

RADIO TEST REPORT

Report No: STS1604146F01

Issued for

ShenZhen Aratek Biometrics Technology Co.,Ltd

2F,T2-A Building,ShenZhen Software Park,South Area,Hi-Tech Park,ShenZhen,Guangdong,China

Product Name:	Fingerprint smart terminal
Brand Name:	A Jralek
Model Name:	BM7500
Series Model:	BM7510,BM7520,BM7530,BM7540,BM7550, BM7560,BM7570,BM7580,BM7590
FCC ID:	2AGUJ-BM7500
Test Standard:	FCC Part 22H and 24E



Any reproduction of this document must be done in full. No single part of this document ne permission from STS, All Test Data Presented in this report is only applicable to presented Test

S T



TEST RESULT CERTIFICATION

Applicant's name:	ShenZhen Aratek Biometrics Technology Co.,Ltd
Address:	2F,T2-A Building,ShenZhen Software Park,South Area,Hi-Tech Park,ShenZhen,Guangdong,China
Manufacture's Name:	ShenZhen Aratek Biometrics Technology Co.,Ltd
Address:	2F,T2-A Building,ShenZhen Software Park,South Area,Hi-Tech Park,ShenZhen,Guangdong,China
Product name:	Fingerprint smart terminal
Brand name:	
Model and/or type reference :	BM7500
Standards:	FCC Part 22H and 24E
Test procedure	ANSI/TIA 603-D (2010)

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.

This report shall not be reproduced except in full, without the written approval of STS, this document may be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test

Date of performance of tests 25 Apr. 2016 ~09 May. 2016

Date of Issue 10 May. 2016

Test Result Pass

Testing Engineer :	Burning
Technical Manager :	(Jin Ming) (Jin Ming) (Vita Li) (Vita Li)
Authorized Signatory : —	(Bovey Yang)
1/F.,	Building B, Zhuoke Science Park, No. 190, Chongqing Road, Fuyong Street, Bao'an District, Shen

Shenzhen STS Test Services Co., Ltd.

TABLE OF CONTENTSP	age
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 ATESTRESULT	19
A1 CONDUCTED OUTPUT POWER	19
A2 PEAK-TO-AVERAGE RADIO	22
A3 TRANSMITTER RADIATED POWER (EIRP/ERP)	23
A4 OCCUPIED BANDWIDTH(99% OCCUPIED BANDWIDTH/26DB BANDWIDTH)	26
A5 FREQUENCY STABILITY	36
A6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS	41
A7 BAND EDGE	53
A8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	61
APPENDIX BPHOTOS OF TEST SETUP	69

Ħ

3 of 69

Report No.: STS1604146F01



Report No.: STS1604146F01

Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	10 May. 2016	STS1604146F01	ALL	Initial Issue



Shenzhen STS Test Services Co., Ltd.



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:

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 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 CNAS Registration No.: L7649; FCC Registration No.: 842334; IC Registration No.: 12108A-1

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 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%



Report No.: STS1604146F01

2 PRODUCT INFORMATION

PRODUCT INFORMATION		
Product Designation:	Fingerprint smart terminal	
Hardware version:	V1.1	
Software version:	BM7500C_80_WG_V1.2	
FCC ID:	2AGUJ-BM7500	
	GSM/GPRS/EDGE:	
	850: 824.2 MHz ~ 848.8 MHz	
Tx Frequency:	1900: 1850.2 MHz ~ 1909.8MHz	
TXTTEquency.	WCDMA:	
	Band V: 826.4 MHz ~ 846.6 MHz	
	Band II: 1852.4 MHz ~ 1907.6 MHz	
	GSM/GPRS/EDGE:	
	850: 869.2 MHz ~ 893.8 MHz	
Rx Frequency	1900: 1930.2 MHz ~ 1989.8 MHz	
	WCDMA:	
	Band V: 871.4 MHz ~ 891.6 MHz	
	Band II: 1932.4 MHz ~ 1987.6 MHz	
Max RF Output Power:	GSM850:32.37dBm,PCS1900:32.21dBm GPRS850:32.11dBm,GPRS1900:28.21dBm EDGE850:28.45dBm,EDGE1900:28.35dBm WCDMABand V:22.84dBm,WCDMA Band II:22.70dBm	
Type of Emission:	GSM(850):321KGXW: GSM(1900):318KGXW GPRS(850):323KGXW: GPRS(1900):319KGXW EDGE(850):314KGXW; EDGE(1900):319KGXW WCDMA850:4M67F9W WCDMA1900:4M68F9W	
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	
Antenna gain:	GSM 850:-1dBi ,PCS 1900:-1.2dBi WCDMA 850:-1.2dBi, WCDMA1900:-1.2dBi	
Power Supply:	DC 3.7V by battery	
Battery parameter:	Capacitance: 6000mAh, Rated Voltage: 3.7V	
GPRS/EDGE Class	Multi-Class12	
Extreme Vol. Limits:	DC3.3 V to 4.2 V (Nominal DC3.7V)	
Extreme Temp. Tolerance	-20℃ to +45℃	
** Note: The High Voltage	4.2V and Low Voltage 3.3V was declared by manufacturer, The EUT	
couldn't be operate normal	ly with higher or lower voltage.	

Shenzhen STS Test Services Co., Ltd.



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 v02r02 with maximum output power.

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

Radiated emissions were investigated as following frequency range:

- 1. 30 MHz to 10th harmonic for GSM850 and WCDMA Band V.
- 2. 30 MHz to 10th harmonic for WCDMA Band IV.
- 3. 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/EDGE CLASS 8 LINK	GSM LINK GPRS/EDGE CLASS 8 LINK	
GSM 1900	GSM LINK GPRS/EDGE CLASS 8 LINK	GSM LINK GPRS/EDGE CLASS 8 LINK	
WCDMA BAND V	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	
WCDMA BAND II	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	



Report No.: STS1604146F01

4 MEASUREMENT INSTRUMENTS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Spectrum Analyzer	Agilent	E4407B	MY50140340	2015.10.25	2016.10.24
Signal Analyzer	Agilent	N9020A	MY49100060	2015.11.18	2016.11.17
Test Receiver	R&S	ESCI	101427	2015.10.25	2016.10.24
Communication Tester	Agilent	8960	MY48360751	2015.11.20	2016.11.19
Communication Tester	R&S	CMU200	112012	2015.10.25	2016.10.24
Test Receiver	R&S	ESCI	102086	2015.10.25	2016.10.24
Bilog Antenna	TESEQ	CBL6111D	34678	2015.11.25	2016.11.24
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1343	2016.03.06	2017.03.05
Horn Antenna	Schwarzbeck	BBHA 9170	9170-0741	2016.03.06	2017.03.05
MXA SIGNAL Analyzer	Agilent	N9020A	MY49100060	2015.10.25	2016.10.24
Bilog Antenna	Sunol Sciences	JB3	A110714	2015.09.03	2016.09.02
Horn-Antenna	Schwarzbeck	BBHA9120D	9120D-1266	2016.03.06	2017.03.05
Horn Antenna	Schwarzbeck	BBHA 9170	9170-0741	2016.03.06	2017.03.05
Double Ridge Horn An- tenna	COM-POWER CORPORATION	AH-840	AHA-840	2016.03.06	2017.03.05
Low frequency cable	N/A	R01	N/A	N/A	N/A
High frequency cable	SCHWARZBECK	AK9515H	SN-96286/96287	N/A	N/A
Vector signal generator	Agilent	E8257D-521	MY45141029	2015.10.16	2016.10.14
Power amplifier	DESAY	ZHL-42W	9638	2015.10.24	2016.10.23

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



5 TEST ITEMS 5.1 CONDUCTED OUTPUT POWER

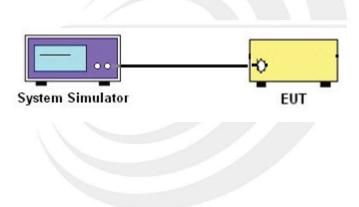
Test overview

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

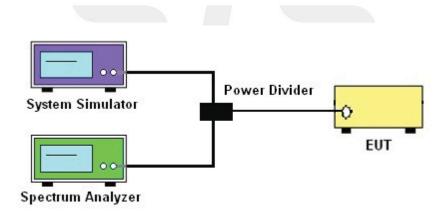
TEST OVERVIEW

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 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





Report No.: STS1604146F01

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.

12 of 69

TEST PROCEDURE

1. 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. 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 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.

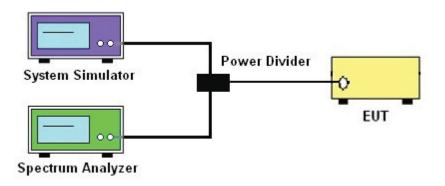
All modes of operation were investigated and the worst case configuration results are reported in this section.

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 ≥ 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:

14 of 69

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 $\pm 0.00025\%$ (± 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

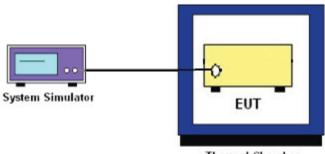
1. The testing follows FCC KDB 971168 D01 Section 9.0.

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





5.6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS <u>Test Overview</u>

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 follows FCC KDB 971168 D01 v02r02 Section 6.0.

2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.

3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and

attenuator. The path loss was compensated to the results for each measurement.

4. The middle channel for the highest RF power within the transmitting frequency was measured.

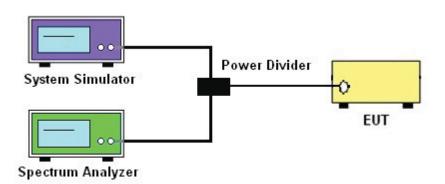
5. The conducted spurious emission for the whole frequency range was taken.

6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

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

- = P(W) [43 + 10log(P)] (dB)
- = [30 + 10log(P)] (dBm) [43 + 10log(P)] (dB)
- = -13dBm.

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. Start and stop frequency were set such that the band edge would be placed in the center of the Plot.

2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.

3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator.

The path loss was compensated to the results for each measurement.

4. The band edges of low and high channels for the highest RF powers were measured.

5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

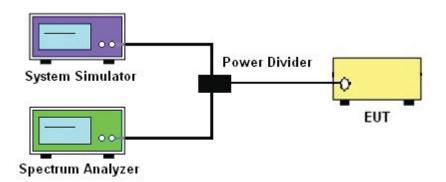
6.The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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

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

= -13dBm.

TEST SETUP







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.

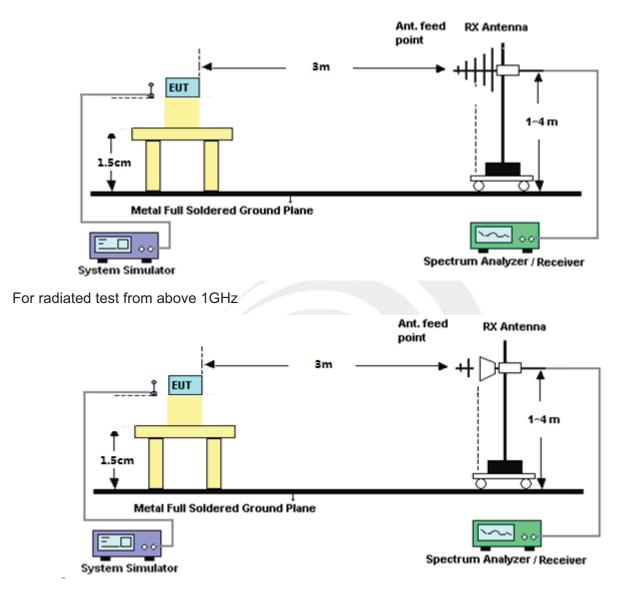
Test procedure

1. The testing follows FCC KDB 971168 D01 Section 5.8 and ANSI/TIA-603-D-2010 – Section 2.2.12

- 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



For radiated test from 30MHz to 1GHz



18 of 69

Report No.: STS1604146F01

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

APPENDIX ATESTRESULT A1CONDUCTED OUTPUT POWER

GSM 850:

Mode	Frequency (MHz)	AVG Power
	824.2	32.37
GSM850	836.6	32.24
	848.8	32.05
GPRS850 (1 Slot)	824.2	32.11
	836.6	31.97
	848.8	31.76
EDGE850 (1 Slot)	824.2	32.21
	836.6	32.12
	848.8	31.98

PCS 1900:

