

RADIO TEST REPORT

S T S

Report No:STS1804259W01

Issued for

ITALCOM GROUP

1728 Coral Way,Coral Gables,Miami,Florida,United States 33145(Zip code : 518048)

Product Name:	GSM Mobile Phone
Brand Name:	nyx
Model Name:	xyn308
Series Model:	N/A
FCC ID:	YPVITALCOMXYN308
Test Standard:	FCC Part 22H and 24E

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TEST RESULT CERTIFICATION

Applicant's name	ITALCOM GROUP
Address	1728 Coral Way,Coral Gables,Miami,Florida,United States 33145(Zip code : 518048)
Manufacture's Name:	Shenzhen qianhai aibo Science and Technology Ltd.
Address	room 303, Ling Nan building,NO.3081, Qiaoxiang Road, Futian District, Shenzhen city, Guangdong Province, China
Product discription	
Product Name:	GSM Mobile Phone
Brand Name:	nyx
Model Name:	xyn308
Series Model:	N/A
Test Standards	FCC Part 22H and 24E
Test procedure	. KDB 971168 D01 v03r01,ANSI C63.26(2015)

This device described above has been tested by STS, 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 27 Apr. 2018~08 May. 2018

Date of Issue 10 May. 2018

Test Result..... Pass

Technical Manager : (Sean she)

Authorized Signatory :

(Vita Li)

Shenzhen STS Test Services Co., Ltd.

Shenzhen STS Test Services Co., Ltd.

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Revision History

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00	0 10 May. 2018 STS1804259W01 ALL Initial Issue		Initial Issue	



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SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

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

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





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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.: 625569 IC Registration No.: 12108A; A2LA Certificate No.: 4338.01;

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	RF power, conducted	±0.71dB
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



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2 PRODUCT INFORMATION

Product Name:	GSM Mobile Phone		
Hardware version number:	XYN308_SC_ALPHA_A		
Software version number:	XYN308_AMXCLRCA_V001R		
FCC ID:	YPVITALCOMXYN308		
	GSM/GPRS:		
Tx Frequency:	850: 824 MHz ~ 849MHz		
	1900: 1850 MHz ~ 1910MHz		
	GSM/GPRS:		
Rx Frequency:	850: 869 MHz ~ 894 MHz		
	1900: 1930 MHz ~ 1990MHz		
Max RF Output Power:	GSM850:33.44dBm,PCS1900:30.51dBm GPRS850(1-Slot):33.42dBm,GPRS1900(1-Slot):30.49dBm GPRS850(2-Slot):32.98dBm,GPRS1900(2-Slot):29.99dBm GPRS850(3-Slot):32.57dBm,GPRS1900(3-Slot):29.58dBm GPRS850(4-Slot):32.14dBm,GPRS1900(4-Slot):29.12dBm		
Type of Emission:	GSM(850): 321KGXW; GSM(1900): 321KGXW GPRS(850): 320KGXW; GPRS(1900): 319KGXW		
SIM Card:	Only support single SIM card.		
Antenna:	PIFA Antenna		
Antenna gain:	GSM 850: -1dBi ,PCS 1900: -1dBi		
Power Supply:	DC 3.7V by battery		
Battery parameter:	Capacity: 600mAh, Rated Voltage: 3.7V		
Adaptan	Input: AC 100-240 V, 150 mA, 50/60 Hz		
Adapter	Output: DC 5 V, 500 mA		
GPRS Class:	Multi-Class12		
Extreme Vol. Limits:	DC3.5 V to 4.2 V (Nominal DC3.7V)		
Extreme Temp. Tolerance:	-30℃ to +50℃		
** Note: The High Voltage 4.2 V and Low Voltage 3.5 V was declared by manufacturer, The			
EUT couldn't be operate normally with higher or lower voltage.			





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3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 and ANSI C63.26 2015 Power Meas. License Digital Systems with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to

find the maximum emission.

Radiated emissions were investigated as following frequency range:

- 1. 30 MHz to 10th harmonic for 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	Туре No.	Serial No.	Last Calibration	Calibrated Until
Test Receiver	R&S	ESCI	101427	2017.10.15	2018.10.14
Communication Tester	R&S	CMU200	11764	2017.10.15	2018.10.14
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2018.11.01
Horn Antenna	Schwarzbeck	BBHA 9120D (1201)	9120D-1343	2017.10.27	2018.10.26
MXA SIGNAL Analyzer	Agilent	N9020A	MY49100060	2017.10.15	2018.10.14
Low frequency cable	N/A	R01	N/A	NCR	NCR
High frequency cable	SCHWARZBECK	AK9515H	SN-96286/96287	NCR	NCR
Signal Generator	Agilent	N5182A	MY46240556	2017.10.15	2018.10.14
Pre-mplifier (0.1M-3GHz)	EM	EM330	60538	2018.03.11	2019.03.10
PreAmplifier (1G-26.5GHz)	Agilent	8449B	60538	2017.10.15	2018.10.14
Temperature& Humidity test chamber	GZGONGWEN	GDS-250	080821	2017.10.15	2018.10.14
Band Reject filter(1920-1980MHz)	COM-MW	ZBSF-1920-1980	0092	2017.10.15	2018.10.14
Band Reject filter(880-915MHz)	COM-MW	ZBSF-C897.5-35	707	2017.10.15	2018.10.14
Band Reject filter(1710-1785MHz)	COM-MW	ZBSF-C1747.5-75	708	2017.10.15	2018.10.14
Band Reject filter(1850-1910MHz)	COM-MW	ZBSF-C1880-60	709	2017.10.15	2018.10.14
Band Reject filter(2500-2570MHz)	COM-MW	ZBSF-C2535-70	710	2017.10.15	2018.10.14
Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	2017.10.15	2018.10.14

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



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5 TEST ITEMS 5.1 CONDUCTED OUTPUT POWER

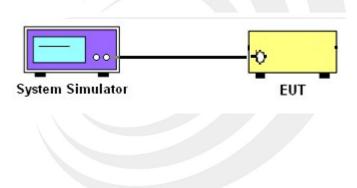
Test overview

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

Test procedures

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

Test setup





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5.2 PEAK TO AVERAGE RATIO

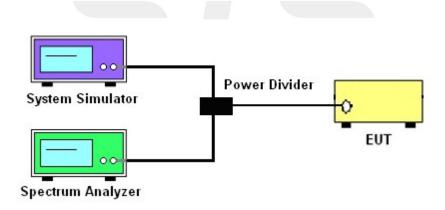
TEST OVERVIEW

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

TEST PROCEDURES

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

TEST SETUP



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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 C63.26 2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

TEST PROCEDURE

1. The testing follows FCC KDB 971168 D01 Section 5.2.2 (for GSM/GPRS/EDGE) and ANSI C63.26-2015 Section 5.2.

2. The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

3. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

4. The frequency range up to tenth harmonic of the fundamental frequency was investigated.

5. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a nonradiating cable. The absolute levels of the spurious emissions were measured by the substitution.

6. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to ANSI C63.26-2015. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP/ERP was calculated with the correction factor,

ERP/EIRP = P.SG + GT - LC

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

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

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

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

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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.

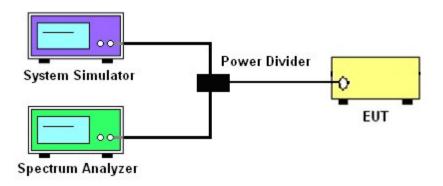
All modes of operation were investigated and the worst case configuration results are reported in this section.

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



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5.5 FREQUENCY STABILITY Test Overview

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

a.) Temperature: The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 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

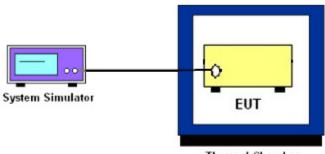
1. The testing follows FCC KDB 971168 D01 Section 9.0.

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

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

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

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

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

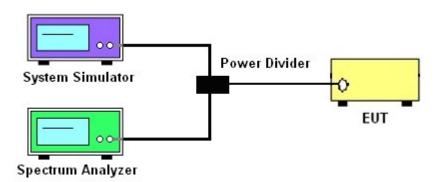
5. The conducted spurious emission for the whole frequency range was taken.

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

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

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

Test Setup



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5.7 BAND EDGE

OVERVIEW

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

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

TEST PROCEDURE

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26 2015- Section 5.7

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

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

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

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

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

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

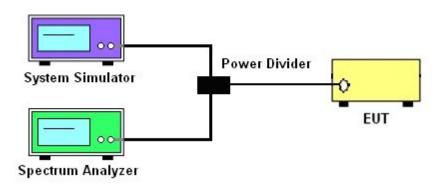
7.The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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

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

= -13dBm.

TEST SETUP



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5.8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT Test overview

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

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

Test procedure

1. The testing FCC KDB 971168 D01 Section 5.8 and ANSI C63.26 2015- Section 5.5.

- 2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 3. VBW ≥ 3 x RBW
- 4.No. of sweep points > 2 x span/RBW
- 5. Detector = Peak
- 6. Trace mode = max hold
- 7. The trace was allowed to stabilize

8. Effective Isotropic Spurious Radiation was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP/ERP was calculated with the correction factor,

ERP/EIRP = P.SG + GT - LC

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

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

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

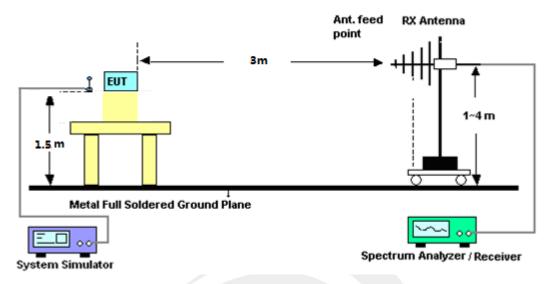
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.



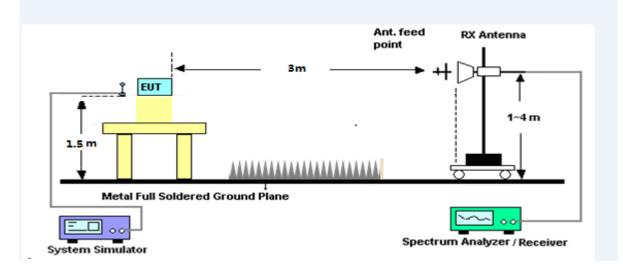
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<u>1E313E10P</u>

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz





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APPENDIX ATESTRESULT A1CONDUCTED OUTPUT POWER

GSM 850:

Mode	Frequency (MHz)	AVG Power
	824.2	33.44
GSM850	836.6	33.24
	848.8	33.36
	824.2	33.42
GPRS850 (GMSK, 1-Slot)	836.6	33.21
	848.8	33.34
GPRS850	824.2	32.98
(GMSK, 2-Slot)	836.6	32.73
(GIVISK, 2-3101)	848.8	32.90
GPRS850	824.2	32.57
(GMSK, 3-Slot)	836.6	32.31
(Givisk, 3-3101)	848.8	32.49
GPRS850	824.2	32.14
(GMSK, 4-Slot)	836.6	31.88
(GINON, 4-0101)	848.8	32.04

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PCS 1900:

Mode	Frequency (MHz)	AVG Power
	1850.2	30.37
GSM1900	1880.0	30.43
	1909.8	30.51
	1850.2	30.36
GPRS1900 (GMSK, 1-Slot)	1880.0	30.40
(ee., e.e.)	1909.8	30.49
	1850.2	29.87
GPRS1900 (GMSK, 2-Slot)	1880.0	29.97
	1909.8	29.99
	1850.2	29.46
GPRS1900 (GMSK, 3-Slot)	1880.0	29.51
	1909.8	29.58
GPRS1900 (GMSK, 4-Slot)	1850.2	29.02
	1880.0	29.06
	1909.8	29.12

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A2 PEAK-TO-AVERAGE RADIO

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	824.2	33.54	33.44	0.10
GSM850	836.6	33.35	33.24	0.11
	848.8	33.47	33.36	0.11
	824.2	33.52	33.42	0.10
GPRS850	836.6	33.32	33.21	0.11
	848.8	33.46	33.34	0.12
	1850.2	30.49	30.37	0.12
PCS1900	1880	30.54	30.43	0.11
	1909.8	30.62	30.51	0.11
GPRS1900	1850.2	30.46	30.36	0.10
	1880	30.52	30.4	0.12
	1909.8	30.60	30.49	0.11



