# **RADIO TEST REPORT**

Report No: 1708175W01

## Issued for

## SD MOBILE SAS

## CRA 34#43-110 LC B C 01 BARRANQUILLA, COLOMBIA.

Product Name:	smart phone
Brand Name:	7 Step
Model Name:	Anker
Series Model:	N/A
FCC ID:	2ALHPANKER
Test Standard:	FCC Part 22H and 24E

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#### **TEST RESULT CERTIFICATION**

Applicant's name	SD MOBILE SAS
Address	CRA 34#43-110 LC B C 01 BARRANQUILLA, COLOMBIA.
Manufacture's Name	SD MOBILE SAS
Address	CRA 34#43-110 LC B C 01 BARRANQUILLA, COLOMBIA.
Product name:	smart phone
Brand name:	7 Step
Model and/or type reference:	Anker
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.

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Date of Test

Date of performance of tests ...... 19 June. 2017~23 June. 2017

Date of Issue ...... 25 June. 2017

Test Result..... Pass

Testing Engineer

:

Sean She

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Technical Manager :

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(Hakim.hou)

tali

Authorized Signatory :

(Vita Li)

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## **Revision History**

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Rev.	Issue Date	Report NO.	Effect Page	Contents
00	25 June. 2017	1708175W01	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:

2010,KDB 971168 D01 v02r02 and KDB 648474 D03 v01r04

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

1 INTRODUCTION 1.1 TEST FACTORY 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	±0.71dB
2	Spurious emissions, conducted	±0.63dB
5	All emissions, radiated (<1G) 30MHz-200MHz	±3.80dB
6	All emissions,radiated(<1G) 200MHz-1000MHz	±3.97dB
7	All emissions, radiated (>1G)	±3.03dB

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## **2 PRODUCT INFORMATION**

Product Designation:	smart phone
Hardware version number:	T961-W-V1.1
Software version number:	N/A
FCC ID:	2ALHPANKER
	GSM/GPRS:
	850: 824.2 MHz ~ 848.8 MHz
Tri Francisco en	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:
	850: 869.2 MHz ~ 893.8 MHz
Dy Fraguanay:	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:	GSM850:32.53dBm, PCS1900:28.89dBm GPRS850(1-Slot):32.51dBm, GPRS1900(1-Slot):28.81dBm GPRS850(2-Slot):32.10dBm, GPRS1900(2-Slot):28.32dBm GPRS850(3-Slot):30.61dBm, GPRS1900(3-Slot):26.85dBm GPRS850(4-Slot):30.18dBm, GPRS1900(4-Slot):26.40dBm WCDMABand V:22.99dBm, WCDMA Band II:21.05dBm
Type of Emission:	GSM(850): 320KGXW; GSM(1900): 323KGXW GPRS(850): 326KG7W; GPRS(1900): 318KG7W WCDMA850: 4M68F9W WCDMA1900: 5M71F9W
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:-0.5dBi ,PCS 1900:-0.8dBi
Antenna gain:	WCDMA 850:-0.5dBi, WCDMA1900:-0.8dBi
Power Supply:	DC 3.7V by battery
	Capacity: 2200mAh,
Battery parameter:	Rated Voltage: 3.7V,
	Charge Limit: 4.2V
Adapter:	Input: AC 100-240V, 50/60Hz, 250mA
	Output: DC 5V, 1000mA
GPRS/EDGE Class:	Multi-Class12

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Extreme Vol. Limits:	DC3.5 V to 4.2V (Nominal DC3.7V	()	
Extreme Temp. Tolerance:	-30℃ to +50℃		
** Note: The High Voltage 4.2V and Low Voltage 3.5 V was declared by manufacturer, The EUT			
couldn't be operate normally with higher or lower voltage.			

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

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

2. 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 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	
WCDMA BAND V	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	
WCDMA BAND II	RMC 12.2KBPS LINK	RMC 12.2KBPS LINK	

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## 4 MEASUREMENT INSTRUMENTS

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibra- tion	Calibrated Until
EMI Test Receiver	R&S	ESW	101535	2017.06.01	2018.05.31
Signal Analyzer	Agilent	N9020A	MY49100060	2017.03.11	2018.03.10
Test Receiver	R&S	ESCI	101427	2016.10.23	2017.10.22
Universal Radio Communication Tester	R&S	CMW500	117239	2016.10.23	2017.10.22
Bilog Antenna	TESEQ	CBL6111D	34678	2017.03.24	2018.03.23
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1343	2017.03.06	2018.03.05
SHF-EHF Horn Antenna (15G-40GHz)	BBHA 9170	SCHWARZBECK	BBHA9170367	2017.05.02	2018.05.01
Low frequency cable	EM	R01	N/A	2017.03.12	2018.03.11
Low frequency cable	EM	R06	N/A	2017.03.12	2018.03.11
High frequency cable	SCHWARZBECK	R04	N/A	2017.03.12	2018.03.11
High frequency cable	SCHWARZBECK	R02	N/A	2017.03.12	2018.03.11
Vector signal generator	Agilent	E8257D-521	MY45141029	2016.10.23	2017.10.22
Pre-mplifier (0.1M-3GHz)	EM	EM330	60538	2017.03.12	2018.03.11
PreAmplifier (1G-26.5GHz)	Agilent	8449B	60538	2016.10.23	2017.10.22
Pre-mplifier (18G-40G)	MINI-CIRCUITS	AP-040G	1382501	2017.05.15	2018.05.14
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
trun table	EM	SC100_1	60531	N/A	N/A
Antnna mast	EM	SC100	N/A	N/A	N/A

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

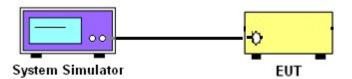
#### Test overview

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

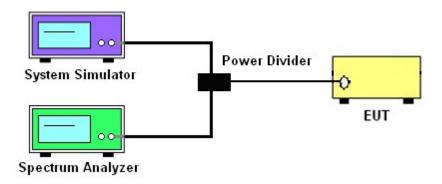
#### TEST OVERVIEW

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.

#### TEST PROCEDURE

1. The testing follows FCC KDB 971168 D01 Section 5.2.1. (for CDMA/WCDMA),

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.

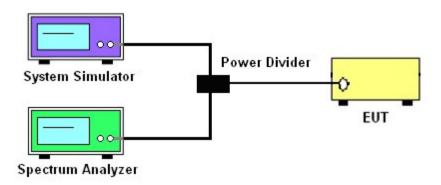
All modes of operation were investigated and the worst case configuration results are reported in this section.

#### 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  $\ge$  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

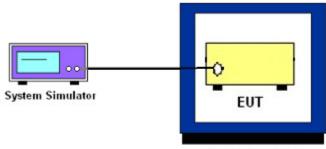
1. The testing follows FCC KDB 971168 D01 Section 9.0.

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 Test Overview

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.

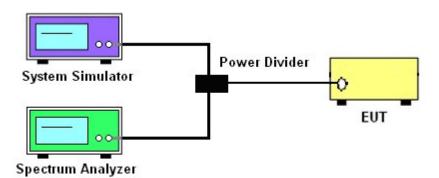
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= 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.

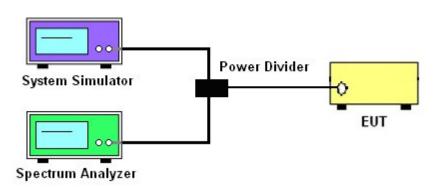
7.The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

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

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

= -13dBm.

