No. L0442

Deutscher Akkreditierungs Rat DAR

No. DAT-P-114/01-10

TEST REPORT

No. SAR2005015

Test name	Electromagnetic Field (Specific Absorption Rate)
Product	GSM/PCS dual Frequency with GPRS Function Mobile Phone
Model	OT-C552a
FCC ID	RAD015
Client	Alcatel Suzhou Telecommunications Co.,Ltd., Shanghai Branch
Type of test	Entrusted

Telecommunication Metrology Center

of Ministry of Information Industry

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GENERAL SUMMARY

Product	GSM/PCS dual Frequency with GPRS Function Mobile Phone	**Model** / **Trade mark**	Alcatel OT-C552a
Client	Alcatel Suzhou Telecommunications Co.,Ltd., Shanghai Branch	**Manufacturer**	Alcatel business system
Type of test	Entrusted	**Arrival Date of sample**	Jun 7, 2005
Place of sampling	(Blank)	**Carrier of the samples**	Dongsheng Qi
Quantity of the samples	One	**Date of product**	(Blank)
Base of the samples	(Blank)	**Items of test**	SAR
Series number	001016000230875		
Standard(s)	**ANSI C95.1–1999:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz **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. **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** (Stamp) **Date of issue:** JULY 1, 2005		
Comment	TX Freq. Band: 824–849MHz (GSM) 1850–1910MHz (PCS) Max. Power: 2 Watt (GSM) 1 Watt (PCS) Antenna Character: / The test result only responds to the measured sample.		

Approved by (Lu Bingsong) **Revised by** (Chu Wenhua) **Performed by** (Qi Dianyuan)

TABLE OF CONTENT

1 COMPETENCE AND WARRANTIES

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3 DESCRIPTION OF EUT

3.1 Addressing Information Related to EUT

Table 1: Applicant (The Client)

Name or Company	Alcatel Suzhou Telecommunications Co.,Ltd., Shanghai Branch
Address/Post	30-F, Times square, No.500 Zhangyang Road, Shanghai, PR China
City	Shanghai
Postal Code	200122
Country	China
Telephone	021-50544555-4310
Fax	/

Table 2: Manufacturer

Name or Company	Alcatel business system
Address/Post	32 Avenue,Kleber
City	Colombes
Postal Code	92707
Country	France
Telephone	/
Fax	/

3.2 Constituents of EUT

Table 3: Constituents of Samples

Description	Model	Serial Number	Manufacturer
Handset	OT-C552a	001016000230875	Alcatel business system
Lithium Battery	Li-ion	3DS10241AAAA	SONY
AC/DC Adapter	SR	3DS09371AAAA	ASTEC

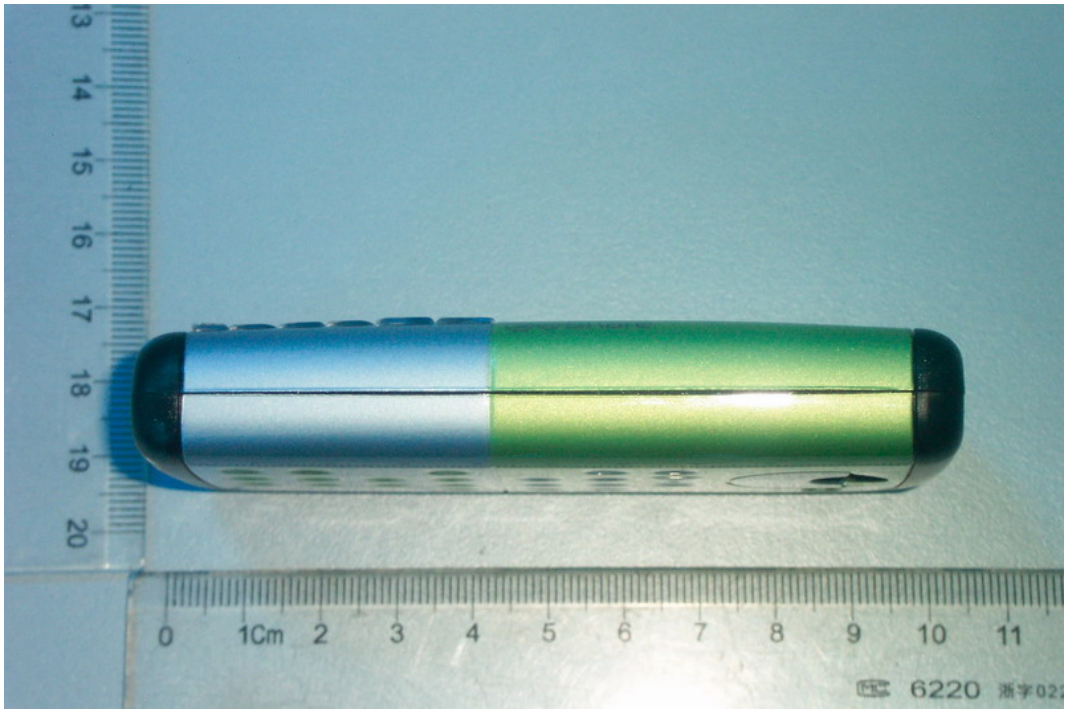


Figure 1: Constituents of the sample (Lithium Battery is in the Handset)

3.3 General Description

Equipment Under Test (EUT) is a model of GSM Phase II portable Mobile Station (MS) with integrated antenna. It consists of Handset and normal options: Lithium Battery and AC/DC Adapter as Table 3 and Fig. 1. Since it is a Dual-Band MS (GSM/PCS), SAR is tested respectively for two bands. It has the GPRS function, and class is 10.

The sample undergoing 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 128, 190 and 251 respectively in the case of GSM 850 MHz, or to 512, 661 and 810 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.

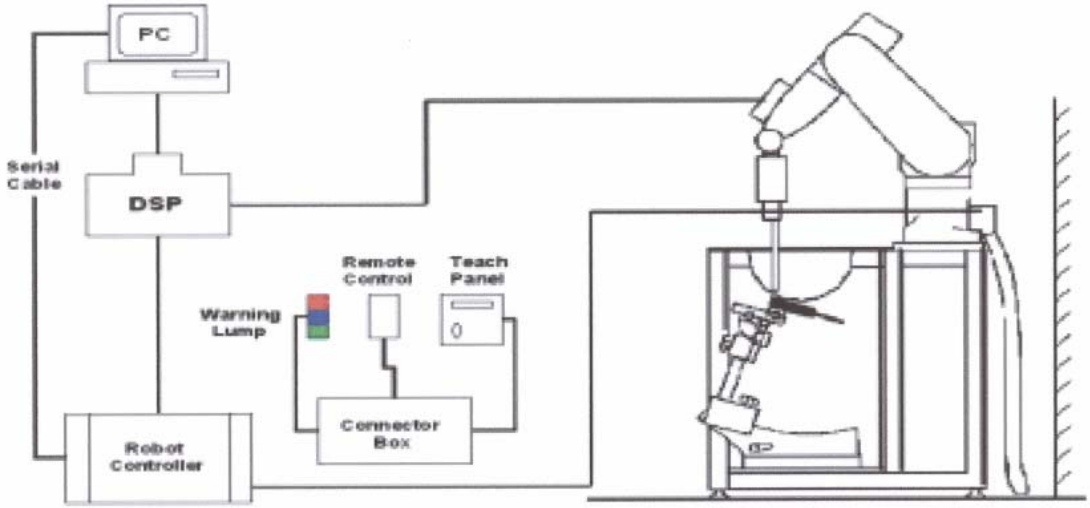


Figure 2. SAR Lab Test Measurement Set-up

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.

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
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 diarneter: 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

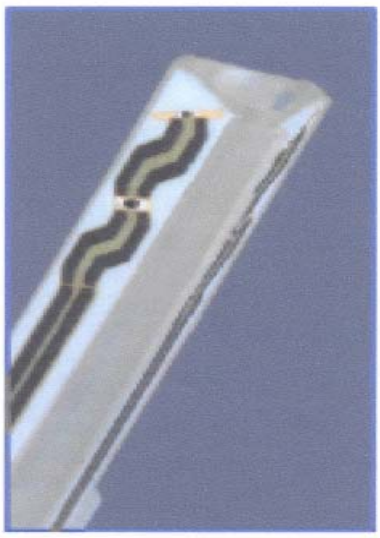


Figure 3. ET3DV6 E-field Probe

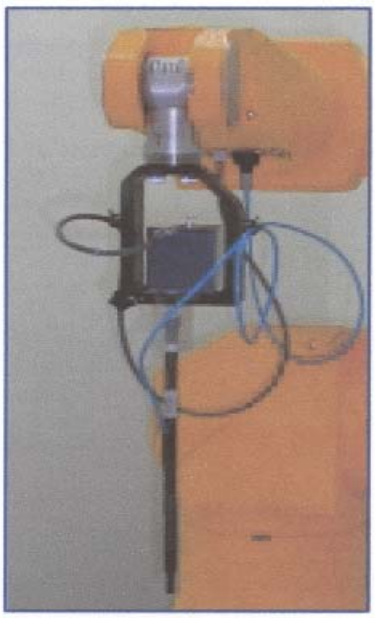


Figure 4. ET3DV6 E-field probe

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.

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

Where: Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

ΔT = Temperature increase due to RF exposure.

Or

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

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m3).

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 repeat ably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Figure 5. Device Holder

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 previously been 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.

Figure 6. Generic Twin Phantom

Table 4. Composition of the Head Tissue Equivalent Matter

MIXTURE%	FREQUENCY 850MHz (Brain)
Water	40.29
Sugar	57.90
Salt	1.38
Preventol	0.18
Cellulose	0.24
Dielectric Parameters Target Value	f=850MHz ε=41.5 σ=0.90

MIXTURE %	FREQUENCY 1900MHz(Brain)
Water	55.242
Glycol monobutyl	44.452
Salt	0.306
Dielectric Parameters Target Value	f=1900MHz ε=40.0 σ=1.40

Table 5. Composition of the Body Tissue Equivalent Matter

MIXTURE %	FREQUENCY 850MHz(Body)
Water	52.4
Sugar	45.0
Salt	1.4
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=900MHz ε=55.2 σ=0.97

MIXTURE %	FREQUENCY 1900MHz(Body)
Water	69.91
Glycol monobutyl	29.96
Salt	0.13
Dielectric Parameters Target Value	f=1900MHz ε=53.3 σ=1.52

4.7 System Specifications

4.7.1 Robotic System Specifications

Specifications

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

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

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.
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.

