

FCC Part22H&24E Test Report

Product Name : Notebook

Model No. : SZ900/SZ901

FCC ID : WXC-900901WBG

Applicant : FOXCONN INTERNATIONAL INC

Address : 2 TZU YU ST TU-CHENG, TAIPEI HSIEN 236
TAIWAN

Date of Receipt : 2009/05/31

Issued Date : 2009/06/19

Report No. : 096S038R-HP-US-P07V01

Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by CNLA, NVLAP, NIST or any agency of the Government.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Test Report CertificationIssued Date : 2009/06/19
Report No. : 096S038R-HP-US-P07V01**Quietek**

Product Name : Notebook
Applicant : FOXCONN INTERNATIONAL INC
Address : 2 TZU YU ST TU-CHENG, TAIPEI HSIEN 236 TAIWAN
Manufacturer : FULIN ELECTRONICAL TECHNOLOGY (CHANGSHU) CO LTD
Address : HUANGPU RD, DONGNAN ECONOMICAL DEVELOPMENT ZONE, CHANGSHU JIANGSU, CHINA
Model No. : SZ900/SZ901
FCC ID : WXC-900901WBG
Rated Voltage : AC 230 V / 50 Hz
EUT Voltage : AC 100-240V, 50/60Hz
Trade Name : FOXCONN
Applicable Standard : FCC CFR Title 47 Part 2, Part 22H and Part 24E
Test Result : Complied
Performed Location : SuZhou EMC laboratory
No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

Documented By : Alice Ni

(Alice Ni)

Reviewed By : Marlin Chen

(Marlin Chen)

Approved By : Gene Chang

(Gene Chang)

Laboratory Information

We , **QuiTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from QuiTek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
The address and introduction of QuiTek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :

No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com



LinKou Testing Laboratory :

No. 5, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
TEL : +886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com



Suzhou Testing Laboratory :

No.99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., SuZhou, China
TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com



TABLE OF CONTENTS

Description	Page
1. General Information	6
1.1. EUT Description.....	6
1.2. Mode of Operation	7
1.3. Tested System Details	8
1.4. Configuration of Tested System.....	9
1.5. EUT Exercise Software.....	10
2. Technical Test.....	11
2.1. Summary of Test Result	11
2.2. Test Environment.....	12
3. Peak Output Power	13
3.1. Test Equipment.....	13
3.2. Test Setup.....	14
3.3. Limit.....	14
3.4. Test Procedure	15
3.5. Uncertainty.....	16
3.6. Test Result.....	17
4. Modulation Characteristic.....	22
4.1. Test Equipment.....	22
4.2. Test Setup.....	22
4.3. Limit.....	23
4.4. Test Procedure	23
4.5. Uncertainty.....	23
4.6. Test Result.....	24
5. Occupied Bandwidth	27
5.1. Test Equipment.....	27
5.2. Test Setup.....	27
5.3. Limit.....	28
5.4. Test Procedure	28
5.5. Uncertainty	28
5.6. Test Result.....	29
6. Spurious Emission At Antenna Terminals (+/- 1MHz).....	41
6.1. Test Equipment.....	41
6.2. Test Setup.....	41
6.3. Limit.....	42
6.4. Test Procedure	42

6.5. Uncertainty.....	42
6.6. Test Result.....	43
7. Spurious Emission	50
7.1. Test Equipment.....	50
7.2. Test Setup.....	51
7.3. Limit.....	51
7.4. Test Procedure	52
7.5. Uncertainty.....	53
7.6. Test Result.....	54
8. Frequency Stability Under Temperature & Voltage Variations.....	60
8.1. Test Equipment.....	60
8.2. Test Setup.....	60
8.3. Limit.....	61
8.4. Test Procedure	61
8.5. Uncertainty.....	61
8.6. Test Result.....	62

1. General Information

1.1. EUT Description

Product Name	Notebook			
Trade Name	FOXCONN			
Model No.	SZ900/SZ901			
FCC ID	WXC-900901WBG			
3G Module	EM770			
Working Voltage	DC 3.3V			
Mode	GPRS/EDGE	Band	UL Frequency (MHz)	DL Frequency (MHz)
		850	824~849	869~894
Mode	WCDMA R99 HSDPA R5	1900	1850~1910	1930~1990
		Band	UL Frequency (MHz)	DL Frequency (MHz)
		II	1850~1910	1930~1990
		V	824~849	869~894
Channel Control	Auto			
Antenna type	PIFA			
Antenna Gain	GSM850 Band: 0.95dBi DCS1900 Band: 2.55dBi			

Note: This product includes two models SZ900 and SZ901. SZ900 and SZ901 are only different from externally. The motherboard and the material are the same.

Component	
AC Adapter	Manufacturer: Darfon Electronics Corp. Model: BA01-J Input: 100-240V~, 50~60Hz, 1A Output: 19V, 2.1A

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: GPRS850
Mode 2: EDGE850
Mode 3: GPRS1900
Mode 4: EDGE1900
Mode 5: WCDMA/HSDPA Band II
Mode 6: WCDMA/HSDPA Band V

Note:

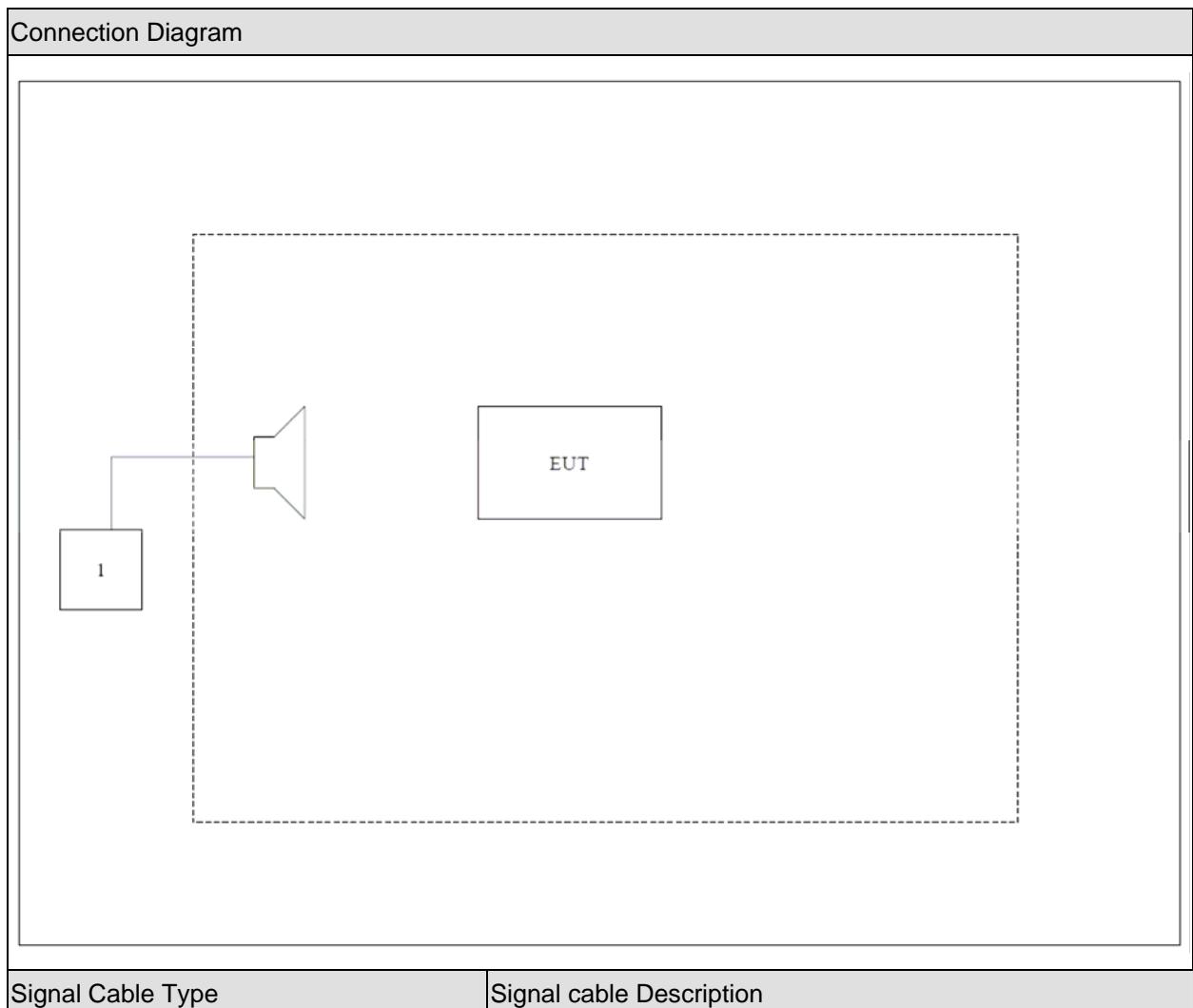
1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations.

Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 CMU200	R&S	CMU200	N/A	N/A

1.3. Configuration of Tested System



1.4. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	EUT Communicate with CMU200, then select channel to test.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

For GSM850 & WCDMA Band V (FCC Part 22H & Part 2)

Emission			
Performed Item	Normative References	Test Performed	Deviation
Peak Output Power	FCC Part 22.913(a)(2) and Part 2.1046	Yes	No
Modulation Characteristic	FCC Part 2.1047(d)	Yes	No
Occupied Bandwidth	FCC Part 2.1049	Yes	No
Spurious Emission At Antenna Terminals (+/- 1MHz)	FCC Part 22.917(a) and Part 2.1049	Yes	No
Spurious Emission	FCC Part 22.917(b) and Part 2.1051, 2.1053	Yes	No
Frequency Stability Under Temperature & Voltage Variations	FCC Part 22.355 and 2.1055	Yes	No

For PCS1900 & WCDMA Band II (FCC Part 24E & Part 2)

Emission			
Performed Item	Normative References	Test Performed	Deviation
Peak Output Power	FCC Part 24.232(b) and Part 2.1046	Yes	No
Modulation Characteristic	FCC Part 2.1047(d)	Yes	No
Occupied Bandwidth	FCC Part 24.238(b) and Part 2.1049	Yes	No
Spurious Emission At Antenna Terminals (+/- 1MHz)	FCC Part 24.238(a) and Part 2.1049	Yes	No
Spurious Emission	FCC Part 24.238(b) and Part 2.1051, 2.1053	Yes	No
Frequency Stability Under Temperature & Voltage Variations	FCC Part 24.235 and 2.1055	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	23
Humidity (%RH)	25-75	52
Barometric pressure (mbar)	860-1060	950-1000

