# **RADIO TEST REPORT**

Report No: STS1705024F01

Issued for

Santok Limited

Santok House, Unit L, Braintree Industrial Estate, Braintree Road, South Ruislip, Middlesex, HA4 0EJ United Kingdom

Product Name:	Feature phone
Brand Name:	stk
Model Name:	M PHONE
Series Model:	N/A
FCC ID:	2AE7RMPHONE
Test Standard:	FCC Part 22H and 24E

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from BZT, All Test Data Presented in this report is only applicable to presented Test sample.

Report No.: STS1705024F01

### **TEST RESULT CERTIFICATION**

Applicant's name:	Santok Limited
Address:	Santok House, Unit L, Braintree Industrial Estate, Braintree Road, South Ruislip, Middlesex, HA4 0EJ United Kingdom
Manufacture's Name:	Santok Limited
Address:	Santok House, Unit L, Braintree Industrial Estate, Braintree Road, South Ruislip, Middlesex, HA4 0EJ United Kingdom
Product name:	Feature phone
Brand name:	stk
Model and/or type reference:	M PHONE
Standards	FCC Part 22H and 24E
Test procedure	. ANSI/TIA 603-D (2010)

This device described above has been tested by BZT and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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

Date of Test .....

Date of performance of tests ...... 04 May. 2017~15 May. 2017

Date of Issue ..... 17 May. 2017

Test Result..... Pass

Testing Engineer

:

eo li

(Leo li)

Technical Manager :

mm

(Tony liu)

Authorized Signatory :

(Vita Li)

	3 of 41	Report No.:	STS1705024F01
TABLE OF CONT	ENTS		Page
1 INTRODUCTION			6
1.1 TEST FACTORY			6
1.2 MEASUREMENT UNCERTAINTY			6
2 PRODUCT INFORMATION			7
3 TEST CONFIGURATION OF EQUIPME	NT UNDER TEST		8
4 MEASUREMENT INSTRUMENTS			9
5 TEST ITEMS			10
5.1 CONDUCTED OUTPUT POWER			10
5.2 PEAK TO AVERAGE RATIO			11
5.3 TRANSMITTER RADIATED POWE	R (EIRP/ERP)		12
5.4 OCCUPIED BANDWIDTH			13
5.5 FREQUENCY STABILITY			14
5.6 SPURIOUS EMISSIONS AT ANTER	NNA TERMINALS		15
5.7 BAND EDGE			16
5.8 FIELD STRENGTH OF SPURIOUS	RADIATION MEASUREN	ENT	17
APPENDIX A. TEST RESULT			19
A1CONDUCTED OUTPUT POWER			19
A2 PEAK-TO-AVERAGE RADIO			20
A3 TRANSMITTER RADIATED POWE	R (EIRP/ERP)		20
A4 OCCUPIED BANDWIDTH(99% OC	CUPIED BANDWIDTH/26	) B BANDWI	DTH) 22
A5 FREQUENCY STABILITY			27
A7 BAND EDGE			33
A8 FIELD STRENGTH OF SPURIOUS	RADIATION MEASUREM	ENT	37
APPENDIX B. PHOTOS OF TEST SETUP	)		41

4 of 41 Report No.: STS1705024F01

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	17 May. 2017	STS1705024F01	ALL	Initial Issue

### 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:

5 of 41

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	Effective Radiated Pow-	< 7 Watts max. ERP(Part 22)		
22.913	er/Equivalent Isotropic	< 2 Watts max. EIRP(Part 24)	PASS	
24.232	Radiated Power	, , ,		
2.1049				
22.917	Occupied Bandwidth	Bandwidth Reporting Only		
24.238				
2.1055		< 2.5 ppm (Part 22)		
22.355	Frequency Stability	Emission must remain in band	PASS	
24.235		(Part 24)		
2.1051	Spurious Emission at			
22.917	Spurious Emission at Antenna Terminals	< 43+10log10(P[Watts])	PASS	
24.238	Antenna terminais			
2.1053	Field Otropath of Opunious			
22.917	Field Strength of Spurious	< 43+10log10(P[Watts])	PASS	
24.238	Radiation			
2.1051				
22.917	Band Edge	< 43+10log10(P[Watts])	PASS	
24.238				

#### **1 INTRODUCTION**

1.1 TEST FACTORYBZT Testing Technology Co., Ltd.Add. : Buliding 17, Xinghua Road Xingwei industrial Park Fuyong,Baoan District, Shenzhen, Guangdong, ChinaFCC Registration No.: 701733

#### 1.2 MEASUREMENT UNCERTAINTY

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

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

Report No.: STS1705024F01

# **2 PRODUCT INFORMATION**

Product Designation:	Feature phone
Hardware version:	DF13_V10a_V0.01
Software version:	DF13_Mphone_V0.01_20170118
FCC ID:	2AE7RMPHONE
	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:	GSM850:29.59dBm,PCS1900:29.56dBm GPRS850:29.56dBm,GPRS1900:29.55dBm
Type of Emission:	GSM(850):320KGXW: GSM(1900):320KGXW GPRS(850):316KGXW: GPRS(1900):323KGXW
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: -2dBi ,PCS 1900: -2dBi
Power Supply:	DC 3.7V by battery
Battery parameter:	Capacity: 800mAh, Rated Voltage: 3.7V
GPRS Class:	Multi-Class12
Extreme Vol. Limits:	DC3.4 V to 4.2 V (Nominal DC3.7V)
Extreme Temp. Tolerance:	-25℃ to +40℃
** Note: The High Voltage 4	2.2 V and Low Voltage 3.4 V was declared by manufacturer, The
EUT couldn't be operate nor	nally with higher or lower voltage.