Mode	Frequency (MHz)	AVG Power
/	1850.2	28.45
GSM1900	1880	28.13
	1909.8	27.97
	1850.2	28.21
GPRS1900 (1 Slot)	1880	27.93
(1.0.0.)	1909.8	27.72
	1850.2	28.35
EDGE1900 (1 Slot)	1880	28.00
(1 300)	1909.8	27.81

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

UMTS BAND V

Mode	Frequency(MHz)	AVG Power
	826.4	22.10
WCDMA 850 RMC	836.6	22.84
T(WC	846.6	22.41
	826.4	21.19
HSDPA Subtest 1	836.6	21.91
Cubicst 1	846.6	21.45
	826.4	20.35
HSDPA Subtest 2	836.6	20.92
Oublest 2	846.6	20.48
	826.4	19.87
HSDPA Subtest 3	836.6	20.47
Sublest 5	846.6	20.00
	826.4	19.23
HSDPA Subtest 4	836.6	19.82
Sublest 4	846.6	19.35
	826.4	20.73
HSUPA Subtest 1	836.6	21.50
Sublest	846.6	21.00
	826.4	19.78
HSUPA Subtest 2	836.6	20.69
Sublest 2	846.6	20.13
	826.4	19.35
HSUPA Subtest 3	836.6	20.24
Sublest 5	846.6	19.65
	826.4	18.78
HSUPA	836.6	19.56
Subtest 4	846.6	19.05
	826.4	18.28
HSUPA	836.6	18.88
Subtest 5	846.6	18.40

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

UMTS BAND II

Mode	Frequency(MHz)	AVG Power
	1852.4	22.38
WCDMA 1900 RMC	1880	22.70
RIVIC	1907.6	22.61
	1852.4	21.45
HSDPA Subtest 1	1880	21.76
Sublest	1907.6	21.68
	1852.4	21.41
HSDPA Subtest 2	1880	21.84
Sublest 2	1907.6	21.66
1000	1852.4	20.94
HSDPA Subtest 3	1880	21.39
Sublest 5	1907.6	21.19
110554	1852.4	20.35
HSDPA Subtest 4	1880	20.85
Sublest 4	1907.6	20.64
	1852.4	21.01
HSUPA Subtest 1	1880	21.43
Sublest	1907.6	21.21
	1852.4	20.46
HSUPA Subtest 2	1880	20.91
Oublest 2	1907.6	20.85
	1852.4	20.01
HSUPA Subtest 3	1880	20.47
	1907.6	20.42
	1852.4	19.38
HSUPA Subtest 4	1880	19.95
	1907.6	19.79
	1852.4	18.74
HSUPA Subtest 5	1880	19.45
Sublest 5	1907.6	19.10

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

A2 PEAK-TO-AVERAGE RADIO

PCS 1900:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	824.2	29.36	28.45	0.95
PCS1900	836.6	28.92	28.13	0.79
	848.8	28.59	27.97	0.62
	1850.2	28.97	28.21	0.76
GPRS1900	1880	28.75	27.93	0.82
	1909.8	28.32	27.72	0.61
EDGE1900	824.2	28.96	28.35	0.61
(1 Slot)	836.6	28.67	28.00	0.67
(1 3101)	848.8	28.54	27.81	0.73

UMTS BAND II:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1850.2	25.67	22.38	3.29
WCDMA 1900 RMC	1880	25.80	22.70	3.10
	1909.8	25.48	22.61	2.87
	1850.2	24.31	21.01	3.30
HSUPA Sutest 1	1880	24.86	21.43	3.43
	1909.8	24.10	21.21	2.89



Report No.: STS1604146F01

A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

Radiated Power (ERP) for GSM 850 MHZ								
			Result					
Mode	Frequency	Substituted level (dBm)	Cable loss	Gain (dBd)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	Conclusion	
	824.2	29.30	0.44	0	31.01	Horizontal	Pass	
	824.2	30.66	0.44	0	32.37	Vertical	Pass	
GSM850	836.6	28.84	0.45	0	30.54	Horizontal	Pass	
GSINIODU	836.6	30.54	0.45	0	32.24	Vertical	Pass	
	848.8	28.48	0.46	0	30.17	Horizontal	Pass	
	848.8	30.36	0.46	0	32.05	Vertical	Pass	
	824.2	28.43	0.44	0	30.14	Horizontal	Pass	
	824.2	30.40	0.44	0	32.11	Vertical	Pass	
GPRS850	836.6	28.32	0.45	0	30.02	Horizontal	Pass	
GPK5000	836.6	30.27	0.45	0	31.97	Vertical	Pass	
	848.8	28.18	0.46	0	29.87	Horizontal	Pass	
	848.8	30.07	0.46	0	31.76	Vertical	Pass	
	824.2	28.31	0.44	0	30.02	Horizontal	Pass	
	824.2	30.50	0.44	0	32.21	Vertical	Pass	
	836.6	28.34	0.45	0	30.04	Horizontal	Pass	
EDGE850	836.6	30.42	0.45	0	32.12	Vertical	Pass	
	848.8	28.89	0.46	0	30.58	Horizontal	Pass	
	848.8	30.29	0.46	0	31.98	Vertical	Pass	

(1)Dipole Antenna Gain:0dBd=2.15dBi,

(2) EUT Antenna Gain -1dBi

(3) Substituted level =S G.Level+ Amplifier gain



Report No.: STS1604146F01

Radiated Power (EIRP) for PCS 1900 MHZ								
			Result					
Mode	Frequency	Substituted level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization Of Max.EIRP.	Conclusion	
	1850.2	18.88	2.41	10.06	26.53	Horizontal	Pass	
	1850.2	20.8	2.41	10.06	28.45	Vertical	Pass	
PCS1900	1880.0	18.86	2.42	10.06	26.50	Horizontal	Pass	
PC31900	1880.0	20.49	2.42	10.06	28.13	Vertical	Pass	
	1909.8	17.57	2.43	10.06	25.20	Horizontal	Pass	
	1909.8	20.34	2.43	10.06	27.97	Vertical	Pass	
	1850.2	18.67	2.41	10.06	26.32	Horizontal	Pass	
	1850.2	20.56	2.41	10.06	28.21	Vertical	Pass	
GPRS1900	1880.0	17.86	2.42	10.06	25.50	Horizontal	Pass	
GFK31900	1880.0	20.29	2.42	10.06	27.93	Vertical	Pass	
	1909.8	17.86	2.43	10.06	25.49	Horizontal	Pass	
	1909.8	20.09	2.43	10.06	27.72	Vertical	Pass	
	1850.2	18.45	2.41	10.06	26.10	Horizontal	Pass	
	1850.2	20.7	2.41	10.06	28.35	Vertical	Pass	
EDGE1900	1880.0	18.37	2.42	10.06	26.01	Horizontal	Pass	
EDGE1900	1880.0	20.36	2.42	10.06	28.00	Vertical	Pass	
	1909.8	17.51	2.43	10.06	25.14	Horizontal	Pass	
	1909.8	20.18	2.43	10.06	27.81	Vertical	Pass	
(1)EUT Ante	nna Gain -1.2	dBi						

Ħ



Report No.: STS1604146F01

Radiated Power (ERP) for WCDMA Band V							
				Res	sult		
Mode	Frequency	Substituted level (dBm)	Cable loss	Gain (dBd)	PMeas E.R.P (dBm)	Polarization Of Max.ERP	Conclusion
	826.4	18.31	0.44	0	20.02	Horizontal	Pass
	826.4	20.39	0.44	0	22.10	Vertical	Pass
Band V	836.6	18.54	0.45	0	20.24	Horizontal	Pass
Danu V	836.6	21.14	0.45	0	22.84	Vertical	Pass
	846.6	18.83	0.46	0	20.52	Horizontal	Pass
	846.6	20.72	0.46	0	22.41	Vertical	Pass
(1)Dipole	Antenna Gain:	0dBd=2.15dBi,	(2) EUT A	ntenna (Gain -1.2dBi		

Radiated Power (EIRP) for WCDMA Band II							
				Res	sult		
Mode	Frequency	Substituted level (dBm)	Cable loss	Gain (dBi)	PMeas E.I.R.P.(dBm)	Polarization Of Max.EIRP	Conclusion
	1852.4	12.98	2.41	10.06	20.63	Horizontal	Pass
	1852.4	14.73	2.41	10.06	22.38	Vertical	Pass
Band II	1880.0	12.72	2.42	10.06	20.36	Horizontal	Pass
Danu II	1880.0	15.06	2.42	10.06	22.70	Vertical	Pass
	1907.6	12.84	2.43	10.06	20.47	Horizontal	Pass
	1907.6	14.98	2.43	10.06	22.61	Vertical	Pass
(1)EUT A	ntenna Gain -	1.2dBi					

Shenzhen STS Test Services Co., Ltd.

Ħ



Report No.: STS1604146F01

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

Occupied Bandwidth for GSM 850 band						
Mode		Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	824.2	248.11	315.0			
Middle Channel	836.6	246.98	316.5			
High Channel	848.8	244.62	321.1			
	Occupied Band	width for GPRS 850 band				
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode		(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	824.2	244.15	292.0			
Middle Channel	836.6	247.71	317.4			
High Channel	848.8	247.07	323.2			
	Occupied Bandw	vidth for EGPRS 850 band				
Mode		Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	824.2	246.47	310.5			
Middle Channel	836.6	246.57	313.5			
High Channel	848.8	241.11	310.2			



Report No.: STS1604146F01

Occupied Bandwidth for GSM1900 band						
Mode		Occupied Bandwidth	Emission Bandwidth			
wode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	1850.2	245.21	314.4			
Middle Channel	1880.0	245.15	317.8			
High Channel	1909.8	247.16	317.0			
	Occupied Bandy	vidth for GPRS 1900 band	·			
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
wode		(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	1850.2	246.35	316.4			
Middle Channel	1880.0	245.51	318.5			
High Channel	1909.8	245.87	316.0			
	Occupied Bandy	vidth for EDGE 1900 band				
Mode		Occupied Bandwidth	Emission Bandwidth			
Iviode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	1850.2	251.81	318.8			
Middle Channel	1880.0	246.17	319.4			
High Channel	1909.8	243.62	316.0			

Occupied Bandwidth for UMTS band V						
Mode		Occupied Bandwidth				
wode	Frequency(MHz)	(99%)(MHz)	(-26dBc)(MHz)			
Low Channel	826.4	4.126	4.668			
Middle Channel	836.6	4.117	4.662			
High Channel	846.6	4.122	4.645			

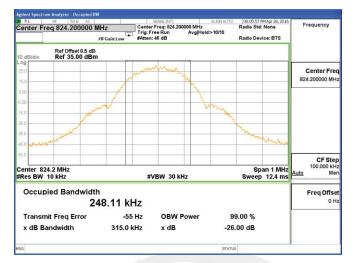
Occupied Bandwidth for UMTS band II						
Mode	Fraguanay (MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(MHz)	(99%)(MHz)	(-26dBc)(MHz)			
Low Channel	1852.4	4.149	4.664			
Middle Channel	1880	4.151	4.675			
High Channel	1907.6	4.154	4.680			

Ħ

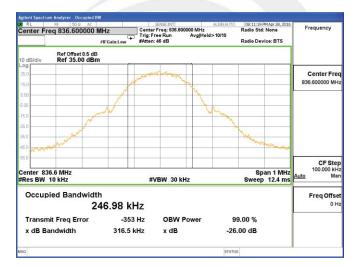


Report No.: STS1604146F01

GSM 850 CH 128



GSM 850 CH 190





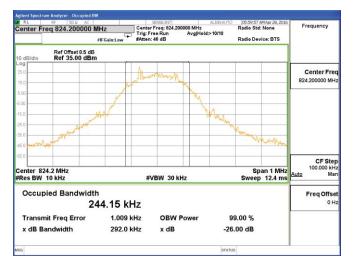
GSM 850 CH 251

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

GPRS 850 CH 128



GPRS 850 CH 190



SENSE:INTI ALIGNAL Center Freq: 848.800000 MHz Trig: Free Run Avg|Hold>10/10 #Atten: 46 dB 09:51:30 PM Apr 26 Radio Std: None Frequency enter Freq 848.800000 MHz Radio Device: BTS #IFGain:Lo Ref Offset 8.5 dB Ref 35.00 dBm Center Freq 848.800000 MHz CF Step 100.000 kHz Mar Center 848.8 MHz #Res BW 10 kHz Span 1 MHz Sweep 12.4 ms uto #VBW 30 kHz Occupied Bandwidth Freq Offse 247.07 kHz 0 Ha Transmit Freq Error 706 Hz **OBW** Power 99.00 % x dB Bandwidth 323.2 kHz x dB -26.00 dB STATUS

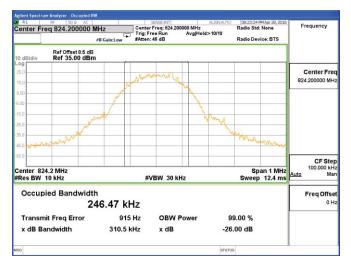
GPRS 850 CH 251

Shenzhen STS Test Services Co., Ltd.

