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No.L1659

ShenZhen Electronic Product Quality Testing Center

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

FCC ID: S5D-KMP6J1AJ1

SZ_TF_0501_G_a

Wuhan NEC mobile communication Co., Ltd.

GSM/GPRS 1900 MHz Terminal Equipment

Type Name: NEC N630

Hardware Version: ME84001787_P2
Software Version: NEC_N630_Ver_02

Date of Issue: 2005-3-14

GLOBAL SYSTEM FOR MOBILE COMMUNICATIONS

GENERAL SUMMARY

Product Name	NEC N630	Development Stage	MP
Standard(s)	**OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01):** Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields: **EN 50360–2001:** Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones. **EN 50361–2001:** Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones. **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.		
Conclusion	Localized Specific Absorption Rate (SAR) of this portable wireless equipment 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 Date of issue: Mar 14th, 2005		
Comment	TX Freq. Band: 1850–1910MHz (PCS) Max. Power: 1 Watt (PCS) The test result only responds to the measured sample.		

Project Leader
(Responsible for the Test Report)

Deputy Project leader
(Verification of the Test Report)

Test Lab Manger

Contents

This Test Report consists of the following Annexes:

1. GENERAL CONDITIONS

1.1 This report only refers to the item that has undergone the test.

1.2 This report standalone dose not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities.

1.3 This document is only valid if complete; no partial reproduction can be made without written approval of Telecommunication Metrology Center of Ministry of Information Industry.

1.4 This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of Morlab and the Accreditation Bodies, if it applies.

2. Administrative Date

2.1. Identification of the Responsible Testing Laboratory

Company Name:	Morlab
Department:	Mobile Communication
Address:	3FL,Electronic Testing Building, ShaHe Road, NanShan District, ShenZhen, P. R. China
Telephone:	+86-0755-86130318
Fax:	+86-0755-86130218
Responsible Test Lab Managers:	Mr. Shu Luan

2.2. Identification of the Responsible Testing Location(s)

Company Name:	Morlab
Address:	3FL, Electronic Testing Building, ShaHe Road, NanShan District, ShenZhen, P. R. China

2.3. Organization Item

Morlab Report No.:	SZ_TF_0501_G_a
Morlab Project Leader:	Mr. Li Yikun
Morlab Responsible for accreditation scope:	Mr. Shu Luan
Start of Testing:	2005-3-1
End of Testing:	2005-3-3

2.4. Identification of Applicant

Company Name:	Wuhan NEC mobile communication Co., Ltd.
Address:	Building NO.1, Industrial Area NO.2, Guandong Science And Technology Industry Park, Donghu New Technology Development Zone, Wuhan
Contact person:	David Peng
Telephone:	86-027-87402901
Fax:	86-027-87561895

2.5. Identification of Manufacture

Company Name:	Wuhan NEC mobile communication Co., Ltd.
Address:	Building NO.1, Industrial Area NO.2, Guandong Science And Technology Industry Park, Donghu New Technology Development Zone, Wuhan
Contact person:	David Peng
Telephone:	86-027-87402901
Fax:	86-027-87561895

Notes: This data is based on the information by the applicant.

3. Equipment Under Test (EUT)

3.1. Identification of the Equipment under Test

Brand Name: Wuhan NEC mobile communication Co., Ltd.
Type Name: NEC N630
Marking Name: NEC N630
GSM Frequency Bands: GSM 1900
General Description: Dual-band GSM handset; GSM features: SMS; GPRS(class8)

3.2. Identification of all used Test Sample of the Equipment under Test

EUT Code	Serial Number	Hardware Version	Software Version	IMEI
07080a01	01	ME84001787_P2	NEC_N630_Ver_02	000000000000000

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 1, 62 and 123 respectively in the case of GSM 900 MHz, or to 512, 700 and 885 respectively in the case of DCS 1800 MHz. or to 513, 661 and 809 respectively in the case of PCS 1900 MHz. The EUT is commanded to operate at maximum transmitting power.

The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset.

The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 30 dB.

4.2 SAR Measurement Set-up

These measurements were performed with the automated near-field scanning system DASY4 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, 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.

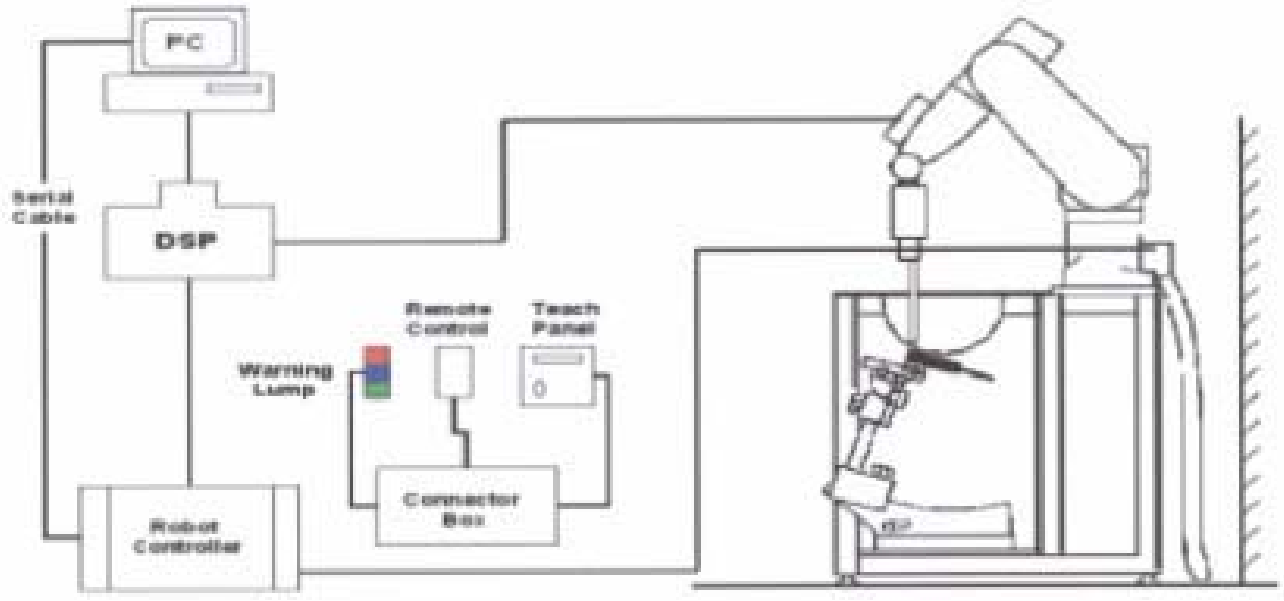


Figure2. SAR Lab Test Measurement Set-up

The DAE3 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.

5. CHARACTERISTICS OF THE TEST

5.1 Applicable Limit Regulations

EN 50360–2001: Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.

It specifies the maximum exposure limit of **2.0 W/kg** as averaged over any 10 gram of tissue for portable devices being used within 20 cm 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 cm of the user in the uncontrolled environment.

5.2 Applicable Measurement Standards

EN 50361–2001: Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.

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.

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

6 LABORATORY ENVIRONMENT

Table: The Ambient Conditions during SAR 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 TEST RESULTS

7.1 Dielectric Performance

The measured 1-gram averaged SAR values of the device against the head and the body are provided in Tables 1 and 2 respectively. The humidity and ambient temperature of test facility were 44.2% - 40.5% and 22.7 °C – 24.5 °C respectively. The depth of the head tissue simulating liquid was 15.1cm and of the muscle tissue simulating liquid was 15.5cm. A base station simulator was used to control the device during the SAR measurement. The phone was supplied with full-charged battery for each measurement.

For head measurement, the device was tested on the right-hand phantom (corresponding to the right side of the head) and the left-hand phantom in two phone position, cheek (touch) and tilt (cheek + 15deg). For GSM 1900 modes, the device was tested at the lowest, middle and highest frequencies in the transmit band.

Table 1: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 22 ° C and relative humidity 34%.			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	1850.2MHz	40.5	1.4
	1880MHZ	40.4	1.43
	1909.8MHZ	40.3	1.46

For body-worn measurements, the device was tested against flat phantom representing the user body. Under measurement phone was put on in the belt holder ICT-14 and measurement provides the phone to the phantom.

Table 2: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 22 ° C and relative humidity 34%.			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	1850.2MHz	52.2	1.53
	1880MHZ	52.1	1.56
	1909.8MHZ	52.0	1.60

7.2 Summary of Measurement Results (PCS1900 MHz Band)

Table 3: SAR Values (PCS1900 MHz Band), Measured against the head

Temperature: 22 ° C, humidity: 34%.		
Limit of SAR (W/kg)	10 g Average	1 g Average
	2.0	1.6
Test Case	Measurement Result (W/kg)	
	10 g Average	1 g Average
Left hand, Touch cheek, Top frequency	0.132	0.237
Left hand, Touch cheek, Mid frequency	0.163	0.293
Left hand, Touch cheek, Bottom frequency	0.197	0.345
Left hand, Tilt 15 Degree, Top frequency	0.133	0.239
Left hand, Tilt 15 Degree, Mid frequency	0.154	0.277
Left hand, Tilt 15 Degree, Bottom frequency	0.189	0.337
Right hand, Touch cheek, Top frequency	0.088	0.148
Right hand, Touch cheek, Mid frequency	0.100	0.169
Right hand, Touch cheek, Bottom frequency	0.122	0.204
Right hand, Tilt 15 Degree, Top frequency	0.102	0.179
Right hand, Tilt 15 Degree, Mid frequency	0.116	0.201
Right hand, Tilt 15 Degree, Bottom frequency	0.141	0.244

Table 4: SAR Values (PCS1900 MHz Band), Measured against the body

Temperature: 22 ° C, humidity: 34%.		
Limit of SAR (W/kg)	10 g Average	1 g Average
	2.0	1.6
Test Case	Measurement Result (W/kg)	
	10 g Average	1 g Average
Front Sideup , Top frequency	0.029	0.046
Front Sideup, Mid frequency	0.041	0.065
Front Sideup, Bottom frequency	0.044	0.068
Bottom Sideup, Top frequency	0.070	0.106
Bottom Sideup, Mid frequency	0.078	0.119
Bottom Sideup, Bottom frequency	0.088	0.134

7.3 Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device 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.

