

RADIO TEST REPORT

Report No: STS1609155F01

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Issued for

Southern Telecom Inc.

14C 53rd Street, Brooklyn, New York City, New York 11232 United States

Product Name:	Mobile Phone
Brand Name:	POLAROID
Model Name:	A100
Series Model:	N/A
FCC ID:	2ABV4-A100
Test Standard:	FCC Part 22H and 24E

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Report No.: STS1609155F01

TEST RESULT CERTIFICATION

Applicant's name:	Southern Telecom Inc.
Address:	14C 53rd Street, Brooklyn, New York City, New York 11232 United States
Manufacture's Name	IMG TECHNOLOGY CO.,LTD
Address:	1108, Tower B,Tian'an High-Tech Plaza Phase 1,Tian'an Cyber Park ,Futian District ,Shenzhen,China
Product name:	Mobile Phone
Brand name:	POLAROID
Model and/or type reference :	A100
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.

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Date of Test

Date of performance of tests 21 Sep. 2016~29 Sep. 2016

Date of Issue 30 Sep. 2016

Test Result Pass

Testing Engineer :	Junter	
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-	(Vita Li)	APPROVAL 6
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Shenzhen STS Test Services Co., Ltd.

dong, China



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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	30 Sep. 2016	STS1609155F01	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%



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2 PRODUCT INFORMATION

Product Designation:	Mobile Phone		
Hardware version number:	N/A		
Software version number:	N/A		
FCC ID:	2ABV4-A100		
	GSM/GPRS:		
Tx Frequency:	850: 824.2 MHz ~ 848.8 MHz		
	1900: 1850.2 MHz ~ 1909.8MHz		
	GSM/GPRS:		
Rx Frequency:	850: 869.2 MHz ~ 893.8 MHz		
	1900: 1930.2 MHz ~ 1989.8 MHz		
Max RF Output Power:	GSM850:32.44dBm,PCS1900:30.15dBm GPRS850:32.41dBm,GPRS1900:29.98dBm		
Type of Emission:	GSM(850):321KGXW: GSM(1900):321KGXW GPRS(850):319KGXW: GPRS(1900):319KGXW		
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: 0.25dBi ,PCS 1900: 0.6dBi		
Power Supply:	DC 3.7V by battery		
Battery parameter:	Capacity: 600mAh, Rated Voltage: 3.7V		
GPRS Class:	Multi-Class12		
Extreme Vol. Limits:	DC3.3V to 4.2V (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 normally with higher or lower voltage.			



3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 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
- 2. 30 MHz to 10th harmonic for GSM1900

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	



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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
Bilog Antenna (Calibration 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 (Calibration antenna)	Schwarzbeck	BBHA 9120D	9120D-1343	2016.03.06	2017.03.05
MXA SIGNAL Analyzer	Agilent	N9020A	MY49100060	2015.10.25	2016.10.24
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

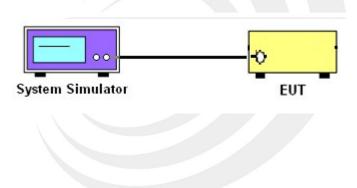
Test overview

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

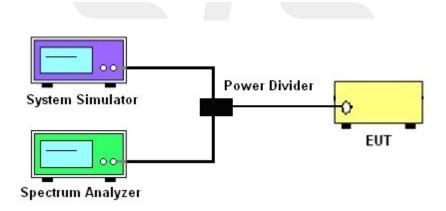
TEST OVERVIEW

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



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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

1. The testing follows FCC KDB 971168 D01

Section 5.2.2 (for GSM/GPRS) 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.

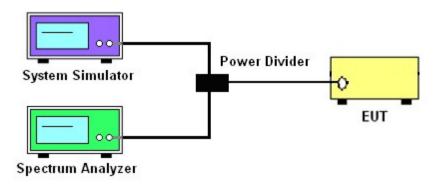
All modes of operation were investigated and the worst case configuration results are reported in this section.

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:

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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

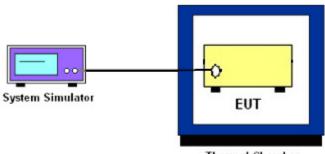
1. The testing follows FCC KDB 971168 D01 Section 9.0.

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

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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.

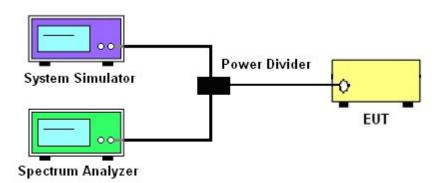
5. The conducted spurious emission for the whole frequency range was taken.

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.

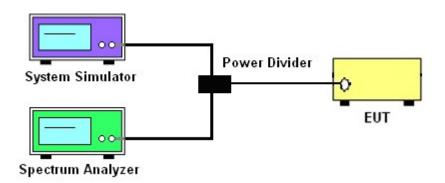
6.The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= 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 ≥ 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 PMe as, typically dBW or dBm);

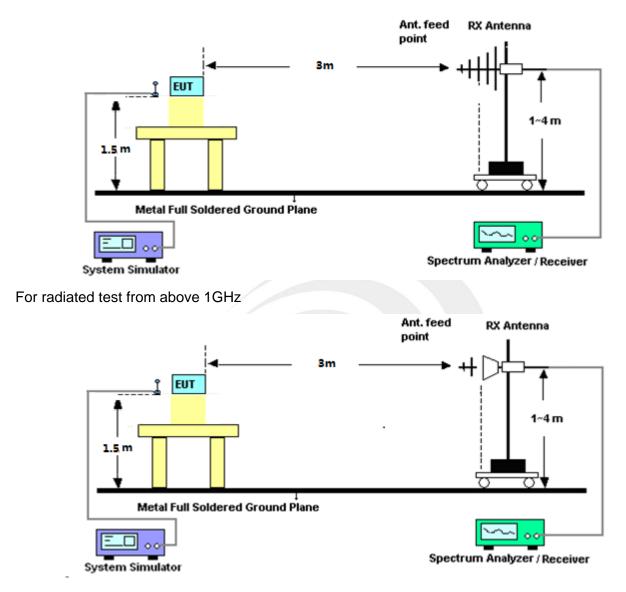
P.SG = measured transmitter output power or PSD, in dBm or dBW;

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.



