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DAR

No. DAT-P-114/01-01

TEST REPORT

No. SAR2006001

Test name	Electromagnetic Field (Specific Absorption Rate)
Product	CDMA 1X Fixed Wireless Phone
Model	STARTEL 9000X
Client	Hisense Communications Co., Ltd
Type of test	Non Type approval

Telecommunication Metrology Center

of Ministry of Information Industry

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Address: No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China
(Telecommunication Metrology Center of MII)
Post code: 100083
Telephone: +86 10 62302041 Fax: +86 10 62304793
Web site: http://www.emcite.com
E-mail: welcome@emcite.com

TABLE OF CONTENT

Product name	CDMA 1X Fixed Wireless Phone	**Sample Model**	STARTEL 9000X
Client	Hisense Communications Co., Ltd	**Type of test**	Non Type Approval
Factory	Hisense Communications Co., Ltd	**Sampling arrival date**	March 21st, 2006
Manufacturer	Hisense Communications Co., Ltd		
Sampling/ Sending sample	Sending sample	**Sample sent by**	Haining Wang
Sampling location	/	**Sampling person**	/
Sample quantity	1	**Sample matrix**	/
Series number of the Sample	4F481627		
Manufacture date	/	**Manufacture location**	/
Test basis	**EN50385:** Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110 MHz – 40 GHz) – General public **EN50383:** Basic standard for the calculation and measurement of electromagnetic field strength and SAR related to human exposure from radio base stations and fixed terminal status for wireless telecommunication systems (110 MHz - 40 GHz). **ANSI C95.1–1999**: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. **IEEE 1528–2003**: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques. **IEC 62209-2 (Draft):** Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the Specific Absorption Rate (SAR)in the head and body for 30MHz to 6GHz Handheld and Body-Mounted Devices used in close proximity to the Body. **OET Bulletin 65 (Edition 97-01) and Supplement C(Edition 01-01):** Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.		
Test conclusion	Localized Specific Absorption Rate (SAR) of this fixed terminal station has been measured in all cases requested by the relevant standards cited in Clause 5.2 of this test report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 5.1 of this test report. General Judgment: **Pass** (Stamp) **Date of issue: March 27th, 2006**		
Note	The test results relate only to the items tested of the sample(s).		

Approved by ______ (Lu Bingsong) **Deputy Director of the laboratory**

Reviewed by ______ (Wang Hongbo)

Tested by ______ (Qi Dianyuan)

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Approved by____________________ **Reviewed by**____________ **Tested by**________

(Lu Bingsong) (Wang Hongbo) (Qi Dianyuan)

Deputy Director of the laboratory

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3 DESCRIPTION OF EUT

3.1 Addressing Information Related to EUT

Table 1: Applicant (The Client)

Name or Company	Hisense Communications Co., Ltd
Address/Post	18 Tuanjie Road, China Hisense Information Property Park, Economics and Technology Development Area of Qingdao
City	Qingdao
Postal Code	266071
Country	China
Telephone	0532-86016016-5619
Fax	0532-86762066

Table 2: Manufacturer

Name or Company	Hisense Communications Co., Ltd
Address/Post	18 Tuanjie Road, China Hisense Information Property Park, Economics and Technology Development Area of Qingdao
City	Qingdao
Postal Code	266071
Country	China
Telephone	0532-86016016-5619
Fax	0532-86762066

3.2 Constituents of EUT

Table 3: Constituents of Samples

Description	Model	Serial Number	Manufacturer	Hardware Edition	Software Edition
CDMA 1X Fixed Wireless Phone	STARTEL 9000X	4F481627	Hisense Communications Co., Ltd	2.0v	CEF.6.01.00.IN
NI-MH Battery	HCAA-1800	\	Liaoning Suppo Battery (Shenyang) Co., Ltd	\	\
Switching Power Supplier	CT24W5010	\	SHENZHEN XIXING ELECTRONIC CO., LTD	\	\

Picture 1: Constituent of the sample

3.3 General Description

Equipment Under Test (EUT) is a CDMA 1X Fixed Wireless Phone, which is a kind of fixed terminal station. It consists of phone and normal options: Charger Battery and Switching Power Supplier as Table 3 and Figure 1. With the request of the client, SAR is tested respectively for CDMA 835MHz.

The sample under test was selected by the Client.
Components list please refer to documents of the manufacturer.

4 OPERATIONAL CONDITIONS DURING TEST

4.1 Schematic Test Configuration

During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 1013, 384 and 777 respectively in the case of CDMA 835MHz. The EUT is commanded to operate at maximum transmitting power.

According to the "2 dB rule" specified in the OET Bulletin 65 (Edition 97-01) and Supplement C(Edition 01-01), **" If the SAR measured at the middle channel for each test configuration (left, right, Cheek/Touch, Tile/Ear, extended and retracted) is at least 2.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s)".**Test channels have been set first to the middle and then to low and high if necessary.

The EUT is tested at the following 13 test positions:

- Test Position 1: The back side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing right.（Picture 2-a）
- Test Position 2: The back side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing down.（Picture 2-b）
- Test Position 3: The back side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing left.（Picture 2-c）
- Test Position 4: The front side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing left.（Picture 2-d）
- Test Position 5: The front side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing down.（Picture 2-e）
- Test Position 6: The front side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing right.（Picture 2-f）
- Test Position 7: The top side of the EUT is directed close to the bottom of the flat phantom and the front side of the EUT is pointed to the left with the antenna pointing left.（Picture 2-g）
- Test Position 8: The top side of the EUT is directed close to the bottom of the flat phantom and the front side of the EUT is pointed to the left with the antenna pointing down.（Picture 2-h）
- Test Position 9: The top side of the EUT is directed close to the bottom of the flat phantom and the front side of the EUT is pointed to the left with the antenna pointing right.（Picture 2-i）
- Test Position 10: The right side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing left and the distance between antenna and the phantom is 1.5 cm.（Picture 2-j）
- Test Position 11: The right side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing right and the distance between antenna and the phantom is 1.5 cm.（Picture 2-k）
- Test Position 12: The right side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing to the direction of the back side of the EUT and the distance

between antenna and the phantom is 1.5 cm.（Picture 2-l）

- Test Position 13: The right side of the EUT is directed close to the bottom of the flat phantom with the antenna pointing to the direction of the front side of the EUT and the distance between antenna and the phantom is 1.5 cm.（Picture 2-m）

Picture 2-a: Test position 1 of the EUT

Picture 2-b: Test position 2 of the EUT

Picture 2-c: Test position 3 of the EUT

Picture 2-d: Test position 4 of the EUT

Picture 2-e: Test position 5 of the EUT

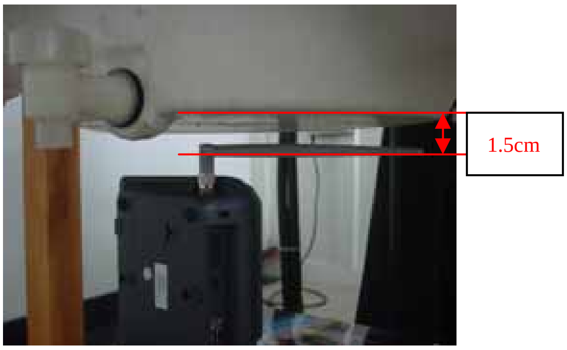
Picture 2-f: Test position 6 of the EUT

Picture 2-g: Test position 7 of the EUT

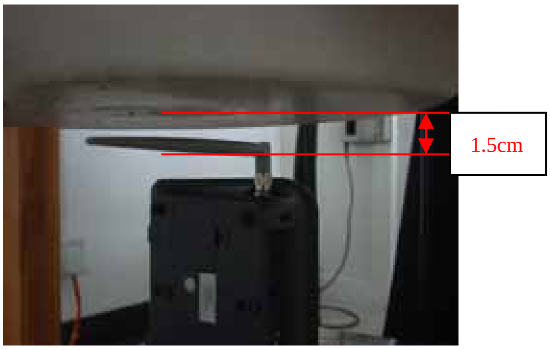
Picture 2-h: Test position 8 of the EUT

Picture 2-i: Test position 9 of the EUT

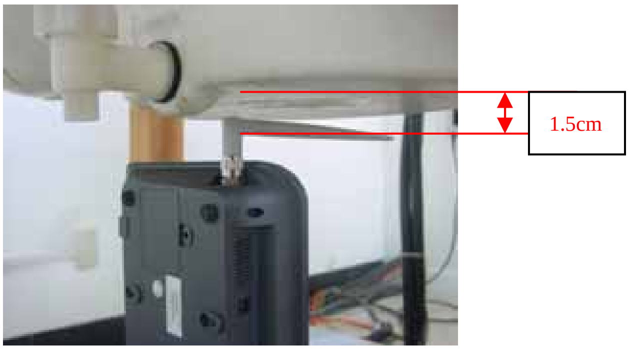
Picture 2-j: Test position 10 of the EUT