8 Measurement Uncertainty

No	Error source	Type	Uncertainty Value (%)	Probability Distribution	k	c_i	Standard Uncertainty (%) u_i(%)	Degree of freedom V_{eff} or v_i
1	System repetivity	A	0.5	N	1	1	0.5	9
	Measurement system							
2	－probe calibration	B	7	N	2	1	3.5	∞
3	－axial isotropy of the probe	B	4.7	R	$\sqrt{3}$	$\sqrt{5.0}$	4.3	∞
4	－ hemisphere isotropy of the probe	B	9.4	R	$\sqrt{3}$	$\sqrt{5.0}$		
5	－spatial resolution	B	0	R	$\sqrt{3}$	1	0	∞
6	－boundary effect	B	11.0	R	$\sqrt{3}$	1	6.4	∞
7	－probe linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
8	－detection limit	B	1.0	R	$\sqrt{3}$	1	0.6	∞
9	－electronic readout	B	1.0	N	1	1	1.0	∞
10	－RF interference	B	3.0	R	$\sqrt{3}$	1	1.73	∞
11	－ probe mechanical positioning constraint	B	0.4	R	$\sqrt{3}$	1	0.2	∞
12	－ matching between probe and phantom references	B	2.9	R	$\sqrt{3}$	1	1.7	∞
13	－ SAR interpolation and extrapolation	B	3.9	R	$\sqrt{3}$	1	2.3	∞
	Uncertainties of the DUT							
14	－position of the DUT	A	4.9	N	1	1	4.9	5
15	－holder of the DUT	A	6.1	N	1	1	6.1	5
16	－drift of the output power	B	5.0	R	$\sqrt{3}$	1	2.9	∞

	Physical parameters							
17	－phantom shell	B	1.0	R	$\sqrt{3}$	1	0.6	∞
18	－liquid conductivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
19	－ liquid conductivity(measurement error)	B	10.0	R	$\sqrt{3}$	0.6	3.4	∞
20	－ liquid dielectric constant (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
21	－ liquid dielectric constant (measurement error)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					13.5	88.7
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N		k=2	27	

9 MAIN TEST INSTRUMENTS

No.	EQUIPMENT	TYPE	Due Date
1	SAR Probe	ES3DV3 (SN3034)	2005-10-28
2	Dummy Probe	DP1	2005-10-28
3	DAE(Data Acquisition Electronics)	V4.0 (SN661)	2005-10-28
4	DASY 4 Measurement Server	CS7MB	2005-10-28
5	System Validation Dipole incl.Support 900M	D900V2	2005-10-28
6	System Validation Dipole 835MHZ	D835V2	2005-10-28
7	System Validation Dipole 1800MHZ	D1800V2	2005-10-28
8	System Validation Dipole 1900MHZ	D1900V2	2005-10-28
9	System Validation Dipole 2450MHZ	D2450V2	2005-10-28

ANNEX A

of

ShenZhen Electronic Product Quality Testing Center

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SZ_TF_0501_G_a

Accreditation Certificate

This Annex consists of 2 pages
Date of Report: 2005-3-14

ACCREDITATION CERTIFICATE OF CHINA NATIONAL ACCREDITATION BOARD FOR LABORATORIES

(No.L1659)

This is to certify that

Shenzhen Electronic Product Quality Testing Center

Electronic Testing Building, Shahe Road, Xili, Nanshan District,

Shenzhen, Guangdong, China

has been assessed and proved to be in compliance with CNAL/AC01: 2003 *Accreditation Criteria for Testing and Calibration Laboratories* (identical to ISO/IEC17025：1999 *General Requirements for the Competence of Testing and Calibration Laboratories*).

Accreditation scope of the laboratory is listed in the attachment.

Date of Issue：2004.10.09

Date of Expiry：2009.10.08

魏昊

Wei Hao

Secretary General of CNAL

ANNEX B

of

ShenZhen Electronic Product Quality Testing Center

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SZ_TF_0501_G_a

Wuhan NEC mobile communication Co., Ltd.