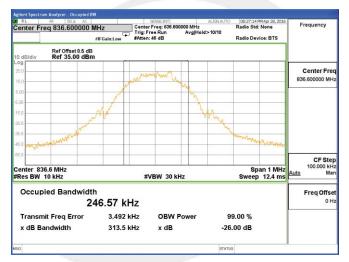


Report No.: STS1604146F01

EDGE 850 CH 128



EDGE 850 CH 190



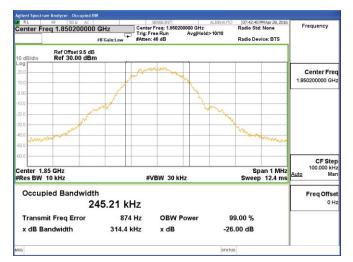
EDGE 850 CH 251



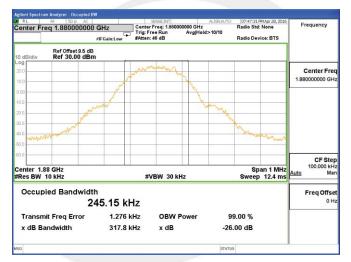
Shenzhen STS Test Services Co., Ltd.



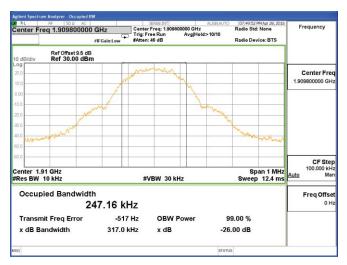
PCS 1900 CH 512



PCS 1900 CH 661



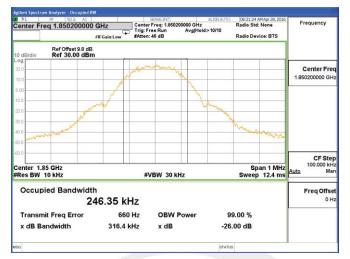
PCS 1900 CH 810





Report No.: STS1604146F01

GPRS 1900 CH 512



GPRS 1900 CH 661





GPRS 1900 CH 810

Shenzhen STS Test Services Co., Ltd.

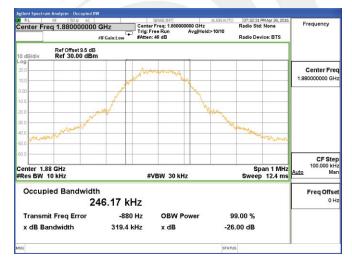


Report No.: STS1604146F01

EDGE 1900 CH 512



EDGE 1900 CH 661



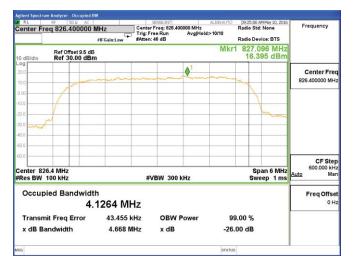
EDGE 1900 CH 810



Shenzhen STS Test Services Co., Ltd.



UMTS BAND V CH 4132



UMTS BAND V CH 4183

	C 1	SENSE/INT ALIGNAUTO Center Freq: 836.600000 MHz Trig: Free Run Avg Hold>10/10 #Atten: 46 dB		0/10	D9:28:43 AM May 10, 2016 Radio Std: None Radio Device: BTS		Frequency
Ref Offset 9.5 dB Ref 30.00 dBn	1			Mkr1			
	and and the second second		Anna h		~		Center Free 836.600000 MH
							CF Ste
.6 MHz 00 kHz		#VBW 300	kHz				600.000 kH Auto Ma
		z					Freq Offse 0 H
t Freq Error			Power				
	Ref 30.00 dBm .6 MHz 00 KHz ed Bandwidti 4.	Ref offset 8.5 dB Ref 30.00 dBm 6 MHz 00 kHz ed Bandwidth 4.1168 MHz 2 Freq Error 23.579 kH	Ref 0ffset 35.48 Ref 30.00 dBm 6 MHz 00 kHz #VBW 300 ed Bandwidth 4.1168 MHz 15 Freq Error 23.579 kHz OBW	Ref Office19.6 dB Ref Office19.6 dB 0.6 MHz 00 kHz #VBW 300 kHz ed Bandwidth 4.1168 MHz 1: Freq Error 23.579 kHz OBW Power	Ref Office19.6 dB Mkr1 6 MHz #VBW 300 kHz 60 MHz #VBW 300 kHz ed Bandwidth 4.1168 MHz 1 Freq Error 23.579 kHz OBW Power 99.0	Ref Offset 95 dB. Mkr1 837.23 Ref 30.00 dBm 19.57 0.6 MHz \$	Ref Offset 96 dB Mkr1 837.236 MHz Ref 30.00 dBm 19.570 dBm 0 dbm 19.570 dBm

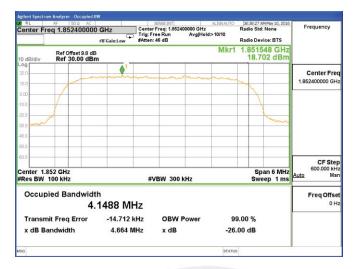
UMTS BAND V CH 4233

Frequency	09:31:45 AM May 10, 2016 Radio Std: None	ALIGNAUTO z iold>10/10	Center Freq: 846.600000 MH Trig: Free Run Avg	1Hz Cente Trig: I	RF 50 Q AC	enter Fre	
	Radio Device: BTS						
	845.412 MHz 18.930 dBm	Mkr			Ref Offset 9.5 dB Ref 30.00 dBm	0 dB/div	
Center Fr			man na m	1 million		o.o	
846.600000 M	~	and the second				0.0	
					1		
						.0	
	mont	1		2		0 monor	
						0	
0.0000000000	- r						
CF Ste 600.000 k							
Auto N	enter 846.6 MHz Span 6 MHz Res BW 100 kHz #VBW 300 kHz Sweep 1 ms						
Freg Offs	Ī			1	ied Bandwidth	Occupi	
0			łz	1223 MHz	4.1		
	0.00 %	99	Hz OBW Power	-47.531 kHz	it Freq Error	Transmi	
		-26	Hz xdB	4.645 MHz	ndwidth		

Shenzhen STS Test Services Co., Ltd.

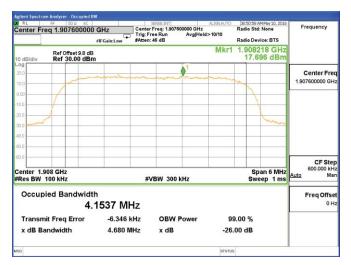


UMTS BAND II CH 9262



UMTS BAND II CH 9400

enter Fre	RL RF 50Ω AC nter Freq 1.880000000 GHz #IFGain:Low			SENSEJINT ALIGNAUTO Center Freq: 1.88000000 GHz Trig: Freq: 1.88000000 GHz Trig: Freq: Run Avg Hold>10/10 #Atten: 46 dB Avg Hold>10/10		D8:45:43 AM May 10, 2016 Radio Std: None Radio Device: BTS		Frequency
0 dB/div	Ref Offset 9.8 di Ref 30.00 dB				Mkr1		666 GHz 157 dBm	
og 0.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- 2 ¹		-		Center Free 1.880000000 GH
0.0						1		
0.0					6		han	
0.0								
50.0 50.0								CF Ster
	Inter 1.88 GHz Span 6 MHz es BW 100 KHz #VBW 300 kHz Sweep 1 ms							
Occupi	ed Bandwid 4	th .1509 MH	Ηz					Freq Offset 0 Hz
Transmi x dB Ba	it Freq Error	-1.094 ⊮ 4.675 №		OBW Power		9.00 % .00 dB		
х ав ва	nawiath	4.6/5 W	IHZ	x dB	-26	.UU aB		



UMTS BAND II CH 9538



Report No.: STS1604146F01

A5 FREQUENCY STABILITY

Normal Voltage = 3.7V. ; Battery End Point (BEP) = 3.3 V.; Maximum Voltage =4.2 V

GSM 850Middle Channel							
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result		
50		13.582	0.016	2.5ppm	PASS		
40		26.453	0.032				
30	Normal Voltage	23.625	0.028				
20		27.900	0.033				
10		18.274	0.022				
0		13.507	0.016				
-10		17.402	0.021				
-20		15.865	0.019				
-30		16.192	0.019				
25	Maximum Voltage	19.883	0.024				
25	BEP	11.662	0.014				

GPRS 850Middle Channel							
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result		
50		13.577	0.016				
40		26.467	0.032				
30		23.669	0.028				
20		27.921	0.033				
10	Normal Voltage	18.250	0.022				
0		13.496	0.016	2.5ppm	PASS		
-10		17.415	0.021				
-20		15.907	0.019				
-30		16.251	0.019				
25	Maximum Voltage	19.841	0.024				
25	BEP	11.648	0.014				



Report No.: STS1604146F01

	E	EDGE 850Middle	Channel		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		13.539	0.016		
40		26.463	0.032		
30		23.664	0.028		
20		27.886	0.033		
10	Normal Voltage	18.232	0.022	2.5ppm	PASS
0		13.509	0.016		
-10		17.392	0.021		
-20		15.899	0.019		
-30		16.201	0.019		
25	Maximum Voltage	19.896	0.024		
25	BEP	11.582	0.014		



Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

	GSM 1900Middle Channel											
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result							
50		19.045	0.010									
40		11.177	0.006									
30		10.253	0.005									
20		22.231	0.012									
10	Normal Voltage	14.067	0.007	Within Au- thorized								
0		10.025	0.005		PASS							
-10		15.414	0.008	Band								
-20		20.692	0.011									
-30		24.094	0.013									
25	Maximum Voltage	12.469	0.007									
25	BEP	12.482	0.007									

	G	PRS 1900Middle	e Channel		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		19.048	0.010		
40		11.202	0.006		
30		10.327	0.005		
20		22.263	0.012		
10	Normal Voltage	14.139	0.008	Within Au-	
0		10.005	0.005	thorized	PASS
-10		15.427	0.008	Band	
-20		20.661	0.011		
-30		24.135	0.013		
25	Maximum Voltage	12.525	0.007		
25	BEP	12.479	0.007		

Ħ



Report No.: STS1604146F01

	E	DGE 1900Middle	e Channel		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		19.059	0.010		
40		11.177	0.006		
30		10.302	0.005		
20		22.240	0.012		
10	Normal Voltage	14.088	0.007	Within Au- thorized	
0		10.046	0.005		PASS
-10		15.419	0.008	Band	
-20		20.678	0.011		
-30		24.142	0.013		
25	Maximum Voltage	12.500	0.007		
25	BEP	12.499	0.007		



Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

	V	WCDMA VMiddle	Channel		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		23.884	0.029		
40		12.789	0.015		
30		16.873	0.020		
20		16.680	0.020		
10	Normal Voltage	19.882	0.024		
0		18.963	0.023	2.5ppm	PASS
-10		17.214	0.021		
-20		11.031	0.013		
-30		25.367	0.030		
25	Maximum Voltage	23.589	0.028		
25	BEP	15.615	0.019		

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

	V	VCDMA IIMiddle	Channel		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		14.160	0.008		
40		17.912	0.010		
30		23.659	0.013		
20	Normal Voltage	21.152	0.011	Within Au-	
10		10.517	0.006		
0		18.568	0.010	thorized	PASS
-10		16.248	0.009	Band	
-20		16.940	0.009		
-30		16.548	0.009		
25	Maximum Voltage	11.780	0.006		
25	BEP	13.307	0.007		

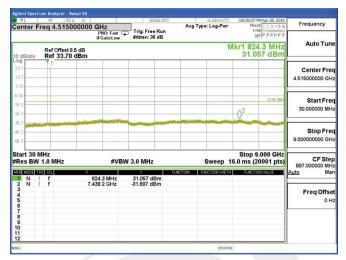
1. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



