

# SAR TEST REPORT

Equipment Under Test	:	Dual Band CDMA 1xEVDO USB Modem
Model No.	:	CDU-680
Applicant	:	C-motech Co., Ltd.
Address of Applicant	:	8,9F Yongsan Bldg. 14-14 Yoido-dong Youngdungpo-gu, Seoul 150-871, Korea
FCC ID	:	TARCDU-680
Exposure Category	:	General Population/Uncontrolled Exposure
Date of Receipt	:	2006-12-26
Date of Test(s)	:	2007-01-08 ~ 2007-01-09
Date of Issue	:	2007-01-10

## Standards:

**FCC OET Bulletin 65 supplement C**  
**IEEE 1528, 2003**  
**ANSI/IEEE C95.1, C95.3**

In the configuration tested, the EUT complied with the standards specified above.

## Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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<b>Tested by</b>	:	<b>Leo Kim</b>		<b>2007-01-10</b>
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<b>Approved by</b>	:	<b>Albert Lim</b>		<b>2007-01-10</b>
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- A. Photographs of EUT & EUT's Test Setup
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## 1. General Information

### 1.1 Testing Laboratory

SGS Testing Korea Co., Ltd.  
Wireless Div. 2FL, 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea 435-040  
Telephone : +82 +31 428 5700  
FAX : +82 +31 427 2371  
Homepage : [www.electrolab.kr.sgs.com](http://www.electrolab.kr.sgs.com)

### 1.2 Details of Manufacturer

Manufacturer : C-motech Co., Ltd.  
Address : 8,9F Yongsan Bldg. 14-14 Yoido-dong, Youngdungpo-gu, Seoul 150-871, Korea  
Contact Person : Bahn Gil-Sung  
Phone No. : +82-2-368-9881  
Fax No. : +82-2-785-5740

### 1.3 Version of Report

Version Number	Date	Revision
00	2007-01-10	Initial issue

### 1.4 Description of EUT(s)

<b>EUT Type</b>	: Dual Band CDMA 1xEV-DO USB Modem
<b>Model</b>	: CDU-680
<b>Serial Number</b>	: #3
<b>Hardware Version</b>	: 0.3
<b>Software Version</b>	: CDU68SPR05
<b>Mode of Operation</b>	: CDMA Dual Band
<b>Mobile Phone capabilities</b>	: CDMA 1xRTT, 1xEV-DO
<b>Duty Cycle</b>	: 100%
<b>Body worn Accessory</b>	: None
<b>Tx Frequency Range</b>	: CDMA Cellular : 824.7 ~ 848.31 MHz CDMA PCS : 1851.25 ~ 1908.75 MHz
<b>Antenna</b>	: Chip Antenna, model CD371B1
<b>Power Supply</b>	: DC 5V from USB of Host

## 1.5 Test Environment

Ambient temperature	: 22.2 ° C
Tissue Simulating Liquid	: 22.2 ° C
Relative Humidity	: 58 %

## 1.6 Operation Configuration

The device was controlled by using a Communication tester(5515C). Communication between the device and the tester was established by air link. Measurements were performed at the lowest, middle and highest channels of the operating band. The EUT was set to maximum power level during all tests and at the beginning of each test. The power of EUT was supplied by Host PC USB.

The DASY4 system measures power drift during SAR testing by comparing e-field in the same location at the beginning and at the end of measurement.

## 1.7 EVALUATION PROCEDURES

### - Power Reference Measurement Procedures

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 4 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties (for example, 2.7 mm for an ET3DV6 probe type).

- The entire evaluation of the spatial peak values is performed within the Post-processing engine (SEMCAD). The system always gives the maximum values for the 1 g and 10 g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

1. The extraction of the measured data (grid and values) from the Zoom Scan.
2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. The generation of a high-resolution mesh within the measured volume
4. The interpolation of all measured values from the measurement grid to the high-resolution grid
5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. The calculation of the averaged SAR within masses of 1g and 10g.