GSM/GPRS 1900 MHz Terminal Equipment

Type Name: NEC N630

Hardware Version: ME84001787_P2
Software Version: NEC_N630_Ver_02

TEST LAYOUT

This Annex consists of 5 pages
Date of Report: 2005-3-14

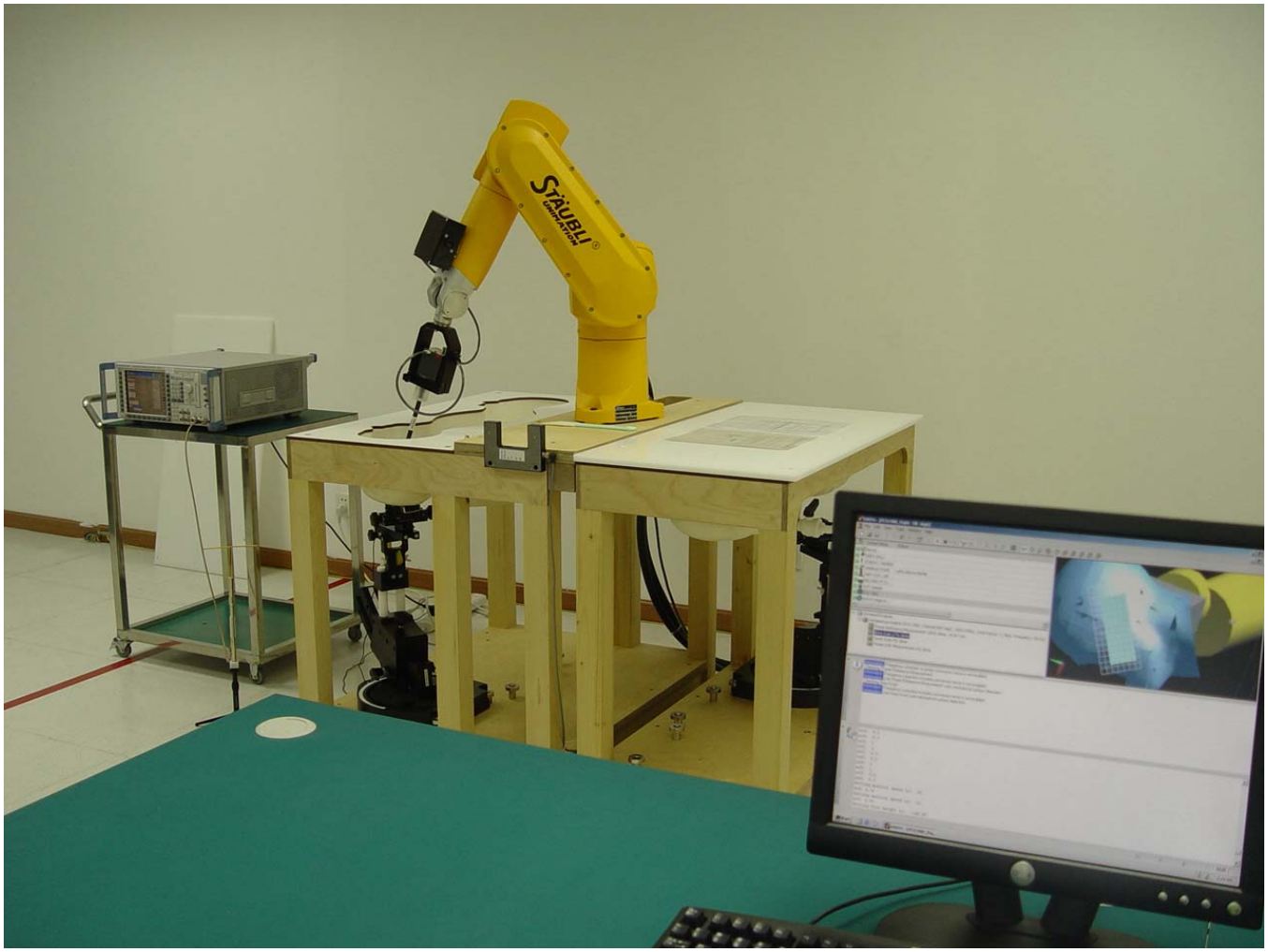


Fig.1 Specific Absorption Rate Test Layout

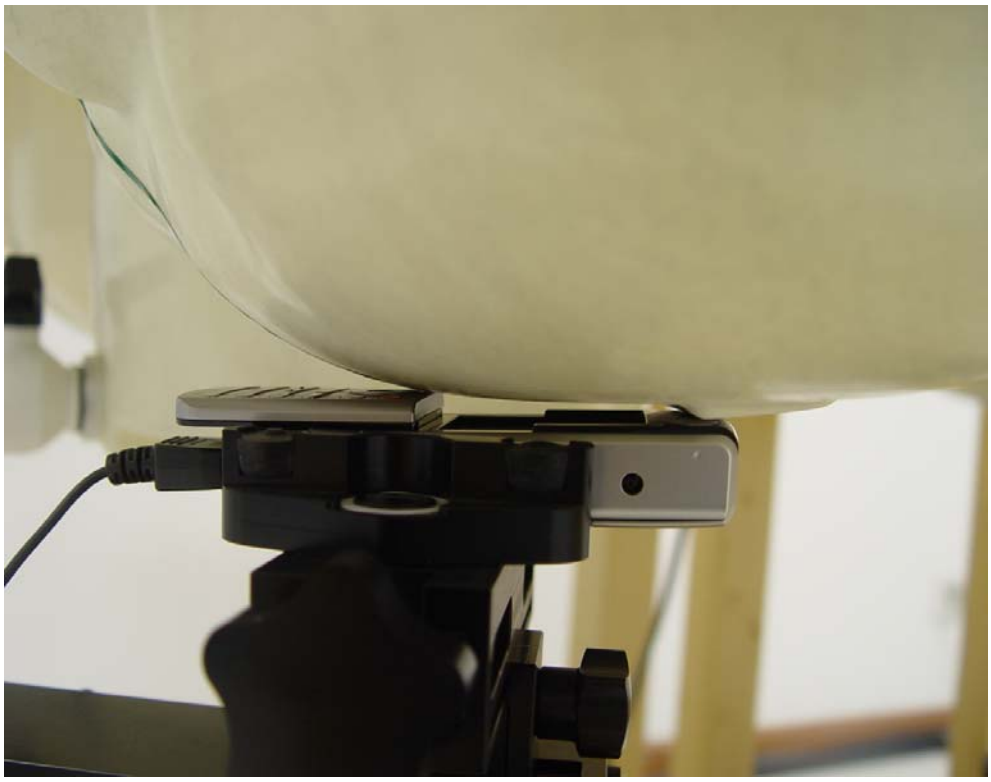


Fig.2 Left Hand Touch Cheek Position

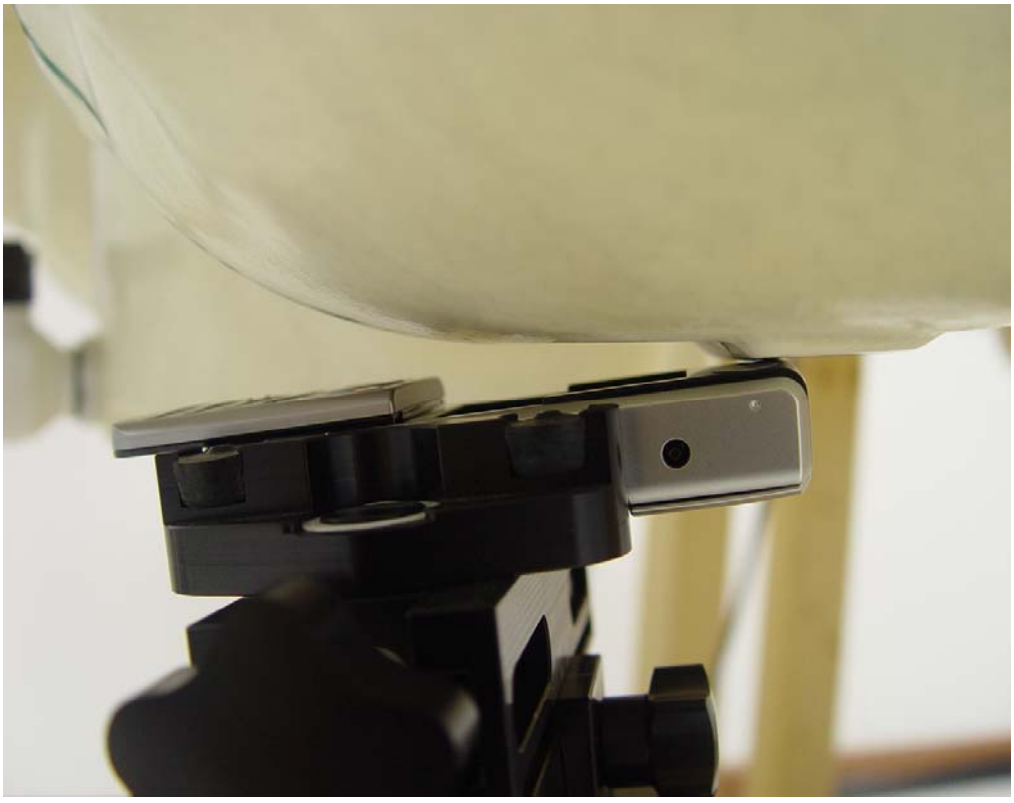


Fig.3 Left Hand Tilt 15^0 Position

Fig.4 Right Hand Touch Cheek Position

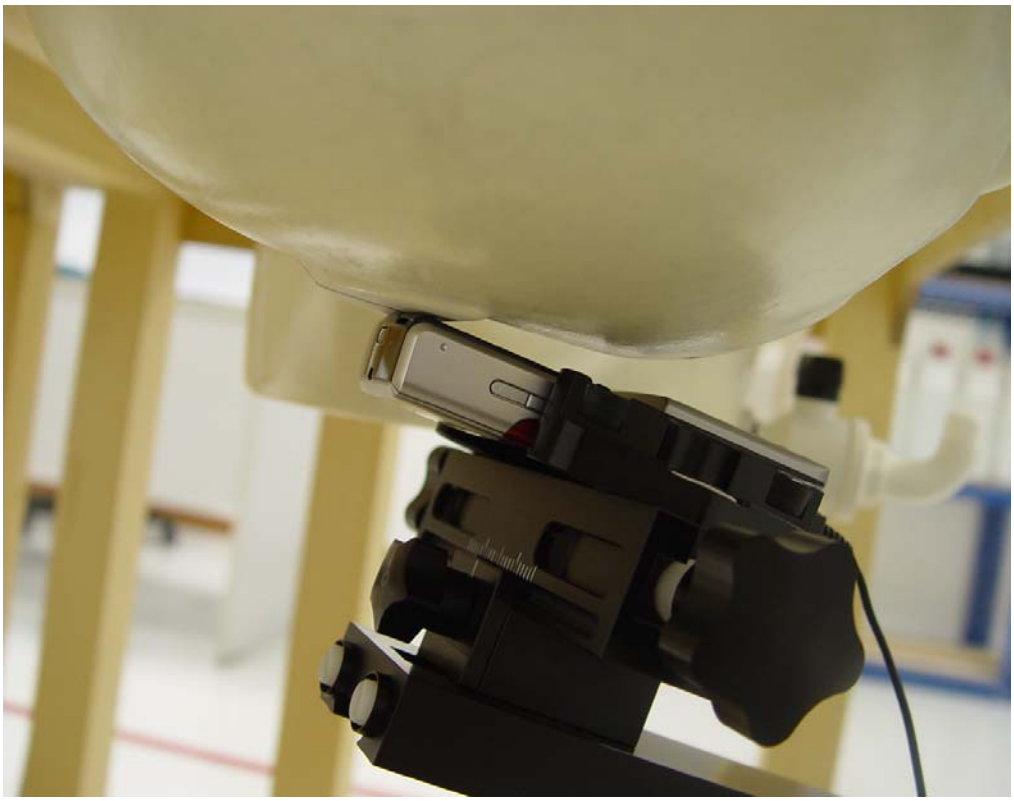


Fig.5 Right Hand Tilt 15^0 Position

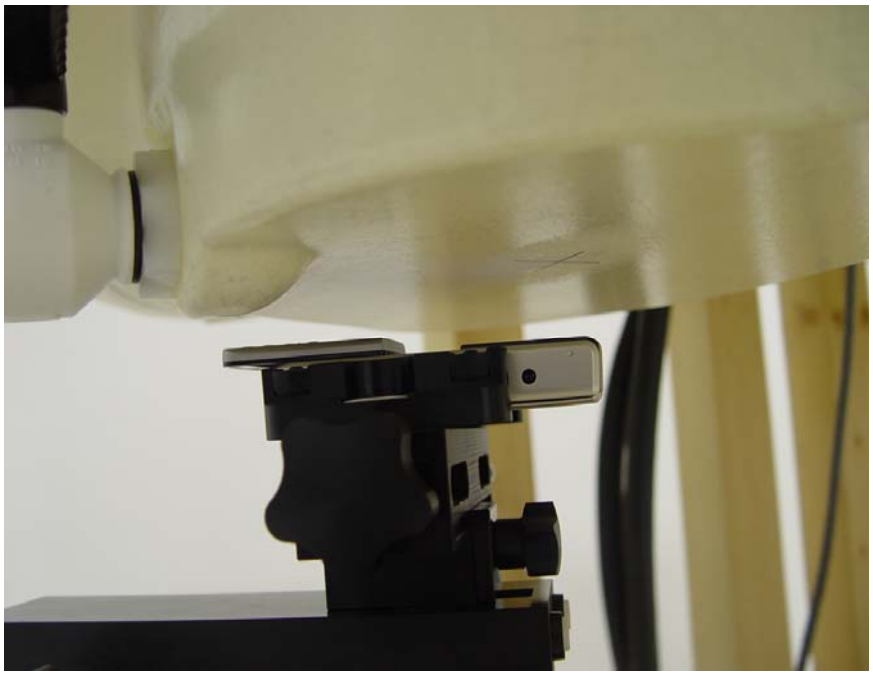


Fig.6 Front Side up Position

ANNEX C

of

ShenZhen Electronic Product Quality Testing Center

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SZ_TF_0501_G_a

Wuhan NEC mobile communication Co., Ltd.

GSM/GPRS 1900 MHz Terminal Equipment

Type Name: NEC N630

Hardware Version: ME84001787_P2
Software Version: NEC_N630_Ver_02

Graph Test Results

This Annex consists of 19 pages
Date of Report: 2005-3-14

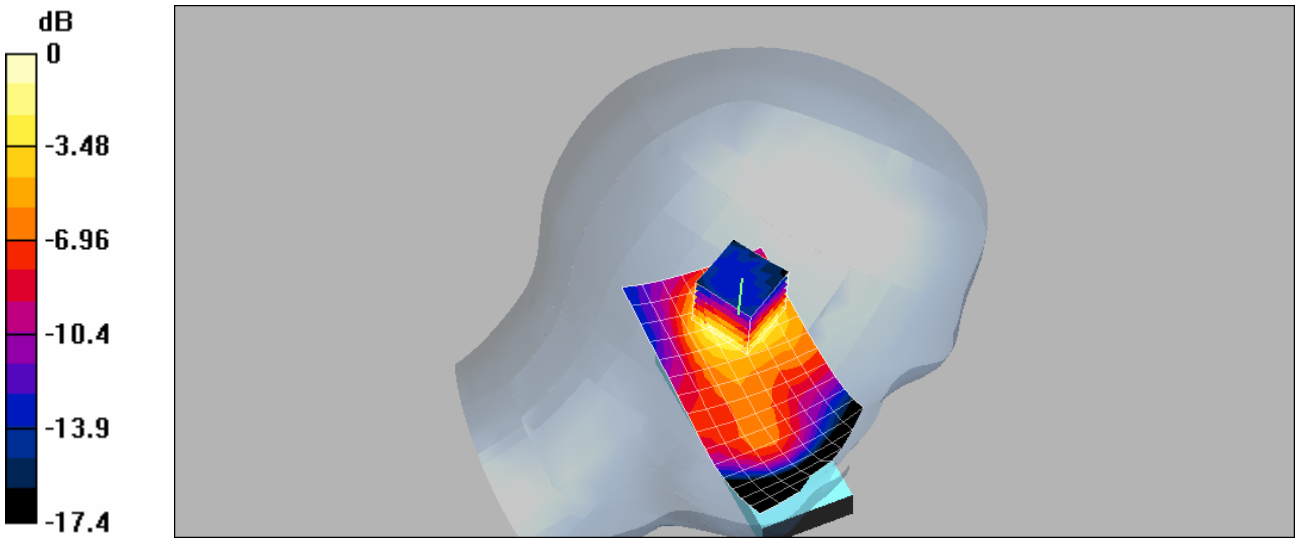
SAR Test PCS 1900 Left Cheek High

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.249 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 0.388 W/kg
SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.132 mW/g
Maximum value of SAR (measured) = 0.262 mW/g



0 dB = 0.262mW/g

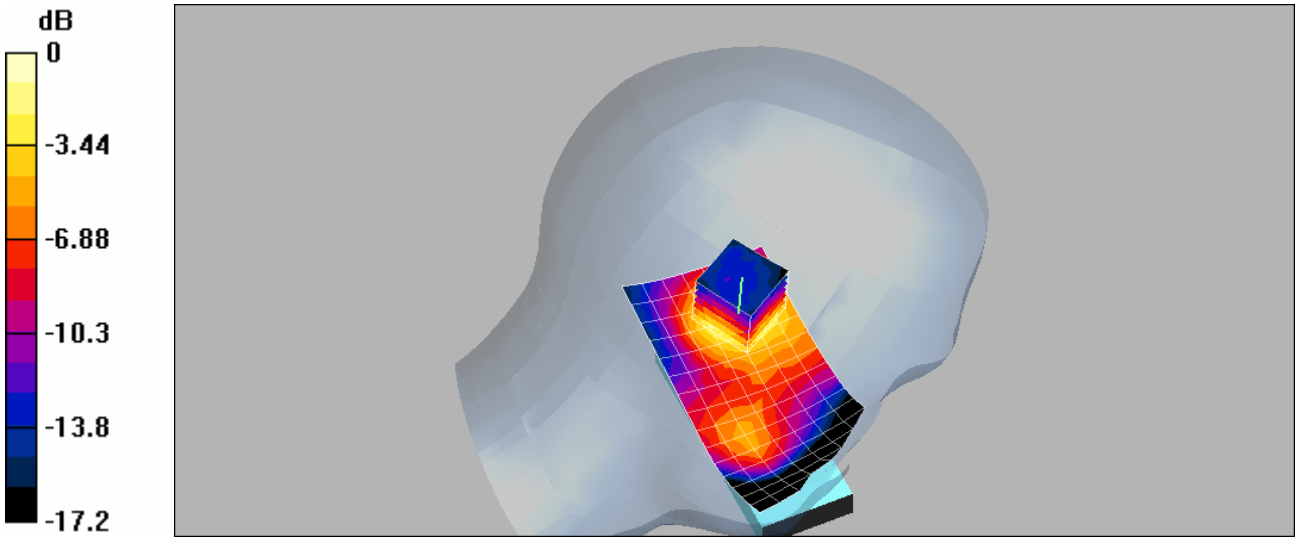
SAR Test PCS 1900 Left Cheek Middle

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.296 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 0.477 W/kg
SAR(1 g) = 0.293 mW/g; SAR(10 g) = 0.163 mW/g
Maximum value of SAR (measured) = 0.326 mW/g