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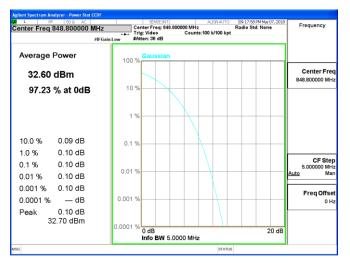
GSM 850 CH 128



GSM 850 CH 190



GSM 850 CH 251



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GPRS 850 CH 128



GPRS 850 CH 190



GPRS 850 CH 251



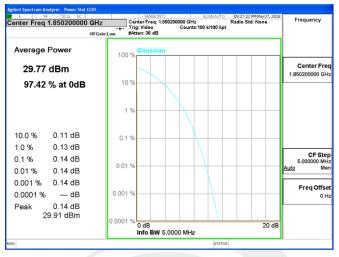
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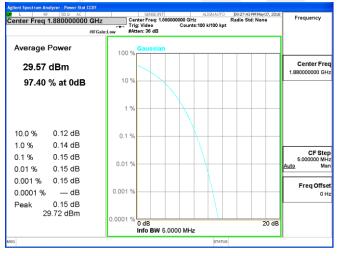
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Report No.: STS1804259W01

PCS 1900 CH 512



PCS 1900 CH 661



PCS 1900 CH 810



Shenzhen STS Test Services Co., Ltd.

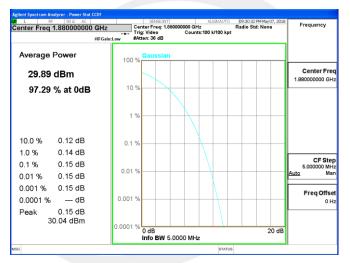


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GPRS 1900 CH 512



GPRS 1900 CH 661



GPRS 1900 CH 810



Shenzhen STS Test Services Co., Ltd.



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Report No.: STS1804259W01

A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

	Radiated Power (ERP) for GSM 850 MHZ									
		Result								
Mode	Frequency	S G.Level	Cable loss	Gain (dBi)	PMeas	Polarization	Conclusion			
		(dBm)	1055	(ubi)	E.R.P(dBm)	Of Max. ERP				
	824.2	25.06	0.44	6.5	31.12	Horizontal	Pass			
	824.2	26.87	0.44	6.5	32.93	Vertical	Pass			
COMOEO	836.6	24.86	0.45	6.5	30.91	Horizontal	Pass			
GSM850	836.6	26.69	0.45	6.5	32.74	Vertical	Pass			
	848.8	24.93	0.46	6.5	30.97	Horizontal	Pass			
	848.8	26.82	0.46	6.5	32.86	Vertical	Pass			
	824.2	25.14	0.44	6.5	31.20	Horizontal	Pass			
	824.2	26.78	0.44	6.5	32.84	Vertical	Pass			
GPRS850	836.6	24.72	0.45	6.5	30.77	Horizontal	Pass			
GFR3030	836.6	26.63	0.45	6.5	32.68	Vertical	Pass			
	848.8	24.86	0.46	6.5	30.90	Horizontal	Pass			
	848.8	26.80	0.46	6.5	32.84	Vertical	Pass			

		Radiated	Power (I	EIRP) fo	r PCS 1900 MH	Z	
	Result						
Mode	Frequency	S G.Level	S G.Level Cable (Gain	PMeas	Polarization	Conclusion
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP.	
	1850.2	20.04	2.41	10.35	27.98	Horizontal	Pass
	1850.2	21.92	2.41	10.35	29.86	Vertical	Pass
DCS1000	1880	20.26	2.42	10.35	28.19	Horizontal	Pass
PCS1900	1880	22	2.42	10.35	29.93	Vertical	Pass
	1909.8	20.32	2.43	10.35	28.24	Horizontal	Pass
	1909.8	22.09	2.43	10.35	30.01	Vertical	Pass
	1850.2	20	2.41	10.35	27.94	Horizontal	Pass
	1850.2	21.91	2.41	10.35	29.85	Vertical	Pass
GPRS1900	1880	20.23	2.42	10.35	28.16	Horizontal	Pass
GFK31900	1880	21.93	2.42	10.35	29.86	Vertical	Pass
	1909.8	20.24	2.43	10.35	28.16	Horizontal	Pass
	1909.8	21.88	2.43	10.35	29.8	Vertical	Pass



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Report No.: STS1804259W01

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

	Occupied Band	lwidth for GSM 850 band	
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth
Mode	Frequency(MHZ)	(99%)(kHz)	(-26dBc)(kHz)
Low Channel	824.2	244.33	316.7
Middle Channel	836.6	241.90	320.6
High Channel	848.8	242.90	316.9
	Occupied Band	width for GPRS 850 band	
Mode	Fragueney (MHz)	Occupied Bandwidth	Emission Bandwidth
wode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)
Low Channel	824.2	247.55	320.3
Middle Channel	836.6	246.51	314.6
High Channel	848.8	242.85	311.1

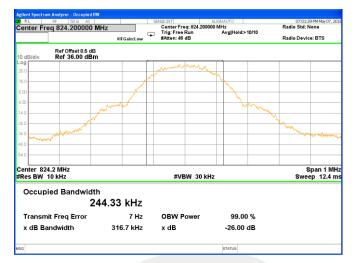
	Occupied Band	lwidth for GSM1900 band	
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	Emission Bandwidth (-26dBc)(kHz)
Low Channel	1850.2	244.41	319.5
Middle Channel	1880.0	248.04	320.9
High Channel	1909.8	245.58	315.3
	Occupied Bandy	width for GPRS 1900 band	
Mode	Frequency(MHz)	Occupied Bandwidth (99%)(kHz)	Emission Bandwidth (-26dBc)(kHz)
Low Channel	1850.2	242.94	317.6
Middle Channel	1880.0	242.62	314.4
High Channel	1909.8	245.21	318.5



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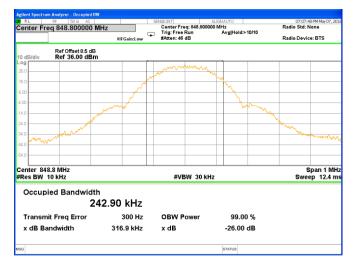
Report No.: STS1804259W01

GSM 850 CH 128



GSM 850 CH 190

RL RF SUQ AC		SENSE:INT	ALIGNAUTO	07:05:51 PM May 07, 2
enter Freq 836.600000 M		Center Freq: 836.6000 Trig: Free Run	00 MHz Avg Hold>10/10	Radio Std: None
	#IFGain:Low	#Atten: 46 dB	Avginera invit	Radio Device: BTS
Ref Offset 8.5 dB dB/div Ref 36.00 dBm				
50		manning		
			Market Contraction of the Contra	
5.0	المر			
00	1		- N	
0	mand		- m	
.0				h
1.0				N
				margarian and and and and and and and and and a
manne				and the second of the
1.0				
enter 836.6 MHz				Span 1 Mi
Res BW 10 kHz		#VBW 30 kH	z	Sweep 12.4 n
Occupied Bandwidth				
	1.90 kHz			
24	1.30 KHZ			
Transmit Freq Error	-952 Hz	OBW Power	99.00 %	
x dB Bandwidth	320.6 kHz	x dB	-26.00 dB	



GSM 850 CH 251

Shenzhen STS Test Services Co., Ltd.