3. Peak Output Power

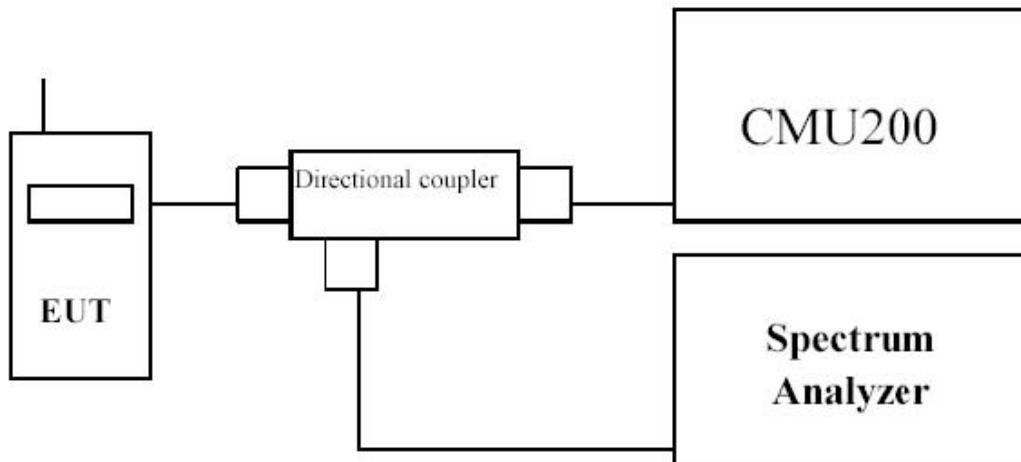
3.1. Test Equipment

Peak Output Power / AC-6

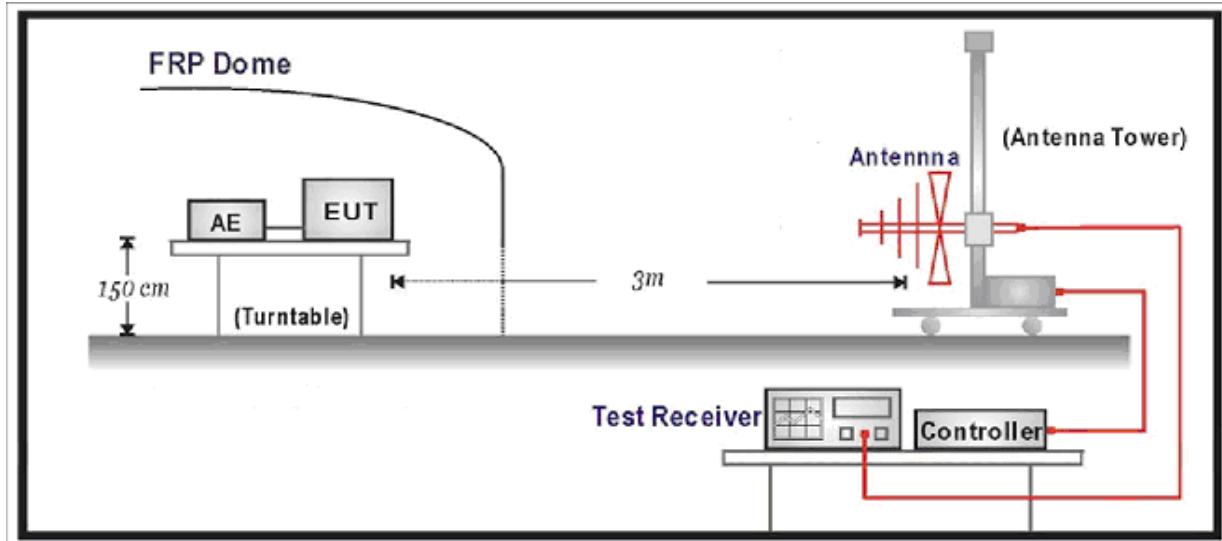
Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/10
Radio Communication Tester	R&S	CMU 200	106388	2008/10/21
Dual Directional Coupler	Agilent	778D	20160	2009/04/20
10dB Coaxial Coupler	Agilent	87300C	MY44300299	2009/04/20
PSG Analog S.G.	Agilent	E8257D	MY44321116	2009/06/11
Preamplifier	QuieTek	AP-025C	QT-AP005	2008/11/24
Preamplifier	QuieTek	AP-180C	CHM-0602013	2008/11/24
Bilog Type Antenna	Schaffner	CBL6141A	4278	2008/11/24
Half Wave Tuned Dipole Antenna	COM-POWER	AD-100	40137	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RL	06	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RH	07	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-T	09	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RF-H	10	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

3.2. Test Setup

Conducted Power Measurement:



Radiated Power Measurement:



3.3. Limit

For FCC Part 22.913(a)(2):

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(b):

The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

3.4. Test Procedure

Conducted Power Measurement:

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMU200 by a Directional Couple.
- c) EUT Communicate with CMU200, then select a channel for testing.
- d) Add a correction factor to the display of spectrum, and then test.

Radiated Power Measurement:

- a) The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b) The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- c) The output of the test antenna shall be connected to the measuring receiver.
- d) The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e) The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g) The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h) The maximum signal level detected by the measuring receiver shall be noted.
- i) The transmitter shall be replaced by a substitution antenna.
- j) The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- k) The substitution antenna shall be connected to a calibrated signal generator.
- l) If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m) The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n) The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- o) The measurement shall be repeated with the test antenna and the substitution antenna

orientated for horizontal polarization.

- p) The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.

3.5. Uncertainty

The measurement uncertainty is defined as for Conducted Power Measurement \pm 1.2 dB, for Radiated Power Measurement \pm 3.2 dB

3.6. Test Result

GPRS 850

Channel No.	Frequency (MHz)	Modulation	Conducted Output Power (dBm)	ERP (dBm)	Limit (dBm)	Result
128	824.2	GPRS	32.12	32.281	38.50	Pass
189	836.4	GPRS	32.04	32.368	38.50	Pass
251	848.8	GPRS	31.88	32.634	38.50	Pass

EDGE850

Channel No.	Frequency (MHz)	Modulation	Conducted Output Power (dBm)	ERP (dBm)	Limit (dBm)	Result
128	824.2	8PSK	26.46	26.139	38.50	Pass
189	836.4	8PSK	26.41	26.833	38.50	Pass
251	848.8	8PSK	26.48	26.619	38.50	Pass

GPRS1900

Channel No.	Frequency (MHz)	Modulation	Conducted Output Power (dBm)	EIRP (dBm)	Limit (dBm)	Result
512	1850.2	GPRS	29.11	32.080	33.00	Pass
661	1880.0	GPRS	29.06	32.106	33.00	Pass
810	1909.8	GPRS	29.08	32.004	33.00	Pass

EDGE1900

Channel No.	Frequency (MHz)	Modulation	Conducted Output Power (dBm)	EIRP (dBm)	Limit (dBm)	Result
512	1850.2	8PSK	25.70	27.664	33.00	Pass
661	1880.0	8PSK	25.72	27.532	33.00	Pass
810	1909.8	8PSK	25.86	27.489	33.00	Pass

WCDMA/HSDPA FDD Band V

Channel No.	Frequency (MHz)	Modulation	Conducted Output Power (dBm)	ERP (dBm)	Limit (dBm)	Result
4132	826.4	QPSK	22.72	23.822	38.50	Pass
4182	836.4	QPSK	22.84	23.601	38.50	Pass
4233	846.6	QPSK	22.71	23.705	38.50	Pass

WCDMA/HSDPA FDD Band II

Channel No.	Frequency (MHz)	Modulation	Conducted Output Power (dBm)	EIRP (dBm)	Limit (dBm)	Result
9262	1852.4	QPSK	22.69	25.811	33.00	Pass
9400	1880.0	QPSK	22.76	25.798	33.00	Pass
9538	1907.6	QPSK	22.67	25.864	33.00	Pass

Radiated Measurement**GPRS850**

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)								
824.20	13.841	H	34.861	2.56	-0.02	32.281	38.50	-6.219
824.20	14.508	V	34.273	2.56	-0.02	31.693	38.50	-6.807
Middle Channel 189 (836.40MHz)								
836.40	14.208	H	34.858	2.59	0.10	32.368	38.50	-6.132
836.40	15.352	V	34.247	2.59	0.10	31.757	38.50	-6.743
High Channel 251 (848.80MHz)								
848.80	14.664	H	35.044	2.54	0.13	32.634	38.50	-5.866
848.80	15.386	V	34.426	2.54	0.13	32.016	38.50	-6.484

EDGE850

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)								
824.20	6.999	H	28.719	2.56	-0.02	26.139	38.50	-12.361
824.20	8.888	V	28.055	2.56	-0.02	25.475	38.50	-13.025
Middle Channel 189 (836.40MHz)								
836.40	7.673	H	29.323	2.59	0.10	26.833	38.50	-11.667
836.40	9.642	V	27.937	2.59	0.10	25.447	38.50	-13.053
High Channel 251 (848.80MHz)								
848.80	10.449	H	29.029	2.54	0.13	26.619	38.50	-11.881
848.80	12.166	V	28.205	2.54	0.13	25.795	38.50	-12.705

GPRS1900

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)								
1850.20	32.459	H	25.230	3.55	10.40	32.080	33.00	-0.920
1850.20	30.774	V	24.846	3.55	10.40	31.696	33.00	-1.304
Middle Channel 661 (1880.00MHz)								
1880.00	32.710	H	25.206	3.53	10.43	32.106	33.00	-0.894
1880.00	31.807	V	24.789	3.53	10.43	31.689	33.00	-1.311
High Channel 810 (1909.80MHz)								
1909.80	32.579	H	25.124	3.56	10.44	32.004	33.00	-0.996
1909.80	32.073	V	24.892	3.56	10.44	31.772	33.00	-1.228

EDGE1900

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)								
1850.20	32.243	H	20.814	3.55	10.40	27.664	33.00	-5.336
1850.20	30.156	V	19.428	3.55	10.40	26.278	33.00	-6.722
Middle Channel 661 (1880.00MHz)								
1880.00	31.776	H	20.632	3.53	10.43	27.532	33.00	-5.468
1880.00	29.089	V	19.371	3.53	10.43	26.271	33.00	-6.729
High Channel 810 (1909.80MHz)								
1909.80	31.224	H	20.609	3.56	10.44	27.489	33.00	-5.511
1909.80	29.445	V	19.464	3.56	10.44	26.344	33.00	-6.656