The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extreme of the SAR distribution. The uncertainty on the locations of the extreme is less than 1/20 of the grid size. Only local maximum within -2 dB of the global maximum are searched and passed for the Cube Scan measurement. In the Cube Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5mm.

The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans. The routines are verified and optimized for the grid dimensions used in these cube measurements. The measured volume of 30x30x30mm contains about 30g of tissue. The first procedure is an extrapolation (incl. Boundary correction) to get the points between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume. In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is moved around until the highest averaged SAR is found. If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

## 1.8 The SAR Measurement System

A photograph of the SAR measurement System is given in Fig. a. This SAR Measurement System uses a Computer-controlled 3-D stepper motor system ( Speag Dasy 4 professional system ). A Model ET3DV6 1782 E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation  $SAR = \sigma (|E_i|^2) / \rho$  where  $\sigma$  and  $\rho$  are the conductivity and mass density of the tissue-simulant. The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Staubli RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).

- A dosimeter probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

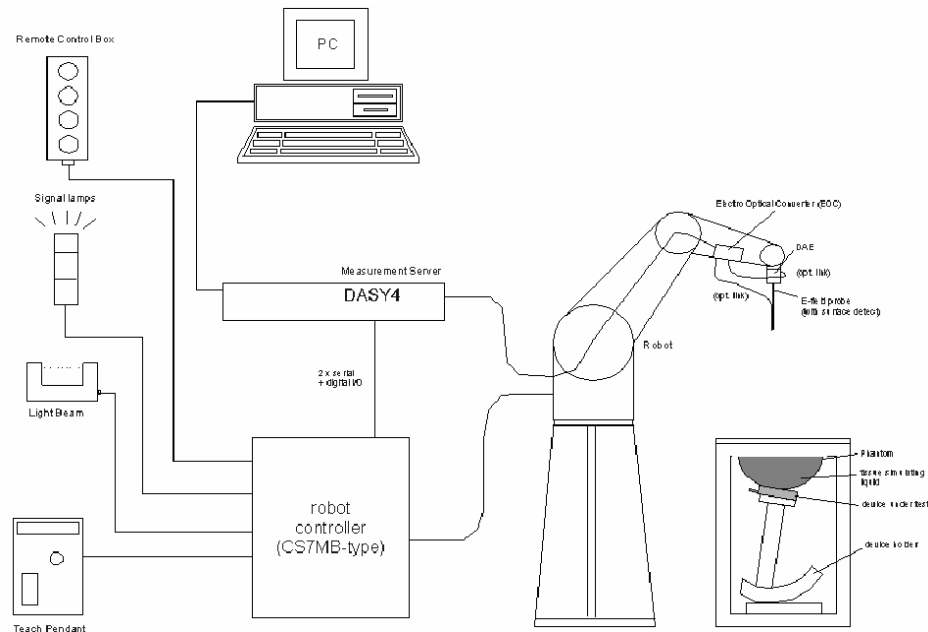


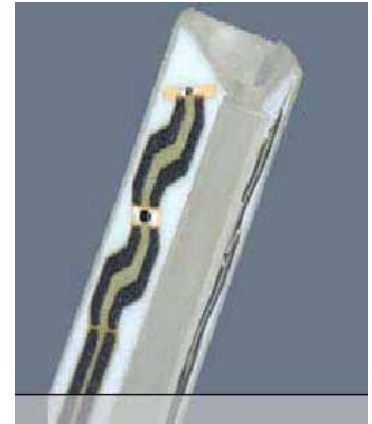
Fig a. The microwave circuit arrangement used for SAR system verification

- The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 2000 or Windows XP.
- DASY4 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validate the proper functioning of the system.