5.3 Character of the Test

Handsets that are held on the side of a person's head next to the ear have been tested using realistic-shaped head phantoms.

Since it may be used for body-worn situation, the mobile phone is test with the flat phantom to simulate this case.

Since it has the GPRS function, the measurements were performed with 2 TX slots with the flat phantom.

6 LABORATORY ENVIRONMENT

Table 6: The Ambient Conditions during EMF Test

Temperature	Min. = 15 ºC, Max. = 30 ºC
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

Table 7: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 22.5 ºC and relative humidity 49%. Liquid temperature during the test: 21.4ºC			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	850 MHz	41.5	0.90
	1900 MHz	40.0	1.40
Measurement value (Average of 10 tests)	850 MHz	41.5	0.93
	1900 MHz	40.27	1.45

Table 8: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 22.6 °C and relative humidity 51%. Liquid temperature during the test: 22.0°C			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	850 MHz	55.2	0.97
	1900 MHz	53.3	1.52
Measurement value (Average of 10 tests)	850 MHz	53.84	1.04
	1900 MHz	55.85	1.55

7.2 System Validation

Table 9: System Validation

Measurement is made at temperature 23.3 °C, relative humidity 47%, input power 250 mW. Liquid temperature during the test: 22.6°C					
Liquid parameters		**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**	
		835 MHz	41.2	0.93	
		1900 MHz	39.8	1.42	
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	1.52	2.35
	1900 MHz	5.125	9.925	4.91	9.8

7.3 Conducted Power

Table 10: Conducted Power

	Conducted Power		
	Channel 128 (869.2MHz)	**Channel 190 (881.6MHz)**	**Channel 251 (893.8MHz)**
TCH (1TX)	32.3	32.3	32.2
GPRS (2TX)	32.1	32.2	32

	Conducted Power		
	Channel 512 (1850.2 MHz)	**Channel 661 (1880.0 MHz)**	**Channel 810 (1909.8 MHz)**
TCH (1TX)	30.5	29.7	28.9
GPRS (2TX)	30.3	29.4	28.3

The above mentioned values are conducted values. They were provided by Alcatel business system. These values are within 5% tolerance with the power measured.

To control the output power stability during the SAR test the used 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 the above tables labeled as:

(Drift [dB]). This ensures that the power drift during one measurement is within 5%. Please note that we add the measured “power drift” values from the DASY4 system since the used CMU200 delivers only 1 usable position after decimal point and therefore only one power level is listed in the above tables.

7.4 Summary of Measurement Results (Head, GSM850 MHz Band)

Table 11: SAR Values (GSM 850 MHz Band, head)

Limit of SAR (W/kg)	**1 g Average**	**Power Drift (dB)**
	1.6	
Test Case	**Measurement Result (W/kg)**	
	1 g Average	
Left hand, Touch cheek, Bottom frequency (See fig 1 in annex C)	0.616	0.0125
Left hand, Touch cheek, Mid frequency (See fig 3 in annex C)	0.705	0.0188
Left hand, Touch cheek, Top frequency (See fig 5 in annex C)	0.591	-0.0617
Left hand, Tilt 15 Degree, Bottom frequency (See fig 7 in annex C)	0.523	0.0266
Left hand, Tilt 15 Degree, Mid frequency (See fig 9 in annex C)	0.539	0.035
Left hand, Tilt 15 Degree, Top frequency (See fig 11 in annex C)	0.407	-0.0687
Right hand, Touch cheek, Bottom frequency (See fig 13 in annex C)	0.649	0.0243
Right hand, Touch cheek, Mid frequency (See fig 15 in annex C)	0.706	0.058
Right hand, Touch cheek, Top frequency (See fig 17 in annex C)	0.574	0.030
Right hand, Tilt 15 Degree, Bottom frequency(See fig 19 in annex C)	0.534	0.0082
Right hand, Tilt 15 Degree, Mid frequency (See fig 21 in annex C)	0.559	0.0468
Right hand, Tilt 15 Degree, Top frequency (See fig 23 in annex C)	0.425	0.0479

7.5 Summary of Measurement Results (Head, PCS 1900 MHz Band)

Table 11: SAR Values (PCS 1900 MHz Band, head)

Limit of SAR (W/kg)	1 g Average	Power Drift (dB)
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average	
Left hand, Touch cheek, Bottom frequency (See fig 25 in annex C)	0.483	0.0514
Left hand, Touch cheek, Mid frequency (See fig 27 in annex C)	0.416	0.0448
Left hand, Touch cheek, Top frequency (See fig 29 in annex C)	0.359	0.0619
Left hand, Tilt 15 Degree, Bottom frequency (See fig 31 in annex C)	0.452	0.00783
Left hand, Tilt 15 Degree, Mid frequency (See fig 33 in annex C)	0.357	0.00631
Left hand, Tilt 15 Degree, Top frequency (See fig 35 in annex C)	0.33	0.0108
Right hand, Touch cheek, Bottom frequency (See fig 37 in annex C)	0.434	0.00639
Right hand, Touch cheek, Mid frequency (See fig 39 in annex C)	0.327	0.0135
Right hand, Touch cheek, Top frequency (See fig 41 in annex C)	0.327	0.0048
Right hand, Tilt 15 Degree, Bottom frequency(See fig 43 in annex C)	0.325	0.0079
Right hand, Tilt 15 Degree, Mid frequency (See fig 45 in annex C)	0.265	0.0272
Right hand, Tilt 15 Degree, Top frequency (See fig 47 in annex C)	0.243	0.00528

7.6 Summary of Measurement Results (Body-Worn, GSM850 MHz Band, distance 20mm)

Table 12: SAR Values (GSM850 MHz Band, body-worn, distance 20mm)

Limit of SAR (W/kg)	1 g Average	Power Drift (dB)
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average	
Display of EUT toward the phantom, Bottom Frequency (See fig 49 in annex C)	0.278	0.0467
Display of EUT toward the phantom, Mid Frequency (See fig 51 in annex C)	0.3	0.000363
Display of EUT toward the phantom, Top Frequency (See fig 53 in annex C)	0.226	0.0705
Display of EUT toward the ground, Bottom frequency (See fig 55 in annex C)	0.644	0.00441
Display of EUT toward the ground, Mid frequency (See fig 57 in annex C)	0.555	0.012
Display of EUT toward the ground, Top frequency (See fig 59 in annex C)	0.419	0.0128

7.7 Summary of Measurement Results (Body-Worn, GSM+GPRS 850 MHz Band, distance 20mm)

Table 13: SAR Values (GSM+GPRS 850 MHz Band, body-worn, distance 20mm)

Limit of SAR (W/kg)	1 g Average	Power Drift (dB)
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average	
Display of EUT toward the phantom, Bottom Frequency (See fig 73 in annex C)	0.564	0.0447

Display of EUT toward the phantom, Mid Frequency (See fig 75 in annex C)	0.582	0.128
Display of EUT toward the phantom, Top Frequency (See fig 77 in annex C)	0.58	0.0141
Display of EUT toward the ground, Bottom frequency (See fig 79 in annex C)	1.08	0.0672
Display of EUT toward the ground, Mid frequency (See fig 81 in annex C)	0.97	0.0249
Display of EUT toward the ground, Top frequency (See fig 83 in annex C)	0.738	0.0181

7.8 Summary of Measurement Results (Hand-Worn, GSM+GPRS 850 MHz Band)

Table 14: SAR Values (GSM+GPRS 850 MHz Band, head)

Limit of SAR (W/kg)	**1 g Average**	**Power Drift (dB)**
	1.6	
Test Case	**Measurement Result (W/kg)**	
	1 g Average	
Head, toward the phantom, Bottom frequency (See fig 97 in annex C)	0.576	0.0468
Head, toward the phantom, Mid frequency (See fig 99 in annex C)	0.568	0.0432
Head, toward the phantom, Top frequency (See fig 101 in annex C)	0.467	0.0216

7.9 Summary of Measurement Results (Body-Worn, PCS 1900 MHz Band, distance 20mm)

Table 12: SAR Values (PCS 1900 MHz Band, body-worn, distance 20mm)

Limit of SAR (W/kg)	1 g Average	Power Drift (dB)
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average	
Display of EUT toward the phantom, Bottom Frequency (See fig 61 in annex C)	0.0843	0.0335
Display of EUT toward the phantom, Mid Frequency (See fig 63 in annex C)	0.0787	0.00031
Display of EUT toward the phantom, Top Frequency (See fig 65 in annex C)	0.0747	0.0141
Display of EUT toward the ground, Bottom frequency (See fig 67 in annex C)	0.183	0.0329
Display of EUT toward the ground, Mid frequency (See fig 69 in annex C)	0.166	0.0602
Display of EUT toward the ground, Top frequency (See fig 71 in annex C)	0.146	0.0942

7.10 Summary of Measurement Results (Body-Worn, PCS+GPRS 1900 MHz Band, distance 20mm)

Table 13: SAR Values (PCS+GPRS 1900 MHz Band, body-worn, distance 20mm)

Limit of SAR (W/kg)	1 g Average	Power Drift (dB)
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average	
Display of EUT toward the phantom, Bottom Frequency (See fig 85 in annex C)	0.207	0.178

Display of EUT toward the phantom, Mid Frequency (See fig 87 in annex C)	0.177	0.0431
Display of EUT toward the phantom, Top Frequency (See fig 89 in annex C)	0.192	0.0183
Display of EUT toward the ground, Bottom frequency (See fig 91 in annex C)	0.459	0.0422
Display of EUT toward the ground, Mid frequency (See fig 93 in annex C)	0.323	0.0156
Display of EUT toward the ground, Top frequency (See fig 95 in annex C)	0.303	0.0364

7.11 Summary of Measurement Results (Hand-Worn, PCS+GPRS 1900 MHz Band)

Table 14: SAR Values (PCS+GPRS 1900 MHz Band, head)