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

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power

8 of 41

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		

# **4 MEASUREMENT INSTRUMENTS**

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	2016.10.23	2017.10.22
Low frequency cable	N/A	R01	N/A	NCR	NCR
High frequency cable	SCHWARZBECK	AK9515H	SN-96286/96287	NCR	NCR
Vector signal generator	Agilent	E8257D-521	MY45141029	2016.10.23	2017.10.22
Power amplifier	DESAY	ZHL-42W	9638	2016.10.23	2017.10.22
Band Reject fil- ter(1920-1980MHz)	COM-MW	ZBSF-1920-1980	0092	2016.10.23	2017.10.22
Band Reject fil- ter(880-915MHz)	COM-MW	ZBSF-C897.5-35	707	2016.10.23	2017.10.22
Band Reject fil- ter(1710-1785MHz)	COM-MW	ZBSF-C1747.5-75	708	2016.10.23	2017.10.22
Band Reject fil- ter(1850-1910MHz)	COM-MW	ZBSF-C1880-60	709	2016.10.23	2017.10.22
Band Reject fil- ter(2500-2570MHz)	COM-MW	ZBSF-C2535-70	710	2016.10.23	2017.10.22
Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	2016.10.23	2017.10.22
	ration data of "NCE			· · · ·	t calibrated

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

### **5 TEST ITEMS**

#### 5.1 CONDUCTED OUTPUT POWER

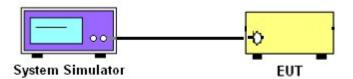
#### Test overview

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

#### Test procedures

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

#### Test setup



#### 5.2 PEAK TO AVERAGE RATIO

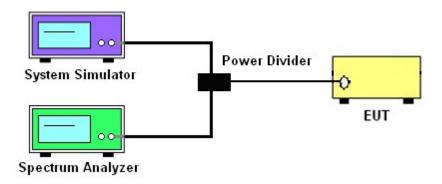
#### TEST OVERVIEW

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

#### TEST PROCEDURES

- 1. The testing follows fcckdb 971168 v02r02 section
- 2. The eut was connected to the and peak and av system simulator& spectrum analysis reads
- 3. Select lowest, middle, and highest channels for each band and different modulation.
- 4. Set the test probe and measure average power of the spectrum analysis

#### TEST SETUP



#### 5.3 TRANSMITTER RADIATED POWER (EIRP/ERP) TEST OVERVIEW

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

12 of 41

# 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.

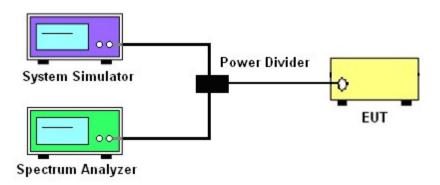
All modes of operation were investigated and the worst case configuration results are reported in this section.

#### 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:

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

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

For Part 22, the frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5$  ppm) of the center frequency. For Part 24 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### Test Procedure

**Temperature Variation** 

1. The testing follows fcckdb 971168 D01 section 9.0

2. The EUT was set up in the thermal chamber and connected with the system simulator.

3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing.

Power was applied and the maximum change in frequency was recorded within one minute.

4. With power OFF, the temperature was raised in 10°C steps up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

Voltage Variation

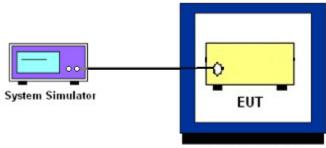
1. The testing follows FCC KDB 971168 D01 Section 9.0.

2. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.

3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.

4. The variation in frequency was measured for the worst case.

#### TEST SETUP



Thermal Chamber

# 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.

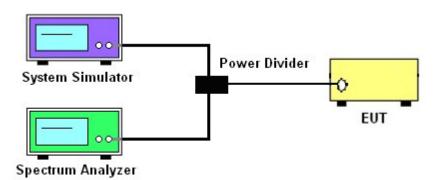
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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

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

= -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.

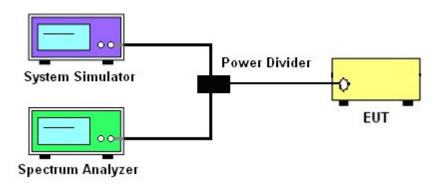
7.The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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

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

= -13dBm.