For radiated test from 30MHz to 1GHz



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APPENDIX ATESTRESULT A1CONDUCTED OUTPUT POWER

GSM 850:

Mode	Frequency (MHz)	AVG Power
GSM850	824.2	32.43
	836.6	32.35
	848.8	32.44
GPRS850	824.2	32.41
	836.6	32.32
	848.8	32.40

PCS 1900:

Mode	Frequency (MHz)	AVG Power
	1850.2	30.15
GSM1900	1880	29.85
	1909.8	29.91
	1850.2	29.98
GPRS1900	1880	29.81
	1909.8	29.83

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A2 PEAK-TO-AVERAGE RADIO

PCS 1900:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1850.2	30.68	30.15	0.53
PCS1900	1880	30.35	29.85	0.50
	1909.8	30.55	29.91	0.64
	1850.2	30.49	29.98	0.51
GPRS1900	1880	30.39	29.81	0.58
	1909.8	30.51	29.83	0.68

A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

Radiated Power (ERP) for GSM 850 MHZ									
Mode	Frequency	S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	Conclusion		
	824.2	23.86	0.44	6.5	29.92	Horizontal	Pass		
	824.2	25.66	0.44	6.5	31.72	Vertical	Pass		
0004050	836.6	23.73	0.45	6.5	29.78	Horizontal	Pass		
GSM850	836.6	25.65	0.45	6.5	31.70	Vertical	Pass		
	848.8	23.95	0.46	6.5	29.99	Horizontal	Pass		
	848.8	25.66	0.46	6.5	31.70	Vertical	Pass		
	824.2	23.96	0.44	6.5	30.02	Horizontal	Pass		
	824.2	25.70	0.44	6.5	31.76	Vertical	Pass		
	836.6	23.59	0.45	6.5	29.64	Horizontal	Pass		
GPRS850	836.6	25.50	0.45	6.5	31.55	Vertical	Pass		
	848.8	23.84	0.46	6.5	29.88	Horizontal	Pass		
	848.8	25.62	0.46	6.5	31.66	Vertical	Pass		



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	Radiated Power (EIRP) for PCS 1900 MHZ								
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion		
		(dBm)	loss (dBi)		E.I.R.P.(dBm)	Of Max.EIRP.			
	1850.2	19.74	2.41	10.35	27.68	Horizontal	Pass		
	1850.2	21.60	2.41	10.35	29.54	Vertical	Pass		
PCS1900 1880.0	1880.0	19.40	2.42	10.35	27.33	Horizontal	Pass		
	1880.0	21.24	2.42	10.35	29.17	Vertical	Pass		
	1909.8	19.28	2.43	10.35	27.20	Horizontal	Pass		
	1909.8	21.37	2.43	10.35	29.29	Vertical	Pass		
	1850.2	19.59	2.41	10.35	27.53	Horizontal	Pass		
	1850.2	21.34	2.41	10.35	29.28	Vertical	Pass		
00001000	1880.0	19.28	2.42	10.35	27.21	Horizontal	Pass		
GPRS1900	1880.0	21.07	2.42	10.35	29.00	Vertical	Pass		
	1909.8	19.33	2.43	10.35	27.25	Horizontal	Pass		
	1909.8	21.29	2.43	10.35	29.21	Vertical	Pass		

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

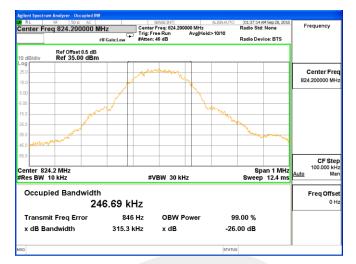
Occupied Bandwidth for GSM 850 band								
Mode		Occupied Bandwidth	Emission Bandwidth					
Widde	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)					
Low Channel	824.2 246.69		315.3					
Middle Channel	836.6	241.92	320.9					
High Channel	848.8	243.60	315.0					
	Occupied Bandwidth for GPRS 850 band							
Mode		Occupied Bandwidth	Emission Bandwidth					
wode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)					
Low Channel	824.2	244.25	318.6					
Middle Channel	836.6	243.38	314.6					
High Channel	848.8	246.54	314.5					

Occupied Bandwidth for GSM1900 band							
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth				
Mode	Frequency(IVIEZ)	(99%)(kHz)	(-26dBc)(kHz)				
Low Channel	1850.2	244.82	320.7				
Middle Channel	1880.0	243.61	316.2				
High Channel	1909.8	247.75	318.3				
Occupied Bandwidth for GPRS 1900 band							
Mode		Occupied Bandwidth	Emission Bandwidth				
Mode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)				
Low Channel	1850.2	244.36	319.4				
Middle Channel	1880.0	245.14	312.3				
High Channel	1909.8	246.42	312.4				

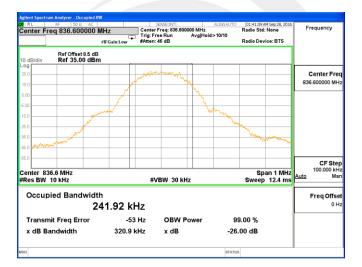


Report No.: STS1609155F01

GSM 850 CH 128



GSM 850 CH 190





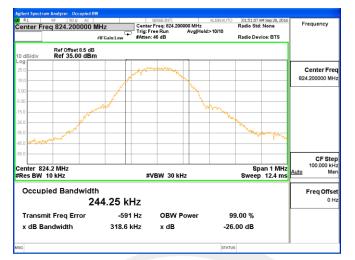
GSM 850 CH 251

Shenzhen STS Test Services Co., Ltd.