Picture 2-k: Test position 11 of the EUT



Picture 2-l: Test position 12 of the EUT



Picture 2-m: Test position 13 of the EUT

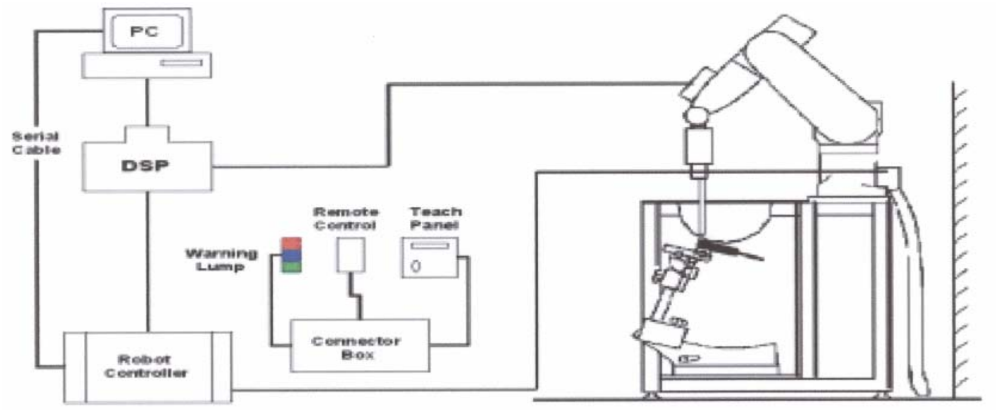
Picture 2: Test positions of the EUT

4.2 SAR Measurement Set-up

These measurements were performed with the automated near-field scanning system DASY4 Professional from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot (working range greater than 0.9m), which positions the probes with a positional repeatability of better than ± 0.02mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length =300mm) to the data acquisition unit.

A cell controller system contains the power supply, robot controller, teaches pendant (Joystick), and remote control, is used to drive the robot motors. The PC consists of the Micron Pentium III 800 MHz computer with Windows 2000 system and SAR Measurement Software DASY4

Professional, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.



Picture 3: SAR Lab Test Measurement Set-up

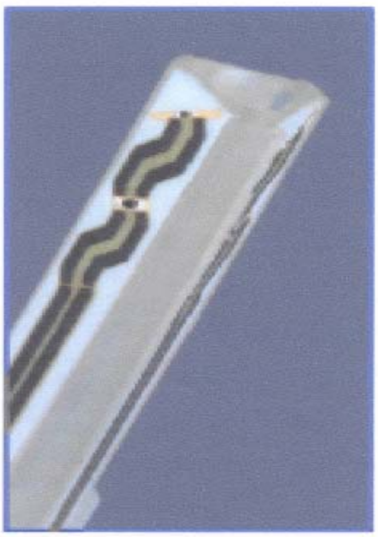
The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

4.3 Dasy4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ET3DV6 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the standard procedure with an accuracy of better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB.

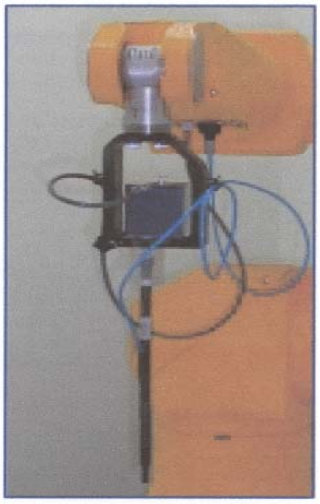
ET3DV6 Probe Specification

Construction	Symmetrical design with triangular core Built-in optical fiber *for* surface detection System(ET3DV6 only) Built-in shielding against static charges PEEK enclosure material(resistant to organic solvents, e.q., glycol)
Calibration	In air from 10 MHz to 2.5 GHz In brain and muscle simulating tissue at frequencies of 450MHz, 900MHz and 1.8GHz (accuracy±8%) Calibration for other liquids and frequencies upon request



Picture 4: ET3DV6 E-field Probe

Frequency	l 0 MHz to > 6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)
Directivity	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation normal probe axis)
Dynamic Range	5u W/g to > 100mW/g; Linearity: ±0.2dB
Surface Detection	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surface(ET3DV6 only)
Dimensions	Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diameter: 6.8mm Distance from probe tip to dipole centers: 2.7mm
Application	General dosimetry up to 3GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms



Picvure 5: ET3DV6 E-field

4.4 E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$\mathrm{SAR} = C\frac{\Delta T}{\Delta t}$$

Where: Δt = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
ΔT = Temperature increase due to RF exposure.

Or

$$\mathrm{SAR} = \frac{|E|^2 \sigma}{\rho}$$

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m^3).

Picture 6: Device Holder

4.5 Other Test Equipment

4.5.1 Device Holder for Transmitters

In combination with the Generic Twin Phantom V3.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeatably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Picture 7: Generic Twin Phantom

4.5.2 Phantom

The Generic Twin 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.

Shell Thickness 2±0. l mm

Filling Volume Approx. 20 liters

Dimensions 810 x l000 x 500 mm (H x L x W)

Available Special

4.6 Equivalent Tissues

The liquid used for the frequency range of 800-2000 MHz consisted of water, sugar, salt and Cellulose. The liquid has been previously proven to be suited for worst-case. The Table 4 shows the detail solution. It’s satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528.

Table 4. Composition of the Body Tissue Equivalent Matter

MIXTURE %	FREQUENCY 835MHz
Water	52.5
Sugar	45.0
Salt	1.4
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=835MHz ε=55.2 σ=0.97

4.7 System Specifications

4.7.1 Robotic System Specifications

<u>Specifications</u>

Positioner: Stäubli Unimation Corp. Robot Model: RX90L

Repeatability: ±0.02 mm

No. of Axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: Pentium III

Clock Speed: 800 MHz

Operating System: Windows 2000

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic

Software: DASY4 software

Connecting Lines: Optical downlink for data and status info.
Optical uplink for commands and clock

5 CHARACTERISTICS OF THE TEST

5.1 Applicable Limit Regulations

EN50385: Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110 MHz – 40 GHz) – General public.
It specifies the maximum exposure limit of **2.0 W/kg** as averaged over any 10 gram of tissue for fixed terminal station being used within 20 mm of the user in the uncontrolled environment.

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 mm of the user in the uncontrolled environment.

5.2 Applicable Measurement Standards

EN50383: Basic standard for the calculation and measurement of electromagnetic field strength and SAR related to human exposure from radio base stations and fixed terminal status for wireless telecommunication systems (110 MHz - 40 GHz).
IEEE 1528–2003: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques.
IEC 62209-2 (Draft): Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 2: Procedure to determine the Specific Absorption Rate (SAR)in the head and body for 30MHz to 6GHz Handheld and Body-Mounted Devices used in close proximity to the body.
OET Bulletin 65 (Edition 97-01) and Supplement C(Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.