TEST SETUP



#### Report No.: STS1705024F01

# 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.

17 of 41

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  $\ge$  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);

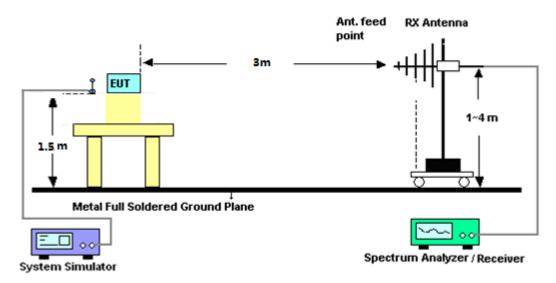
P.SG = measured transmitter output power or PSD, in dBm or dBW;

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

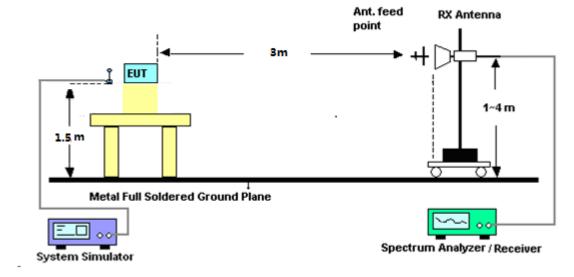
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

#### TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



# APPENDIX A. TEST RESULT

A1CONDUCTED OUTPUT POWER

# GSM 850:

Mode	Frequency (MHz) AVG Powe		
	824.2	29.42	
GSM850	836.6	29.38	
	848.8	29.59	
	824.2	29.41	
GPRS850	836.6	29.36	
	848.8	29.56	

# PCS 1900:

Mode	Frequency (MHz) AVG Power	
	1850.2	29.56
GSM1900	1880.0	29.48
	1909.8	29.51
GPRS1900	1850.2	29.55
	1880.0	29.46
	1909.8	29.49

Report No.: STS1705024F01

## A2 PEAK-TO-AVERAGE RADIO

PCS 1900:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1850.2	29.66	29.56	0.10
PCS1900	1880	29.58	29.48	0.10
	1909.8	29.62	29.51	0.11
	1850.2	29.65	29.55	0.10
GPRS1900	1880	29.56	29.46	0.10
	1909.8	29.61	29.49	0.12

# A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

Radiated Power (ERP) for GSM 850 MHZ							
		Result					
Mode	Frequency	S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	Conclusion
	824.2	21.06	0.44	6.5	27.12	Horizontal	Pass
	824.2	22.92	0.44	6.5	28.98	Vertical	Pass
0014050	836.6	21.06	0.45	6.5	27.11	Horizontal	Pass
GSM850	836.6	22.81	0.45	6.5	28.86	Vertical	Pass
	848.8	21.14	0.46	6.5	27.18	Horizontal	Pass
	848.8	22.99	0.46	6.5	29.03	Vertical	Pass
	824.2	21.08	0.44	6.5	27.14	Horizontal	Pass
	824.2	22.91	0.44	6.5	28.97	Vertical	Pass
	836.6	20.85	0.45	6.5	26.90	Horizontal	Pass
GPRS850	836.6	22.57	0.45	6.5	28.62	Vertical	Pass
	848.8	21.11	0.46	6.5	27.15	Horizontal	Pass
	848.8	22.77	0.46	6.5	28.81	Vertical	Pass

Report No.: STS1705024F01

		Radiated	Power (I	EIRP) fo	r PCS 1900 MH2	Z	
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP.	
	1850.2	19.15	2.41	10.35	27.09	Horizontal	Pass
	1850.2	21.09	2.41	10.35	29.03	Vertical	Pass
DCS1000	1880	19.1	2.42	10.35	27.03	Horizontal	Pass
PCS1900	1880	21.04	2.42	10.35	28.97	Vertical	Pass
	1909.8	19.14	2.43	10.35	27.06	Horizontal	Pass
	1909.8	21.07	2.43	10.35	28.99	Vertical	Pass
	1850.2	19.18	2.41	10.35	27.12	Horizontal	Pass
	1850.2	20.96	2.41	10.35	28.9	Vertical	Pass
GPRS1900	1880	19.11	2.42	10.35	27.04	Horizontal	Pass
GFK31900	1880	21.02	2.42	10.35	28.95	Vertical	Pass
	1909.8	19.35	2.43	10.35	27.27	Horizontal	Pass
	1909.8	20.83	2.43	10.35	28.75	Vertical	Pass

22 of 41 Report No.: STS1705024F01

	Occupied Band	width for GSM 850 band	
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth
Mode	Frequency(IVIEZ)	(99%)( kHz)	(-26dBc)( kHz)
Low Channel	824.2	243.10	307.6
Middle Channel	836.6	246.49	308.6
High Channel	848.8	246.66	320.3
	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	242.49	315.6
Middle Channel	836.6	240.70	312.8
High Channel	848.8	245.93	313.4

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

	Occupied Band	lwidth for GSM1900 band	
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth
Mode	Frequency(IVIHZ)	(99%)( kHz)	(-26dBc)( kHz)
Low Channel	1850.2	245.88	314.3
Middle Channel	1880.0	246.61	320.4
High Channel	1909.8	244.53	314.7
	Occupied Bandy	width for GPRS 1900 band	
Mode	Fraguanay (MHz)	Occupied Bandwidth	Emission Bandwidth
wode	Frequency(MHz)	(99%)( kHz)	(-26dBc)( kHz)
Low Channel	1850.2	244.34	323.2
Middle Channel	1880.0	242.29	317.5
High Channel	1909.8	246.36	313.5