## 1.9 System Components

### ET3DV6 E-Field Probe

<b>Construction</b>	: Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g. glycol).
<b>Calibration</b>	: In air from 10 MHz to 2.5 GHz In brain simulating tissue (accuracy $\pm 8\%$ )
<b>Frequency</b>	: 10 MHz to >6 GHz; Linearity: $\pm 0.2$ dB (30 MHz to 3 GHz)
<b>Directivity</b>	: $\pm 0.2$ dB in brain tissue (rotation around probe axis) $\pm 0.4$ dB in brain tissue (rotation normal to probe axis)
<b>Dynamic Range</b>	: 5 $\mu$ W/g to >100 mW/g; Linearity: $\pm 0.2$ dB
<b>Srfce. Detect</b>	: $\pm 0.2$ mm repeatability in air and clear liquids over diffuse reflecting surfaces
<b>Dimensions</b>	: Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
<b>Application</b>	: General dosimetry up to 3 GHz Compliance tests of mobile phone



ET3DV6 E-Field Probe

#### NOTE:

1. The Probe parameters have been calibrated by the SPEAG. Please reference "APPENDIX D" for the Calibration Certification Report.

## SAM Phantom

**Construction:** The SAM Phantom is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot



SAM Phantom

Shell Thickness:  $2.0 \pm 0.1$  mm  
 Filling Volume: Approx. 25 liters

## DEVICE HOLDER

**Construction** In combination with the Twin SAM PhantomV4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).



Device Holder

### 1.10 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within  $\pm 10\%$  from the target SAR values. These tests were done at 835MHz, 1900MHz. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the table 1 (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the ambient temperature of the laboratory was in the range 22.2 °C, the relative humidity was in the range 58% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



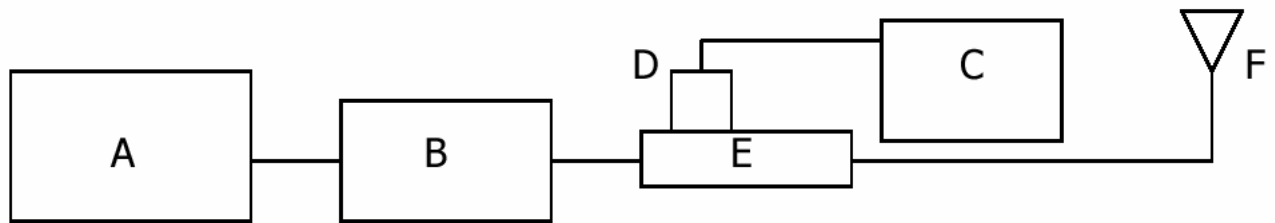


Fig b. The microwave circuit arrangement used for SAR system verification

- A. Agilent Model E4421B Signal Generator
- B. EMPOWER Model 2001-BBS3Q7ECK Amplifier
- C. Agilent Model E4419B Power Meter
- D. Agilent Model 9300H Power Sensor
- E. Agilent Model 777D/778D Dual directional coupling
- F. Reference dipole Antenna



Photo of the dipole Antenna

## System Validation Results

Validation Kit	Tissue	Target SAR 1 g (1 W)	Measured SAR 1 g (1 W)	Deviation (%)	Date	Liquid Temp. (°C)
D835V2 S/N: 490	835 MHz Brain	9.5 W/kg	<b>9.12 W/kg</b>	<b>-4.00</b>	Jan. 9, 2007	22.2
D1900V2 S/N: 5d033	1900 MHz Brain	39.7 W/kg	<b>37.88 W/kg</b>	<b>-4.58</b>	Jan. 8, 2007	22.2

Table 1. Results system validation

### 1.11 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this simulant fluid were measured by using the Agilent Model 85070D Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in conjunction with Agilent E5070B Network Analyzer(300 KHz-3000 MHz ) by using a procedure detailed in Section V.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			Permittivity	Conductivity	Simulated Tissue Temp( °C)
835	Head	Measured, 2007-01-09	<b>40.8</b>	<b>0.87</b>	<b>22.2</b>
		Recommended Limits	41.5	0.90	22.0
		Deviation(%)	-1.67	-3.33	-
	Body	Measured, 2007-01-09	<b>53.05</b>	<b>0.96</b>	<b>22.2</b>
		Recommended Limits	55.2	0.97	22.0
		Deviation(%)	-3.89	-1.03	-