They specify the measurement method for demonstration of compliance with the SAR limits for such equipments.

6 LABORATORY ENVIRONMENT

Table 5: The Ambient Conditions during EMF Test

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

7 CONDUCTED OUTPUT POWER MEASUREMENT

7.1 Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMU-200) to ensure the maximum power transmission and proper modulation. This result contains conducted output power and ERP for the EUT. In all cases, the measured peak output power should be greater and within 5% than EMI measurement.

7.2 Conducted Power

7.2.1 Measurement Methods

The EUT was set up for the maximum output power. The channel power was measured with Agilent Spectrum Analyzer E4440A. These measurements were done at 3 channels, 1013, 384 and 777 before SAR test and after SAR test.

7.2.2 Measurement result

Table 6: Conducted Power Measurement Results

	Conducted Power		
	Channel 1013(824.7MHz)	**Channel 384(836.52MHz)**	**Channel 777(848.31MHz)**
Before Test (dBm)	26.7	26.4	26.7
After Test (dBm)	26.9	26.3	26.8

7.2.3 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Table 9 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

8 TEST RESULTS

8.1 Dielectric Performance

Table 7: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 22.5 °C and relative humidity 49%. Liquid temperature during the test: 21.4°C			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHz	55.2	0.97
Measurement value (Average of 10 tests)	835 MHz	54.6	0.95

8.2 System Validation

Table 8: System Validation

Measurement is made at temperature 23.3 °C, relative humidity 47%, input power 250 mW. Liquid temperature during the test: 22.5°C					
Liquid parameters		**Frequency**		**Permittivity ε**	**Conductivity σ (S/m)**
		835 MHz		41.7	0.88
Verification results	**Frequency**	**Target value (W/kg)**		**Measurement value (W/kg)**	
		10 g Average	**1 g Average**	**10 g Average**	**1 g Average**
	835 MHz	1.55	2.375	1.62	2.48

Note：Target Values used are one fourth of those in IEEE Std 1528-2003 (feeding power is normalized to 1 Watt), i.e. 250 mW is used as feeding power to the validation dipole (SPEAG using).

8.3 Summary of Measurement Results (835MHz)

Table 9: SAR Values (835MHz)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Flat Phantom, Test Position 1, Mid frequency (See Figure 1)	0.467	0.667	-0.115
Flat Phantom, Test Position 2, Mid frequency (See Figure 3)	0.00235	0.00801	0.068
Flat Phantom, Test Position 3, Mid frequency (See Figure 5)	0.408	0.575	-0.200
Flat Phantom, Test Position 4, Mid frequency (See Figure 7)	0.200	0.273	-0.211
Flat Phantom, Test Position 5, Mid frequency (See Figure 9)	0.00529	0.00752	0.009
Flat Phantom, Test Position 6, Mid frequency (See Figure 11)	0.214	0.293	-0.114
Flat Phantom, Test Position 7 Mid frequency (See Figure 13)	0.267	0.367	0.200
Flat Phantom, Test Position 8, Mid frequency (See Figure 15)	0.024	0.043	-0.092
Flat Phantom, Test Position 9, Mid frequency (See Figure 17)	0.259	0.355	-0.181
Flat Phantom, Test Position 10, Mid frequency (See Figure 19)	0.484	0.703	0.011
Flat Phantom, Test Position 11, Mid frequency (See Figure 21)	0.468	0.666	-0.094
Flat Phantom, Test Position 12, Mid frequency (See Figure 23)	0.447	0.641	-0.010
Flat Phantom, Test Position 13, High frequency (See Figure 25)	0.290	0.415	-0.187
Flat Phantom, Test Position 13, Mid frequency (See Figure 27)	0.494	0.708	-0.071
Flat Phantom, Test Position 13, Bottom frequency (See Figure 29)	0.687	0.979	0.200

8.4 Conclusion

Localized Specific Absorption Rate (SAR) of this fixed terminal station has been measured in all cases requested by the relevant standards cited in Clause 5.2 of this report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 5.1 of this test report.

9 Measurement Uncertainty

SN	a	Type	c	d	e = f(d,k)	f	h = c x f / e	k
	Uncertainty Component		Tol. (± %)	Prob. Dist.	Div.	c_i (1 g)	1 g u_i (±%)	v_i
1	System repetivity	A	0.5	N	1	1	0.5	9
	Measurement System							
2	Probe Calibration	B	5	N	2	1	2.5	∞
3	Axial Isotropy	B	4.7	R	√3	$(1-cp)^{1/2}$	4.3	∞
4	Hemispherical Isotropy	B	9.4	R	√3	$\sqrt{c_p}$		∞
5	Boundary Effect	B	0.4	R	√3	1	0.23	∞
6	Linearity	B	4.7	R	√3	1	2.7	∞
7	System Detection Limits	B	1.0	R	√3	1	0.6	∞
8	Readout Electronics	B	1.0	N	1	1	1.0	∞
9	RF Ambient Conditions	B	3.0	R	√3	1	1.73	∞
10	Probe Positioner Mechanical Tolerance	B	0.4	R	√3	1	0.2	∞
11	Probe Positioning with respect to Phantom Shell	B	2.9	R	√3	1	1.7	∞
12	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	√3	1	2.3	∞
	Test sample Related							
13	Test Sample Positioning	A	4.9	N	1	1	4.9	N-1
14	Device Holder Uncertainty	A	6.1	N	1	1	6.1	N-1
15	Output Power Variation - SAR drift measurement	B	5.0	R	√3	1	2.9	∞
	Phantom and Tissue Parameters							
16	Phantom Uncertainty (shape and thickness tolerances)	B	1.0	R	√3	1	0.6	∞
17	Liquid Conductivity - deviation from target values	B	5.0	R	√3	0.64	1.7	∞
18	Liquid Conductivity - measurement uncertainty	B	5.0	N	1	0.64	1.7	M

19	Liquid Permittivity - deviation from target values	B	5.0	R	√3	0.6	1.7	∞
20	Liquid Permittivity - measurement uncertainty	B	5.0	N	1	0.6	1.7	M
	Combined Standard Uncertainty			RSS			11.25	
	Expanded Uncertainty (95% CONFIDENCE INTERVAL)			K=2			22.5	

10 MAIN TEST INSTRUMENTS

Table 10: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	HP 8753E	US38433212	August 29,2005	One year
02	Dielectric Probe Kit	Agilent 85070C	US99360113	No Calibration Requested	
03	Power meter	NRVD	101253	No Calibration Requested	
04	Power sensor	NRV-Z5	100331		
05	Power sensor	NRV-Z6	100011		
06	Signal Generator	MG 3633A	M73386	No Calibration Requested	
07	Amplifier	AT 50S1G4A	26549	No Calibration Requested	
08	BTS	CMU 200	105948	August 15, 2005	One year
09	E-field Probe	SPEAG ET3DV6	1736	November 25, 2005	One year
10	DAE	SPEAG DAE3	536	July 11, 2005	One year

11 TEST PERIOD

The test is performed from March 22nd, 2006 to March 23rd, 2006.

12 TEST LOCATION

The test is performed at Radio Communication & Electromagnetic Compatibility Laboratory of Telecommunication Metrology Center of Ministry of Information Industry of The People's Republic of China

END OF REPORT BODY

ANNEX A： MEASUREMENT PROCESS

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the reference point was measured and was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of the phantom was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the flat phantom and the horizontal grid spacing was 10 mm x 10 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

b. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x ~ y and z-directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation is repeated.