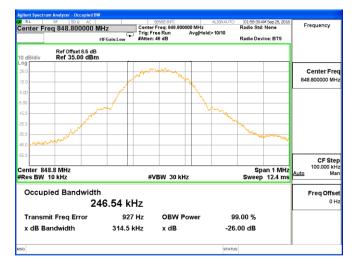
Report No.: STS1609155F01

GPRS 850 CH 128



GPRS 850 CH 190





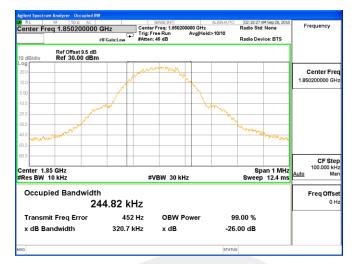
GPRS 850 CH 251

Shenzhen STS Test Services Co., Ltd.

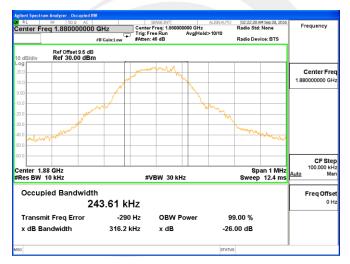


Report No.: STS1609155F01

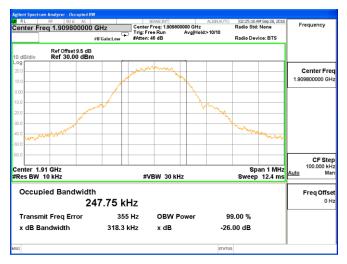
PCS 1900 CH 512



PCS 1900 CH 661



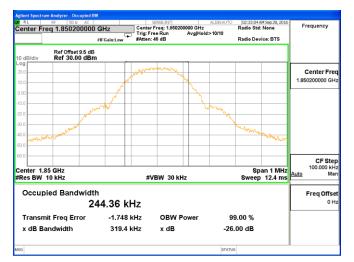
PCS 1900 CH 810



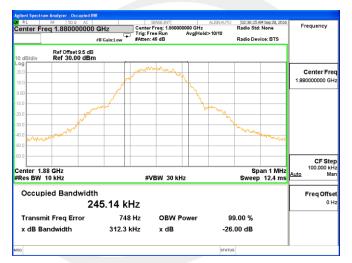
Shenzhen STS Test Services Co., Ltd.



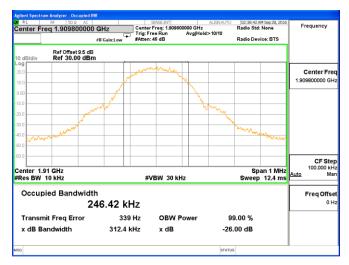
GPRS 1900 CH 512



GPRS 1900 CH 661



GPRS 1900 CH 810



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Report No.: STS1609155F01

A5 FREQUENCY STABILITY

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

	GSM 850 Middle Channel/836.6MHz							
Temperature (°C)	Voltage (Volt)	Limit	Result					
50	-	32.97	0.394					
40		28.43	0.340					
30		32.82	0.392					
20		19.76	0.236					
10	Normal Voltage	36.24	0.433					
0		15.29	0.183	2.5ppm	PASS			
-10		25.20	0.301					
-20		21.16	0.253					
-30		35.28	0.422					
25	Maximum Voltage	17.96	0.215					
25	BEP	11.67	0.139					

	GPRS	850 Middle Cha	nnel/836.6MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		22.78	0.272		
40		36.48	0.436		
30		21.83	0.261		
20		33.69	0.403		
10	Normal Voltage	24.26	0.290		
0		14.97	0.179	2.5ppm	PASS
-10		20.35	0.243		
-20		15.68	0.187		
-30		12.68	0.152		
25	Maximum Voltage	23.77	0.024		
25	BEP	28.91	0.014		



Report No.: STS1609155F01

	GSM [·]	1900 Middle Cha	nnel/1880MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		32.06	0.017	_	
40		13.39	0.007	_	
30		31.61	0.017		
20		14.57	0.008		
10	Normal Voltage	22.98	0.012	Within Au-	
0		13.37	0.007	thorized	PASS
-10		17.92	0.010	Band	
-20		34.48	0.018		
-30		23.92	0.013		
25	Maximum Voltage	28.40	0.015		
25	BEP	16.45	0.009		

	GPRS	1900 Middle Cha	annel1880MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		26.46	0.014		
40		18.09	0.010		
30		35.09	0.019		
20		18.39	0.010	- Within Au-	
10	Normal Voltage	33.75	0.018		
0		23.15	0.012	thorized	PASS
-10		23.22	0.012	Band	
-20		34.45	0.018	-	
-30		13.23	0.007		
25	Maximum Voltage	27.87	0.015		
25	BEP	12.60	0.007		

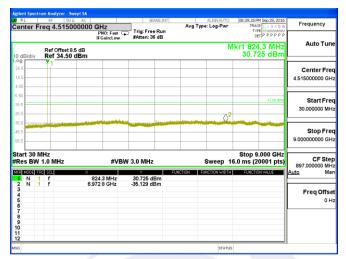
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A6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

