RADIO TEST REPORT

Report No: STS1704135F01

Issued for

Trackimo Inc

450 Seventh Av. Suite 1408 New York, NY 10123 USA

Product Name:	GPS Tracker
Brand Name:	N/A
Model Name:	Trkm010
Series Model:	N/A
FCC ID:	2AAI6-TRKM010
Test Standard:	FCC Part 22H and 24E

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TEST RESULT CERTIFICATION

Applicant's name:	Trackimo Inc
Address	450 Seventh Av. Suite 1408 New York, NY 10123 USA
Manufacture's Name	HUIZHOU QIAOWEI INTELLIGENT OVERSEAS CO.,LTD
Address:	B2 building, ELing phase 2,wuyi village, chenjiang steet, gaoxin dis- trict ,Huizhou city, Guangdong Province, China
Product name:	GPS Tracker
Brand name:	N/A
Model and/or type reference:	Trkm010
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 17 Apr. 2017 ~06 May. 2017

Date of Issue 09 May. 2017

Test Result..... Pass

Testing Engineer

:

Technical Manager :

Leo li (Leo li) Jullin (Tony liu)

Authorized Signatory :

(Vita Li)

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Revision History

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Rev.	Issue Date	Report NO.	Effect Page	Contents
00	09 May. 2017	STS1704135F01	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:

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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 24.232	er/Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP(Part 24)	PASS	
	Radialed Power			
2.1049			54.00	
22.917	Occupied Bandwidth	Reporting Only	PASS	
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	Antenna Terminals	< 43+10log10(P[Watts])	PASS	
24.238				
2.1053	Field Strength of Spurious			
22.917	Radiation	< 43+10log10(P[Watts])	PASS	
24.238	Raulation			
2.1051				
22.917	Band Edge	< 43+10log10(P[Watts])	PASS	
24.238				

1 INTRODUCTION

1.1 TEST FACTORY BZT Testing Technology Co., Ltd. Add. : Buliding 17,Xinghua Road Xingwei industrial Park Fuyong,Baoan District,Shenzhen,Guangdong,China FCC 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. \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:	GPS Tracker	
Hardware version number:	0.2	
Software version number:	V7	
FCC ID:	2AAI6-TRKM010	
	GSM/GPRS/EDGE:	
	850: 824.2 MHz ~ 848.8 MHz	
Tx Frequency:	1900: 1850.2 MHz ~ 1909.8MHz	
TX Frequency.	WCDMA:	
	Band V: 826.4 MHz ~ 846.6 MHz	
	Band II: 1852.4 MHz ~ 1907.6 MHz	
	GSM/GPRS/EDGE:	
	850: 869.2 MHz ~ 893.8 MHz	
Dy Fragueney	1900: 1930.2 MHz ~ 1989.8 MHz	
Rx Frequency:	WCDMA:	
	Band V: 871.4 MHz ~ 891.6 MHz	
	Band II: 1932.4 MHz ~ 1987.6 MHz	
Max RF Output Power:	GSM850:31.49dBm,PCS1900:28.23dBm GPRS850:31.46dBm,GPRS1900:28.21dBm EDGE850:31.42dBm,EDGE1900:28.14dBm WCDMABand V:22.43dBm,WCDMA Band II:22.11dBm	
Type of Emission:	GSM(850): 318KGXW; GSM(1900): 320KGXW GPRS(850): 315KGXW; GPRS(1900): 321KGXW EDGE(850): 321KG7W; EDGE(1900): 317KG7W WCDMA850: 4M69F9W WCDMA1900: 4M69F9W	
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	
	GSM 850: 0.23dBi ,PCS 1900: 0.23dBi	
Antenna gain:	WCDMA 850: 1.34dBi, WCDMA1900:1.34dBi	
Battery parameter:	Capacity: 600mAh, Rated Voltage: 3.7V	
GPRS/EDGE Class:	Multi-Class12	
Extreme Vol. Limits:	DC3.4 V to 4.2 V (Nominal DC3.7V)	
Extreme Temp. Tolerance:	-30℃ to +50℃	
•••	2 V and Low Voltage 3.4 V was declared by manufacturer, The 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 Meas. License Digital Systems with maximum output power.

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

Radiated emissions were investigated as following frequency range:

- 1. 30 MHz to 10th harmonic for GSM850 and WCDMA Band V.
- 2. 30 MHz to 10th harmonic for WCDMA Band IV.
- 3. 30 MHz to 10th harmonic for GSM1900 and WCDMA Band II.
- All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

	TEST MODES		
BAND	RADIATED TCS CONDUCTED TC		
GSM 850	GSM LINK GPRS/EDGE CLASS 12 LINK	GSM LINK GPRS/EDGE CLASS 12 LINK	
GSM 1900	GSM LINK GPRS/EDGE CLASS 12 LINK	GSM LINK GPRS/EDGE CLASS 12 LINK	
WCDMA BAND V	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	
WCDMA BAND II	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	

4 MEASUREMENT INSTRUMENTS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibra- tion	Calibrated Until
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

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

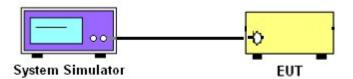
Test overview

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



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5.2 PEAK TO AVERAGE RATIO

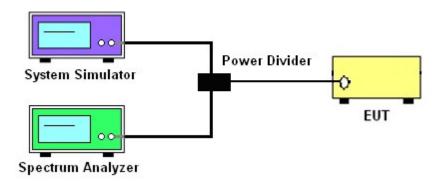
TEST OVERVIEW

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



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

 The testing follows FCC KDB 971168 D01 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-D-2010 Section 2.2.17.
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 = $PSC + CT = 10^{-10}$

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.

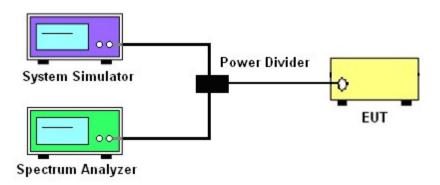
All modes of operation were investigated and the worst case configuration results are reported in this section.

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 $\pm 0.00025\%$ (± 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

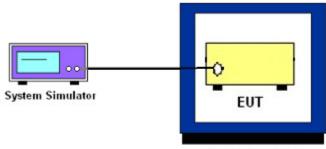
1. The testing follows FCC KDB 971168 D01 Section 9.0.

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.

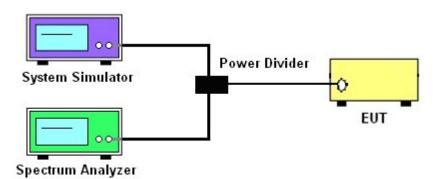
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= 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 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.

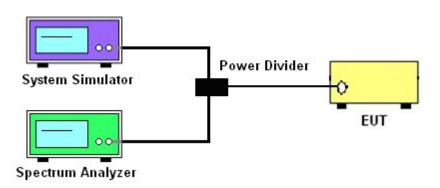
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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

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

= -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/TIA-603-D-2010 with the EUT transmitting into an integral antenna. Measurements on signalsoperating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized horn antennas. All measurements are performed as peak measurements while the EUT isoperating at maximum power and at the appropriate frequencies.

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

Test procedure

1. The testing 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 PMeas, t ypically dBW or dBm);

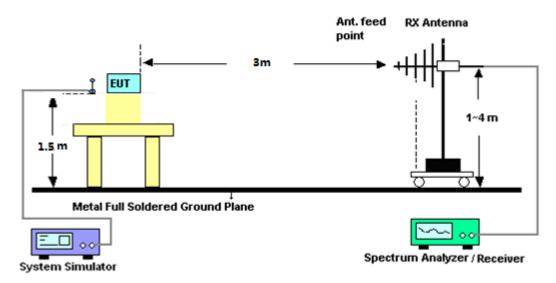
P.SG = measured transmitter output power or PSD, in dBm or dBW;

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

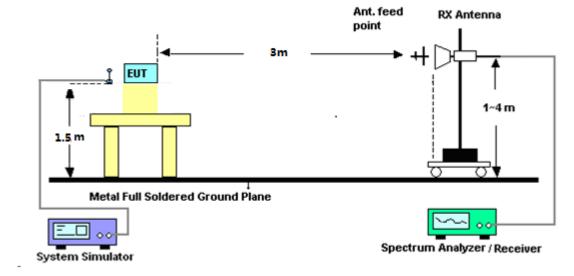
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



APPENDIX ATESTRESULT A1CONDUCTED OUTPUT POWER

GSM 850:

Mode	Frequency (MHz) AVG Powe	
GSM850	824.2	31.88
	836.6	31.88
	848.8	31.92
GPRS850	824.2	31.87
	836.6	31.86
	848.8	31.90
EDGE850 (1 Slot)	824.2	31.85
	836.6	31.85
	848.8	31.87

PCS 1900:

Mode	Frequency (MHz)	AVG Power
	1850.2	28.99
GSM1900	1880.0	28.38
	1909.8	28.16
GPRS1900	1850.2	28.93
	1880.0	28.36
	1909.8	28.15
EDGE1900 (1 Slot)	1850.2	28.93
	1880.0	28.35
	1909.8	28.14

