

RADIO TEST REPORT

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Report No: STS1611177F01

Issued for

HK AONYSTAR CO., LIMITED

ROOM 1103, HANG SENG MONGKOK BUILDING, 677 NATHAN ROAD, MONGKOK, KOWLOON, HONGKONG, China

Product Name:	Mobile phone
Brand Name:	AONYSTAR, MYCOM, ZOOM, CTMO- BILE, MAZAL
Model Name:	A300
Series Model:	DINA+, Deejay+, A37, N302
FCC ID:	2AB7A-2017
Test Standard:	FCC Part 22H and 24E

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Report No.: STS1611177F01

TEST RESULT CERTIFICATION

Applicant's name:	HK AONYSTAR CO.,LIMITED
Address	ROOM 1103, HANG SENG MONGKOK BUILDING, 677 NATHAN ROAD, MONGKOK, KOWLOON, HONGKONG, China
Manufacture's Name	HK AONYSTAR CO.,LIMITED
Address	ROOM 1103, HANG SENG MONGKOK BUILDING, 677 NATHAN ROAD, MONGKOK, KOWLOON, HONGKONG, China
Product name:	
Brand name:	AONYSTAR, MYCOM, ZOOM, CTMOBILE, MAZAL
Model and/or type reference:	A300
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 23 Nov. 2016~29 Nov. 2016

Test Result..... Pass

Testing Engineer :	Jula	
	(Tony Liu)	
Technical Manager :	(Vita Li)	
Authorized Signatory :	hovery Juney	
	(Bovey Yang)	
1/F., Bui	ling B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, Ch 755-3688-6288 - Fax:+ 86-755-3688-6277 - Http://www.stsanp.com - E-mail: sts@stsanp.com	iina

Shenzhen STS Test Services Co., Ltd.



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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	30 Nov. 2016	STS161177F01	ALL	Initial Issue



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SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

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

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 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. \circ

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



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2 PRODUCT INFORMATION

Product Designation:	Mobile phone		
Hardware version:	MB: KC6C602_MB_V3.0		
Software version:	N/A		
FCC ID:	2AB7A-2017		
	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:	GSM850:31.98dBm,PCS1900:25.23dBm GPRS850:31.95dBm,GPRS1900:25.22dBm		
Type of Emission:	GSM(850):317KGXW: GSM(1900):322KGXW GPRS(850):318KGXW: GPRS(1900):318KGXW		
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: 0.8dBi ,PCS 1900: 1.1dBi		
Power Supply:	DC 3.7V by battery		
Battery parameter:	Capacity: 1100mAh, Rated Voltage: 3.7V		
GPRS Class:	Multi-Class12		
Extreme Vol. Limits:	DC3.5 V to 4.2 V (Nominal DC3.7V)		
Extreme Temp. Tolerance:	-20℃ to +45℃		
	.2 V and Low Voltage 3.5 V was declared by manufacturer, The nally with higher or lower voltage.		



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3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

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

				Lest Oalibre	Calibrate d Lla
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibra- tion	Calibrated Un- til
Spectrum Analyzer	Agilent	E4407B	MY50140340	2016.10.23	2017.10.22
Signal Analyzer	Agilent	N9020A	MY49100060	2016.10.23	2017.10.22
Test Receiver	R&S	ESCI	101427	2016.10.23	2017.10.22
Communication Tester	Agilent	8960	MY48360751	2016.10.23	2017.10.22
Communication Tester	R&S	CMU200	112012	2016.10.23	2017.10.22
Test Receiver	R&S	ESCI	102086	2016.10.23	2017.10.22
Bilog Antenna	TESEQ	CBL6111D	34678	2014.11.24	2017.11.23
Bilog Antenna (Calibration antenna)	TESEQ	CBL6111D	34678	2014.11.24	2017.11.23
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1343	2015.03.05	2018.03.04
Horn Antenna (Calibration antenna)	Schwarzbeck	BBHA 9120D	9120D-1343	2015.03.05	2018.03.04
MXA SIGNAL Analyzer	Agilent	N9020A	MY49100060	2016.10.23	2017.10.22
Double Ridge Horn An- tenna	COM-POWER CORPORATION	AH-840	AHA-840	2016.03.06	2017.03.05
Low frequency cable	N/A	R01	N/A	NCR	NCR
High frequency cable	SCHWARZBECK	AK9515H	SN-96286/96287	NCR	NCR
Vector signal generator	Agilent	E8257D-521	MY45141029	2016.10.23	2017.10.22
Power amplifier	DESAY	ZHL-42W	9638	2016.10.23	2017.10.22
Band Reject fil- ter(1920-1980MHz)	COM-MW	ZBSF-1920-1980	0092	2016.10.23	2017.10.22
Band Reject fil- ter(880-915MHz)	COM-MW	ZBSF-C897.5-35	707	2016.10.23	2017.10.22
Band Reject fil- ter(1710-1785MHz)	COM-MW	ZBSF-C1747.5-75	708	2016.10.23	2017.10.22
Band Reject fil- ter(1850-1910MHz)	COM-MW	ZBSF-C1880-60	709	2016.10.23	2017.10.22
Band Reject fil- ter(2500-2570MHz)	COM-MW	ZBSF-C2535-70	710	2016.10.23	2017.10.22
Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	2016.10.23	2017.10.22

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

measurements. Shenzhen STS Test Services Co., Ltd.