#### TEST SETUP



## 5.8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

#### Test overview

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

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

#### Test procedure

1. The testing 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);

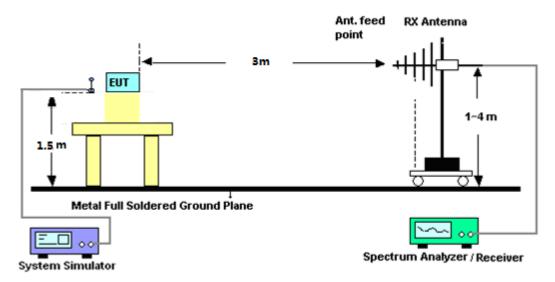
P.SG = measured transmitter output power or PSD, in dBm or dBW;

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

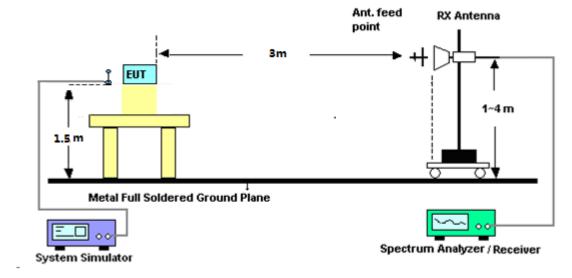
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

#### 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 Power(dBm)
	824.2	32.52
GSM	836.6	32.51
	848.8	32.53
	824.2	32.51
GPRS(GMSK,1-Slot)	836.6	32.49
	848.8	32.51
	824.2	32.07
GPRS(GMSK,2-Slot)	836.6	32.02
	848.8	32.10
	824.2	30.61
GPRS(GMSK,3-Slot)	836.6	30.61
	848.8	30.61
	824.2	30.16
GPRS(GMSK,4-Slot)	836.6	30.18
-	848.8	30.18

#### PCS 1900:

Mode	Frequency (MHz)	AVG Power(dBm)
	1850.2	28.39
GSM	1880.0	28.70
	1909.8	28.89
	1850.2	28.28
GPRS(GMSK,1-Slot)	1880.0	28.62
	1909.8	28.81
	1850.2	27.87
GPRS(GMSK,2-Slot)	1880.0	28.17
	1909.8	28.32
	1850.2	26.44
GPRS(GMSK,3-Slot)	1880.0	26.72
	1909.8	26.85
	1850.2	25.97
GPRS(GMSK,4-Slot)	1880.0	26.29
	1909.8	26.40

#### UMTS BAND V

Mode	Frequency(MHz)	AVG Power
	826.4	22.99
WCDMA 850	836.6	22.98
RMC	846.6	22.97
	826.4	22.95
HSDPA Subtest 1	836.6	22.94
Sublest	846.6	22.92
	826.4	22.50
HSDPA Subtest 2	836.6	22.50
Sublest 2	846.6	22.46
	826.4	22.07
HSDPA Subtest 3	836.6	22.10
Sublest 3	846.6	22.10
	826.4	21.70
HSDPA	836.6	21.67
Subtest 4	846.6	21.68
	826.4	22.89
HSUPA	836.6	22.88
Subtest 1	846.6	22.51
	826.4	22.06
HSUPA Subtest 2	836.6	21.95
Sublest 2	846.6	21.53
	826.4	21.86
HSUPA	836.6	21.55
Subtest 3	846.6	21.22
	826.4	21.48
HSUPA	836.6	21.07
Subtest 4	846.6	20.78
	826.4	20.05
HSUPA	836.6	19.58
Subtest 5	846.6	19.33

#### UMTS BAND II

Mode	Frequency(MHz)	AVG Power
WCDMA 1900 RMC	1852.4	21.03
	1880	21.05
	1907.6	21.03
	1852.4	21.01
HSDPA Subtest 1	1880	21.02
Sublest	1907.6	21.01
	1852.4	20.58
HSDPA Subtest 2	1880	20.55
Sublest 2	1907.6	20.52
	1852.4	20.19
HSDPA Subtest 3	1880	20.12
Sublest 5	1907.6	20.15
	1852.4	19.76
HSDPA Subtest 4	1880	19.70
Sublest 4	1907.6	19.75
	1852.4	20.99
HSUPA Subtest 1	1880	20.95
Sublest	1907.6	20.59
	1852.4	20.01
HSUPA Subtest 2	1880	20.04
Sublest 2	1907.6	19.62
	1852.4	19.87
HSUPA Subtest 3	1880	19.62
Sublest 5	1907.6	19.25
	1852.4	19.41
HSUPA Subtest 4	1880	19.32
Sublest 4	1907.6	18.86
	1852.4	17.97
HSUPA	1880	17.88
Subtest 5	1907.6	17.39

Report No.: 1708175W01

#### A2 PEAK-TO-AVERAGE RADIO

Mada	Frequency	PEAK Power	AVG Power	PAR
Mode	(MHz)	(dBm)	(dBm)	(dB)
	824.2	32.64	32.52	0.12
GSM850	836.6	32.62	32.51	0.11
	848.8	32.63	32.53	0.10
	824.2	32.62	32.51	0.11
GPRS850	836.6	32.60	32.49	0.11
	848.8	32.61	32.51	0.10
	1850.2	28.51	28.39	0.12
PCS1900	1880	28.82	28.70	0.12
	1909.8	29.00	28.89	0.11
	1850.2	28.39	28.28	0.11
GPRS1900	1880	28.73	28.62	0.11
	1909.8	28.92	28.81	0.11

		25 of 59	Report No	.: 1708175W01
Mode	Frequency	PEAK Power	AVG Power	PAR
Mode	(MHz)	(dBm)	(dBm)	(dB)
	826.4	25.64	23.05	2.59
WCDMA 850 RMC	836.6	24.69	22.14	2.55
	846.6	25.16	22.36	2.80
	826.4	25.43	22.58	2.85
HSDPA 850	836.6	25.27	22.68	2.59
	846.6	25.78	22.91	2.87
	826.4	25.37	22.56	2.81
HSUPA 850	836.6	25.32	22.62	2.70
	846.6	25.32	22.50	2.82
	1852.4	24.27	21.58	2.69
WCDMA 1900 RMC	1880	24.18	21.64	2.54
	1907.6	24.50	21.57	2.93
	1852.4	23.70	21.13	2.57
HSDPA 1900	1880	23.72	21.15	2.57
	1907.6	23.66	21.1	2.56
	1852.4	23.03	20.39	2.64
HSUPA 1900	1880	23.28	20.42	2.86
	1907.6	22.97	20.32	2.65

	Radiated Power (ERP) for GSM 850 MHZ								
			Result						
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion		
		(dBm)	loss	(dBi)	E.R.P(dBm)	Of Max. ERP			
	824.2	24.23	0.44	6.5	30.29	Horizontal	Pass		
	824.2	25.95	0.44	6.5	32.01	Vertical	Pass		
COMPEO	836.6	24.18	0.45	6.5	30.23	Horizontal	Pass		
GSM850	836.6	25.94	0.45	6.5	31.99	Vertical	Pass		
	848.8	24.20	0.46	6.5	30.24	Horizontal	Pass		
	848.8	25.97	0.46	6.5	32.01	Vertical	Pass		
	824.2	23.97	0.44	6.5	30.03	Horizontal	Pass		
	824.2	25.88	0.44	6.5	31.94	Vertical	Pass		
	836.6	24.00	0.45	6.5	30.05	Horizontal	Pass		
GPRS850	836.6	25.69	0.45	6.5	31.74	Vertical	Pass		
	848.8	24.10	0.46	6.5	30.14	Horizontal	Pass		
	848.8	25.78	0.46	6.5	31.82	Vertical	Pass		

## A3 TRANSMITTER RADIATED POWER (EIRP/ERP)

Report No.: 1708175W01

	Radiated Power (EIRP) for PCS 1900 MHZ								
			Result						
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion		
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP.			
	1850.2	17.95	2.41	10.35	25.89	Horizontal	Pass		
	1850.2	19.94	2.41	10.35	27.88	Vertical	Pass		
DCC1000	1880	18.41	2.42	10.35	26.34	Horizontal	Pass		
PCS1900	1880	20.22	2.42	10.35	28.15	Vertical	Pass		
	1909.8	18.59	2.43	10.35	26.51	Horizontal	Pass		
	1909.8	20.45	2.43	10.35	28.37	Vertical	Pass		
	1850.2	18.05	2.41	10.35	25.99	Horizontal	Pass		
	1850.2	19.89	2.41	10.35	27.83	Vertical	Pass		
	1880	18.51	2.42	10.35	26.44	Horizontal	Pass		
GPRS1900	1880	20.18	2.42	10.35	28.11	Vertical	Pass		
	1909.8	18.59	2.43	10.35	26.51	Horizontal	Pass		
	1909.8	20.29	2.43	10.35	28.21	Vertical	Pass		