UMTS BAND V

Mode	Frequency(MHz)	AVG Power
	826.4	23.05
WCDMA 850 RMC	836.6	22.14
RMC	846.6	22.36
	826.4	22.58
HSDPA Subtest 1	836.6	22.68
Sublest	846.6	22.91
	826.4	22.09
HSDPA Subtest 2	836.6	22.24
Sublest 2	846.6	22.44
	826.4	21.69
HSDPA Subtest 3	836.6	21.76
Sublest 5	846.6	22.02
	826.4	21.34
HSDPA Subtest 4	836.6	21.45
Subtest 4	846.6	21.55
	826.4	22.56
HSUPA Subtest 1	836.6	22.62
Sublesi	846.6	22.50
	826.4	21.57
HSUPA Subtest 2	836.6	21.68
Sublest 2	846.6	21.59
	826.4	21.43
HSUPA Subtest 3	836.6	21.25
5001651 3	846.6	21.15
	826.4	21.12
HSUPA Subtest 4	836.6	20.89
Sublest 4	846.6	20.69
	826.4	19.72
HSUPA Subtest 5	836.6	19.41
Sublest 3	846.6	19.25

UMTS BAND II

Mode	Frequency(MHz)	AVG Power
	1852.4	22.59
WCDMA 1900	1880	23.02
RMC	1907.6	22.14
	1852.4	22.58
HSDPA Subtest 1	1880	22.96
Oublest	1907.6	22.12
	1852.4	22.15
HSDPA Subtest 2	1880	22.48
Sublest 2	1907.6	21.64
	1852.4	21.68
HSDPA Subtest 3	1880	22.00
Sublest 5	1907.6	21.30
	1852.4	21.24
HSDPA Subtest 4	1880	21.58
Sublest 4	1907.6	20.95
	1852.4	22.56
HSUPA Subtest 1	1880	22.95
Sublest	1907.6	21.66
	1852.4	21.74
HSUPA Subtest 2	1880	22.01
Sublest 2	1907.6	20.75
	1852.4	21.70
HSUPA Subtest 3	1880	21.52
Sublest 5	1907.6	20.31
	1852.4	21.38
HSUPA Subtest 4	1880	21.05
Sublest 4	1907.6	19.94
	1852.4	19.96
HSUPA Subtest 5	1880	19.61
Sublest 3	1907.6	18.47

Report No.: STS1704135F01

A2 PEAK-TO-AVERAGE RADIO

PCS 1900:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1850.2	29.10	28.99	0.11
PCS1900	1880	28.50	28.38	0.12
	1909.8	28.27	28.16	0.11
	1850.2	29.05	28.93	0.12
GPRS1900	1880	28.47	28.36	0.11
	1909.8	28.25	28.15	0.10
EDGE1900	1850.2	29.04	28.93	0.11
	1880	28.45	28.35	0.10
(1 Slot)	1909.8	28.26	28.14	0.12

UMTS BAND II:

Mode	Frequency (MHz)	PEAK Power	AVG Power	PAR
	1852.4	25.20	22.59	2.61
WCDMA 1900 RMC	1880	25.88	23.02	2.86
	1907.6	25.01	22.14	2.87
	1852.4	25.47	22.58	2.89
HSDPA 1900	1880	25.48	22.96	2.52
	1907.6	24.72	22.12	2.60
	1852.4	25.43	22.56	2.87
HSUPA 1900	1880	25.47	22.95	2.52
	1907.6	24.51	21.66	2.85

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A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

	Radiated Power (ERP) for GSM 850 MHZ							
Mode	Frequency	S G.Level (dBm)	Cable loss	Gain (dBi)	PMeas E.R.P(dBm)	Polarization Of Max. ERP	Conclusion	
	824.2	23.29	0.44	6.5	29.35	Horizontal	Pass	
	824.2	25.19	0.44	6.5	31.25	Vertical	Pass	
	836.6	23.28	0.45	6.5	29.33	Horizontal	Pass	
GSM850	836.6	25.19	0.45	6.5	31.24	Vertical	Pass	
	848.8	23.47	0.46	6.5	29.51	Horizontal	Pass	
	848.8	25.31	0.46	6.5	31.35	Vertical	Pass	
	824.2	23.43	0.44	6.5	29.49	Horizontal	Pass	
	824.2	24.92	0.44	6.5	30.98	Vertical	Pass	
GPRS850	836.6	23.23	0.45	6.5	29.28	Horizontal	Pass	
GFK3030	836.6	24.93	0.45	6.5	30.98	Vertical	Pass	
	848.8	23.54	0.46	6.5	29.58	Horizontal	Pass	
	848.8	25.25	0.46	6.5	31.29	Vertical	Pass	
	824.2	23.44	0.44	6.5	29.50	Horizontal	Pass	
	824.2	25.15	0.44	6.5	31.21	Vertical	Pass	
EDGE850	836.6	23.21	0.45	6.5	29.26	Horizontal	Pass	
EDGE000	836.6	25.00	0.45	6.5	31.05	Vertical	Pass	
	848.8	23.55	0.46	6.5	29.59	Horizontal	Pass	
	848.8	25.26	0.46	6.5	31.30	Vertical	Pass	

Report No.: STS1704135F01

	Radiated Power (EIRP) for PCS 1900 MHZ						
				R	esult		
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP.	
	1850.2	18.69	2.41	10.35	26.63	Horizontal	Pass
	1850.2	20.4	2.41	10.35	28.34	Vertical	Pass
PCS1900	1880	18.14	2.42	10.35	26.07	Horizontal	Pass
FC31900	1880	19.91	2.42	10.35	27.84	Vertical	Pass
	1909.8	18.12	2.43	10.35	26.04	Horizontal	Pass
	1909.8	19.83	2.43	10.35	27.75	Vertical	Pass
	1850.2	18.61	2.41	10.35	26.55	Horizontal	Pass
	1850.2	20.12	2.41	10.35	28.06	Vertical	Pass
GPRS1900	1880	18.18	2.42	10.35	26.11	Horizontal	Pass
GPR31900	1880	19.63	2.42	10.35	27.56	Vertical	Pass
	1909.8	17.93	2.43	10.35	25.85	Horizontal	Pass
	1909.8	19.68	2.43	10.35	27.6	Vertical	Pass
	1850.2	18.55	2.41	10.35	26.49	Horizontal	Pass
	1850.2	20.24	2.41	10.35	28.18	Vertical	Pass
EDGE1900	1880	17.97	2.42	10.35	25.9	Horizontal	Pass
EDGE 1900	1880	19.88	2.42	10.35	27.81	Vertical	Pass
	1909.8	17.96	2.43	10.35	25.88	Horizontal	Pass
	1909.8	19.76	2.43	10.35	27.68	Vertical	Pass

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Radiated Power (ERP) for WCDMA Band V								
			Result					
Mode	Frequency	S G.Level	Cable	Gain	PMeas E.R.P	Polarization	Conclusion	
		(dBm)	loss	(dBi)	(dBm)	Of Max.ERP		
	826.4	14.69	0.44	6.5	20.75	Horizontal	Pass	
	826.4	16.47	0.44	6.5	22.53	Vertical	Pass	
Band V	836.6	13.78	0.45	6.5	19.83	Horizontal	Pass	
Danu V	836.6	15.62	0.45	6.5	21.67	Vertical	Pass	
	846.6	13.92	0.46	6.5	19.96	Horizontal	Pass	
	846.6	15.78	0.46	6.5	21.82	Vertical	Pass	

Radiated Power (EIRP) for WCDMA Band II							
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP	
	1852.4	12.28	2.41	10.35	20.22	Horizontal	Pass
	1852.4	14.07	2.41	10.35	22.01	Vertical	Pass
Band II	1880.0	12.7	2.42	10.35	20.63	Horizontal	Pass
Danu II	1880.0	14.61	2.42	10.35	22.54	Vertical	Pass
	1907.6	11.94	2.43	10.35	19.86	Horizontal	Pass
	1907.6	13.7	2.43	10.35	21.62	Vertical	Pass

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

Occupied Bandwidth for GSM 850 band						
Mode		Occupied Bandwidth	Emission Bandwidth			
Widde	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	824.2	246.34	314.9			
Middle Channel	836.6	246.09	315.0			
High Channel	848.8	250.16	322.8			
	Occupied Band	width for GPRS 850 band				
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
wode		(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	824.2	242.96	317.5			
Middle Channel	836.6	242.88	311.0			
High Channel	848.8	248.09	317.2			
	Occupied Bandw	vidth for EGPRS 850 band				
Mode		Occupied Bandwidth	Emission Bandwidth			
wode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)			
Low Channel	824.2	246.61	323.2			
Middle Channel	836.6	246.39	319.3			
High Channel	848.8	243.41	317.0			