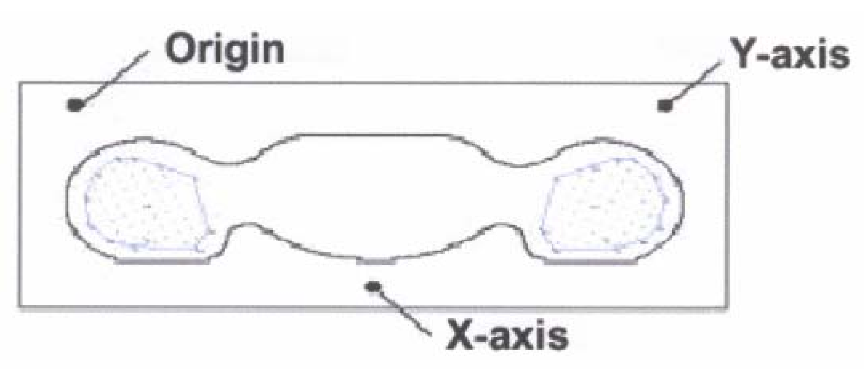
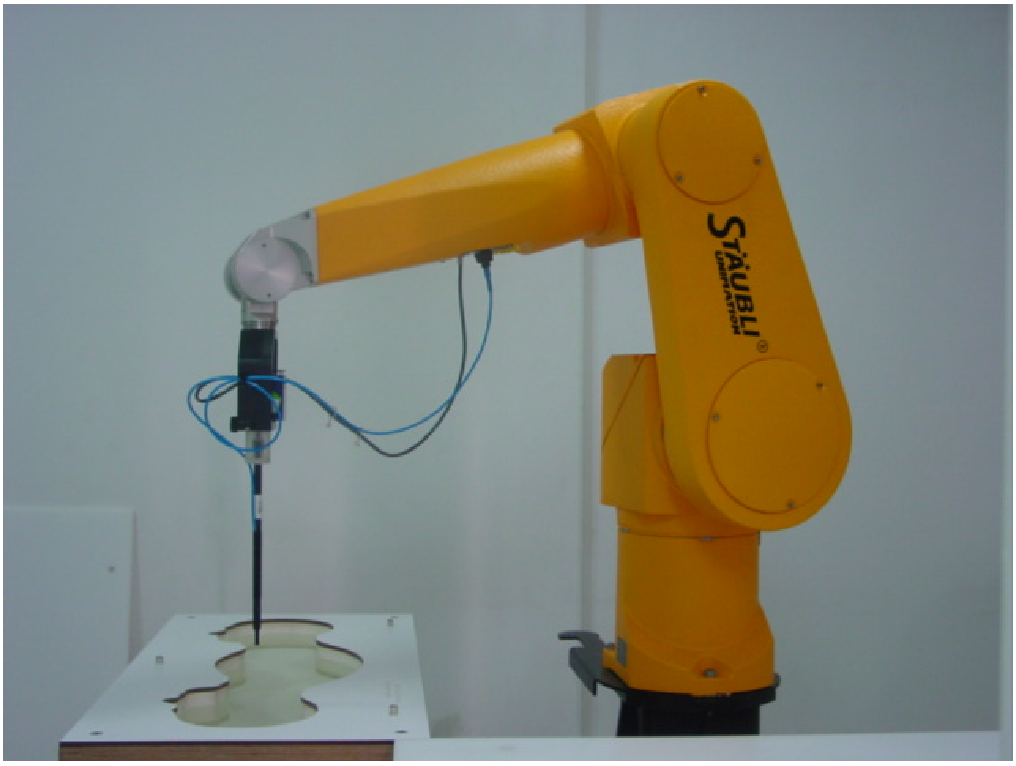
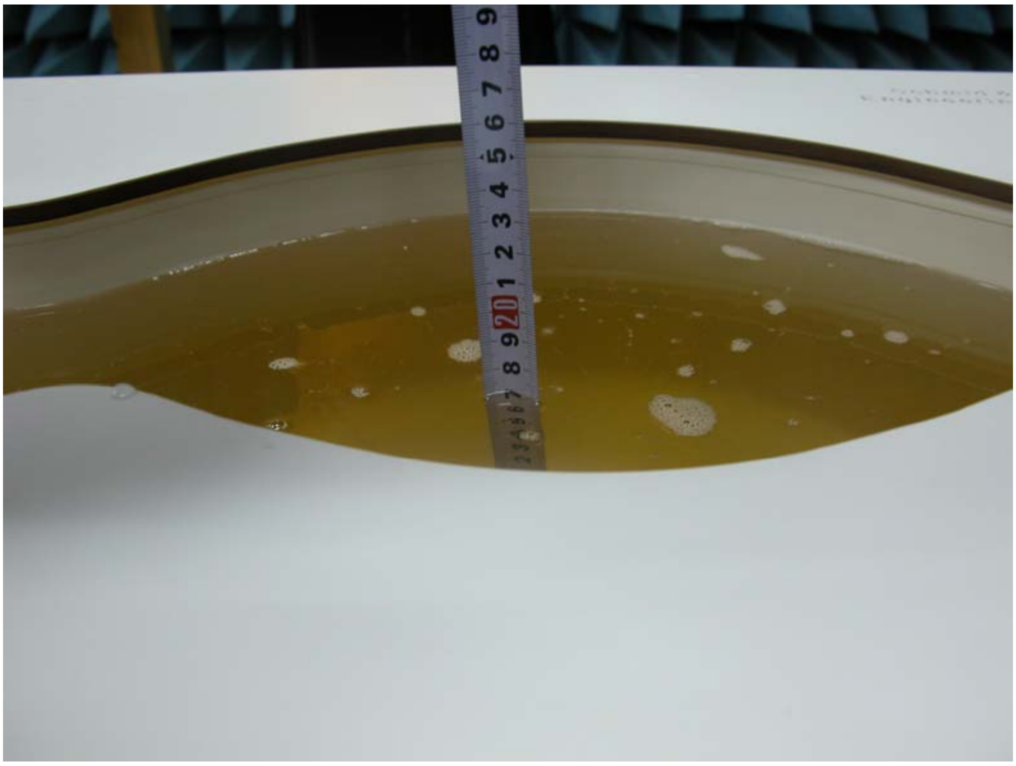


Figure A: SAR Measurement Points in Area Scan

ANNEX B: TEST LAYOUT



Picture B1: Specific Absorption Rate Test Layout



Picture B2: Liquid depth in the Flat Phantom (835MHz)

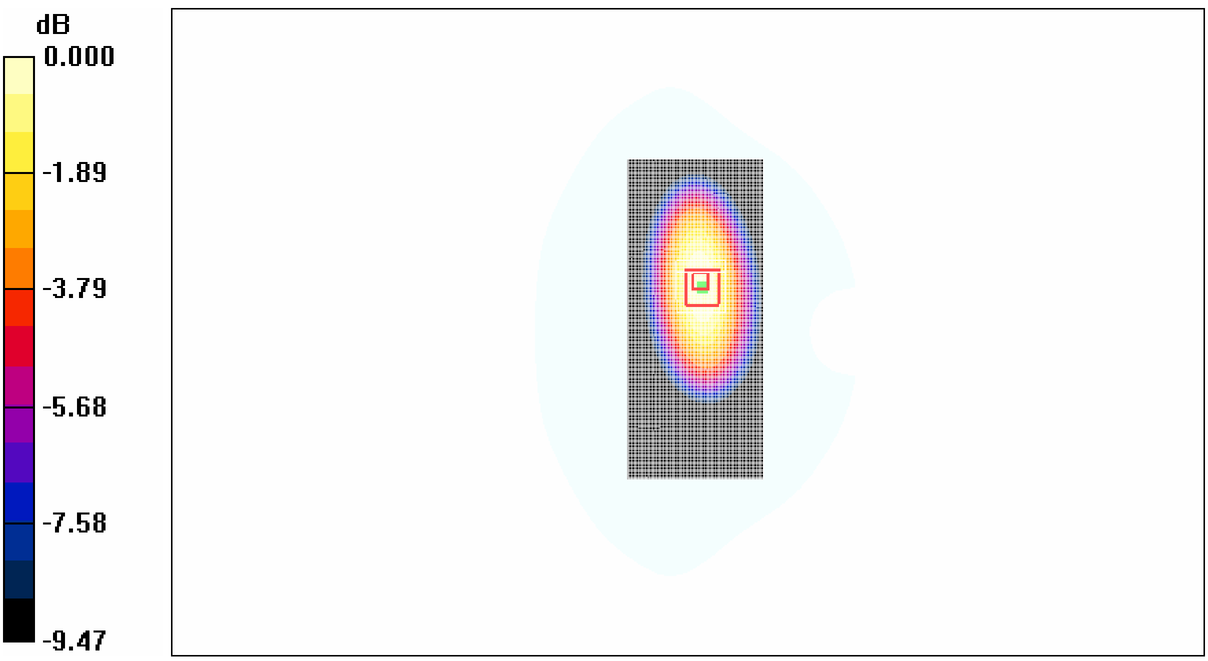
ANNEX C: GRAPH RESULTS

CDMA 1X Test Position 1 Middle

Electronics: DAE3 Sn536
Communication System: CDMA 1X-new Frequency: 836.52 MHz Duty Cycle: 1:1
Probe: ET3DV6 - SN1736 ConvF(6.45, 6.45, 6.45)