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			Permittivity	Conductivity	Simulated Tissue Temp( °C)
1900	Head	Measured, 2007-01-08	<b>38.3</b>	<b>1.44</b>	<b>22.2</b>
		Recommended Limits	40.0	1.40	22.0
		Deviation(%)	-4.25	2.86	-
	Body	Measured, 2007-01-08	<b>55.51</b>	<b>1.515</b>	<b>22.2</b>
		Recommended Limits	53.3	1.52	22.0
		Deviation(%)	4.15	-0.33	-

## The composition of the brain tissue simulating liquid

*The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.*

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

Salt: 99+% Pure Sodium Chloride

Sugar: 98+% Pure Sucrose

Water: De-ionized, 16 MΩ<sup>+</sup> resistivity

HEC: Hydroxyethyl Cellulose

DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]

Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1, 3, 3-tetramethylbutyl)phenyl]ether

## 1.12 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (“SAR”) in Section 4.2 of “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” ANSI/IEEE C95.3–2003, Copyright 2003 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in “Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields,” NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have

been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter. Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

(1) Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over an 10 grams of tissue (defined as a tissue volume in the shape of a cube). Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels or by specific training or education through appropriate means, such as an RF safety program in a work environment.

(2) Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.(Table .4)

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
<b>Partial Peak SAR</b> (Partial Body)	1.60 m W/g	8.00 m W/g
<b>Partial Average SAR</b> (Whole Body)	0.08 m W/g	0.40 m W/g
<b>Partial Peak SAR</b> (Hands/Feet/Ankle/Wrist)	4.00 m W/g	20.00 m W/g

Table .4 RF exposure limits

## 2. Instruments List

Maunfacturer	Device	Type	Serial Number	Due date of Calibration
Stäubli	Robot	RX90BL	F03/5W05A1/A/01	N/A
Schmid& Partner Engineering AG	Dosimetric E-Field Probe	ET3DV6	1782	May 2, 2007
Schmid& Partner Engineering AG	835 MHz System Validation Dipole	D835V2	490	August 14, 2007
Schmid& Partner Engineering AG	1900 MHz System Validation Dipole	D1900V2	5d033	August 16, 2007
Schmid& Partner Engineering AG	Data acquisition Electronics	DAE3	567	September 22, 2007
Schmid& Partner Engineering AG	Software	DASY 4 V4.5	-	N/A
Schmid& Partner Engineering AG	Phantom	SAM Phantom V4.0	TP-1299 TP-1300	N/A
Agilent	Network Analyzer	E5070B	MY42100282	May 30, 2007
Agilent	Dielectric Probe Kit	85070D	2184	N/A
Agilent	Power Meter	E4419B	GB43311126	December 8, 2007
Agilent	Power Sensor	E9300H	MY41495308 MY41495314	December 8, 2007
Agilent	Mobile Test Unit	5515C	GB43345198	May 20, 2007