WCDMA FDD II

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 9262 (1852.40MHz)								
1850.20	30.589	H	18.961	3.55	10.40	25.811	33.00	-7.189
1850.20	27.400	V	17.674	3.55	10.40	24.524	33.00	-8.476
Middle Channel 9400 (1880.00MHz)								
1880.00	30.544	H	18.898	3.53	10.43	25.798	33.00	-7.202
1880.00	27.387	V	17.666	3.53	10.43	24.566	33.00	-8.434
High Channel 9538 (1907.60MHz)								
1909.80	29.797	H	18.984	3.56	10.44	25.864	33.00	-7.136
1909.80	27.462	V	17.789	3.56	10.44	24.669	33.00	-8.331

WCDMA FDD V

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 4132 (826.40MHz)								
824.20	2.772	H	26.402	2.56	-0.02	23.822	38.50	-14.678
824.20	5.030	V	25.462	2.56	-0.02	22.882	38.50	-15.618
Middle Channel 4182 (836.40MHz)								
836.40	3.441	H	26.091	2.59	0.10	23.601	38.50	-14.899
836.40	5.571	V	25.441	2.59	0.10	22.951	38.50	-15.549
High Channel 4233 (846.60MHz)								
848.80	3.835	H	26.115	2.54	0.13	23.705	38.50	-14.795
848.80	5.006	V	25.124	2.54	0.13	22.714	38.50	-15.786

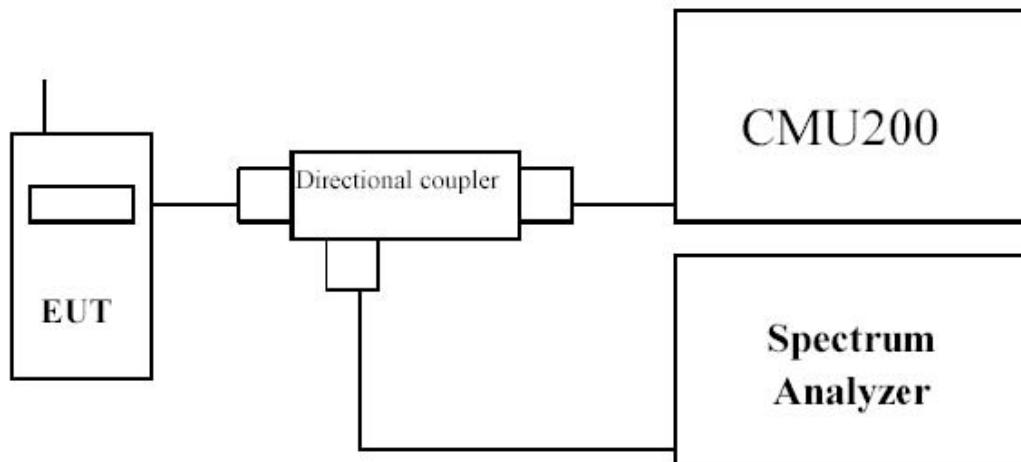
4. Modulation Characteristic

4.1. Test Equipment

Modulation Characteristic / AC-6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Radio Communication Tester	R&S	CMU 200	106388	2008/10/21
Dual Directional Coupler	Agilent	778D	20160	2009/04/20
10dB Coaxial Coupler	Agilent	87300C	MY44300299	2009/04/20
Coaxial Cable	Huber+Suhner	AC4-RF-H	10	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

4.2. Test Setup



4.3. Limit

N/A

4.4. Test Procedure

GMSK is a form of binary signaling schemes which represent digital states as a shift between discrete sinusoidal frequencies called Frequency Shift Keying (FSK). Minimum Shift Keying (MSK) is continuous phase FSK with the smallest possible modulation index h. Modulation index is defined as: $h = 2 * F * T_b$ where F = Peak frequency deviation in Hz and Tb = Bit period in seconds

Two discrete frequencies, representing two distinct digital states, with equal phases at switch time t = 0 requires a minimum value of h = 0.5. The Gaussian part of GMSK describes the fact that the digital pulses are filtered in the time domain. This results in bits which are sinusoidal rather than square. The effective spectrum is then compressed with the average carrier frequency in the center of the passband. This is a great advantage because of the significantly reduced bandwidth. GMSK is utilized because of these bandwidth conservation properties.

The bandwidth for GSM is a 60 MHz up-link at 1850-1910 MHz and down-link at 1930-1990 MHz. The 65 MHz is divided into 299 channels, each of which is 200 kHz wide. Slight spectral spillage is allowed into neighboring channels (which is minimized by GMSK). This separated transmit/receive frequencies scheme under GSM enables easier duplex filtering.

Within the bandwidth, individual channels are subdivided into multiframe (made of 26 frames), frames (made of 8 time slots), and time slots (made of 8 fields). The time slots are 0.57 ms long allowing 156.25 bits of information including overhead.

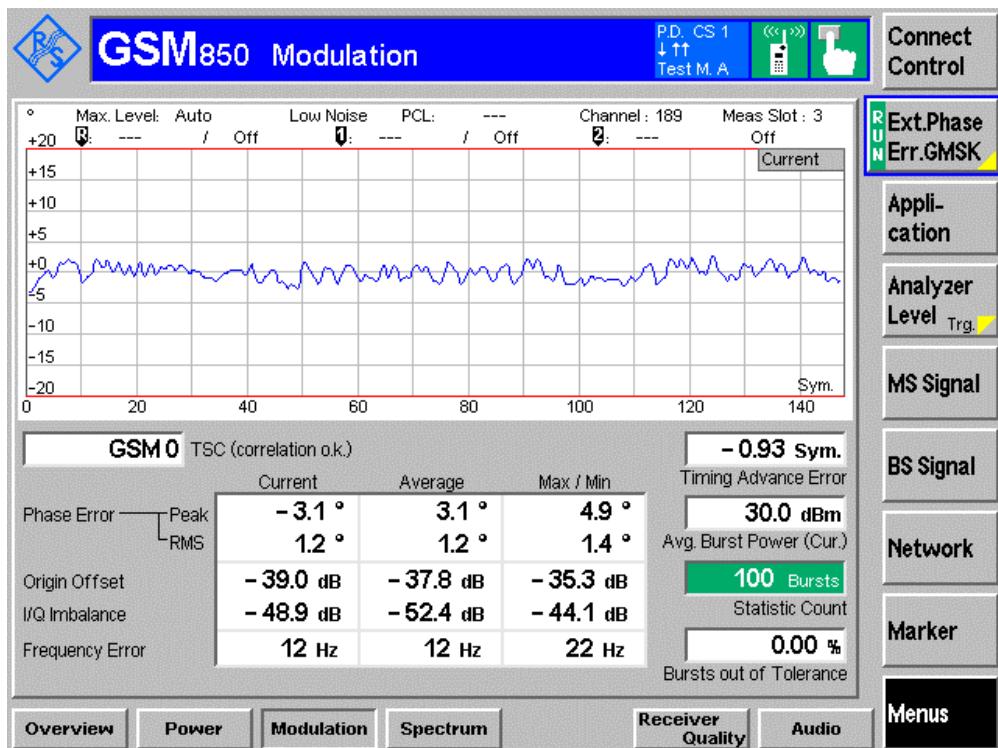
The modulation used in GPRS is the same used in GSM. A GSM channel contains eight timeslots, each timeslot is dedicated to one circuit switched call. For GPRS the timeslots are assigned on an as needed basis, and more than one timeslot can be assigned for a particular transmission depending on the network and the device.

4.5. Uncertainty

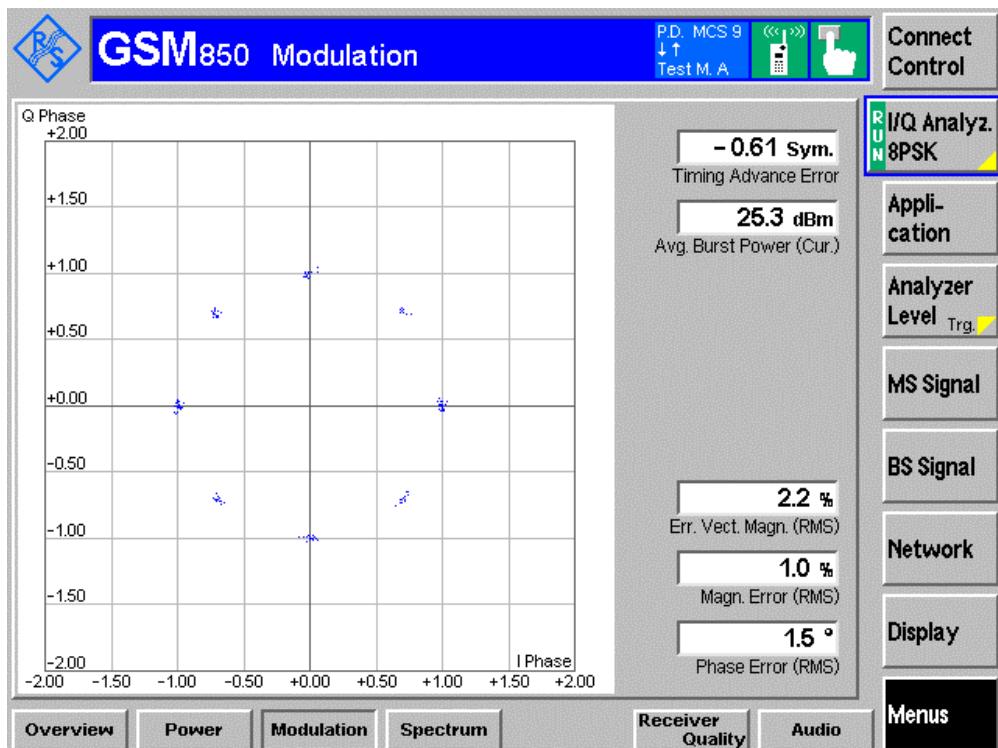
The measurement uncertainty is defined as 0.1%