GSM 850 BAND

Lowest Channel



Middle Channel

Ref Offset 8.8 dB Model [1:1:1:3:3:4:8:4:8:3:6:4:8:4:8:4:8:4:8:4:8:4:8:4:8:4:8:4:8:4	RL	um Analyzer - Swep RF 50 Ω		SENSE:INT		ALIGNAUTO	08:41:31 PM	Sep 28, 2016	
If Gain.tow #Atten: 36 dB Cert P P P P P Auto 10 dBidiv Ref Offset 8.5 dB Mkr1 836.9 MHz 38.6 9 MHz 4.5150000 10 dBidiv Y 1 Image: Contract of the second			0000 GHz				TRACE	123456	Frequency
Ref Offset 85.63 Bit Mikr 130.738 dBm 0.06 July Y 1 30.738 dBm 0.06 July Y 1 Center 4.5150000 300000 Star 55 3 30.00000 55 3 30.00000 55 3 30.000000 56 3 30.000000 56 3 30.0000000 56 3 30.0000000 56 3 30.0000000 56 3 30.0000000 561 3 30.0000000 563 30.00000000 564 30.00000000 565 30.000000000 564 30.00000000000000000000000000000000000			PNO: Fast C IFGain:Low				DET	PPPPP	
245 Image: Control of the sector with the sector withe sector withe sector with the sector with the sector withe secto						M			Auto Tu
145	- I	1							0
450 450 450 450 5000 5000 50000000 500000000 500000000 500000000 500000000 500000000 500000000 5000000000 5000000000 5000000000 5000000000 5000000000 60000000000 60000000000 60000000000 60000000000 60000000000000 60000000000 60000000000 60000000000 60000000000 600000000000 6000000000000000 600000000000 6000000000000 600000000000 6000000000000000 6000000000000000000000000000000000000									4.515000000 G
Star Star <th< td=""><td>50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4.010000000</td></th<>	50								4.010000000
35 300000 55 300000 55 300000 55 300000 55 300000 55 300000 55 300000 55 300000 55 300000 55 300000 55 300000 56 300000 56 300000 56 300000 56 300000 57 300000 3000000 3000000 58 3000000 50000 5835 9 MHz 3000000 580000 GHz 50000 580000000 50000 580000000 50000 580000000 50000 580000000 5800000000 5800000000 58000000000000000000000000000000000000	50								
5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	5.5							-13.00 dbm	Start Fi
Stop Stop <th< td=""><td>5.5</td><td>_</td><td></td><td></td><td><mark>2</mark></td><td></td><td></td><td></td><td>30.000000 k</td></th<>	5.5	_			<mark>2</mark>				30.000000 k
Simple Stop 9.000000 tart 30 MHz \$\$top 9.000000 tart 30 MHz \$\$top 9.000000 tart 30 MHz \$\$top 9.000000 20 1023 H22 \$\$top 9.000000 20 1023 H23 Stop 9.000 \$\$top 9.000000 21 1023 H23 Stop 9.000 \$\$top 9.000000 21 1023 H23 Stop 9.000 \$\$top 9.000000 31 N 1 f \$\$top 9.000000 3 N 1 f \$\$top 9.000000 4 \$\$top 9.0000000 5 \$\$top 9.0000000 6 \$\$top 9.0000000 7 \$\$top 9.0000000 8 \$\$top 9.0000000 0 \$\$top 9.00000000 1 \$\$top 9.00000000	5.5	and the second	and the state of the	No. of Concession, name	a dan Verte			-	
Auto Stop 9.000 GHz Seveep 16.0 ms (20001 pts) 21 M 1 #VBW 3.0 MHz Sweep 16.0 ms (20001 pts) 22 M 26 162 SCI X FAUKION FAUKION 21 M 1 6 835.9 MHz 33.0 dBm FAUKION 3 1 5.833 6 GHz -34.138 dBm FAUKION 3									Stop Fi
Res BW 1.0 MHz #VBW 3.0 MHz Sweep 16.0 ms (20001 pts) Cf 8970000 N 1 1 636.9 MHz 30.3 dBm FMICTION VALUE Auto 2 N 1 f 6.833 6 GHz -34.138 dBm FMICTION VALUE FMICTION VALUE 3 - <td>5.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9.000000000</td>	5.5								9.000000000
Revision Provision Sweep Dot instruction Auto Auto 1 f 636.9 MHz 30,739 dBm Auto Auto <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>CF St</td></t<>									CF St
11 1 f 935 9 MHz 30 739 dBm 100 1739 dBm	Res BW	1.0 MHz	#VB	W 3.0 MHz	5	Sweep 1	6.0 ms (20	0001 pts)	897.000000 N
2 N 1 f 5.8336 GHz -34.138 dBm 4		IC SCL			UNCTION FUN	ICTION WIDTH	FUNCTION	N VALUE	Auto N
4 784 6 8 7 8 9 9	2 N 1	f	5.833 6 GHz	-34.138 dBm					
7	4								Freq Off
7	5								0
0	7								
1	9								
12	1								
ig status									

Highest Channel

RF 50 Ω AC 4.515000000 ef Offset 8.5 dB ef 34.50 dBm	PNO: Fast C IFGain:Low	Trig: Free Ru #Atten: 36 dB	n	Type: Log-Pwr	TRAC	M Sep 28, 2016 E 1 2 3 4 5 6 E M M M M M M M M M M M M M M M M M M M	Frequency
						TEFFFFF	
4				N	1kr1 849 30.63	0.0 MHz 38 dBm	Auto Tur
							Center Fre 4.515000000 Gi
						-13.00 dBm	Start Fre 30.000000 M
							Stop Fr 9.000000000 G
z MHz	#VB	W 3.0 MHz		Sweep 1			CF Sto 897.000000 M
	849.0 MHz	30.638 dBm	FUNCTION	FUNCTION WIDTH	FUNCTIO	N VALUE	<u>Auto</u> M
	.526 9 GHZ	-36.018 dBm					Freq Offs 01
	MHz	MHz #VB	MHz #VBW 3.0 MHz	MHz #VBW 3.0 MHz	MHz #VBW 3.0 MHz Sweep 10 Cl X FUNCTION FUNCTION X X FUNCTION FUNCTION X X FUNCTION FUNCTION X X FUNCTION FUNCTION	MHz #VBW 3.0 MHz Sweep 16.0 ms (2) QI X Y Runcifon Fonction Fonctin Fonction	Stop 9.000 GHz MHz #VBW 3.0 MHz Stop 9.000 GHz 8490 MHz \$3038 dBm \$2038 dBm

Shenzhen STS Test Services Co., Ltd.