0 dB = 0.326mW/g

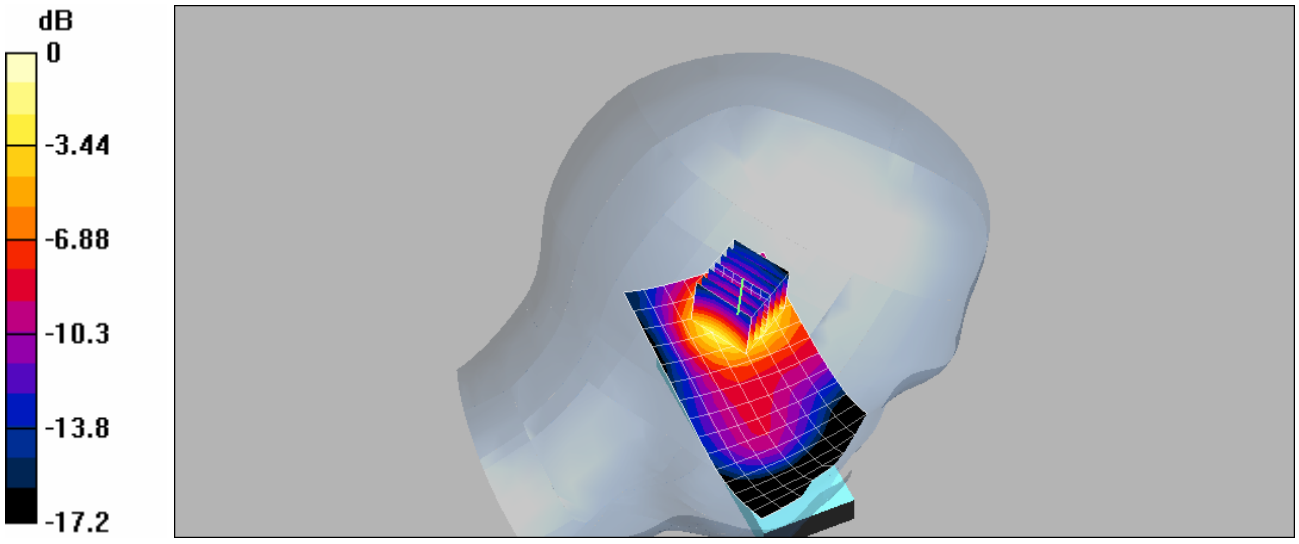
SAR Test PCS 1900 Left Cheek Low

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.366 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.585 W/kg
SAR(1 g) = 0.354 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.396 mW/g



0 dB = 0.396mW/g

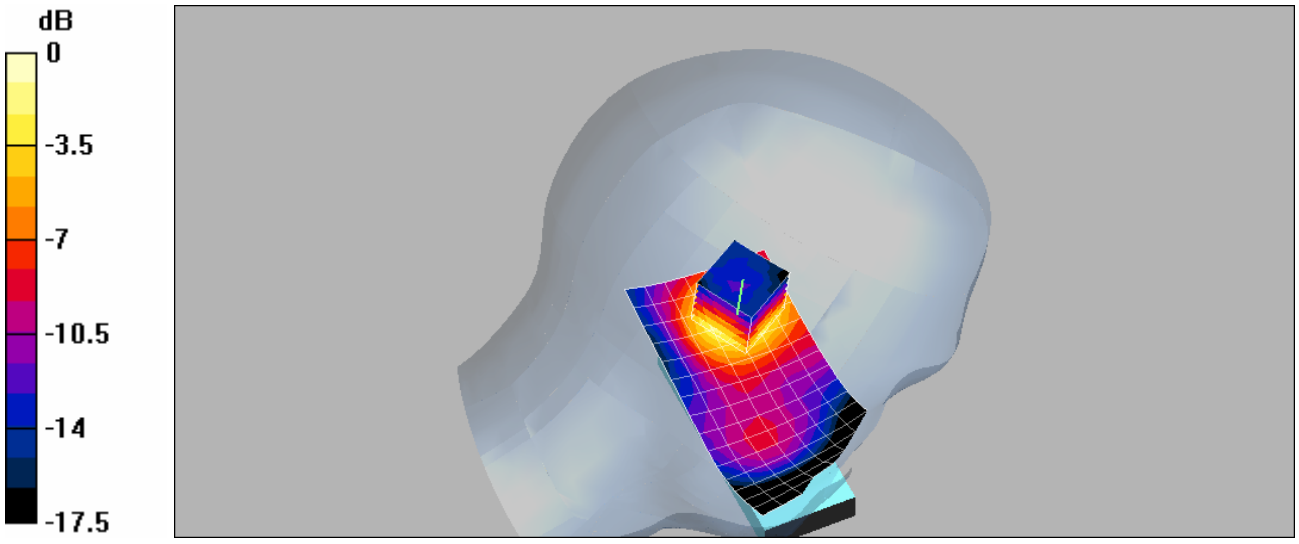
SAR Test PCS 1900 Left Tilt High

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.240 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 0.396 W/kg
SAR(1 g) = 0.239 mW/g; SAR(10 g) = 0.133 mW/g
Maximum value of SAR (measured) = 0.266 mW/g



0 dB = 0.266mW/g

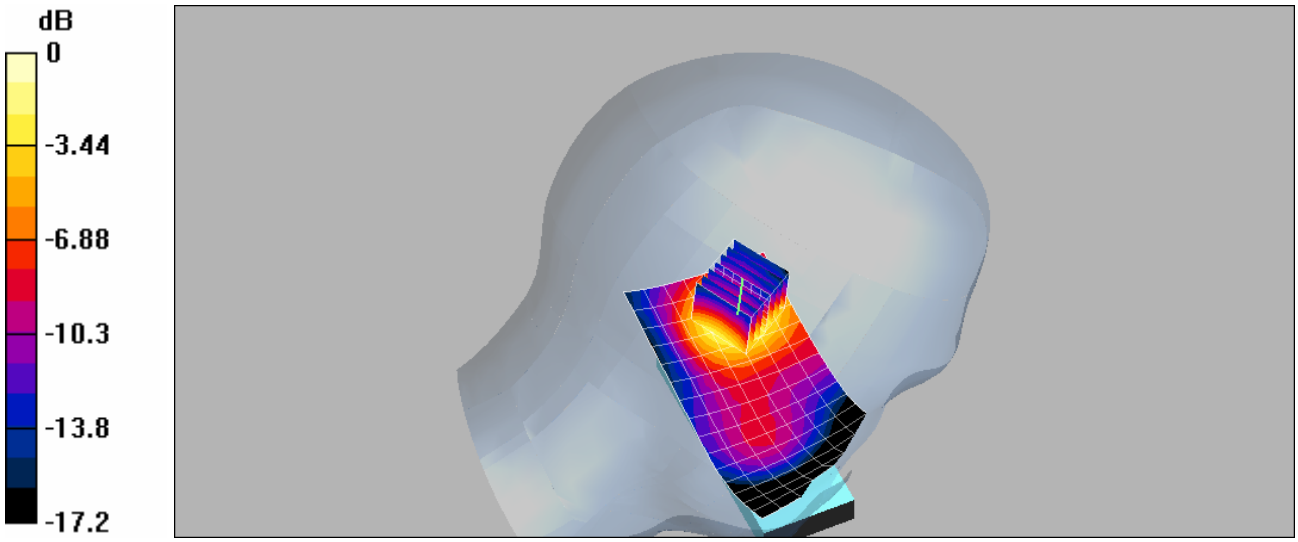
SAR Test PCS 1900 Left Tilt Middle

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.278 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.8 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 0.454 W/kg
SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.310 mW/g



0 dB = 0.310mW/g

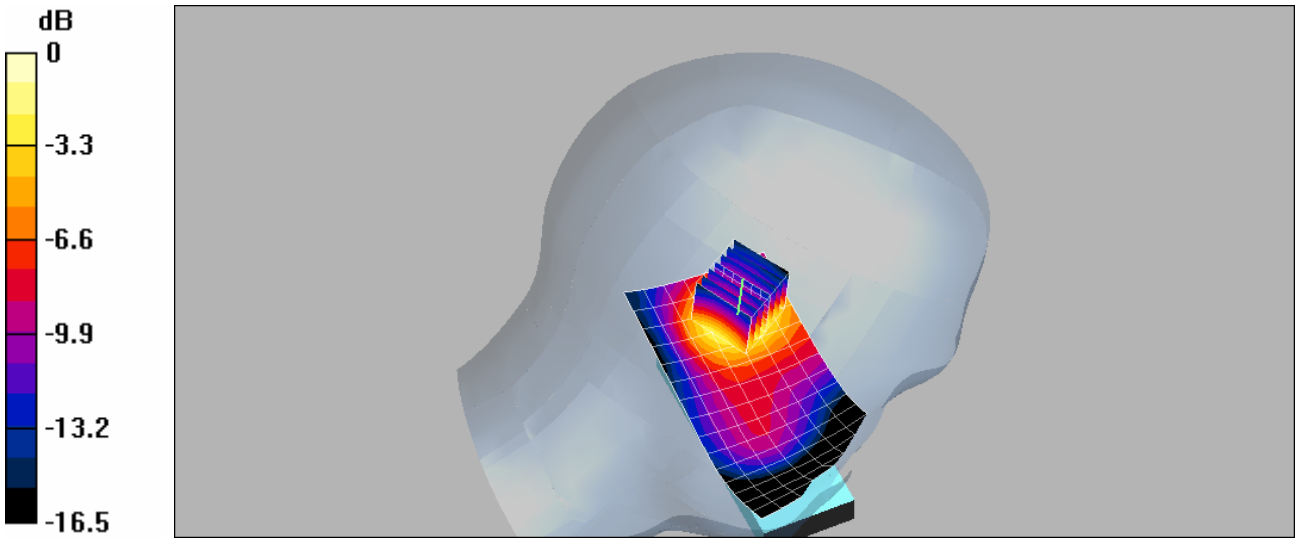
SAR Test PCS 1900 Left Tilt Low

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.336 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.4 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.539 W/kg
SAR(1 g) = 0.337 mW/g; SAR(10 g) = 0.189 mW/g
Maximum value of SAR (measured) = 0.372 mW/g