#### GSM 850 CH 128



#### GSM 850 CH 190





#### GSM 850 CH 251

#### Report No.: STS1705024F01

#### GPRS 850 CH 128









#### GPRS 850 CH 251

#### PCS 1900 CH 512



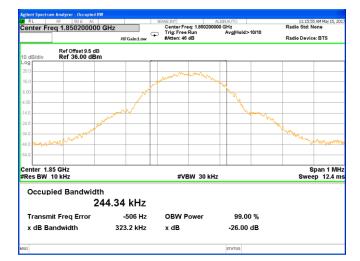
#### PCS 1900 CH 661



#### PCS 1900 CH 810



#### GPRS 1900 CH 512



#### GPRS 1900 CH 661



#### GPRS 1900 CH 810



Report No.: STS1705024F01

# A5 FREQUENCY STABILITY

Normal Voltage = 3.7V. ; Battery End Point (BEP) = 3.4 V.; Maximum Voltage =4.2 V

	GSM	850 Middle Chan	nel/836.6MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Limit	Result	
50		13.45	0.161		
40		27.86	0.333		
30		20.13	0.241		
20		21.49	0.257		
10	Normal Voltage	13.66	0.163		
0		20.87	0.249	2.5ppm	PASS
-10		28.23	0.337		
-20		26.03	0.311		
-30		16.91	0.202		
25	Maximum Voltage	13.45	0.161		
25	BEP	29.70	0.355		

	GPRS	850 Middle Cha	nnel/836.6MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50	_	30.70	0.367		
40	-	13.31	0.159		
30		32.74	0.391		
20		24.23	0.290		
10	Normal Voltage	12.29	0.147		
0		17.79	0.213	2.5ppm	PASS
-10		22.46	0.268		
-20		22.52	0.269		
-30		21.16	0.253		
25	Maximum Voltage	17.75	0.024		
25	BEP	29.24	0.014		

Report No.: STS1705024F01

	GSM 1900 Middle Channel/1880MHz											
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result							
50		20.38	0.011									
40		19.36	0.010									
30		30.76	0.016									
20		32.45	0.017									
10	Normal Voltage	16.48	0.009	Within								
0		32.53	0.017	Authorized	PASS							
-10		30.43	0.016	Band								
-20		28.92	0.015									
-30		31.76	0.017									
25	Maximum Voltage	22.93	0.012									
25	BEP	34.74	0.018									

	GPRS	1900 Middle Cha	annel/1880MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		35.92	0.019		
40		18.43	0.010		
30		28.48	0.015		
20		29.47	0.016		
10	Normal Voltage	31.03	0.017	Within	
0		12.16	0.006	Authorized	PASS
-10		19.82	0.011	Band	
-20		14.23	0.008		
-30		15.16	0.008		
25	Maximum Voltage	20.87	0.011		
25	BEP	31.64	0.017		

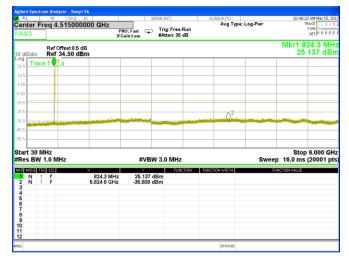
# Report No.: STS1705024F01

# 29 of 41

### A6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

GSM 850 BAND

#### Lowest Channel



# Middle Channel

		RF 50 Ω		SENSE:	NT	ALIGNAUTO			2 AM May 15, 2
Cente PASS	r Free	q 4.51500	PN	0:Fast	g: Free Run ten: 36 dB	Avg Type	: Log-Pwr		IACE 1 2 3 4 TYPE MW///// DET P P P P
0 dB/d	iv F	Ref Offset 8.5 Ref 34.50 d	dB Bm					Mkr1 8 25.	36.9 MI 392 dB
.og 24.5	race 1	1 s							
14.5									
1.50									
.50									
5.5									
5.5						2			
5.5			and the second second	and distance		Q <sup>-</sup>	a share when	and the second	
5.5									
6.5									
	0 MH 3W 1.	z 0 MHz		#VBW 3.0	MHz		Swee	Stop p 16.0 ms	9.000 G (20001 p
Rese Me More	3W 1.	0 MHz	× 836.9 MHz	25.392 dBm		FUNCTION WIDTH		Stop p 16.0 ms UNCTION VALUE	(20001
Rese Me More	3W 1.	0 MHz		Y		FUNCTION WIDTH		p 16.0 ms	(20001
Res E 1 N 2 N 3	3W 1.	0 MHz	836.9 MHz	25.392 dBm		FUNCTION WIDTH		p 16.0 ms	(20001
Res E 1 N 2 N 3	3W 1.	0 MHz	836.9 MHz	25.392 dBm		FUNCTION WIDTH		p 16.0 ms	2000 G
Res E 1 N 2 N 3	3W 1.	0 MHz	836.9 MHz	25.392 dBm		FUNCTION WIDTH		p 16.0 ms	(20001)
Res E 1 N 2 N 3 4 5 6 7 8 9	3W 1.	0 MHz	836.9 MHz	25.392 dBm		FUNCTION WIDTH		p 16.0 ms	2000 G
Res E 1 N 2 N 3	3W 1.	0 MHz	836.9 MHz	25.392 dBm		FUNCTION WIDTH		p 16.0 ms	9.000 G (20001 p