Report No.: 1708175W01

	Radiated Power (ERP) for WCDMA Band V							
				Re	esult			
Mode	Frequency	S G.Level	Cable	Gain	PMeas E.R.P	Polarization	Conclusion	
	(dBm) loss (dBi)	(dBm)	Of Max.ERP					
	826.4	14.61	0.44	6.5	20.67	Horizontal	Pass	
	826.4	16.42	0.44	6.5	22.48	Vertical	Pass	
Band V	836.6	14.66	0.45	6.5	20.71	Horizontal	Pass	
Danu V	836.6	16.41	0.45	6.5	22.46	Vertical	Pass	
	846.4	14.63	0.46	6.5	20.67	Horizontal	Pass	
	846.4	16.39	0.46	6.5	22.43	Vertical	Pass	

Radiated Power (EIRP) for WCDMA Band II								
				Re	sult			
Mode	Frequency	S G.Level	Cable	Gain	PMeas	Polarization	Conclusion	
		(dBm)	loss	(dBi)	E.I.R.P.(dBm)	Of Max.EIRP		
	1852.4	10.83	2.41	10.35	18.77	Horizontal	Pass	
	1852.4	12.55	2.41	10.35	20.49	Vertical	Pass	
Band II	1880	10.88	2.42	10.35	18.81	Horizontal	Pass	
Danu II	1880	12.58	2.42	10.35	20.51	Vertical	Pass	
	1907.4	10.64	2.43	10.35	18.56	Horizontal	Pass	
	1907.4	12.56	2.43	10.35	20.48	Vertical	Pass	

Report No.: 1708175W01

#### Occupied Bandwidth for GSM 850 band **Occupied Bandwidth Emission Bandwidth** Mode Frequency(MHz) (99%)( kHz) (-26dBc)( kHz) 824.2 248.77 Low Channel 319.6 Middle Channel 836.6 246.26 314.7 **High Channel** 848.8 243.60 316.0 Occupied Bandwidth for GPRS 850 band **Occupied Bandwidth Emission Bandwidth** Mode Frequency(MHz) (99%)( kHz) (-26dBc)( kHz) Low Channel 824.2 245.99 325.7 Middle Channel 317.9 836.6 244.03 **High Channel** 848.8 244.64 316.4

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

Report No.: 1708175W01

Occupied Bandwidth for GSM1900 band						
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(IVIHZ)	(99%)( kHz)	(-26dBc)( kHz)			
Low Channel	1850.2	248.70	318.0			
Middle Channel	1880.0	247.87	323.0			
High Channel	1909.8	244.52	316.9			
	Occupied Bandy	width for GPRS 1900 band				
Mode	Emission Bandwidth					
Mode	Frequency(MHz)	(99%)( kHz)	(-26dBc)( kHz)			
Low Channel	1850.2	245.18	315.9			
Middle Channel	1880.0	242.55	317.8			
High Channel	1909.8	247.97	316.3			

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Occupied Bandwidth for UMTS band V						
Mode	Frequency(MHz)	Occupied Bandwidth	Emission Bandwidth			
Widde	Trequency(IVITIZ)	(99%)( MHz)	(-26dBc)( MHz)			
Low Channel	826.4	826.4 4.1610				
Middle Channel	836.6	4.1566	4.649			
High Channel	846.6	4.1466	4.664			
	Occupied Ban	dwidth for UMTS band II				
Mode	Fraguanay (MHz)	Occupied Bandwidth	Emission Bandwidth			
Mode	Frequency(MHz)	(99%)( MHz)	(-26dBc)( MHz)			
Low Channel	1852.4	4.2394	5.714			
Middle Channel	1880	4.1699	4.704			
High Channel	1907.6	4.2079	4.940			

31 of 59

#### GSM 850 CH 128









GSM 850 CH 251

#### GPRS 850 CH 128







 
 R.R.
 RF
 S0/6
 AL
 SB/6E/I/T
 AL/024/A/TO

 Center Freq
 848.800000 MHz
 Center Freq: 848.800000 MHz
 Trig: Free Run
 Avg|Hold>10/10

 #IFGaint.ow
 #IFGaint.ow
 Trig: Free Run
 Avg|Hold>10/10
01:32:06 PMJun Radio Std: None Radio Device: BTS Ref Offset 8.5 dB Ref 36.00 dBm /div Center 848.8 MHz #Res BW 10 kHz Span 1 MHz Sweep 12.4 ms #VBW 30 kHz Occupied Bandwidth 244.64 kHz Transmit Freq Error -1.236 kHz OBW Power 99.00 % x dB Bandwidth 316.4 kHz x dB -26.00 dB STATUS

#### GPRS 850 CH 251

#### PCS 1900 CH 512



#### PCS 1900 CH 661



#### PCS 1900 CH 810

RL RF 50 Ω AC		SENSE:INT	ALIGNAUTO	01:03:42 PM Jun 22, 2
enter Freq 1.909800000	GHz	Center Freq: 1.9098000	00 GHz	Radio Std: None
		Trig: Free Run	Avg Hold:>10/10	
	#IFGain:Low	#Atten: 46 dB		Radio Device: BTS
Ref Offset 9.5 dB				
dB/div Ref 36.00 dBm				
pg				
6.0		month		
6.0		North Course	M	
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00	1			
1.0			han	
	N			Δ
1.0				mangentration
10 marshare Month				
1.0				
enter 1.91 GHz				Span 1 M
Res BW 10 kHz		#VBW 30 kH	z	Sweep 12.4
Occupied Bandwidth	1			
24	14.52 kHz			
_				
Transmit Freq Error	972 Hz	OBW Power	99.00 %	
x dB Bandwidth	316.9 kHz	x dB	-26.00 dB	
a			STATUS	

#### GPRS 1900 CH 512



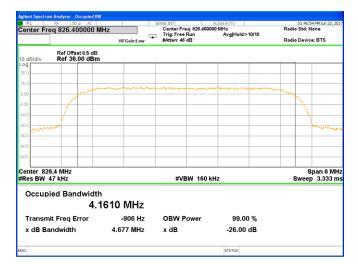
#### GPRS 1900 CH 661



#### GPRS 1900 CH 810



#### UMTS BAND V CH 4132



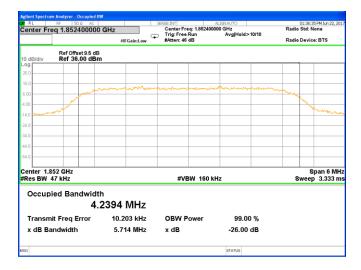
#### UMTS BAND V CH 4183

RL	RF 50 Ω AC		SENSE: INT	ALIGNAUTO	01:49:00 PM Jun 22, 2
enter F	req 836.600000	MHz	Center Freq: 836.6000 Trig: Free Run	000 MHz Avg Hold:>10/10	Radio Std: None
		#IFGain:Low	#Atten: 46 dB		Radio Device: BTS
0 dB/div	Ref Offset 8.5 d Ref 36.00 dB				
.og 26.0					
16.0					
		mon market and the second s	- man marked and a second	- Marine Marine	mm
1.00					
.00					
4.0					
4.0					harren
4.0					
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4.0					
enter 8	36.6 MHz				Span 6 M
Res BW	47 kHz		#VBW 160 k	(Hz	Sweep 3.333
000	pied Bandwid	th			
Occu		.1566 MHz			
Transr	nit Freq Error	-6.552 kHz	OBW Power	99.00 %	
v dB B	andwidth	4.649 MHz	x dB	-26.00 dB	