A6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

GSM 850 BAND

Lowest Channel



Middle Channel

5000000 GHz Profit Hard HFGain:Low et 8.5 dB 50 dBm	Trig: Free Run #Atten: 36 dB	Avg Type: Log	Mkr	17840E 112 3 4 5 179E 179 P P P P P 0 ET P P P P P 1 836.9 MH: 30.945 dBn	Auto Tune Center Free 4.515000000 GH
IFGain:Low et 8.5 dB				1 836.9 MH: 30.945 dBn	Auto Tuno Center Free 4.51500000 GH
				30.945 dBn	Center Free 4.51500000 GH
				-13.00 dB	4.515000000 GH
				-13.00 dB	4.515000000 GH
				-13.00 dB	Start Fre
				43.00 dB	Start Fre
		12			30.000000 MH
and the state of t		\bigcirc			
					Stop Fre
					9.00000000 GH
#VB	W 3.0 MHz	Swe			
× 836.9 MHz	30.945 dBm	UNCTION FUNCTION	I WIDTH	FUNCTION VALUE	Auto Ma
6.013 4 GHz	-31.765 dBm				Freq Offse 0 H
	× 836.9 MHz	836.9 MHz 30.945 dBm	836.9 MHz 30.945 dBm	#VBW 3.0 MHz Sweep 16.0	X 836.9 MHz 30.945 dBm 6.013.4 GHz 31,765 dBm

Highest Channel

Frequency	08:14:48 PM Apr 28, 2016 TRACE 1 2 3 4 5 6 TYPE Ministration	SNAUTO	Type:		SENSE: IN		50 Ω AC	RF 9q 4.51	r Fr	nte
	DET P P P P P P				Trig: Free Run #Atten: 36 dB	PNO: Fast C IFGain:Low				
Auto Tu	r1 849.0 MHz 30.755 dBm	M					et 8.5 dB 50 dBm	Ref Offs Ref 34.	iv	dB/d
Center Fr								1		5
4.515000000 G										6
			_				_	_		0
Start Fre	-13.00 dBm	-								0
30.000000 M			_							5
			Q^2							5
			and so its	CALCULATION OF THE OWNER	Contraction of the local division of the loc	Contraction of the local division of the loc	and a state of the		100	5
Stop Fre 9.000000000 G										5
3.000000000										1
CF Ste 897.000000 M	Stop 9.000 GHz 0 ms (20001 pts)	eep 16	S		3.0 MHz	#VB		Hz .0 MHz	IO M	
Auto M	FUNCTION VALUE	ON WIDTH	FUNC	FUNCTION	Y		×	SCL	E TR	
					30.755 dBm -31.700 dBm	849.0 MHz 062 3 GHz	6.0	ł	1	N
Freq Offs 01										
									_	

Shenzhen STS Test Services Co., Ltd.



GPRS 850 BAND

Lowest Channel

Frequency	03:31:18 PM Apr 28, 2016 TRACE 1 2 3 4 5 6 TVPE Monitorio	ALIGNAUTO e: Log-Pwr	Avg 1	SENSE:INT	GHz	50 9 AC	RF req 4		R
Auto Tu	Kr1 824.3 MHz	M		#Atten: 36 dB	PNO: Fast G IFGain:Low	fset 8.5 dB	Bef		_
	31.662 dBm		_			4.50 dBm		3/div	d di
Center Fr 4.515000000 G									4.5
Start Fr 30.000000 M	-13.00 dBm								50 5.5
Stop Fr 9.000000000 G									5.5
CF St 897.000000 M	Stop 9.000 GHz 5.0 ms (20001 pts)	Sweep 16		3.0 MHz	#VBW	łz	MHz 1.0 M	t 30 I s BW	
Auto N	FUNCTION VALUE	INCTION WIDTH	UNCTION	31.662 dBm 31.726 dBm	324.3 MHz 336 7 GHz		RC SCL	N N	
Freq Offs 0									234557890
									B 9 0 1
		STATUS							1

Middle Channel

Frequency	03:34:17 PM Apr 28, 2016 TRACE 1 2 3 4 5 6	ALIGNAUTO	A	SENSE: INT	_			50 Q	RF	-	-
	TYPE Mythology	E Log-Pwr	Avg	Free Run		PNO: East C	0000 G	51500	q 4.	Fre	ter
Auto Tur				n: 36 dB	· •	Gain:Low	11		_	_	
71410 7 41	kr1 836.9 MHz 31.732 dBm	M						fset 8.5 4.50 d			3/div
Center Fre			_		-	-			1		_
4.515000000 GH		0 2	_	_	+	-			-		-
					+			-	-		-
Start Fre	-13.00 dBm					-					
30.000000 MH											
-	and the state of the state of the	and the second			_	andres					
Stop Fre		A.S. Contraction								No.	
9.00000000 G			_		+				-		_
	Stop 9.000 GHz				_				łz	M	t 30
CF Ste 897.000000 Mi	5.0 ms (20001 pts)	Sweep 16		Hz	W 3.	#VB		IZ	.0 M	W 1	s B
Auto M:	FUNCTION VALUE	NCTION WIDTH	UNCTION	2 dBm		5.9 MHz	X		SCL	TRC	MODE N
				4 dBm		4 4 GHz			f	1	N
Freq Offs											
01											
		STATUS								_	

Highest Channel

Frequency	Apr 28, 2016	TRACE	ALIGNAUTO	Avg Ty	INSE: INT	sə Triq: Free	GHz	0 9 AC		er Fre
Auto Tu	PPPPP					#Atten: 36	PNO: Fast G			
Auto Tu	.0 MHz 19 dBm	kr1 849 31.64	M						Ref Offs Ref 34.	
Center Fr 4.515000000 G									*1	
Start Fr	-13.00 dBm									
30.000000 M				0						
Stop Fr 9.00000000 G										
CF Ste 897.000000 M	000 GHz 0001 pts)	Stop 9. 5.0 ms (20	Sweep 10		:	3.0 MHz	#VB		lz .0 MHz	30 MI BW 1
Auto M	N VALUE	FUNCTIO	ICTION WIDTH	INCTION	Bm	31.649 dE	49.0 MHz 91.9 GHz		sei f	DDE TRO N 1 N 1
Freq Offs 0					bm	-51.265 dE	91 9 GH2	5.9		N

Shenzhen STS Test Services Co., Ltd.



EDGE 850 BAND

Lowest Channel

RL RF 50 Ω AC nter Freq 4.515000000	GHz	SENSE:JNT	ALIGNAUTO Avg Type: Log-Pwr	08:24:27 PM Apr 28, 2016 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast G	Trig: Free Run #Atten: 36 dB		DET P P P P P	
B/div Ref 34.50 dBm			N	lkr1 824.3 MHz 29.285 dBm	Auto Tun
5					Center Fre 4.515000000 GF
				-13.00 dBn	Start Fre 30.000000 MH
	ىيەلەرھەيىراەجى				Stop Fre 9.00000000 GH
rt 30 MHz es BW 1.0 MHz	#VBV	# 3.0 MHz	Sweep 1	Stop 9.000 GHz 6.0 ms (20001 pts)	CF Ste 897.000000 M
	824.3 MHz 456 7 GHz	29.285 dBm -30.837 dBm	JNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> M
N 1 1 77	4007 012	50.657 dBm			Freq Offs 0 F
			STATUS		

Middle Channel

Ref Offset 8.5 dB Mrt 1 836.9 MHz Auto 0 dBlow 29.495 dBm 29.495 dBm 4.000 dBm 0 dBlow 29.495 dBm 4.000 dBm 5.000 dBm 0 dBlow 29.495 dBm 5.000 dBm 5.000 dBm 0 dBlow 29.000 GHz 5.000 dBm 5.0000 dBm 1 N 1 f 7.012 7 GHz -30.940 dBm 5.000 dBm 5.0000 dBm 1 N 1 f 7.012 7 GHz -30.940 dBm 5.0000 dBm 5.0000 dBm 5.0000 dBm 1 N 1 f 7.012 7 GHz -30.940 dBm 5.0000 dBm 5.00000 dBm 5.00000 dBm 5.00000 dBm	RL		Ω AC	SENSE: INT	ALIGNAUTO Avg Type: Log-Pwr	08:29:06 PM Apr 28, 2016 TRACE 1 2 3 4 5 6	Frequency
Ref Offset 05 dB Mkr1 836.9 MHz Auto 28/04/v Ref 34.50 dBm 29.495 dBm Centu 45 1 1 1 1 Centu 55 1 1 1 1 1 Centu 55 1 1 1 1 1 1 Centu 56 1 1 1 1 1 1 Centu 4.515000 55 1 1 1 1 1 1 50000 State 30.0000	enter F	req 4.5150	PNO: Fast C		Avg Type: Log-Pwr	TYPE MUMMMMM	
a	dBidiy		.5 dB	#Atten: 36 dB	N	lkr1 836.9 MHz	Auto Tun
30	4.5	¥1					Center Fre 4.515000000 GH
Stop Stop <th< td=""><td>5</td><td></td><td></td><td></td><td></td><td>-13.00 dBn</td><td>Start Fre 30.000000 MF</td></th<>	5					-13.00 dBn	Start Fre 30.000000 MF
Ces Sweep 16.0 ms 20001 pts Ces B97-0000 Ces B97-0000 Aute No 1 f 7.012 7 GHz 29.495 dBm Function Function white Function white	5	- the second					Stop Fr 9.000000000 G
N 1 f 8369 MHz 29.466 dBm N 1 f 7.0127 GHz 30.940 dBm Freq	tes BW	1.0 MHz	#VB			6.0 ms (20001 pts)	CF Ste 897.000000 M
Freq	N 1		836.9 MHz	29.495 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE:	<u>Auto</u> Ma
	3	T	7.012 7 GHz	-30.940 dBm			Freq Offs 0 I
	B 9 0						

Highest Channel

M Apr 28, 2016	08:31:21 F	ALIGNAUTO	INT	SENS		D Q AC	- 50	R	1	RI
E 1 2 3 4 5 6	TRAC	ype: Log-Pwr	in	Trig: Free I	GHz	000000 0	4.515	req	ter	en
PPPPP	DE				IFGain:Low					
		М							3/div	
							1	×		4.6
						_				50
-13.00 dBm										50
	$\langle \rangle^2$				1.5.00	-				5.5
	and the second se			Children of the local division of the local		in the second states in	and the state	-		5.5
								_		5.5
		Sweep 16		3.0 MHz	#VBW		MHz			
IN VALUE	FUNCTIO	FUNCTION WIDTH		30.736 dB	49.0 MHz	× 84	-	RC SC 1 f	N	1
				-31.375 dBi	33 8 GHz	7.43		1 f	N	234567890
										78
										012
	1300 GHz 0000 GHz 0000 GHz	Hexa []] 3 4 5 6 6 Tref [] → 1 4 5 6 6 Get [] → 1 4 5 6 Get [] → 1 4 5 6 Get [] → 1 5 7 Get [] → 1 5 7	Avg Type: Log-Pvr Theod [1] 2 3 5 5 Text [1] 2 3 5 5 Text [2] 2 5 5 Tex	Avg Type: Log-Par H Avg Type: Log-Par H Mkri 849.0 MHz 30.736 dBm 4100 db 4100 db 410	Avg Type: Log-Pwr Trid:: Free Run gatten: 36 dB Trid:: Free Run cert P P P P P Mkrt R49, 0 MHz Mkrt R49, 0 MHz 30,736 dBm	HZ Avg Type: Log-Pwr Theta: [1] 2 3 5 3 Tel: [2] 2 3 5 4 Tel: [2] 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	ODODOO CHZ Avg Type: Log-Pwr The field (1) 2 3 4 3 PROF. Fast	Aug Trig: Free Run If Galantiaw Aug Trig: Free Run Matter: 36 dB March 20 a State Trig: Free Run Matter: 36 dB March 20 a State Trig: Free Run Matter: 36 dB March 20 a State March 20 a State	Freq 4.515000000 CHz Avg Type: Log-Pwr Trig: Free Run IFG sin: Low Avg Type: Log-Pwr Trig: Charles and the charles and compared by the	Avg Type: Leg-Pwr Trig: Free Run IFGaint.ew Trig: Free Run IFGaint.ew Ref Offset 8 5 dB MMK11 249.0 MHZ Not Free Run IFGaint.ew Trig: Free Run IFGaint.ew Trig: Free Run IFGaint.ew MK11 249.0 MHZ Not Free Run IFGaint.ew Trig: Free Run IFGaint.ew MK11 249.0 MHZ Stop 9.000 GHZ Trig: Free Run IFGaint.ew Tr

Shenzhen STS Test Services Co., Ltd.