Test Position 1 Middle/Area Scan (61x131x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.727 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = -0.115 dB
Peak SAR (extrapolated) = 0.903 W/kg
SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.467 mW/g
Maximum value of SAR (measured) = 0.713 mW/g



0 dB = 0.713mW/g

Fig. 1 Test Position 1 CDMA 835MHz CH384

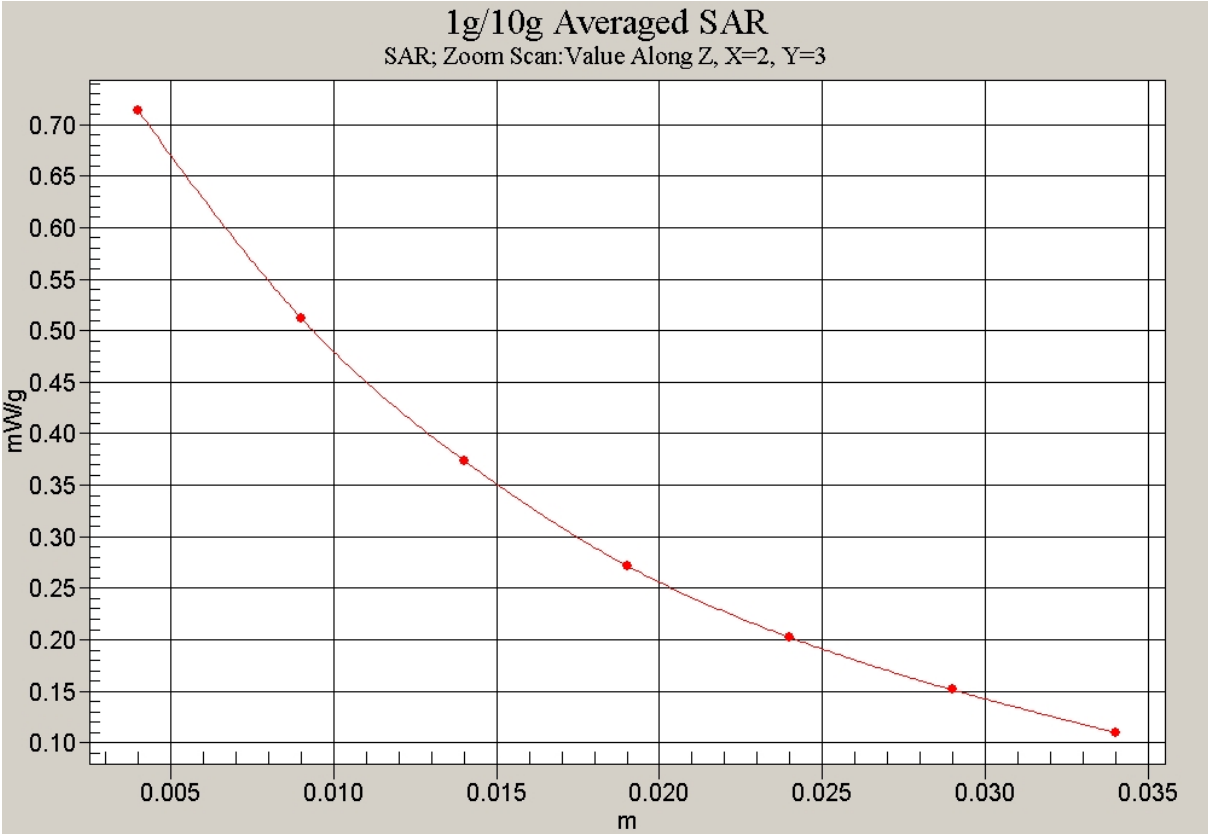
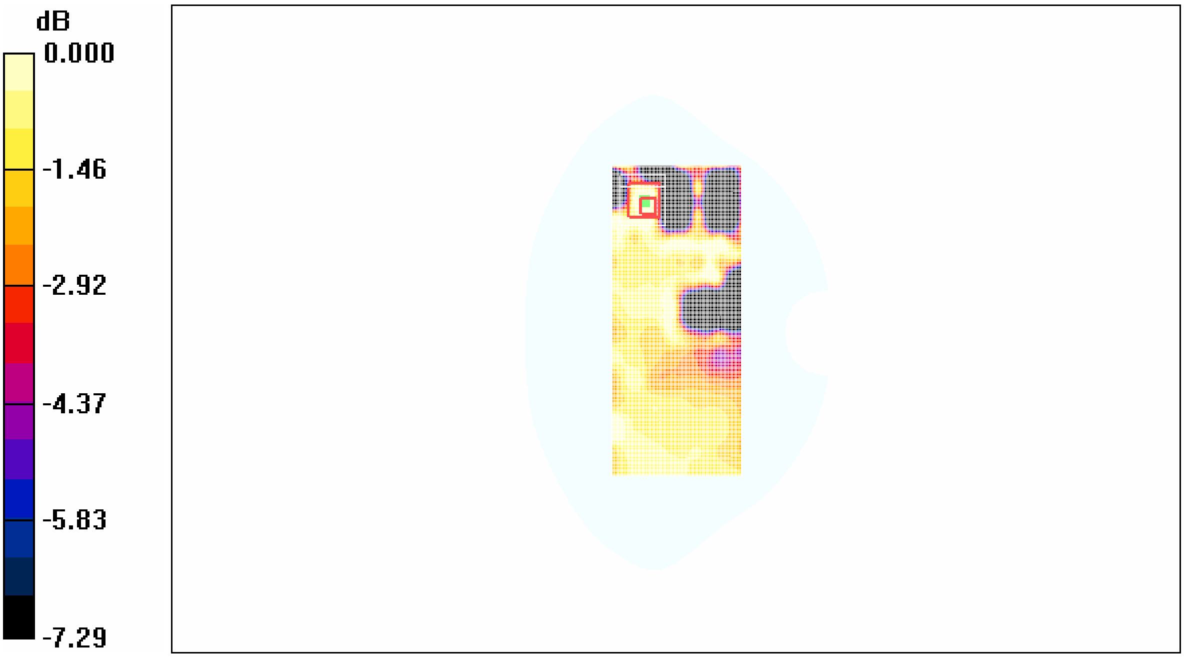


Fig. 2 Z-Scan at power reference point (CDMA 835MHz CH384)

CDMA 1X Test Position 2 Middle
Electronics: DAE3 Sn536
Communication System: CDMA 1X-new Frequency: 836.52 MHz Duty Cycle: 1:1
Probe: ET3DV6 - SN1736 ConvF(6.45, 6.45, 6.45)

Test Position 2 Middle/Area Scan (61x131x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.016 mW/g

Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.45 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 0.021 W/kg
SAR(1 g) = 0.00801 mW/g; SAR(10 g) = 0.00235 mW/g
Maximum value of SAR (measured) = 0.009 mW/g