#### UMTS BAND V CH 4233

- RF 50 Ω AC		SENSE:INT	ALIGNAUTO	01:50:22 PM Jun 22	
ter Freq 846.600000 N	Hz	Center Freq: 846.6000	00 MHz	Radio Std: None	
		Trig: Free Run #Atten: 46 dB	Avg Hold:>10/10	Radio Device: BTS	
	#IFGain:Low	#Atten. 40 dB		Radio Device. D 15	
Ref Offset 8.5 dB					
B/div Ref 36.00 dBm					
~~~	- market and a second		- Charles and a second	mm	
				- N -	
1					
/					
and a start and				mon	
nter 846.6 MHz				Span 6 l	
s BW 47 kHz		#VBW 160 kHz		Sweep 3.333	
Occupied Bandwidth	1				
4.1	1466 MHz				
ransmit Freq Error	-7.275 kHz	OBW Power	99.00 %		
dB Bandwidth	4.664 MHz	x dB	-26.00 dB		
			STATUS		

#### UMTS BAND II CH 9262



#### UMTS BAND II CH 9400

RL RE SIG AC	1			
RL RF 50 Ω AC		SENSE:JNT Center Freq: 1.880000 Trig: Free Run	ALIGNAUTO 000 GHz Avg Hold>10/10	01:40:16 PM Jun 22, Radio Std: None
	#IFGain:Low	#Atten: 46 dB		Radio Device: BTS
dB/div Ref Offset 9.5 dB				
9				
.0				
	manner	mannan	mmmmm	~n_
10				
0				
0 aman				hourse
0				
0				
0				
0				
enter 1.88 GHz Res BW 47 kHz		#VBW 160 k	Hz	Span 6 M Sweep 3.333
Occupied Bandwidtl	ı			
4.1	1699 MHz			
Transmit Freq Error	2.704 kHz	OBW Power	99.00 %	
x dB Bandwidth	4.704 MHz	x dB	-26.00 dB	
1			STATUS	

#### UMTS BAND II CH 9538



Report No.: 1708175W01

# A5 FREQUENCY STABILITY

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

GSM 850 Middle Channel/836.6MHz										
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result					
50		16.89	0.020							
40	_	17.11	0.020							
30	_	21.33	0.025							
20		30.43	0.036							
10	Normal Voltage	12.65	0.015							
0		20.00	0.024	2.5ppm	PASS					
-10		33.62	0.040							
-20	_	23.32	0.028							
-30		27.81	0.033							
25	Maximum Voltage	13.71	0.016							
25	BEP	33.15	0.040							

GPRS 850 Middle Channel/836.6MHz										
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result					
50	-	14.74	0.018							
40	_	18.20	0.022							
30	-	21.80	0.026	-						
20		13.47	0.016							
10	Normal Voltage	28.64	0.034							
0		16.36	0.020	2.5ppm	PASS					
-10	_	31.29	0.037							
-20		27.78	0.033							
-30		31.58	0.038							
25	Maximum Voltage	34.44	0.041							
25	BEP	20.65	0.025							

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	GSM 1900 Middle Channel/1880MHz									
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result					
50		26.22	0.014							
40		33.17	0.018							
30		26.87	0.014							
20		32.24	0.017							
10	Normal Voltage	18.95	0.010	Within						
0		30.48	0.016	Authorized	PASS					
-10		21.09	0.011	Band						
-20		32.21	0.017							
-30		20.34	0.011							
25	Maximum Voltage	31.62	0.017							
25	BEP	21.41	0.011							

GPRS 1900 Middle Channel/1880MHz
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			r		
Temperature	Voltage	Freq. Dev.	Freq. Dev.	Limit	Result
(°C)	(Volt)	(Hz)	(ppm)		
50	-	13.48	0.007	_	
40		30.71	0.016	_	
30	-	26.22	0.014		
20		25.70	0.014		
10	Normal Voltage	30.53	0.016	Within	
0	-	23.30	0.012	Authorized	PASS
-10		24.19	0.013	Band	
-20		19.71	0.010		
-30		31.60	0.017		
25	Maximum Voltage	34.97	0.019		
25	BEP	23.61	0.013		

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WCDMA V Middle Channel/836.6MHz									
Temperature (°C)	Voltage (Volt)			Limit	Result				
50		22.22	0.027						
40		21.29	0.025						
30		26.99	0.032						
20	Normal Voltage	12.59	0.015	2.5ppm	PASS				
10		15.99	0.019						
0	_	31.40	0.038						
-10		32.60	0.039						
-20		14.95	0.018						
-30		15.37	0.018						
25	Maximum Voltage	14.47	0.017						
25	BEP	19.78	0.024						

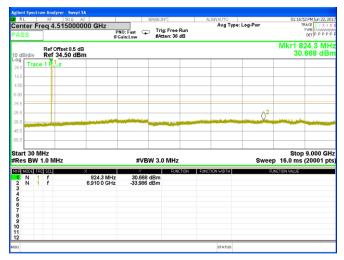
1. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

	WCDMA II Middle Channel/1880MHz									
Temperature (°C)	Voltage (Volt)	Freq. Dev. (Hz)	Freq. Dev. (ppm)	Limit	Result					
50		24.02	0.013							
40		25.24	0.013							
30		30.27	0.016							
20		31.53	0.017							
10	Normal Voltage	20.01	0.011	Within Au-						
0		12.07	0.006	thorized	PASS					
-10		33.78	0.018	Band						
-20		32.91	0.018							
-30		20.76	0.011							
25	Maximum Voltage	26.66	0.014							
25	BEP	21.14	0.011							

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

lgilent Spectr	um Analyzer - Sv	wept SA	SENSE:)	NT	ALIGNAUTO		01:19:5	4 PM Jun 22.1
Center F PASS		00000 GHz	0: Faet . Tri	g: Free Run tten: 36 dB	Avg Type	: Log-Pwr	TF	INCE
10 dB/div	Ref Offset 8 Ref 34.50						Mkr1 8: 30.	36.9 M 849 dE
-og 74.5 Trac	e 1 F 1.s							
14.6								
4.50								
5.50								
15.5								
25.5								
15.5		and the state of the state	a state of the second		and the second se	X.	and the second second	-
15.5								
55.5								
tart 30 M Res BW	/Hz 1.0 MHz		#VBW 3.0	0 MHz		Swee	Stop p 16.0 ms	9.000 ¢ (20001
KR MODE 11 1 N 1 2 N 1	RC SCL	× 836.9 MHz 6.936 9 GHz	30.849 dBm -32.833 dBm	FUNCTION	FUNCTION WIDTH	FL	INCTION VALUE	
3		0.950 9 0112	-52.655 ubm					
4 5								
6								
4 5 7 8 9								
10								
11 12								
sg					STATUS			

Agilent Spectrum /		AC		NSE:INT		IGNAUTO		01/24/	5 PM Jun 22, 2
Center Freq		000 GHz	NO: Fast 🖵	Trig: Free R #Atten: 36 d	un	Avg Type:	Log-Pwr	T	TYPE MWWWW DET P P P P
0 dB/div R	ef Offset 8.5 ( ef_34.50 dB							Mkr1 8 30.	49.0 MI 908 dB
og 24.5 Trace 1	FL1s								
4.6									
.50									
5.5									
5.5								$\mathcal{Q}$	-
5.5									
tart 30 MHz Res BW 1.0			#VBW	/ 3.0 MHz			Swee	Stop p 16.0 ms	9.000 G (20001 p
TRIMODE TRO S 1 N 1 1 2 N 1 1	CCL f	849.0 MHz 7.430 3 GHz	30.908 d -35.271 d		ION FUNCT	TION WIDTH	FL	UNCTION VALUE	
3		1,400 0 0112		Dill					
5 6 7									
8 9 0									
1									
a						STATUS			

