENCY STABILITY

Normal Voltage = 3.7V. ; Battery End Point (BEP) = 3.6 V.; Maximum Voltage =4.2 V

GSM 850 Middle Channel/836.6MHz						
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result	
50		34.97	0.042			
40	Normal Voltage	25.29	0.030	2.5ppm	PASS	
30		32.86	0.039			
20		30.67	0.037			
10		30.71	0.037			
0		12.27	0.015			
-10	/	27.17	0.032			
-20		26.09	0.031			
-30	/	28.79	0.034			
25	Maximum Voltage	23.09	0.028			
25	BEP	29.79	0.036			

GPRS 850 Middle Channel/836.6MHz						
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result	
50		19.01	0.023			
40	Normal Voltage	28.05	0.034	2.5ppm	PASS	
30		24.22	0.029			
20		17.43	0.021			
10		32.49	0.039			
0	-	25.80	0.031			
-10	-	34.35	0.041			
-20		12.12	0.014			
-30		19.92	0.024			
25	Maximum Voltage	25.69	0.031			
25	BEP	34.07	0.041			

# Report No.: STS1705216F01

GSM 1900 Middle Channel/1880MHz						
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result	
50		34.15	0.018			
40		35.86	0.019			
30		29.61	0.016			
20		14.76	0.008			
10	Normal Voltage	28.43	0.015	Within Au-		
0		23.84	0.013	thorized	PASS	
-10		34.81	0.019	Band		
-20		12.98	0.007			
-30		13.03	0.007			
25	Maximum Voltage	34.08	0.018			
25	BEP	35.47	0.019			

GPRS 1900 Middle Channel/1880MHz	
----------------------------------	--

Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		24.46	0.013		
40		21.46	0.011		
30		25.89	0.014		
20		34.34	0.018		
10	Normal Voltage	29.01	0.015	Within Au-	
0		12.45	0.007	thorized	PASS
-10	_	17.83	0.009	Band	
-20		14.58	0.008		
-30		26.83	0.014		
25	Maximum Voltage	21.85	0.012		
25	BEP	20.74	0.011		

=#

#### Report No.: STS1705216F01

WCDMA V Middle Channel/836.6MHz							
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result		
50		24.68	0.030	_			
40		25.38	0.030	_			
30		22.98	0.027				
20	Normal Voltage	29.83	0.036	-			
10		33.37	0.040				
0		23.59	0.028	2.5ppm	PASS		
-10		32.23	0.039				
-20		26.41	0.032				
-30		26.28	0.031				
25	Maximum Voltage	30.31	0.036				
25	BEP	15.49	0.019				

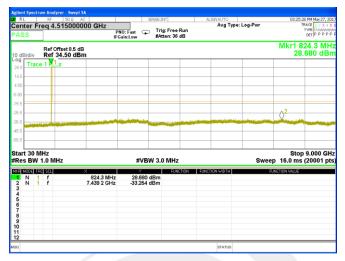
1. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

WCDMA II Middle Channel/1880MHz						
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result	
50		20.01	0.011			
40		13.56	0.007			
30		24.99	0.013			
20		34.59	0.018			
10	Normal Voltage	22.05	0.012	Within Au-		
0		35.87	0.019	thorized	PASS	
-10		32.49	0.017	Band		
-20		29.45	0.016			
-30		22.60	0.012			
25	Maximum Voltage	31.89	0.017			
25	BEP	24.83	0.013			

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 GSM 850 BAND

# Lowest Channel



## Middle Channel

gilent Spectrum An								
RL RF			SENSE: IN	r	ALIGNAUTO			52 PM May 27,
Center Freq 4	4.515000000 GH	Z PNO: Fast IFGain:Low	G Trig #Atte	Free Run m: 36 dB	Avg Ty	pe: Log-Pwr		TYPE MWW DET P P P
0 dB/div Re	Offset 8.5 dB 7 34.50 dBm						Mkr1 8 28	36.9 N .621 d
og Trace 1 P	1.s							
24.0								
14.5								
4.50								
5.50								
5.5			-			_	_	-
25.5							<u>2</u>	
35.5	and the second se	والمعرب والمحدور			and the second second	uto meneral and	al. Ωu	
45.5								
6.5								
itart 30 MHz Res BW 1.0 I	MHz	;	#VBW 3.0	MHz		Swe	Stop ep 16.0 ms	9.000 0 (20001
KR MODE TRC SCL			Y	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
1 N 1 f 2 N 1 f	836.9 7.439 2	MHz 28	.621 dBm .070 dBm					
3	1.439 2	GHZ -55	.070 aBm					
4								
5 6 7								
7								
9								
10								
12								
12								

## **Highest Channel**

enter F ASS	Freq 4.5150	DOOOOO GHz PNI IFGa	D: Fast 😱 Trig: F iin:Low #Atten	ree Run : 36 dB	Avg Type:	Log-Pwr	т	TYPE MWMMM DET P P P P
0 dB/div	Ref Offset 8 Ref 34.50							49.0 MH 493 dB
og Z4.6 Tra	ce 1 PLLs							
4.6								
.50	_							
.50								
5.5								
5.5						$\triangle^2$	damat	
5.5								-
5.5								
tart 30 Res BW	MHZ ( 1.0 MHZ		#VBW 3.0 N	IHz		Swee	Stop p 16.0 ms	9.000 G (20001 p
KR MODE 1	TRC SCL	× 849.0 MHz	28.493 dBm	FUNCTION FUNC	CTION WIDTH	A.	INCTION VALUE	
2 N	i i	6.910 0 GHz	-36.060 dBm					
3 4								
5								
7								
8								
8 9 0								

Shenzhen STS Test Services Co., Ltd.