4.6. Test Result

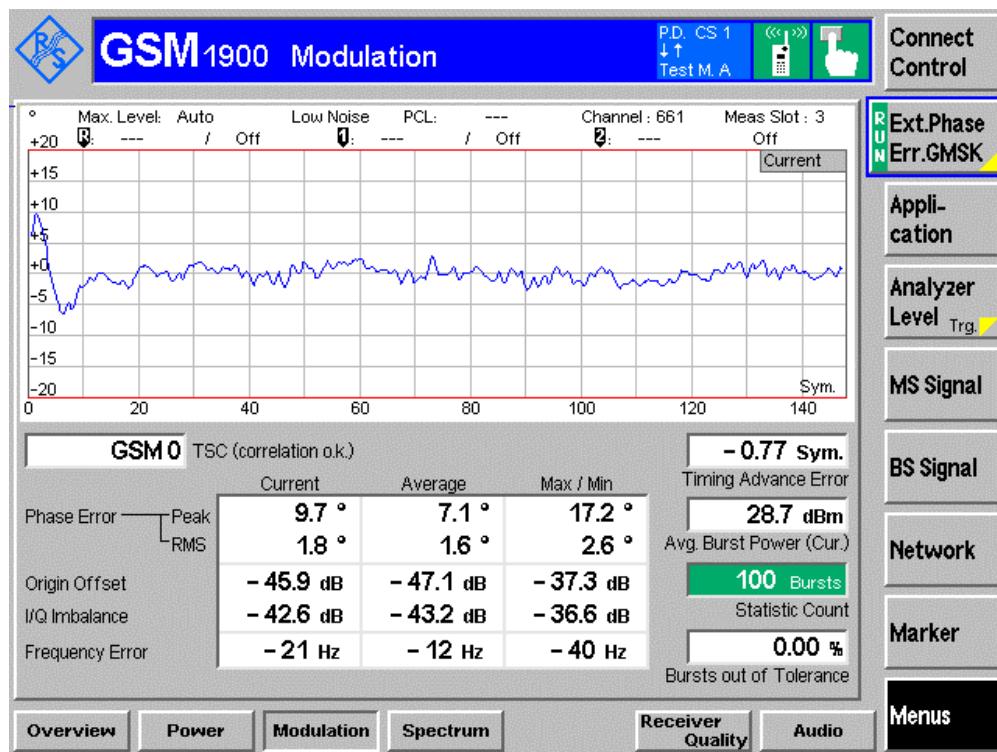
GPRS 850



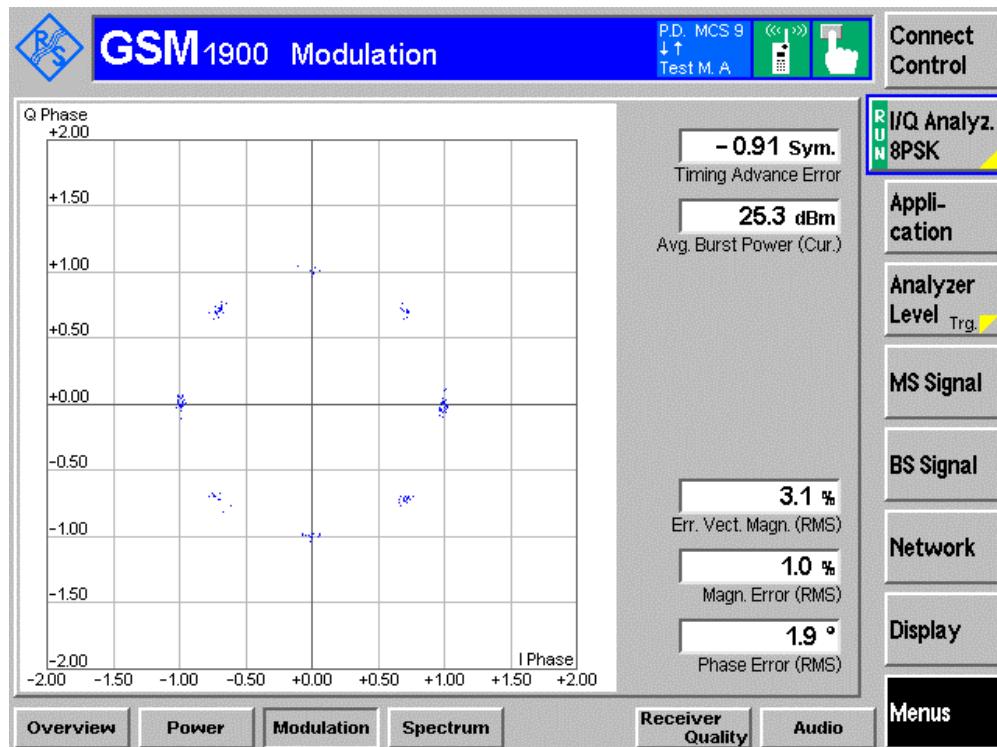
EDGE 850



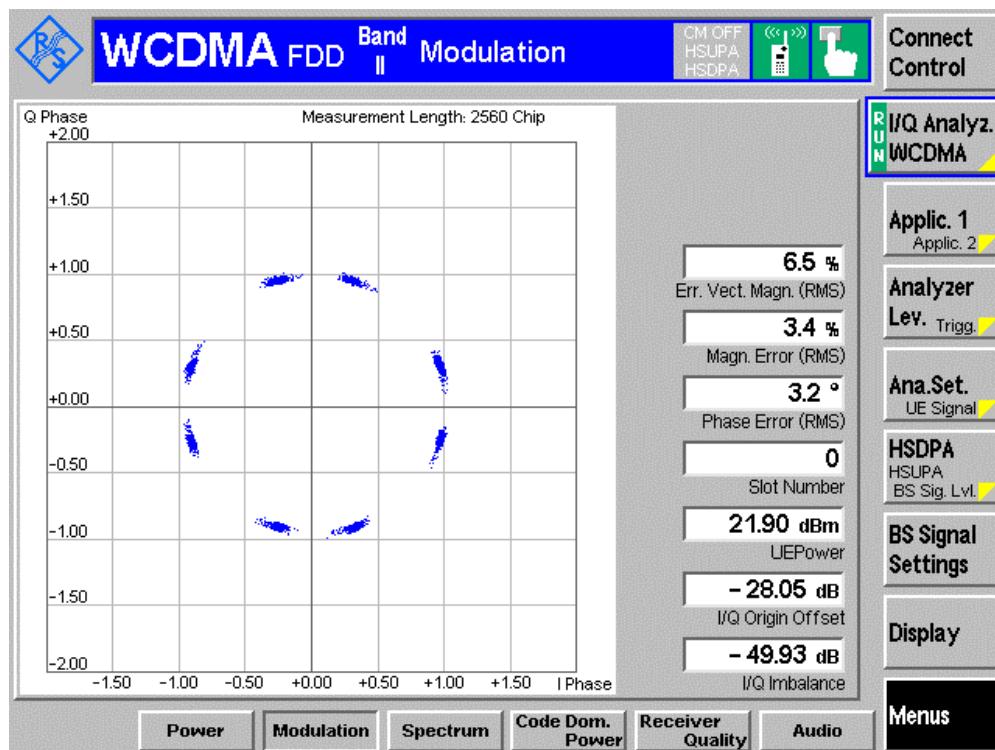
GPRS 1900



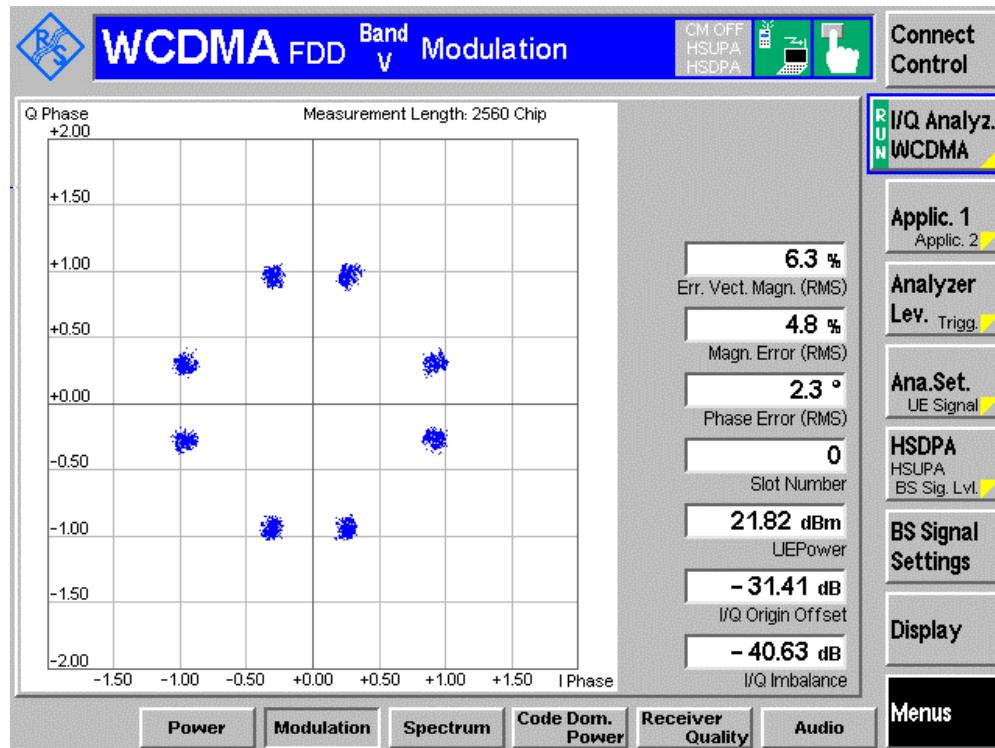
EDGE 1900



WCDMA/HSDPA FDD Band II



WCDMA/HSDPA FDD Band V



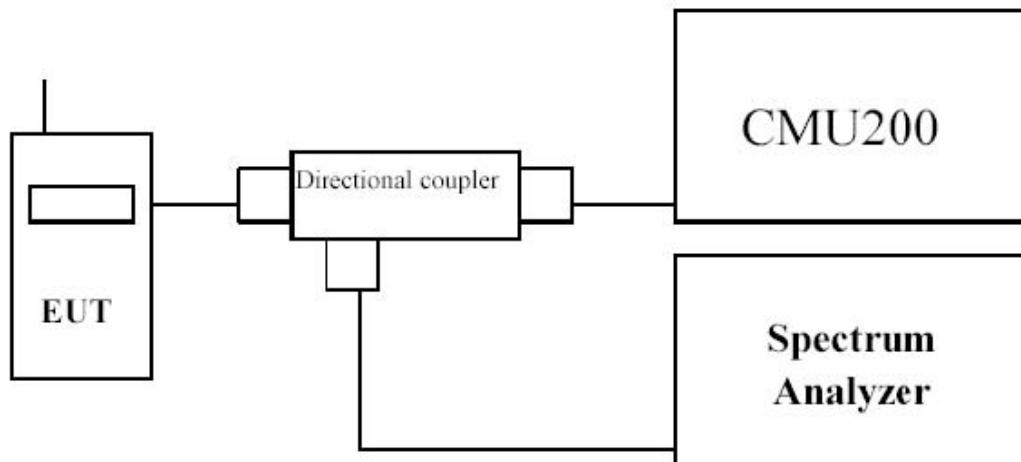
5. Occupied Bandwidth

5.1. Test Equipment

Occupied Bandwidth / AC-6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Radio Communication Tester	R&S	CMU 200	106388	2008/10/21
Dual Directional Coupler	Agilent	778D	20160	2009/04/20
10dB Coaxial Coupler	Agilent	87300C	MY44300299	2009/04/20
Coaxial Cable	Huber+Suhner	AC4-RF-H	10	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

5.2. Test Setup



5.3. Limit

N/A

5.4. Test Procedure

For GPRS/EDGE 850/1900 test:

Using a resolution bandwidth of 3 kHz and a video bandwidth of 10 kHz, the -26dBc points were established and the emission bandwidth determined. The plots below show the resultant display from the Spectrum Analyzer.