Limit of SAR (W/kg)	**1 g Average**	**Power Drift (dB)**
	1.6	
Test Case	**Measurement Result (W/kg)**	
	1 g Average	
Head, toward the phantom, Bottom frequency(See fig 103 in annex C)	0.202	0.181
Head, toward the phantom, Mid frequency (See fig 105 in annex C)	0.185	0.0642
Head, toward the phantom, Top frequency (See fig 107 in annex C)	0.174	0.0669

7.12 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

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	$\sqrt{3}$	$(1\text{-}cp)^{1/2}$	4.3	∞
4	Hemispherical Isotropy	B	9.4	R	$\sqrt{3}$	$\sqrt{c_p}$		∞
5	Boundary Effect	B	0.4	R	$\sqrt{3}$	1	0.23	∞
6	Linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
7	System Detection Limits	B	1.0	R	$\sqrt{3}$	1	0.6	∞
8	Readout Electronics	B	1.0	N	1	1	1.0	∞
9	RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.73	∞
10	Probe Positioner Mechanical Tolerance	B	0.4	R	$\sqrt{3}$	1	0.2	∞
11	Probe Positioning with respect to Phantom Shell	B	2.9	R	$\sqrt{3}$	1	1.7	∞
12	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	$\sqrt{3}$	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	$\sqrt{3}$	1	2.9	∞
	Phantom and Tissue Parameters							

16	Phantom Uncertainty (shape and thickness tolerances)	B	1.0	R	$\sqrt{3}$	1	0.6	∞
17	Liquid Conductivity - deviation from target values	B	5.0	R	$\sqrt{3}$	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	$\sqrt{3}$	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	

9 MAIN TEST INSTRUMENTS

Table 14: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US38433212	September 1, 2004	One year
02	Dielectric Probe Kit	Agilent 85070C	US99360113	No Calibration Requested	
03	Power meter	HP 436A	2101A11858	September 12, 2004	One year
04	Power sensor	HP 8481H	2349A07289		
05	Signal Generator	MG 3633A	M73386	No Calibration Requested	
06	Amplifier	AT 50S1G4A	26549	No Calibration Requested	
07	Validation Kit 835MHz	SPEAG D 835V2	443	December 9, 2003	Two years
08	Validation Kit 1900MHz	SPEAG D 1900V2	541	December 12, 2003	Two years
09	BTS	CMU 200	100680	September 13, 2004	One year
10	E-field Probe	SPEAG ET3DV6	1600	January 20, 2005	One year
11	DAE	SPEAG DAE3	589	October 21, 2004	One year

10 TEST PERIOD

The test is performed from Jun 7, 2005 to Jun 10 2005.

11 TEST LOCATION

The test is performed at Radio Communication & Electromagnetic Compatibility Laboratory of Telecommunication Metrology Center of Ministry of Information Industry

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 ear 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 head was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 20 mm x 20 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point, a volume of 32 mm x 32 mm x 34 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.

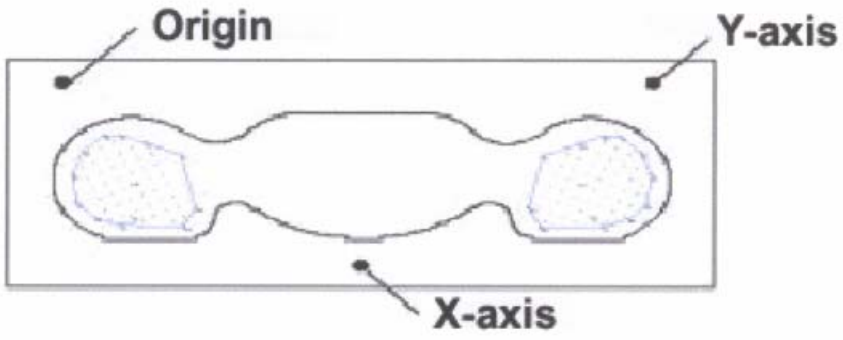
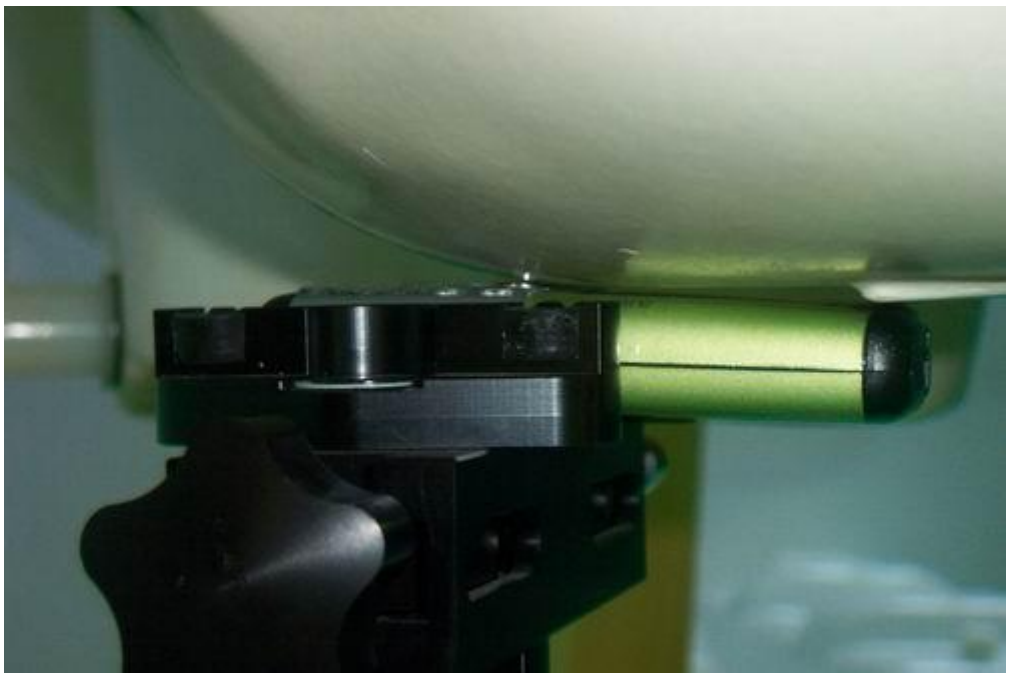


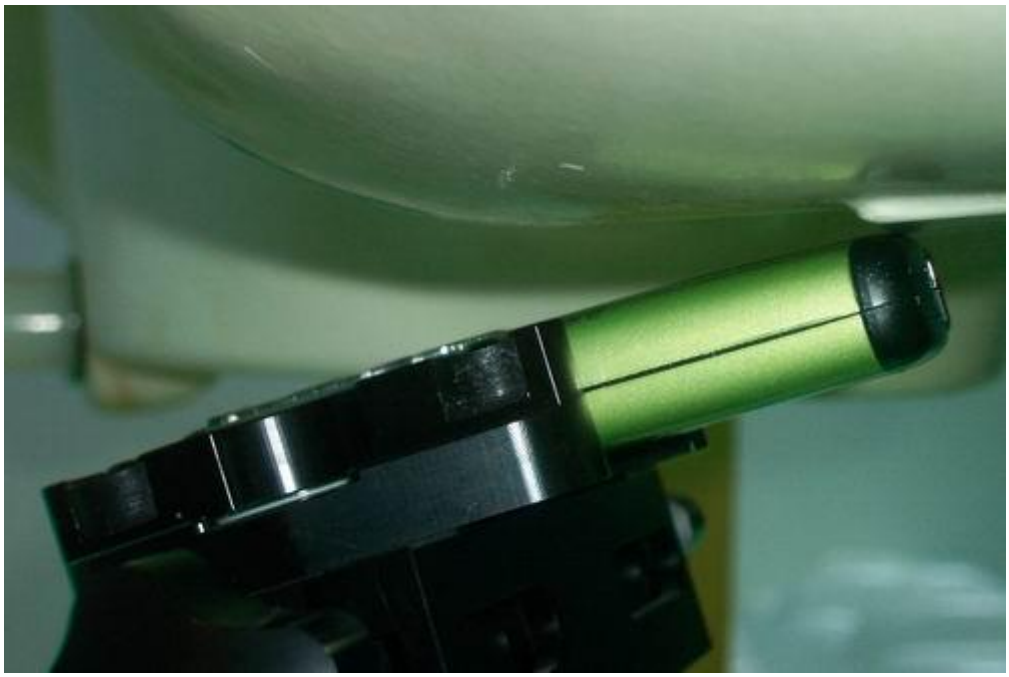
Figure 2 SAR Measurement Points in Area Scan

ANNEX B： TEST LAYOUT

Picture 1 Specific Absorption Rate Test Layout



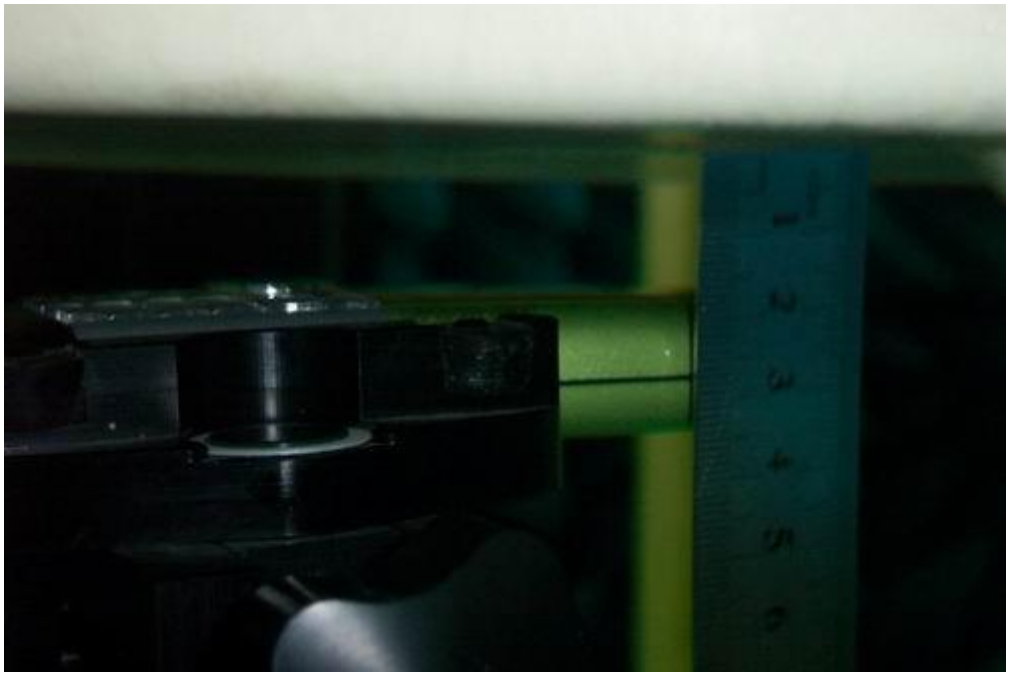
Picture 2 Left Hand Touch Cheek Position