GSM1900 BAND(30M-12G)

Lowest Channel

Frequency	07:43:39 PM Apr 28, 2016	ALIGNAUTO		SENSE: INT		50 Ω AC	RF		RL
	TYPE MUMMMMM DET P P P P P P	/pe: Log-Pwr	Avg	Trig: Free Run #Atten: 36 dB	GHz PNO: Fast C	15000000	req 6.0	er F	nt
Auto Tu	1 1.850 4 GHz 27.843 dBm	Mkr				set 9.5 dB .50 dBm		l/div	
Center Fr 6.015000000 G						1			g .6 .6
Start Fr 30.000000 N	-13.00 dBm								5
Stop Fr 12.000000000 G				and and an article state of the second				anima)	5
CF St	Stop 12.000 GHz 0 ms (25001 pts)			3.0 MHz	#VBW	2	1.0 MH	30 N BW	
<u>Auto</u> N	FUNCTION VALUE	FUNCTION WIDTH	UNCTION	27.843 dBm -30.657 dBm	350 4 GHz 463 8 GHz		ici scuj	N 1	
Freq Off 0				50.007 dbm					
		STATUS							

Middle Channel

Frequency	48:22 PM Apr 28, 2016 TRACE 1 2 3 4 5 6	ALIGNAUTO : Log-Pwr	Ave Tre	NSE:INT	SE	la la	AC CL		RF		RL
	TYPE MWMMMMMM	. Log-Fwi	WAR 1 41		Trig: Free	NO: East C	00000 GH	.01500	eq o	r Fr	ente
Auto Tu	.880 1 GHz	Mkr		6 GD	#Atten: 3t	Gain:Low	dB	Offset 9.6 35.50 (fiv	dBJ
Center Fr 6.015000000 G								1			g .6 .6
Start Fr 30.000000 M	-13.00 dBm			2				-			50 - 5 -
Stop Fr 12.00000000 G				Y.							5
CF St 1.197000000 G Auto M	p 12.000 GHz ns (25001 pts)		REIDN		W 3.0 MHz	#VB		Hz	.0 M	30 M BW 1	tes
Freq Offs 0	one non value			Bm	28.325 di -30.350 di	1 GHz 8 GHz	1.880		f f		

Highest Channel

12 (A. 65 A. 186 A. 6	07:50:43 PM Apr 28, 2016	ALIGNAUTO	INT	SENSE		50 Q AC	RF		100
Frequency	TRACE 1 2 3 4 5 6 TYPE MWWWWWWW DET P P P P P P	Type: Log-Pwr	in B	Trig: Free Ru #Atten: 36 dB	PNO: Fast	nter Freq 6.015000000 GHz PNO: Fast C IFGain:Low			
Auto Tur	1 1.910 2 GHz 28.437 dBm	Mki			II COMILLOW	fset 9.5 dB 15.50 dBm			3/div
Center Fre 6.015000000 GH						V1			
Start Fre 30.000000 MF	-13.00 dBm			_					
Stop Fre 12.000000000 GF									
CF Ste	Stop 12.000 GHz 0.0 ms (25001 pts)	Sweep 20		3.0 MHz	#VBW	łz	Hz .0 Mł	MH N 1	
<u>Auto</u> Ma	FUNCTION VALUE	FUNCTION WIDTH	FUNC	28.437 dBm -30.230 dBm)10 2 GHz 183 3 GHz	X 1.9	f	TRC	N N
Freq Offs 0 H				00100 0011					

Shenzhen STS Test Services Co., Ltd.



GSM1900 BAND(12G-20G)

Lowest Channel

SENSEINT	ALIGNAUTO	07:44:12 PM Apr 28, 2016	Frequency
PN0: Fast Trig: Free Run IFGain:Low #Atten: 36 dB	Avg Type. Log+ wi	DET P P P P P	
	Mkr1	16.498 88 GHz -25.475 dBm	Auto Tun
			Center Fre 16.00000000 GH
•		-13.00 dBn	Start Fre 12.00000000 GF
			Stop Fre 20.00000000 GH
#VBW 3.0 MHz	Sweep 2	Stop 20.000 GHz 20.0 ms (25001 pts)	CF Ste 800.000000 M
498 88 GHz -25.475 dBm	INCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mi
490 60 GHZ 420.475 UDIII			Freq Offs 0 F
	#VBW 3.0 MHz	PRO: Fast Irig: Free Kun #Recaind.ov Irig: Free Kun #Akten: 36 dB Mkr1 #VBW 3.0 MHz Sweep 2 #VBW 3.0 MHz Sweep 2 #VBW 3.0 MHz Sweep 2	Pilo: Fail Trig: Free Run #Atten: 36 dB Trig: Free Run #Atten: 36 dB Mkr1 16.498 88 GHz -25.475 dBm -25.475 dBm #VEW 3.0 MHz Stop 20.000 GHz Sweep 20.0 ms (23001 pts) #VEW 3.0 MHz Stop 20.000 GHz Sweep 20.0 ms (23001 pts) #014E001 #014E0000000 GHz Sweep 20.0 ms (23001 pts)

Middle Channel

RL RF	50 Q AC	SENSE:INT	ALIGNAUTO	07:48:55 PM Apr 28, 2016	Frequency
enter Freq 1	6.00000000 GHz PN0: Fast	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWWWWW DET P P P P P P	riequency
	IFGain:Low			DETPPPPP	
dB/div Ref	Offset 9.5 dB 35.50 dBm		Mkr1	16.480 64 GHz -25.114 dBm	Auto Tur
5.5					Center Fre
5.6					16.00000000 GH
50					
50				-13.00 dBm	Start Fre
1.5			1	1000 004	12.00000000 GH
4.5		and the second s	No. of Concession, Name	and description of the statements	
15					Stop Fre
4.5					20.000000000 GH
art 12.000 GH Res BW 1.0 M		BW 3.0 MHz	Sweep 2	Stop 20.000 GHz 0.0 ms (25001 pts)	CF Ste 800.000000 MH
R MODE TRC SCL	×		UNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto Ma
1 N 1 f 2 N 1 f	16.480 64 GHz 16.480 64 GHz	-25.114 dBm -25.114 dBm			
3 4					Freq Offs
5 5 7					01
7					
B 9					
D 1 2					

Highest Channel

	M Apr 28, 2016	07:51:15 F	ALIGNAUTO		SE:INT	- SEN		D R AC	F.	-	1	RL
Frequency		TRAC	e: Log-Pwr	Avg		Trig: Free	PNO: Fast	0000000	16.00	rea	er F	nt
Auto Tun	A REPORT OF THE PARTY		Address		dB	#Atten: 36	IFGain:Low			_	_	_
	24 GHz 83 dBm		MIKLI					9.5 dB 0 dBm			/div	dB
Center Free												5
16.00000000 GH							-					6
				-								0
Start Fre	-13.00 dBm				1.1							5
12.00000000 GH		and the state			•							5
							Station of the Owner with the owner	and the local division in which the local division in the local di	-	in the		5
Stop Fre 20.00000000 GH												5
2									GHz		10	
CF Stej 800.000000 MH	.000 GHz 5001 pts)		Sweep 20			3.0 MHz	#VBW		GHZ			
Auto Mai	ON VALUÉ	FUNCTION	UNCTION WIDTH	CTION		-25.383 dB	6 24 GHz	×	1	RC S	DDE N	
					m	-25.383 dB	6 24 GHz 6 24 GHz	16.58			N	
Freq Offse												
UH												

Shenzhen STS Test Services Co., Ltd.



GPRS1900 BAND(30M-12G)

Lowest Channel

Frequency	04:10:57 PM Apr 28, 2016	ALIGNAUTO		SENSE: INT		50 Q AC			RL
Frequency	TYPE Myddinaddy DET P P P P P	Type: Log-Pwr	Avg	Trig: Free Run #Atten: 36 dB	PNO: Fast	5000000	eq 6.01	er Fr	t
Auto Tu	1 1.850 4 GHz 24.080 dBm	Mkr					Ref Offse Ref 35.	div	
Center Fr 6.015000000 0						1			6
Start Fr 30.000000 M	-13.00 dBm								5
30.000000 N	¢.	-	-	and the second					5
Stop F									5
CF S	Stop 12.000 GHz .0 ms (25001 pts)	Sweep 20		3.0 MHz	#VBW		IHz 1.0 MHz	30 M BW	
Auto M	FUNCTION VALUE	FUNCTION WIDTH	FUNCTION	24.080 dBm -29.841 dBm	850 4 GHz 167 3 GHz		f		
Freq Off C				-23.041 4011	OF O GIVE	11.7		•	
		STATUS					-	_	-

Middle Channel

RL	RF Erog 6	50 Q	AC 0000 GH	-	SEN	SE: INT	Ava Tvp	ALIGNAUTO e: Log-Pwr		M Apr 28, 2016	Frequency
erner	Fleq 0.	015000	Ph	∠ 0:Fast ⊂ ain:Low	Trig: Free				TY		
) dB/div		ffset 9.5 35.50 dl	dB	unicon				Mk		0 1 GHz 34 dBm	Auto Tun
og 6.6 6.6		1									Center Fre 6.015000000 GH
4.5						02				-13.00 dBm	Start Fre 30.000000 MH
4.5 4.5											Stop Fre 12.00000000 GF
	MHZ W 1.0 M	Hz		#VB	W 3.0 MHz			Sweep 2	0.0 ms (2	.000 GHz 5001 pts)	CF Ste 1.197000000 Gi Auto M
1 N 2 N 3 4	1 f 1 f		1.880 6.919 5	GHz GHz	25.134 dB -30.615 dB	m		INCTION WRITH	HONCTR	JN VALUE	Freq Offs
5 6 7 8 9 10											01

Highest Channel

20.000.0000	M Apr 28, 2016	D4:24:54 Pf	ALIGNAUTO		ENSE: INT	SE		AC	50 9	RF			RL
Frequency		TRAC	: Log-Pwr	Avg Typ	Trig: Free Run #Atten: 36 dB		Hz NO: Fast G	0000 GI		eq 6.	Fre	ter	en
Auto Tun	0 2 GHz 55 dBm		Mk		0 00	antiten, or	Gain:Low	dB	ffset 9.5 35.50 d			3/div	
Center Fre 6.015000000 GH			2						1				og 5.6 5.5
Start Fre 30.000000 MH	-13.00 dBm												.50 4.5 4.5
Stop Fre 12.00000000 GH		<u>in a statistica and</u>											4.5 4.5
CF Ste 1.197000000 GH	.000 GHz 5001 pts)		Sweep 20		z	3.0 MHz	#VBW		Hz	HZ .0 MI	W 1		
<u>Auto</u> Ma	ON VALUE	PUNCTIC	NCTION WIDTH	ICTION FI	iBm	25.655 d -29.492 d	2 GHz 0 GHz	1.910		f	TRC	N N	1
Freq Offse 0 H						-23.432 U	U GHZ	11,344				N	3 4 5 6 7
													7 8 9 0 1 2

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

GPRS1900 BAND(12G-20G)

Lowest Channel

RL RF 50 Ω AC		SENSE: INT	ALIGNAUTO	04:11:30 PM Apr 28, 2016	Frequency
enter Freq 16.0000000	PNO: Fast IFGain:Low] Trig: Free Run #Atten: 36 dB	Avg Type: Log-Pwr	TYPE Mythonology DET P P P P P	
Ref Offset 9.5 dB dB/div Ref 35.50 dBm			Mkr1	16.547 20 GHz -25.401 dBm	Auto Tur
5.5					Center Fr 16.000000000 G
50			1	-13 00 dBn	Start Fr 12.000000000 G
1.5					Stop Fr 20.000000000 G
art 12.000 GHz tes BW 1.0 MHz	#VBW	3.0 MHz		Stop 20.000 GHz 0.0 ms (25001 pts)	CF St 800.000000 M
	47 20 GHz 57 92 GHz	-25.401 dBm -25.703 dBm	FUNCTION VIDTH	FUNCTION VALUE	Auto M Freq Offs 0
7 B 9 0 1					