For WCDMA/HSDPA FDD Band II/V test:

Using a resolution bandwidth of 50 kHz and a video bandwidth of 200 kHz, the -26dBc points were established and the emission bandwidth determined. The plots below show the resultant display from the Spectrum Analyzer.

5.5. Uncertainty

The measurement uncertainty is defined as \pm 10 Hz

5.6. Test Result

Product	Notebook		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: GSM850 GPRS Link		
Date of Test	2009/06/15	Test Site	AC-6

Channel No.	Frequency (MHz)	Measurement of -26dB Bandwidth (kHz)
128	824.20	317.2
189	836.40	318.7
251	848.80	318.7

Figure Channel 128 (824.20MHz)



Figure Channel 189 (836.40MHz)



Figure Channel 251 (848.80MHz)



Product	Notebook		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: PCS1900 GPRS Link		
Date of Test	2009/06/15	Test Site	AC-6

Channel No.	Frequency (MHz)	Measurement of -26dB Bandwidth (kHz)
512	1850.20	320.2
661	1880.00	313.7
810	1909.80	313.2

Figure Channel 512 (1850.20MHz)



Figure Channel 661 (1880.00MHz)



Figure Channel 810 (1909.80MHz)



Product	Notebook		
Test Item	Occupied Bandwidth		
Test Mode	Mode 3: GSM850 EDGE Link		
Date of Test	2009/06/15	Test Site	AC-6

Channel No.	Frequency (MHz)	Measurement of -26dB Bandwidth (kHz)
128	824.20	316.7
189	836.40	305.2
251	848.80	316.7

Figure Channel 128 (824.20MHz)



Figure Channel 189 (836.40MHz)

Figure Channel 251 (848.80MHz)


Product	Notebook		
Test Item	Occupied Bandwidth		
Test Mode	Mode 4: PCS1900 EDGE Link		
Date of Test	2009/06/15	Test Site	AC-6

Channel No.	Frequency (MHz)	Measurement of -26dB Bandwidth (kHz)
512	1850.20	313.7
661	1880.00	313.7
810	1909.80	313.7

Figure Channel 512 (1850.20MHz)



Figure Channel 661 (1880.00MHz)



Figure Channel 810 (1909.80MHz)



Product	Notebook		
Test Item	Occupied Bandwidth		
Test Mode	Mode 5: WCDMA/HSDPA Band II Link		
Date of Test	2009/06/15	Test Site	AC-6

Channel No.	Frequency (MHz)	Measurement of -26dB Bandwidth (MHz)
9262	1852.4	4.627
9400	1880.0	4.632
9538	1907.6	4.627

Figure Channel 9262 (1852.4MHz)



Figure Channel 9400 (1880.0MHz)



Figure Channel 9538 (1907.6MHz)



Product	Notebook		
Test Item	Occupied Bandwidth		
Test Mode	Mode 6: WCDMA/HSDPA Band V Link		
Date of Test	2009/06/15	Test Site	AC-6

Channel No.	Frequency (MHz)	Measurement of -26dB Bandwidth (MHz)
4132	826.4	4.657
4182	836.4	4.662
4233	846.6	4.632

Figure Channel 4132 (826.4MHz)



Figure Channel 4182 (836.40MHz)



Figure Channel 4233 (846.60MHz)



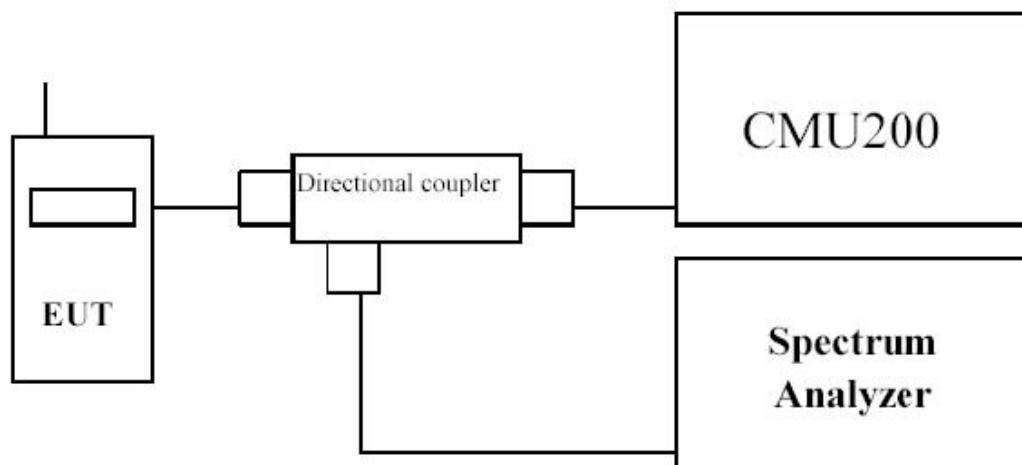
6. Spurious Emission At Antenna Terminals (+/- 1MHz)

6.1. Test Equipment

Spurious Emission At Antenna Terminals (+/- 1MHz) / AC-6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Radio Communication Tester	R&S	CMU 200	106388	2008/10/21
Dual Directional Coupler	Agilent	778D	20160	2009/04/20
10dB Coaxial Coupler	Agilent	87300C	MY44300299	2009/04/20
Coaxial Cable	Huber+Suhner	AC4-RF-H	10	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

6.2. Test Setup



6.3. Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

6.4. Test Procedure

In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.

6.5. Uncertainty

The measurement uncertainty is defined as ± 1.2 dB.

6.6. Test Result

Product	Notebook		
Test Item	Spurious Emission At Antenna Terminals (+/- 1MHz)		
Test Mode	Mode 1: GSM850 GPRS Link		
Date of Test	2009/06/15	Test Site	AC-6

Figure Channel 128 (824.20MHz)

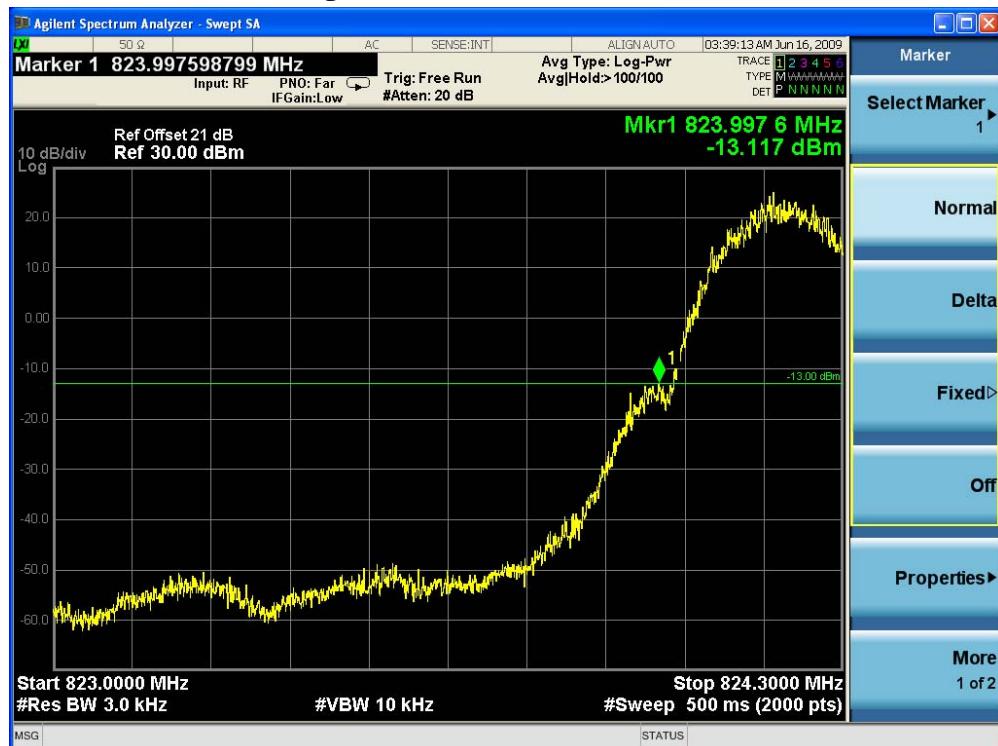
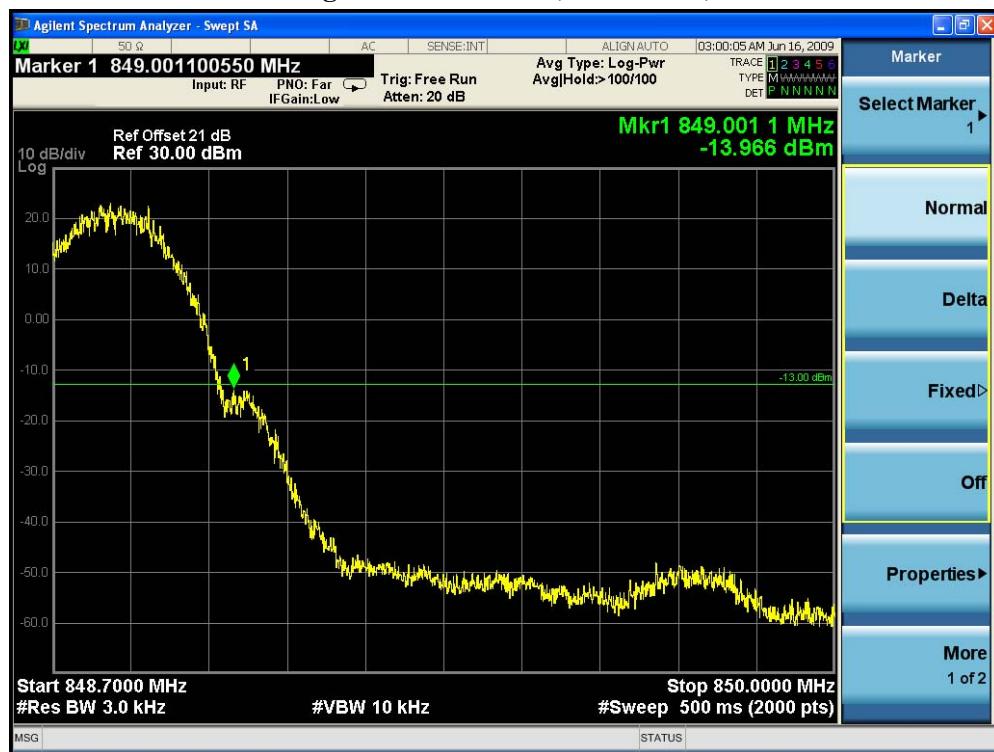