### GPRS 850 BAND

#### Lowest Channel

gilent Spectr	um Ana	lyzer - Swept								
RL	RF	50 Ω			SENSE:INT	A	LIGNAUTO			8 PM May 27, 2
Center F	req 4	.515000	000 GHz	PNO: Fast Gain:Low	⊃ Trig:FreeR #Atten:36 d	un B	Avg Type	: Log-Pwr	т	TYPE MWAAWA DET P P P P I
0 dB/div		Offset 8.5 d 34.50 dE								24.3 MI 794 dB
24.6 Trac	e 1 P.	1 <sub>Js</sub>								
14.5										
50										
5.5								2		
1.5	-						inter to district			
5.5										
art 30 M Res BW		IHz		#VB	W 3.0 MHz			Swee	Stop p 16.0 ms	9.000 G (20001 p
R MODE TR	RC  SCL		x	Y	FUNCT	ION FUNC	TION WIDTH	1	UNCTION VALUE	
1 N 1 2 N 1 3 4	f		824.3 MHz 6.488 4 GHz	28.794 -35.038						
5 6 7										
B 9 0										
1										

#### Middle Channel

RL RF	r - Swept SΛ 50 Ω AC	SENSE:INT		ALIGNAUTO		03:36:04	M May 27, 2
enter Freq 4.51 ASS	PN	0: Fast Trig: f ain:Low #Atter	ree Run : 36 dB	Avg Type	: Log-Pwr	T)	CE 1 2 3 4 PE MWANA ET P P P P
dB/div Ref 34	et 8.5 dB .50 dBm					Mkr1 83 28.7	6.9 MH 45 dB
Trace 1 1.1s							
4.5							
50							
60							
5.5							
i.5						A2	
i.5	and the second	and the second data	and the second second		a anti-sector state	- M	
i.5			_				
5.5							
tart 30 MHz Res BW 1.0 MHz		#VBW 3.0 N	1Hz		Swee	Stop 9 p 16.0 ms (2	.000 G 20001 p
R MODE TRC SCL	836.9 MHz	28,745 dBm	FUNCTION	UNCTION WIDTH	FI	UNCTION VALUE	
2 N 1 f	8.022 3 GHz	-35.100 dBm					
1							
5							
3							
1							
2							

#### Highest Channel

	um Analyzer - Swe							
enter F	RF 50 x req 4.51500	0000 GHz	SENSE: IN	: Free Run	ALIGNAUTO Avg Type:	Log-Pwr	T	PPM May 27, 2
ASS		PN IFG	IO: Fast 😱 Trig ain:Low #Att	en: 36 dB				DETPPP
dB/div	Ref Offset 8.5 Ref 34.50 d						Mkr1 8 28.	49.0 M 602 dE
g Trac	e 1 <mark>1,1</mark> s							
50								
5								
5								
5	State of State State	and the state of the	And Personal Property lies	-	and a second	Q.	والتربيب القافين	-
5								
5		_						
art 30 M						-		9.000 G
	1.0 MHz		#VBW 3.0				16.0 ms	(20001
R MODE T	RC SCL	× 849.0 MHz	28.602 dBm	FUNCTION	FUNCTION WIDTH	FUI	NCTION VALUE	
N 1	f	7.098 4 GHz	-36.370 dBm					
					STATUS			
3					STATUS			

Shenzhen STS Test Services Co., Ltd.

# Report No.: STS1705216F01

# GSM1900 BAND(30M-20G)

## Lowest Channel

	Analyzer - Swep							
RL		AC CIL	SENS	E:INT	ALIGNAUTO Avg Type	Log Dur		11 PM May 27, 2 TRACE 2 2 3 4
ASS	q 10.01500	PI	NO: Fast 🕞 T Sain:Low	'rig: Free Run Atten: 36 dB	Avg type	Log-Pwr		DET P P P P
) dB/div	Ref Offset 9.5 o Ref 35.50 dB						Mkr1 1.8 25	350 3 GI .802 dB
5.6 Trace	1 N 1 s							
50								
50	-							
.5								2
5								
1.5								
art 30 MH Res BW 1.			#VBW 3	3.0 MHz		Swe	Stop ep 50.7 ms	20.000 G (40001 p
	SCL	×	Y	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
N 1 N 1	SGL f f	× 1.850 3 GHz 18.941 6 GHz	25.802 dBr -29.842 dBn	n	FUNCTION WIDTH		FUNCTION VALUE	
N 1 N 1	SCL f f	1.850 3 GHz	25.802 dBr	n	FUNCTION WIDTH		FUNCTION VALUE	
2 N 1 3 4 5 7 8	f f	1.850 3 GHz	25.802 dBr	n	FUNCTION WIDTH		FUNCTION VALUE	
N 1 2 N 1 4	f f	1.850 3 GHz	25.802 dBr	n	FUNCTION WIDTH		FUNCTION VALUE	