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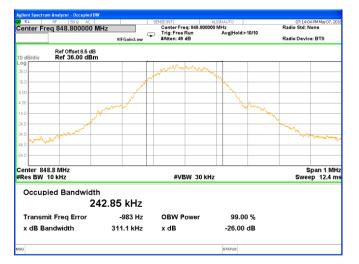
Report No.: STS1804259W01

GPRS 850 CH 128



GPRS 850 CH 190





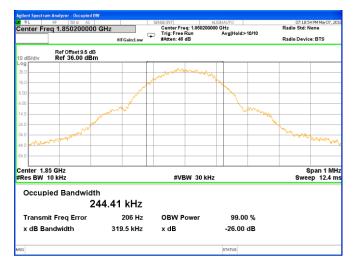
GPRS 850 CH 251

Shenzhen STS Test Services Co., Ltd.



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PCS 1900 CH 512



PCS 1900 CH 661



PCS 1900 CH 810

RL RF SD.Q AC		SENSE: INT	ALIGNAUTO	07:24:36 PM May 07, 2
enter Freq 1.909800000	GHz	Center Freq: 1.909800	000 GHz	Radio Std: None
	#IFGain:Low	Trig: Free Run #Atten: 46 dB	Avg Hold>10/10	Radio Device: BTS
Ref Offset 9.5 dB dB/div Ref 36.00 dBm				
6.0		human		
6.0		New Martin	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
			- May	
00			<u>\</u>	
	- Amangar		mm	
M	/***			1.W
				Muman
10 mmmmm				and a strange and a
4.0				
enter 1.91 GHz				Span 1 M
Res BW 10 kHz		#VBW 30 kH	Z	Sweep 12.4 r
Occupied Bandwidth				
	5.58 kHz			
Transmit Freg Error	-530 Hz	OBW Power	99.00 %	
x dB Bandwidth	315.3 kHz	x dB	-26.00 dB	
	0.0.0 KHZ		20.00 48	



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GPRS 1900 CH 512



GPRS 1900 CH 661



GPRS 1900 CH 810

RL RF 50.0 AC		SENSE:INT	ALIGN AUTO	07:33:36 PM May 07, 20
enter Freq 1.909800000	GHz	Center Freq: 1.9098000		Radio Std: None
	#IFGain:Low	Trig: Free Run #Atten: 46 dB	Avg Hold>10/10	Radio Device: BTS
Ref Offset 9.5 dB 0 dB/div Ref 36.00 dBm				
26.0		manna		
6.0			~	
00			- m	
00				
	martin		www	
1.0				and the second s
1.0 August				and the second states
10 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm				- www.
1.0				
enter 1.91 GHz				Span 1 M
Res BW 10 kHz		#VBW 30 kH	z	Sweep 12.4 r
Occupied Bandwidth				
24	5.21 kHz			
Transmit Freq Error	-619 Hz	OBW Power	99.00 %	
x dB Bandwidth	318.5 kHz	x dB	-26.00 dB	



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A5 FREQUENCY STABILITY

Normal Voltage = 3.7V. ; Battery End Point (BEP) = 3.5 V.; Maximum Voltage = 4.2 V

	GSM 850 Middle Channel/836.6MHz										
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result						
50	-	35.97	0.043								
40		28.30	0.034								
30		19.03	0.023								
20		15.55	0.019	-							
10	Normal Voltage	12.00	0.014								
0		11.90	0.014	2.5ppm	PASS						
-10		19.09	0.023								
-20		24.29	0.029								
-30	/	21.38	0.026								
25	Maximum Voltage	13.95	0.017								
25	BEP	30.69	0.037								

	GPRS 850 Middle Channel/836.6MHz										
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result						
50		19.77	0.024								
40		13.74	0.016								
30		31.83	0.038								
20		14.64	0.017								
10	Normal Voltage	23.26	0.028								
0		11.70	0.014	2.5ppm	PASS						
-10		24.73	0.030								
-20		25.99	0.031								
-30		11.89	0.014								
25	Maximum Voltage	34.96	0.042								
25	BEP	11.85	0.014								



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	GSM 1900 Middle Channel/1880MHz									
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result					
50		31.41	0.017							
40		25.49	0.014		PASS					
30		14.64	0.008							
20		35.18	0.019	Within Authorized Band						
10	Normal Voltage	26.89	0.014							
0		14.49	0.008							
-10		12.02	0.006							
-20		33.19	0.018							
-30		12.41	0.007							
25	Maximum Voltage	32.47	0.017							
25	BEP	17.93	0.010							

	GPRS 1900 Middle Channel/1880MHz									
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result					
50		27.78	0.015							
40		31.48	0.017		PASS					
30		35.51	0.019	Within Authorized						
20		22.47	0.012							
10	Normal Voltage	36.41	0.019							
0		34.04	0.018							
-10		15.99	0.009	Band						
-20		15.89	0.008	-						
-30	-	34.64	0.018							
25	Maximum Voltage	20.31	0.011							
25	BEP	34.03	0.018							

=#



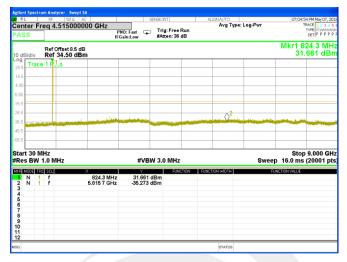
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A6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