0 dB = 0.009mW/g

Fig. 3 Test Position 2 CDMA 835MHz CH384

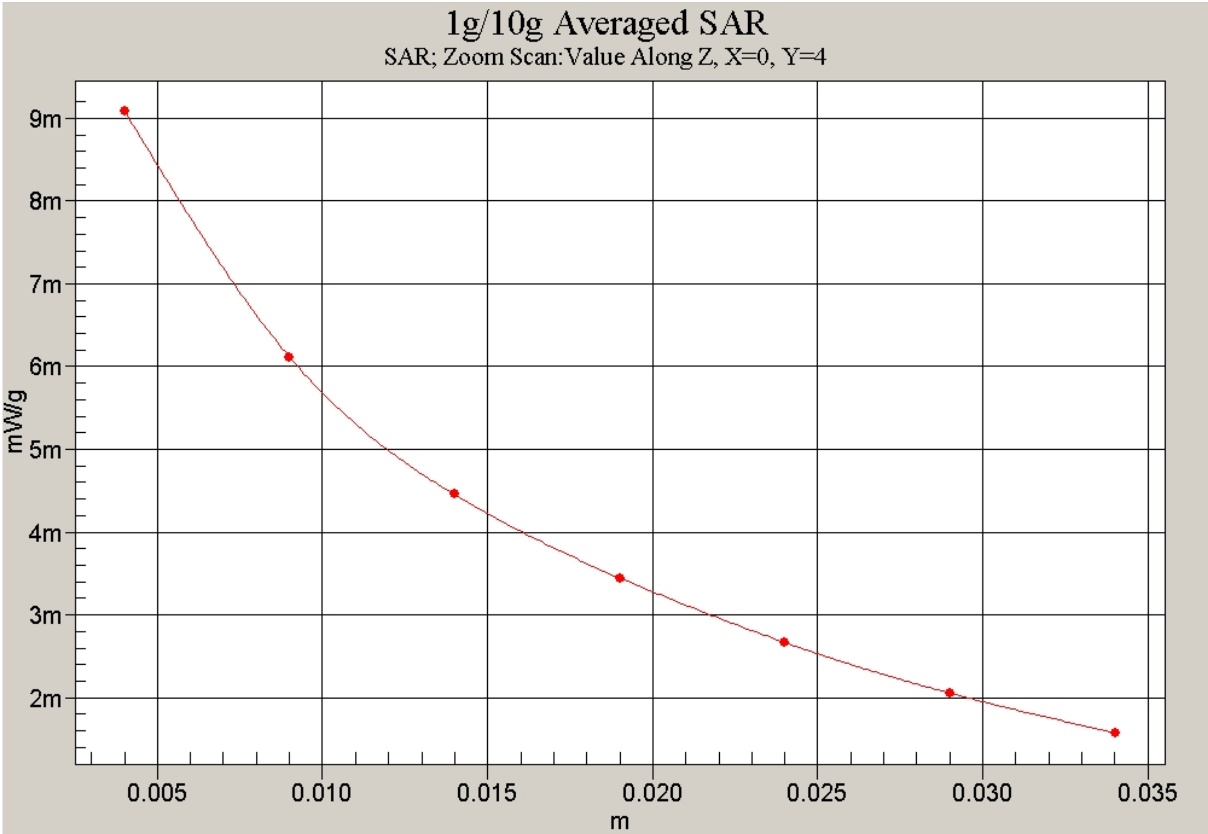


Fig. 4 Z-Scan at power reference point (CDMA 835MHz CH384)

CDMA 1X Test Position 3 Middle

Electronics: DAE3 Sn536

Communication System: CDMA 1X-new Frequency: 836.52 MHz Duty Cycle: 1:1

Probe: ET3DV6 - SN1736 ConvF(6.45, 6.45, 6.45)

Test Position 3 Middle/Area Scan (61x131x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.612 mW/g

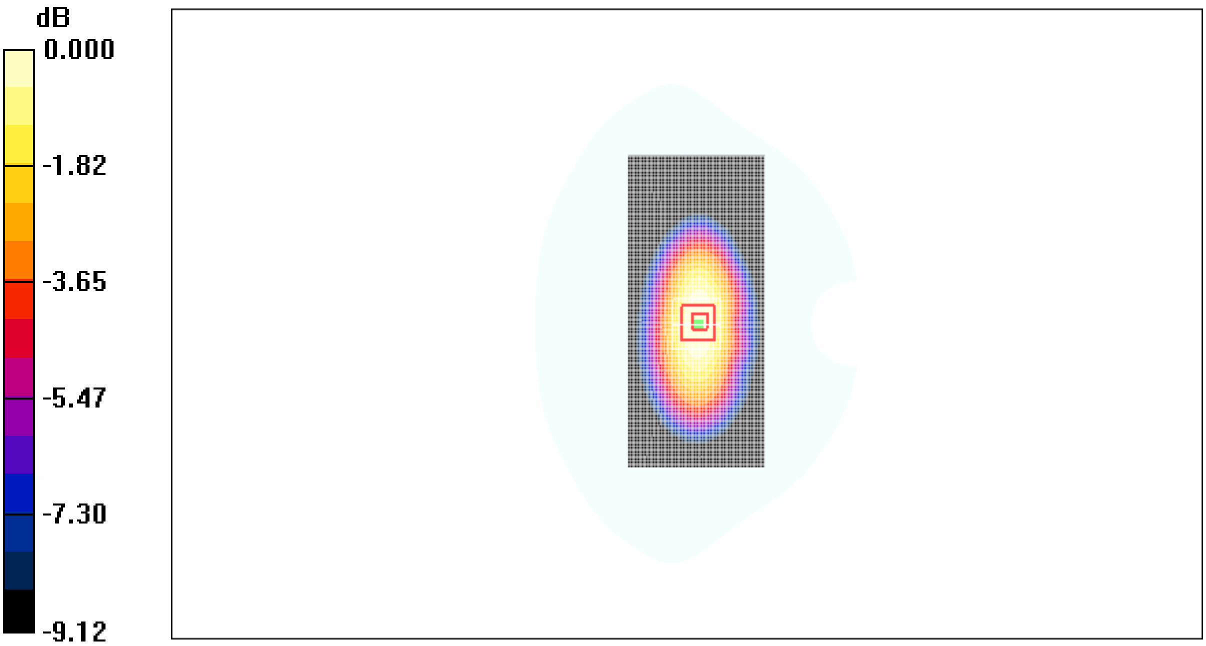
Test Position 3 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.0 V/m; Power Drift = -0.200 dB