0 dB = 0.372mW/g

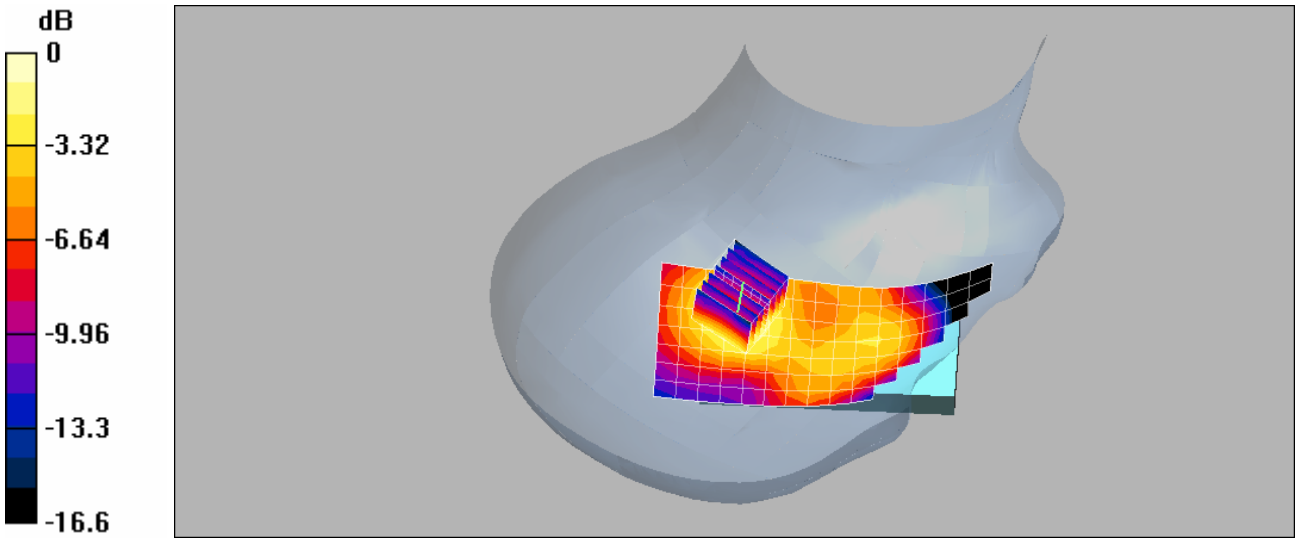
SAR Test PCS 1900 Right Cheek High

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.154 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.4 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 0.232 W/kg
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.088 mW/g
Maximum value of SAR (measured) = 0.163 mW/g



0 dB = 0.163mW/g

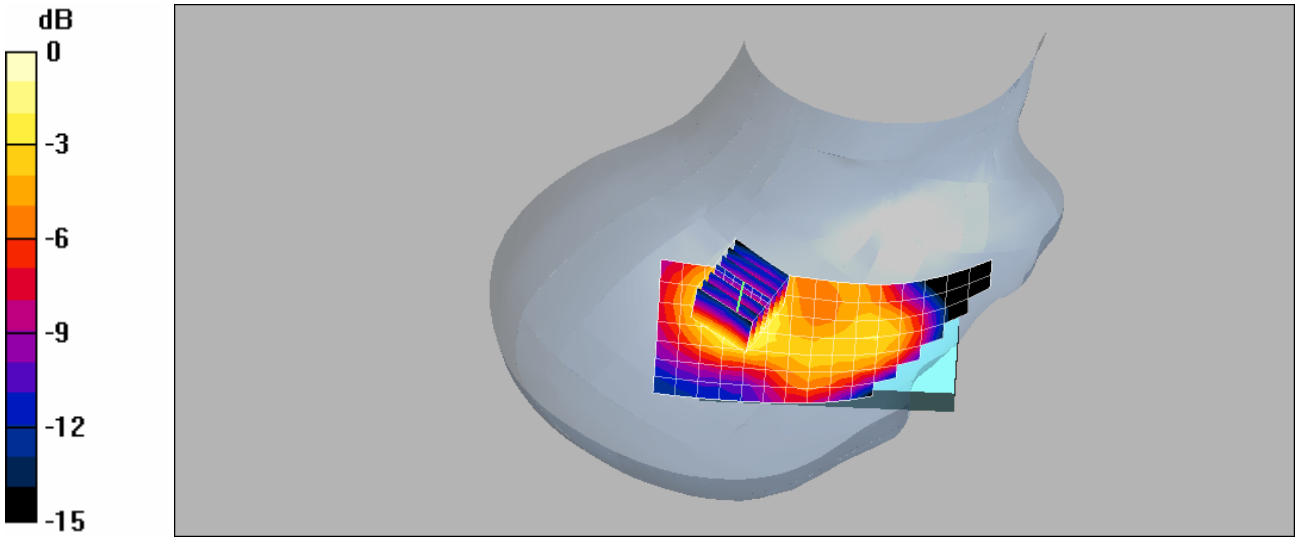
SAR Test PCS 1900 Right Cheek Middle

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.177 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.265 W/kg
SAR(1 g) = 0.169 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.187 mW/g



0 dB = 0.187mW/g

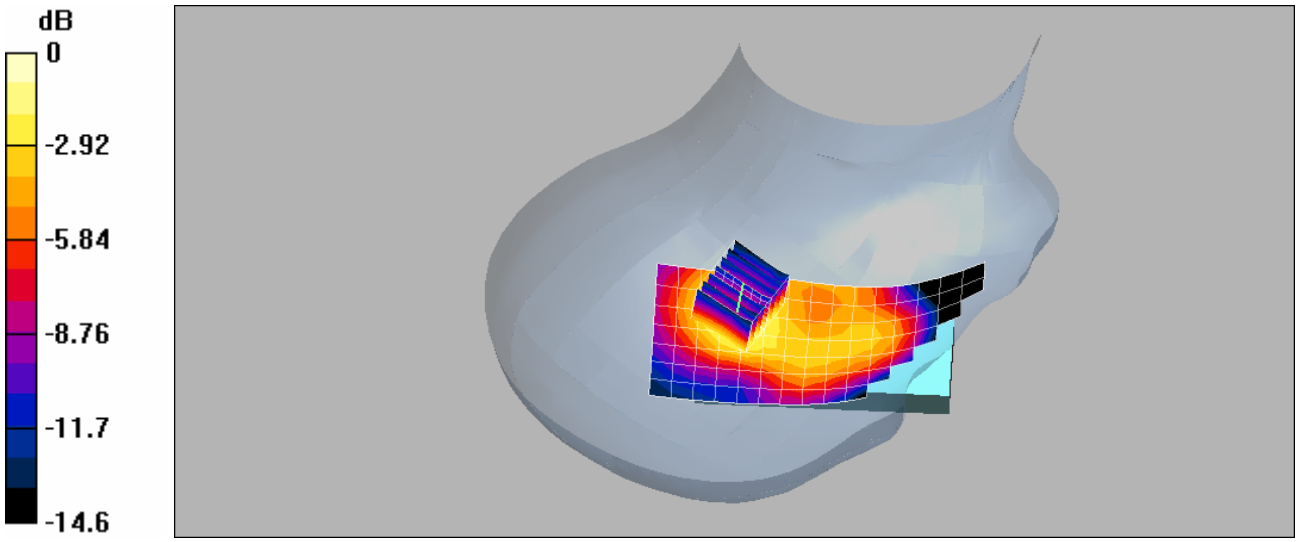
SAR Test PCS 1900 Right Cheek Low

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.220 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = -0.5 dB
Peak SAR (extrapolated) = 0.321 W/kg
SAR(1 g) = 0.204 mW/g; SAR(10 g) = 0.122 mW/g
Maximum value of SAR (measured) = 0.224 mW/g



0 dB = 0.224mW/g

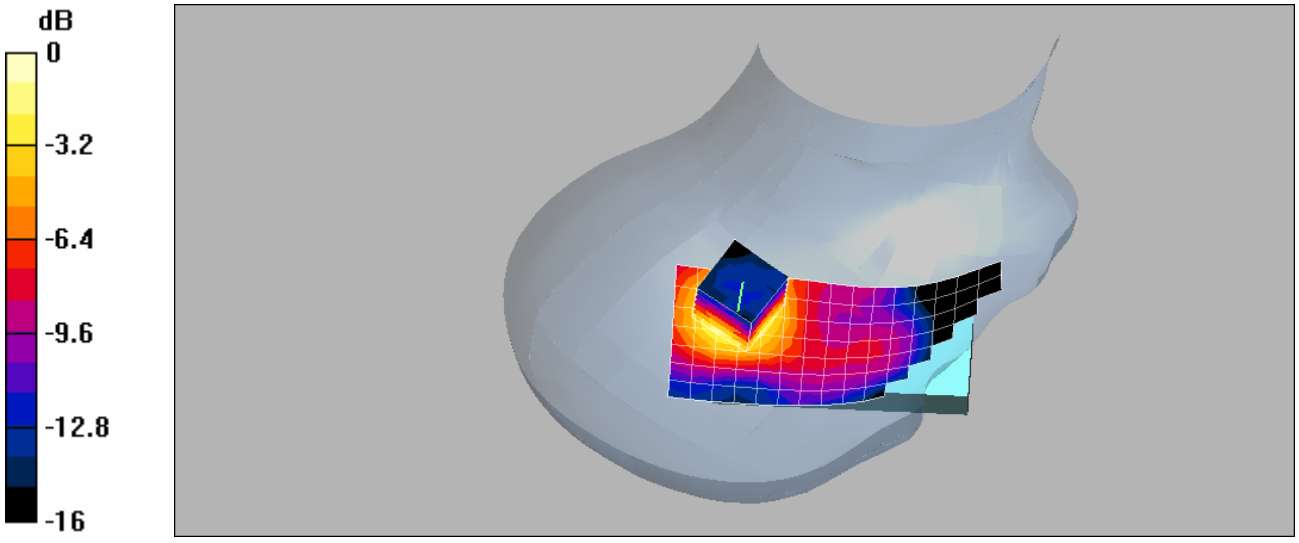
SAR Test PCS 1900 Right Tilt High

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.198 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = 0.2 dB
Peak SAR (extrapolated) = 0.295 W/kg
SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.102 mW/g