GSM 850 BAND

Lowest Channel



Middle Channel

Igilent Spectr	um Analyzer - Sv							
		00000 GHz	SENSE	INT	ALIGNAUTO Ava Tvo	: Log-Pwr	07:06:3	1 PM May 07, RACE 1 2 3 4
	req 4.5150	DUUUU GHZ	i0: Fast 😱 Tr	ig: Free Run	CAR INC	r. Log-r wi		TYPE MULLAR
PASS		IFG	ain:Low #A	tten: 36 dB				DET P P P
	Ref Offset 8	6 dD					Mkr1 8	36.9 M
0 dB/div	Ref 34.50						31.	698 di
	e 1 F 1 s							
24.5								
14.6	-							
1.50								
5.50								
5.5						_		
8.5								
6.5			Look Street and				\bigcirc^2	
	State of the local division of the				and a feature in the first star back			
15.5								
55.5								
tart 30 N							Stor	9.000 0
Res BW			#VBW 3.	0 MHz		Swe	ep 16.0 ms	(20001
KR MODE TH	21.001	×	Y	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	1
1 N 1	f	836.9 MHz	31.698 dBm	FUNCTION	PONCTION WIDTH		PONCTION VALUE	
2 N 1	Ť	7.421 3 GHz	-34.509 dBm					
3								
5								
6								
4 5 6 7 8 9								
9								
10								
12								

Highest Channel

		2 AC	SENSE:INT	ALIGNAUTO		07:07:10 PM	May 07, 20
enter F	req 4.5150	PN	0: Fast 😱 Trig: Fre ain:Low #Atten: 3	ee Run	rpe: Log-Pwr	TRACE TYPE DET	12345 MWWWW PPPPF
0 dB/div	Ref Offset 8 Ref 34.50					Mkr1 849 31.79	
og 74.5 Trac	ce 1 F <mark>.1</mark> s						
4.6							
1.50							
50							
5.5							
5.5						0 ²	
6.5		and a supervision of the	and the second	and the second	initia di Sangan Papila		
5.5				-			
5.5							
tart 30 Res BW	MHz / 1.0 MHz		#VBW 3.0 MH	łz	Swee	Stop 9.0 16.0 ms (20	000 GI 1001 p
	TRC SCL	× 849.0 MHz	31,791 dBm	UNCTION FUNCTION WIDTH	FU	NCTION VALUE	
1 N 2 N	11	7.430 3 GHz	-31.777 dBm				
1 N 2 N 3	1 7	7.430 3 GHz	-31.777 dBm				
1 N 2 N 3 4 5 6	1 1	7.430 3 GHz	-31.777 dBm				
1 N 2 N 3 4 5 6 7 8	1 7	7.430 3 GHz	-31.777 dBm				
1 N 2 N 3 4 5 6 7 8 9	1 ;	7.430 3 GHz	-31.777 dBm				
X X X X X X X X X X X X X X X X X X X	1 5	7.430 3 GHz	-31.777 dBm				

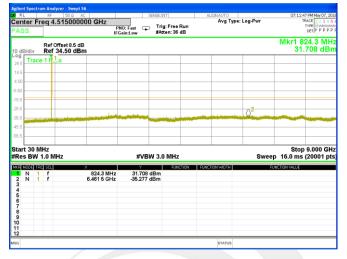
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GPRS 850 BAND

Lowest Channel



Middle Channel

RL	RF	50 Q AC		SENSE:	NT	ALIGNAUTO			PM May 07, 2
enter ASS	Freq 4	.515000000	PN	D:Fast 🖵 Tr iin:Low #A	g: Free Run tten: 36 dB	Avg Ty	rpe: Log-Pwr		ACE 1 2 3 4 YPE MWWW DET P P P P
0 dB/div		Offset 8.5 dB 34.50 dBm						Mkr1 83 31.7	6.9 M 768 dB
	ice 1 F	1_s							
4.5									
50									
50									
5.5									
5.5									
15			a constant	and the second se			Q^2		
5.5									
5.5									
5.5									
tart 30 Res BV	MHz V 1.0 N	ſHz		#VBW 3.	0 MHz		Swe	Stop ep 16.0 ms (9.000 G 20001 p
TEMODE 1 N 2 N	TRC SCL	×	836.9 MHz 102 7 GHz	31.768 dBm -35.536 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
3	1 1	6	102 / GHZ	-35.536 dBm					
4									
5									
5									
5 6 7 8									
5 6 7 8 9									
4 5 6 7 8 9 0 1 2									

Highest Channel

RL RF	50 Q AC	SENSE:II	NT T	ALIGN AUTO		07:15:15 PM May 07, 20
nter Freq 4.5	515000000 GHz	PNO: Fast 🖵 Tris FGain:Low #At	g:FreeRun ten:36 dB	Avg Type: L	.og-Pwr	TYPE MOMAN
dB/div Ref 3	fset 8.5 dB 4.50 dBm					Mkr1 849.0 MF 31.757 dB
Trace 1 P.1	s					
.6						
0						
0						
5						2
	and the second state				أبير ومعادر ويعدان	04
				كالأثقائك والن		
5						
nt 30 MHz						Stop 9.000 Gi
es BW 1.0 MH	Iz	#VBW 3.0	MHz		Sweep	16.0 ms (20001 p
MODE TRC SCL	× 849.0 MHz	31,757 dBm	FUNCTION	FUNCTION WIDTH	FUNCT	ION VALUE
N 1 f	7.448 2 GHz	-33.465 dBm				

Shenzhen STS Test Services Co., Ltd.



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GSM1900 BAND(30M-20G)

Lowest Channel

	um Analyzer - Swept Si								
LXIRL	RF 50 Ω AC		S	ENSE:INT	ALI	Avg Type: I			54 PM May 07, 2018 RACE 1 2 3 4 5 6
Center F	req 10.015000	PI	10: Fast 🖵 iain:Low	Trig: Free R #Atten: 36 d	un B	Avg Type:	Log-Pwr		TYPE NUMBER P P P P P
10 dB/div	Ref Offset 9.5 dB Ref 35.50 dBn							Mkr1 1.8 29	50 3 GHz .857 dBm
25.6 Trac	e 1 PLLs								
15.6									
-4.50									
-14.5								²	
-34.5	and a second designed in the second designed		-						
-44.5									
Start 30 M #Res BW			#VBV	V 3.0 MHz			Swe	Stop ep 50.7 ms	20.000 GHz (40001 pts)
MKR MODE TR	RC SCL	×	Y	FUNCT	ION FUNCTI	ON WIDTH		FUNCTION VALUE	
1 N 1	1	1.850 3 GHz 16.525 2 GHz	29.857 d -28.257 d	IBm IBm					
2 N 1 3 4 5 6 7 8 9 10									
8									
10 11 12									
MSG						STATUS			