GPRS 850 BAND

Lowest Channel

Center Freq	F 30.8 AC 4.515000000 ef Offset 8.5 dB ef 34.50 dBm_ 1	GHz PNO: Fast G IFGain:Low	Trig: Free R #Atten: 36 d	Avg	ALIGNAUTO	TRAC TYP DE	M Sep 28, 2016 E 1 2 3 4 5 6 M M M M M M M T P P P P P P P A 3 MHz 46 dBm	Frequency Auto Tune
24.5 14.5 4.50 -15.5 -25.5 -25.5 -25.5	ef Offset 8.5 dB	PNO: Fast			N	DE 1kr1 824	.3 MHz	Auto Tune
24.5 14.5 4.50 -15.5 -25.5 -35.5								
-15.5 -25.5 -36.5								Center Free 4.515000000 GH
							-13.00 dBm	Start Fre 30.000000 MH
-55.5								Stop Fre 9.000000000 GH
Start 30 MHz #Res BW 1.0 1 N 1 f	MHz	#VBV	V 3.0 MHz 30.746 dBm	FUNCTION	Sweep 1	6.0 ms (2		CF Stej 897.000000 MH <u>Auto</u> Ma
2 N 1 f 3 4 5 6 7 8 9 10		461 5 GHz	-35.555 dBm					Freq Offse 0 H
8 9 10 11 12 MMSG					STATUS			

Middle Channel

	4 Sep 28, 2016	09-50-570	ALIGNAUTO		SENSE: INT		m Analyzer - Swi	Spectru	gilent R L		
Frequency	E 1 2 3 4 5 6	TRAC	: Log-Pwr	Avg T			eq 4.51500	er Fr			
Auto Tur	IFGaint.ew #Atten: 36 dB Marce 10, 50 mm Ref Offset 9.5 dB M r1 836.9 MHz dB/div Ref 34.50 dB M r1 836.9 MHz dB/div Ref 34.50 dB M r1 836.9 MHz dB/div Ref 34.50 dB 3.0.761 dBm										
Center Fr 4.51500000 G							×1		9 4.5 4.5		
Start Fre 30.000000 M	-13.00 dBm	2							0 5 5		
Stop Fr 9.000000000 G									.5 .5 .5		
CF St 897.000000 M Auto M	.000 GHz 0001 pts) NVAUE	6.0 ms (2	Sweep 1	UNCTION		×	1.0 MHz	ODE TRI	tes B M		
Freq Offs 0					30.761 dBm -34.821 dBm	836.9 MHz 7.412 3 GHz	ţ	N 1 N 1	3		
									7 8 9 0 1 2		
			STATUS						a		

Highest Channel

RL	RF 50 Ω AC		SENSE: INT	ALIGNAUTO	09:10:55 PM Sep 28, 2016	-
enter Fre	eq 4.51500000	PN0: Fast G	Trig: Free Run #Atten: 36 dB	Avg Type: Log-Pwr	TYPE MWWWWWW DET P P P P P	Frequency
dB/div	Ref Offset 8.5 dB Ref 34.50 dBm			N	lkr1 849.0 MHz 30.620 dBm	Auto Tu
5 .5 .0	×1					Center Fr 4.515000000 G
5					-13.00 dBn	Start Fr 30.000000 M
5						Stop Fr 9.000000000 G
art 30 MH es BW 1		#VB	W 3.0 MHz	Sweep 1	Stop 9.000 GHz 6.0 ms (20001 pts)	CF St 897.000000 M
MODE TRC N 1 N 1	f	849.0 MHz 7.448 2 GHz	30.620 dBm -35,168 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> N
N 1		7.440 2 912	-56,106 UBIII			Freq Off: 0

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GSM1900 BAND(30M-20G)

Lowest Channel

rum Analyze									
^{RF} req 10.0					Avg Ty		TRA		Frequency
Ref Offset 9.5 dB Mkr1 1.850 1 GHz Idiu V Atten: 36 dB Mkr1 1.850 1 GHz Jdiv Ref 35.50 dBm 27.940 dBm 20.940 dBm									Auto Tur
•1									Center Fr 10.015000000 G
				2			3	-13.00 dEm	Start Fr 30.000000 N
									Stop F 20.000000000 (
1.0 MHz		#VB		PLINC			1.3 ms (3	85001 pts)	CF St 1.997000000 C Auto M
1 1	1. 10.	274 6 GHz	27.940 dBi -34.257 dBr	n n					Freq Off
	Ref Offs Ref Offs VI	Ref Offset 9.5 dB Ref 3.50 dBm	P0 20:0 4C req 10:015000000 GHz PR0: Far PR0: Far 0:015 Far Control Ref 35:00 dBm PR0: Far 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <	Image: Solution of the	Image: Solution of the	Image: State of the s	Image: Solution of the	Image: State (Constraint) State (Constraint)	Image: Description Accession Accession Description Description <thdescription< th=""> Description <thdescription< th=""> <thdescripant< th=""></thdescripant<></thdescription<></thdescription<>

Middle Channel

	pectru		ilyzer - Sw											
Cente	r Fr	RF BQ 1		AC				NSE:INT		Avg Type	ALIGNAUTO E: Log-Pwr	TRAC	M Sep 28, 2016	Frequency
	If Galactew #Atten: 36 dB Cerl P PP PP RefOrmet 95.0 dB Mkr1 18.80 4 GHz 0 dB/d/v Ref 35.50 dBm 27.702 dBm											Auto Tune		
25.5 15.5 5.50		•1												Center Free 10.015000000 GH
-4.50									02			3	-13.00 dBm	Start Free 30.000000 MH
-34.5 -44.5 -54.5														Stop Fre 20.000000000 GH
Start 3 #Res I	BW 1	.0 N	ЛНz	× 1.8	80 4 G		3.0 MHz	Bm	FUNCTIO		Sweep 5	1.3 ms (3	.000 GHz 5001 pts)	CF Stej 1.997000000 GH <u>Auto</u> Ma
2 N 3 N 4 5 6 7 8 9	1	f			12 2 G 45 0 G		-33.506 d -28.746 d							Freq Offse 0 H
10 11 12 MSG											STATU			