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

 Tel: + 86-755
 3688
 6288
 Fax:+ 86-755
 3688
 6277
 Http://www.stsapp.com
 E-mail: sts@stsapp.com



5 TEST ITEMS 5.1 CONDUCTED OUTPUT POWER

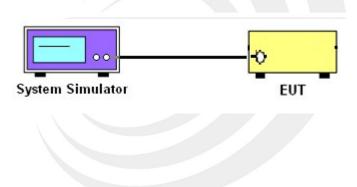
Test overview

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

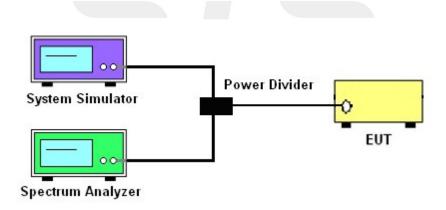
TEST OVERVIEW

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 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.

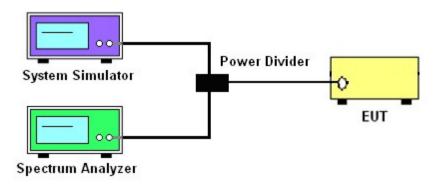
All modes of operation were investigated and the worst case configuration results are reported in this section.

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

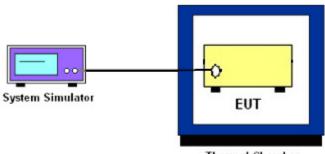
1. The testing follows FCC KDB 971168 D01 Section 9.0.

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

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

 Tel: + 86-755
 3688
 6288
 Fax:+ 86-755
 3688
 6277
 Http://www.stsapp.com
 E-mail: sts@stsapp.com





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

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

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

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

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

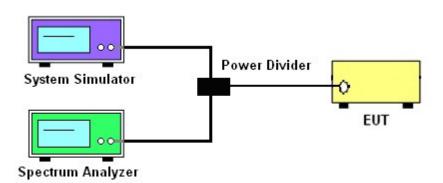
5. The conducted spurious emission for the whole frequency range was taken.

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

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

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

Test Setup





5.7 BAND EDGE

OVERVIEW

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

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

TEST PROCEDURE

1. The testing FCC KDB 971168 D01 v02r02 Section 6.0. and ANSI/TIA-603-D-2010-Section 2.2.13.2(d)

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

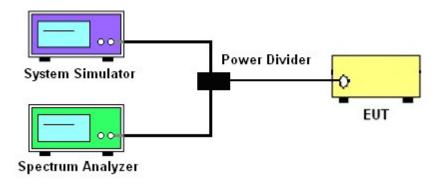
7.The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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

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

= -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 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 polarizedhorn antennas. All measurements are performed as peak measurements while the EUT isoperating at maximum power and at the appropriate frequencies.

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

Test procedure

1. The testing FCC KDB 971168 D01 Section 5.8 and ANSI/TIA-603-D-2010-Section 2.2.12.2(b)

- 2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
- 3. VBW ≥ 3 x RBW
- 4. Span = 1.5 times the OBW
- 5.No. of sweep points > 2 x span/RBW
- 6. Detector = Peak
- 7. Trace mode = max hold
- 8. The trace was allowed to stabilize

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

ERP/EIRP = P.SG + GT - LC

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

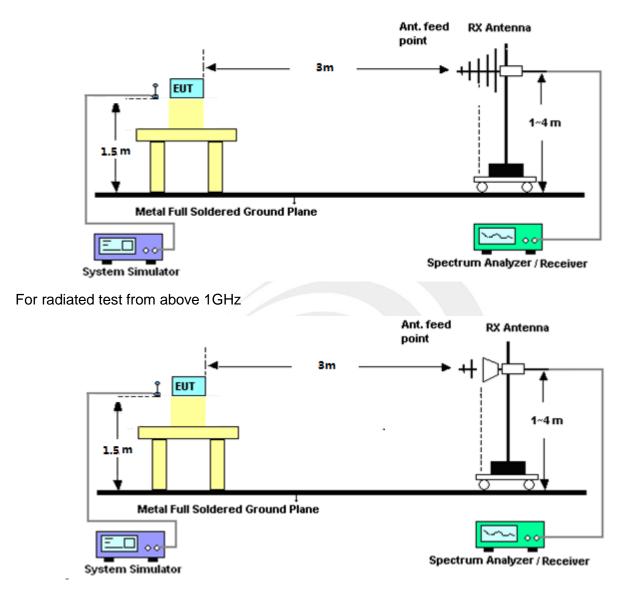
P.SG = measured transmitter output power or PSD, in dBm or dBW;

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	31.50
	836.6	31.75
	848.8	31.98
	824.2	31.52
GPRS850	836.6	31.78
	848.8	31.95

PCS 1900:

Mode	Frequency (MHz)	AVG Power
	1850.2	25.23
GSM1900	1880	25.12
	1909.8	25.18
	1850.2	25.22
GPRS1900	1880	25.11
	1909.8	25.16

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A2 PEAK-TO-AVERAGE RADIO

PCS 1900:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1850.2	25.35	25.23	0.12
PCS1900	1880	25.23	25.12	0.11
	1909.8	25.29	25.18	0.11
	1850.2	25.37	25.26	0.11
GPRS1900	1880	25.26	25.15	0.11
	1909.8	25.33	25.21	0.12