Report No.: STS1704135F01

Occupied Bandwidth for GSM1900 band							
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth				
Mode	Frequency(initz)	(99%)(kHz)	(-26dBc)(kHz)				
Low Channel	1850.2	246.46	318.9				
Middle Channel	1880.0	245.72	317.0				
High Channel	1909.8	244.85	314.8				
	Occupied Bandwidth for GPRS 1900 band						
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth				
Mode		(99%)(kHz)	(-26dBc)(kHz)				
Low Channel	1850.2	245.85	316.8				
Middle Channel	1880.0	245.30	311.6				
High Channel	1909.8	244.36	318.2				
	Occupied Bandy	width for EDGE 1900 band					
Mode	Fraguanay (MHz)	Occupied Bandwidth	Emission Bandwidth				
wode	Frequency(MHz)	(99%)(kHz)	(-26dBc)(kHz)				
Low Channel	1850.2	243.25	306.6				
Middle Channel	1880.0	245.49	312.4				
High Channel	1909.8	245.38	318.1				

Occupied Bandwidth for UMTS band V						
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(IVIEZ)	(99%)(MHz)	(-26dBc)(MHz)			
Low Channel	826.4	4.1737	4.803			
Middle Channel	836.6	4.2957	5.511			
High Channel	846.6	4.2393	4.855			

Occupied Bandwidth for UMTS band II						
Mode	Fraguanay (MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(MHz)	(99%)(MHz)	(-26dBc)(MHz)			
Low Channel	1852.4	4.2887	5.172			
Middle Channel	1880	4.2007	4.840			
High Channel	1907.6	4.2364	4.949			

GSM 850 CH 128



GSM 850 CH 190





GSM 850 CH 251

GPRS 850 CH 128



GPRS 850 CH 190





GPRS 850 CH 251

EDGE 850 CH 128

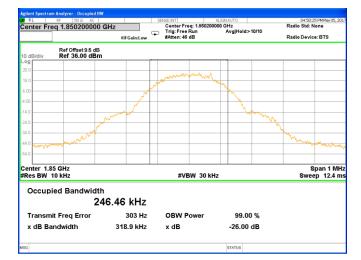


EDGE 850 CH 190





PCS 1900 CH 512



PCS 1900 CH 661



PCS 1900 CH 810



GPRS 1900 CH 512



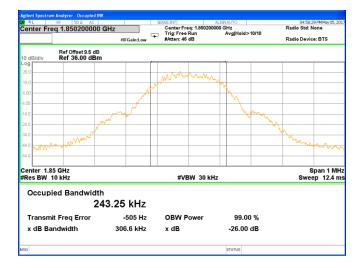
GPRS 1900 CH 661



GPRS 1900 CH 810

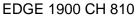


EDGE 1900 CH 512



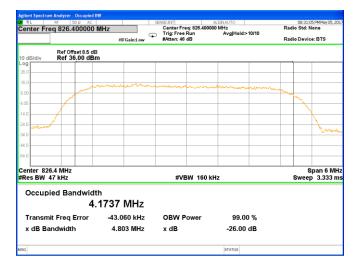
EDGE 1900 CH 661







UMTS BAND V CH 4132



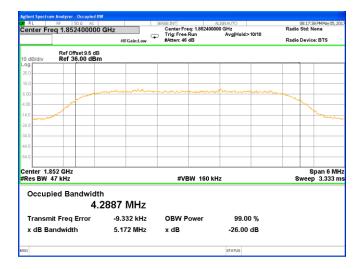
UMTS BAND V CH 4183

	RF 50 Ω AC			ALIGNAUTO	08:41:02 PMMay 05, 20
Center Fr	eq 836.600000	MHz	Center Freq: 836.6000 Trig: Free Run	00 MHz Avg Hold:>10/10	Radio Std: None
		#IFGain:Low	#Atten: 46 dB		Radio Device: BTS
10 dB/div	Ref Offset 8.5 dE Ref 36.00 dB				
26.0					
16.0					
6.00		and a start and a start of the	and the second s	and and the second second	and the second s
4.00					
4.0	and a start of the				
24.0					
34.0					
44.0					
54.0					
Center 83	86.6 MHz				Span 6 Mi
Res BW			#VBW 160 k	Hz	Sweep 3.333 r
0	ied Bandwid				
Occup		.2957 MHz			
T	nit Freq Error	29.531 kHz	OBW Power	99.00 %	
Transn					

UMTS BAND V CH 4233

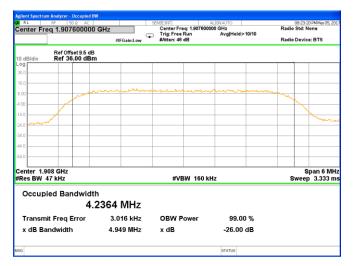
RL RF 50.0 AC		SENSE:INT	ALIGNAUTO	08:43:04 PMMay 05, 20
nter Freq 846.60000	MHz	Center Freq: 846.60000 Trig: Free Run #Atten: 46 dB		Radio Std: None Radio Device: BTS
Ref Offset 8.5 c	IB			
dB/div Ref 36.00 dE	3m			
.0				
i.0	an marker and and an and an and an and an and an	and man and and and and and and and and and a	an many	ma
0				
0				
0				
				m.m.
.0				
.0				
.0				
enter 846.6 MHz ResBW 47 kHz		#VBW 160 k	Hz	Span 6 Mi Sweep 3.333 r
Occupied Bandwid	ith			
4	.2393 MHz			
Transmit Freg Error	-25.350 kHz	OBW Power	99.00 %	
x dB Bandwidth	4.855 MHz	x dB	-26.00 dB	
3			STATUS	

UMTS BAND II CH 9262



UMTS BAND II CH 9400

gilent Spectrum Analyzer - Occupied BV	/			
RL RF 50 Ω AC		Center Freq: 1.880000 Trig: Free Run #Atten: 46 dB	ALIGNAUTO DOO GHz Avg Hold>10/10	08:21:24 PMMay 05, 20 Radio Std: None Radio Device: BTS
Ref Offset 9.5 dB 0 dB/div Ref 36.00 dBm				
16.0				
6.0	mound	rww.m.	mann	-
4.0				
1.0				
4.0				
enter 1.88 GHz Res BW 47 kHz		#VBW 160 k	Hz	Span 6 Mi Sweep 3.333 r
Occupied Bandwidth 4.2	2007 MHz			
Transmit Freq Error	3.491 kHz	OBW Power	99.00 %	
x dB Bandwidth	4.840 MHz	x dB	-26.00 dB	
G			STATUS	



UMTS BAND II CH 9538

Report No.: STS1704135F01

A5 FREQUENCY STABILITY

Normal Voltage = 3.7V. ; Battery End Point (BEP) = 3.4 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		16.39	0.020			
40	Normal Voltage	24.99	0.030			
30		12.05	0.014			
20		19.12	0.023			
10		18.99	0.023	2.5ppm	PASS	
0		29.59	0.035			
-10		13.50	0.016			
-20	Maximum Voltage BEP	35.51	0.042			
-30		30.88	0.037			
25		14.39	0.017			
25		17.46	0.021			

GPRS 850 Middle Channel/836.6MHz						
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result	
50		28.73	0.034	2.5ppm	PASS	
40		16.57	0.020			
30	Normal Voltage	13.49	0.016			
20		32.29	0.039			
10		31.01	0.037			
0		14.92	0.018			
-10		26.61	0.032			
-20		26.64	0.032			
-30		15.87	0.019			
25	Maximum Voltage	27.32	0.033			
25	BEP	22.31	0.027			

Report No.: STS1704135F01

	EDGE 850 Middle Channel/836.6MHz										
Temperature (°C)	Voltage (Volt)	(Volt) (Hz) (ppm)		Limit	Result						
50		33.48	0.040								
40		20.25	0.024								
30		31.34	0.037	 2.5ppm							
20		19.53	0.023								
10	Normal Voltage	36.47	0.044								
0		14.48	0.017		PASS						
-10		30.56	0.037								
-20		17.41	0.021								
-30		17.53	0.021								
25	Maximum Voltage	30.10	0.036]							
25	BEP	15.67	0.019								

Report No.: STS1704135F01

	GSM ²	1900 Middle Cha	nnel/1880MHz		
Temperature (°C)	ture Voltage Freq. (Volt) (H		Freq. Dev. (ppm)	Limit	Result
50		30.56	0.016		
40		11.73	0.006		
30		16.08	0.009		
20	Normal Voltage	30.63	0.016		
10		33.91	0.018	Within	
0		22.33	0.012	Authorized	PASS
-10		15.87	0.008	Band	
-20	1 [28.24	0.015		
-30		22.79	0.012		
25	Maximum Voltage	21.43	0.011		
25	BEP	33.09	0.018		

	GPRS	1900 Middle Cha	annel/1880MHz		
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result
50		20.48	0.011		
40		31.30	0.017		
30	Normal Voltage	27.21	0.014		
20		33.00	0.018	_ Within Authorized Band	
10		25.93	0.014		
0		15.99	0.009		PASS
-10		22.73	0.012		
-20		26.61	0.014		
-30		14.70	0.008		
25	Maximum Voltage	22.04	0.012		
25	BEP	24.43	0.013		