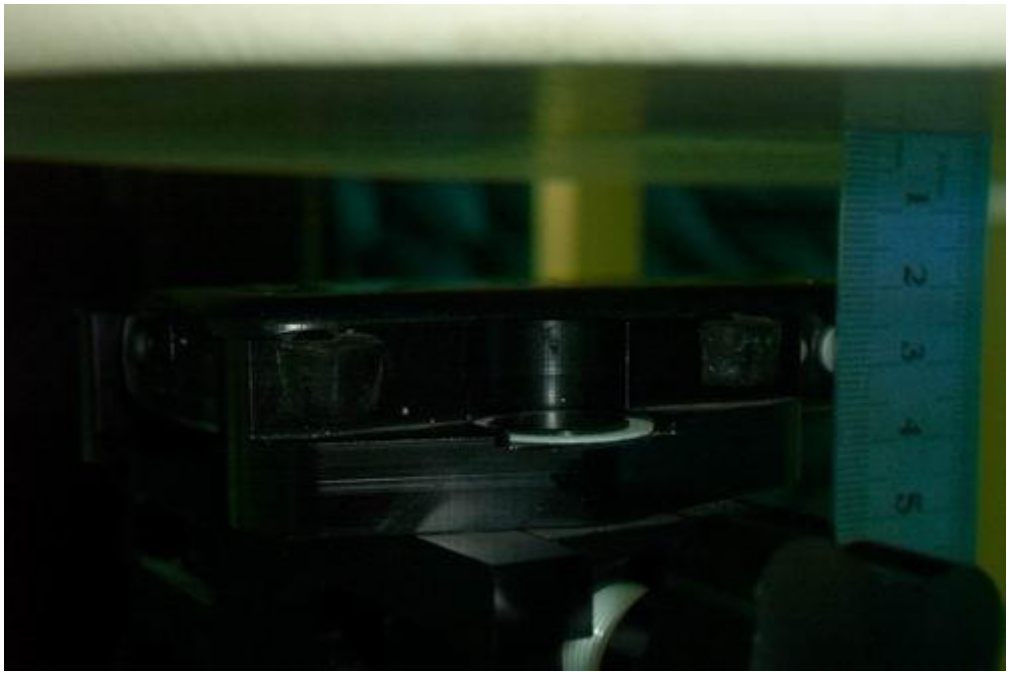
Picture 3 Left Hand Tilt 15° Position

Picture 4 Right Hand Touch Cheek Position

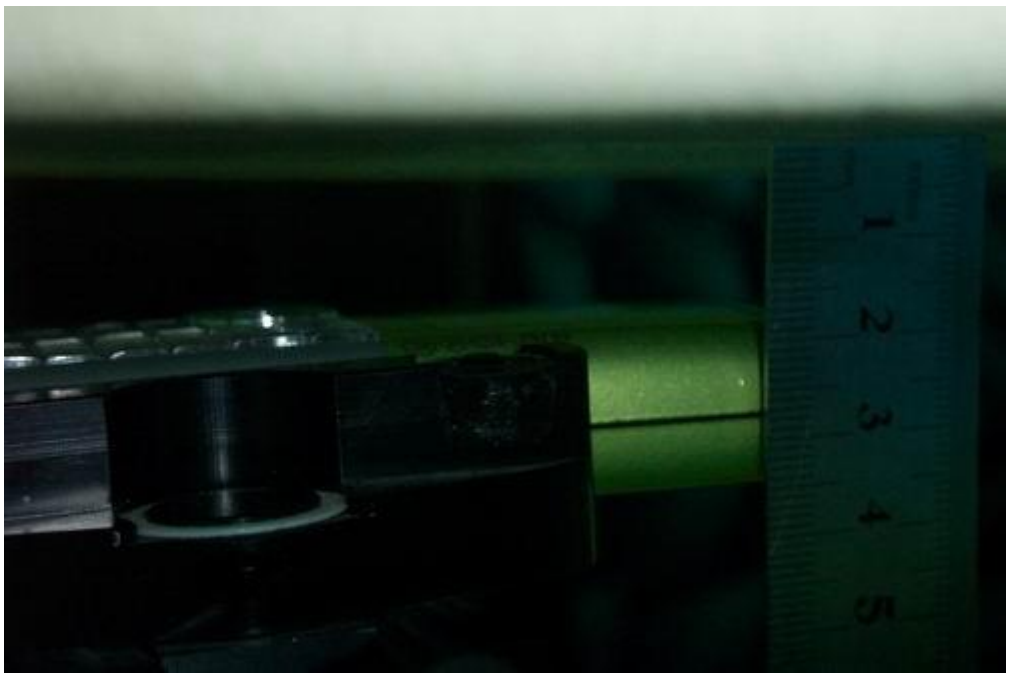
Picture 5 Right Hand Tilt 15° Position



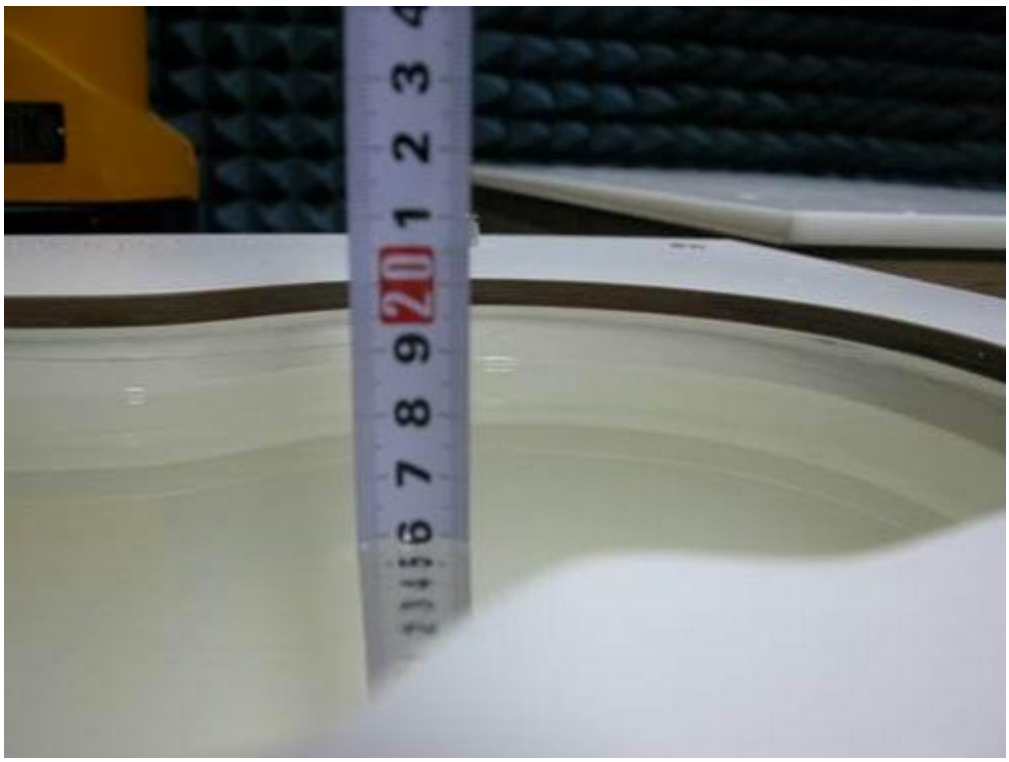
Picture 6 Flat Phantom -- Body-worn Position (toward phantom, the distance from handset to the bottom of the Phantom is 20mm)



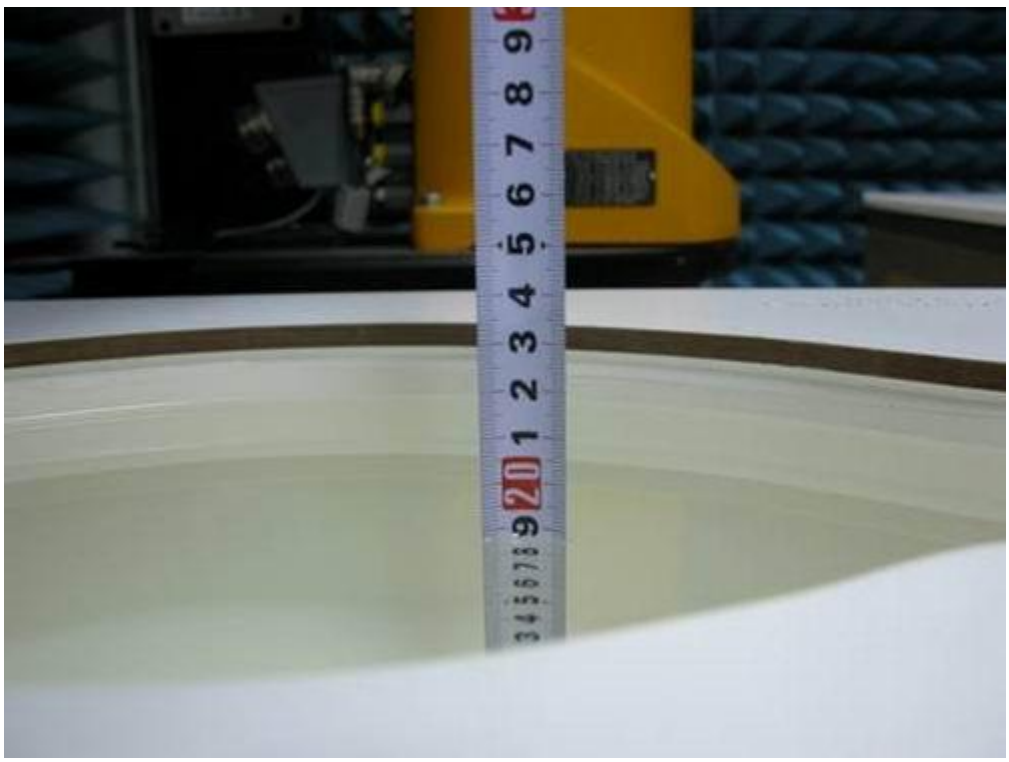
Picture 7 Flat Phantom -- Body-worn Position (toward ground, the distance from handset to the bottom of the Phantom is 20mm)