A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

	Radiated Power (ERP) for GSM 850 MHZ						
				Re	esult		
Mode	Frequency			Polarization Of Max. ERP	Conclusion		
	824.2	23.17	0.44	6.5	29.23	Horizontal	Pass
	824.2	24.95	0.44	6.5	31.01	Vertical	Pass
0014050	836.6	23.48	0.45	6.5	29.53	Horizontal	Pass
GSM850	836.6	25.19	0.45	6.5	31.24	Vertical	Pass
	848.8	23.57	0.46	6.5	29.61	Horizontal	Pass
	848.8	25.44	0.46	6.5	31.48	Vertical	Pass
	824.2	22.98	0.44	6.5	29.04	Horizontal	Pass
	824.2	24.89	0.44	6.5	30.95	Vertical	Pass
	836.6	23.41	0.45	6.5	29.46	Horizontal	Pass
GPRS850	836.6	24.94	0.45	6.5	30.99	Vertical	Pass
	848.8	23.55	0.46	6.5	29.59	Horizontal	Pass
	848.8	25.34	0.46	6.5	31.38	Vertical	Pass



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	Radiated Power (EIRP) for PCS 1900 MHZ						
	Result						
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP.	
	1850.2	15.07	2.41	10.35	23.01	Horizontal	Pass
	1850.2	16.78	2.41	10.35	24.72	Vertical	Pass
PCS1900	1880.0	14.81	2.42	10.35	22.74	Horizontal	Pass
PC51900	1880.0	16.68	2.42	10.35	24.61	Vertical	Pass
	1909.8	14.8	2.43	10.35	22.72	Horizontal	Pass
	1909.8	16.76	2.43	10.35	24.68	Vertical	Pass
	1850.2	14.78	2.41	10.35	22.72	Horizontal	Pass
	1850.2	16.58	2.41	10.35	24.52	Vertical	Pass
	1880.0	14.84	2.42	10.35	22.77	Horizontal	Pass
GPRS1900	1880.0	16.58	2.42	10.35	24.51	Vertical	Pass
	1909.8	14.93	2.43	10.35	22.85	Horizontal	Pass
	1909.8	16.61	2.43	10.35	24.53	Vertical	Pass

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1611177F01

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

	Occupied Bandwidth for GSM 850 band							
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth					
Mode	Frequency(IVIEZ)	(99%)(kHz)	(-26dBc)(kHz)					
Low Channel	824.2	246.16	317.3					
Middle Channel	836.6	247.97	313.4					
High Channel	848.8	244.31	316.0					
	Occupied Band	width for GPRS 850 band						
Mode	Fraguaday (MHz)	Occupied Bandwidth	Emission Bandwidth					
Mode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)					
Low Channel	824.2	244.12	317.8					
Middle Channel	836.6	244.51	312.5					
High Channel	848.8	242.82	308.2					



Shenzhen STS Test Services Co., Ltd.



Report No.: STS1611177F01

	Occupied Bandwidth for GSM1900 band							
Mode		Occupied Bandwidth	Emission Bandwidth					
Mode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)					
Low Channel	1850.2	243.26	321.5					
Middle Channel	1880.0	240.33	313.8					
High Channel	1909.8	242.07	311.4					
	Occupied Bandy	width for GPRS 1900 band						
Mada		Occupied Bandwidth	Emission Bandwidth					
Mode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)					
Low Channel	1850.2	245.07	313.9					
Middle Channel	1880.0	244.56	317.5					
High Channel	1909.8	243.28	318.3					



Shenzhen STS Test Services Co., Ltd.



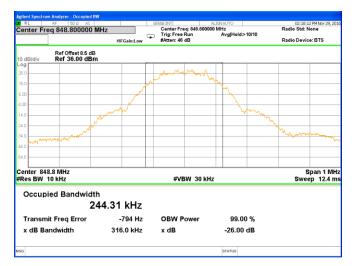
Report No.: STS1611177F01

GSM 850 CH 128



GSM 850 CH 190

RF 50 Ω AC		SENSE:INT	ALIGNAUTO	02:15:57 PM Not Radio Std: None
r Freq 836.600000 N		Center Freq: 836.6000 Trig: Free Run	00 MHz Avg Hold:>10/10	Radio Std: None
	#IFGain:Low	#Atten: 46 dB	angli lora - lor lo	Radio Device: BTS
Ref Offset 8.5 dB liv Ref 36.00 dBm				
		minut	ma.	
			M.	
	~		- h	
	/		\	
	and a		James.	
L	NV.			L.
. M				h
and and and the				mone
r 836.6 MHz BW 10 kHz		#VBW 30 kH	łz	Span Sweep 1
cupied Bandwidth				
24	17.97 kHz			
nsmit Freq Error	1.062 kHz	OBW Power	99.00 %	
B Bandwidth	313.4 kHz	x dB	-26.00 dB	



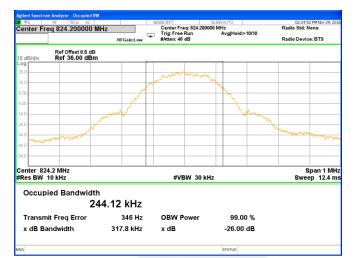
GSM 850 CH 251

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1611177F01

GPRS 850 CH 128



GPRS 850 CH 190





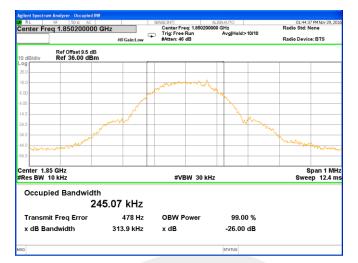
GPRS 850 CH 251

Shenzhen STS Test Services Co., Ltd.