Peak SAR (extrapolated) = 0.745 W/kg

SAR(1 g) = 0.575 mW/g; SAR(10 g) = 0.408 mW/g

Maximum value of SAR (measured) = 0.609 mW/g



0 dB = 0.609mW/g

Fig.5 Test Position 3 CDMA 835MHz CH384

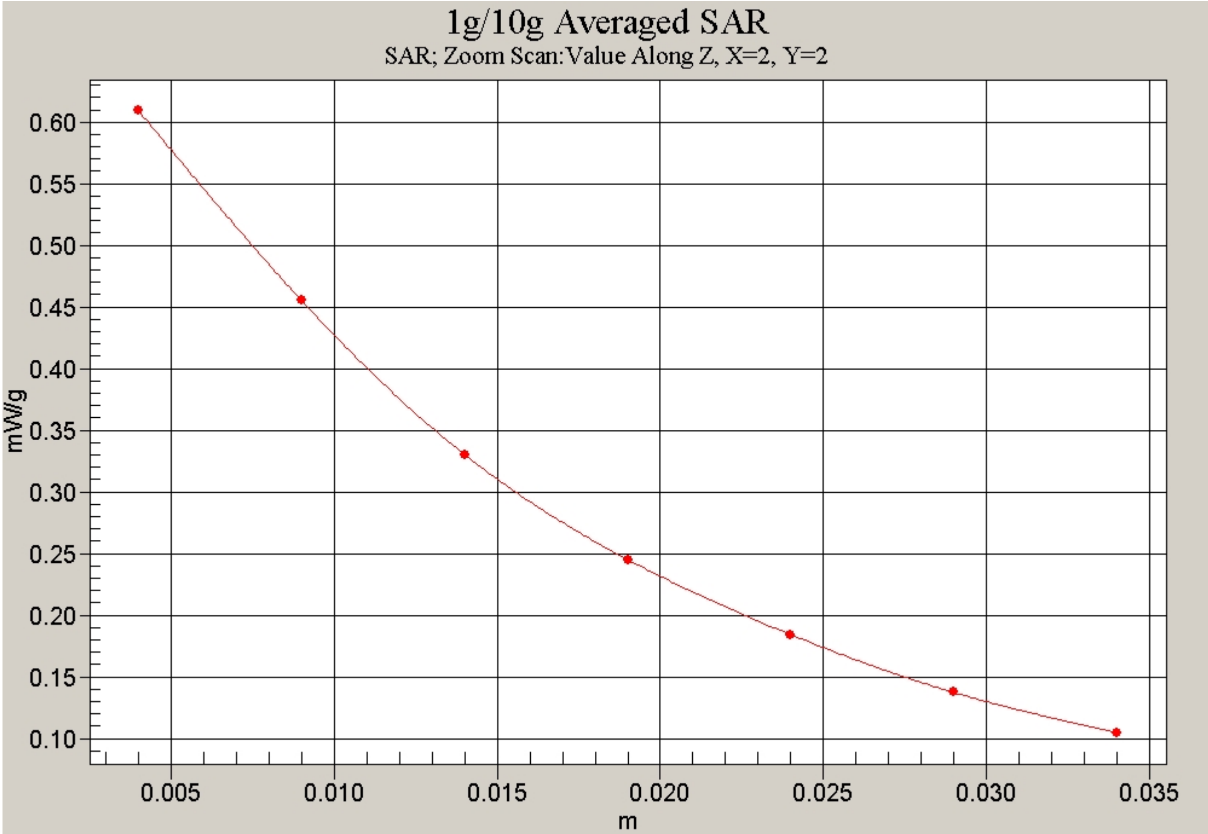


Fig. 6 Z-Scan at power reference point (CDMA 835MHz CH384)

CDMA 1X Test Position 4 Middle

Electronics: DAE3 Sn536

Communication System: CDMA 1X-new Frequency: 836.52 MHz Duty Cycle: 1:1

Probe: ET3DV6 - SN1736 ConvF(6.45, 6.45, 6.45)

Test Position 4 Middle/Area Scan (61x131x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.288 mW/g

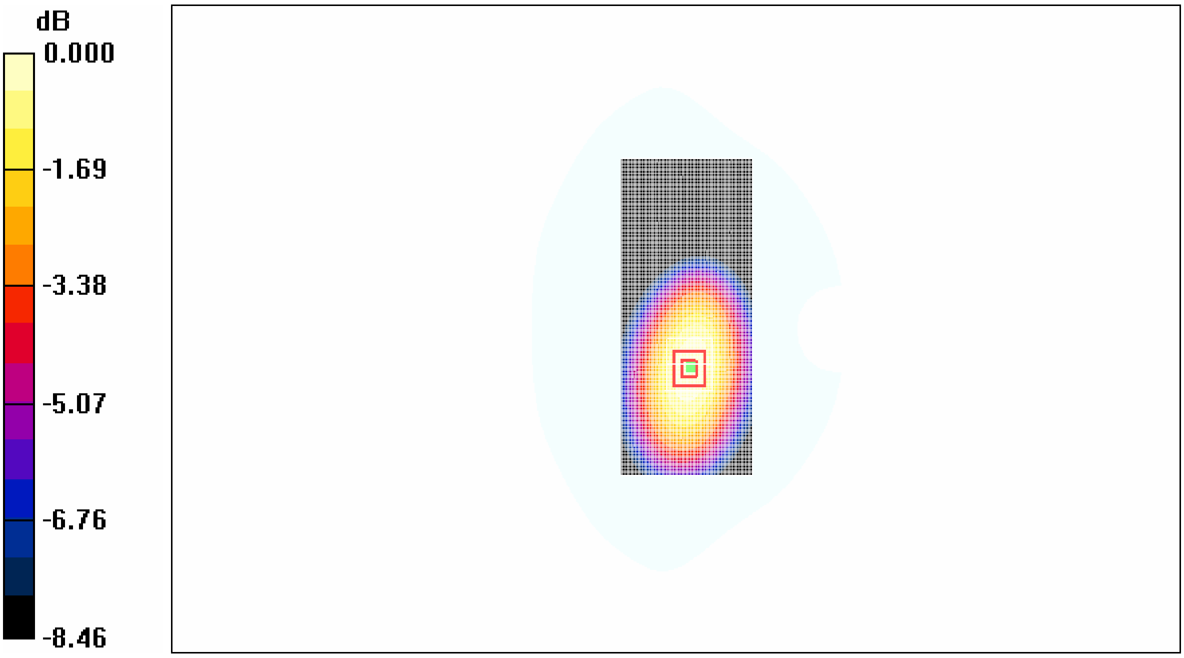
Test Position 4 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.8 V/m; Power Drift = -0.211 dB

Peak SAR (extrapolated) = 0.345 W/kg

SAR(1 g) = 0.273 mW/g; SAR(10 g) = 0.200 mW/g

Maximum value of SAR (measured) = 0.289 mW/g



0 dB = 0.289mW/g

Fig. 7 Test Position 4 CDMA 835MHz CH384

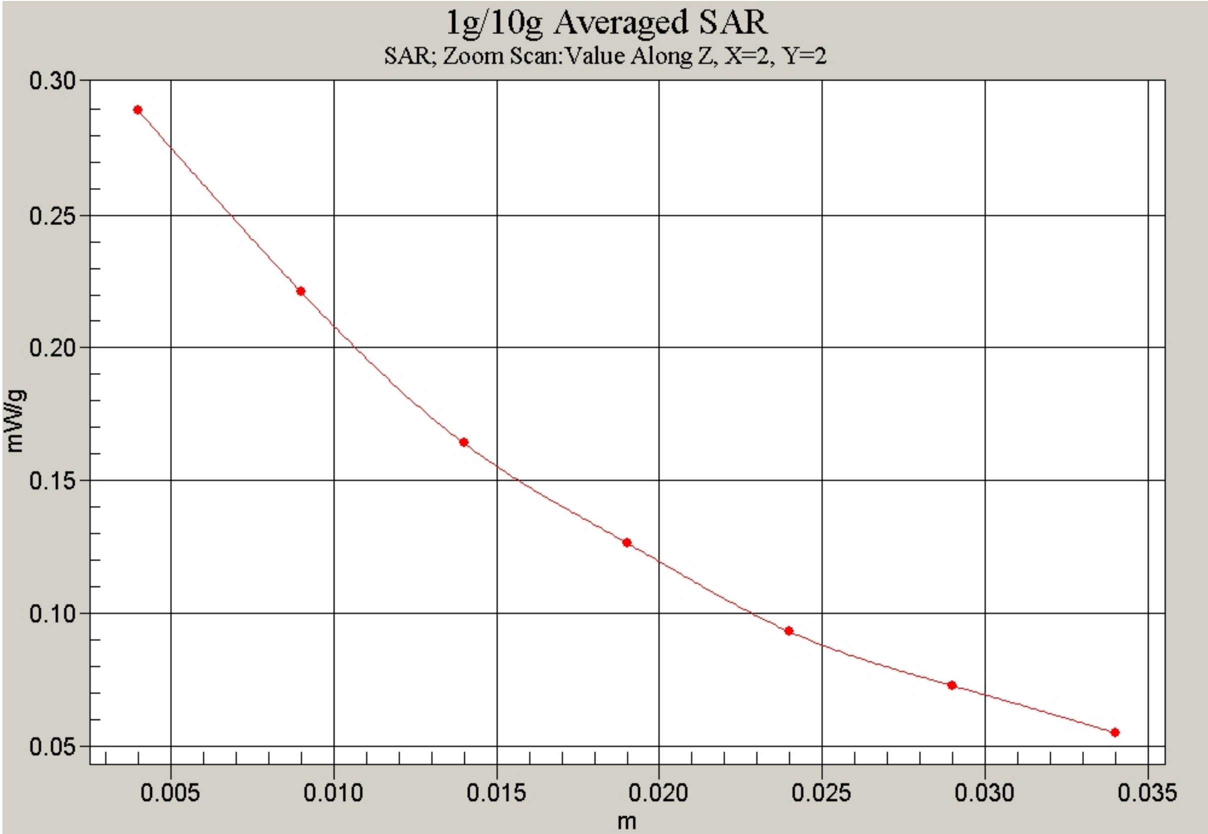


Fig. 8 Z-Scan at power reference point (CDMA 835MHz CH384)