0 dB = 0.198mW/g

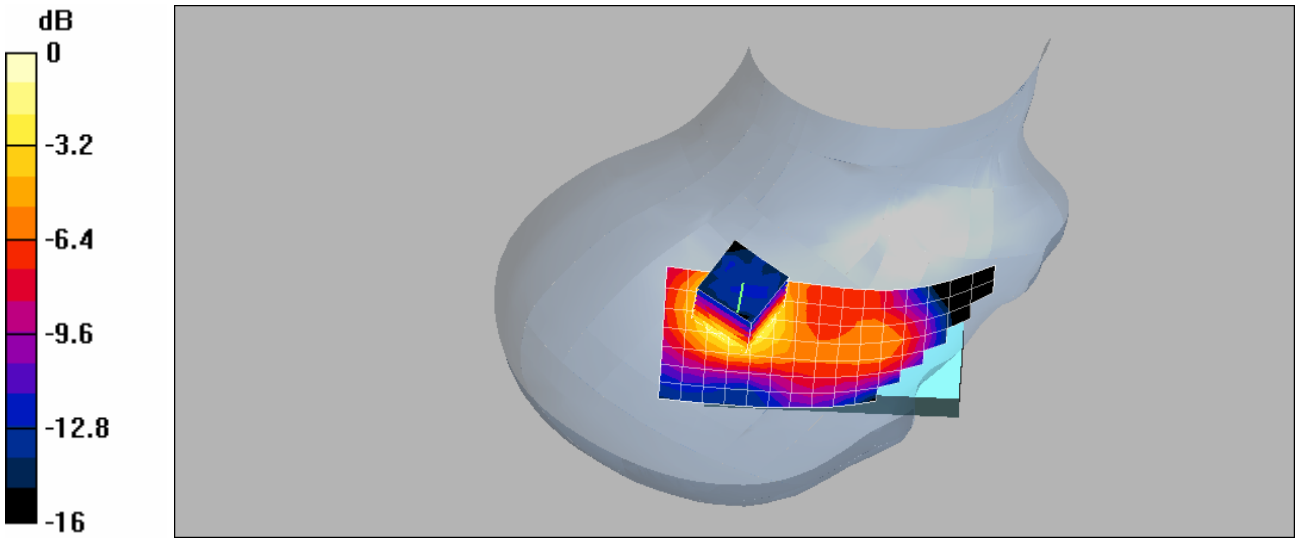
SAR Test PCS 1900 Right Tilt Middle

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.215 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.329 W/kg
SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.116 mW/g
Maximum value of SAR (measured) = 0.224 mW/g



0 dB = 0.224mW/g

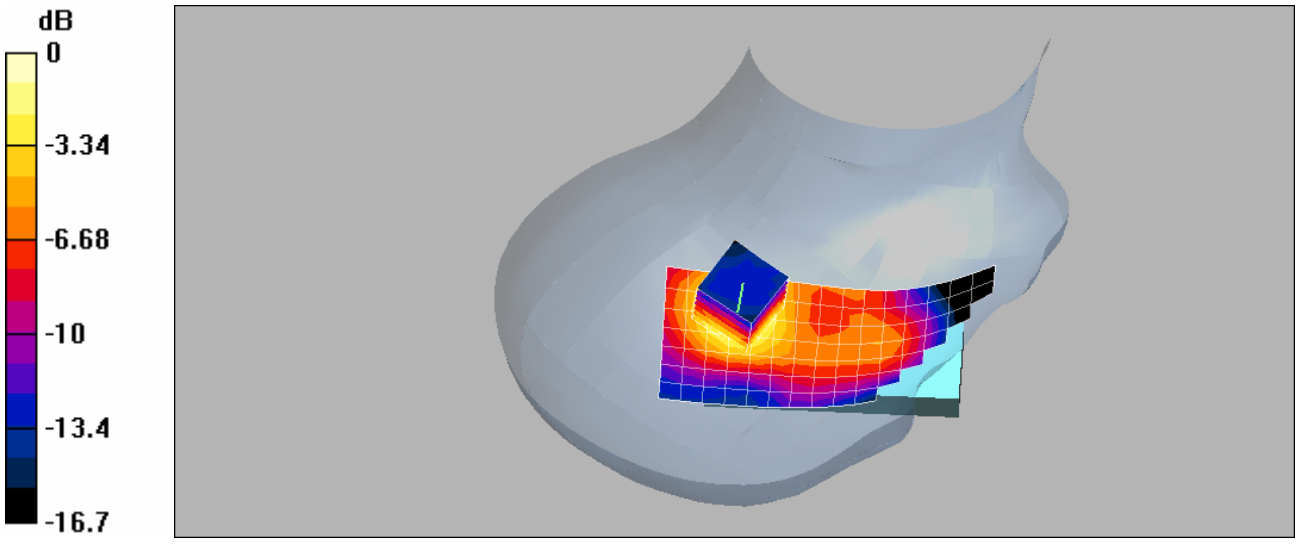
SAR Test PCS 1900 Right Tilt Low

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.95, 4.95, 4.95); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.259 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.388 W/kg
SAR(1 g) = 0.244 mW/g; SAR(10 g) = 0.141 mW/g
Maximum value of SAR (measured) = 0.271 mW/g



0 dB = 0.271mW/g

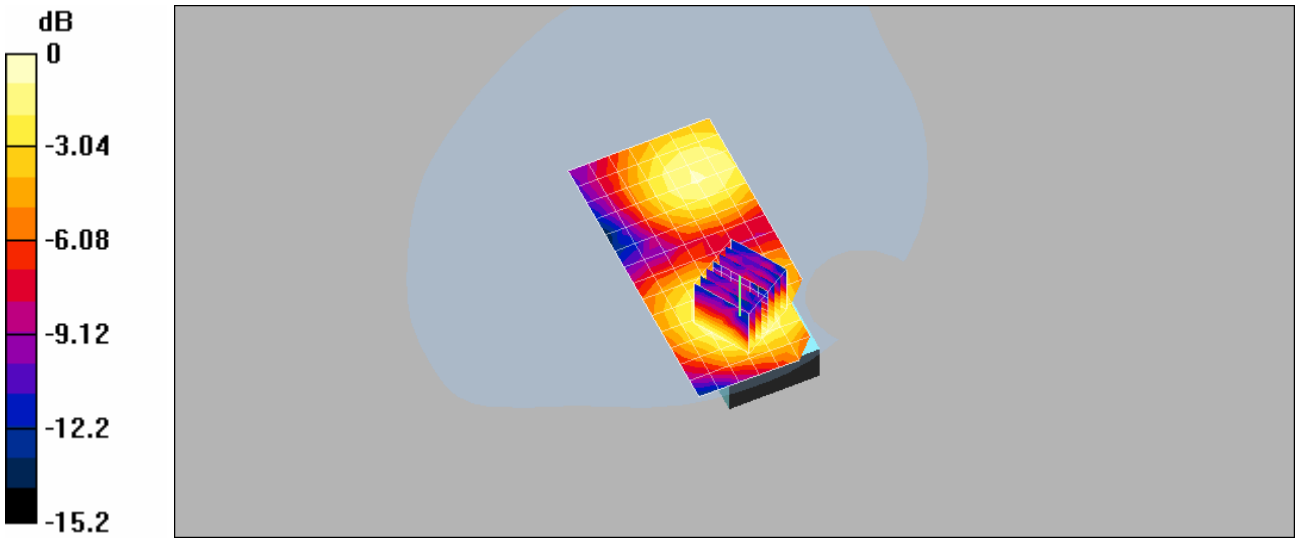
SAR Test PCS 1900 Front Sideup, High

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1909.8 MHz; σ = 1.6 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.52, 4.52, 4.52); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.047 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.83 V/m; Power Drift = 0.3 dB
Peak SAR (extrapolated) = 0.068 W/kg
SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.050 mW/g



0 dB = 0.050mW/g

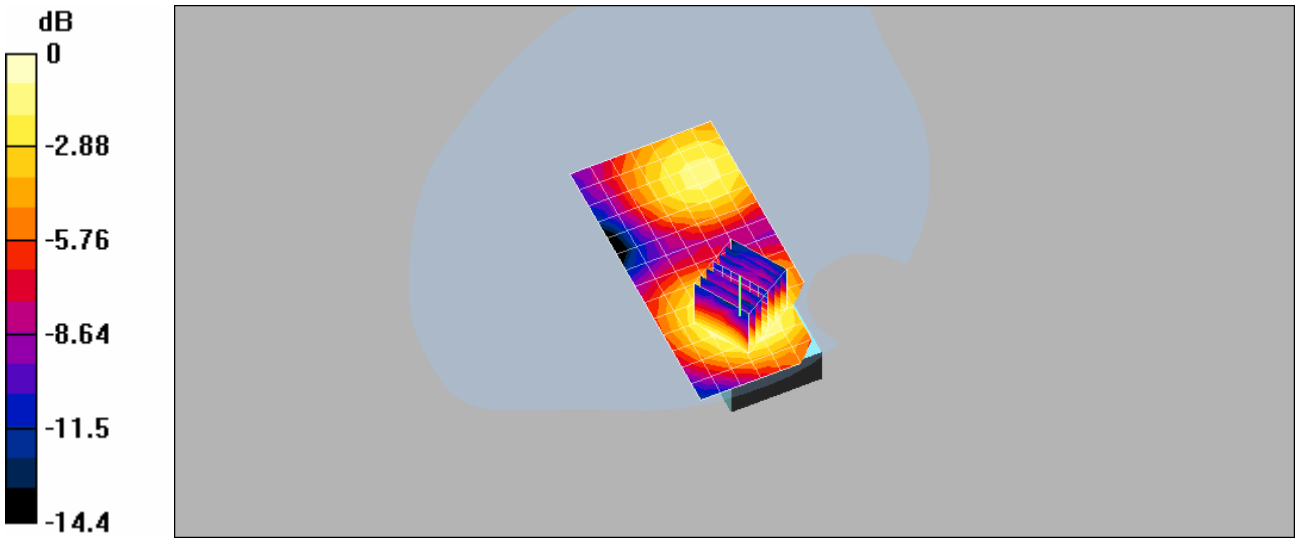
SAR Test PCS 1900 Front Sideup, Middle

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.52, 4.52, 4.52); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.066 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.44 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 0.094 W/kg
SAR(1 g) = 0.065 mW/g; SAR(10 g) = 0.041 mW/g
Maximum value of SAR (measured) = 0.071 mW/g