Report No.: STS1611177F01

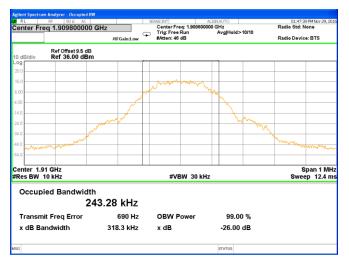
PCS 1900 CH 512



PCS 1900 CH 661



PCS 1900 CH 810



Shenzhen STS Test Services Co., Ltd.



Report No.: STS1611177F01

GPRS 1900 CH 512



GPRS 1900 CH 661



GPRS 1900 CH 810





Report No.: STS1611177F01

A5 FREQUENCY STABILITY

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

	GSM	850 Middle Char	nel/836.6MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		34.49	0.412		
40		30.00	0.359		
30		24.90	0.298		
20		28.25	0.338		
10	Normal Voltage	32.51	0.389		
0		27.60	0.330	2.5ppm	PASS
-10		15.66	0.187		
-20	/	16.28	0.195		
-30		27.79	0.332		
25	Maximum Voltage	29.85	0.357		
25	BEP	32.27	0.386		

	GPRS	850 Middle Cha	nnel/836.6MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		17.28	0.207		
40		35.22	0.421		
30		26.49	0.317		
20		15.57	0.186		
10	Normal Voltage	28.78	0.344		
0		13.24	0.158	2.5ppm	PASS
-10		20.46	0.245		
-20		34.74	0.415		
-30		32.20	0.385		
25	Maximum Voltage	19.26	0.024		
25	BEP	24.73	0.014]	



Report No.: STS1611177F01

	GSM [·]	1900 Middle Cha	nnel/1880MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		21.51	0.011		
40		26.59	0.014		
30		29.55	0.016		
20		11.68	0.006		
10	Normal Voltage	12.34	0.007	Within Au-	
0		18.04	0.010	thorized	PASS
-10		22.41	0.012	Band	
-20		24.64	0.013		
-30		17.58	0.009		
25	Maximum Voltage	24.14	0.013		
25	BEP	14.85	0.008		

	GPRS	1900 Middle Cha	annel/1880MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		24.73	0.013		
40		21.74	0.012		
30		24.01	0.013		
20		32.85	0.017		
10	Normal Voltage	15.16	0.008	Within Au-	
0		34.44	0.018	thorized	PASS
-10		27.92	0.015	Band	
-20		20.77	0.011		
-30		33.94	0.018		
25	Maximum Voltage	32.95	0.018		
25	BEP	31.29	0.017		

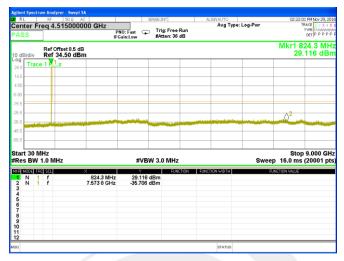
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A6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

GSM 850 BAND

Lowest Channel



Middle Channel

jilent Spectrum Analyzer - Sv	vept SA						
	R AC	SENSE:I	NT	ALIGNAUTO			PM Nov 29,
enter Freq 4.5150 ASS	PN): Fast 🖵 Tri in:Low #At	g: Free Run ten: 36 dB	Ауд Туре	: Log-Pwr		ACE 1 2 3 TYPE MWW DET P P P
Ref Offset 8 dB/div Ref 34.50						Mkr1 8 29.	36.9 N 235 d
Trace 1 11s							
4.5							
.50							
60							
5.5							
5.5				^2			
.5				Ω_		and the second de	
5.5							
5.5							
art 30 MHz						Stop	9.000 (
Res BW 1.0 MHz		#VBW 3.0) MHz		Swe	ep 16.0 ms	20001
49 MODE TER SOL 1 N 1 f 2 N 1 f 3 4	× 836.9 MHz 5.977 1 GHz	29.235 dBm -35.028 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
4 5 6 7							
3							
D							
1							

Highest Channel

RL			AC	SENSE: INT		ALIGNAUTO			13 PM Nov 29, 20
ente ASS	r Freq	4.51500	DOOOO GHz PN	D: Fast Trig: F in:Low #Atten	ree Run 36 dB	Avg Type	: Log-Pwr		TYPE MUMMUM DET P P P P
0 dB/d		ef Offset 8.6 ef 34.50 (49.0 MH .248 dBi
.og 24.5	race 1	11s							
14.5									
1.50									
.50									
5.5									
5.6								0 ²	
6.5			and the second second second second	and the state of the second second	And the owner where		in the second		Sugar Street
5.6									
55.5		_							
	0 MHz 3W 1.0			#VBW 3.0 M	Hz		Swe	Stop ep 16.0 ms	9.000 GH (20001 pt
1 N	e tric si 1 1		× 849.0 MHz	29.248 dBm	FUNCTION F	UNCTION WIDTH		FUNCTION VALUE	
2 N 3	1 1	1	7.520 0 GHz	-34.532 dBm					
4									
4 5 6									
4 5 6 7									
4 5 6 7 8 9									
4 5 6 7 8 9 0									

Shenzhen STS Test Services Co., Ltd.