## GPRS 850 BAND

# Lowest Channel

	um Ana	lyzer - Swept S								
RL	RF	50 Ω A0			ENSE:INT		ALIGNAUTO Avg Type:	Law Dum		6 PM Jun 22,
	req 4	1.5150000		NO: Fast	Trig: Free F	Run	Avg Type:	Log-Pwr		TYPE MILLIAN
ASS				Gain:Low	#Atten: 36	зB				DET PPPP
	Paf	Offset 8.5 dB							Mkr1 8	
0 dB/div		34.50 dBn							30.	646 dE
og 4.6 Trac	e 1 P	1. <sub>s</sub>								
4.5										
.50										
50										
5.5										
5.5	-						0 <sup>2</sup>			
5.5	-	in the second second	a state of the second	Contraction of the local division of the loc			and the second second	the state of the s	and the second se	-
5.5										
5.6										
tart 30 M	AL 1-								01.0.0	0.000.0
Res BW		4Hz		#VB	N 3.0 MHz			Swee	5.0 p 16.0 ms	9.000 G
(RI MODE) TH			x I		FUNC	2001	INCTION WIDTH		UNCTION VALUE	(
1 N 1	au suu		824.3 MHz	30.646		TION PL	INCTION WIDTH	ŀ	UNCTION VALUE	
2 N 1	f		5.959 2 GHz	-34.203	dBm					
3										
5										
4 5 6 7										
8										
9										
1										
2										
G							STATUS			

#### Middle Channel

RL	RF		AC		ENSE:INT	AL	IGNAUTO			5 PM Jun 22, 20
enter ASS	Freq 4	.515000	000 GHz	NO: Fast 🕞	Trig: Free #Atten: 36	Run dB	Avg Type:	Log-Pwr		TYPE MWWWW DET P P P P
0 dB/div		Offset 8.5 d 34.50 dE							Mkr1 8 30.	36.9 MH 852 dB
og 14.6 Tra	ice 1 P	1 <u>s</u>								
4.6	_									
.50	-									
.50										
5.5										2
5.5				ومتواجلهم	Production of the second	and a killing	min, datasta	and the second sec		}
5.5										
6.6										
tart 30 Res BV		1Hz		#VB	N 3.0 MHz			Swee	Stop p 16.0 ms	9.000 GI (20001 p
KR MODE	TRC SCL		×	Y		TION FUNCT	TION WIDTH	F	UNCTION VALUE	
1 N 2 N 3 4 5 6 7	11		836.9 MHz 8.067 1 GHz	30.852 -34.351						
8 9 0 1										
2										

	RF	50 Ω AC		SENSE: INT	ALIGNAUTO		01:32:38	PM Jun 22, 2
enter F ASS	req 4.	515000000 GH	Z PNO: Fast IFGain:Low	Trig: Free Ru #Atten: 36 dB	n	Type: Log-Pwr		CE 1 2 3 4 PE MWAW ET P P P P
dB/div		ffset 8.5 dB 34.50 dBm					Mkr1 84 30.9	9.0 M 12 dE
	ce 1 F .!	.s						
6								
5								
5								
					and the second sec			
5								
5								
°								
art 30 es BW	MHz / 1.0 Mł	łz	#\	/BW 3.0 MHz		Swe	Stop 9 ep 16.0 ms (2	
MODELT	rrc scl	× 849.0		EUNCTI 12 dBm	ON FUNCTION WIDTH	H	FUNCTION VALUE	
N			GHz -34.4	68 dBm				
	1 f	0.130 0						
N	1 f	6.136 6						
N	1 f	6.136 6						
N	1 f	6.136 6						
N	1 f	6.136						
N	1 f	0.130 0						

# GSM1900 BAND(30M-20G)

# Lowest Channel

	um Analyzer - Sv							
RL		Ω AC	SENSE	:INT	ALIGNAUTO Avg Type		01:01:1	16 PM Jun 22, 21
ASS	req 10.015		NO: Fast 😱 T Gain:Low #	rig: Free Run Atten: 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 GI 112 dB
Trac	e 1 <mark>12</mark> 1s							
5.6								
50								
1.5							2	
1.5							N.	-
1.5								
4.5								
tart 30 M Res BW	/Hz 1.0 MHz		#VBW 3	.0 MHz		Swe	Stop 2 ep 50.7 ms	20.000 G (40001 p
		× 1.850 3 GHz	Y 26.112 dBn	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
1 N 1 2 N 1 3	f f	16.565 2 GHz	-28.334 dBn					
4 5 7								
8 9								
1								
a					STATUS			

#### Middle Channel

gilent Spectrum Analy RL RF	50 Ω AC	SENSE	INT	ALIGNAUTO		01:03:01 PMJun 22, 2
enter Freq 10	0.015000000 GHz	DNO: East T	rig: Free Run Atten: 36 dB	Ауд Туре	: Log-Pwr	TRACE 2 3 4 TYPE MWWW DET P P P P
0 dB/div Ref 3	ffset 9.5 dB 35.50 dBm				М	kr1 1.880 2 GI 26.887 dB
5.6 Trace 1 A	S					
5.6						
50						
60						
4.5				_		. 2
1.5						<u>∆</u> 2
1.5	and the second s		فليقعنك فبخب			
4.5						
1.5						
tart 30 MHz Res BW 1.0 MI	Hz	#VBW 3	.0 MHz		Sweep	Stop 20.000 G 50.7 ms (40001 p
r Mode TRC SCL	×	Y		UNCTION WIDTH	FUNCI	IÓN VALUE
N 1 f 2 N 1 f 3	1.880 2 G 16.585 1 G		1			
5						
7						
9						
D 1						
2						
3				STATUS		

ASS Profession of the second s	RL	RF 50	wept SA Ω AC	SENSE:1	NT .	ALIGNAUTO		01:0	14:18 PM Jun 22,
Children version    27.172 to      1 Tace 1 Pt / 3    27.172 to      20 Tace 1 Pt / 3    27.172 to      21 Tace 1 Pt / 3    27.172 to      22 Tace 1 Pt / 3    27.172 to      23 Tace 1 Pt / 3    27.172 to      24 Tace 1 Pt / 3    27.172 to      25 Tace 1 Pt / 3    27.172 to      26 Tace 1 Pt / 3    27.172 to      26 Tace 1 Pt / 3    28 375 dBm      27.172 to    28 375 dBm		req 10.015	PN		g: Free Run ten: 36 dB	Avg Typ	e: Log-Pwr		TYPE MWWW DET P P P P
Trace 1 PC 3 Trace 1 PC 3 Tr		Ref 35.50							.910 2 G 7.172 dE
Image: Construction of the construction of		e 1 F 13							
Image: state	.6						-		-
5 0 art 30 MHz s BW 1.0 MHz	- I						-		-
5    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1    1									
S S S S S S S S S S S S S S S S S S S								2	
Similar    Stop 20.000      es BW 1.0 MHz    #VBW 3.0 MHz    Stop 20.000      es BW 1.0 MHz    #VBW 3.0 MHz    Sweep 50.7 ms (4000      (model Intel Sect)    N    1    1    1.910.2 GHz    22.172 dBm      N    1    f    1.8245 6 GHz    -28.875 dBm    1.0140000000000000000000000000000000000						- Andrew Providence	A COLUMN T		-
TIT 30 MHZ ES BW 1.0 MHZ Stop 20.000 Sweep 50.7 ms (4000 UMSS BES SCI 25 V SWEEP 50.7 ms (4000 UMSS BES SCI 25 V SWEEP 50.7 ms (4000 N 1 f 1910 2 GHz 27112 GBm	5								
es BW 1.0 MHz #VBW 3.0 MHz Sweep 50.7 ms (4000 Imdel fred Stal × F Butchon Ruscharswich Annelas August N 1 f 1 910 2 GHz 27172 dBm	5						_		-
N 1 f 1.910 2 GHz 27.172 dBm				#VBW 3.0	MHz		Swe	Stop ep 50.7 m	o 20.000 G Is (40001 j
		RC SCL		Y	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
	N 1	ł		-28.875 dBm					

# GPRS1900 BAND(30M-20G)

# Lowest Channel

	Analyzer - Swe								
RL	RF 50 Ω	AC		ISE:INT	AL	IGNAUTO		01:	08:07 PM Jun 22, 2