#### Middle Channel

RL RF	50 Q /	C DOOD GHz	NO: East	SE:JNT Trig: Free F #Atten: 36 d	Run	ALIGNAUTO Avg Typ	e: Log-Pwr	04:02	TRACE 2 3 4 TYPE MINHON DET P P P P
Ref 0 dB/div Ref	Offset 9.5 dE f 35.50 dB	3	ain:Low	antien, oo t	10				880 2 GI 5.705 dB
og Trace 1 P	1 <u>s</u>								
5.5									
50									
60									
1.5								2	
1.5						+	an balle	$\Delta^2$	
1.5	and the state of the second			متا الردانية					
1.5									-
1.5									
tart 30 MHz Res BW 1.0 I	MHz		#VBW	3.0 MHz			Swe	Stop ep 50.7 m	20.000 G s (40001 p
rr mode troj sol 1 n 1 f		× 1.880 2 GHz	25.705 dB		TION FUN	CTION WIDTH		FUNCTION VALUE	
2 N 1 f		16.105 9 GHz	-29.352 dB	m					
5									
4 5 5 7									
8									
D 1									
2									
3						STATUS			

#### Highest Channel

	um Analyzer - Swept SA							
Center Fi PASS	RF 50 Ω AC req 10.01500000	O GHz PNO: Fa IFGain:L		ree Run 1: 36 dB	ALIGNAUTO Avg Type:	-	TF	3 PM May 27, 2017 NACE 1 2 3 4 5 6 TYPE MINIMUM DET P P P P P P
10 dB/div	Ref Offset 9.5 dB Ref 35.50 dBm							09 7 GHz 606 dBm
25.5 Trac	e 1 F <mark>v.1</mark> 3							
15.6 5.50								
-4.50								
-24.5	No. Andread						<sup>2</sup>	
-34.5								
-54.5							<b>D</b> ta = 0	
Start 30 N #Res BW	1.0 MHz		#VBW 3.0 N				50.7 ms	0.000 GHz (40001 pts)
1 N 1 2 N 1 3 4	f 1.		25.606 dBm 28.066 dBm	FUNCTION	UNCTION WIDTH	FU	NCTION VALUE	
2 N 1 3 4 5 6 7 8 9 10								
11 12 MSG					STATUS			

Shenzhen STS Test Services Co., Ltd.

# Report No.: STS1705216F01

# GPRS1900 BAND(30M-20G)

## Lowest Channel

RL	RF 50 Ω		SENSE: IN	T	ALIGNAUTO		04:07	:40 PM May 27, 2
enter Fre ASS	q 10.01500	PN	0: Fast 😱 Trig ain:Low #Att	:FreeRun en:36 dB	Avg Type:	Log-Pwr		TYPE MMMM DET P P P P
0 dB/div	Ref Offset 9.5 d Ref 35.50 dE							850 3 GI 5.829 dB
og 15.6 Trace	1 N 1s							
5.6								
50								
1.5							$\langle \rangle^2$	
1.5			-			Street, so the second		
1.5								
art 30 MH	47						Stop	20.000 G
Res BW 1			#VBW 3.0	MHZ		Swe	ep 50.7 m	s (4000 i h
Res BW 1.	0 MHz	X	Y		FUNCTION WIDTH	Swe	ep 50.7 m runenonverue	5 (40001 p
E MODE TER N 1 2 N 1 3	0 MHz	× 1.850 3 GHz 16.465 3 GHz			FUNCTION WIDTH	Swe		5 (40001)
E MODE 1990 N 1 2 N 1 3 4 5 5 7	0 MHz	1.850 3 GHz	25.829 dBm		FUNCTION WIDTH	Swe		5 (40001)
Image         TER           N         1           2         N         1           3         4         5           5         5         5           6         7         8           9         9         1	0 MHz	1.850 3 GHz	25.829 dBm		FUNCTION WIDTH	Swe		s (4000 T h
KR MODE THE	0 MHz	1.850 3 GHz	25.829 dBm		FUNCTION WIDTH	Swe		s (+000 T þ

#### Middle Channel

RL	RF 50	R AC	SENSE:	INT	ALIGNAUTO		04:0	2:23 PM May 27, 2
nter Fr		000000 GHz	NO: Faet	g: Free Run	Avg Typ	e: Log-Pwr	04.0	TRACE 1 2 3 4 TYPE MMMM DET P P P P
SS			Gain:Low #A	tten: 36 dB				
dB/div	Ref Offset 9 Ref 35.50	.5 dB dBm						880 2 G 5.702 dE
Trace	1 K 1s							
5								
10								
õ								
5								
5							2	
			the second second	a constanta				والتام ويلغى
5								
5								
.5								
art 30 M es BW 1			#VBW 3.	0 MHz		Swe	Stop ep 50.7 m	20.000 G s (40001 p
MODE TRO		×	Y	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
N 1 N 1	f	1.880 2 GHz 16.525 2 GHz	25.702 dBm -27.907 dBm					
N 1								

#### Highest Channel

	rum Analyzer - Swep								
Center F PASS	RF 50 Ω Treq 10.01500	DOOOO GHz	IO: Fast	EINT rig: Free Run Atten: 36 dB		AVg Type: L	-	T	0 PM May 27, 2017 RACE 1 2 3 4 5 6 TYPE MUMMUM DET P P P P P F
10 dB/div	Ref Offset 9.5 Ref 35.50 dl	dB Bm						Mkr1 1.9 25.	10 2 GHz 606 dBm
25.5 Trac	e 1 F <mark>2.</mark> 13								
15.6 5.50									
-4.50									
-24.5								<sup>2</sup>	
-34.5									
-54.5									
Start 30 M #Res BW			#VBW 3	3.0 MHz			Sweep	Stop 2 50.7 ms	20.000 GHz (40001 pts)
MKR MODE TO	RC SCL	× 1.910 2 GHz	25.606 dBr		FUNCTION	N WIDTH	FU	NCTION VALUE	
2 N 1 3 4	ſ	16.545 2 GHz	-28.269 dBn	n					
2 N 1 3 4 5 6 7 8 9 10									
8 9									
10 11 12									
MSG						STATUS			

Shenzhen STS Test Services Co., Ltd.