Picture 8 Flat Phantom -- Hand-worn Position (toward phantom, the distance from handset to the bottom of the Phantom is 20mm)



Picture 8 Liquid depth in the Head Phantom



Picture 9 Liquid depth in the Flat Phantom

ANNEX C: GRAPH RESULTS

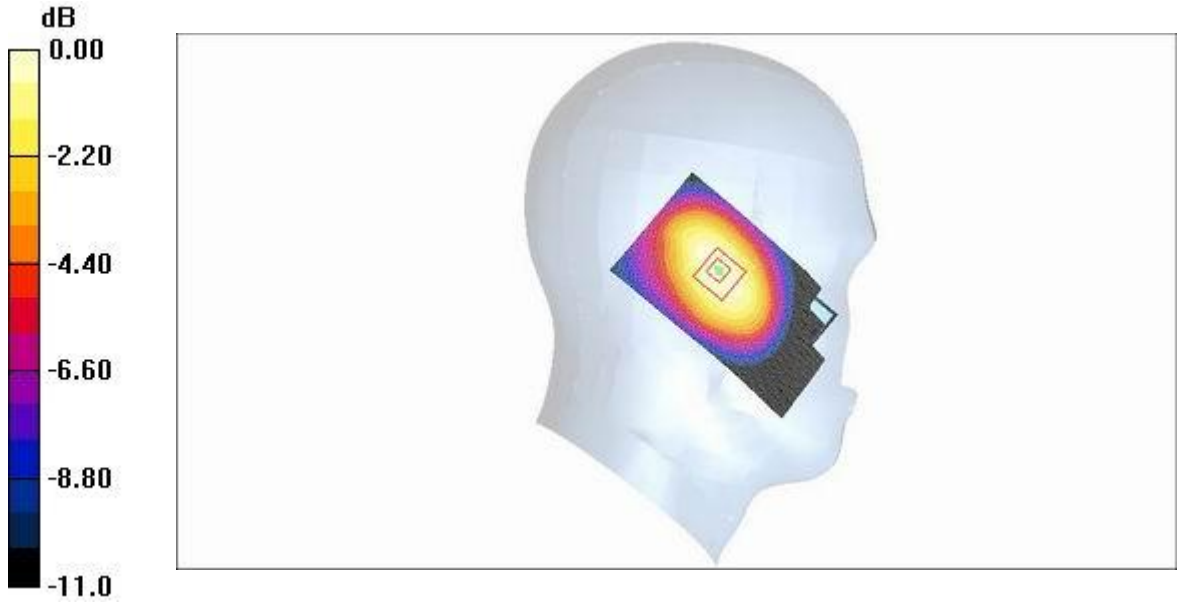
Alcatel OT-C552a GSM 850 Left Cheek Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM 850; Frequency: 869.2 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 869.2 MHz; σ = 0.949 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a GSM 850 Left Cheek L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.666 mW/g

Alcatel OT-C552a GSM 850 Left Cheek L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.0 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.855 W/kg
SAR(1 g) = 0.616 mW/g; SAR(10 g) = 0.422 mW/g
Maximum value of SAR (measured) = 0.661 mW/g



0 dB = 0.661mW/g

Fig. 1 Left Hand Touch Cheek 850MHz CH128

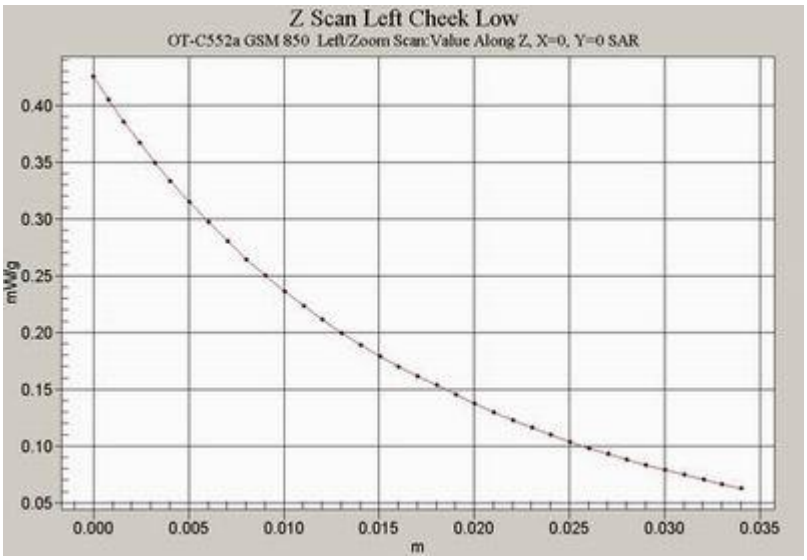


Fig. 2 Z-Scan at power reference point (Left Hand Touch Cheek 850MHz CH128)

Alcatel OT-C552a GSM 850 Left Cheek Middle

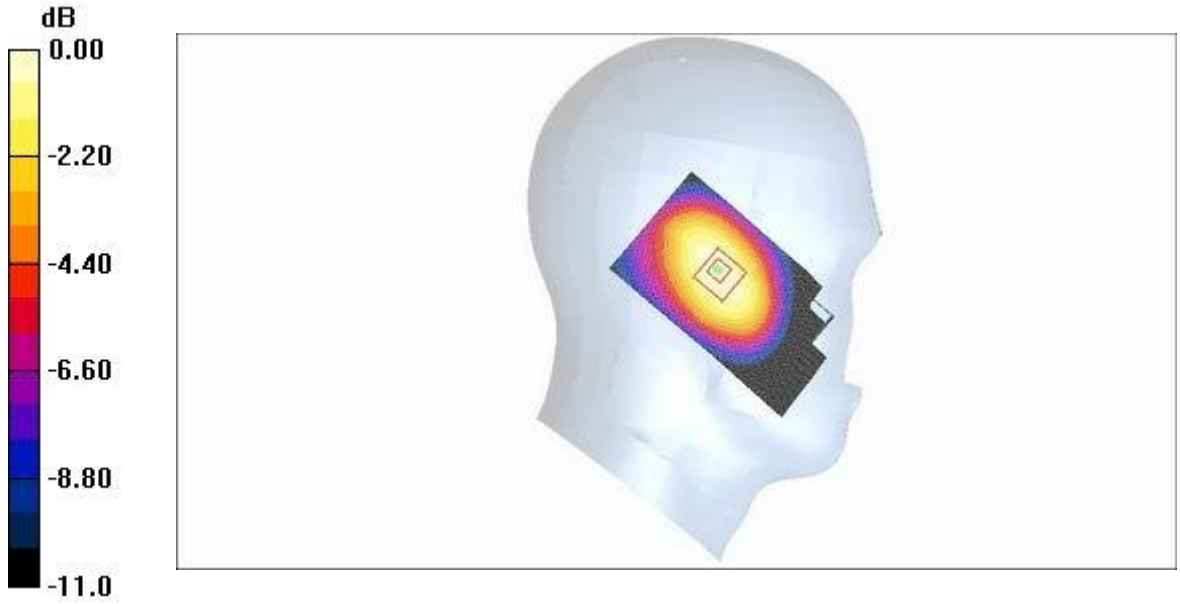
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM 850; Frequency: 881.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 881.6 MHz; σ = 0.961 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a GSM 850 Left Cheek M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.757 mW/g

Alcatel OT-C552a GSM 850 Left Cheek M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.2 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.966 W/kg
SAR(1 g) = 0.705 mW/g; SAR(10 g) = 0.483 mW/g

Maximum value of SAR (measured) = 0.754 mW/g



0 dB = 0.754mW/g

Fig. 3 Left Hand Touch Cheek 850MHz CH190

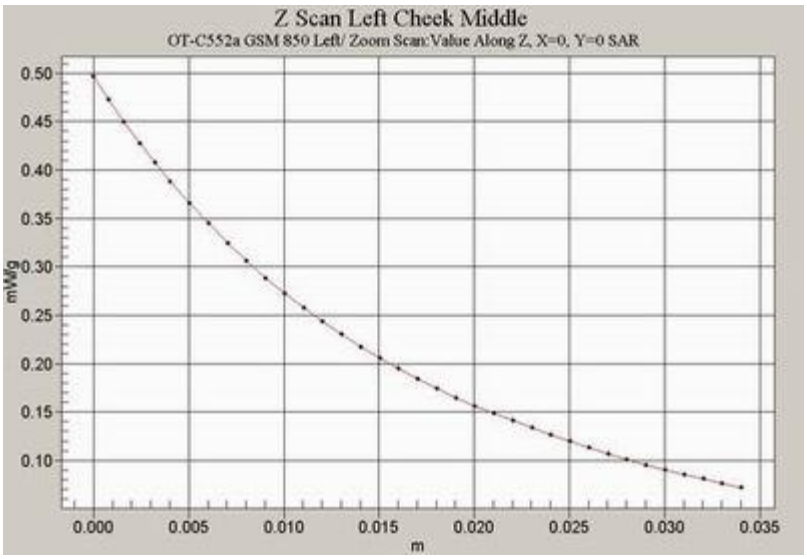


Fig. 4 Z-Scan at power reference point (Left Hand Touch Cheek 850MHz CH190)