Highest Channel

RL	RF 50	Ω AC	SENSE:INT	ALIGNAUTO	09:15:56 AM Sep 28, 2016	E
enter F	req 10.015	5000000 GHz	Tria: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast IFGain:Low	#Atten: 36 dB		DET P P P P P P	
) dB/div	Ref Offset 9 Ref 35.50			MI	r1 1.910 0 GHz 27.217 dBm	Auto Tur
5.6	0 1					Center Fre
5.6						10.015000000 G
50						
.5					-13.00 dBm	Start Fr 30.000000 N
.5			2 ²		3	30.000000 W
5						Stop F
.5						20.000000000
art 30 M	٨Hz				Stop 20.000 GHz	
tes BW	1.0 MHz	#VE	3W 3.0 MHz	Sweep 5	1.3 ms (35001 pts)	CF St 1.997000000 0
R MODE TR	ic scu	× 1,910 0 GHz	27.217 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> M
	f	7.578 7 GHz 16.245 6 GHz	-34.737 dBm -28.533 dBm			
	1	10.240 0 GHZ	-28.000 dBill			Freq Off
						Ľ
2 N 1 8 N 1 8						
1						
2						

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GPRS1900 BAND(30M-20G)

Lowest Channel

	m Analyzer - Swept SJ							
Center Fr	RF 50 Ω AC eq 10.0150000	000 GHz	SENSE:INT	Avg Type: L	IGNAUTO	TRAC	M Sep 28, 2016	Frequency
0 dB/div	Ref Offset 9.5 dB Ref 35.50 dBm	PNO: Fast G IFGain:Low	#Atten: 36 dB		Mkr1 1.850 1 GH 28.071 dBn			Auto Tu
og 25.6 15.6 5.50								Center Fr 10.015000000 G
4.5 4.5						∂ ³	-13.00 dBn	Start Fr 30.000000 M
4.5								Stop Fr 20.000000000 0
tart 30 M Res BW	1.0 MHz		W 3.0 MHz			1.3 ms (3	.000 GHz 5001 pts)	CF St 1.997000000 0
MODE TE 1 N 1 2 N 1 3 N 1 4 5 5 6 7 8 9 0 1 2 2 1	f f	x 1.850 1 GHz 6.540 2 GHz 16.505 3 GHz	28.071 dBm -35.189 dBm -27.717 dBm	UNCTION FUNCT	ION WIDTH	FUNCT	M-VALUE	Auto N Freq Off: 0
1					STATUS			

Middle Channel

RL	RE 50.0	AC	SENSE:INT	ALIGNAUTO	09:24:10 AM Sep 28, 2016	
	req 10.0150	00000 GHz		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast C IFGain:Low	Trig: Free Run #Atten: 36 dB		DETPPPPP	
0 dB/div	Ref Offset 9.5 Ref 35.50 d			Mk	r1 1.880 4 GHz 27.691 dBm	Auto Tur
og 85.5 (5.6	•1					Center Fr 10.015000000 G
.50					-13.00 dBm	Start Fr
4.5	-		2	and the second	Q ³	30.000000 N
1.5						Stop F 20.000000000 0
	1.0 MHz	#VB	W 3.0 MHz	Sweep 5	Stop 20.000 GHz 1.3 ms (35001 pts)	CF St 1.997000000 0
R MODE TR	f f	× 1.880 4 GHz 7.418 9 GHz	27.691 dBm -34.843 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	Auto M
N 1	f	16.525 2 GHz	-27.867 dBm			Freq Off
3 9 0						
2				STATUS		

Highest Channel

E	4 Sep 28, 2016		ALIGNAUTO		NSE:INT	SE		AC	50 Q	RF		L	R
Frequency	E 1 2 3 4 5 6 E MWWWWWW	TVE	: Log-Pwr	Avg 1	Run	Trig: Free	GHZ PNO: Fast G	00000	.0150	q 10	Fre	ter	en
Auto Tu	PPPPP				6 dB	#Atten: 3	Gain:Low	lé					_
Autoru	0 GHz 33 dBm	r1 1.910 27.23	Mk				Ref Offset 9.5 dB Ref 35.50 dBm					B/di	
Center Fr										(1			g .6
10.015000000 G													6
				_						-		⊢	0
Start Fr	-13.00 dBm									+		-	D
30.000000 N	-13.00 000	3		-									5
	L. Station	X				2							5
Stop F												-	5
20.000000000 0													5
	000 0 11-												
CF St 1.997000000 0	.000 GHz 5001 pts)	Stop 20 1.3 ms (3	Sweep 51			3.0 MHz	#VBV		z	12 .0 M	OMH W 1		
Auto N	IN VALUE	FUNCTIO	NCTION WIDTH	NCTION		Ŷ		×		SCL	TRC		
					Зm	27.233 d -34.134 d	0 GHz 3 1 GHz	7.978		f	1	N	
Freq Off					Зm	-27.345 d	5 3 GHz	16.505		f	1	Ν	
0													
			STATUS							_		_	T

Shenzhen STS Test Services Co., Ltd.