# Report No.: STS1705216F01

# WCDMA Band V (RMC 12.2Kbps)

## Lowest Channel

		er - Swept SJ								
	RF Freq 4.5	50 Q AC	00 GHz	NO: Fast	ENSE: JNT	Run	Avg Type:	Log-Pwr	T	RACE 1 2 3 4 TYPE MWWW
ASS				Gain:Low	#Atten: 36	dB				DET P P P P
0 dB/div		fset 8.5 dB 3.79 dBm	1						Mkr1 8 23.	25.6 MI 788 dE
3.8 Tra	ce 1 👥	s								
3.8										
179										
21										
6.2										
6.2									.2	
6.2			a substantial literation	ملحصاتكماس			and a second second	and the second second	$\langle \rangle^2$	
6.2										
6.2										
tart 30 Res BV	MHZ V 1.0 MH	z		#VBI	₩ 3.0 MHz			Swee	Stop p 16.0 ms	9.000 G (20001 p
KR MODE	TRC SCL		825.6 MHz	23,788		CTION FUNC	TION WIDTH	F	INCTION VALUE	
1 N 2 N	1 f		7.367 5 GHz	-35.556						
3										
5 6 7										
7										
8 9										
0										
2										
G							STATUS			

#### Middle Channel

R L RF	50 Q AC		SENSE: I	VT	ALI	GNAUTO			17 PM May 27,2
enter Freq 4. ASS	515000000 GH	IZ PNO: IFGain		g:FreeRun ten:36 dB		Avg Type	: Log-Pwr		TYPE NUMAN DET P P P P
dB/div Ref	ffset 8.5 dB 33.77 dBm							Mkr1 8 23.	38.2 MI 768 dB
g Trace 1 😥	S								
1.8									
77									
23									
.2									
12					⊘2				
12		والمحاجبين	and the state of the	State of the	W			and the second second	-
1.2									
1.2									
art 30 MHz Res BW 1.0 M	Hz		#VBW 3.0	MHz			Swee	Stop p 16.0 ms	9.000 G (20001 p
R MODE TRC SCL		2 MHz	23.768 dBm	FUNCTION	FUNCT	ION WIDTH	F	UNCTION VALUE	
N 1 f	5.053	2 GHz	-34.965 dBm						
3									
3									
2									

## **Highest Channel**

L RF	yzer - Swept SA S0 Q AC		ENSE:INT	ALIGNAUTO		03:27:43 PM	May 2
	.515000000 GHz	PNO: Fast		Avg Type	Log-Pwr	TRACE	12:
Ref C B/div <b>Ref</b>	0ffset 8.5 dB 33.74 dBm					Mkr1 846. 23.74	
Trace 1 😥	1.s						_
					$\bigcirc^2$		
a interestinguistes							
t 30 MHz s BW 1.0 M	Hz	#VBI	N 3.0 MHz		Swee	Stop 9.0 p 16.0 ms (20	.00 001
MODE TRC SCL N 1 f	× 846.3 M	AHz 23.743	FUNCTION	FUNCTION WIDTH	FL	INCTION VALUE	-
N 1 f	7.017 6 0	GHz -34.831	dBm				
							_
				STATUS			

Shenzhen STS Test Services Co., Ltd.

# WCDMA Band II (RMC 12.2Kbps)(30M-20G)

# 

### Lowest Channel

Middle Channel

eq 10.015	PN		g:FreeRun ten:36 dB	Ауд Туре	: Log-Pwr		TYPE MWWW DET P P P F
	9.5 dB						78 7 G .163 dE
1 K 1s							
						~2	
and the second second	Manual Street, or other Designation of the local division of the l	State State States	and the second second	and the second designation of the second designation of the second designation of the second designation of the			
IHz 1.0 MHz		#VBW 3.0	MHz		Swe	Stop ep 50.7 ms	20.000 G (40001
C SCL	X 070 7 011-	Y 04.402.4Dm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
1	16.385 4 GHz	-28.327 dBm					
	Ref Offsets Ref 31.16 1 101s	IFG           Ref Offset 9.5 dB           Ref 31.16 dBm           11015           IA           IA </td <td>PROF.Fast Prof. 2016 Ref Officet 9.5 dB Ref 31.16 dBm 110,15 110,</td> <td>PHO: Fest PHO: Fest PHO: Fest Ref Officet 9.5 dB Ref 31.16 dBm PHO: Fest Atten: 36 dB PHO: 56 dB P</td> <td>Image: Processing of the second sec</td> <td>Image: Pipe Factor         Trig: Free Run #Kten: 36 dB           Ref 31.16 dBm         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image</td> <td>PHO Fear         Trig Free Run           IF Gaint aw         Trig Free Run           Ref 070set 9.5 dB         21           Ref 31.16 dBm         21           If all 5         31           If all 5         31</td>	PROF.Fast Prof. 2016 Ref Officet 9.5 dB Ref 31.16 dBm 110,15 110,	PHO: Fest PHO: Fest PHO: Fest Ref Officet 9.5 dB Ref 31.16 dBm PHO: Fest Atten: 36 dB PHO: 56 dB P	Image: Processing of the second sec	Image: Pipe Factor         Trig: Free Run #Kten: 36 dB           Ref 31.16 dBm         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image: Pipe Run #Kten: 36 dB           Image: Pipe Run #Kten: 36 dB         Image	PHO Fear         Trig Free Run           IF Gaint aw         Trig Free Run           Ref 070set 9.5 dB         21           Ref 31.16 dBm         21           If all 5         31           If all 5         31