Alcatel OT-C552a GSM 850 Left Cheek High

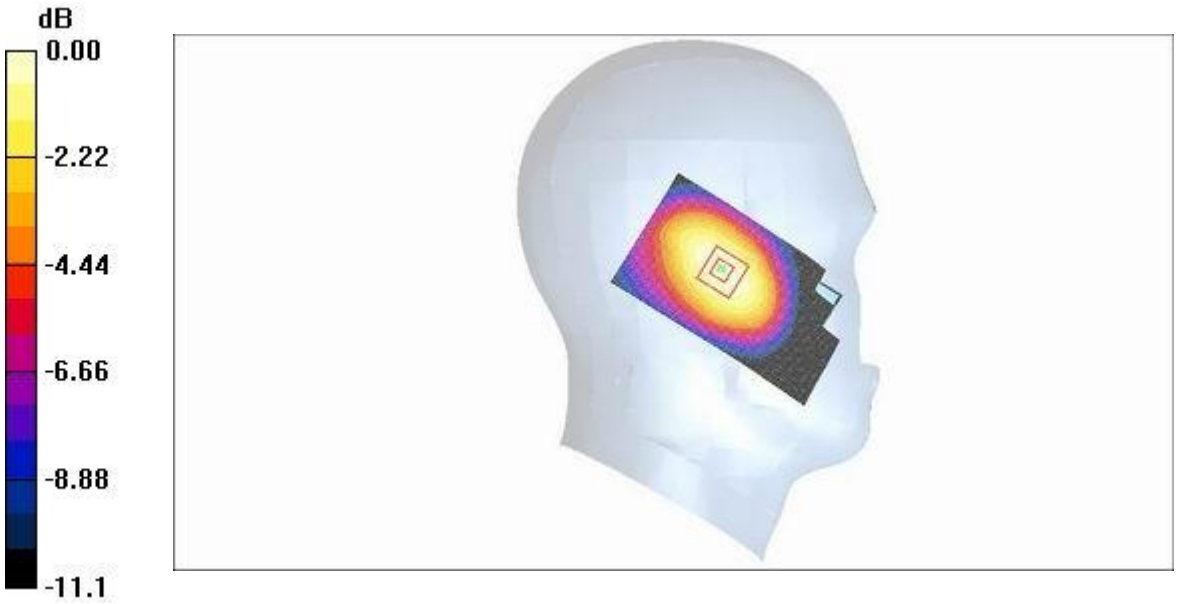
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM 850; Frequency: 893.8 MHz; Duty Cycle: 1:8.3

Medium: Head 835 MHz Medium parameters used (interpolated): f = 893.8 MHz; σ = 0.973 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a GSM 850 Left Cheek H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.639 mW/g

Alcatel OT-C552a GSM 850 Left Cheek H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.9 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 0.804 W/kg
SAR(1 g) = 0.591 mW/g; SAR(10 g) = 0.406 mW/g
Maximum value of SAR (measured) = 0.633 mW/g



0 dB = 0.633mW/g

Fig. 5 Left Hand Touch Cheek 850MHz CH251

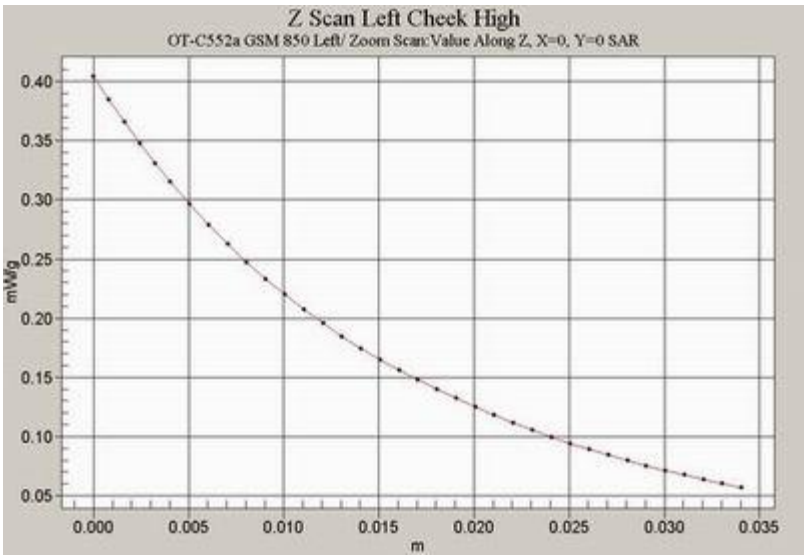


Fig. 6 Z-Scan at power reference point (Left Hand Touch Cheek 850MHz CH251)

Alcatel OT-C552a GSM 850 Left Tilt Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

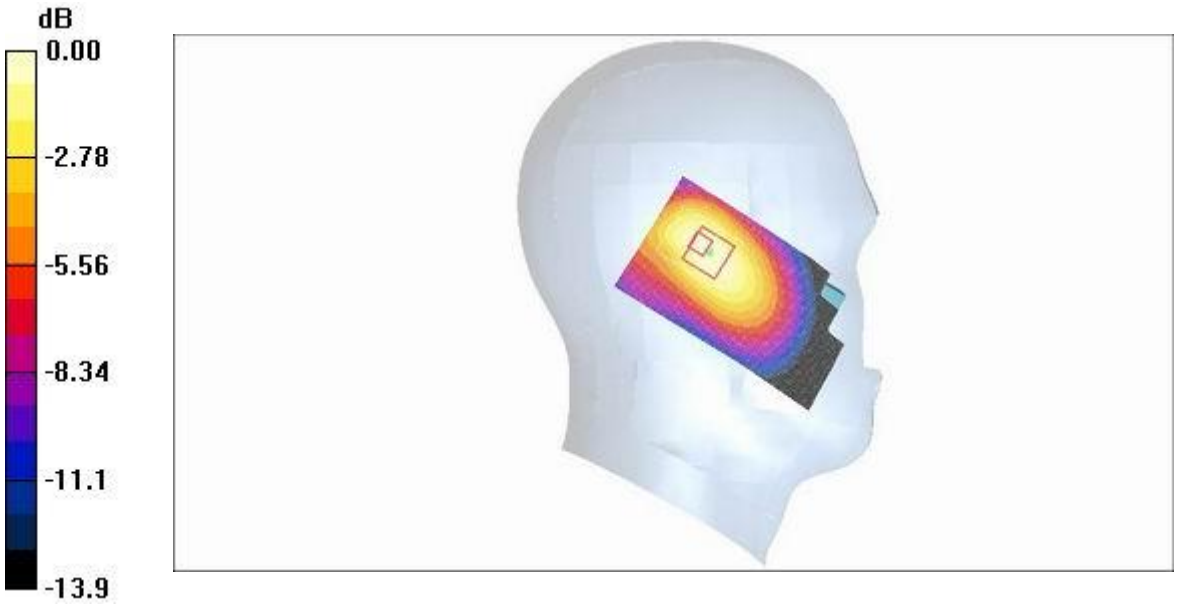
Communication System: GSM 850; Frequency: 869.2 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 869.2 MHz; σ = 0.949 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a GSM 850 Left Tilt L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.569 mW/g

Alcatel OT-C552a GSM 850 Left Tilt L/Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.4 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 0.866 W/kg
SAR(1 g) = 0.523 mW/g; SAR(10 g) = 0.336 mW/g

Maximum value of SAR (measured) = 0.562 mW/g



0 dB = 0.562mW/g

Fig. 7 Left Hand Tilt 15° 850MHz CH128

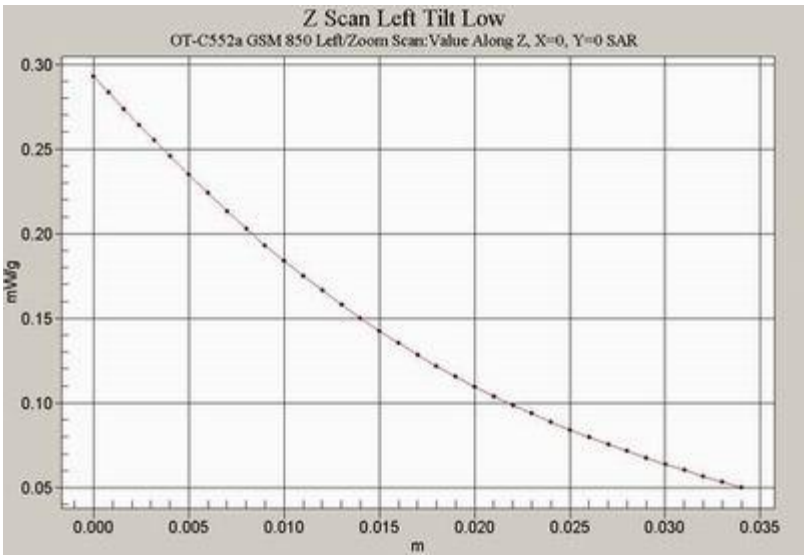


Fig. 8 Z-Scan at power reference point (Left Hand Tilt 15° 850MHz CH128)

Alcatel OT-C552a GSM 850 Left Tilt Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

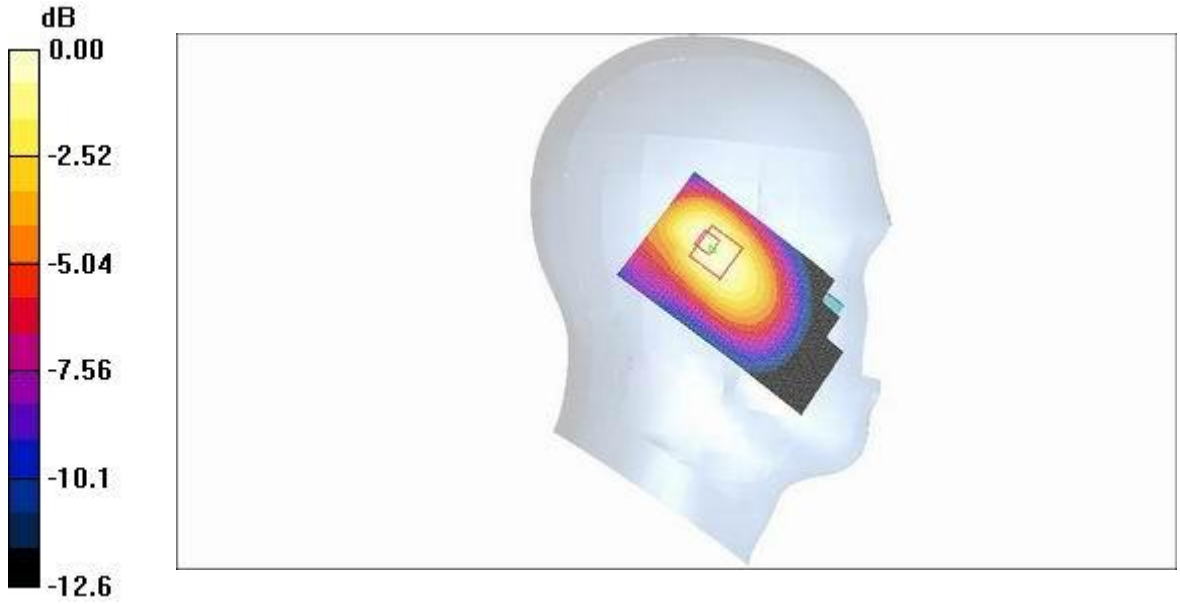
Communication System: GSM 850; Frequency: 881.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 881.6 MHz; σ = 0.961 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a GSM 850 Left Tilt M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.591 mW/g