Middle Channel

RL	RF	50 Q			SENS	E:INT		ALIGNAUTO		M Apr 28, 2016	Frequency
enter	Freq 1	6.00000		HZ D:Fast C	Trig: Free F	Run	Avg Typ	e: Log-Pwr	TV	CE 1 2 3 4 5 6	riequency
			IFGa	ain:Low	#Atten: 36	IB			D	ETPPPPPP	
dB/div		Offset 9.5 d 35.50 dB						Mkr1		12 GHz 93 dBm	Auto Tur
5.5											Center Fre
5.6											16.00000000 GH
50											
50	-							2		-13.00 dBm	StartFre
1.5						1		6			12.00000000 GH
4.5	à.	Incast in the Part			-	and the second		No. of Concession, or other	an Print of the	Contraction of the	
5											Stop Fr
1.5											20.000000000 G
L 12	.000 GI	12							Stop 20	.000 GHz	
	V 1.0 M			#VBV	V 3.0 MHz			Sweep 2		5001 pts)	CF Ste 800.000000 MH
	TRC SCL		×		Y		CTION FI	INCTION WIDTH	FUNCTI	ON VALUE	Auto Ma
1 N 2 N	1 1		16.517 12 16.517 12	GHz GHz	-24.493 dBi -24.493 dBi						
3											Freq Offs
5											01
7											
8 9											
1											
2						_		STATUS			

Highest Channel

RL RF 50 Ω AC	SENSE:INT	ALIGNAUTO	D4:25:26 PM Apr 28, 2016	
nter Freq 16.00000000 GHz PNO: Fast C IFGain:Low	Trig: Free Run #Atten: 36 dB	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MYNINIAN DET P P P P P P	Frequency
Ref Offset 9.5 dB		Mkr1	16.558 08 GHz -24.949 dBm	Auto Tune
D9				Center Fred 16.000000000 GH:
50 1.5 1.5		1	-13.00 dBm	Start Free 12.000000000 GH
15 15 15				Stop Fre 20.000000000 GH
art 12.000 GHz Res BW 1.0 MHz #VBN	V 3.0 MHz	Sweep 2	Stop 20.000 GHz 0.0 ms (25001 pts)	CF Ste 800.000000 MH
XE MODE TEO SCL X 1 N 1 f 16.558 08 GHz 2 N 1 f 16.558 08 GHz	-24.949 dBm -24.949 dBm	NCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
2 N 1 f 16.558 08 GHz 3 4 5 6 7	-24.949 dbm			Freq Offse 0 H
7 8 9 0 1				

Shenzhen STS Test Services Co., Ltd.



EDGE 1900 BAND(30M-12G)

Lowest Channel

			07:30:14 PM Apr 28, 2016	
PNO: Fast C	Trig: Free Run #Atten: 36 dB	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE Monodation DET P P P P P P	Frequency
		Mk	r1 1.850 4 GHz 27.870 dBm	Auto Tur
				Center Fr 6.015000000 G
			-13.00 dBm	Start Fr 30.000000 M
and the second se				Stop Fr 12.000000000 G
#VBV				CF St 1.197000000 G
1.850 4 GHz 10.856 1 GHz	27.870 dBm -30.254 dBm	FUNCTION WIDTH	FUNCTION VALUE	Auto M Freq Offs 0
	PNO: Fast C IFGain:Low #VBV	PHO: Fas 119: Pree Kun Braintew #Atten: 36 dB #VBW 3.0 MHz 13504 GHz 27870 dBm	PHO: Fast Ing: Free Kun Ing. Ganese States Mk **VBW 3.0 MHz Sweep 21 **VBW 3.0 MHz Sweep 21 **VBW 3.0 MHz Sweep 21	HOC Fast Trig: Free Run Trig: Free Run Trig: Free Run I'regin: Low Free Run Mkr1 1.850 4 GHz 27.870 dBm I'regin: Low State: 36 dB Mkr1 1.850 4 GHz 27.870 dBm I'regin: Low I'regin: Low I'regin: Low 100 fee I'regin: Low I'regin: Low I'regiregin: Low 100 fee

Middle Channel

Frequency	M Apr 28, 2016		ALIGNAUTO	Avg Type	INSE: INT	SE			50 Q	RF		L
	E Mythindator	TVE	Log-Pwr	Avg Type		Trig: Free	NO: Fast C	0000 GH	1500	эq ь.	r Fr	nter
Auto Tu					6 dB	#Atten: 3	Gain:Low	IFC				
	01 GHz 58 dBm		MK						set 9.5 5.50 d			B/di
Center Fr							-		V 1	-		
6.015000000 G										_		
							-			-		-
Start Fr	-13.00 dBm						-					
30.000000 M				^2								
	and the state			Y I				- mentioned dates			1	
Stop Fr	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		-		Contraction of the		- Carlo Carlos					-
12.00000000 G							-			-		L
CF St	.000 GHz								_		0 M	
1.197000000 G	5001 pts)					W 3.0 MHz	#VB		z	.0 MI		-
<u>Auto</u> M	IN VALUE	FUNCTION	CTION WIDTH	NCTION FUR	Bm	28.358 d	1 GHz	× 1.880		f	E TRO	NN
Freq Offs					Bm	-30.728 d	4 GHz	8.015		f	1	N
0 Prequis												

Highest Channel

Frequency	6:17 PM Apr 28, 2016		ALIGNAUTO		INSE: INT	SE			50 Q	RF -	1		R
Frequency	TRACE 1 2 3 4 5 6		e: Log-Pwr	Avg	Due	Trig: Free	Hz	0000 G	01500	eq 6.	Fre	ter	en
	DET PPPPP					#Atten: 3	PNO: Fast G Gain:Low	IF IF					
Auto Tu	.910 2 GHz 8.502 dBm		Mk						ffset 9.5 35.50 d			3/div	
Center Fr 6.015000000 G									1				5.6 5.6
Start Fre 30.000000 M	-13.00 dBm									-			50 50 1.5 1.5
Stop Fr 12.00000000 G	New York				التنهد وتريبانية			ينسو <i>ي مي</i>					45
CF Ste 1.197000000 G	p 12.000 GHz is (25001 pts)		Sweep 2			3.0 MHz	#VB		Hz	Hz .0 M) MH W 1		
Auto M	UNCTION VALUE	- FU	NCTION WIDTH	INCTION	Bm	28.502 d	2 GHz	× 1.910		f	TRC 1	Ν	1
Freq Offs 01					Bm	-29.895 d	5 3 GHz	11.755		f	1	N	23456789
													789012

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

EDGE 1900 BAND(12G-20G)

Lowest Channel

Frequency	1:46 PM Apr 28, 2016 TRACE 1 2 3 4 5 6		ALIGNAUTO	A	NSE: INT		0 GHz	Ω AC		Fre		R L
Auto Tu	DET P P P P P					Trig: Free #Atten: 36	PNO: Fast 🖵 IFGain:Low					
Auto Tu	21 92 GHz 5.076 dBm	16.5	Mkr1						ef Offset ef 35.5		B/di	
Center Fr 16.000000000 G												g 5.6 5.0
Start Fr 12.000000000 G	-13.00 dBm				•							5
Stop Fr 20.000000000 G										a de la compañía de l		5 5 5
CF St	20.000 GHz s (25001 pts)		Sweep 2			3.0 MHz	#VBW		GHz MHz			
<u>Auto</u> M	NCTION VALUE:	FU	FUNCTION WIDTH	INCTIO	Зm	-25.076 di -25.076 di			eu f	TRC	N N N	
Freq Offs 0					2111	-20.070 0	1 32 012	10.02			N	234557
												8 9 0 1 2
		5	STATUS									a

Middle Channel

RL	RF	50 Ω			SENE	E:INT		ALIGNAUTO	07:34:28	PM Apr 28, 2016	Frequency
enter	Freq 1	6.0000	00000 G	HZ 10: Fast C	Trig: Free F		Avg Typ	e: Log-Pwr	TRA	CE 123456 PE MWMMMMM ET P P P P P P	Trequency
			IFG	ain:Low	#Atten: 36	18				Construction of the litera	Auto Tun
dB/div		Offset 9.5 35.50 d						Mkr1		40 GHz 38 dBm	Auto Tun
g											Center Fre
.6											16.00000000 GH
50											
50				-	-					-13.00 dBm	Start Fre
5				-		() ¹				-13.00 den	12.00000000 GH
5					-		and the second division of the second divisio	-	al unit distantion	-	
5	April 1992	and a second									Stop Fre
5											20.00000000 GH
	.000 G V 1.0 N			#VB	W 3.0 MHz			Sweep 2		0.000 GHz 25001 pts)	CF Ste 800.000000 MH
	TRC SCL		× 16,494.40		-26,138 dB		TION FU	NCTION WIDTH	FUNCT	ION VALUE	Auto Ma
N N	1 f		16.494 4		-25.391 dBi						
											Freq Offs
5											01
r 8											
								STATU			

Highest Channel

RL RF 50 Q AC	SENSE:INT	ALIGNAUTO	07:36:49 PM Apr 28, 2016	
nter Freq 16.000000000 GHz PNO: Fa IFGain:L	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWWWWW DET P P P P P P	Frequency
Ref Offset 9.5 dB	aw sector of day	Mkr1	16.490 88 GHz -25.134 dBm	Auto Tun
09 5.5 5.5 5.0				Center Fre 16.000000000 GH
5		1	-13.00 dBn	Start Fre
4.5				Stop Fre 20.000000000 GH
tart 12.000 GHz Res BW 1.0 MHz #	VBW 3.0 MHz	Sweep 2	Stop 20.000 GHz 0.0 ms (25001 pts)	CF Ste 800.000000 Mi
XE MODE TEO SOL X 1 N 1 f 16.490 88 GH 2 N 1 f 16.490 88 GH	z -25.134 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Mi
3 4 5 6	z -25.134 dBm			Freq Offs 0 F
7 8 9 0 1 2				

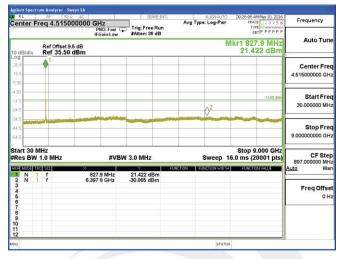
Shenzhen STS Test Services Co., Ltd.



Report No.: STS1604146F01

WCDMA Band V (RMC 12.2Kbps)

Lowest Channel



Middle Channel

RL RF 50	Ω AC	SENSE: INT	ALIGNAUTO	09:30:23 AM May 10, 2016	-
enter Freq 4.515	PNO: Fast C	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MYMMMMMM DET P P P P P P	Frequency
Ref Offset: 0 dB/div Ref 35.50	9.5 dB	PAREN. OU UD	1	Akr1 837.7 MHz 24.615 dBm	Auto Tun
og 25.5 15.5 5.50					Center Fre 4.515000000 GH
4 5				-13.00 dBm	Start Fre 30.000000 MF
4.5 4.5		and the second descent			Stop Fre 9.00000000 GR
tart 30 MHz Res BW 1.0 MHz	#VB	W 3.0 MHz		Stop 9.000 GHz 16.0 ms (20001 pts)	CF Ste 897.000000 M
AGE MODE THE SOL 1 N 1 f 2 N 1 f	837.7 MHz 5.964 1 GHz	24.615 dBm -29.889 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
3 4 5 6 7	0.304 1 912	-29.009 UBIII			Freq Offs 0 F
8					

Highest Channel

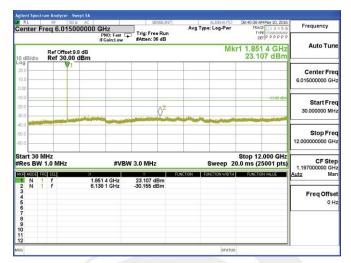
2 0.65 A. 1966 A.	09:32:57 AM May 10, 2016	ALIGNAUTO		NSE:INT	SE		Q AC	RF 5		L
Frequency	TYPE MUMMUMUM DET P P P P P P	e: Log-Pwr	Av	Run dB	Trig: Free #Atten: 3	Z IO: Fast 😱 ain:Low	00000 GH	q 4.515	Fre	ter
Auto Tur	r1 845.4 MHz 24.989 dBm	М					.6 dB dBm	Ref Offset Ref 35.5	,	B/div
Center Fre 4.515000000 GH								1		
Start Fre 30.000000 MF	-13.00 dBm									
Stop Fre 9.00000000 GH				and and a second se						
CF Ste 897.000000 MH	Stop 9.000 GHz 0 ms (20001 pts)				3.0 MHz	#VBW	1	0 MHz		s B
<u>Auto</u> Ma	FUNCTION VALUE	UNCTION WIDTH	INCTION	Bm	24.989 d -30.372 d	4 MHz 3 GHz	× 845. 6.951	f f	1 1 1	NN
Freq Offs 0 H										



Report No.: STS1604146F01

WCDMA Band II (RMC 12.2Kbps)(30M-12G)