Middle Channel

RL RF	zer - Swept SA SO 9 AC	SENSE:I	art l	ALIGNAUTO		07:23	2:29 PM May 07, 2
	.015000000 GHz		g:FreeRun ten:36 dB		e: Log-Pwr	07.22	TRACE 1 2 3 4 TYPE MWWW DET P P P P
dB/div Ref 3	ffset 9.5 dB 15.50 dBm						880 2 G 0.076 dB
Trace 1 F	S						
5.6							
50							
50							
4.5						- 2	
1.5						Δ^2	
1.5	and the second						
1.5							
1.5							
art 30 MHz Res BW 1.0 MH	łz	#VBW 3.0	MHz		Swe	Stop ep 50.7 m	20.000 G s (40001 p
R MODE TRC SCL	X 1.880 2 GHz	30.076 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
2 N 1 f	16.085 9 GHz	-29.500 dBm					
5							
3							
0							
2							

Highest Channel

	um Analyzer - Swep								
	RF 50 Q req 10.01500	0000 GHz		ENSE:INT		Avg Type:	Log-Pwr	T	4 PM May 07, 2018 RACE 1 2 3 4 5 6 TYPE Monthematic
PASS		4 FI	NO: Fast 🖵 Gain:Low	#Atten: 36	dB				DETPPPPF
10 dB/div	Ref Offset 9.5 d Ref 35.50 dE							Mkr1 1.9 30.	10 2 GHz 108 dBm
Log 25.5 Trac	e 1 F 13								
15.6									
5.50									
-4.50									
-24.5								\Diamond^2	
-34.5		ور المرجع ال	-	-	المتحدية ويتحالم		No. of Lot of Lo		
-44.5									
-54.5									
Start 30 M #Res BW			#VBV	V 3.0 MHz			Swee	Stop 2 p 50.7 ms	20.000 GHz (40001 pts)
		× 1.910 2 GHz	30,108 c		CTION FUNCT	TION WIDTH	F	UNCTION VALUE	
	1	16.565 2 GHz	-27.058 c						
4									
2 N 1 3 4 5 6 7 8 9									
8									
11									
12									
MSG						STATUS			

Shenzhen STS Test Services Co., Ltd.



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GPRS1900 BAND(30M-20G)

Lowest Channel

	rum Analyzer	r - Swept SA						
RL	RF	50 Q AC	SENSE:IN	T	ALIGNAUTO			24 PM May 07, 21
Center F	req 10.0		PNO: Fast 🖵 Trig FGain:Low #Atto	:FreeRun en:36 dB	Avg Type:	Log-Pwr		TYPE MWWWW DET P P P P
0 dB/div	Ref 35.	et 9.5 dB .50 dBm					Mkr1 1.8 29	850 3 GH .796 dB
25.6 Trac	e 1 F 1s							
5.50								
4.5	_						A2	
14.5 14.5						-	\hat{V}^2	-
4.5								
art 30 M Res BW	MHz 1.0 MHz		#VBW 3.0	MHz		Swe	Stop sep 50.7 ms	20.000 G (40001 p
R MODE T	RC SCL	× 1.850 3 GHz	29,796 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
2 N 1 3 4 5 6 7 8 9	f	16.585 1 GHz	-27.565 dBm					
; ; ;								
)								
1					STATUS			
					STATUS			

Middle Channel

ilent Spectrum Ana RL RF	lyzer - Swept SA S0.9. AC		SENSE:INT	AL	IGNAUTO		07:36	2:19 PM May 07, 2
	0.015000000 GH			n		: Log-Pwr		TRACE 1 2 3 4 TYPE MWWW DET P P P P
dB/div Ref	Offset 9.5 dB 35.50 dBm							880 2 GI 0.109 dB
5.6 Trace 1 P	<u>1s</u>							
5.6							_	
50								
50								
.5							- 2	
1.5	and the second s					a sumilar		
15	and the second		and the second distances of th					
1.5								
1.5								
art 30 MHz Res BW 1.0 N	IHz	#VB	W 3.0 MHz			Swee	Stop ep 50.7 m	20.000 G s (40001 p
R MODE TRO SCU	× 1.880 2	GHz 30,109	dBm	IN FUNCT	ION WIDTH		FUNCTION VALUE	
N 1 F	16.465 3	GHz -29.959	dBm					
1								
5								
3								
)								
2								

Highest Channel

	Analyzer - Swept SA					
	RF 50 Q AC	CHa	SENSE:INT	ALIGNAUTO Ava Type	: Log-Pwr	07:35:27 PM May 07, 2018 TRACE 2 2 4 5 4
PASS	10.01500000	PNO: Fast G IFGain:Low	Trig: Free Run #Atten: 36 dB	113 1944	. Log-i Mi	DET P P P P F
	ef Offset 9.5 dB ef 35.50 dBm				Mk	r1 1.910 2 GHz 29.977 dBm
Log Trace 1						23.577 0.511
25.5 Trace 1	ML23					
15.6						
5.50						
-4.50						
-14.5					^2	
-24.5					Q ²	alt a second second
-34.5	and the second division of the second divisio		A CONTRACTOR OF THE	and the second		
-44.5						
-54.5						
Start 30 MHz	,					Stop 20.000 GHz
#Res BW 1.0		#VE	3W 3.0 MHz		Sweep 5	0.7 ms (40001 pts)
MKR MODE TRC S		Y	FUNCTION	FUNCTION WIDTH	FUNCTIO	IN VALUE
1 N 1 ·		10 2 GHz 29.97 05 7 GHz -28.91				
3						
2 N 1 3 4 5 6 7 8 9 9						
6						
8						
10						
11 12						
MSG				STATUS		

Shenzhen STS Test Services Co., Ltd.