RL		RF	xer - Swej 50 ฉ 51500			SENSE:INT	- Dun	ALI	IGNAUTO Avg Type	: Log-Pwr	10:5	3:08 AM May 15, 2 TRACE 1 2 3 4
ASS					PNO: Fast G	#Atten:	36 dB					DET P P P P
0 dB/di			fset 8.5 4 <b>.50 d</b>									849.0 MH 6.530 dB
.og 24.5	race	1 1	s									
14.6		-					_					
1.50		-					_					-
.50		-										
5.5												
5.5 6.5				. I Le surre ante							<sup>2</sup>	
5.5	, Alexandre											
6.5							_					
tart 3											Ste	op 9.000 G
Res E	3W 1	.0 Mł	IZ		#VE	W 3.0 MI	lz			Swe	ep 16.0 m	s (20001 p
KR MOD	E TRC	SCL		× 849.0 MH;	26,530		UNCTION	FUNCT	ION WIDTH		FUNCTION VALUE	-
2 N 3	1	f		7.394 4 GH	-36.081	dBm						
4 5 6												
6 7												
8 9												
0												
1												
a									STATUS			

# Report No.: STS1705024F01

# GPRS 850 BAND

# Lowest Channel

RL		AC	SENSE:INT	ALIGNAUTO		10:58:36 AM May 15,
	q 4.5150	00000 GHz	D: Fast 😱 Trig: Free	Avg Type Run	: Log-Pwr	TRACE 1 2 3 4
ASS		IFGa	in:Low #Atten: 36	dB		DET PPPF
	Ref Offset 8.	5 dB				Mkr1 824.3 M
dB/div	Ref 34.50					25.08 dE
Trace	1 🚺 s					
1.5						
50						
50						
.5	_					
.5						
5		la la secondaria				and the second second
5						
.5						
art 30 MH						Stop 9.000 G
tes BW 1.	.0 MHz		#VBW 3.0 MHz		Sweep	16.0 ms (20001
R MODE TRC		×		CTION FUNCTION WIDTH	FUN	ICTION VALUE
N 1 2 N 1	f	824.3 MHz 5.977 1 GHz	25.08 dBm -35.298 dBm			
N 1						
8						
) )						
1						
				STATUS		

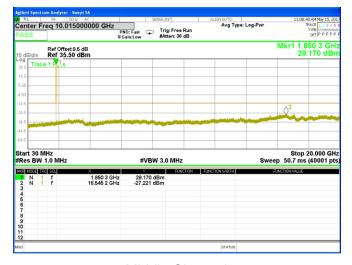
#### Middle Channel

e <sub>RL</sub> Center		RF	er - Swep   50 ฉ 515000	AC 000 GHz	PNO: Fast	ENSE:INT	e Run	ALIC	Avg Type:	Log-Pwr	11:00	19 AM May 15, 2 TRACE 2 3 4 TYPE MWWW DET P P P P
PASS			fset 8.5 d 4.50 dE	B	Gain:Low	#Atten: 3	5 dB					336.9 MI .432 dB
24.5	race	1 1	S									
14.6				_			-					
4.50 5.50												
15.5				_								
25.5											2	
5.5				a la distante			-	-			×.	-
6.5												
tart 3 Res B			z		#VB	W 3.0 MH	z			Swee	Sto p 16.0 ms	p 9.000 G (20001 j
1 N 2 N 3	E TRC 1 1	SCL f f		836.9 MHz 7.448 2 GHz	25.432 -34.205	dBm	NCTION	FUNCTI	ON WIDTH	F	UNCTION VALUE	
4 5 6												
7 8 9												
1												
a									STATUS			

Agilent Spectrum A									
Center Freq		DO GHz	NO: Fast 😱 Gain:Low	Trig: Free F #Atten: 36 o	Run	Avg Type:	Log-Pwr	т	6 AM May 15, 20 RACE 1 2 3 4 1 TYPE MUMANA DET P P P P 1
10 dB/div Re	f Offset 8.5 dB of 34.50 dBm	1						Mkr1 8 26.	49.0 MH 523 dBi
24.5 Trace 1	21_s								
4.50									
5.50									
25.5		1					() <sup>2</sup>		
45.5	-								
55.5									
tart 30 MHz Res BW 1.0	MHz		#VBV	V 3.0 MHz			Swee	Stop p 16.0 ms	9.000 G (20001 p
KR MODE TRC SO 1 N 1 f 2 N 1 f	1	849.0 MHz 6.515 3 GHz	26.523 c -35.091 c	EUNC IBm	TION FUNC	TION WIDTH	F	UNCTION VALUE	
3		0.01000112	00.0010						
4 5 6 7 8 9									
0									
11 12									
a						STATUS			