Figure Channel 251 (848.80MHz)

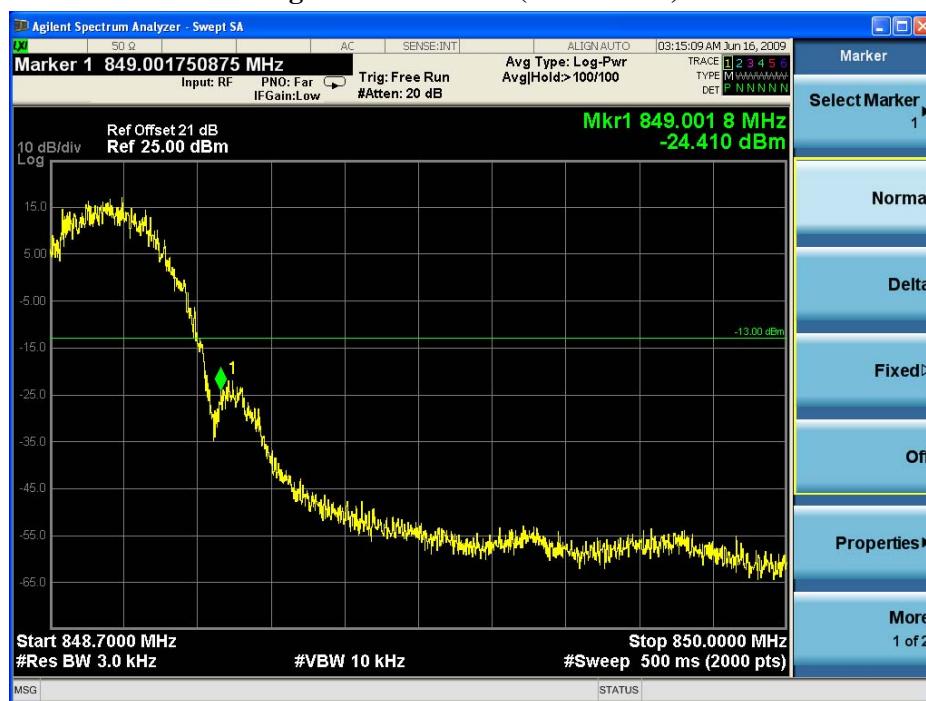


Product	Notebook		
Test Item	Spurious Emission At Antenna Terminals (+/- 1MHz)		
Test Mode	Mode 2: GSM850 EDGE Link		
Date of Test	2009/06/15	Test Site	AC-6

Figure Channel 128 (824.20MHz)



Figure Channel 251 (848.80MHz)



Product	Notebook		
Test Item	Spurious Emission At Antenna Terminals (+/- 1MHz)		
Test Mode	Mode 3: PCS1900 GPRS Link		
Date of Test	2009/06/15	Test Site	AC-6

Figure Channel 512 (1850.20MHz)



Figure Channel 810 (1909.80MHz)

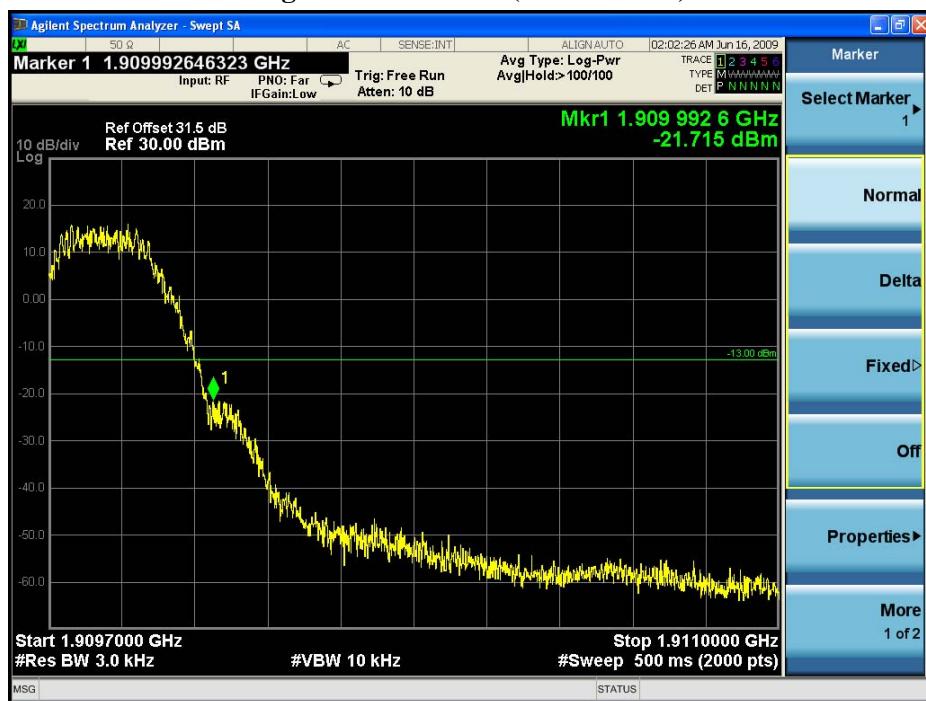


Product	Notebook		
Test Item	Spurious Emission At Antenna Terminals (+/- 1MHz)		
Test Mode	Mode 4: PCS1900 EDGE Link		
Date of Test	2009/06/15	Test Site	AC-6

Figure Channel 512 (1850.20MHz)



Figure Channel 810 (1909.80MHz)



Product	Notebook		
Test Item	Spurious Emission At Antenna Terminals (+/- 1MHz)		
Test Mode	Mode 5: WCDMA/HSDPA Band II Link		
Date of Test	2009/06/15	Test Site	AC-6

Figure Channel 9262 (1852.4MHz)



Figure Channel 9538 (1907.60MHz)

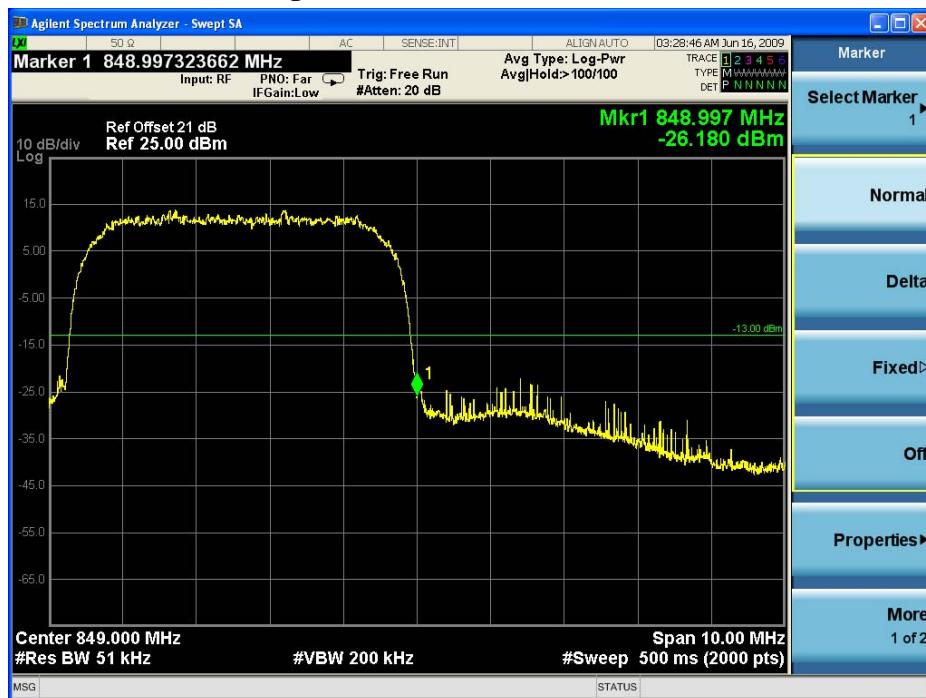


Product	Notebook		
Test Item	Spurious Emission At Antenna Terminals (+/- 1MHz)		
Test Mode	Mode 6: WCDMA/HSDPA Band V Link		
Date of Test	2009/06/15	Test Site	AC-6

Figure Channel 4132 (826.4MHz)



Figure Channel 4233 (846.6MHz)