### **Highest Channel**

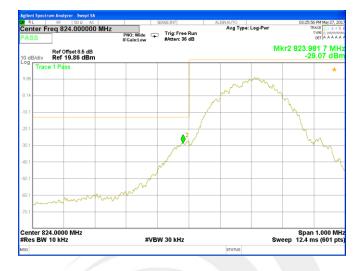
	rum Analyzer - Swep								
Contor F	RF 50 Ω req 10.01500		SEN	SE:INT	ALI	IGNAUTO Avg Type:	Log-Pwr		1 PM May 27,2017
PASS	164 10.01500	P	'NO: Fast 😱 Gain:Low	Trig: Free Ru #Atten: 36 dE	un B				DET P P P P P
10 dB/div	Ref Offset 9.5 Ref 31.57 dl							Mkr1 1.9 21.	06 7 GHz 572 dBm
Log	e 1 F 13	5111							
21.6	e 1 1 2 3								
11.6									
1.57									
-8.43									
-18.4								2	
-28.4			a balance and a street of		- 1				
-38.4									
-48.4									
-58.4									
Start 30 P	WHz							Stop 2	20.000 GHz
#Res BW	1.0 MHz		#VBW	3.0 MHz			Swee	p 50.7 m/s	(40001 pts)
MKR MODE T		×	Y	FUNCTI	ON FUNCT	ION WIDTH	A	INCTION VALUE	
1 N 1 2 N 1	f	1.906 7 GHz 16.525 2 GHz	21.572 dE -28.314 dB						
3		IU.ULU L UTIL	20.014 00						
4									
2 N 1 3 4 5 6 7 8 9 10									
8									
10									
11 12									
MSG						STATUS			

Shenzhen STS Test Services Co., Ltd.

### A7 BAND EDGE

### GSM 850

#### Lowest Band Edge



#### Highest Band Edge



Shenzhen STS Test Services Co., Ltd.

# Report No.: STS1705216F01

### **GPRS 850**

## Lowest Band Edge



## Highest Band Edge

RL RF 50Ω AC Inter Freq 849.000000 SS Ref Offset 8.8 dB	MHz	PNO: Wide Gain:Low	SENSE:INT Trig: Free #Atten: 36	Run	Avg Type: I		T	6 PM May 27, 2 RACE 1 2 3 4 TYPE A WWWW DET A A A A 18 3 MH
dB/div Ref 19.72 dBm							-2	6.67 dB
72	m	wh						*
3			hore to					
3				2°				
3				Jul				
3					al way was	1 million		
3						mon	mm	m
nter 849.0000 MHz							Snar	1.000 M

Shenzhen STS Test Services Co., Ltd.

## Report No.: STS1705216F01

### GSM 1900

## Lowest Band Edge



## Highest Band Edge

RL         RF         S0 g         AC           enter Freq 1.91000000         ASS         ASS			Run	LIGNAUTO Avg Type:	Log-Pwr	T	19 PM May 27, 2 RACE 1 2 3 4 TYPE A WANNA DET A A A A
Ref Offset 9.5 dB					Mk	r2 1.910 0 -2	9.26 dB
Trace 1 Pass							*
5.85	wwww	m					
.15		h					
4.2		1	_				
42			Å,				
12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			N				
12				man			
12				www	www	mm	m
.2							
enter 1.9100000 GHz						Spar	1.000 M
Res BW 10 kHz		#VBW 30 kHz			Sv	veep 12.4 n	ns (601 p

Shenzhen STS Test Services Co., Ltd.

#### **GPRS 1900**

## Lowest Band Edge



### **Highest Band Edge**

RL RF 50 Ω AC Center Freq 1.910000000 GH ASS	Z PNO: Wide IFGain:Low Trig: Fre #Atten:	e Run	Avg Type: Log-f		D4:11:28 PM May 27, 2 TRACE 1 2 3 4 TYPE A WWW DET A A A A
Ref Offset 9.5 dB 0 dB/div Ref 15.88 dBm				Mkr2 1.9	910 020 0 GI -32.35 dB
Trace 1 Pass					*
12	month				
4.1	h h				
4.1		.2			
4.1 Mar 10		W.			
.1		- N			
L.1			Lynn	many	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
4.1					
enter 1.9100000 GHz Res BW 10 kHz	#VBW 30 kHz			Sweep	Span 1.000 M 12.4 ms (601 p
a			STATUS		

Shenzhen STS Test Services Co., Ltd.