# GSM1900 BAND(30M-20G)

#### Lowest Channel



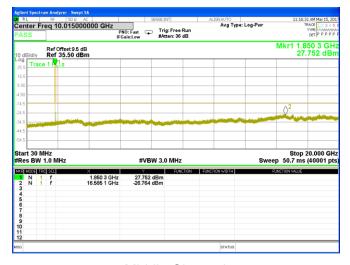
# Middle Channel

RL		RF !	50 Ω AC		SENSE: INT		ALIGNAUTO		11:10	):47 AM May 15, 2
enter ASS	Fre	q 10.0 <sup>-</sup>	15000000 GHz	PNO: Fast	⊃ Trig: Fre #Atten: 3	e Run 6 dB	Avg Typ	: Log-Pwr		TRACE 1234 TYPE MUMAN DET P P P P
0 dB/di	iv F		t 9.5 dB 50 dBm							880 2 G 9.243 dE
og T	race 1	F1s								
5.6										
50								_		_
.50										
4.5								-		-
4.5									<sup>2</sup>	
4.5			and the second second	and the state of the	No.	a state of the	and setting the set			
4.5										
4.5										
tart 3 Res B		z 0 MHz		#VE	3W 3.0 MH	z		Swe	Stop ep 50.7 m	20.000 G s (40001 j
87 M00 1 N 2 N	e tric 1 1	f f	× 1.880 2 GH 16.485 3 GH	z 29.243 z -29.220	dBm	NCTION	FUNCTION WIDTH		FUNCTION VALUE	
3										
4 5 6										
7 8 9										
0										
9										
9 0 1 2										

	RF 50Ω A		SE	VSE:INT	ALIGNAUTO			6 AM May 15, 20
enter Freg ASS	10.015000	PN	0: Fast 😱 ain:Low	Trig: Free Run #Atten: 36 dB	Avg Ty	e: Log-Pwr	Ť	TYPE MWWW DET P P P P
dB/div R	ef Offset 9.5 dE ef 35.50 dBr						Mkr1 1.9 29.	10 2 GH 241 dB
og 5.6 Trace 1	P1.							
5.6								
.50								
4.5								
4.5	_						arr and arr arr arr arr arr arr arr arr arr ar	at and the second
4.5	and the state of t		Sector Sector	the second second				
4.5								
tart 30 MHz Res BW 1.0			#VBW	3.0 MHz		Swee	Stop: p 50.7ms	20.000 GI (40001 p
KR MODE TRC S		× 1.910 2 GHz	29.241 di	FUNCTION	FUNCTION WIDTH	F	UNCTION VALUE	
2 N 1 1 3	1	17.044 4 GHz	-29.858 dE	3m				
4								
6								
9								
0								

# GPRS1900 BAND(30M-20G)

#### Lowest Channel



# Middle Channel

RL		RF 50 Ω	AC	SENSE: JN	π	ALIGNAUTO		11:18:08	AM May 15, 2
ente ASS	r Frec	10.0150	100000 GHz PN	0: Fast 🖵 Trig nin:Low #Att	: Free Run en: 36 dB	Avg Type	: Log-Pwr	1	ACE 1 2 3 4 YPE MWMM DET P P P P
0 dB/d	liv R	ef Offset 9.6 ef_35.50 (					l	Mkr1 1.88 27.1	30 2 GI 215 dB
og T	race 1	A <u>1</u> s							
5.6									
.50									
.50									
4.5									
4.5 -	_							<u>^</u> 2	
4.5		a state of the second	New York Contraction of the	Statistics and the second		and the second secon	a standard and a stan		
4.5									
4.5									
	80 MHz 3W 1.0			#VBW 3.0	MHz		Sweep	Stop 2 50.7 ms (	0.000 G 40001 p
1 N 2 N	)e tric s 1 1		× 1.880 2 GHz 16.145 8 GHz	27.215 dBm -29.756 dBm	FUNCTION	FUNCTION WIDTH	FU	NCTION VALUE	
3									
4 5 6									
7									
7 8 9									
7 8 9 0 1 2									

RL	RF		AC	58	INSE: INT	AL	IGNAUTO		11:1	9:56 AM May 15, 20
enter ASS	Freq	10.01500		NO: Fast 😱 Gain:Low	Trig: Free R #Atten: 36 d	un B	Avg Type:	Log-Pwr		TYPE MWWWW DET P P P P
0 dB/div	Re	f Offset 9.5 f 35.50 dl								910 2 GH 6.836 dB
og 25.6	ace 1 F	213								_
15.6										
.50										
4.5										
4.5										
4.5	and the second			and the second			-	-		No. of Concession, Name
4.5										
4.5										
tart 30 Res B	0 MHz W 1.0	MHz		#VBV	V 3.0 MHz			Swe	Stop ep 50.7 m	o 20.000 GH s (40001 p
1 N	TRC SCI 1 f		× 1.910 2 GHz	26.836 d	FUNCI	ION FUNCT	ION WIDTH		FUNCTION VALUE	
2 N 3	1 f		16.105 9 GHz	-28.963 d	Bm					
4 5										
6 7										
9										
0										
2										