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

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



GPRS 850 BAND

Lowest Channel

	um Analyzer - Swept S								
LXIRL	RF 50 Ω AI			SENSE:INT	AL	IGNAUTO			4 PM Nov 29, 2016
	eq 4.5150000	00 GHz	NO: Fast	Trig: Free	Run	Avg Type:	Log-Pwr		TYPE MULLIAMAN
PASS			Gain:Low	#Atten: 36	dB				DETPPPPP
	Ref Offset 8.5 dB							Mkr1 8	24.3 MHz
10 dB/div	Ref 34.50 dBr							29.	148 dBm
	e 1 111s								
24.0									
14.5									
4.50									
-5.50									
-15.5									
-25.5					2				
-35.5					Sec. 9	and the second second	and the second second	بالمتحيية المتخاذ	
-45.5									
-55.5									
Start 30 N #Res BW			#VB	W 3.0 MHz			Swee	Stop	9.000 GHz (20001 pts)
			#*0						(20001 pts)
MKR MODE TH		× 824.3 MHz	29,148		CTION FUNCT	TION WIDTH	Fl,	INCTION VALUE	
2 N 1	f	5.160 8 GHz	-35.939						
3									
5									
6									
2 N 1 3 4 5 6 7 8 9 10									
9									
11									
12									
MSG						STATUS			

Middle Channel

enter Freq 4.515	0 Ω AC	SENSE: IN	T Free Run	ALIGNAUTO Avg Typ	e: Log-Pwr	TF	L PM Nov 29, 2
ASS	PN IFG		en: 36 dB				DETPPP
dB/div Ref 34.5	8.5 dB 0 dBm					Mkr1 83 29.	299 dE
Trace 1 F1-s							
1.6							
50							
50							
i.5							
i.5						0	
15		and the state of the				A State of the second sec	
i.5							
i.5							
art 30 MHz Res BW 1.0 MHz		#VBW 3.0	MHz		Swee	Stop p 16.0 ms	9.000 G (20001 j
R MODE TRC SCL	× 836.9 MHz	29.299 dBm	FUNCTION	FUNCTION WIDTH	f	UNCTION VALUE	
N 1 f 2 N 1 f 3	7.959 5 GHz	-34.648 dBm					
3							
2							

Highest Channel

Bidiv Red 3.0 dBm 21 Trace 1 P Ls 21 Control 1 C 21 Contro	04 PM Nov 2			IGNAUTO	AL	NT	SENSE:]			50 Ω AC	RF	L
3dify Ref 34.50 dBm 21 Trace 1 R 1 s	TRACE		Log-Pwr	Avg Type: I		g:FreeRu ten:36 dB	Tri	PNO: Fast Gain:Low	F	51500000	Freq 4	
t 30 MHz 58W 1.0 MHz 58W 1.0 MHz 5840.0 MHz	849.0 I 9.284 c	Mkr1 8 29.								34.50 dBm	Ref	
1 30 MHz 5 BW 1.0 MHz 22924 dBm 1 8 2 2924										S	ce 1 F.	Т
t 30 MHz s BW 1.0 MHz s BW 1.0 MHz x 29 244 dBm x 1 5 8 400 MHz x 20 240 Hz x 20 240 Hz x 20 240 Hz x 2												-
t 30 MHz s BW 1.0 MHz s BW 1.0 MHz x 29 244 dBm x 1 5 8 400 MHz x 20 240 Hz x 20 240 Hz x 20 240 Hz x 2	-						-					
t 30 MHz s BW 1.0 MHz s BW 1.0 MHz x 29 244 dBm x 1 5 8 400 MHz x 20 240 Hz x 20 240 Hz x 20 240 Hz x 2												
t 30 MHz s BW 1.0 MHz s BW 1.0 MHz x 29 244 dBm x 1 5 8 400 MHz x 20 240 Hz x 20 240 Hz x 20 240 Hz x 2		2										
BW 1.0 MHz #VBW 3.0 MHz Sweep 16.0 m D000 [163] 50:0 X Y RUNFIDD VALUE N 1 1 54.0 0 MHz 20.264 dBm		I Y	all and a star		وماليك			and the second	البعو المتحديد			
BW 1.0 MHz #VBW 3.0 MHz Sweep 16.0 m D000 [163] 50:0 X Y RUNFIDD VALUE N 1 1 54.0 0 MHz 20.264 dBm												-
BW 1.0 MHz #VBW 3.0 MHz Sweep 16.0 m D000 [B3 50] X Y R0x6100 M0101 R0x7100 M0101 R0x7100 M0101 N 1 1 849.0 MHz 22.284 dBm R0x7100 M0101 R0x7100 M0101 R0x7100 M0101	-						-					-
N 1 f 849.0 MHz 29.284 dBm	p 9.000 s (20001	Stop p 16.0 ms	Swee			MHz	/BW 3.0	#\		Hz		
N 1 f 7.430 3 GHz -31.375 dBm		UNCTION VALUE	ŀ	ION WIDTH	FUNC	FUNCTIC	84 dBm	29.2	849.0 MHz		1 f	Ν
							75 dBm	-31.3	7.430 3 GHz		1 f	Ν
												_

Shenzhen STS Test Services Co., Ltd.