## Report No.: STS1705216F01

# 47 of 55

#### WCDMA Band VRMC 12.2Kbps

## Lowest Band Edge



## Highest Band Edge

Center Freq 849	50 Ω AC 0.000000 MHz	PNO: W IFGain:	] fide 🕞	Trig: Free #Atten: 36	Run dB	ALIGNAUTO Avg Type:	Log-Pwr		S:08 PM May 27,20 TRACE
	set 8.5 dB 5.27 dBm								9.083 MH 27.59 dB
Trace 1 Pass									
4.73	·····	~~~~~	~~~	~					
14.7									
24.7					<b>2</b>				
34.7				}	X				
					~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
4.7									
54.7									
54.7									
74.7									
Center 849.000 M Res BW 47 kHz	IHz		#VB	W 160 kHz			s	Spa weep 2.80	an 5.000 M ms (601 p

Shenzhen STS Test Services Co., Ltd.

## Report No.: STS1705216F01

# WCDMA Band IIRMC 12.2Kbps

## Lowest Band Edge

Cent	er Freq	nalyzer - Swept 50 ຂ 1.850000	AC	PNO: Wide	SENSE:INT	Run	IGNAUTO Avg Type: I	Log-Pwr	T	8 PM May 27,201 ACE 1 2 3 4 5 1 TYPE A WAYWAW
10 dB	Ref	f Offset 9.5 d f 11.95 dB		IFGain:Low	#Atten: 36	dB		М	kr2 1.850	000 GH
1.95	Trace 1 F	ass								
-8.05						-				
-18.1						/				
-28.1						2				
-38.1	~~~~~									
-48.1										
-58.1										
-78.1										
	er 1.8500 BW 47 k				BW 160 kHz			<b>6</b>	Span eep 2.80 m	5.000 MH
#Res	DVV 4/ K	Inz		#V	BW 100 KH2		STATUS	5₩	eep 2.80 n	is (601 pt

# Highest Band Edge

Center Freq 1.91	50 Ω AC	z	SENSE:INT		ALIGNAUTO Avg Type:	Log-Pwr		03:22:36 PM May 27,20 TRACE 1 2 3 4 5
PASS		PNO: Wide IFGain:Low	Trig: Free #Atten: 36	Run dB				DET À À À À À
10 dB/div Ref 13	et 9.5 dB . <b>16 dBm</b>						Mkr2 1.	910 000 GH -26.97 dBi
Trace 1 Pass								
3.16		m						
6.84								
16.8				2				
26.8			,	<u>}</u>				
36.8				~~~		~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mm
46.8								
56.8								
65.8								
76.8								
								C 000 M
Center 1.910000 ( #Res BW 47 kHz	GHZ	#V	'BW 160 kHz				Sweep 2.	Span 5.000 MH 80 ms (601 pt
MSG					STATUS			

Shenzhen STS Test Services Co., Ltd.

## Report No.: STS1705216F01

## A8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT GSM 850: (30-9000)MHz

		GSM	850: (30-9	000)MHz						
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz					
	S G.Lev			PMea	Limit	Margin				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity			
1648.38	-41.20	9.40	4.75	-36.55	-13.00	-23.55	Н			
2472.60	-40.06	10.60	8.39	-37.85	-13.00	-24.85	Н			
3296.72	-31.54	12.00	11.79	-31.33	-13.00	-18.33	Н			
1648.31	-43.98	9.40	4.75	-39.33	-13.00	-26.33	V			
2472.44	-45.42	10.60	8.39	-43.21	-13.00	-30.21	V			
3296.62	-42.88	12.00	11.79	-42.67	-13.00	-29.67	V			
The Worst Test Results Channel 190/836.6 MHz										
	S G.Lev	Ant(dBi)		PMea	Limit	Margin	Polority			
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity			
1672.98	-41.24	9.50	4.76	-36.50	-13.00	-23.50	Н			
2509.80	-40.64	10.70	8.40	-38.34	-13.00	-25.34	Н			
3346.11	-30.92	12.20	11.80	-30.52	-13.00	-17.52	Н			
1672.91	-43.71	9.40	4.75	-39.06	-13.00	-26.06	V			
2509.55	-44.58	10.60	8.39	-42.37	-13.00	-29.37	V			
3345.96	-43.58	12.20	11.82	-43.20	-13.00	-30.20	V			
	The W	orst Test R	esults Ch	annel 251/8	848.8 MHz					
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity			
Frequency(MHZ)	(dBm)	Ani(ubi)	L055	(dBm)	(dBm)	(dB)	Folanty			
1697.49	-40.21	9.60	4.77	-35.38	-13.00	-22.38	Н			
2546.07	-39.45	10.80	8.50	-37.15	-13.00	-24.15	Н			
3395.19	-31.71	12.50	11.90	-31.11	-13.00	-18.11	Н			
1697.50	-44.09	9.60	4.77	-39.26	-13.00	-26.26	V			
2546.37	-44.25	10.80	8.50	-41.95	-13.00	-28.95	V			
3394.86	-43.57	12.50	11.90	-42.97	-13.00	-29.97	V			