Alcatel OT-C552a GSM 850 Left Tilt M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.8 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 0.866 W/kg
SAR(1 g) = 0.539 mW/g; SAR(10 g) = 0.350 mW/g

Maximum value of SAR (measured) = 0.580 mW/g



0 dB = 0.580mW/g

Fig. 9 Left Hand Tilt 15° 850MHz CH190

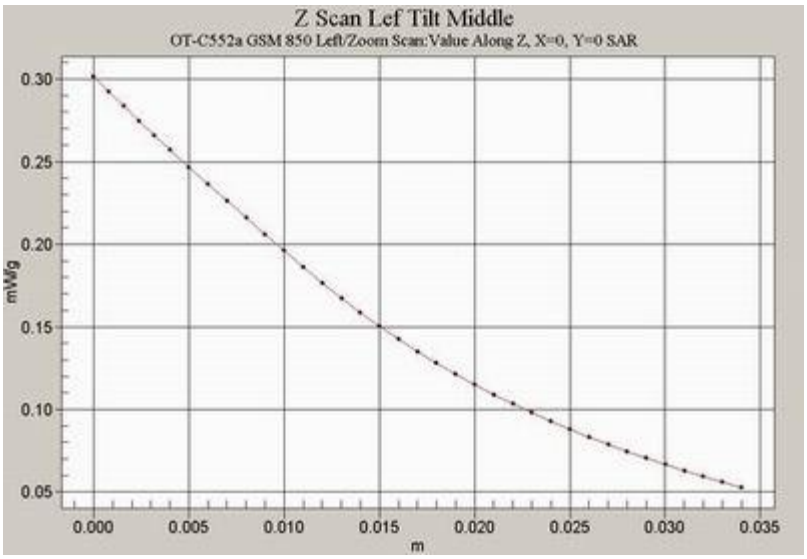


Fig. 10 Z-Scan at power reference point (Left Hand Tilt 15° 850MHz CH190)

Alcatel OT-C552a GSM 850 Left Tilt High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

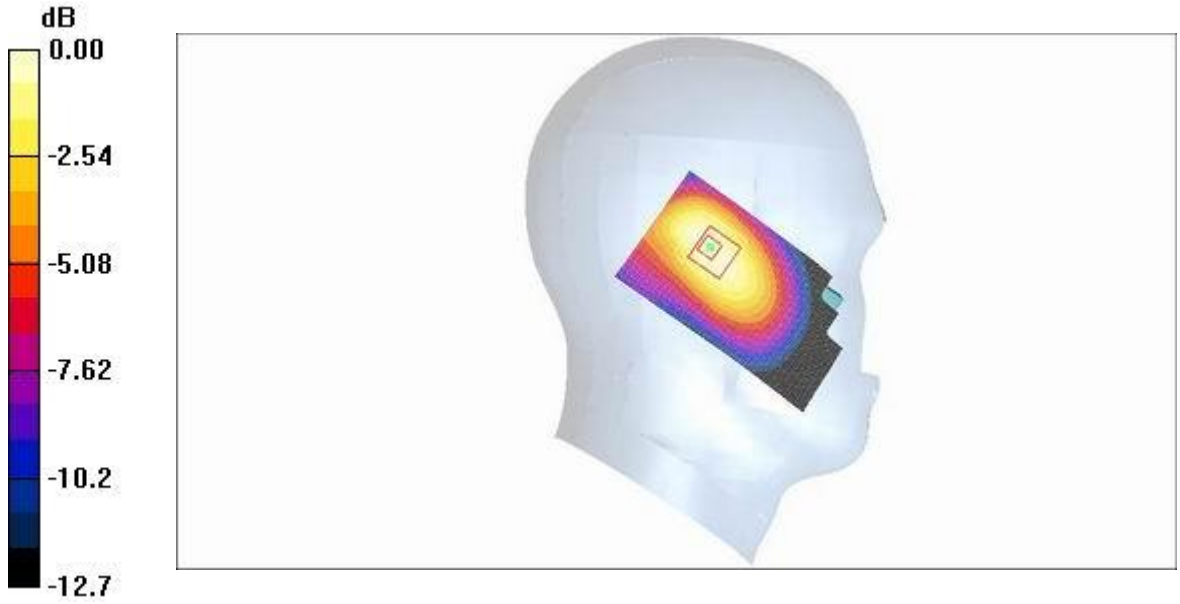
Communication System: GSM 850; Frequency: 893.8 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 893.8 MHz; σ = 0.973 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a GSM 850 Left Tilt H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.447 mW/g

Alcatel OT-C552a GSM 850 Left Tilt H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.1 V/m; Power Drift = -0.069 dB
Peak SAR (extrapolated) = 0.670 W/kg
SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.266 mW/g

Maximum value of SAR (measured) = 0.443 mW/g



0 dB = 0.443mW/g

Fig. 11 Left Hand Tilt 15° 850MHz CH251

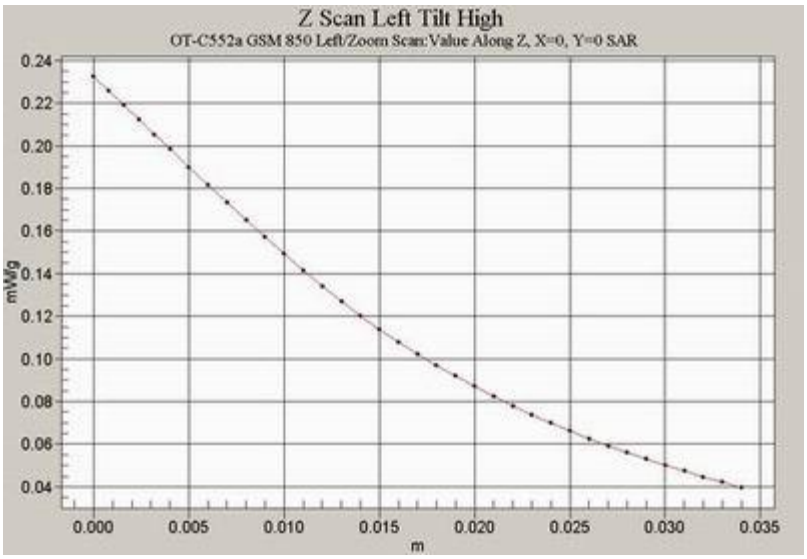


Fig. 12 Z-Scan at power reference point (Left Hand Tilt 15° MHz CH251)

Alcatel OT-C552a GSM 850 Right Cheek Low

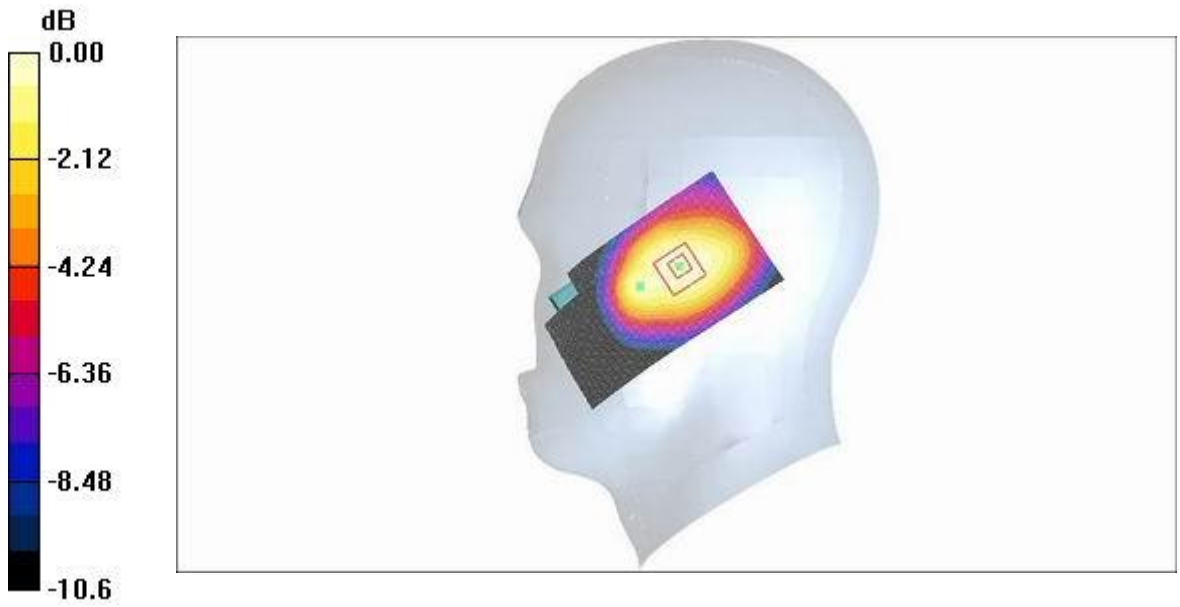
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

Communication System: GSM 850; Frequency: 869.2 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 869.2 MHz; σ = 0.949 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a GSM 850 Right Cheek L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.701 mW/g

Alcatel OT-C552a GSM 850 Right Cheek L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.6 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.839 W/kg
SAR(1 g) = 0.649 mW/g; SAR(10 g) = 0.459 mW/g
Maximum value of SAR (measured) = 0.683 mW/g