7. Spurious Emission

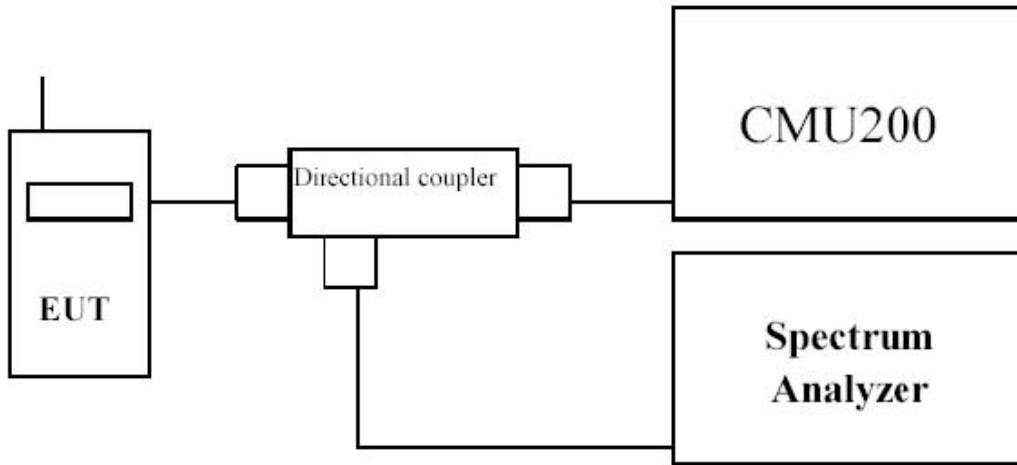
7.1. Test Equipment

Spurious Emission / AC-6

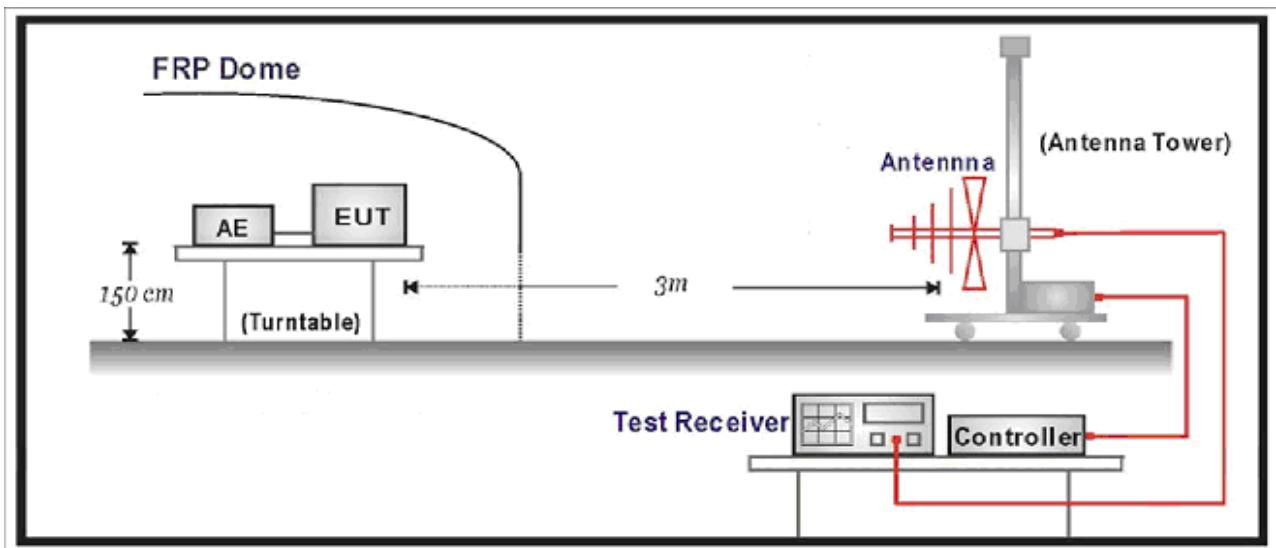
Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Radio Communication Tester	R&S	CMU 200	106388	2008/10/21
Dual Directional Coupler	Agilent	778D	20160	2009/04/20
10dB Coaxial Coupler	Agilent	87300C	MY44300299	2009/04/20
PSG Analog S.G.	Agilent	E8257D	MY44321116	2009/06/10
Preamplifier	QuieTek	AP-025C	QT-AP005	2008/11/24
Preamplifier	QuieTek	AP-180C	CHM-0602013	2008/11/24
Bilog Type Antenna	Schaffner	CBL6141A	4278	2008/11/24
Half Wave Tuned Dipole Antenna	COM-POWER	AD-100	40137	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2008/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	295	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RL	06	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RH	07	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-T	08	2008/11/24
Coaxial Cable	Huber+Suhner	AC4-RF-H	10	2008/11/24
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH007	2009/03/31

7.2. Test Setup

Conducted Spurious Measurement:



Radiated Spurious Measurement:



7.3. Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

7.4. Test Procedure

Conducted Spurious Measurement:

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMU200 by a Directional Couple.
- c) EUT Communicate with CMU200, then select a channel for testing.
- d) Add a correction factor to the display of spectrum, and then test.
- e) The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10th harmonic.

Radiated Spurious Measurement:

- a) The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b) The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- c) The output of the test antenna shall be connected to the measuring receiver.
- d) The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e) The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f) The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g) The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h) The transmitter shall be replaced by a substitution antenna.
- i) The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- j) The substitution antenna shall be connected to a calibrated signal generator.
- k) If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- l) The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- m) The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the

transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.

- n) The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- o) The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- p) The frequency range was checked up to 10th harmonic.

7.5. Uncertainty

The measurement uncertainty is defined as for Conducted Power Measurement \pm 1.2 dB, for Radiated Power Measurement \pm 3.2 dB

7.6. Test Result

Product	Notebook							
Test Item	Spurious Emission							
Test Mode	Mode 1: GSM850 GPRS Link							
Date of Test	2009/06/16				Test Site	AC-6		

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)								
1648.40	-44.943	V	-60.853	3.28	9.75	-54.383	-13.00	-41.383
2472.60	-41.960	V	-53.755	4.10	10.48	-47.375	-13.00	-34.375
1648.40	-39.527	H	-55.461	3.28	9.75	-48.991	-13.00	-35.991
2472.60	-42.054	H	-53.875	4.10	10.48	-47.495	-13.00	-34.495
Middle Channel 189 (836.40MHz)								
1672.80	-41.527	V	-57.317	3.32	9.95	-50.687	-13.00	-37.687
2509.20	-37.871	V	-50.198	3.81	10.62	-43.388	-13.00	-30.388
1672.80	-40.599	H	-56.345	3.32	9.95	-49.715	-13.00	-36.715
2509.20	-41.054	H	-53.293	3.81	10.62	-46.483	-13.00	-33.483
High Channel 251 (848.80MHz)								
1697.60	-39.655	V	-55.386	3.35	10.06	-48.676	-13.00	-35.676
2546.40	-38.795	V	-50.820	4.19	10.68	-44.330	-13.00	-31.330
1697.60	-40.089	H	-55.740	3.35	10.06	-49.030	-13.00	-36.030
2546.40	-37.113	H	-48.989	4.19	10.68	-42.499	-13.00	-29.499

Product	Notebook							
Test Item	Spurious Emission							
Test Mode	Mode 2: GSM850 EDGE Link							
Date of Test	2009/06/16				Test Site	AC-6		

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 128 (824.20MHz)								
1648.40	-44.409	V	-60.319	3.28	9.75	-53.849	-13.00	-40.849
2472.60	-45.801	V	-57.596	4.10	10.48	-51.216	-13.00	-38.216
1648.40	-41.925	H	-57.859	3.28	9.75	-51.389	-13.00	-38.389
2472.60	-45.042	H	-56.863	4.10	10.48	-50.483	-13.00	-37.483
Middle Channel 189 (836.40MHz)								
1672.80	-43.230	V	-59.020	3.32	9.95	-52.390	-13.00	-39.390
2509.20	-46.732	V	-59.059	3.81	10.62	-52.249	-13.00	-39.249
1672.80	-42.587	H	-58.333	3.32	9.95	-51.703	-13.00	-38.703
2509.20	-48.423	H	-60.662	3.81	10.62	-53.852	-13.00	-40.852
High Channel 251 (848.80MHz)								
1697.60	-45.062	V	-60.653	3.35	10.06	-53.943	-13.00	-40.943
2546.40	-43.575	V	-55.600	4.19	10.68	-49.110	-13.00	-36.110
1697.60	-39.779	H	-55.430	3.35	10.06	-48.720	-13.00	-35.720
2546.40	-42.012	H	-53.888	4.19	10.68	-47.398	-13.00	-34.398

Product	Notebook							
Test Item	Spurious Emission							
Test Mode	Mode 3: PCS1900 GPRS Link							
Date of Test	2009/06/16				Test Site	AC-6		

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)								
3700.40	-49.903	V	-60.704	4.78	12.69	-52.794	-13.00	-39.794
5550.60	-49.679	V	-55.117	6.03	13.15	-47.997	-13.00	-34.997
3700.40	-48.492	H	-58.907	4.78	12.69	-50.997	-13.00	-37.997
5550.60	-50.147	H	-55.682	6.03	13.15	-48.562	-13.00	-35.562
Middle Channel 661 (1880.00MHz)								
3760.00	-49.901	V	-59.310	5.03	12.72	-51.620	-13.00	-38.620
5640.00	-46.592	V	-52.037	5.93	13.14	-44.827	-13.00	-31.827
3760.00	-49.282	H	-58.961	5.03	12.72	-51.271	-13.00	-38.271
5640.00	-47.529	H	-53.086	5.93	13.14	-45.876	-13.00	-32.876
High Channel 810 (1909.80MHz)								
3819.60	-49.408	V	-58.712	5.03	12.73	-51.012	-13.00	-38.012
5729.40	-46.360	V	-51.599	6.20	13.11	-44.689	-13.00	-31.689
3819.60	-46.952	H	-56.631	5.03	12.73	-48.931	-13.00	-35.931
5729.40	-48.414	H	-53.654	6.20	13.11	-46.744	-13.00	-33.744

Product	Notebook							
Test Item	Spurious Emission							
Test Mode	Mode 4: PCS1900 EDGE Link							
Date of Test	2009/06/16				Test Site	AC-6		

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 512 (1850.20MHz)								
3700.40	-51.276	V	-62.077	4.78	12.69	-54.167	-13.00	-41.167
5550.60	-51.603	V	-57.041	6.03	13.15	-49.921	-13.00	-36.921
3700.40	-50.669	H	-61.084	4.78	12.69	-53.174	-13.00	-40.174
5550.60	-51.118	H	-56.653	6.03	13.15	-49.533	-13.00	-36.533
Middle Channel 661 (1880.00MHz)								
3760.00	-51.169	V	-60.578	5.03	12.72	-52.888	-13.00	-39.888
5640.00	-51.176	V	-56.621	5.93	13.14	-49.411	-13.00	-36.411
3760.00	-51.821	H	-61.500	5.03	12.72	-53.810	-13.00	-40.810
5640.00	-52.113	H	-57.670	5.93	13.14	-50.460	-13.00	-37.460
High Channel 810 (1909.80MHz)								
3819.60	-52.273	V	-61.577	5.03	12.73	-53.877	-13.00	-40.877
5729.40	-51.493	V	-56.732	6.20	13.11	-49.822	-13.00	-36.822
3819.60	-50.656	H	-60.335	5.03	12.73	-52.635	-13.00	-39.635
5729.40	-51.672	H	-56.912	6.20	13.11	-50.002	-13.00	-37.002