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

(2)Above 3.5GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

#### GPRS 850: (30-9000)MHz

		GPRS	850: (30-9	000)MHz								
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz							
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity					
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity					
1648.34	-40.57	9.40	4.75	-35.92	-13.00	-22.92	Н					
2472.27	-40.62	10.60	8.39	-38.41	-13.00	-25.41	Н					
3296.73	-30.87	12.00	11.79	-30.66	-13.00	-17.66	Н					
1648.11	-44.57	9.40	4.75	-39.92	-13.00	-26.92	V					
2472.52	-45.44	10.60	8.39	-43.23	-13.00	-30.23	V					
3296.54	-43.63	12.00	11.79	-43.42	-13.00	-30.42	V					
	The Worst Test Results Channel 190/836.6 MHz											
	S G.Lev	Apt(dDi)		PMea	Limit	Margin	Delarity					
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity					
1673.14	-40.17	9.50	4.76	-35.43	-13.00	-22.43	Н					
2509.81	-39.48	10.70	8.40	-37.18	-13.00	-24.18	Н					
3346.23	-32.00	12.20	11.80	-31.60	-13.00	-18.60	Н					
1672.87	-43.75	9.40	4.75	-39.10	-13.00	-26.10	V					
2509.76	-44.39	10.60	8.39	-42.18	-13.00	-29.18	V					
3346.38	-43.65	12.20	11.82	-43.27	-13.00	-30.27	V					
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity					
Frequency(MHZ)	(dBm)	Ani(ubi)	L055	(dBm)	(dBm)	(dB)	Folanty					
1697.52	-40.88	9.60	4.77	-36.05	-13.00	-23.05	Н					
2546.50	-39.30	10.80	8.50	-37.00	-13.00	-24.00	Н					
3394.87	-32.15	12.50	11.90	-31.55	-13.00	-18.55	Н					
1697.53	-43.42	9.60	4.77	-38.59	-13.00	-25.59	V					
2546.11	-44.85	10.80	8.50	-42.55	-13.00	-29.55	V					
3395.02	-43.56	12.50	11.90	-42.96	-13.00	-29.96	V					

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

(2)Above 3.5GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

### PCS 1900: (30-20000)MHz

DCS 1900: (30-20000)MHz							
The Worst Test Results for Channel 512/1850.2MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)			(dBm)	(dBm)	(dB)	
3700.18	-34.66	12.60	12.93	-34.99	-13.00	-21.99	Н
5550.32	-34.26	13.10	17.11	-38.27	-13.00	-25.27	Н
7400.48	-32.45	11.50	22.20	-43.15	-13.00	-30.15	Н
3700.51	-35.01	12.60	12.93	-35.34	-13.00	-22.34	V
5550.51	-34.88	13.10	17.11	-38.89	-13.00	-25.89	V
7400.98	-32.01	11.50	22.20	-42.71	-13.00	-29.71	V
The Worst Test Results for Channel 661/1880.0MHz							
	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)			(dBm)	(dBm)	(dB)	
3759.82	-34.79	12.60	12.93	-35.12	-13.00	-22.12	Н
5640.27	-34.07	13.10	17.11	-38.08	-13.00	-25.08	Н
7519.97	-32.83	11.50	22.20	-43.53	-13.00	-30.53	Н
3760.22	-35.01	12.60	12.93	-35.34	-13.00	-22.34	V
5639.94	-35.01	13.10	17.11	-39.02	-13.00	-26.02	V
7520.02	-31.85	11.50	22.20	-42.55	-13.00	-29.55	V
	The Wor	st Test Res	sults for C	hannel 810	)/1909.8MH	z	
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
Frequency(MHZ)	(dBm)	Ani(ubi)	L055	(dBm)	(dBm)	(dB)	Folanty
3819.53	-34.60	12.60	12.93	-34.93	-13.00	-21.93	Н
5729.22	-34.30	13.10	17.11	-38.31	-13.00	-25.31	Н
7639.15	-32.72	11.50	22.20	-43.42	-13.00	-30.42	Н
3819.48	-35.27	12.60	12.93	-35.60	-13.00	-22.60	V
5729.06	-35.18	13.10	17.11	-39.19	-13.00	-26.19	V
7639.26	-31.93	11.50	22.20	-42.63	-13.00	-29.63	V

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

(2)Above 8GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

#### GPRS 1900: (30-20000)MHz

GPRS1900: (30-20000)MHz							
The Worst Test Results for Channel 512/1850.2MHz							
Frequency(MHz)	S G.Lev	, Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)			(dBm)	(dBm)	(dB)	
3700.17	-34.60	12.60	12.93	-34.93	-13.00	-21.93	Н
5550.30	-34.82	13.10	17.11	-38.83	-13.00	-25.83	Н
7400.77	-32.95	11.50	22.20	-43.65	-13.00	-30.65	Н
3700.51	-35.79	12.60	12.93	-36.12	-13.00	-23.12	V
5550.36	-33.75	13.10	17.11	-37.76	-13.00	-24.76	V
7400.94	-32.64	11.50	22.20	-43.34	-13.00	-30.34	V
The Worst Test Results for Channel 661/1880.0MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
Frequency(MHZ)	(dBm)			(dBm)	(dBm)	(dB)	
3759.87	-33.52	12.60	12.93	-33.85	-13.00	-20.85	Н
5640.22	-34.76	13.10	17.11	-38.77	-13.00	-25.77	Н
7519.94	-33.24	11.50	22.20	-43.94	-13.00	-30.94	Н
3760.29	-35.01	12.60	12.93	-35.34	-13.00	-22.34	V
5640.22	-34.85	13.10	17.11	-38.86	-13.00	-25.86	V
7519.98	-31.72	11.50	22.20	-42.42	-13.00	-29.42	V
	The Wor	st Test Res	sults for C	hannel 810	)/1909.8MH	z	
	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)	Ani(ubi)	L055	(dBm)	(dBm)	(dB)	Folanty
3819.47	-34.31	12.60	12.93	-34.64	-13.00	-21.64	Н
5729.12	-34.14	13.10	17.11	-38.15	-13.00	-25.15	Н
7638.97	-32.73	11.50	22.20	-43.43	-13.00	-30.43	Н
3819.50	-35.08	12.60	12.93	-35.41	-13.00	-22.41	V
5729.22	-34.18	13.10	17.11	-38.19	-13.00	-25.19	V
7639.16	-31.88	11.50	22.20	-42.58	-13.00	-29.58	V