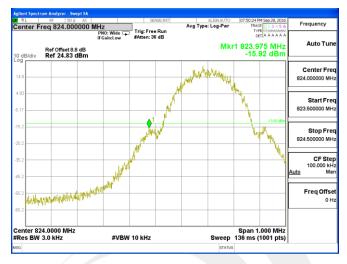
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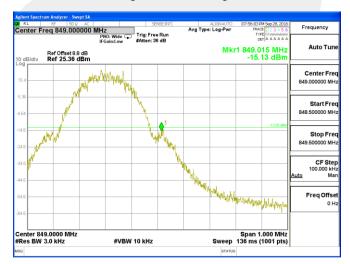
GSM 850

Lowest Band Edge



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

Highest Band Edge



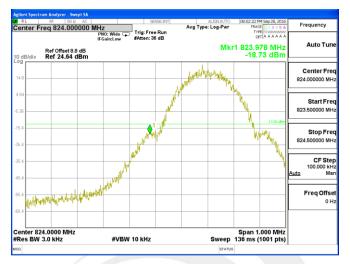
Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

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



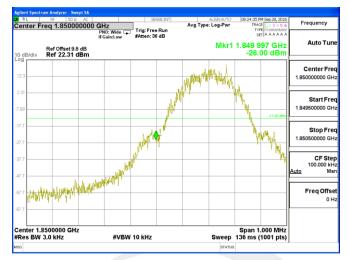
Note:Offset=Cable loss(8.5)+10log(3.2/3)=8.5+0.3=8.8 dB

Shenzhen STS Test Services Co., Ltd.



GSM 1900

Lowest Band Edge



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

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.



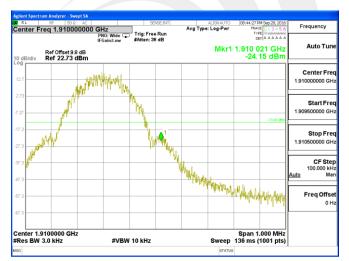
GPRS 1900

Lowest Band Edge



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

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.



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

GSM 850: (30-9000)MHz											
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz						
	S G.Lev	Anot(dDi)		PMea	Limit	Margin	Delerity				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
1648.21	-40.29	9.40	4.75	-35.64	-13.00	-22.64	Н				
2472.65	-40.08	10.60	8.39	-37.87	-13.00	-24.87	Н				
3296.81	-32.02	12.00	11.79	-31.81	-13.00	-18.81	Н				
1648.35	-44.15	9.40	4.75	-39.50	-13.00	-26.50	V				
2472.53	-45.14	10.60	8.39	-42.93	-13.00	-29.93	V				
3296.69	-42.83	12.00	11.79	-42.62	-13.00	-29.62	V				
The Worst Test Results Channel 190/836.6 MHz											
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity				
Frequency(MHZ)	(dBm)	Ani(ubi)	L055	(dBm)	(dBm)	(dBm)	Folanty				
1673.21	-40.33	9.50	4.76	-35.59	-13.00	-22.59	Н				
2509.70	-39.63	10.70	8.40	-37.33	-13.00	-24.33	Н				
3346.41	-31.51	12.20	11.80	-31.11	-13.00	-18.11	Н				
1673.17	-44.50	9.40	4.75	-39.85	-13.00	-26.85	V				
2509.72	-44.07	10.60	8.39	-41.86	-13.00	-28.86	V				
3346.22	-43.88	12.20	11.82	-43.50	-13.00	-30.50	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				
Trequency(imitz)	(dBm)	Ant(ubi)	L055	(dBm)	(dBm)	(dBm)	Folanty				
1697.29	-40.69	9.60	4.77	-35.86	-13.00	-22.86	Н				
2546.46	-39.95	10.80	8.50	-37.65	-13.00	-24.65	Н				
3395.28	-31.96	12.50	11.90	-31.36	-13.00	-18.36	Н				
1697.61	-44.16	9.60	4.77	-39.33	-13.00	-26.33	V				
2546.26	-44.33	10.80	8.50	-42.03	-13.00	-29.03	V				
3394.89	-42.86	12.50	11.90	-42.26	-13.00	-29.26	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.



Report No.: STS1609155F01

GPRS 850: (30-9000)MHz

	GPRS 850: (30-9000)MHz											
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz							
	S G.Lev			PMea	Limit	Margin	Delerity					
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
1648.37	-41.56	9.40	4.75	-36.91	-13.00	-23.91	Н					
2472.40	-39.36	10.60	8.39	-37.15	-13.00	-24.15	Н					
3296.72	-31.10	12.00	11.79	-30.89	-13.00	-17.89	Н					
1648.13	-43.99	9.40	4.75	-39.34	-13.00	-26.34	V					
2472.59	-44.45	10.60	8.39	-42.24	-13.00	-29.24	V					
3296.50	-42.60	12.00	11.79	-42.39	-13.00	-29.39	V					
The Worst Test Results Channel 190/836.6 MHz												
	S G.Lev	Anot(dDi)		PMea	Limit	Margin	Delority					
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
1673.14	-40.22	9.50	4.76	-35.48	-13.00	-22.48	Н					
2509.56	-39.96	10.70	8.40	-37.66	-13.00	-24.66	Н					
3346.08	-32.07	12.20	11.80	-31.67	-13.00	-18.67	Н					
1673.25	-43.88	9.40	4.75	-39.23	-13.00	-26.23	V					
2509.44	-44.30	10.60	8.39	-42.09	-13.00	-29.09	V					
3346.01	-42.60	12.20	11.82	-42.22	-13.00	-29.22	V					
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz							
	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Delority					
Frequency(MHz)	(dBm)	Апциы)	LUSS	(dBm)	(dBm)	(dBm)	Polarity					
1697.49	-40.42	9.60	4.77	-35.59	-13.00	-22.59	Н					
2546.09	-40.04	10.80	8.50	-37.74	-13.00	-24.74	Н					
3395.19	-30.90	12.50	11.90	-30.30	-13.00	-17.30	Н					
1697.35	-43.72	9.60	4.77	-38.89	-13.00	-25.89	V					
2546.38	-44.02	10.80	8.50	-41.72	-13.00	-28.72	V					
3395.33	-43.71	12.50	11.90	-43.11	-13.00	-30.11	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.