Report No.: STS1704135F01

	EDGE 1900 Middle Channel/1880MHz											
Temperature (°C)	Voltage (Volt)											
50		33.80	0.018									
40		29.35	0.016									
30		26.16	0.014									
20	Normal Voltage	31.20	0.017									
10		12.52	0.007	Within								
0		32.91	0.018	Authorized	PASS							
-10		31.32	0.017	Band								
-20		31.90	0.017									
-30		20.52	0.011									
25	Maximum Voltage	25.42	0.014									
25	BEP	31.73	0.017									

Report No.: STS1704135F01

	WCDN	IA V Middle Cha	nnel/836.6MHz		WCDMA V Middle Channel/836.6MHz											
Temperature (°C)	VoltageFreq. Dev.Freq. Dev.(Volt)(Hz)(ppm)			Limit	Result											
50		20.16	0.024													
40		36.13	0.043													
30		31.39	0.038													
20	Normal Voltage	16.56	0.020	2.5ppm	PASS											
10		18.08	0.022													
0		15.75	0.019													
-10		35.04	0.042													
-20		32.79	0.039													
-30		34.21	0.041													
25	Maximum Voltage	35.76	0.043													
25	BEP	34.18	0.041													

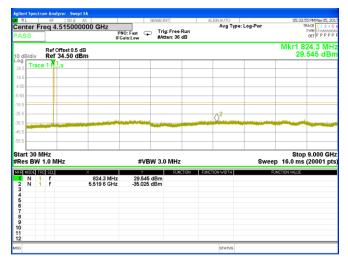
1. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

	WCDMA II Middle Channel/1880MHz												
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result								
50		27.77	0.015										
40		19.62	0.010										
30		33.77	0.018										
20		19.38	0.010	Within									
10	Normal Voltage	13.49	0.007										
0		24.67	0.013	Authorized	PASS								
-10		22.95	0.012	Band									
-20] [18.06	0.010										
-30		18.56	0.010										
25	Maximum Voltage	20.56	0.011										
25	BEP	30.14	0.016										

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

A6 SPURIOUS EMISSIONS AT ANTENNA TERMINALS GSM 850 BAND

Lowest Channel



Middle Channel

RL	RF 50 Ω .		SENSE:I	NT	ALIGNAUTO			5 PM May 05, 2
enter Fre ASS	q 4.515000	PN	0: Fast 🖵 Tri ain:Low #At	g: Free Run ten: 36 dB	Аvg Туре	: Log-Pwr		TYPE MWMMM DET P P P P
) dB/div	Ref Offset 8.5 d Ref_34.50 dB						Mkr1 8 29.	36.9 MI 677 dB
Trace	1 s							
4.5								
50								
50								
15								
						^ 2		
5					an bi- to the shift of the			
5								
.5								
tart 30 MH Res BW 1.			#VBW 3.0	MHz		Swee	Stop p 16.0 ms	9.000 G (20001 j
KR MODE TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FL.	INCTION VALUE	
1 N 1 2 N 1	f f	836.9 MHz 6.990 7 GHz	29.677 dBm -35.351 dBm					
3								
5								
5								
8								
0								

enter Freq 4.51 ASS	PN	SENSE: JNT D: Fast Trig: Fre in:Low #Atten: 3	e Run	g Type: Log-Pwr	05:38:56 PMMay05, 20 TRACE 1 2 3 4 5 TYPE MIMMANN DET P P P P
Ref Offse 0 dB/div Ref 34.5					Mkr1 849.0 MH 29.443 dBr
og Trace 1 F1s					
14.5					
4.50					
5.50					
15.5					
5.5					Q^2
5.5					
6.5					
tart 30 MHz Res BW 1.0 MHz		#VBW 3.0 MH	łz	Swee	Stop 9.000 Gi 5 16.0 ms (20001 p
KR MODE TED SOL 1 N 1 f 2 N 1 f 3 4	× 849.0 MHz 7.466 1 GHz	29.443 dBm -34.993 dBm	JNCTION FUNCTION WID	DTH FU	NCTION VALUE
5 6 7 8					
9 0 1					

GPRS 850 BAND

Lowest Channel

gilent Spectr	um Analyzer - S							
		Ω AC 000000 GHz P IF4	NO: Ford	E:INT Trig: Free Run #Atten: 36 dB	ALIGNAUTO Avg Type:	Log-Pwr	т	0 PM May 05, 2 RACE 1 2 3 4 TVPE MWWW DET P P P P
0 dB/div	Ref Offset 8 Ref_34.50						Mkr1 8 29.	24.3 MI 601 dB
Mag Trace	e 1 F Ls							
50								
50								
.5						A2		
5			And State State State		and the state of the second second	0		
i.5								
art 30 N tes BW	1Hz 1.0 MHz		#VBW :	3.0 MHz		Swee	Stop 20 16.0 ms	9.000 G (20001 p
R MODE TH	C SCL	× 824.3 MHz	29.601 dB	FUNCTION	FUNCTION WIDTH	F	FUNCTION VALUE	
2 N 1 3	f	6.425 6 GHz	-34.742 dB	m				
4 5 7								
3								
2					STATUS			

Middle Channel

RL RF	50 g AC	SENSE: II	1T	ALIGNAUTO		05:25:43 PMN	Aay 05, 20
enter Freq 4.51 ASS	PN	0: Fast 🖵 Trig ain:Low #At	g: Free Run ten: 36 dB	Avg Typ	: Log-Pwr	TRACE	2345 PPPP
Ref Offso dB/div Ref 34.	et 8.5 dB 50 dBm					Mkr1 836.9 29.760	
Trace 1 F1.s							
4.6							
50							
50							
.5							
.5				0	2		
15	and the second	and the second division of the second divisio	-	a de la composición de Ma			
i.5							
i.5							
tart 30 MHz Res BW 1.0 MHz		#VBW 3.0	MHz		Swee	Stop 9.0 p 16.0 ms (200	00 G 001 p
RE MODE TRO SCL 1 N 1 f 2 N 1 f 3	836.9 MHz 6.039 9 GHz	29.760 dBm -34.726 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
4 5 5 7							
3							

		AC	SENSE: II	VT	ALIGNAUTO		05:29:41 PM May
ter Fr S	eq 4.51500	PN	0: Fast 🖵 Tris ain:Low #At	g: Free Run ten: 36 dB	Avg Type	: Log-Pwr	TYPE MY DET P F
//div	Ref Offset 8.6 Ref 34.50 (Mkr1 849.0 29.507
Trace	1 F 1s						
		And the second se	No. of Concession, Name	Statute State	and the second second	a di Mangalamini	and the second division of the second divisio
30 M BW 1	Hz 1.0 MHz		#VBW 3.0	MHz		Swe	Stop 9.000 ep 16.0 ms (2000
IODE TRI	C SCL	×	29.507 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE
N 1 N 1	ł	849.0 MHz 5.546 6 GHz	-34.723 dBm				

EDGE 850 BAND

Lowest Channel

	n Analyzer - Swej								
Center Fre	RF 50 Ω 9 q 4.51500	0000 GHz	SE NO: Fast ⊊ Gain:Low	Trig: Free Ru #Atten: 36 dB	n	IGNAUTO Avg Type:	Log-Pwr	T	9 PM May 05, 20 RACE 1 2 3 4 1 TYPE MWWWW DET P P P P F
10 dB/div	Ref Offset 8.5 Ref 34.50 d	dB	Ganteow	in action of the					24.3 MH 618 dB
24.5 Trace	1 P.Ls								
4.50									
15.5									
5.5 5.5								<u> </u>	2
5.5									
tart 30 Mi Res BW 1			#VBW	/ 3.0 MHz			Swee	Stop p 16.0 ms	9.000 G (20001 p
1 N 1 2 N 1 3 4	SCL f f	× 824.3 MHz 7.995 4 GHz	29.618 d -36.755 d		IN FUNC	TION WIDTH	Ē	UNCTION VALUE	
4 5 7 8 9									
1									

Middle Channel

	AC 0000 GHz	SENSE:1		ALIGNAUTO Avg Typ	e: Log-Pwr		48 PMMay 05, 2 IRACE 1 2 3 4 TYPE Minimum
ASS	PN		g: Free Run ten: 36 dB				DET P P P P
Ref Offset 8.5 dB/div Ref 34.50 d	dB Bm						36.9 MI .760 dB
Trace 1 F1s							
1.5							
50							
50							
1.5							
i.5						A2	
1.5		and the same of th		and a second	a share a share	Ω	-
5.5							
1.5							
art 30 MHz Res BW 1.0 MHz		#VBW 3.0) MHz		Swee	Stop p 16.0 ms	9.000 G (20001 p
R MODE TRO SOL	× 836,9 MHz	29.760 dBm	FUNCTION	FUNCTION WIDTH	1	UNCTION VALUE	
N 1 f 2 N 1 f 3	7.457 2 GHz	-35.285 dBm					
3							
2						_	