#### A7 BAND EDGE

#### GSM 850

#### Lowest Band Edge





#### **GPRS 850**

#### Lowest Band Edge





#### GSM 1900

#### Lowest Band Edge





#### **GPRS 1900**

#### Lowest Band Edge





# Report No.: STS1705024F01

# 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									
	S G.Lev	A == t ( -1D :)			PMea	Limit	Margin	Delevitu	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	ARpl	(dBm)	(dBm)	(dBm)	Polarity	
1648.10	-41.13	9.40	4.75	-4.65	-36.48	-13.00	-23.48	Н	
2472.58	-39.65	10.60	8.39	-2.21	-37.44	-13.00	-24.44	Н	
3296.75	-32.31	12.00	11.79	-0.21	-32.10	-13.00	-19.10	Н	
1648.10	-43.84	9.40	4.75	-4.65	-39.19	-13.00	-26.19	V	
2472.24	-44.34	10.60	8.39	-2.21	-42.13	-13.00	-29.13	V	
3296.45	-42.79	12.00	11.79	-0.21	-42.58	-13.00	-29.58	V	
	The Worst Test Results Channel 190/836.6 MHz								
	S G.Lev	G.Lev Ant(dBi)	Loss	ARpl	PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ani(ubi)	L055	Акрі	(dBm)	(dBm)	(dBm)	Folanty	
1672.95	-41.24	9.50	4.76	-4.74	-36.50	-13.00	-23.50	Н	
2509.81	-39.31	10.70	8.40	-2.30	-37.01	-13.00	-24.01	Н	
3346.42	-31.23	12.20	11.80	-0.40	-30.83	-13.00	-17.83	Н	
1673.04	-43.60	9.40	4.75	-4.65	-38.95	-13.00	-25.95	V	
2509.49	-44.32	10.60	8.39	-2.21	-42.11	-13.00	-29.11	V	
3346.09	-43.88	12.20	11.82	-0.38	-43.50	-13.00	-30.50	V	
	Th	e Worst Te	est Result	s Channe	l 251/848.8	8 MHz			
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	ABal	PMea	Limit	Margin	Polarity	
Frequency(MHZ)	(dBm)	Ani(ubi)	L055	ARpl	(dBm)	(dBm)	(dBm)	Folanty	
1697.29	-40.30	9.60	4.77	-4.83	-35.47	-13.00	-22.47	Н	
2546.25	-40.47	10.80	8.50	-2.30	-38.17	-13.00	-25.17	Н	
3395.02	-32.23	12.50	11.90	-0.60	-31.63	-13.00	-18.63	Н	
1697.63	-43.35	9.60	4.77	-4.83	-38.52	-13.00	-25.52	V	
2546.32	-44.51	10.80	8.50	-2.30	-42.21	-13.00	-29.21	V	
3395.21	-43.41	12.50	11.90	-0.60	-42.81	-13.00	-29.81	V	

37 of 41

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

GFR3 650. (50-90	/	G	PRS 850:	(20-0000)	MU-			
	Th	e Worst Te		. ,		) MU-		
			est Result				Margin	
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	ARpl	PMea		Margin	Polarity
	(dBm)				(dBm)	(dBm)	(dBm)	
1648.26	-41.61	9.40	4.75	-4.65	-36.96	-13.00	-23.96	Н
2472.55	-39.82	10.60	8.39	-2.21	-37.61	-13.00	-24.61	Н
3296.74	-31.48	12.00	11.79	-0.21	-31.27	-13.00	-18.27	Н
1648.34	-43.79	9.40	4.75	-4.65	-39.14	-13.00	-26.14	V
2472.39	-45.11	10.60	8.39	-2.21	-42.90	-13.00	-29.90	V
3296.73	-43.81	12.00	11.79	-0.21	-43.60	-13.00	-30.60	V
	Th	e Worst Te	est Result	s Channe	I 190/836.0	6 MHz		
	S G.Lev				PMea	Limit	Margin	Polarity
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	ARpl	(dBm)	(dBm)	(dBm)	
1673.01	-41.62	9.50	4.76	-4.74	-36.88	-13.00	-23.88	Н
2509.88	-40.46	10.70	8.40	-2.30	-38.16	-13.00	-25.16	Н
3346.33	-30.87	12.20	11.80	-0.40	-30.47	-13.00	-17.47	Н
1673.21	-44.44	9.40	4.75	-4.65	-39.79	-13.00	-26.79	V
2509.90	-44.42	10.60	8.39	-2.21	-42.21	-13.00	-29.21	V
3346.16	-43.51	12.20	11.82	-0.38	-43.13	-13.00	-30.13	V
	Th	e Worst Te	est Result	s Channe	l 251/848.8	3 MHz		
	S G.Lev				PMea	Limit	Margin	Deleritur
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	ARpl	(dBm)	(dBm)	(dBm)	Polarity
1697.43	-41.40	9.60	4.77	-4.83	-36.57	-13.00	-23.57	Н
2546.26	-40.37	10.80	8.50	-2.30	-38.07	-13.00	-25.07	Н
3394.86	-30.85	12.50	11.90	-0.60	-30.25	-13.00	-17.25	Н
1697.42	-43.40	9.60	4.77	-4.83	-38.57	-13.00	-25.57	V
2546.25	-44.99	10.80	8.50	-2.30	-42.69	-13.00	-29.69	V
3395.21	-43.20	12.50	11.90	-0.60	-42.60	-13.00	-29.60	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										
	S G.Lev				PMea	Limit	Margin	Deleritur		
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	ARpl	(dBm)	(dBm)	(dBm)	Polarity		
3700.13	-34.66	12.60	12.93	0.33	-34.99	-13.00	-21.99	Н		
5550.33	-35.30	13.10	17.11	4.01	-39.31	-13.00	-26.31	Н		
7400.93	-32.74	11.50	22.20	10.70	-43.44	-13.00	-30.44	Н		
3700.51	-35.68	12.60	12.93	0.33	-36.01	-13.00	-23.01	V		
5550.27	-34.60	13.10	17.11	4.01	-38.61	-13.00	-25.61	V		
7400.69	-31.79	11.50	22.20	10.70	-42.49	-13.00	-29.49	V		
	The	Worst Test	t Results	for Chann	el 661/188	0.0MHz				
	S G.Lev	Ant(dDi)		ADal	PMea	Limit	Margin	Delerity		
Frequency(MHz)	(dBm)	(dBm) Ant(dBi)	Loss	ARpl	(dBm)	(dBm)	(dBm)	Polarity		
3759.95	-33.97	12.60	12.93	0.33	-34.30	-13.00	-21.30	Н		
5639.94	-35.09	13.10	17.11	4.01	-39.10	-13.00	-26.10	Н		
7520.14	-33.49	11.50	22.20	10.70	-44.19	-13.00	-31.19	Н		
3759.87	-34.80	12.60	12.93	0.33	-35.13	-13.00	-22.13	V		
5640.22	-34.42	13.10	17.11	4.01	-38.43	-13.00	-25.43	V		
7520.21	-32.53	11.50	22.20	10.70	-43.23	-13.00	-30.23	V		
	The	Worst Test	t Results t	for Chann	el 810/190	9.8MHz				
Frequency(MHz)	S G.Lev	A pt(dDi)		ABal	PMea	Limit	Margin	Delority		
Frequency(IVIFIZ)	(dBm)	Ant(dBi)	Loss	ARpl	(dBm)	(dBm)	(dBm)	Polarity		
3819.26	-34.13	12.60	12.93	0.33	-34.46	-13.00	-21.46	Н		
5729.37	-34.58	13.10	17.11	4.01	-38.59	-13.00	-25.59	Н		
7639.20	-33.58	11.50	22.20	10.70	-44.28	-13.00	-31.28	Н		
3819.32	-34.98	12.60	12.93	0.33	-35.31	-13.00	-22.31	V		
5729.22	-35.22	13.10	17.11	4.01	-39.23	-13.00	-26.23	V		
7639.03	-33.13	11.50	22.20	10.70	-43.83	-13.00	-30.83	V		