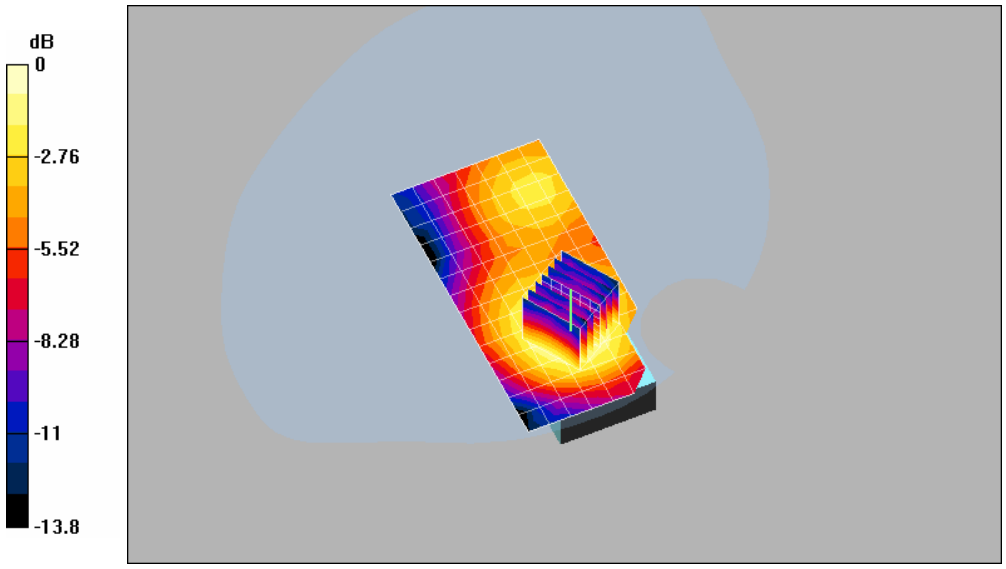
0 dB = 0.071mW/g

SAR Test PCS 1900 Front Sideup, Low

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1850.2 MHz; σ = 1.53 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.52, 4.52, 4.52); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.076 mW/g
Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.96 V/m; Power Drift = 0.2 dB
Peak SAR (extrapolated) = 0.095 W/kg
SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.073 mW/g



0 dB = 0.073mW/g

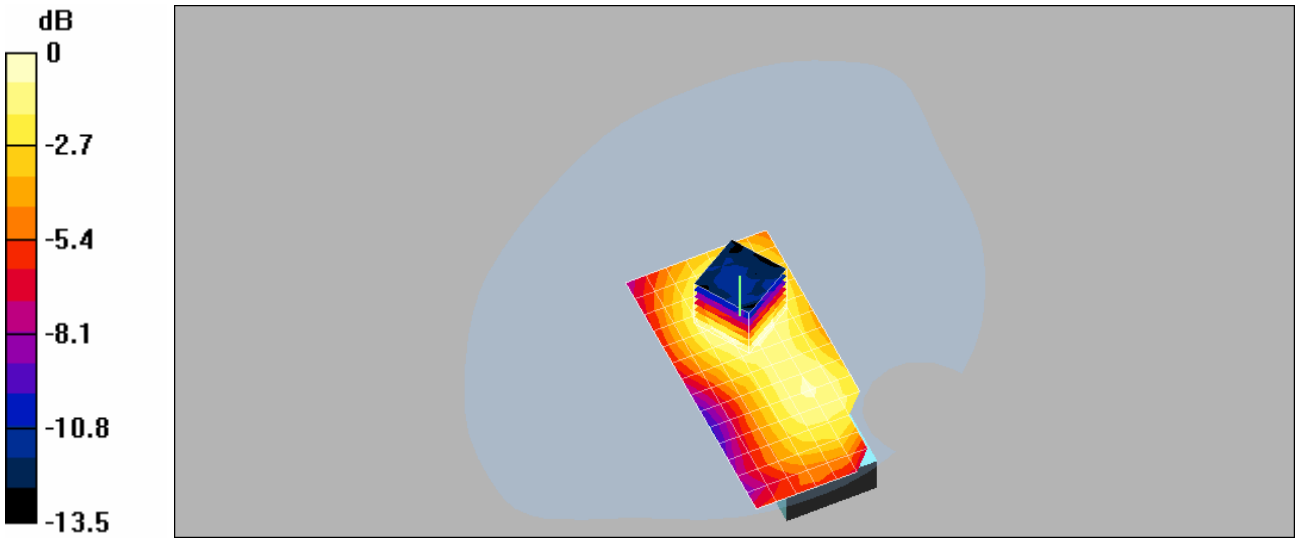
SAR Test PCS 1900 Bottom Sideup, High

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1909.8 MHz; σ = 1.6 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.52, 4.52, 4.52); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.115 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.55 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 0.157 W/kg
SAR(1 g) = 0.106 mW/g; SAR(10 g) = 0.070 mW/g
Maximum value of SAR (measured) = 0.114 mW/g



0 dB = 0.114mW/g

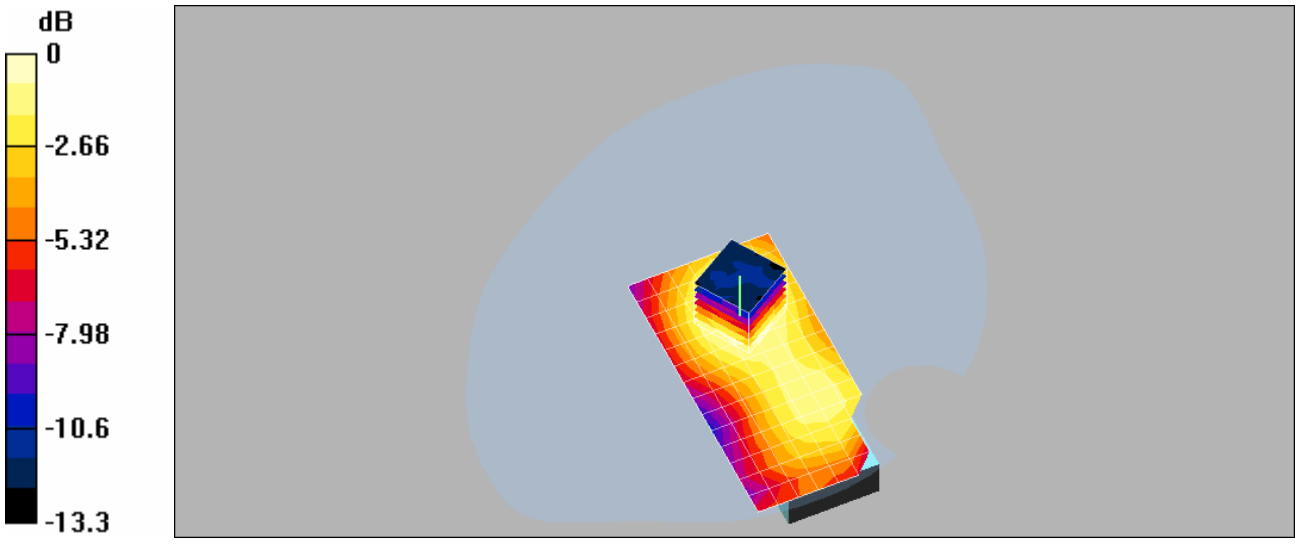
SAR Test PCS 1900 Bottom Sideup, Middle

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.52, 4.52, 4.52); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.127 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.32 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 0.173 W/kg
SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.078 mW/g



0 dB = 0.127mW/g

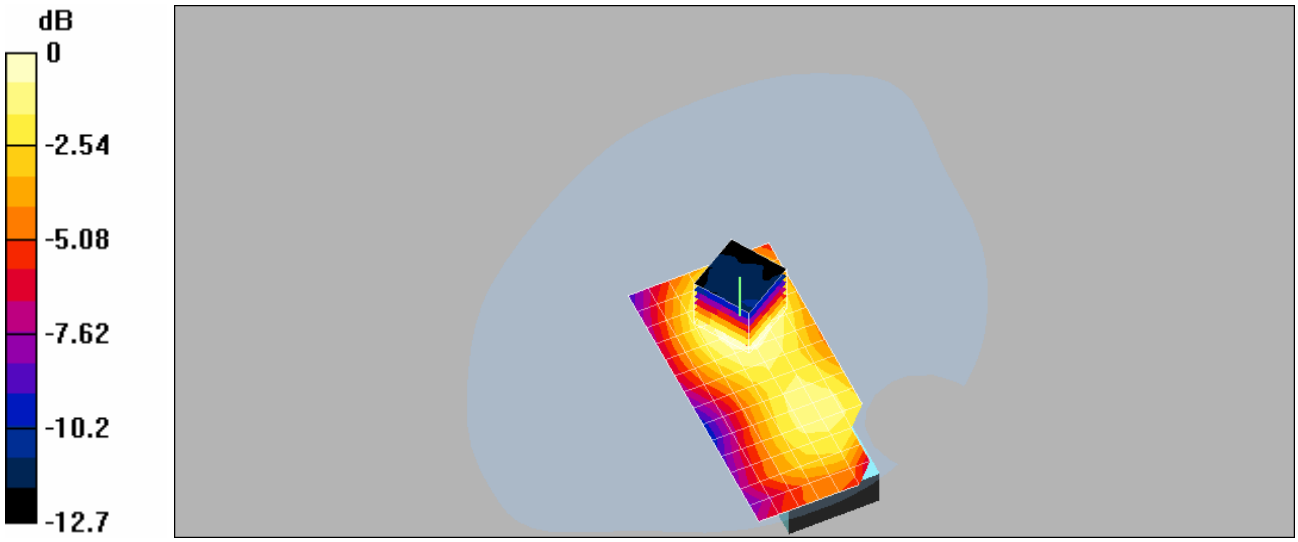
SAR Test PCS 1900 Bottom Sideup, Low

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:3
Medium parameters used: f = 1850.2 MHz; σ = 1.53 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3060; ConvF(4.52, 4.52, 4.52); Calibrated: 10/20/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn611; Calibrated: 10/27/2004
- Phantom: SAM 1324; Type: SAM; Serial: TP-1324
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Unnamed procedure/Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.142 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.96 V/m; Power Drift = -0.0 dB
Peak SAR (extrapolated) = 0.195 W/kg
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.088 mW/g
Maximum value of SAR (measured) = 0.143 mW/g



0 dB = 0.143mW/g

ANNEX D

of

ShenZhen Electronic Product Quality Testing Center

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

SZ_TF_0501_G_a

Wuhan NEC mobile communication Co., Ltd.