enter Fre ASS	q 10.0150	00000 GHz PI	NO: Fast 😱 Gain:Low	Trig: Free F #Atten: 36 d	lun IB	Avg Type:	Log-Pwr		TRACE 1 2 3 4 TYPE MWWW DET P P P P
) dB/div	Ref Offset 9.5 Ref 35.50 d						_		.850 3 GI 6.169 dB
5.6 Trace 1	1 N 1 s								
5.5									
50									
1.5									<sup>2</sup>
1.5									
1.5									
art 30 MH Res BW 1.			#VBW	3.0 MHz			Swe		p 20.000 G ns (40001 p
R MODE TRC	SCL	× 1.850 3 GHz	26.169 dE	FUNC	FUNCT	TION WIDTH		FUNCTION VALU	5
2 N 1 3 4	f	18.961 6 GHz	-27.533 dE						
5									
3									
1									
D 1 2									

#### Middle Channel

glent Spectrum Analyz RL RF Center Freq 10.	50 Ω AC 015000000 GHz	SENSE:INT	Free Run	IGNAUTO Avg Type: I	.og-Pwr	TRA	PM Jun 22, 2 AGE 1 2 3 4 YPE MWWWW
ASS	P		n:36 dB				DETPPP
0 dB/div Ref 3	set 9.5 dB 5.50 dBm				N	lkr1 1.88 26.8	376 dB
Trace 1 121	3						
5.6							
50							
60							
4.5						∧2	
1.5				- Andrewski state		У  —	and the second second
1.5							
4.5							
4.5							
art 30 MHz Res BW 1.0 MH	z	#VBW 3.0 N	ЛНz		Sweep	Stop 2 50.7 ms (	0.000 G 40001 p
(R MODE TRC SCL)	× 1.880 2 GHz	26.876 dBm	FUNCTION FUNCT	ION WIDTH	FUNC	TION VALUE	
2 N 1 f	16.485 3 GHz	-27.038 dBm					
1							
5							
7 B							
3 9 0							
1							
<b>z</b>				STATUS			

	rum Analyzer - Swe						
Center F	RF 50 Ω Teq 10.0150	AC 00000 GHz	SENSE: IN		ALIGNAUTO Avg Type:	Log-Pwr	01:12:07 PM Jun 22, 20 TRACE 1 2 3 4 5
PASS	7	PN	0:Fast 🖵 Trig ain:Low #Atte	Free Run n: 36 dB			DET P P P P
10 dB/div	Ref Offset 9.5 Ref 35.50 c					N	1kr1 1.910 2 GH 27.158 dBr
Log 25.5 Trac	e 1 F						
15.6							
5.50							
-4.50							
-14.5							^ <sup>2</sup>
-24.5							the second s
44.5							
54.5							
Start 30 M #Res BW			#VBW 3.0	MHz		Sweep	Stop 20.000 GH 50.7 ms (40001 pts
MKR MODE TI	RC SCL	×	Y	FUNCTION	FUNCTION WIDTH	FUN	CTION VALUE
1 N 1 2 N 1 3 4 5 6 7 8 9 10	ł	1.910 2 GHz 16.305 6 GHz	27.158 dBm -28.139 dBm				
5							
8							
9							
11 12							
rsg					STATUS		

# WCDMA Band V (RMC 12.2Kbps)

# Lowest Channel

	rum Anai	lyzer - Swept S	٨								
RL	RF	50 Ω A			SENSE: INT		ALI	GNAUTO			6 PM Jun 22, 20
Center F PASS	req 4	.5150000	P	NO: Fast Gain:Low	Trig: Free #Atten: 36	Run dB		Avg Type:	Log-Pwr		RACE 1 2 3 4 5 TYPE MWMMM DET P P P P F
0 dB/div	Ref	Offset 8.5 dB 32.03 dBr									25.2 MH 028 dB
22.0 Trac	e 1 🖗	1_s									
2.03	-										
7.97											
18.0											
28.0			-				وينحفك		$Q^2$		in the second
48.0											
58.0											
tart 30 I Res BW		IHz		#VB	W 3.0 MHz				Swee	Stop p 16.0 ms	9.000 GH (20001 p
KR MODE T	RC SCL		× 825.2 MHz	Y 22.028		CTION	FUNCT	ION WIDTH	FL.	INCTION VALUE	
2 N 3	f		6.892 1 GHz	-35.983							
4											
5 6 7											
8 9 10											
11											
sg								STATUS			

#### Middle Channel

RL		2 AC 00000 GHz	SENSE:1		ALIGNAUTO Avg Type	: Log-Pwr		32 PM Jun 22, 2 RACE 1 2 3 4
ASS		PN IFG	0:Fast 🖵 Trig ain:Low #Att	g:FreeRun ten:36 dB				DET P P P P
) dB/div	Ref Offset 8 Ref 31.96							35.5 MI .964 dB
Dg Trac	e 1 🚺 s							
2.0	_							
.96	_							
04								
8.0								
3.0								
1.0	aligned in the particular	A CONTRACTOR OF CONTRACTOR	No. of Concession, Name	No. of Concession, Name				
8.0								
8.0								
tart 30 M Res BW	MHz 1.0 MHz		#VBW 3.0	MHz		Swe	Stop ep 16.0 ms	9.000 G (20001 p
TEMODEN 1 N 1 2 N 1 3	RC SCL f f	835.5 MHz 6.578 1 GHz	21.964 dBm -36.289 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
4 5 7 8 9								
9 D								

RL	RF			SENSE	INT	ALIGNAUTO			PM Jun 22, 2
nter F SS	req	1.515000	P	NO: Fast 🖵 Ti Gain:Low #/	rig: Free Run Atten: 36 dB	Avg Ty	pe:Log-Pwr	TV	CE 1 2 3 4 PE MWWW ET P P P P
dB/div		Offset 8.5 d 31.88 dB						Mkr1 84 21.8	5.8 M 82 dE
Trac	e 1	1 <u>s</u>							
9									
8	_								
2	_								
1	_							_	
1							^ <mark>2</mark>		
	-		and the second	Contraction in the local division in the loc	and the second second	dent to the state			
1									
1									
rt 30 l es BW		ИНz		#VBW 3	0 MHz		Swe	Stop 9 ep 16.0 ms (2	0000 G
MODE T	RC SCL		× 845.8 MHz	21.882 dBm	FUNCTION	FUNCTION WIDTH		FUNCTION VALUE	
N	f		6.075 8 GHz	-35.437 dBm					

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

# Addition Spectrum Analyzer - Swept 34 SPECIAL ALIGNATIO 0139221PM Jn 22, 200 M R.L. RF 30.0 AC SPECIAL Avg Type: Log-Pwr Image 13, 3.5 Trig: Free Run PASS Ref Offset 9.5 dB Trig: Free Run Avg Type: Log-Pwr Mkr11, 18,518 G Hz 10 GRIdue Ref Offset 9.5 dB Mkr11, 18,518 G Hz 20,666 dBn 20,666 dBn 20 Frace 11 Stop 20,000 GHz Stop 20,000 GHz Stop 20,000 GHz 20 Frace 11 Stop 20,000 GHz Stop 20,000 GHz Stop 20,000 GHz 20 Start 30 MHz Stop 20,000 GHz Stop 20,000 GHz Stop 20,000 GHz 21 N 1 f 16506 3 GHz 20,666 dBn Avg Type: Log-Pwr Ref Offset 9 Stop 20,000 GHz 21 N 1 f 16506 3 GHz 20,666 dBn Avg Type: Log-Pwr Ref Offset 9 Stop 20,000 GHz 21 N 1 f 16506 3 GHz 29,566 dBm Ref Offset 9 Stop 20,000 GHz 21 N 1 f 16506 3 GHz 29,566 dBm Ref Offset 9 Stop 20,000 GHz 21 N 1 f 16506 3 GHz 29,566 dBm

# Lowest Channel

Middle Channel

RL RF	50 Ω AC		SENSE:	INT	ALIGNAUTO		01:4	0:52 PM Jun 22, 2
nter Freq 1	0.01500000	PNO	:Fast	g:FreeRun tten:36 dB	Avg	Type: Log-Pwr		TRACE 1 2 3 4 TYPE MIMMM DET P P P P
dB/div Ref	Offset 9.5 dB 30.36 dBm							881 2 G 0.362 dE
Trace 1 📢	1s							_
4								
0								
6							•	-
6							Q	
6	and the state of the				and the second			
6								
6								
art 30 MHz es BW 1.0 M	IHz		#VBW 3.	0 MHz		Sw	Stop veep 50.7 m	20.000 G s (40001 p
MODE TRC SCL N 1 f N 1 f	× 1.6 16.2	81 2 GHz 85 6 GHz	20.362 dBm -29.039 dBm	FUNCTION	FUNCTION WIDT	н	FUNCTION VALUE	

	Spectr		alyzer - Swept S									
		RF 1 eq	50 Ω A	000 GHz	NO: Fast	Trig: Free	Run	ALIGNAU Av		Log-Pwr	01:4	2:26 PM Jun 22, 201 TRACE 1 2 3 4 5 TYPE MWWWWWW