Lowest Channel



Middle Channel

Center	Fre	RF q 6.0	50 g	0000 GH	z		ISE: INT	Avg Typ	ALIGNAUTO e: Log-Pwr	TRAC	M May 10, 2016	Frequency
				PI	IO: Fast ⊂ ain:Low	Trig: Free #Atten: 36	Run dB		4.0.4 No. 1994 (0.5.07).	D	TPPPPPP	-
0 dB/di		Ref Off							Mk		9 1 GHz 83 dBm	Auto Tun
25.8			^ 1									Center Fre
15.8 5.80												6.015000000 GH
4.20											-13.00 dEm	Start Fre
24.2											<u>S</u>	30.000000 MH
34.2 44.2 54.2	ale saled				-							Stop Fre 12.00000000 GF
Start 3 Res B			z		#VB	W 3.0 MHz			Sweep 2		.000 GHz 5001 pts)	CF Ste
MOD 1 N	TRC 1	sei. f		× 1.879	1 GHz	23.583 dE	FUNC	TION FU	INCTION WIDTH	FUNCTI	IN VALUE	<u>Auto</u> Ma
2 N 3 4 5 6 7	1	T		11.880	3 GHZ	-30.804 dE	im.					Freq Offs 0 F
8 9												

Highest Channel

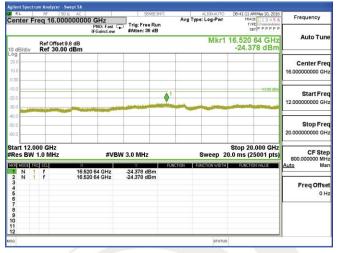
RL	RF	50 R A0	5	SENSE: IN		ALIGNAUTO	D8:52:12 AM May 10, 2016	-
enter	Freq 6.	0150000	PNO: Fast C	Trig: Free Run #Atten: 36 dB	Avg	Type: Log-Pwr	TRACE 2 3 4 5 6 TYPE MWWWWWWW DET P P P P P	Frequency
0 dB/div		ffset 9.8 dB 35.80 dBn		Pritein. Vo 4D		Mk	r1 1.906 4 GHz 22.841 dBm	Auto Tune
25.8 15.8 5.80		1						Center Fre 6.015000000 GH
4.20	_						-13.00 dBm	Start Fre 30.000000 MH
34.2 44.2 54.2								Stop Fre 12.00000000 GH
Start 30	0 MHz W 1.0 M	Hz	#VB	W 3.0 MHz		Sweep 2	Stop 12.000 GHz 0.0 ms (25001 pts)	CF Ste
1 N 2 N	TRC SCL		1.906 4 GHz 7.498 3 GHz	22.841 dBm -29.851 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto Ma
2 N 3 4 5 6 7 8 9 10			7,496 3 GHZ	-29.851 0.6m				Freq Offse 0 H

Shenzhen STS Test Services Co., Ltd.



WCDMA Band II (RMC 12.2Kbps)(12G-20G)

Lowest Channel



Middle Channel

	OΩ AC	SENSE: INT	ALIGNAUTO	D8:47:41 AM May 10, 2016	-	
Center Freq 16.00	DOOOOOOO GHz PNO: Fast G IFGain:Low	Trig: Free Run #Atten: 36 dB	Avg Type: Log-Pwr	TYPE Monoration DET P P P P P P	Frequency Auto Tune	
0 dB/div Ref 35.8	Ref Offset 9.8 dB Mkr1 19.049 92 GHz					
-09 25.8 15.8 5.80					Center Fre 16.000000000 GH	
4.20		Q ²		-13.00 dēm	Start Fre 12.00000000 GF	
34.2 44.2 54.2					Stop Fre 20.000000000 GH	
				Oten 00 000 Olla	1	
Res BW 1.0 MHz	#VB\	W 3.0 MHz		Stop 20.000 GHz 0.0 ms (25001 pts)	800.000000 MH	
Res BW 1.0 MHz	X 19.049 92 GHz	-25.090 dBm	Sweep 2	0.0 ms (25001 pts)		
Start 12.000 GHz Res BW 1.0 MHz SS M005 H2 SS 1 N 1 f 2 N 1 f 3 4 5 6 7 8 9	×	Y		0.0 ms (25001 pts)	800.00000 Mi	

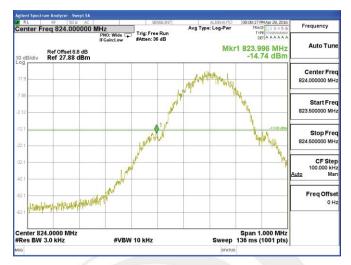
Highest Channel

UTO 08:52:44 AM May 10, 2016	ALIGNAUTO	NSE:INT	- SEN		50 Q AC	RF		۱L.	O R
DET P P P P P P	g Type: Log-Pwr	e Run 5 dB	Trig: Free #Atten: 36	GHz PNO: Fast C	0000000 (eq 16.0	Fre	nter	Cer
kr1 16.466 88 GHz -24.809 dBm	Ref Offset 9.8 dB Mkr1 16.466 88 GH 3/div Ref 35.80 dBm -24.809 dBr				iB/di	0 d			
Center Free 16.000000000 GH									25.8 15.8 5.80
-13.00 dBn Start Fred 12.000000000 GH		● ¹						2	4.20 14.2 24.2
20.000000000 GH								2	34.2 44.2 54.2
Stop 20.000 GHz p 20.0 ms (25001 pts) CF Step 800.000000 MH	Sweep 20		3.0 MHz	#VBW :		0 GHz .0 MHz	W 1	es E	#Re
ADTH EUNCTION MALUE Auto Mar	FUNCTION WIDTH		-24.809 dE			f f	E TRC	M0D N	1 2
Freq Offse 0 H									345678
									9 10 11 12



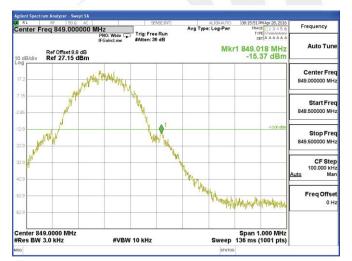
GSM 850

Lowest Band Edge



Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

Highest Band Edge



Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

Shenzhen STS Test Services Co., Ltd.



GPRS 850

Lowest Band Edge



Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

Highest Band Edge



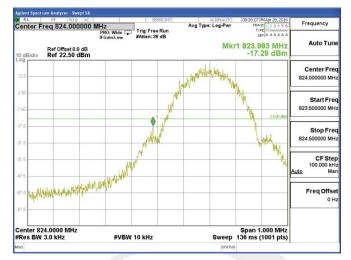
Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

Shenzhen STS Test Services Co., Ltd.



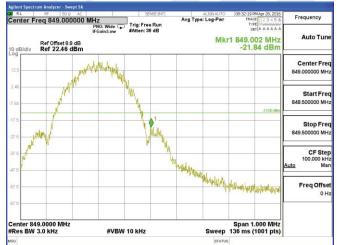
EDGE 850

Lowest Band Edge



Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

Highest Band Edge



Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

Shenzhen STS Test Services Co., Ltd.



GSM 1900

Lowest Band Edge



Note:Offset=Cable loss(9.5)+10log(3.2/3)=9.5+0.3=9.8 dB

ann Broster Freg 1.910000000 GHz enter Freg 1.910000000 GHz PR0: Wide G IFGaint.low #Atten: 36 dB Frequency Aug Type: Log-Pwr TYPE MWWWW DET A A A A Auto Tur Mkr1 1.910 021 GHz -15.94 dBm Ref Offset 9.8 dB Ref 24.73 dBm 10 di WALLAN WIN Center Fred 1.91000000 GHz Start Fred 1.00 Stop Fre 0500000 GH CF Step 100.000 kH all and the appropriate and provident of Freq Offs 0 H Center 1.9100000 GHz #Res BW 3.0 kHz Span 1.000 MHz Sweep 136 ms (1001 pts) #VBW 10 kHz

Highest Band Edge

MSG

Note:Offset=Cable loss(9.5)+10log(3.2/3)=9.5+0.3=9.8 dB

Shenzhen STS Test Services Co., Ltd.



GPRS 1900

Lowest Band Edge



Note:Offset=Cable loss(9.5)+10log(3.2/3)=9.5+0.3=9.8 dB

ann Broster Freg 1.910000000 GHz enter Freg 1.910000000 GHz PR0: Wide G IFGaint.low #Atten: 36 dB Frequency Aug Type: Log-Pwr TYPE MWWWW DET A A A A A Auto Tur Mkr1 1.910 003 GHz -18.96 dBm Ref Offset 9.8 dB Ref 21.09 dBm 10 d Center Fred 1.91000000 GHz mal Martin land Start Fred 1.00 Stop Fre 0500000 GH CF Step 100.000 kH Wanthy d'all Freq Offs 0 H Center 1.9100000 GHz #Res BW 3.0 kHz Span 1.000 MHz Sweep 136 ms (1001 pts) #VBW 10 kHz

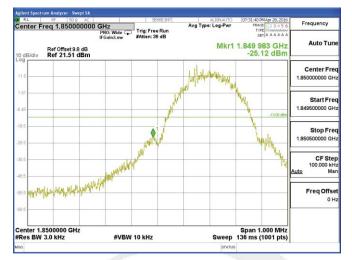
Highest Band Edge

Note:Offset=Cable loss(9.5)+10log(3.2/3)=9.5+0.3=9.8 dB



EDGE 1900

Lowest Band Edge



Note:Offset=Cable loss(9.5)+10log(3.2/3)=9.5+0.3=9.8 dB

ann Broster Freg 1.910000000 GHz enter Freg 1.910000000 GHz PR0: Wide G IFGaint.low #Atten: 36 dB Frequency Aug Type: Log-Pwr TYPE MWWWW DET A A A A A Auto Tur Mkr1 1.910 010 GHz -21.86 dBm Ref Offset 9.8 dB Ref 18.85 dBm 10 d Center Fred 1.91000000 GHz MORNINA Start Fred 1.00 Stop Fre 0500000 GH CF Step 100.000 kH Wellingth an appropriate the state of the Freq Offs 0 H Span 1.000 MHz Sweep 136 ms (1001 pts) Center 1.9100000 GHz #Res BW 3.0 kHz #VBW 10 kHz

Highest Band Edge

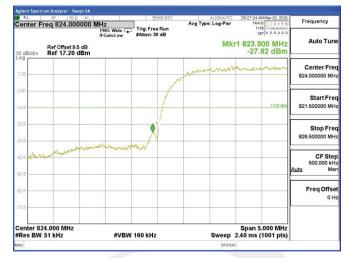
Note:Offset=Cable loss(9.5)+10log(3.2/3)=9.5+0.3=9.8 dB

Shenzhen STS Test Services Co., Ltd.



WCDMA Band VRMC 12.2Kbps





Note:Offset=Cable loss(10.45)+10log(41/51)=10.45+(-0.95)=9.5 dB



Highest Band Edge

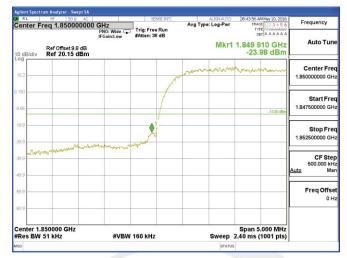
Note:Offset=Cable loss(10.45)+10log(41/51)=10.45+(-0.95)=9.5 dB

Shenzhen STS Test Services Co., Ltd.



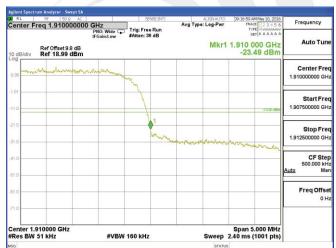
WCDMA Band IIRMC 12.2Kbps





Note:Offset=Cable loss(10.75)+10log(41/51)=10.75+(-0.95)=9.8 dB

Highest Band Edge



Note:Offset=Cable loss(10.75)+10log(41/51)=10.75+(-0.95)=9.8 dB

Shenzhen STS Test Services Co., Ltd.