CDMA 1X Test Position 5 Middle

Electronics: DAE3 Sn536

Communication System: CDMA 1X-new Frequency: 836.52 MHz Duty Cycle: 1:1

Probe: ET3DV6 - SN1736 ConvF(6.45, 6.45, 6.45)

Test Position 5 Middle/Area Scan (61x131x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.009 mW/g

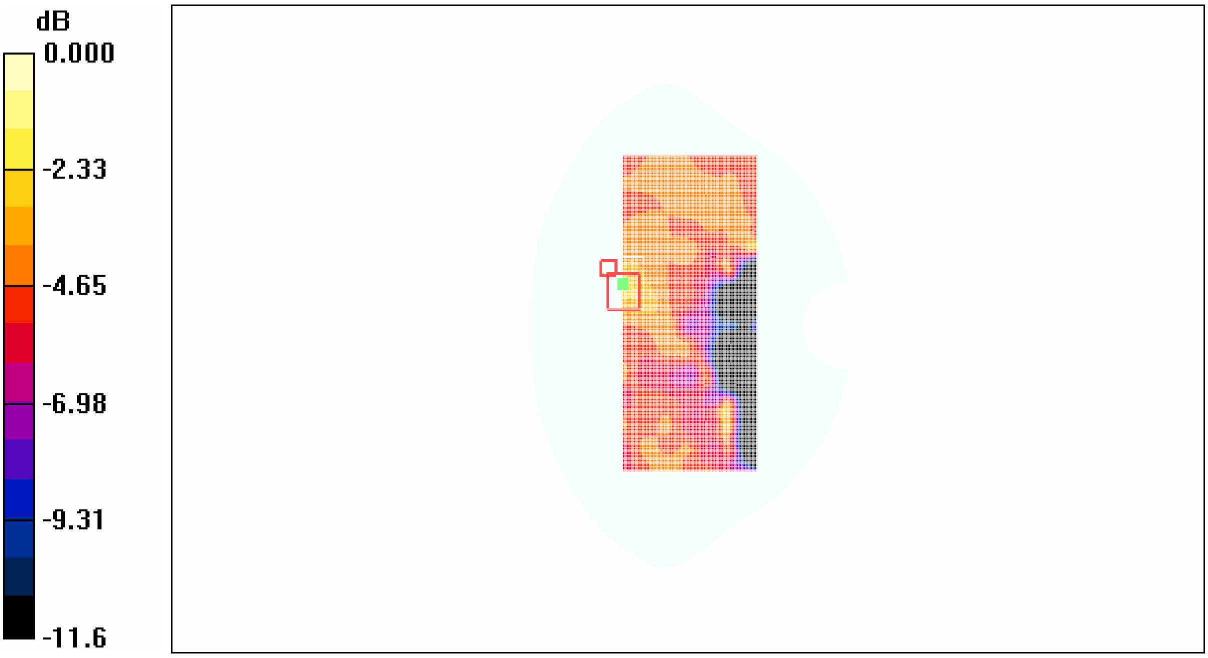
Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.52 V/m; Power Drift = -0.200 dB

Peak SAR (extrapolated) = 0.025 W/kg

SAR(1 g) = 0.00752 mW/g; SAR(10 g) = 0.00529 mW/g

Maximum value of SAR (measured) = 0.016 mW/g



0 dB = 0.016mW/g

Fig. 9 Test Position 5 CDMA 835MHz CH384

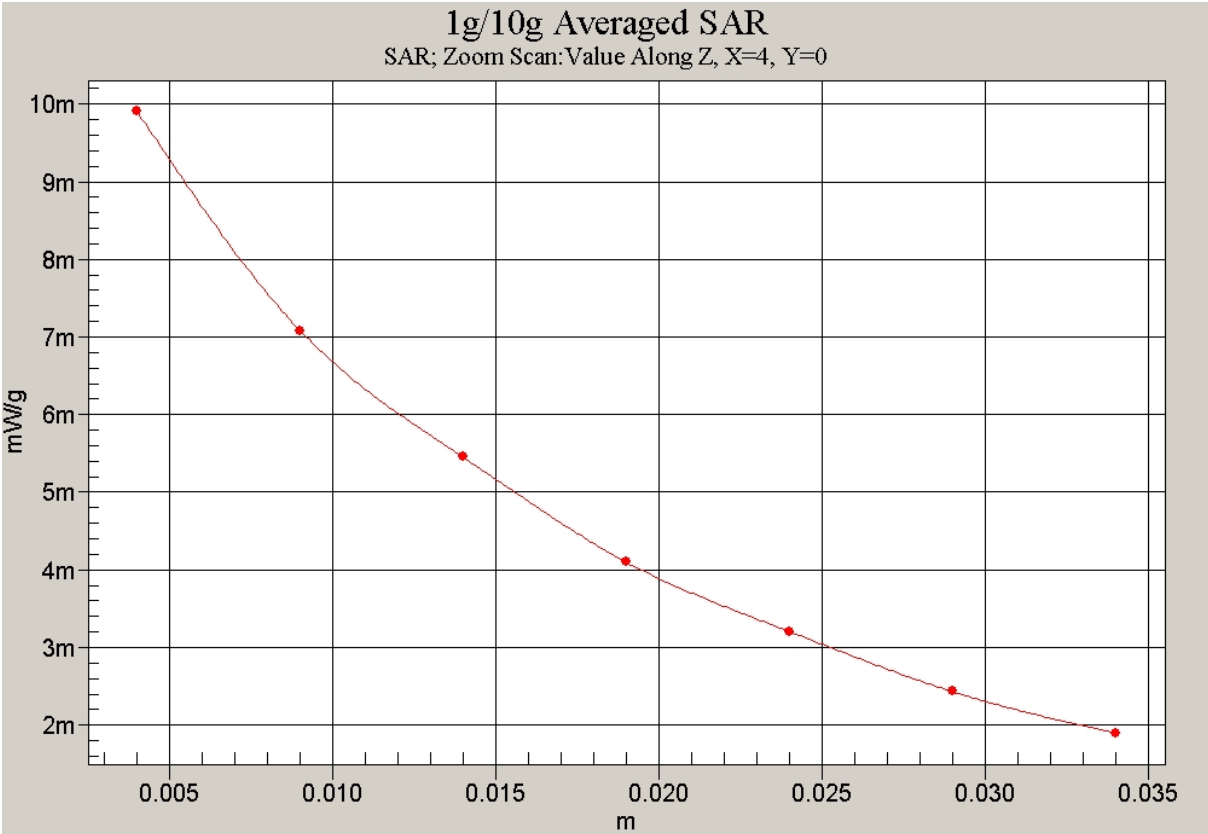


Fig. 10 Z-Scan at power reference point (CDMA 835MHz CH384)