GSM/GPRS 1900 MHz Terminal Equipment

Type Name: NEC N630

Hardware Version: ME84001787_P2
Software Version: NEC_N630_Ver_02

Probe Calibration Parameters

This Annex consists of 5 pages
Date of Report: 2005-3-14

DASY - Parameters of Probe: ES3DV3 SN:3034

Sensitivity in Free Space[A]

NormX	**1.36** ± 9.9%	$\mu V/(V/m)^2$	DCP X	**97** mV
NormY	**0.83** ± 9.9%	$\mu V/(V/m)^2$	DCP Y	**97** mV
NormZ	**1.11** ± 9.9%	$\mu V/(V/m)^2$	DCP Z	**97** mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		**3.0 mm**	**4.0 mm**
SAR_{be} [%]	Without Correction Algorithm	6.0	2.6
SAR_{be} [%]	With Correction Algorithm	0.0	0.1

TSL **1750 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		**3.0 mm**	**4.0 mm**
SAR_{be} [%]	Without Correction Algorithm	7.7	4.7
SAR_{be} [%]	With Correction Algorithm	0.0	0.1

Sensor Offset

Probe Tip to Sensor Center	**2.0** mm

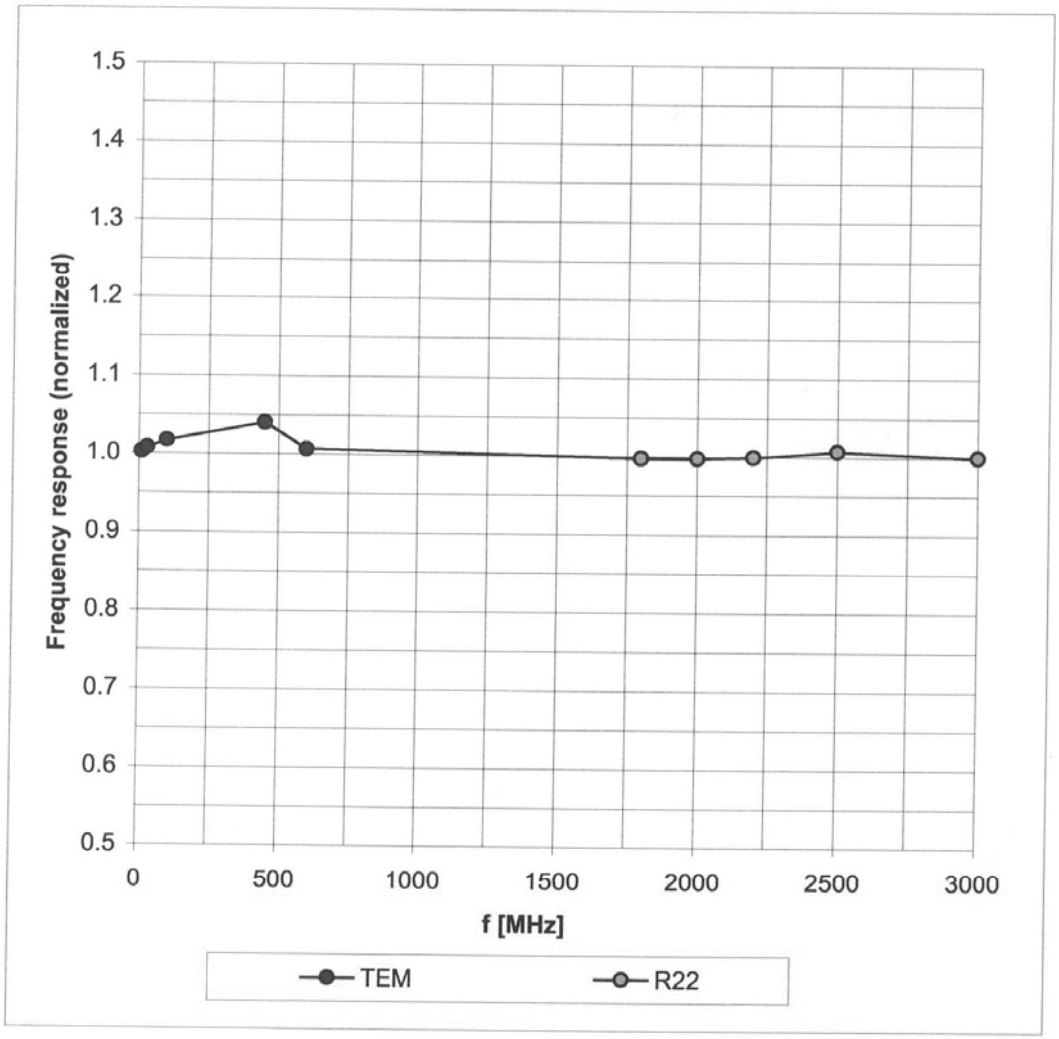
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 8).

[B] Numerical linearization parameter: uncertainty not required.

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)

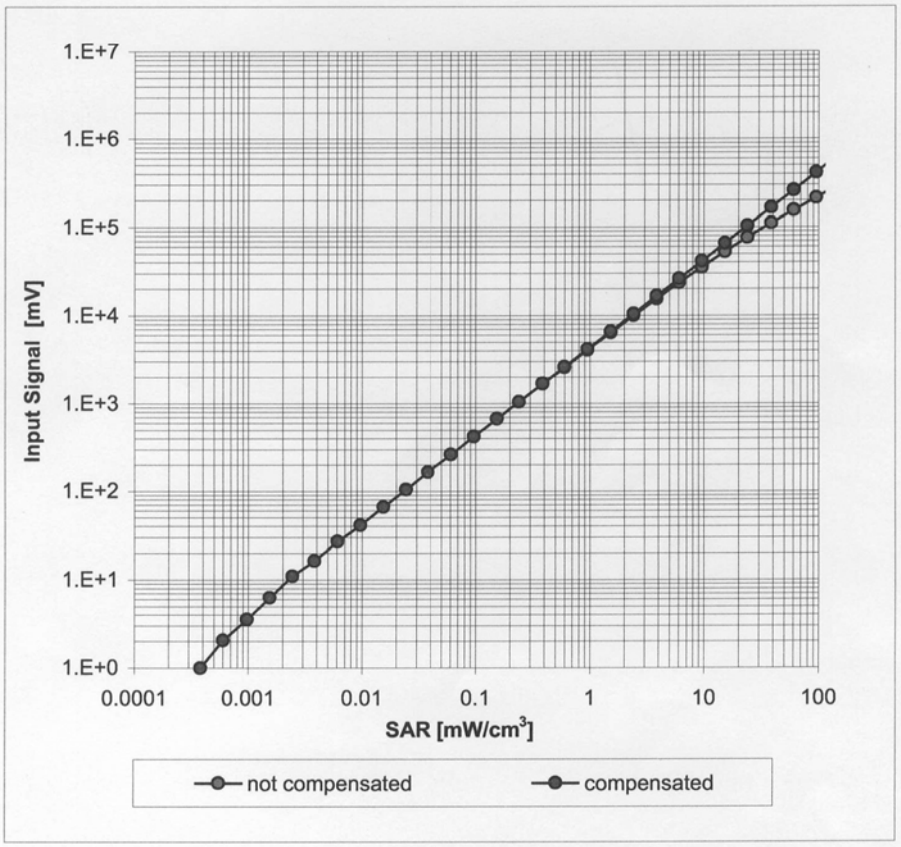


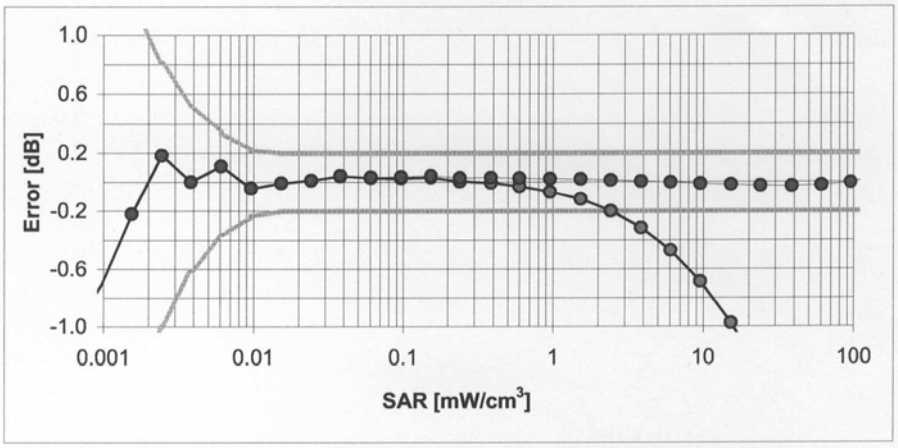
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

ES3DV3 SN:3034 October 28, 2004

Dynamic Range f(SAR_{head})

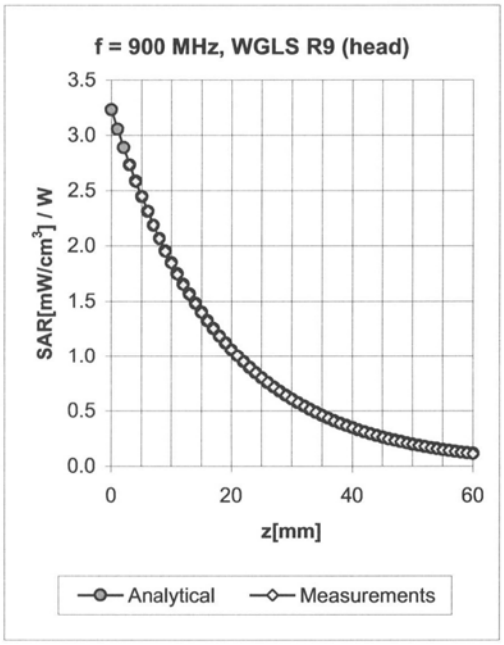
(Waveguide R22, f = 1800 MHz)

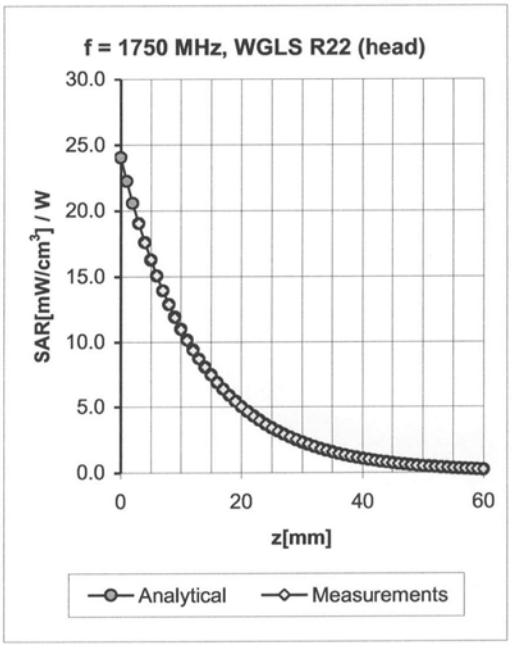




Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment





f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 99	Head	41.5 ± 5%	0.90 ± 5%	0.58	1.29	6.48 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.54	1.33	6.22 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.28	2.31	5.33 ± 11.0% (k=2)
1900	± 50 / ± 101	Head	40.0 ± 5%	1.40 ± 5%	0.28	2.23	5.14 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.42	1.71	4.58 ± 11.8% (k=2)
835	± 50 / ± 99	Body	55.2 ± 5%	0.97 ± 5%	0.48	1.43	6.35 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.54	1.36	6.09 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.25	3.12	4.80 ± 11.0% (k=2)
1900	± 50 / ± 101	Body	53.3 ± 5%	1.52 ± 5%	0.24	3.50	4.64 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.63	1.37	4.37 ± 11.8% (k=2)

[C] The validity of ± 100 MHz only applies for DASY 4.3 B17 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.