Agilent Spectr	um Analyzer - Swej RF 50 Ω		SENSE:	њ.r.	ALIGN	NITO		05-28-0	4 PM May 05, 201
	req 4.51500	0000 GHz	HO: FaetTr	ig: Free Run tten: 36 dB		Avg Type: I	.og-Pwr	T	ACE 12345 TYPE MUMMUM DET P P P P P
10 dB/div	Ref Offset 8.5 Ref 34.50 d	dB Bm						Mkr1 8- 29.	49.0 MH: 496 dBn
24.6 Trac	e 1 F <mark>L1</mark> s								
4.50									
-5.50									
35.5			Lucial designed			barra Balanca a			
45.5									
-55.5								01	0.000 011
#Res BW	1.0 MHz		#VBW 3.					0 16.0 ms	9.000 GH (20001 pts
MODE 10 1 N 1 2 N 1 3 4	f f	× 849.0 MHz 6.945 9 GHz	29.496 dBm -31.771 dBm	FUNCTION	FUNCTION	WIDTH	FU	NCTION VALUE	
2 N 1 3 4 5 6 7 8 9 10									
11									
12 //sg					4	STATUS			

Report No.: STS1704135F01

GSM1900 BAND(30M-20G)

Lowest Channel

	Analyzer - Swep							
		AC 0000 GHz	SENS	EINT	ALIGNAUTO Avg Type	Log-Pwr		DD PM May 05, 2
	ų 10.0150u	PN	10: Fast 🖵 T iain:Low #	'rig: Free Run Atten: 36 dB		Login		DET P P P F
dB/div	Ref Offset 9.5 o Ref 35.50 dB						Mkr1 1.8 26	50 3 G .676 dE
g Trace 1	Al_s							
50								
50	_							
5								
5		-						
.5								
art 30 MH: es BW 1.0			#VBW 3	.0 MHz		Swe	Stop eep 50.7 ms	20.000 G (40001 j
R MODE TRC S		×	26.676 dBr	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
2 N 1	f	1.850 3 GHz 16.565 2 GHz	-27.147 dBn					

Middle Channel

RL		AC 000000 GHz	SENSE:1		ALIGNAUTO Avg Type	: Log-Pwr		00 PM May 05, 2 IRACE 1 2 3 4
ASS]	PN IFG	IO:Fast 🖵 Tri ain:Low #At	g: Free Run ten: 36 dB			Mind 4.4	DET P P P P
0 dB/div	Ref Offset 9. Ref 35.50						Mkr1 1.8 26	.865 dB
5.6 Trace	1 F 1s							
5.6	_							
50	-							
50	-							
1.5							.2	
4.5								
1.5	No. of Concession, Name							1
1.5								
1.5								
art 30 M Res BW 1			#VBW 3.0	MHz		Swee	Stop p 50.7 ms	20.000 G (40001 p
R MODE TRI		× 1.880 2 GHz	26.865 dBm	FUNCTION	FUNCTION WIDTH	F	UNCTION VALUE	
N 1 2 N 1 3	f	16.545 2 GHz	-28.917 dBm					
1								
5								
7								
8 9								
1								
2					STATUS			

	n Analyzer - Swept							
Center Fre	RF 50 Ω 9 q 10.01500	0000 GHz	IO: Fast Tr ain:Low #A	ig: Free Run tten: 36 dB	ALIGNAUTO Avg Type	-	TH I	4 PMMay 05, 2017 NACE 1 2 3 4 5 6 TYPE MINIMUM DET P P P P P F
10 dB/div	Ref Offset 9.5 d Ref_35.50 dB					ſ	/kr1 1.9 26.	09 7 GHz 952 dBm
25.5 Trace	1 F <mark>V</mark> 13							
15.6 5.50								
-4.50								
-24.5				1			2^2	
-34.5								
-54.5								
Start 30 MH #Res BW 1.			#VBW 3.	0 MHz		Sweep	Stop 2 50.7 ms	0.000 GHz (40001 pts)
1 N 1 2 N 1 3 4	f f	× 1.909 7 GHz 16.485 3 GHz	26.952 dBm -28.688 dBm		FUNCTION WIDTH	FUN	ICTION VALUE	
2 N 1 3 4 5 6 7 8 9 10								
9 10 11 12								
MSG					STATUS			

Report No.: STS1704135F01

GPRS1900 BAND(30M-20G)

Lowest Channel

	rum Analyzer - S							
RL		Ω AC	SENSE:INT		ALIGNAUTO			8 PM May 05, 2
enter F ASS	req 10.01		NO: Fast 🖵 Trig: Fre Gain:Low #Atten: 3	e Run 36 dB	Avg Type:	Log-Pwr		TYPE MUMM DET P P P P
0 dB/div	Ref Offset						Mkr1 1.8 26.	50 3 GI 748 dB
Trac	e 1 Als							
5.6								
50								
4.5							2	
1.5						-	and the second	
1.5								
4.5								
tart 30 M Res BW	MHZ 1.0 MHZ		#VBW 3.0 MH	łz		Swe	Stop 2 ep 50.7 ms	20.000 G (40001 p
(Rimode Ti 1 N 1	f	× 1.850 3 GHz	26.748 dBm	UNCTION	FUNCTION WIDTH		FUNCTION VALUE	
2 N 1 3	f	16.485 3 GHz	-28.744 dBm					
4 5 7								
7 3 9								
0								
1								
a					STATUS			

Middle Channel

enter Freq 10.01	PN		ree Run : 36 dB	GNAUTO Avg Type: Log-Pwr	05:03:11 PMMay 05, 2 TRACE 1 2 3 4 TYPE MWWW DET P P P P
Ref Offset	19.5 dB	inite of			Mkr1 1.880 2 GF 26.950 dB
5.6 Trace 1 121s					
5.6					
.50					
50					
4.5					0.2
4.5					2 ²
4.5	and the second se	Sector Sector Sector			
4.5					
4.5					
tart 30 MHz Res BW 1.0 MHz		#VBW 3.0 N	IHz	s	Stop 20.000 G weep 50.7 ms (40001 p
77 MODE TRC SCU 1 N 1 f 2 N 1 f	× 1.880 2 GHz 16.525 2 GHz	26.950 dBm -27.735 dBm	FUNCTION FUNCTI	ION WIDTH	FUNCTION VALUE
3	10.020 2 0112	-27.700 dbm			
5					
6					
R					
8 9 0					

		alyzer - Swept								
Center	RF Frea 1		0000 GHz	58	VSE:INT		ALIGNAUTO Avg Typ	: Log-Pwr		03 PM May 05, 201 TRACE 1 2 3 4 5
PASS			Р	'NO: Fast 😱 Gain:Low	Trig: Free #Atten: 36	dB				DET P P P P P
10 dB/div		Offset 9.5 d 35.50 dB								09 7 GH: .016 dBm
	ace 1 F	1,								
15.5										
5.50										
-4.50										
-14.5									^2	
-24.5			Leader La						2	-
-34.5										
-54.5										
Start 30									0 1	
#Res BV		ИHz		#VBW	3.0 MHz			Swee	ep 50.7 ms	20.000 GH: (40001 pts
MKR MODE	TRC SCL		×	Y		CTION FUN	CTION WIDTH		FUNCTION VALUE	
1 N 2 N	1 7		1.909 7 GHz 17.064 4 GHz	27.016 de -28.907 de	3m 3m					
2 N 3 4 5 6 7 8 9										
5										
7										
9										
11 12										
VISG							STATUS			

Report No.: STS1704135F01

EDGE 1900 BAND(30M-20G)

Lowest Channel

	um Analyzer - S							
RL		Ω AC	SENSE: IN		ALIGNAUTO Avg Type:	Lan Dum		H PM May 05, 2
enter F	req 10.015		NO: Fast Trig: Gain:Low #Atte	Free Run n: 36 dB	Avg type:	Log-Pwr		DET P P P P
0 dB/div	Ref Offset 9 Ref 35.50						Mkr1 1.8 26.	50 3 G 672 dE
Trac	e 1 Als							
5.6								
.50								
4.5							A2	
4.5				-			\bigcirc	لتغلقون
4.5								
4.5								
tart 30 M Res BW	/IHz 1.0 MHz		#VBW 3.0	MHz		Swee	Stop 2 p 50.7 ms	20.000 G (40001 p
KRIMODEITE	RC SCL	× 1.850 3 GHz	¥ 26.672 dBm	FUNCTION	FUNCTION WIDTH	f	UNCTION VALUE	
2 N 1 3	f	16.245 6 GHz	-29.148 dBm					
4 5 6 7								
8 9								
0 1 2								
2					STATUS			

Middle Channel

	50 Ω AC	SENSE:INT	ALIGNAUTO		05:04:59 PMMay 05, 2
enter Freq 10.0	PN	0: Fast 🖵 Trig: Fr ain:Low #Atten:	ree Run	ype: Log-Pwr	TYPE MWWW DET P P P P
	et 9.5 dB 50 dBm			Mkr1	1.880 2 GI 26.955 dB
5.6 Trace 1 Als					
5.6					
50					
60					
4.5				2	
1.5					ليالعني وليار
1.5					
1.5					
tart 30 MHz Res BW 1.0 MHz		#VBW 3.0 M	Hz	Sweep 50.	Stop 20.000 G 7 ms (40001 p
R MODE TRC SCL	× 1.880 2 GHz	26.955 dBm	FUNCTION FUNCTION WIDTH	FUNCTION	VALUE
N 1 f 2 N 1 f 3	16.425 4 GHz	-28.040 dBm			
1					
5					
8 9 0					
1					
9			STATUS		