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GSM 850

Lowest Band Edge



Highest Band Edge

RL	RF 50.9 A	c		SENSE:INT	A	JGN AUTO		07:08:1	15 PM May 07, 20
Center F PASS	req 849.00000	0 MHz	PNO: Wide IFGain:Low		Run	Avg Type:	-	kr2 849.0	TYPE A WANNA DET A A A A A
0 dB/div	Ref 26.90 dBr	n						-2	0.93 dBr
	e 1 Pass								
16.9		NN	m						
6.90	ľ	~~~		hy					
1.10	ſ								
3.1	ml				♦ ²				
3.1	~ w				V My				
3.1					1	and a second			
3.1						My M	6.0a.o.		
3.1							N. W.	m	m
13.1									
enter 84 Res BW	9.0000 MHz 10 kHz		#VE	SW 30 kHz			Sw	Spar eep 12.4 n	n 1.000 Mi ns (601 pi
a						STATUS		-	

Shenzhen STS Test Services Co., Ltd.

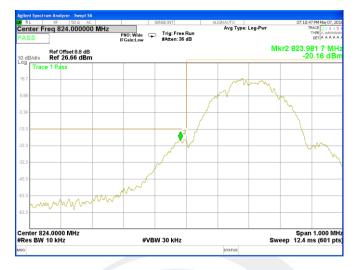


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GPRS 850

Lowest Band Edge



Highest Band Edge

RL RF Center Freq 849	50 R AC 9.000000 M	PNO	: Wide 😱 in:Low	ENSE:INT Trig: Free #Atten: 36	Run	IGNAUTO Avg Type:		T	1 PM May 07, 2 RACE 1 2 3 4 TYPE A WANN DET A A A A 23 3 MH
0 dB/div Ref 20	set 8.8 dB 3.17 dBm								1.74 dB
Trace 1 Pass									
16.2	M	m	www						
3.83	1			Y					
13.8	/								
3.8 m				<u> </u>	2 2 2				
3.8					L.				
3.8						m vy			
3.8						w	man	Marvo	A A .
3.8								www.	Non
enter 849.0000 Res BW 10 kHz	MHz		#VB	N 30 kHz			Sv	Spar /eep 12.4 n	n 1.000 M ns (601 p
sg						STATUS			

Shenzhen STS Test Services Co., Ltd.



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Report No.: STS1804259W01

GSM 1900

Lowest Band Edge



Highest Band Edge



Shenzhen STS Test Services Co., Ltd.



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Report No.: STS1804259W01

GPRS 1900

Lowest Band Edge



Highest Band Edge

RL RF S0 Ω AC Senter Freq 1.910000000 AC AC	GHz PNO: Wide IFGain:Low	SENSE:INT Trig: Free #Atten: 36	Run	Avg Type:		07:34:04 PM May C TRACE 1 2 TYPE A WA DET A A
Ref Offset 9.5 dB					WIKP2	1.910 021 7 0 -24.49 c
Trace 1 Pass						
5.15	m					
85		Mr L				
4.9			•2			
1.9			wh			
1.9 And 1.9			Ŵ	~		
1.9				wy	month	
4.9					v. v.	m
e.5						
enter 1.9100000 GHz Res BW 10 kHz	#V	BW 30 kHz			Swee	Span 1.000 p 12.4 ms (601
10				STATUS		

Shenzhen STS Test Services Co., Ltd.



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A8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

GSM 850: (30-9000)MHz

GSM 850: (30-9000)MHz							
The Worst Test Results Channel 128/824.2 MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)			(dBm)	(dBm)	(dB)	
1648.21	-41.43	9.40	4.75	-36.78	-13.00	-23.78	Н
2472.67	-39.54	10.60	8.39	-37.33	-13.00	-24.33	Н
3296.70	-31.70	12.00	11.79	-31.49	-13.00	-18.49	Н
1648.46	-43.74	9.40	4.75	-39.09	-13.00	-26.09	V
2472.22	-44.11	10.60	8.39	-41.90	-13.00	-28.90	V
3296.56	-43.96	12.00	11.79	-43.75	-13.00	-30.75	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)		(dBm)	(dBm)	(dB)	
1672.88	-40.30	9.50	4.76	-35.56	-13.00	-22.56	Н
2509.53	-39.98	10.70	8.40	-37.68	-13.00	-24.68	Н
3346.31	-31.63	12.20	11.80	-31.23	-13.00	-18.23	Н
1672.89	-43.93	9.40	4.75	-39.28	-13.00	-26.28	V
2509.75	-44.68	10.60	8.39	-42.47	-13.00	-29.47	V
3346.11	-43.90	12.20	11.82	-43.52	-13.00	-30.52	V
The Worst Test Results Channel 251/848.8 MHz							
Frequency(MHz)	S G.Lev	Apt(dDi)	Loss	PMea	Limit	Margin	Delevity
	(dBm)	Ant(dBi)	LUSS	(dBm)	(dBm)	(dB)	Polarity
1697.44	-40.53	9.60	4.77	-35.70	-13.00	-22.70	Н
2546.36	-39.24	10.80	8.50	-36.94	-13.00	-23.94	Н
3395.12	-31.66	12.50	11.90	-31.06	-13.00	-18.06	Н
1697.58	-44.59	9.60	4.77	-39.76	-13.00	-26.76	V
2546.14	-44.07	10.80	8.50	-41.77	-13.00	-28.77	V
3394.99	-43.60	12.50	11.90	-43.00	-13.00	-30.00	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.



GPRS 850: (30-9000)MHz

GPRS 850: (30-9000)MHz							
The Worst Test Results Channel 128/824.2 MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)			(dBm)	(dBm)	(dB)	
1648.31	-41.04	9.40	4.75	-36.39	-13.00	-23.39	Н
2472.67	-40.27	10.60	8.39	-38.06	-13.00	-25.06	Н
3296.92	-32.02	12.00	11.79	-31.81	-13.00	-18.81	Н
1648.17	-44.39	9.40	4.75	-39.74	-13.00	-26.74	V
2472.63	-43.97	10.60	8.39	-41.76	-13.00	-28.76	V
3296.64	-43.14	12.00	11.79	-42.93	-13.00	-29.93	V
The Worst Test Results Channel 190/836.6 MHz							
	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)			(dBm)	(dBm)	(dB)	
1673.07	-40.15	9.50	4.76	-35.41	-13.00	-22.41	Н
2509.61	-39.49	10.70	8.40	-37.19	-13.00	-24.19	Н
3346.37	-31.78	12.20	11.80	-31.38	-13.00	-18.38	Н
1672.80	-44.10	9.40	4.75	-39.45	-13.00	-26.45	V
2509.72	-45.16	10.60	8.39	-42.95	-13.00	-29.95	V
3346.06	-43.24	12.20	11.82	-42.86	-13.00	-29.86	V
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz		
Frequency(MHz)	S G.Lev	Ant(dBi)		PMea	Limit	Margin	Delta it
Frequency(MHZ)	(dBm)	Апциы)	Loss	(dBm)	(dBm)	(dB)	Polarity
1697.64	-41.21	9.60	4.77	-36.38	-13.00	-23.38	Н
2546.43	-40.20	10.80	8.50	-37.90	-13.00	-24.90	Н
3394.98	-31.98	12.50	11.90	-31.38	-13.00	-18.38	Н
1697.41	-44.62	9.60	4.77	-39.79	-13.00	-26.79	V
2546.56	-45.03	10.80	8.50	-42.73	-13.00	-29.73	V
3395.27	-43.59	12.50	11.90	-42.99	-13.00	-29.99	V