PAS	8			IFC	Gain:Low	#Atten: 36	dB					DET P P P P P
10 dB	div		Offset 9.5 dE 30.22 dBr									906 7 GHz 0.215 dBm
20.2	Trace	e 1 P	1.									
10.2												
0.220		_										_
-9.78		_										
-19.8		_								-	2 <sup>2</sup>	
-29.8			and the state of t					-		-	and the state of the	-
-39.8						-						
-49.8												
Start #Res			/Hz		#VBW	3.0 MHz				Swe	Stop ep 50.7 m	20.000 GHz s (40001 pts
MKR M		C SCL		× I	Y		CTION	FUNCTION WI	DTH		FUNCTION VALUE	
1 1	v 1 v 1	f		1.906 7 GHz 16.505 3 GHz	20.215 de -29.063 de	3m 3m						
2 1 3 4 5 6 7 8 9 10												
5												
7												
9												
10 11 12												
12 MSG								ST	TUS			

#### A7 BAND EDGE

#### GSM 850

#### Lowest Band Edge





#### **GPRS 850**

#### Lowest Band Edge





#### GSM 1900

#### Lowest Band Edge





#### **GPRS 1900**

#### Lowest Band Edge





# WCDMA Band VRMC 12.2Kbps

## Lowest Band Edge



PNO: Wide G	Trig: Free #Atten: 36	Run dB	Avg Type: Log-P	Mkr2 8	
					-30.26 dB
m	m				
		2			
		-		-0	
					m
#VI	BW 160 kHz			Sweep 2.8	pan 5.000 M 10 ms (601 p
			*VBW 160 kHz		#VBW 160 kHz Sweep 2.8

## WCDMA Band IIRMC 12.2Kbps

## Lowest Band Edge



RL RF 50 Ω AC	) GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pw	01:42:53 PM Jun 22, 20
ASS	PNO: Wide IFGain:Low	Trig: Free Run #Atten: 36 dB		DET A A A A
Ref Offset 9.5 dB 0 dB/div Ref 11.67 dBm				Mkr2 1.910 000 GH -20.99 dBi
og Trace 1 Pass				
1.67				
1.33				
8.3		2		
8.3			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
8.3				
8.3				
8.3				
8.3				
8.3				
center 1.910000 GHz Res BW 47 kHz		#VBW 160 kHz		Span 5.000 M Sweep 2.80 ms (601 p
Kes BW 47 KHZ		#VBW 100 KHZ	STATUS	Sweep 2.80 ms (601 p

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

	GSM 850: (30-9000)MHz								
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz				
	S G.Lev			PMea	Limit	Margin	Polarity		
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)			
1648.21	-41.28	9.40	4.75	-36.63	-13.00	-23.63	Н		
2472.49	-39.46	10.60	8.39	-37.25	-13.00	-24.25	Н		
3296.52	-32.27	12.00	11.79	-32.06	-13.00	-19.06	Н		
1648.41	-43.54	9.40	4.75	-38.89	-13.00	-25.89	V		
2472.23	-44.25	10.60	8.39	-42.04	-13.00	-29.04	V		
3296.80	-43.31	12.00	11.79	-43.10	-13.00	-30.10	V		
The Worst Test Results Channel 190/836.6 MHz									
Frequencv(MHz)	S G.Lev Ant(dBi)		PMea	Limit	Margin	Polarity			
	(dBm)	Апциы)	Loss	(dBm)	(dBm)	(dB)	Foldrity		
1673.08	-40.16	9.50	4.76	-35.42	-13.00	-22.42	Н		
2509.45	-39.23	10.70	8.40	-36.93	-13.00	-23.93	Н		
3346.09	-31.67	12.20	11.80	-31.27	-13.00	-18.27	Н		
1673.09	-43.75	9.40	4.75	-39.10	-13.00	-26.10	V		
2509.65	-43.99	10.60	8.39	-41.78	-13.00	-28.78	V		
3345.98	-43.10	12.20	11.82	-42.72	-13.00	-29.72	V		
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz				
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Polarity		
Trequency(Miriz)	(dBm)	Аш(аві)	L055	(dBm)	(dBm)	(dB)	Folanty		
1697.39	-40.81	9.60	4.77	-35.98	-13.00	-22.98	Н		
2546.27	-39.91	10.80	8.50	-37.61	-13.00	-24.61	Н		
3395.23	-32.00	12.50	11.90	-31.40	-13.00	-18.40	Н		
1697.54	-44.14	9.60	4.77	-39.31	-13.00	-26.31	V		
2546.37	-44.95	10.80	8.50	-42.65	-13.00	-29.65	V		
3395.29	-42.99	12.50	11.90	-42.39	-13.00	-29.39	V		

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

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

#### GPRS 850: (30-9000)MHz

		GPRS	850: (30-9	000)MHz				
	The W	orst Test R	esults Ch	annel 128/	824.2 MHz			
	S G.Lev			PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)		
1648.18	-41.35	9.40	4.75	-36.70	-13.00	-23.70	Н	
2472.52	-39.88	10.60	8.39	-37.67	-13.00	-24.67	Н	
3296.62	-31.65	12.00	11.79	-31.44	-13.00	-18.44	Н	
1648.17	-43.85	9.40	4.75	-39.20	-13.00	-26.20	V	
2472.51	-44.39	10.60	8.39	-42.18	-13.00	-29.18	V	
3296.90	-42.54	12.00	11.79	-42.33	-13.00	-29.33	V	
The Worst Test Results Channel 190/836.6 MHz								
	S G.Lev	G.Lev Ant(dBi)		PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Апцаві)	Loss	(dBm)	(dBm)	(dB)	rolanty	
1673.00	-40.54	9.50	4.76	-35.80	-13.00	-22.80	Н	
2509.79	-40.22	10.70	8.40	-37.92	-13.00	-24.92	Н	
3346.06	-31.63	12.20	11.80	-31.23	-13.00	-18.23	Н	
1673.20	-43.73	9.40	4.75	-39.08	-13.00	-26.08	V	
2509.57	-44.74	10.60	8.39	-42.53	-13.00	-29.53	V	
3346.10	-43.61	12.20	11.82	-43.23	-13.00	-30.23	V	
	The W	orst Test R	esults Ch	annel 251/	848.8 MHz			
Frequency(MHz)	S G.Lev	Apt(dDi)	1 000	PMea	Limit	Margin	Delority	
Frequency(MHZ)	(dBm) Ant(dBi) Los	Loss	(dBm)	(dBm)	(dB)	Polarity		
1697.51	-41.05	9.60	4.77	-36.22	-13.00	-23.22	Н	
2546.52	-39.25	10.80	8.50	-36.95	-13.00	-23.95	Н	
3395.17	-31.50	12.50	11.90	-30.90	-13.00	-17.90	Н	
1697.53	-44.61	9.60	4.77	-39.78	-13.00	-26.78	V	
2546.23	-44.17	10.80	8.50	-41.87	-13.00	-28.87	V	
3395.15	-42.60	12.50	11.90	-42.00	-13.00	-29.00	V	

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

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

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

, ,		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	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)		
3700.32	-34.01	12.60	12.93	-34.34	-13.00	-21.34	Н	
5550.50	-34.26	13.10	17.11	-38.27	-13.00	-25.27	Н	
7400.57	-32.26	11.50	22.20	-42.96	-13.00	-29.96	Н	
3700.51	-34.78	12.60	12.93	-35.11	-13.00	-22.11	V	
5550.36	-34.40	13.10	17.11	-38.41	-13.00	-25.41	V	
7400.61	-32.88	11.50	22.20	-43.58	-13.00	-30.58	V	
The Worst Test Results for Channel 661/1880.0MHz								
	S G.Lev	G.Lev		PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)		