Agilent Spectrum Analyzer - Swept SA			
Center Freq 10.015000000 GHz	SENSE:INT	ALIGNAUTO Avg Type: L	05:06:41 PMMay 05, 2017 og-Pwr TRACE 1 2 3 4 5 6
24.00	PNO: Fast Trig: Free F Gain:Low #Atten: 36 d	Run iB	DET P P P P F
Ref Offset 9.5 dB 10 dB/div Ref 35.50 dBm			Mkr1 1.910 2 GHz 27.029 dBm
Log 25.5 Trace 1 F 13			
20.0			
5.50			
-4.50			
-14.5			
-24.5			aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
-34.5	and the second		
-44.5			
-54.5			
Start 30 MHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Stop 20.000 GHz Sweep 50.7 ms (40001 pts)
MKR MODE TRC SCL ×	Y FUNC	TION FUNCTION WIDTH	FUNCTION VALUE
N 1 f 1910 2 GHz 2 N 1 f 16.486 3 GHz 4 5 6 7 7 8 9 10	27.029 dBm -27.724 dBm		
4			
6			
8			
9			
11			
MSG		STATUS	

Report No.: STS1704135F01

WCDMA Band V (RMC 12.2Kbps)

Lowest Channel

gilent Spe RL		lyzer - Swept			a solet an ord		101.01.00			
	RF		000 GHz		NSE:INT	A	Avg Type	Log-Pwr		IS PM May 05, 2 RACE
ASS	rieq.		P	NO: Fast 😱	Trig: Free R #Atten: 36 d	un				DET P P P P
A33			IF	Gain:Low	#Atten: 36 d	в				
0 dB/div		Offset 8.5 d							Mkr1 8 20.	25.2 MH 913 dB
.og 20.9 Tra	ace 1	1,								
20.9										
0.9										
910										
1.09			_							
9.1								•		
9.1								\Diamond		
9.1	-	a second states								and the state of the
9.1										
8.1										
tart 30	MHz								Ston	9.000 G
	N 1.0 I	/Hz		#VBV	/ 3.0 MHz			Swee	p 16.0 ms	
KR MODE	TRC SCL		× 825.2 MHz	20.913 d	RUNG	ION FUNC	TION WIDTH	f	UNCTION VALUE	
2 N	1 f		6.443 6 GHz	-37.327 d						
3 4										
5 6 7										
7										
8 9										
9										
0										
9 0 1 2										

Middle Channel

ilent Spectrum Analyzer - S RL RF 50	wept SA Ω AC	SENSE:INT	ALIGNAUTO		:41:34 PMMay 05, 2
enter Freq 4.5150 ASS	PN	D: Fast Trig: F in:Low #Atten	ree Run	se: Log-Pwr	TRACE
Ref Offset	3.5 dB 0 dBm				837.7 Mi 20.592 dB
0.6 Trace 1 11s					
0.6					
90					_
41					_
3.4					
0.4			a^2		
1.4 Martineed Martineed		and the second se			
3.4					
2.4					
tart 30 MHz Res BW 1.0 MHz		#VBW 3.0 M	Hz	Si Sweep 16.0 r	top 9.000 G ns (20001 p
GEMODE TROSCL 1 N 1 f 2 N 1 f	× 837.7 MHz	20.592 dBm	FUNCTION FUNCTION WIDTH	FUNCTION VAL	UE
3	5.510 7 GHz	-37.208 dBm			
5					
5					
, B D					
0					
2					
3			STATUS		

RL	rum Analyzer - S RF 50	Q AC	SENSE:	N/T	ALIGNAUTO		08:42:26 PM May 0
		000000 GHz			ALIGNAUTO Avg Type	: Log-Pwr	TRACE 12
ASS		P	NO: Fast 🖵 Tri Gain:Low #At	g:FreeRun tten:36 dB			DET P P
dB/div	Ref Offset 8 Ref 31.00						Mkr1 845.8 I 20.999 c
g Tree	e 1 11						
.0							
10							
.0					-	-	
0							
0	والمرجعة المحجمة	And the second	and the second second	and the second second	deline de la contracta de		and design of the second s
.0							
.0							
art 30 M es BW	MHZ 1.0 MHZ		#VBW 3.0	0 MHz		Swee	Stop 9.000 p 16.0 ms (20001
R MODE T	RC SCL	×	Y	FUNCTION	FUNCTION WIDTH	F	UNCTION VALUE
N 1	1	845.8 MHz 5.546 6 GHz	20.999 dBm -34.655 dBm				
		0.040 0 0112	-34.000 uBm				
N 1							

WCDMA Band II (RMC 12.2Kbps)(30M-20G)

Lowest Channel

gilent Spectrun	n Analyzer - Sw	vept SA						
RL		2 AC	SEMSE:	INT	ALIGNAUTO		08:18:	13 PM May 05, 2
enter Fre	q 10.015		NO: Fast 🖵 Tri Sain:Low #A	g: Free Run tten: 36 dB	Ауд Туре	Log-Pwr	т	RACE 234 TYPE MWWW DET P P P P
0 dB/div	Ref Offset 9. Ref 28.81						Mkr1 1.8 18.	51 8 G 814 dE
8.8 Trace	1 N _1s							
81								
.2								
1.2							Q^2	
.2 .2								
.2								
1.2								
art 30 Mi Res BW 1			#VBW 3.	0 MHz		Swe	Stop: ep 50.7ms	20.000 G (40001 j
R MODE TRC	SCL	× 1.851 8 GHz	18.814 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
2 N 1 3	f	16.225 7 GHz	-28.968 dBm					
4 5 7								
7 8 9								
0								
2								
a					STATUS			

Middle Channel

gilent Spectrum Analyzer - S	wept SA	SENSE: JN	r]	ALIGNAUTO		08:22:00 PMMay 05, 2
enter Freq 10.01 ASS	PN	D: Fast Trig. Jin:Low #Atte	Free Run en: 36 dB	Avg Type:	Log-Pwr	TRACE 1234 TYPE MIMMM DET P P P P
Ref Offset					MI	r1 1.879 2 GI 19.027 dB
og 19.0 Trace 1 121s						
.03						
.97						
1.0						2
1.0					9	
O Designation of the local division of the l	and the second data in the secon	No. of Lot of Lo				
1.0						
1.0						
tart 30 MHz Res BW 1.0 MHz		#VBW 3.0	MHz		Sweep 5	Stop 20.000 G 0.7 ms (40001 p
FRIMODE TRO SCL IN 1 F 2 N 1 F	× 1.879 2 GHz 16.405 4 GHz	19.027 dBm -26.118 dBm	FUNCTION	FUNCTION WIDTH	FUNCTI	IN VALUE
3	16.405 4 GHz	-26.118 dBm				
4 5 6 7						
7						
9						
0						
2				STATUS		

Agilent Spect	rum Analyzer - Swep							
	RF 50 Ω Teq 10.01500	00000 GHz	SENSE:IN 0: Fast Trig	: Free Run en: 36 dB	ALIGNAUTO Avg Type	: Log-Pwr		55 PMMay 05, 201 RACE 1 2 3 4 5 TYPE MWWWWW DET P P P P P
10 dB/div	Ref Offset 9.5 Ref 28.84 dl						Mkr1 1.9 18	06 7 GH2 839 dBm
18.8 Trac	e 1 F <mark>2.1</mark> 3							
8.84 -1.16								
-11.2							-	
-21.2							Û.	
-41.2								
-61.2								
Start 30 M #Res BW			#VBW 3.0	MHz		Swee	Stop p 50.7 ms	20.000 GH: (40001 pts
MKR MODE T	RC SCL	× 1.906 7 GHz	18.839 dBm	FUNCTION	FUNCTION WIDTH	FL	JNCTION VALUE	
1 N 1 2 N 1 3	ŕ	16.685 0 GHz	-29.261 dBm					
2 N 1 3 4 5 6 7 8 9 10								
7 8								
11								
12 MSG					STATUS			

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



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

GPRS 850





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



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

EDGE 850





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

GSM 1900





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

GPRS 1900





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

EDGE 1900

Lowest Band Edge



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



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

Report No.: STS1704135F01

WCDMA Band VRMC 12.2Kbps

Lowest Band Edge



RL RF 50.Ω AC		SENSE: INT	ALIGNAUTO	08:43:30 PM May 05, 2
enter Freq 849.000000 Mi ASS	1z PNO: Wide IFGain:Low	Trig: Free Run #Atten: 36 dB	Avg Type: Log-Pwr	TRACE 1234 TYPE A WAYA DET A A A A Mkr2 849.000 M
Ref Offset 8.5 dB				-19.36 dE
Trace 1 Pass				
.58	m	m		
12		\sim		
4		2		
		I X		
4				
.4		<u> </u>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
4				
.4				
.4				
.4				
enter 849.000 MHz Res BW 47 kHz	#3/1	BW 160 kHz		Span 5.000 M Sweep 2.80 ms (601 p
Res BW 47 KHZ	#V	5W 100 KHZ	STATUS	sweep 2.80 ms (601 p