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

 Tel: + 86-755
 3688
 6288
 Fax:+ 86-755
 3688
 6277
 Http://www.stsapp.com
 E-mail: sts@stsapp.com



Report No.: STS1611177F01

GSM1900 BAND(30M-20G)

Lowest Channel



Middle Channel

RL	R			SENSE:INT		ALIGNAUTO			43 PM Nov 29, 2
enter ASS	Freq	10.01500		0:Fast Trig: ain:Low #Atte	Free Run n: 36 dB	Avg Type:	Log-Pwr	,	TYPE MWAAW DET P P P P
) dB/di	v R6	f Offset 9.5 ef 31.02 di	dB Bm					Vikr1 1.8 21	80 2 G .047 dB
	ace 1 I	21s							
1.0									
.02									
.98									
1.0								. 2	
9.0								0	
9.0		and the second second		the state of the s					
3.0									
1.0									
								-	
	0 MHz W 1.0	MHz		#VBW 3.0	MHz		Sweep	Stop 50.7 ms	20.000 G (40001 p
KRIMODI 1 N	TRC SO	u	× 1.880 2 GHz	21.047 dBm	FUNCTION	FUNCTION WIDTH	FU	NCTION VALUE	
	1 f		16.525 2 GHz	-29.532 dBm					
2 N									
3									
3 4 5 5									
3 4 5 5 7									
3 4 5 6 7 8 9									
2 N 3 4 5 6 7 8 9 0 1 2									

Highest Channel

RL RF	zer - Swept SA 50 Ω AC	SENSE:	INT	ALIGNAUTO	01:48	:10 PM Nov 29, 20
enter Freq 10	0.015000000 GHz	PNO: Fast Tri IFGain:Low #A	g: Free Run tten: 36 dB	Avg Type: Log-Pwr		TYPE MINIMUM DET P P P P F
dB/div Ref 3	ffset 9.5 dB 30.93 dBm					909 7 GH).929 dBi
Dig Trace 1 R	3					
1.9						
30						
07						-
01					\triangle^2	
	and the second sec	and the second second	And the second second	المحيد المسالية المراش		
.1						
9.1						
art 30 MHz tes BW 1.0 MI	Ηz	#VBW 3.	0 MHz	Sv	Stop veep 50.7 m	20.000 GH s (40001 pt
R MODE TRC SCL	X 1.909 7 GH	z 20.929 dBm	FUNCTION	UNCTION WIDTH	FUNCTION VALUE	
3	16.525 2 GH	z -29.377 dBm				
5						
5						
9						

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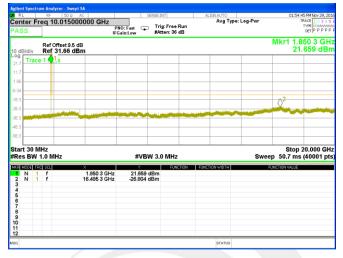
 Tel: + 86-755
 3688
 6287
 Http://www.stsapp.com
 E-mail: sts@stsapp.com



Report No.: STS1611177F01

GPRS1900 BAND(30M-20G)

Lowest Channel



Middle Channel

RL		RF 50 Ω AC		SENSE: II	TV	ALIGNAUTO		01:58	:16 PM Nov 29, 2
enter ASS	Freq	10.015000	PN	D: Fast 🖵 Trig iin:Low #At	g: Free Run ten: 36 dB	Avg Typ	e: Log-Pwr		TYPE MWWW DET P P P P
0 dB/di	v R	ef Offset 9.5 dB ef 31.52 dBn	n						880 2 G 1.524 dE
	race 1	<mark>∲1</mark> s							
1.5									
52									
48									
8.6								~2	
8.5								Ω.	
8.5	il and a	and the second second	and the second designed to the second designe	and the state of the	فيباخ بقالين	Contraction of the local division of the loc	No. of Concession, Name		
8.6									
8.5									
	0 MHz W 1.0			#VBW 3.0	MHz		Swe	Stop ep 50.7 m	20.000 G s (40001 p
KRIMODI 1 N	TRC S		1.880 2 GHz	7 21.524 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
	11		16.525 2 GHz	-27.804 dBm					
2 N 3									
2 N 3									
2 N 3 4 5 6 7									
2 N 3 4 5 6 7 8 9									
2 N 3 4 5 6 7 8 9 0 1									

Highest Channel

ent Spectrum Analyze RL RF	SO Q AC	SENSE:INT		ALIGNAUTO	02:	00:11 PM Nov 29, 21
	015000000 GHz	IO: Fast 😱 Trig: F	ree Run	Avg Type: Log-F	wr	TRACE
SS	IFG	ain:Low #Atten	36 dB			DET P P P P
dB/div Ref 31	set 9.5 dB I.19 dBm					1.909 7 GH 21.192 dB
Trace 1 F						
2						
9						
1						
					- 0	
					Ω ²	
B WEILER STREET	and the second secon	and the state of the second second	teris al la colorada	Street of the		
8						
8						
art 30 MHz es BW 1.0 MHz	Z	#VBW 3.0 M	Hz		Sweep 50.7 r	p 20.000 GH ns (40001 p
MODE TRO SCL	X		FUNCTION	UNCTION WIDTH	FUNCTION VAL	JE
N 1 f N 1 f	1.909 7 GHz 16.185 7 GHz	21.192 dBm -29.153 dBm				
				STATUS		