Product	Notebook							
Test Item	Spurious Emission							
Test Mode	Mode 5: WCDMA/HSDPA Band II Link							
Date of Test	2009/06/16				Test Site	AC-6		

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 9262 (1852.40MHz)								
3704.80	-46.886	V	-57.687	4.78	12.69	-49.777	-13.00	-36.777
5557.20	-51.813	V	-57.251	6.03	13.15	-50.131	-13.00	-37.131
3704.80	-44.901	H	-55.316	4.78	12.69	-47.406	-13.00	-34.406
5557.20	-51.697	H	-57.185	6.03	13.15	-50.065	-13.00	-37.065
Middle Channel 9400 (1880.00MHz)								
3760.00	-40.765	V	-50.644	5.03	12.72	-42.954	-13.00	-29.954
5640.00	-51.715	V	-57.160	5.93	13.14	-49.950	-13.00	-36.950
3760.00	-37.933	H	-47.803	5.03	12.72	-40.113	-13.00	-27.113
5640.00	-50.880	H	-56.446	5.93	13.14	-49.236	-13.00	-36.236
High Channel 9538 (1907.60MHz)								
3815.20	-33.996	V	-43.300	5.03	12.73	-35.600	-13.00	-22.600
5722.80	-51.366	V	-56.605	6.20	13.11	-49.695	-13.00	-36.695
3815.20	-30.413	H	-40.092	5.03	12.73	-32.392	-13.00	-19.392
5722.80	-51.684	H	-56.924	6.20	13.11	-50.014	-13.00	-37.014

Product	Notebook							
Test Item	Spurious Emission							
Test Mode	Mode 6: WCDMA/HSDPA Band V Link							
Date of Test	2009/06/16			Test Site		AC-6		

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
Low Channel 4132 (826.40MHz)								
1652.80	-50.293	V	-66.063	3.28	9.75	-59.593	-13.00	-46.593
2479.20	-45.533	V	-57.371	4.10	10.48	-50.991	-13.00	-37.991
1652.80	-49.270	H	-65.030	3.28	9.75	-58.560	-13.00	-45.560
2479.20	-48.064	H	-59.894	4.10	10.48	-53.514	-13.00	-40.514
Middle Channel 4182 (836.40MHz)								
1672.80	-46.546	V	-62.057	3.32	9.95	-55.427	-13.00	-42.427
2509.20	-45.725	V	-58.037	3.81	10.62	-51.227	-13.00	-38.227
1672.80	-47.961	H	-63.707	3.32	9.95	-57.077	-13.00	-44.077
2509.20	-47.452	H	-59.712	3.81	10.62	-52.902	-13.00	-39.902
High Channel 4233 (846.60MHz)								
1693.20	-48.762	V	-64.493	3.35	10.06	-57.783	-13.00	-44.783
2539.80	-45.427	V	-57.419	4.19	10.68	-50.929	-13.00	-37.929
1693.20	-47.373	H	-63.024	3.35	10.06	-56.314	-13.00	-43.314
2539.80	-47.529	H	-59.469	4.19	10.68	-52.979	-13.00	-39.979

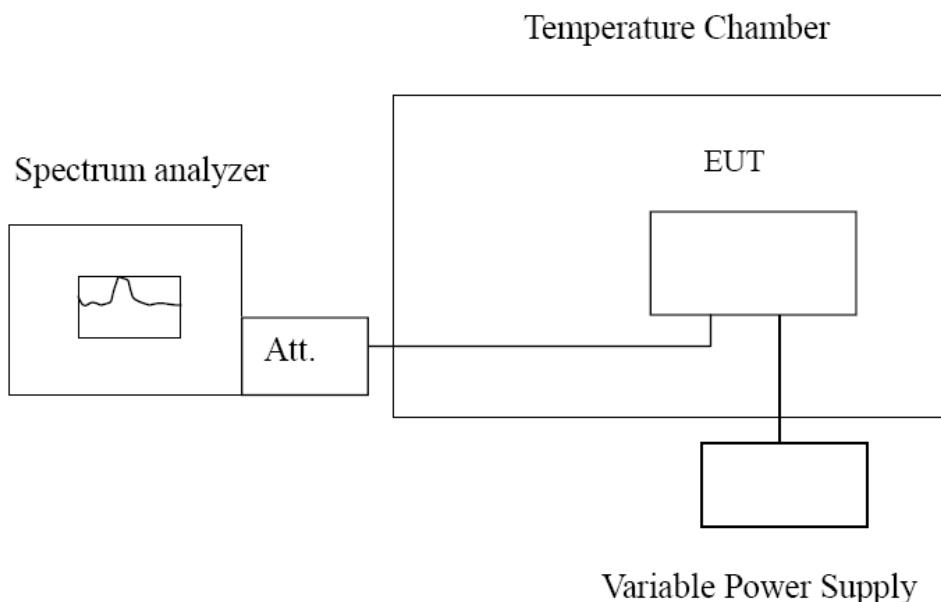
8. Frequency Stability Under Temperature & Voltage Variations

8.1. Test Equipment

Frequency Stability Under Temperature & Voltage Variations / AC-6

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2009/06/11
Radio Communication Tester	R&S	CMU 200	106388	2008/11/22
Dual Directional Coupler	Agilent	778D	20160	2009/04/20
10dB Coaxial Coupler	Agilent	87300C	MY44300299	2009/04/20
Coaxial Cable	Huber+Suhner	AC3-RF	08	2008/11/24
AC Power Supply	IDRC	CF-500TP	979422	2009/03/09
DC Power Supply	IDRC	CD-035-020PR	977272	2009/02/02
Programmable Temperature & Humidity Chamber	Gaoyu	TH-1P-B	WIT-05121302	2009/01/19
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2009/03/31

8.2. Test Setup



8.3. Limit

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Limit	< ± 2.5 ppm
-------	-------------

8.4. Test Procedure

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

8.5. Uncertainty

The measurement uncertainty is defined as ± 10 Hz.

8.6. Test Result

Product	Notebook		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 1: GSM850 GPRS Link		
Date of Test	2009/06/15	Test Site	AC-6

Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (kHz)
-30	836.40	-41	± 2091
-20	836.40	-30	± 2091
-10	836.40	-18	± 2091
0	836.40	-12	± 2091
10	836.40	-20	± 2091
20	836.40	-13	± 2091
30	836.40	-19	± 2091
40	836.40	-22	± 2091
50	836.40	-32	± 2091

Frequency Stability under Voltage

AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (KHz)
138	836.40	-36	± 2091
120	836.40	-14	± 2091
102	836.40	-38	± 2091

Product	Notebook		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 2: GSM850 EDGE Link		
Date of Test	2009/06/15	Test Site	AC-6

Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (kHz)
-30	836.40	-44	± 2091
-20	836.40	-35	± 2091
-10	836.40	-20	± 2091
0	836.40	-14	± 2091
10	836.40	-22	± 2091
20	836.40	-17	± 2091
30	836.40	-21	± 2091
40	836.40	-27	± 2091
50	836.40	-34	± 2091

Frequency Stability under Voltage

AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (KHz)
138	836.40	-38	± 2091
120	836.40	-16	± 2091
102	836.40	-40	± 2091

Product	Notebook		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 3: PCS1900 GPRS Link		
Date of Test	2009/06/15	Test Site	AC-6

Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
-30	1880.00	-46	± 4700
-20	1880.00	-38	± 4700
-10	1880.00	-25	± 4700
0	1880.00	-16	± 4700
10	1880.00	-21	± 4700
20	1880.00	-17	± 4700
30	1880.00	-18	± 4700
40	1880.00	-25	± 4700
50	1880.00	-32	± 4700

Frequency Stability under Voltage

AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (KHz)
138	1880.00	-38	± 4700
120	1880.00	-16	± 4700
102	1880.00	-38	± 4700

Product	Notebook		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 4: PCS1900 EDGE Link		
Date of Test	2009/06/15	Test Site	AC-6

Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
-30	1880.00	-46	± 4700
-20	1880.00	-36	± 4700
-10	1880.00	-22	± 4700
0	1880.00	-18	± 4700
10	1880.00	-20	± 4700
20	1880.00	-14	± 4700
30	1880.00	-17	± 4700
40	1880.00	-25	± 4700
50	1880.00	-29	± 4700

Frequency Stability under Voltage

AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (KHz)
138	1880.00	-41	± 4700
120	1880.00	-18	± 4700
102	1880.00	-43	± 4700

Product	Notebook		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 5: WCDMA/HSDPA Band II Link		
Date of Test	2009/06/15	Test Site	AC-6

Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (Hz)
-30	1880.00	-44	± 4700
-20	1880.00	-36	± 4700
-10	1880.00	-25	± 4700
0	1880.00	-17	± 4700
10	1880.00	-21	± 4700
20	1880.00	-14	± 4700
30	1880.00	-19	± 4700
40	1880.00	-23	± 4700
50	1880.00	-32	± 4700

Frequency Stability under Voltage

AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (KHz)
138	1880.00	-40	± 4700
120	1880.00	-18	± 4700
102	1880.00	-42	± 4700

Product	Notebook		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 6: WCDMA/HSDPA Band V Link		
Date of Test	2009/06/15	Test Site	AC-6

Frequency Stability under Temperature

Temperature Interval (°C)	Test Frequency (MHz)	Deviation (Hz)	Limit (kHz)
-30	836.40	-46	± 2091
-20	836.40	-35	± 2091
-10	836.40	-23	± 2091
0	836.40	-16	± 2091
10	836.40	-20	± 2091
20	836.40	-16	± 2091
30	836.40	-18	± 2091
40	836.40	-26	± 2091
50	836.40	-30	± 2091

Frequency Stability under Voltage

AC Voltage (V)	Test Frequency (MHz)	Deviation (Hz)	Limit (KHz)
138	836.40	-38	± 2091
120	836.40	-16	± 2091
102	836.40	-40	± 2091