Report No.: STS1609155F01

PCS 1900: (30-20000)MHz

DCS 1900: (30-20000)MHz											
	The Wor	st Test Res	sults for C	hannel 512	2/1850.2MH	Z					
	S G.Lev		1	PMea	Limit	Margin	Delevite				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
3700.12	-33.52	12.60	12.93	-33.85	-13.00	-20.85	Н				
5550.55	-34.23	13.10	17.11	-38.24	-13.00	-25.24	Н				
7400.80	-33.53	11.50	22.20	-44.23	-13.00	-31.23	Н				
3700.51	-35.17	12.60	12.93	-35.50	-13.00	-22.50	V				
5550.28	-34.79	13.10	17.11	-38.80	-13.00	-25.80	V				
7400.70	-32.50	11.50	22.20	-43.20	-13.00	-30.20	V				
The Worst Test Results for Channel 661/1880.0MHz											
	S G.Lev			PMea	Limit	Margin	Deleritu				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
3759.99	-33.94	12.60	12.93	-34.27	-13.00	-21.27	Н				
5639.99	-34.56	13.10	17.11	-38.57	-13.00	-25.57	Н				
7519.94	-33.36	11.50	22.20	-44.06	-13.00	-31.06	Н				
3759.99	-34.85	12.60	12.93	-35.18	-13.00	-22.18	V				
5640.34	-34.50	13.10	17.11	-38.51	-13.00	-25.51	V				
7520.10	-32.81	11.50	22.20	-43.51	-13.00	-30.51	V				
	The Wor	st Test Res	sults for C	hannel 810)/1909.8MH	z					
	S G.Lev	Anot(dDi)		PMea	Limit	Margin	Delority				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
3819.60	-34.19	12.60	12.93	-34.52	-13.00	-21.52	Н				
5729.38	-34.79	13.10	17.11	-38.80	-13.00	-25.80	Н				
7639.24	-33.43	11.50	22.20	-44.13	-13.00	-31.13	Н				
3819.42	-35.02	12.60	12.93	-35.35	-13.00	-22.35	V				
5729.42	-34.81	13.10	17.11	-38.82	-13.00	-25.82	V				
7639.34	-31.84	11.50	22.20	-42.54	-13.00	-29.54	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.



Report No.: STS1609155F01

GPRS 1900: (30-20000)MHz

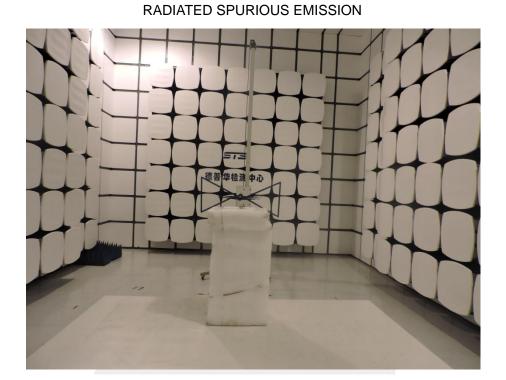
	GPRS1900: (30-20000)MHz										
	The Wor	st Test Res	sults for C	hannel 512	2/1850.2MH	Z					
	S G.Lev			PMea	Limit	Margin	Deleritu				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
3700.21	-33.60	12.60	12.93	-33.93	-13.00	-20.93	Н				
5550.52	-35.23	13.10	17.11	-39.24	-13.00	-26.24	Н				
7400.74	-33.16	11.50	22.20	-43.86	-13.00	-30.86	Н				
3700.51	-34.96	12.60	12.93	-35.29	-13.00	-22.29	V				
5550.57	-34.67	13.10	17.11	-38.68	-13.00	-25.68	V				
7400.59	-32.51	11.50	22.20	-43.21	-13.00	-30.21	V				
The Worst Test Results for Channel 661/1880.0MHz											
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delority				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
3760.19	-34.85	12.60	12.93	-35.18	-13.00	-22.18	Н				
5640.22	-35.22	13.10	17.11	-39.23	-13.00	-26.23	Н				
7519.83	-32.83	11.50	22.20	-43.53	-13.00	-30.53	Н				
3759.96	-34.55	12.60	12.93	-34.88	-13.00	-21.88	V				
5640.23	-35.24	13.10	17.11	-39.25	-13.00	-26.25	V				
7520.11	-32.36	11.50	22.20	-43.06	-13.00	-30.06	V				
	The Wor	st Test Res	sults for C	hannel 810)/1909.8MH	z					
	S G.Lev	Anot(dDi)		PMea	Limit	Margin	Delority				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
3819.46	-34.02	12.60	12.93	-34.35	-13.00	-21.35	Н				
5729.07	-35.41	13.10	17.11	-39.42	-13.00	-26.42	Н				
7639.08	-32.25	11.50	22.20	-42.95	-13.00	-29.95	Н				
3819.55	-35.88	12.60	12.93	-36.21	-13.00	-23.21	V				
5729.16	-34.13	13.10	17.11	-38.14	-13.00	-25.14	V				
7639.36	-32.21	11.50	22.20	-42.91	-13.00	-29.91	V				

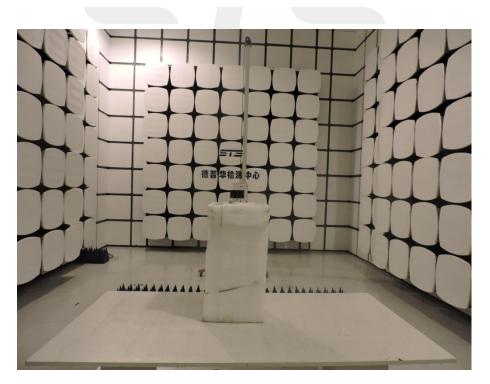
Note: (1)Below 30MHz no Spurious found is the worst condition.

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



APPENDIX BPHOTOS OF TEST SETUP





Shenzhen STS Test Services Co., Ltd.