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

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



A7 BAND EDGE

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

		GSI	M 850: (30-9	9000)MHz							
	The	Worst Test	Results Ch	annel 128/8	824.2 MHz						
	S G.Lev	Apt(dDi)	Loss	PMea	Limit	Margin	Delority				
Frequency(MHz)	(dBm)	Ant(dBi)	LUSS	(dBm)	(dBm)	(dBm)	Polarity				
1648.31	-41.51	9.40	4.75	-36.86	-13.00	-23.86	Н				
2472.24	-39.63	10.60	8.39	-37.42	-13.00	-24.42	Н				
3296.65	-31.44	12.00	11.79	-31.23	-13.00	-18.23	Н				
1648.04	-43.33	9.40	4.75	-38.68	-13.00	-25.68	V				
2472.52	-44.88	10.60	8.39	-42.67	-13.00	-29.67	V				
3296.90	-42.76	12.00	11.79	-42.55	-13.00	-29.55	V				
The Worst Test Results Channel 190/836.6 MHz											
	S G.Lev			PMea	Limit	Margin	Delerity				
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity				
1672.90	-40.64	9.50	4.76	-35.90	-13.00	-22.90	Н				
2509.73	-40.36	10.70	8.40	-38.06	-13.00	-25.06	Н				
3345.97	-31.81	12.20	11.80	-31.41	-13.00	-18.41	Н				
1673.10	-43.68	9.40	4.75	-39.03	-13.00	-26.03	V				
2509.57	-44.56	10.60	8.39	-42.35	-13.00	-29.35	V				
3346.21	-43.87	12.20	11.82	-43.49	-13.00	-30.49	V				
	The	Worst Test	Results Ch	annel 251/8	848.8 MHz	•					
Frequency(MHz)	S G.Lev	Apt(dDi)	Loss	PMea	Limit	Margin	Delority				
Frequency(MHZ)	(dBm)	Ant(dBi)	LUSS	(dBm)	(dBm)	(dBm)	Polarity				
1697.65	-40.32	9.60	4.77	-35.49	-13.00	-22.49	Н				
2546.36	-39.77	10.80	8.50	-37.47	-13.00	-24.47	Н				
3394.98	-31.27	12.50	11.90	-30.67	-13.00	-17.67	Н				
1697.20	-44.59	9.60	4.77	-39.76	-13.00	-26.76	V				
2546.41	-45.25	10.80	8.50	-42.95	-13.00	-29.95	V				
3394.94	-43.01	12.50	11.90	-42.41	-13.00	-29.41	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.: STS1611177F01

GPRS 850: (30-9000)MHz

GPRS 850: (30-9000)MHz												
	The	Worst Test	Results Ch	annel 128/8	824.2 MHz							
Frequency(MHz)	S G.Lev	Apt(dDi)	1.000	PMea	Limit	Margin	Delority					
Fiequency(IVIHZ)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
1648.37	-40.38	9.40	4.75	-35.73	-13.00	-22.73	Н					
2472.44	-40.58	10.60	8.39	-38.37	-13.00	-25.37	Н					
3296.87	-30.86	12.00	11.79	-30.65	-13.00	-17.65	Н					
1648.19	-43.94	9.40	4.75	-39.29	-13.00	-26.29	V					
2472.27	-45.01	10.60	8.39	-42.80	-13.00	-29.80	V					
3296.48	-42.87	12.00	11.79	-42.66	-13.00	-29.66	V					
The Worst Test Results Channel 190/836.6 MHz												
	S G.Lev			PMea	Limit	Margin	Delerity					
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
1672.94	-41.10	9.50	4.76	-36.36	-13.00	-23.36	Н					
2509.58	-40.03	10.70	8.40	-37.73	-13.00	-24.73	Н					
3346.37	-32.10	12.20	11.80	-31.70	-13.00	-18.70	Н					
1672.91	-44.48	9.40	4.75	-39.83	-13.00	-26.83	V					
2509.48	-45.24	10.60	8.39	-43.03	-13.00	-30.03	V					
3346.43	-42.96	12.20	11.82	-42.58	-13.00	-29.58	V					
	The	Worst Test	Results Ch	annel 251/8	848.8 MHz							
	S G.Lev	Apt(dDi)	Loss	PMea	Limit	Margin	Delority					
Frequency(MHz)	(dBm)	Ant(dBi)	LOSS	(dBm)	(dBm)	(dBm)	Polarity					
1697.27	-41.30	9.60	4.77	-36.47	-13.00	-23.47	Н					
2546.43	-40.09	10.80	8.50	-37.79	-13.00	-24.79	Н					
3395.09	-31.46	12.50	11.90	-30.86	-13.00	-17.86	Н					
1697.34	-44.49	9.60	4.77	-39.66	-13.00	-26.66	V					
2546.46	-44.56	10.80	8.50	-42.26	-13.00	-29.26	V					
3394.90	-43.65	12.50	11.90	-43.05	-13.00	-30.05	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.: STS1611177F01