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

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



PCS 1900: (30-20000)MHz

DCS 1900: (30-20000)MHz							
The Worst Test Results for Channel 512/1850.2MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)			(dBm)	(dBm)	(dB)	
3700.17	-34.41	12.60	12.93	-34.74	-13.00	-21.74	Н
5550.52	-35.25	13.10	17.11	-39.26	-13.00	-26.26	Н
7400.71	-33.57	11.50	22.20	-44.27	-13.00	-31.27	Н
3700.51	-35.92	12.60	12.93	-36.25	-13.00	-23.25	V
5550.57	-34.85	13.10	17.11	-38.86	-13.00	-25.86	V
7400.55	-33.07	11.50	22.20	-43.77	-13.00	-30.77	V
The Worst Test Results for Channel 661/1880.0MHz							
	S G.Lev			PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	
3760.15	-34.13	12.60	12.93	-34.46	-13.00	-21.46	Н
5639.88	-35.46	13.10	17.11	-39.47	-13.00	-26.47	Н
7520.22	-32.20	11.50	22.20	-42.90	-13.00	-29.90	Н
3760.15	-35.00	12.60	12.93	-35.33	-13.00	-22.33	V
5640.13	-34.63	13.10	17.11	-38.64	-13.00	-25.64	V
7520.07	-32.37	11.50	22.20	-43.07	-13.00	-30.07	V
	The Wor	st Test Res	sults for C	hannel 810)/1909.8MH	z	
Frequency(MHz)	S G.Lev	A pt(dDi)		PMea	Limit	Margin	Delority
Frequency(MHZ)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity
3819.60	-33.56	12.60	12.93	-33.89	-13.00	-20.89	Н
5729.43	-35.22	13.10	17.11	-39.23	-13.00	-26.23	Н
7639.10	-33.24	11.50	22.20	-43.94	-13.00	-30.94	Н
3819.66	-35.28	12.60	12.93	-35.61	-13.00	-22.61	V
5729.29	-34.19	13.10	17.11	-38.20	-13.00	-25.20	V
7638.91	-33.02	11.50	22.20	-43.72	-13.00	-30.72	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.



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GPRS 1900: (30-20000)MHz

GPRS1900: (30-20000)MHz							
The Worst Test Results for Channel 512/1850.2MHz							
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)			(dBm)	(dBm)	(dB)	
3700.47	-33.91	12.60	12.93	-34.24	-13.00	-21.24	Н
5550.47	-34.78	13.10	17.11	-38.79	-13.00	-25.79	Н
7400.57	-33.29	11.50	22.20	-43.99	-13.00	-30.99	Н
3700.51	-34.75	12.60	12.93	-35.08	-13.00	-22.08	V
5550.30	-33.78	13.10	17.11	-37.79	-13.00	-24.79	V
7400.58	-31.79	11.50	22.20	-42.49	-13.00	-29.49	V
The Worst Test Results for Channel 661/1880.0MHz							
	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)			(dBm)	(dBm)	(dB)	
3760.14	-34.46	12.60	12.93	-34.79	-13.00	-21.79	Н
5639.93	-34.78	13.10	17.11	-38.79	-13.00	-25.79	Н
7520.13	-32.92	11.50	22.20	-43.62	-13.00	-30.62	Н
3759.96	-35.95	12.60	12.93	-36.28	-13.00	-23.28	V
5640.28	-35.07	13.10	17.11	-39.08	-13.00	-26.08	V
7520.12	-32.69	11.50	22.20	-43.39	-13.00	-30.39	V
	The Wor	st Test Res	sults for C	hannel 810	D/1909.8MH	z	
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delevity
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity
3819.40	-33.79	12.60	12.93	-34.12	-13.00	-21.12	Н
5729.27	-34.55	13.10	17.11	-38.56	-13.00	-25.56	Н
7639.32	-33.56	11.50	22.20	-44.26	-13.00	-31.26	Н
3819.57	-35.28	12.60	12.93	-35.61	-13.00	-22.61	V
5729.41	-34.78	13.10	17.11	-38.79	-13.00	-25.79	V
7638.98	-32.38	11.50	22.20	-43.08	-13.00	-30.08	V

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

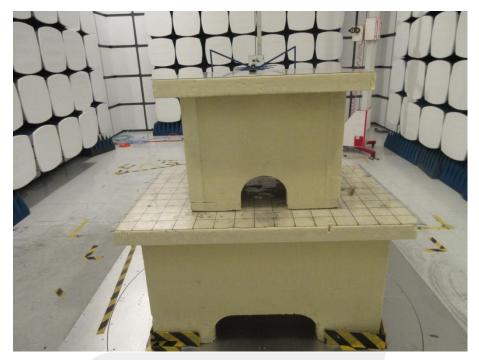
(2)Above 8GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

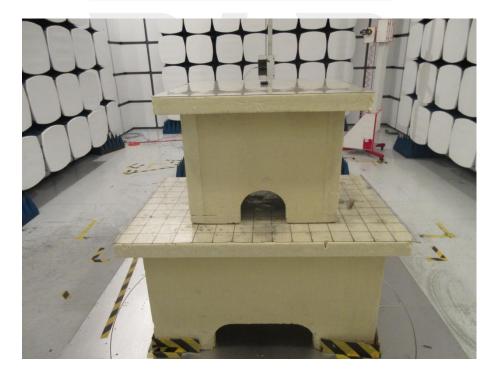


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APPENDIX BPHOTOS OF TEST SETUP

RADIATED SPURIOUS EMISSION





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