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

	The	e Worst Test F	Results Channe	el 128/824.2 MHz		
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1648.474	-35.47	-4.65	-40.12	-13	-27.12	Horizontal
2472.751	-36.98	-2.21	-39.19	-13	-26.19	Horizontal
3296.925	-31.1	0.21	-30.89	-13	-17.89	Horizontal
1648.478	-38.49	-4.65	-43.14	-13	-30.14	Vertical
2472.755	-41.76	-2.21	-43.97	-13	-30.97	Vertical
3297.003	-42.78	0.21	-42.57	-13	-29.57	Vertical
	The	e Worst Test F	Results Channe	I 190/836.6 MHz		
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1673.357	-36.53	-4.65	-41.18	-13	-28.18	Horizontal
2509.888	-42.95	-2.21	-45.16	-13	-32.16	Horizontal
3346.45	-38.12	0.21	-37.91	-13	-24.91	Horizontal
1673.393	-37.5	-4.65	-42.15	-13	-29.15	Vertical
2509.905	-31.85	-2.21	-34.06	-13	-21.06	Vertical
3346.472	-36.66	0.21	-36.45	-13	-23.45	Vertical
	The	e Worst Test F	Results Channe	I 251/848.8 MHz		
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1697.71	-35.51	-4.65	-40.16	-13	-27.16	Horizontal
2546.548	-44	-2.21	-46.21	-13	-33.21	Horizontal
3395.346	-42.14	0.21	-41.93	-13	-28.93	Horizontal
1697.766	-35.47	-4.65	-40.12	-13	-27.12	Vertical
2546.613	-41.8	-2.21	-44.01	-13	-31.01	Vertical
3395.426	-37.69	0.21	-37.48	-13	-24.48	Vertical

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

	The	e Worst Test F	Results Channe	el 128/824.2 MHz		
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1648.491	-37.48	-4.65	-42.13	-13	-29.13	Horizontal
2472.738	-38.03	-2.21	-40.24	-13	-27.24	Horizontal
3296.924	-32.13	0.21	-31.92	-13	-18.92	Horizontal
1648.504	-39.49	-4.65	-44.14	-13	-31.14	Vertical
2472.742	-42.74	-2.21	-44.95	-13	-31.95	Vertical
3296.945	-43.74	0.21	-43.53	-13	-30.53	Vertical
	The	e Worst Test F	Results Channe	el 190/836.6 MHz	-	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1673.336	-37.47	-4.65	-42.12	-13	-29.12	Horizontal
2509.847	-44.98	-2.21	-47.19	-13	-34.19	Horizontal
3346.433	-40.14	0.21	-39.93	-13	-26.93	Horizontal
1673.421	-39.43	-4.65	-44.08	-13	-31.08	Vertical
2509.855	-32.78	-2.21	-34.99	-13	-21.99	Vertical
3346.474	-38.66	0.21	-38.45	-13	-25.45	Vertical
	The	e Worst Test F	Results Channe	251/848.8 MHz		
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1697.654	-37.43	-4.65	-42.08	-13	-29.08	Horizontal
2546.531	-44.96	-2.21	-47.17	-13	-34.17	Horizontal
3395.356	-43.14	0.21	-42.93	-13	-29.93	Horizontal
1697.748	-36.5	-4.65	-41.15	-13	-28.15	Vertical
2546.568	-42.8	-2.21	-45.01	-13	-32.01	Vertical
3395.455	-38.69	0.21	-38.48	-13	-25.48	Vertical

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.



Report No.: STS1604146F01

EDGE 850: (30-9000)MHz

	The	e Worst Test	Results Channe	el 128/824.2 MHz		
Frequency(MHz)	Power(dBm)	ARpl	Р _{меа} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1648.503	-38.46	-4.65	-43.11	-13	-30.11	Horizontal
2472.735	-39.02	-2.21	-41.23	-13	-28.23	Horizontal
3296.868	-33.11	0.21	-32.9	-13	-19.9	Horizontal
1648.57	-40.52	-4.65	-45.17	-13	-32.17	Vertical
2472.801	-44.82	-2.21	-47.03	-13	-34.03	Vertical
3296.926	-45.7	0.21	-45.49	-13	-32.49	Vertical
	The	e Worst Test	Results Channe	el 190/836.6 MHz	_	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1673.275	-38.45	-4.65	-43.1	-13	-30.1	Horizontal
2509.928	-45.01	-2.21	-47.22	-13	-34.22	Horizontal
3346.495	-42.15	0.21	-41.94	-13	-28.94	Horizontal
1673.349	-41.46	-4.65	-46.11	-13	-33.11	Vertical
2510.006	-34.83	-2.21	-37.04	-13	-24.04	Vertical
3346.497	-40.66	0.21	-40.45	-13	-27.45	Vertical
	The	e Worst Test	Results Channe	el 251/848.8 MHz		
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
1697.728	-39.45	-4.65	-44.1	-13	-31.1	Horizontal
2546.501	-47	-2.21	-49.21	-13	-36.21	Horizontal
3395.371	-45.16	0.21	-44.95	-13	-31.95	Horizontal
1697.818	-38.5	-4.65	-43.15	-13	-30.15	Vertical
2546.547	-44.81	-2.21	-47.02	-13	-34.02	Vertical
3395.393	40.81	0.21	41.02	-13	54.02	Vertical

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

	The	Worst Test Res	sults for Chann	el 512/1850.2MH	Iz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3700.448	-33.49	0.33	-33.16	-13	-20.16	Horizontal
5550.74	-36.01	4.01	-32	-13	-19	Horizontal
7400.919	-42.07	10.7	-31.37	-13	-18.37	Horizontal
3700.521	-34.46	0.33	-34.13	-13	-21.13	Vertical
5550.767	-35.79	4.01	-31.78	-13	-18.78	Vertical
7400.997	-41.66	10.7	-30.96	-13	-17.96	Vertical
	The	Worst Test Res	sults for Chann	el 661/1880.0MH	lz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3760.231	-36.52	0.33	-36.19	-13	-23.19	Horizontal
5640.264	-36.97	4.01	-32.96	-13	-19.96	Horizontal
7520.235	-32.12	10.7	-21.42	-13	-8.42	Horizontal
3760.309	-38.47	0.33	-38.14	-13	-25.14	Vertical
5640.296	-41.79	4.01	-37.78	-13	-24.78	Vertical
7520.326	-42.72	10.7	-32.02	-13	-19.02	Vertical
	The	Worst Test Res	sults for Chann	el 810/1909.8MH	lz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3819.702	-36.42	0.33	-36.09	-13	-23.09	Horizontal
5729.502	-37	4.01	-32.99	-13	-19.99	Horizontal
7639.317	-32.16	10.7	-21.46	-13	-8.46	Horizontal
3819.721	-38.48	0.33	-38.15	-13	-25.15	Vertical
5729.588	-41.73	4.01	-37.72	-13	-24.72	Vertical
7639.41	-42.72	10.7	-32.02	-13	-19.02	Vertical

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

	The	Norst Test Re	esults for Chann	el 512/1850.2MH	łz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3700.435	-35.51	0.33	-35.18	-13	-22.18	Horizontal
5550.76	-38	4.01	-33.99	-13	-20.99	Horizontal
7400.991	-44.06	10.7	-33.36	-13	-20.36	Horizontal
3700.445	-36.51	0.33	-36.18	-13	-23.18	Vertical
5550.773	-37.76	4.01	-33.75	-13	-20.75	Vertical
7401.068	-42.66	10.7	-31.96	-13	-18.96	Vertical
	The	Norst Test Re	esults for Chann	iel 661/1880.0MH	łz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3760.215	-37.5	0.33	-37.17	-13	-24.17	Horizontal
5640.307	-37.97	4.01	-33.96	-13	-20.96	Horizontal
7520.241	-33.08	10.7	-22.38	-13	-9.38	Horizontal
3760.279	-39.53	0.33	-39.2	-13	-26.2	Vertical
5640.375	-42.8	4.01	-38.79	-13	-25.79	Vertical
7520.242	-43.73	10.7	-33.03	-13	-20.03	Vertical
	The	Norst Test Re	esults for Chann	iel 810/1909.8MH	łz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3819.642	-37.47	0.33	-37.14	-13	-24.14	Horizontal
5729.46	-37.95	4.01	-33.94	-13	-20.94	Horizontal
7639.307	-33.12	10.7	-22.42	-13	-9.42	Horizontal
3819.714	-39.47	0.33	-39.14	-13	-26.14	Vertical
5729.539	-42.72	4.01	-38.71	-13	-25.71	Vertical
7639.386	-43.69	10.7	-32.99	-13	-19.99	Vertical

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.



66 of 69

Report No.: STS1604146F01

EDGE 1900: (30-20000)MHz

	The	Norst Test Re	sults for Chann	el 512/1850.2MH	łz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3700.431	-37.5	0.33	-37.17	-13	-24.17	Horizontal
5550.761	-38.94	4.01	-34.93	-13	-21.93	Horizontal
7400.995	-46.07	10.7	-35.37	-13	-22.37	Horizontal
3700.455	-38.47	0.33	-38.14	-13	-25.14	Vertical
5550.761	-39.79	4.01	-35.78	-13	-22.78	Vertical
7401.017	-44.71	10.7	-34.01	-13	-21.01	Vertical
	The	Norst Test Re	sults for Chann	el 661/1880.0MI	lz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3760.265	-39.49	0.33	-39.16	-13	-26.16	Horizontal
5640.332	-38.95	4.01	-34.94	-13	-21.94	Horizontal
7520.287	-35.09	10.7	-24.39	-13	-11.39	Horizontal
3760.272	-41.51	0.33	-41.18	-13	-28.18	Vertical
5640.368	-44.76	4.01	-40.75	-13	-27.75	Vertical
7520.376	-45.75	10.7	-35.05	-13	-22.05	Vertical
	The	Norst Test Re	sults for Chann	el 810/1909.8MH	lz	
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity
3819.658	-39.48	0.33	-39.15	-13	-26.15	Horizontal
5729.447	-38.98	4.01	-34.97	-13	-21.97	Horizontal
7639.326	-35.15	10.7	-24.45	-13	-11.45	Horizontal
3819.714	-41.51	0.33	-41.18	-13	-28.18	Vertical
5729.497	-44.77	4.01	-40.76	-13	-27.76	Vertical
7639.387	-45.7	10.7	-35	-13	-22	Vertical

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.



Report No.: STS1604146F01

UMTS band V(30-9000)MHz

Channel 4132/826.4MHz									
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity			
1745.813	-34.48	-4.65	-39.13	-13	-26.13	Horizontal			
2613.289	-35.7	-2.21	-37.91	-13	-24.91	Horizontal			
1745.906	-32.7	-4.65	-37.35	-13	-24.35	Vertical			
2613.309	-31.46	-2.21	-33.67	-13	-20.67	Vertical			
		Chan	nel 4183/836.6N	1Hz					
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity			
1762.163	-31.56	-4.65	-36.21	-13	-23.21	Horizontal			
2643.808	-36.65	-2.21	-38.86	-13	-25.86	Horizontal			
1762.26	-28.69	0.21	-28.48	-13	-15.48	Vertical			
2643.905	-34.43	-4.65	-39.08	-13	-26.08	Vertical			
		Chan	nel 4233/846.6N	1Hz					
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity			
1784.797	-36.5	-4.65	-41.15	-13	-28.15	Horizontal			
2675.848	-38.72	-2.21	-40.93	-13	-27.93	Horizontal			
1784.855	-26.71	-4.65	-31.36	-13	-18.36	Vertical			
2675.854	-35.47	-2.21	-37.68	-13	-24.68	Vertical			

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

Channel 9262/1852.4MHz									
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity			
3866.804	-34.48	0.33	-34.15	-13	-21.15	Horizontal			
5998.223	-35.64	4.01	-31.63	-13	-18.63	Horizontal			
3866.88	-34.67	0.33	-34.34	-13	-21.34	Vertical			
5998.249	-31.42	4.01	-27.41	-13	-14.41	Vertical			
		Cha	nnel 9400/1880	0.0MHz					
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity			
3921.168	-31.53	0.33	-31.2	-13	-18.2	Horizontal			
5883.131	-35.46	4.01	-31.45	-13	-18.45	Horizontal			
3921.241	-27.65	0.33	-27.32	-13	-14.32	Vertical			
5883.173	-35.48	4.01	-31.47	-13	-18.47	Vertical			
		Cha	nnel 9538/1907	7.6MHz					
Frequency(MHz)	Power(dBm)	ARpl	P _{Mea} (dBm)	Limit (dBm)	Margin(dBm)	Polarity			
3975.232	-36.47	0.33	-36.14	-13	-23.14	Horizontal			
5961.785	-38.66	4.01	-34.65	-13	-21.65	Horizontal			
3975.278	-28.71	0.33	-28.38	-13	-15.38	Vertical			
5961.848	-35.41	4.01	-31.4	-13	-18.4	Vertical			

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