PCS 1900: (30-20000)MHz

DCS 1900: (30-20000)MHz												
	The V	/orst Test R	esults for C	hannel 512	/1850.2MHz	2						
Frequency(MHz)	S G.Lev	Apt(dDi)	1.000	PMea	Limit	Margin	Delerity.					
Frequency(ivinz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
3700.49	-34.53	12.60	12.93	-34.86	-13.00	-21.86	Н					
5550.45	-34.09	13.10	17.11	-38.10	-13.00	-25.10	Н					
7400.54	-33.21	11.50	22.20	-43.91	-13.00	-30.91	Н					
3700.51	-35.11	12.60	12.93	-35.44	-13.00	-22.44	V					
5550.38	-34.78	13.10	17.11	-38.79	-13.00	-25.79	V					
7400.62	-33.15	11.50	22.20	-43.85	-13.00	-30.85	V					
The Worst Test Results for Channel 661/1880.0MHz												
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity					
Frequency(IVIHZ)	(dBm)	Ani(ubi)	L055	(dBm)	(dBm)	(dBm)	Folanty					
3759.81	-34.35	12.60	12.93	-34.68	-13.00	-21.68	Н					
5639.97	-35.26	13.10	17.11	-39.27	-13.00	-26.27	Н					
7520.15	-32.39	11.50	22.20	-43.09	-13.00	-30.09	Н					
3760.01	-35.89	12.60	12.93	-36.22	-13.00	-23.22	V					
5640.29	-33.80	13.10	17.11	-37.81	-13.00	-24.81	V					
7520.28	-31.86	11.50	22.20	-42.56	-13.00	-29.56	V					
	The V	/orst Test R	esults for C	hannel 810,	/1909.8MHz							
Frequency(MHz)	S G.Lev	Apt(dDi)		PMea	Limit	Margin	Delority					
Frequency(MHZ)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
3819.62	-34.11	12.60	12.93	-34.44	-13.00	-21.44	Н					
5729.41	-34.73	13.10	17.11	-38.74	-13.00	-25.74	Н					
7638.92	-33.52	11.50	22.20	-44.22	-13.00	-31.22	Н					
3819.43	-34.97	12.60	12.93	-35.30	-13.00	-22.30	V					
5729.40	-35.23	13.10	17.11	-39.24	-13.00	-26.24	V					
7639.19	-33.03	11.50	22.20	-43.73	-13.00	-30.73	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.: STS1611177F01

GPRS 1900: (30-20000)MHz

GPRS1900: (30-20000)MHz The Worst Test Results for Channel 512/1850.2MHz												
	The V	/orst Test R	esults for C	hannel 512	/1850.2MHz	2						
	S G.Lev	Apt(dDi)	Loss	PMea	Limit	Margin	Delarity					
Frequency(MHz)	(dBm)	Ant(dBi)	LUSS	(dBm)	(dBm)	(dBm)	Polarity					
3700.07	-34.40	12.60	12.93	-34.73	-13.00	-21.73	Н					
5550.40	-34.87	13.10	17.11	-38.88	-13.00	-25.88	Н					
7400.90	-33.47	11.50	22.20	-44.17	-13.00	-31.17	Н					
3700.51	-35.29	12.60	12.93	-35.62	-13.00	-22.62	V					
5550.35	-34.06	13.10	17.11	-38.07	-13.00	-25.07	V					
7400.93	-31.75	11.50	22.20	-42.45	-13.00	-29.45	V					
The Worst Test Results for Channel 661/1880.0MHz												
Frequency(MHz)	S G.Lev	Apt(dDi)		PMea	Limit	Margin	Delarity					
Frequency(MHZ)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
3760.21	-34.21	12.60	12.93	-34.54	-13.00	-21.54	Н					
5640.07	-34.35	13.10	17.11	-38.36	-13.00	-25.36	Н					
7519.93	-33.48	11.50	22.20	-44.18	-13.00	-31.18	Н					
3760.19	-34.77	12.60	12.93	-35.10	-13.00	-22.10	V					
5639.88	-35.13	13.10	17.11	-39.14	-13.00	-26.14	V					
7519.99	-31.79	11.50	22.20	-42.49	-13.00	-29.49	V					
	The W	/orst Test R	esults for C	hannel 810,	/1909.8MHz							
	S G.Lev	Apt(dDi)		PMea	Limit	Margin	Delarity					
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dBm)	Polarity					
3819.53	-34.22	12.60	12.93	-34.55	-13.00	-21.55	Н					
5729.14	-34.64	13.10	17.11	-38.65	-13.00	-25.65	Н					
7639.08	-32.98	11.50	22.20	-43.68	-13.00	-30.68	Н					
3819.64	-35.70	12.60	12.93	-36.03	-13.00	-23.03	V					
5729.20	-35.19	13.10	17.11	-39.20	-13.00	-26.20	V					
7639.30	-31.82	11.50	22.20	-42.52	-13.00	-29.52	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.



RADIATED SPURIOUS EMISSION

APPENDIX BPHOTOS OF TEST SETUP



Shenzhen STS Test Services Co., Ltd.