## 3.Summary of Results

### SAR Measurement Conditions for CDMA 1x

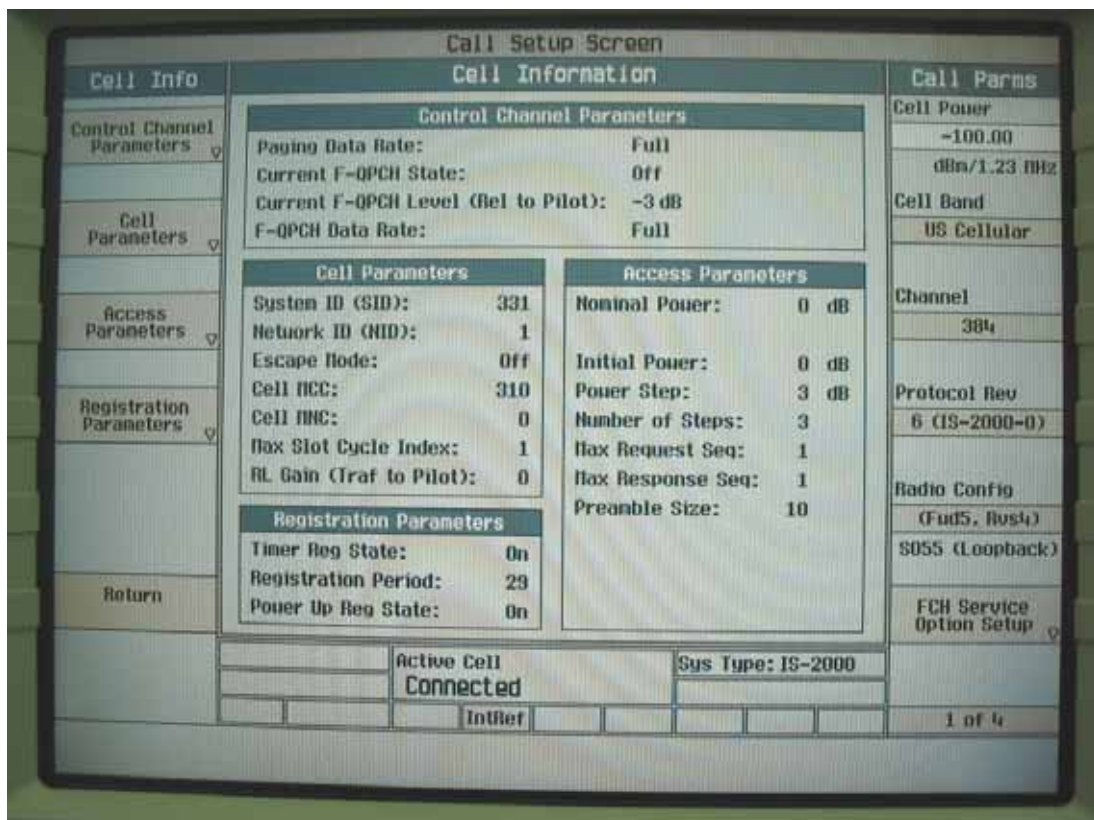
These procedures were followed according to FCC “SAR Measurement Procedures for 3G Device”, May 2006.

### Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by “SAR Measurement Procedures for 3G Devices”, May 2006.

Maximum output power is verified on the High, Middle and Low channels according to procedures defined in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in “All up” Condition.

Test Procedure refer to the picture below:

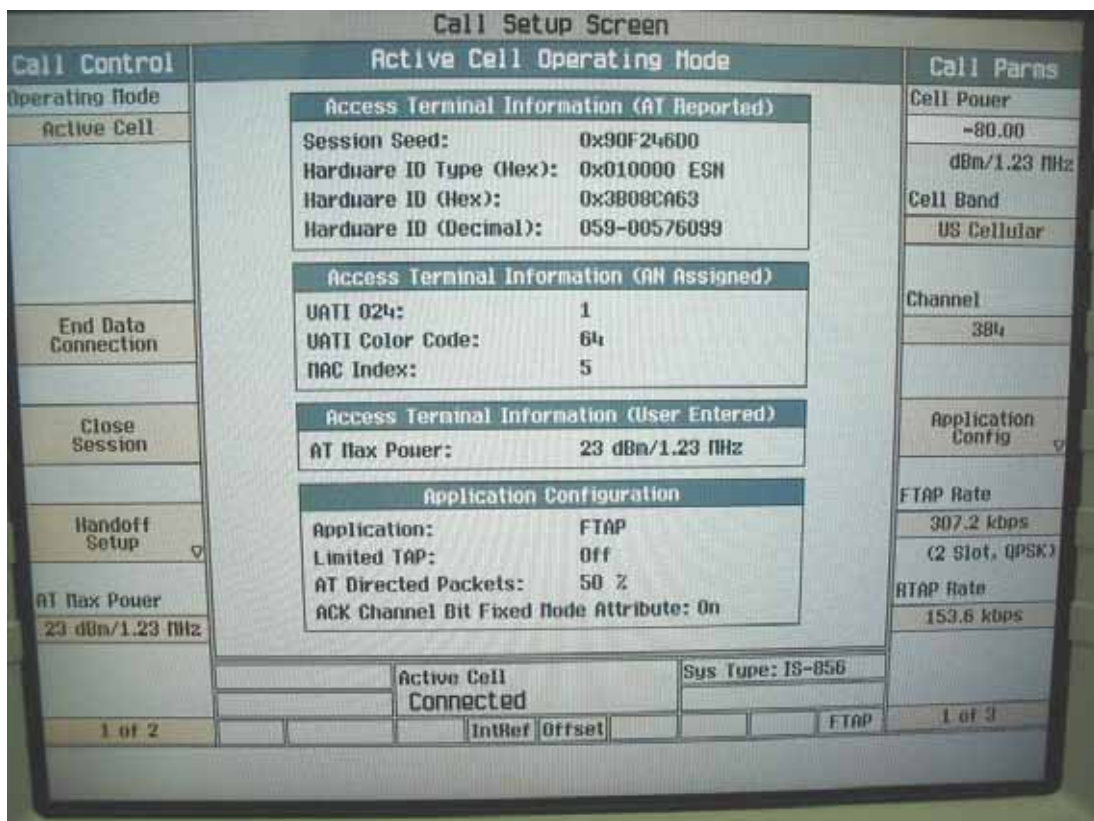


## SAR Measurement Conditions for CDMA 1xEVDO

These procedures were followed according to FCC “SAR Measurement Procedures for 3G Device”, May 2006.

## Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to procedures in section 3.1.2.3.4 of 3GPP2 C.S0033-0/TIA-866 for Rev.0 and section 4.3.4 of 3GPP2 C.S0033-A for Rev.A. tests were measured with power control bits in “All Up” condition. Test procedure refers to the picture below:





## Average Power Output Table

### [CDMA 1xRTT]

Band	Channel	CDMA2000 RC	S02 (dBm)	S09 (dBm)	S032(+SCH) (dBm)	S032(+F-SCH) (dBm)	S055 (dBm)
CDMA Cellular	384	RC1	23.45	-	-	-	23.48
		RC2		23.43	-	-	23.50
		RC3	23.29	-	23.42	23.41	23.48
		RC4	23.42	-	23.40	23.46	23.49
		RC5	-	23.49	-	-	23.52
	1013	RC5	-	-	-	-	23.03
	777	RC5	-	-	-	-	23.05
Band	Channel	CDMA2000 RC	S02 (dBm)	S09 (dBm)	S032(+SCH) (dBm)	S032(+F-SCH) (dBm)	S055 (dBm)
CDMA PCS	600	RC1	23.31	-	-	-	23.34
		RC2		23.34	-	-	23.36
		RC3	23.30	-	23.34	23.32	23.36
		RC4	23.27	-	23.30	23.31	23.34
		RC5	-	23.37	-	-	23.40
	25	RC5	-	-	-	-	23.35
	1175	RC5	-	-	-	-	23.11

### [CDMA 1xEVDO]

Band	Channel	Conducted Power (dBm)
CDMA Cellular	1013	23.12
	384	23.44
	777	23.30
Band	Channel	Conducted Power (dBm)
CDMA PCS	25	22.59
	600	22.50
	1175	22.01