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

(2)Above 8GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

#### UMTS band V(30-9000)MHz

WCDMA Band V: (30-9000)MHz							
The wost testresults channel 4132/826.4MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)			(dBm)	(dBm)	(dB)	
1652.03	-41.42	9.40	4.75	-36.77	-13.00	-23.77	Н
2479.26	-39.80	10.60	8.39	-37.59	-13.00	-24.59	Н
3305.74	-31.31	12.00	11.79	-31.10	-13.00	-18.10	Н
1652.17	-44.02	9.40	4.75	-39.37	-13.00	-26.37	V
2479.64	-44.26	10.60	8.39	-42.05	-13.00	-29.05	V
3305.51	-43.97	12.00	11.79	-43.76	-13.00	-30.76	V
The Worst Test Results Channel 4183/836.6MHz							
	S G.Lev			PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	
1673.02	-41.08	9.50	4.76	-36.34	-13.00	-23.34	Н
2509.64	-39.58	10.70	8.40	-37.28	-13.00	-24.28	Н
3346.03	-31.83	12.20	11.80	-31.43	-13.00	-18.43	Н
1672.85	-43.54	9.40	4.75	-38.89	-13.00	-25.89	V
2509.42	-44.35	10.60	8.39	-42.14	-13.00	-29.14	V
3346.18	-43.90	12.20	11.82	-43.52	-13.00	-30.52	V
	The Wo	orst Test R	esults Cha	annel 4233	/846.6MHz		
Frequency(MHz)	S G.Lev	Apt(dDi)		PMea	Limit	Margin	Delarity
Frequency(MHZ)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity
1693.37	-40.71	9.60	4.77	-35.88	-13.00	-22.88	Н
2539.42	-39.95	10.80	8.50	-37.65	-13.00	-24.65	Н
3386.03	-31.16	12.50	11.90	-30.56	-13.00	-17.56	Н
1693.18	-43.83	9.60	4.77	-39.00	-13.00	-26.00	V
2539.11	-44.68	10.80	8.50	-42.38	-13.00	-29.38	V
3385.93	-43.85	12.50	11.90	-43.25	-13.00	-30.25	V

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 has.

#### UMTS band II(30-20000)MHz

WCDMA Band II: (30-20000)MHz							
The Worst Test Results for Channel 9262/1852.4MHz							
Frequency(MHz)	S G.Lev		Loss	PMea	Limit	Margin	Polarity
	(dBm)	Ant(dBi)		(dBm)	(dBm)	(dB)	
3704.36	-33.44	12.60	12.93	-33.77	-13.00	-20.77	Н
5557.40	-33.99	13.10	17.11	-38.00	-13.00	-25.00	Н
7409.52	-32.15	11.50	22.20	-42.85	-13.00	-29.85	Н
3704.00	-34.52	12.60	12.93	-34.85	-13.00	-21.85	V
5557.35	-33.75	13.10	17.11	-37.76	-13.00	-24.76	V
7409.61	-31.71	11.50	22.20	-42.41	-13.00	-29.41	V
The Worst Test Results for Channel 9400/1880MHz							
	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)			(dBm)	(dBm)	(dB)	
3760.07	-33.44	12.60	12.93	-33.77	-13.00	-20.77	Н
5639.90	-33.99	13.10	17.11	-38.00	-13.00	-25.00	Н
7519.88	-32.15	11.50	22.20	-42.85	-13.00	-29.85	Н
3760.04	-34.52	12.60	12.93	-34.85	-13.00	-21.85	V
5640.07	-33.75	13.10	17.11	-37.76	-13.00	-24.76	V
7519.95	-31.71	11.50	22.20	-42.41	-13.00	-29.41	V
	The Wors	st Test Res	ults for Ch	nannel 953	8/1907.6MH	Iz	
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity
3815.39	-33.44	12.60	12.93	-33.77	-13.00	-20.77	Н
5722.12	-33.99	13.10	17.11	-38.00	-13.00	-25.00	Н
7629.86	-32.15	11.50	22.20	-42.85	-13.00	-29.85	Н
3815.47	-34.52	12.60	12.93	-34.85	-13.00	-21.85	V
5722.05	-33.75	13.10	17.11	-37.76	-13.00	-24.76	V
7630.22	-31.71	11.50	22.20	-42.41	-13.00	-29.41	V

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

(2)Above 6GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

## APPENDIX BPHOTOS OF TEST SETUP

RADIATED SPURIOUS EMISSION

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Shenzhen STS Test Services Co., Ltd.