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

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

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

	GPRS1900: (30-20000)MHz								
The Worst Test Results for Channel 512/1850.2MHz									
	S G.Lev		1		PMea	Limit	Margin	Delevitu	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	ARpl	(dBm)	(dBm)	(dBm)	Polarity	
3700.17	-33.46	12.60	12.93	0.33	-33.79	-13.00	-20.79	Н	
5550.48	-34.52	13.10	17.11	4.01	-38.53	-13.00	-25.53	Н	
7400.55	-32.56	11.50	22.20	10.70	-43.26	-13.00	-30.26	Н	
3700.51	-35.10	12.60	12.93	0.33	-35.43	-13.00	-22.43	V	
5550.56	-34.16	13.10	17.11	4.01	-38.17	-13.00	-25.17	V	
7400.86	-33.08	11.50	22.20	10.70	-43.78	-13.00	-30.78	V	
	The	Worst Test	Results for	or Channe	el 661/1880	0.0MHz			
	S G.Lev	Ant(dBi)	Loss	ARpl	PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ani(ubi)	L055	Акрі	(dBm)	(dBm)	(dBm)	Folanty	
3759.85	-33.45	12.60	12.93	0.33	-33.78	-13.00	-20.78	Н	
5640.16	-35.07	13.10	17.11	4.01	-39.08	-13.00	-26.08	Н	
7520.24	-33.26	11.50	22.20	10.70	-43.96	-13.00	-30.96	Н	
3760.02	-35.30	12.60	12.93	0.33	-35.63	-13.00	-22.63	V	
5640.32	-33.79	13.10	17.11	4.01	-37.80	-13.00	-24.80	V	
7520.15	-32.67	11.50	22.20	10.70	-43.37	-13.00	-30.37	V	
	The	Worst Test	Results for	or Channe	el 810/1909	9.8MHz			
	S				PMea	Limit	Margin		
Frequency(MHz)	G.Level	Ant(dBi)	Loss	ARpl	(dBm)	( <b>dBm</b> )	(dBm)	Polarity	
	(dBm)				(ubiii)		(ubiii)		
3819.39	-33.91	12.60	12.93	0.33	-34.24	-13.00	-21.24	Н	
5729.13	-35.10	13.10	17.11	4.01	-39.11	-13.00	-26.11	Н	
7639.04	-32.52	11.50	22.20	10.70	-43.22	-13.00	-30.22	Н	
3819.65	-35.97	12.60	12.93	0.33	-36.30	-13.00	-23.30	V	
5729.08	-33.89	13.10	17.11	4.01	-37.90	-13.00	-24.90	V	
7639.30	-32.03	11.50	22.20	10.70	-42.73	-13.00	-29.73	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

# Report No.: STS1705024F01

# APPENDIX B. PHOTOS OF TEST SETUP



\*