Report No.: STS1704135F01

WCDMA Band IIRMC 12.2Kbps

Lowest Band Edge



RL RF 50 Ω AC Center Freq 1.910000000 Gi	Hz	ISE:JNT	ALIGNAUTO Avg Type: Log-Pw	r T	22 PM May 05, 20 RACE 1 2 3 4 5 TYPE A WANNA
PASS	PNO: Wide 😱 IFGain:Low	Trig: Free Run #Atten: 36 dB			DET A A A A A
Ref Offset 9.5 dB IO dB/div Ref 10.57 dBm				Mkr2 1.910 -1	000 GH 9.85 dBr
Trace 1 Pass					
570	m				
3.43		\sim			
		2			
19.4					
29.4		~~~	mann		m
39.4					
19.4					
59.4					
39.4					
02.4					
79.4					
Center 1.910000 GHz				Span	n 5.000 MI
Res BW 47 kHz	#VBW	160 kHz		Sweep 2.80 n	ns (601 p

Report No.: STS1704135F01

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

		GSM	850: (30-9	000)MHz				
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz			
	S G.Lev			PMea	Limit	Margin	Delevitu	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1648.12	-41.06	9.40	4.75	-36.41	-13.00	-23.41	Н	
2472.22	-40.33	10.60	8.39	-38.12	-13.00	-25.12	Н	
3296.57	-31.67	12.00	11.79	-31.46	-13.00	-18.46	Н	
1648.11	-43.68	9.40	4.75	-39.03	-13.00	-26.03	V	
2472.65	-44.55	10.60	8.39	-42.34	-13.00	-29.34	V	
3296.65	-42.69	12.00	11.79	-42.48	-13.00	-29.48	V	
The Worst Test Results Channel 190/836.6 MHz								
	S G.Lev	Apt(dDi)		PMea	Limit	Margin	Delority	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1672.99	-41.42	9.50	4.76	-36.68	-13.00	-23.68	Н	
2509.60	-40.47	10.70	8.40	-38.17	-13.00	-25.17	Н	
3346.26	-31.33	12.20	11.80	-30.93	-13.00	-17.93	Н	
1673.16	-43.53	9.40	4.75	-38.88	-13.00	-25.88	V	
2509.51	-45.27	10.60	8.39	-43.06	-13.00	-30.06	V	
3346.35	-43.07	12.20	11.82	-42.69	-13.00	-29.69	V	
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz			
Frequency(MHz)	S G.Lev	Ant(dBi)		PMea	Limit	Margin	Polarity	
Frequency(MHZ)	(dBm)	Ani(ubi)	Loss	(dBm)	(dBm)	(dB)	Folding	
1697.43	-41.39	9.60	4.77	-36.56	-13.00	-23.56	Н	
2546.10	-39.71	10.80	8.50	-37.41	-13.00	-24.41	Н	
3395.23	-31.83	12.50	11.90	-31.23	-13.00	-18.23	Н	
1697.18	-43.80	9.60	4.77	-38.97	-13.00	-25.97	V	
2546.47	-44.59	10.80	8.50	-42.29	-13.00	-29.29	V	
3395.31	-42.78	12.50	11.90	-42.18	-13.00	-29.18	V	

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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: (30-9	000)MHz				
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz			
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1648.25	-41.00	9.40	4.75	-36.35	-13.00	-23.35	Н	
2472.58	-39.69	10.60	8.39	-37.48	-13.00	-24.48	Н	
3296.75	-31.32	12.00	11.79	-31.11	-13.00	-18.11	Н	
1648.37	-43.95	9.40	4.75	-39.30	-13.00	-26.30	V	
2472.58	-44.99	10.60	8.39	-42.78	-13.00	-29.78	V	
3296.65	-43.60	12.00	11.79	-43.39	-13.00	-30.39	V	
The Worst Test Results Channel 190/836.6 MHz								
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1673.07	-40.47	9.50	4.76	-35.73	-13.00	-22.73	Н	
2509.71	-39.77	10.70	8.40	-37.47	-13.00	-24.47	Н	
3346.41	-31.81	12.20	11.80	-31.41	-13.00	-18.41	Н	
1673.27	-44.37	9.40	4.75	-39.72	-13.00	-26.72	V	
2509.68	-44.08	10.60	8.39	-41.87	-13.00	-28.87	V	
3346.16	-43.09	12.20	11.82	-42.71	-13.00	-29.71	V	
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz			
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1697.43	-40.70	9.60	4.77	-35.87	-13.00	-22.87	Н	
2546.53	-40.40	10.80	8.50	-38.10	-13.00	-25.10	Н	
3395.27	-31.42	12.50	11.90	-30.82	-13.00	-17.82	Н	
1697.60	-43.27	9.60	4.77	-38.44	-13.00	-25.44	V	
2546.50	-45.08	10.80	8.50	-42.78	-13.00	-29.78	V	
3395.29	-43.63	12.50	11.90	-43.03	-13.00	-30.03	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.

EDGE 850: (30-9000)MHz

		EGPRS	6 850: (30-	9000)MHz				
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz			
Frequency(MHz)	S G.Lev	Apt(dDi)	Loss	PMea	Limit	Margin	Delarity	
Frequency(MHZ)	(dBm)	Ant(dBi)	L055	(dBm)	(dBm)	(dB)	Polarity	
1648.03	-41.03	9.40	4.75	-36.38	-13.00	-23.38	Н	
2472.39	-39.46	10.60	8.39	-37.25	-13.00	-24.25	Н	
3296.73	-30.99	12.00	11.79	-30.78	-13.00	-17.78	Н	
1648.18	-44.27	9.40	4.75	-39.62	-13.00	-26.62	V	
2472.40	-45.16	10.60	8.39	-42.95	-13.00	-29.95	V	
3296.62	-42.62	12.00	11.79	-42.41	-13.00	-29.41	V	
The Worst Test Results Channel 190/836.6 MHz								
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1673.13	-41.11	9.50	4.76	-36.37	-13.00	-23.37	Н	
2509.49	-39.90	10.70	8.40	-37.60	-13.00	-24.60	Н	
3346.29	-30.89	12.20	11.80	-30.49	-13.00	-17.49	Н	
1673.22	-44.21	9.40	4.75	-39.56	-13.00	-26.56	V	
2509.81	-45.24	10.60	8.39	-43.03	-13.00	-30.03	V	
3346.35	-43.62	12.20	11.82	-43.24	-13.00	-30.24	V	
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz			
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1697.35	-41.34	9.60	4.77	-36.51	-13.00	-23.51	Н	
2546.40	-39.95	10.80	8.50	-37.65	-13.00	-24.65	Н	
3395.06	-31.45	12.50	11.90	-30.85	-13.00	-17.85	Н	
1697.24	-43.21	9.60	4.77	-38.38	-13.00	-25.38	V	
2546.45	-44.64	10.80	8.50	-42.34	-13.00	-29.34	V	
3395.24	-42.86	12.50	11.90	-42.26	-13.00	-29.26	V	

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

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

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PCS 1900: (30-20000)MHz

, <u>,</u>		DCS 1	900: (30-2	0000)MHz					
	The Wor	st Test Res	sults for C	hannel 512	2/1850.2MH	Z			
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity		
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity		
3700.19	-33.58	12.60	12.93	-33.91	-13.00	-20.91	Н		
5550.61	-34.95	13.10	17.11	-38.96	-13.00	-25.96	Н		
7400.71	-32.52	11.50	22.20	-43.22	-13.00	-30.22	Н		
3700.51	-35.41	12.60	12.93	-35.74	-13.00	-22.74	V		
5550.61	-33.79	13.10	17.11	-37.80	-13.00	-24.80	V		
7400.75	-31.92	11.50	22.20	-42.62	-13.00	-29.62	V		
The Worst Test Results for Channel 661/1880.0MHz									
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity		
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity		
3759.88	-34.86	12.60	12.93	-35.19	-13.00	-22.19	Н		
5640.15	-34.20	13.10	17.11	-38.21	-13.00	-25.21	Н		
7519.94	-33.57	11.50	22.20	-44.27	-13.00	-31.27	Н		
3760.30	-35.85	12.60	12.93	-36.18	-13.00	-23.18	V		
5640.34	-33.86	13.10	17.11	-37.87	-13.00	-24.87	V		
7520.10	-32.05	11.50	22.20	-42.75	-13.00	-29.75	V		
	The Wor	st Test Res	sults for C	hannel 810)/1909.8MH	Z			
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity		
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity		
3819.56	-34.91	12.60	12.93	-35.24	-13.00	-22.24	Н		
5729.02	-34.24	13.10	17.11	-38.25	-13.00	-25.25	Н		
7639.19	-33.03	11.50	22.20	-43.73	-13.00	-30.73	Н		
3819.64	-35.65	12.60	12.93	-35.98	-13.00	-22.98	V		
5729.10	-34.97	13.10	17.11	-38.98	-13.00	-25.98	V		
7639.19	-32.37	11.50	22.20	-43.07	-13.00	-30.07	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