## CDMA Cellular Body SAR

Ambient Temperature (°C)	22.2
Liquid Temperature (°C)	22.2
Date	January 9, 2007

### Laptop 1 (COMPAQ : Presario B1900)

Distance from Phantom : 14 mm

Mode	Test Position	Traffic Channel		Conducted Power drift(dB)	1 g SAR (W/kg)
		Frequency (MHz)	Channel		
1xRTT	Bottom	824.70	1013	0.0	0.233
	Bottom	836.52	384	0.1	0.3
	Bottom	848.31	777	0.0	0.426
	90 degree	836.52	384	-0.1	0.079
1xEV-DO	Bottom	848.31	777	0.0	<b>0.488</b>

### Laptop 2 (SAMSUNG : S600)

Distance from Phantom : 13 mm

Mode	Test Position	Traffic Channel		Conducted Power drift(dB)	1 g SAR (W/kg)
		Frequency (MHz)	Channel		
1xRTT	Top	824.70	1013	0.1	0.320
	Top	836.52	384	0.0	0.427
	Top	848.31	777	0.0	0.674
	90 degree	836.52	384	0.0	0.083
1xEV-DO	Top	848.31	777	0.0	<b>0.690</b>



**Laptop 3 (TOSHIBA : Satellite 2400 )**

**Distance from Phantom : 5 mm**

Mode	Test Position	Traffic Channel		Conducted Power drift(dB)	1 g SAR (W/kg)
		Frequency (MHz)	Channel		
1xRTT	Side	824.70	1013	-0.1	0.752
	Side	836.52	384	-0.1	0.7
	Side	848.31	777	0.0	0.369
1xEV-DO	Side	824.70	1013	0.0	<b>0.759</b>

## CDMA PCS Body SAR

Ambient Temperature (°C)	22.2
Liquid Temperature (°C)	22.2
Date	January 8, 2007

### Laptop 1 (COMPAQ : Presario B1900)

Distance from Phantom : 14 mm

Mode	Test Position	Traffic Channel		Conducted Power drift(dB)	1 g SAR (W/kg)
		Frequency (MHz)	Channel		
1xRTT	Bottom	1851.25	25	0.1	<b>0.607</b>
	Bottom	1880.00	600	0.1	0.518
	Bottom	1908.75	1175	0.0	0.383
	90 degree	1880.00	600	0.1	0.055
1xEV-DO	Bottom	1851.25	25	0.0	0.540

### Laptop 2 (SAMSUNG : S600)

Distance from Phantom : 13 mm

Mode	Test Position	Traffic Channel		Conducted Power drift(dB)	1 g SAR (W/kg)
		Frequency (MHz)	Channel		
1xRTT	Top	1851.25	25	0.0	0.595
	Top	1880.00	600	0.1	0.498
	Top	1908.75	1175	0.0	0.460
	90 degree	1880.00	600	0.0	0.065
1xEV-DO	Top	1851.25	25	0.0	<b>0.640</b>

**Laptop 3 (TOSHIBA : Satellite 2400 )****Distance from Phantom : 5 mm**

Mode	Test Position	Traffic Channel		Conducted Power drift(dB)	1 g SAR (W/kg)
		Frequency (MHz)	Channel		
1xRTT	Side	1851.25	25	0.0	1.2
	Side	1880.00	600	-0.1	<b>1.36</b>
	Side	1908.75	1175	0.1	1.25
1xEV-DO	Side	1851.25	25	0.0	1.18
	Side	1880.00	600	0.0	1.35
	Side	1908.75	1175	0.0	1.2



## Appendix

### List

Appendix A	Photographs	- EUT - Test Setup
Appendix B	DASY4 Report (Plots of the SAR Measurements)	- 835, 1900MHz Validation Test - CDMA Cellular Test - CDMA PCS Test
Appendix C	Uncertainty Analysis	
Appendix D	Calibration Certificate	- PROBE - DAE - DIPOLE