3759.99	-34.88	12.60	12.93	-35.21	-13.00	-22.21	Н	
5639.84	-35.29	13.10	17.11	-39.30	-13.00	-26.30	Н	
7519.92	-32.23	11.50	22.20	-42.93	-13.00	-29.93	Н	
3760.18	-35.44	12.60	12.93	-35.77	-13.00	-22.77	V	
5640.25	-34.21	13.10	17.11	-38.22	-13.00	-25.22	V	
7520.15	-32.88	11.50	22.20	-43.58	-13.00	-30.58	V	
	The Wor	st Test Res	sults for C	hannel 810	)/1909.8MH	Z		
	S G.Lev			PMea	Limit	Margin	Deleritur	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
3819.43	-34.35	12.60	12.93	-34.68	-13.00	-21.68	Н	
5729.14	-34.33	13.10	17.11	-38.34	-13.00	-25.34	Н	
7639.07	-32.78	11.50	22.20	-43.48	-13.00	-30.48	Н	
3819.74	-35.64	12.60	12.93	-35.97	-13.00	-22.97	V	
5729.24	-34.32	13.10	17.11	-38.33	-13.00	-25.33	V	
7639.24	-32.69	11.50	22.20	-43.39	-13.00	-30.39	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

		GPRS1	900: (30-2	0000)MHz				
	The Wor	st Test Res	sults for C	hannel 512	2/1850.2MH	z		
	S G.Lev	A set(dDi)	Loss	PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)		(dBm)	(dBm)	(dB)		
3700.23	-34.06	12.60	12.93	-34.39	-13.00	-21.39	Н	
5550.49	-35.22	13.10	17.11	-39.23	-13.00	-26.23	Н	
7400.88	-33.12	11.50	22.20	-43.82	-13.00	-30.82	Н	
3700.51	-34.55	12.60	12.93	-34.88	-13.00	-21.88	V	
5550.45	-33.89	13.10	17.11	-37.90	-13.00	-24.90	V	
7400.91	-32.96	11.50	22.20	-43.66	-13.00	-30.66	V	
The Worst Test Results for Channel 661/1880.0MHz								
	S G.Lev	Apt(dDi)	Loss	PMea	Limit	Margin	Delority	
Frequency(MHz)	(dBm)	Ant(dBi)	LUSS	(dBm)	(dBm)	(dB)	Polarity	
3760.15	-34.87	12.60	12.93	-35.20	-13.00	-22.20	Н	
5639.97	-34.36	13.10	17.11	-38.37	-13.00	-25.37	Н	
7519.86	-32.78	11.50	22.20	-43.48	-13.00	-30.48	Н	
3760.02	-35.42	12.60	12.93	-35.75	-13.00	-22.75	V	
5640.31	-34.30	13.10	17.11	-38.31	-13.00	-25.31	V	
7519.82	-31.96	11.50	22.20	-42.66	-13.00	-29.66	V	
	The Wor	st Test Res	sults for C	hannel 810	)/1909.8MH	z		
Frequency(MHz)	S G.Lev	Ant(dBi)	Loss	PMea	Limit	Margin	Delority	
Frequency(MHZ)	(dBm)	Апциы)	LUSS	(dBm)	(dBm)	(dB)	- Polarity	
3819.63	-34.37	12.60	12.93	-34.70	-13.00	-21.70	Н	
5729.10	-35.01	13.10	17.11	-39.02	-13.00	-26.02	Н	
7639.00	-32.77	11.50	22.20	-43.47	-13.00	-30.47	Н	
3819.81	-35.18	12.60	12.93	-35.51	-13.00	-22.51	V	
5729.49	-34.89	13.10	17.11	-38.90	-13.00	-25.90	V	
7638.90	-31.85	11.50	22.20	-42.55	-13.00	-29.55	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.

#### UMTS band V(30-9000)MHz

		WCDMA	Band V: (3	0-9000)MH	łz			
	The v	vost testre	sults chan	nel 4132/8	26.4MHz			
	S G.Lev	Ant(dDi)		PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)		
1652.04	-40.82	9.40	4.75	-36.17	-13.00	-23.17	Н	
2479.22	-40.05	10.60	8.39	-37.84	-13.00	-24.84	Н	
3305.79	-31.03	12.00	11.79	-30.82	-13.00	-17.82	Н	
1652.01	-43.80	9.40	4.75	-39.15	-13.00	-26.15	V	
2479.22	-44.92	10.60	8.39	-42.71	-13.00	-29.71	V	
3305.51	-42.91	12.00	11.79	-42.70	-13.00	-29.70	V	
The Worst Test Results Channel 4183/836.6MHz								
	S G.Lev	G.Lev	Loss	PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)	LUSS	(dBm)	(dBm)	(dB)		
1673.22	-40.52	9.50	4.76	-35.78	-13.00	-22.78	Н	
2509.86	-40.05	10.70	8.40	-37.75	-13.00	-24.75	Н	
3346.43	-31.45	12.20	11.80	-31.05	-13.00	-18.05	Н	
1673.15	-43.34	9.40	4.75	-38.69	-13.00	-25.69	V	
2509.62	-44.84	10.60	8.39	-42.63	-13.00	-29.63	V	
3346.36	-43.50	12.20	11.82	-43.12	-13.00	-30.12	V	
	The Wo	orst Test R	esults Cha	annel 4233	/846.6MHz			
	S G.Lev	A pt(dDi)		PMea	Limit	Margin	Delority	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
1693.61	-41.62	9.60	4.77	-36.79	-13.00	-23.79	Н	
2539.22	-39.66	10.80	8.50	-37.36	-13.00	-24.36	Н	
3385.91	-31.99	12.50	11.90	-31.39	-13.00	-18.39	Н	
1693.28	-43.94	9.60	4.77	-39.11	-13.00	-26.11	V	
2539.16	-44.65	10.80	8.50	-42.35	-13.00	-29.35	V	
3385.89	-42.78	12.50	11.90	-42.18	-13.00	-29.18	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.

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#### UMTS band II(30-20000)MHz

	<u>.</u>	WCDMA B	Band II: (3	0-20000)M	Hz			
	The Wors	st Test Res	ults for Ch	nannel 926	2/1852.4M⊦	lz		
	S G.Lev	Apt(dBi)	Loss	PMea	Limit	Margin	Polarity	
Frequency(MHz)	(dBm)	Ant(dBi)	LOSS	(dBm)	(dBm)	(dB)		
3704.43	-34.48	12.60	12.93	-34.81	-13.00	-21.81	Н	
5557.25	-34.08	13.10	17.11	-38.09	-13.00	-25.09	Н	
7409.80	-33.18	11.50	22.20	-43.88	-13.00	-30.88	Н	
3704.37	-35.13	12.60	12.93	-35.46	-13.00	-22.46	V	
5557.54	-34.94	13.10	17.11	-38.95	-13.00	-25.95	V	
7409.47	-32.36	11.50	22.20	-43.06	-13.00	-30.06	V	
The Worst Test Results for Channel 9400/1880MHz								
	S G.Lev		PMea	Limit	Margin	Delerity		
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	- Polarity	
3759.88	-34.54	12.60	12.93	-34.87	-13.00	-21.87	Н	
5639.87	-35.06	13.10	17.11	-39.07	-13.00	-26.07	Н	
7520.23	-32.84	11.50	22.20	-43.54	-13.00	-30.54	Н	
3760.01	-35.36	12.60	12.93	-35.69	-13.00	-22.69	V	
5639.88	-33.99	13.10	17.11	-38.00	-13.00	-25.00	V	
7519.89	-32.33	11.50	22.20	-43.03	-13.00	-30.03	V	
	The Wors	st Test Res	ults for Ch	nannel 953	8/1907.6MH	łz		
	S G.Lev	A pt(dDi)		PMea	Limit	Margin	Delority	
Frequency(MHz)	(dBm)	Ant(dBi)	Loss	(dBm)	(dBm)	(dB)	Polarity	
3815.25	-33.71	12.60	12.93	-34.04	-13.00	-21.04	Н	
5722.25	-35.21	13.10	17.11	-39.22	-13.00	-26.22	Н	
7630.16	-33.58	11.50	22.20	-44.28	-13.00	-31.28	Н	
3815.68	-34.62	12.60	12.93	-34.95	-13.00	-21.95	V	
5722.38	-34.66	13.10	17.11	-38.67	-13.00	-25.67	V	
7630.25	-32.76	11.50	22.20	-43.46	-13.00	-30.46	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.

# APPENDIX BPHOTOS OF TEST SETUP

RADIATED SPURIOUS EMISSION





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