	<u>.</u>	GPRS1	900: (30-2	0000)MHz				
	The Wor	st Test Res	sults for C	hannel 512	2/1850.2MH	Z		
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Delerity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
3700.35	-34.78	12.60	12.93	-35.11	-13.00	-22.11	Н	
5550.27	-35.37	13.10	17.11	-39.38	-13.00	-26.38	Н	
7400.91	-33.14	11.50	22.20	-43.84	-13.00	-30.84	Н	
3700.51	-35.11	12.60	12.93	-35.44	-13.00	-22.44	V	
5550.27	-34.33	13.10	17.11	-38.34	-13.00	-25.34	V	
7400.60	-31.80	11.50	22.20	-42.50	-13.00	-29.50	V	
The Worst Test Results for Channel 661/1880.0MHz								
	S G.Lev	A pt(dDi)		PMea	Limit	Margin	Delority	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
3759.83	-34.35	12.60	12.93	-34.68	-13.00	-21.68	Н	
5639.90	-35.47	13.10	17.11	-39.48	-13.00	-26.48	Н	
7520.04	-33.55	11.50	22.20	-44.25	-13.00	-31.25	Н	
3759.93	-35.95	12.60	12.93	-36.28	-13.00	-23.28	V	
5640.14	-35.02	13.10	17.11	-39.03	-13.00	-26.03	V	
7520.13	-32.93	11.50	22.20	-43.63	-13.00	-30.63	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(IVIHZ)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
3819.40	-33.91	12.60	12.93	-34.24	-13.00	-21.24	Н	
5729.17	-34.00	13.10	17.11	-38.01	-13.00	-25.01	Н	
7638.95	-32.42	11.50	22.20	-43.12	-13.00	-30.12	Н	
3819.41	-35.43	12.60	12.93	-35.76	-13.00	-22.76	V	
5729.12	-33.78	13.10	17.11	-37.79	-13.00	-24.79	V	
7639.04	-31.76	11.50	22.20	-42.46	-13.00	-29.46	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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EDGE 1900: (30-20000)MHz

EGPRS 1900: (30-20000)MHz								
The Worst Test Results for Channel 512/1850.2MHz								
Frequency(MHz)	S G.Lev		Loss	PMea	Limit	Margin	Polarity	
	(dBm)	Ant(dBi)		(dBm)	(dBm)	(dB)		
3700.10	-33.44	12.60	12.93	-33.77	-13.00	-20.77	Н	
5550.26	-33.99	13.10	17.11	-38.00	-13.00	-25.00	Н	
7400.55	-32.15	11.50	22.20	-42.85	-13.00	-29.85	Н	
3700.51	-34.52	12.60	12.93	-34.85	-13.00	-21.85	V	
5550.37	-33.75	13.10	17.11	-37.76	-13.00	-24.76	V	
7400.96	-31.71	11.50	22.20	-42.41	-13.00	-29.41	V	
The Worst Test Results for Channel 661/1880.0MHz								
	S G.Lev	G.Lev	Loss	PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)		(dBm)	(dBm)	(dB)		
3760.13	-34.55	12.60	12.93	-34.88	-13.00	-21.88	Н	
5640.12	-34.00	13.10	17.11	-38.01	-13.00	-25.01	Н	
7520.01	-33.62	11.50	22.20	-44.32	-13.00	-31.32	Н	
3759.99	-34.54	12.60	12.93	-34.87	-13.00	-21.87	V	
5639.94	-34.17	13.10	17.11	-38.18	-13.00	-25.18	V	
7519.99	-32.20	11.50	22.20	-42.90	-13.00	-29.90	V	
	The Wor	st Test Res	sults for C	hannel 810)/1909.8MH	z		
	S G.Lev (dBm) Ant(dBi		Loss	PMea	Limit	Margin	Polarity	
Frequency(MHz)		Апцаві)		(dBm)	(dBm)	(dB)		
3819.54	-34.87	12.60	12.93	-35.20	-13.00	-22.20	Н	
5729.24	-35.22	13.10	17.11	-39.23	-13.00	-26.23	Н	
7639.09	-32.64	11.50	22.20	-43.34	-13.00	-30.34	Н	
3819.64	-35.71	12.60	12.93	-36.04	-13.00	-23.04	V	
5729.32	-34.92	13.10	17.11	-38.93	-13.00	-25.93	V	
7639.33	-32.29	11.50	22.20	-42.99	-13.00	-29.99	V	

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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.

UMTS band V(30-9000)MHz

WCDMA Band V: (30-9000)MHz								
The wost testresults channel 4132/826.4MHz								
Frequency(MHz)	S G.Lev			PMea	Limit	Margin	Polarity	
	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)		
1652.13	-41.04	9.40	4.75	-36.39	-13.00	-23.39	Н	
2479.67	-40.11	10.60	8.39	-37.90	-13.00	-24.90	Н	
3305.51	-31.41	12.00	11.79	-31.20	-13.00	-18.20	Н	
1652.30	-43.17	9.40	4.75	-38.52	-13.00	-25.52	V	
2479.45	-45.33	10.60	8.39	-43.12	-13.00	-30.12	V	
3305.59	-43.71	12.00	11.79	-43.50	-13.00	-30.50	V	
The Worst Test Results Channel 4183/836.6MHz								
	S G.Lev		PMea	Limit	Margin	Delevity		
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1673.12	-40.80	9.50	4.76	-36.06	-13.00	-23.06	Н	
2509.55	-40.52	10.70	8.40	-38.22	-13.00	-25.22	Н	
3345.96	-31.29	12.20	11.80	-30.89	-13.00	-17.89	Н	
1672.98	-44.51	9.40	4.75	-39.86	-13.00	-26.86	V	
2509.75	-45.10	10.60	8.39	-42.89	-13.00	-29.89	V	
3346.36	-43.71	12.20	11.82	-43.33	-13.00	-30.33	V	
	The Wo	orst Test R	esults Cha	annel 4233	/846.6MHz			
	S G.Lev (dBm) Ant(dB		Loss	PMea	Limit	Margin	Polarity	
Frequency(MHz)		Ani(ubi)		(dBm)	(dBm)	(dB)		
1693.36	-40.90	9.60	4.77	-36.07	-13.00	-23.07	Н	
2539.40	-39.35	10.80	8.50	-37.05	-13.00	-24.05	Н	
3386.21	-32.19	12.50	11.90	-31.59	-13.00	-18.59	Н	
1693.44	-44.53	9.60	4.77	-39.70	-13.00	-26.70	V	
2539.27	-45.36	10.80	8.50	-43.06	-13.00	-30.06	V	
3386.24	-43.82	12.50	11.90	-43.22	-13.00	-30.22	V	

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

(2)Above 3GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

UMTS band II(30-20000)MHz

		WCDMA B	Band II: (3	0-20000)M	Hz		
	The Wors	st Test Res	ults for Ch	nannel 926	2/1852.4MH	z	
Frequency(MHz)	S G.Lev	Ant(dDi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)	Ant(dBi)		(dBm)	(dBm)	(dB)	
3704.38	-33.74	12.60	12.93	-34.07	-13.00	-21.07	Н
5557.59	-35.30	13.10	17.11	-39.31	-13.00	-26.31	Н
7409.93	-32.71	11.50	22.20	-43.41	-13.00	-30.41	Н
3704.30	-35.24	12.60	12.93	-35.57	-13.00	-22.57	V
5557.45	-34.38	13.10	17.11	-38.39	-13.00	-25.39	V
7409.56	-31.71	11.50	22.20	-42.41	-13.00	-29.41	V
The Worst Test Results for Channel 9400/1880MHz							
Frequency(MHz)	S G.Lev	A pt(dDi)	Loss	PMea	Limit	Margin	Polarity
	(dBm)	Ant(dBi)		(dBm)	(dBm)	(dB)	
3760.17	-34.07	12.60	12.93	-34.40	-13.00	-21.40	Н
5639.90	-34.98	13.10	17.11	-38.99	-13.00	-25.99	Н
7519.92	-33.45	11.50	22.20	-44.15	-13.00	-31.15	Н
3760.24	-35.68	12.60	12.93	-36.01	-13.00	-23.01	V
5639.88	-34.36	13.10	17.11	-38.37	-13.00	-25.37	V
7520.29	-32.98	11.50	22.20	-43.68	-13.00	-30.68	V
	The Wors	st Test Res	ults for Ch	nannel 953	8/1907.6MH	Iz	
Frequency(MHz)	S G.Lev (dBm)	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity
				(dBm)	(dBm)	(dB)	
3815.55	-33.92	12.60	12.93	-34.25	-13.00	-21.25	Н
5722.29	-34.45	13.10	17.11	-38.46	-13.00	-25.46	Н
7630.26	-32.23	11.50	22.20	-42.93	-13.00	-29.93	Н
3815.51	-35.58	12.60	12.93	-35.91	-13.00	-22.91	V
5722.39	-34.83	13.10	17.11	-38.84	-13.00	-25.84	V
7630.03	-31.89	11.50	22.20	-42.59	-13.00	-29.59	V

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

(2)Above 6GHz amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has.

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APPENDIX BPHOTOS OF TEST SETUP

RADIATED SPURIOUS EMISSION