0 dB = 0.683mW/g

Fig. 13Right Hand Touch Cheek 850MHz CH128

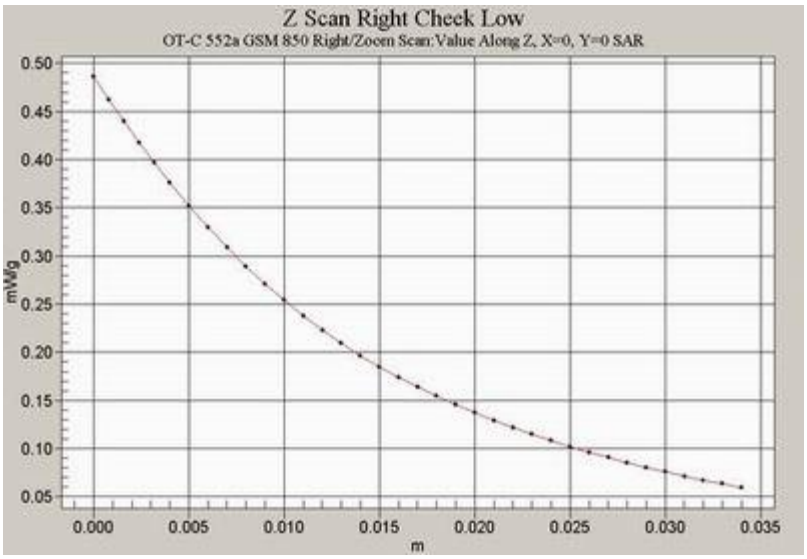


Fig. 14 Z-Scan at power reference point (Right Hand Touch Cheek 850MHz CH128)

Alcatel OT-C552a GSM 850 Right Cheek Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

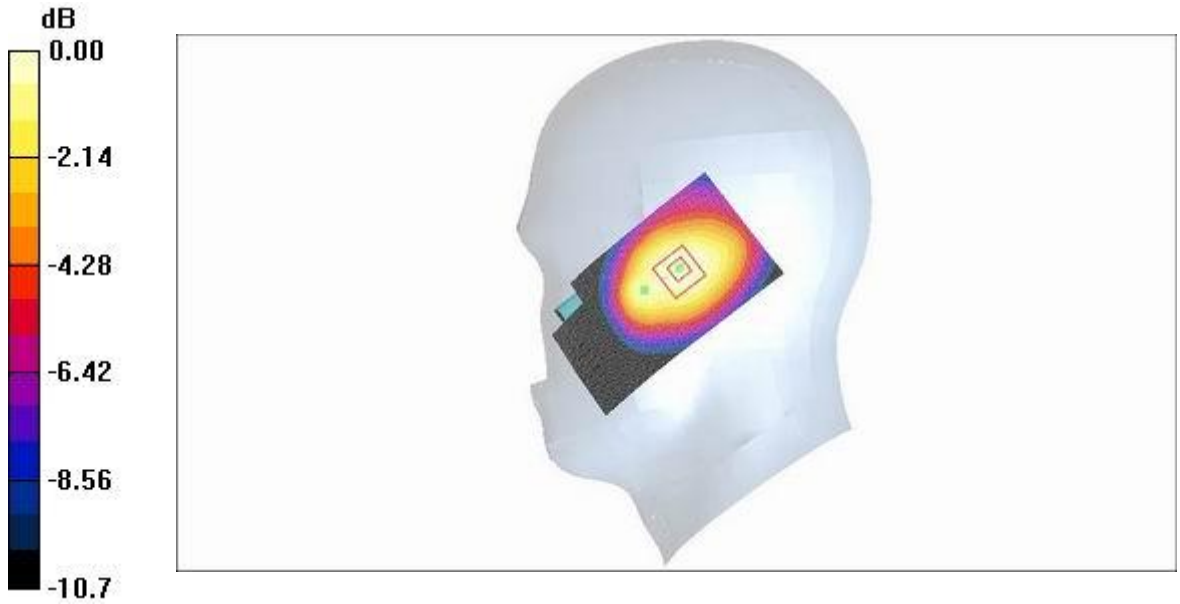
Communication System: GSM 850; Frequency: 881.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 881.6 MHz; σ = 0.961 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a GSM 850 Right Cheek M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.769 mW/g

Alcatel OT-C552a GSM 850 Right Cheek M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.4 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 0.916 W/kg
SAR(1 g) = 0.706 mW/g; SAR(10 g) = 0.498 mW/g

Maximum value of SAR (measured) = 0.752 mW/g



0 dB = 0.752mW/g

Fig. 15 Right Hand Touch Cheek 850MHz CH190

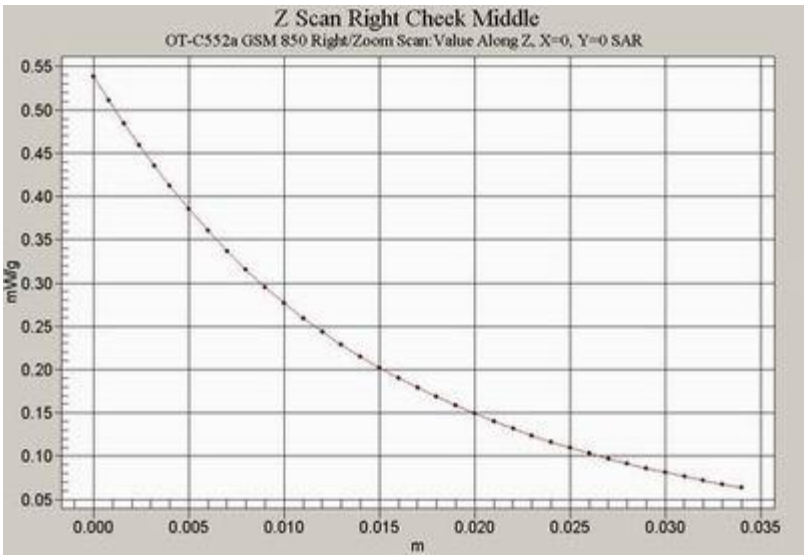


Fig. 16 Z-Scan at power reference point (Right Hand Touch Cheek 850MHz CH190)

Alcatel OT-C552a GSM 850 Right Cheek High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM 850; Frequency: 893.8 MHz; Duty Cycle: 1:8.3

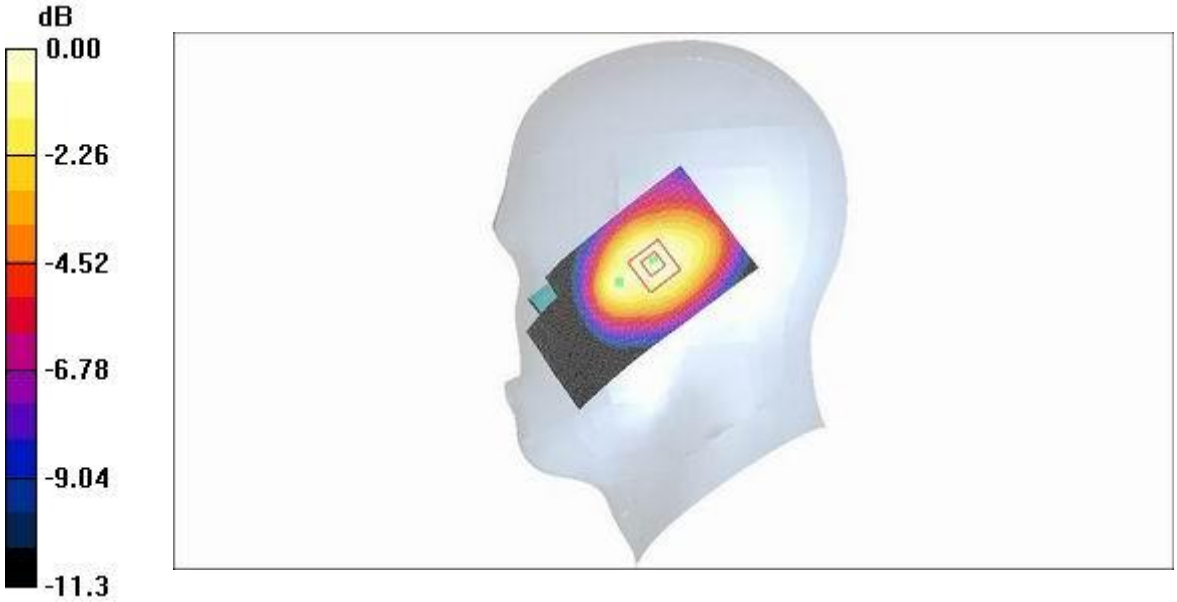
Medium: Head 835 MHz Medium parameters used (interpolated): f = 893.8 MHz; σ = 0.973 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a GSM 850 Right Cheek H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.624 mW/g

Alcatel OT-C552a GSM 850 Right Cheek H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.6 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.747 W/kg
SAR(1 g) = 0.574 mW/g; SAR(10 g) = 0.403 mW/g

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



0 dB = 0.609mW/g

Fig. 17 Right Hand Touch Cheek 850MHz CH251

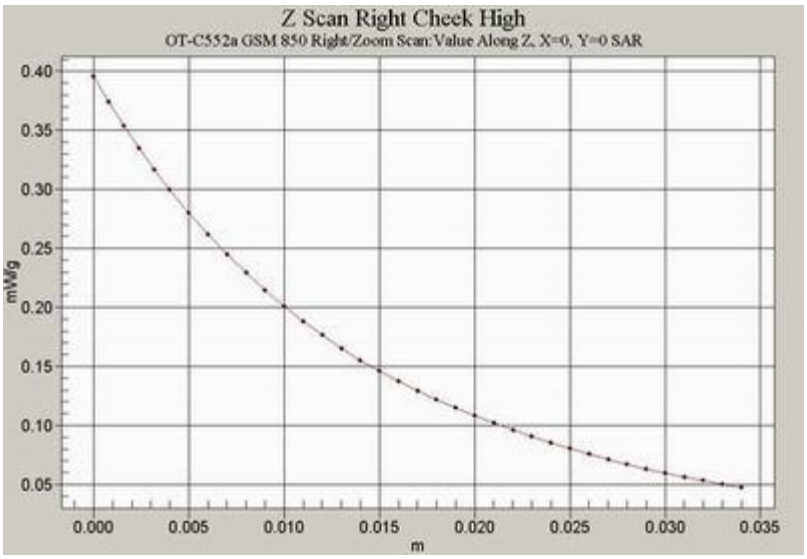


Fig. 18 Z-Scan at power reference point (Right Hand Touch Cheek 850MHz CH251)

Alcatel OT-C552a GSM 850 Right Tilt Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

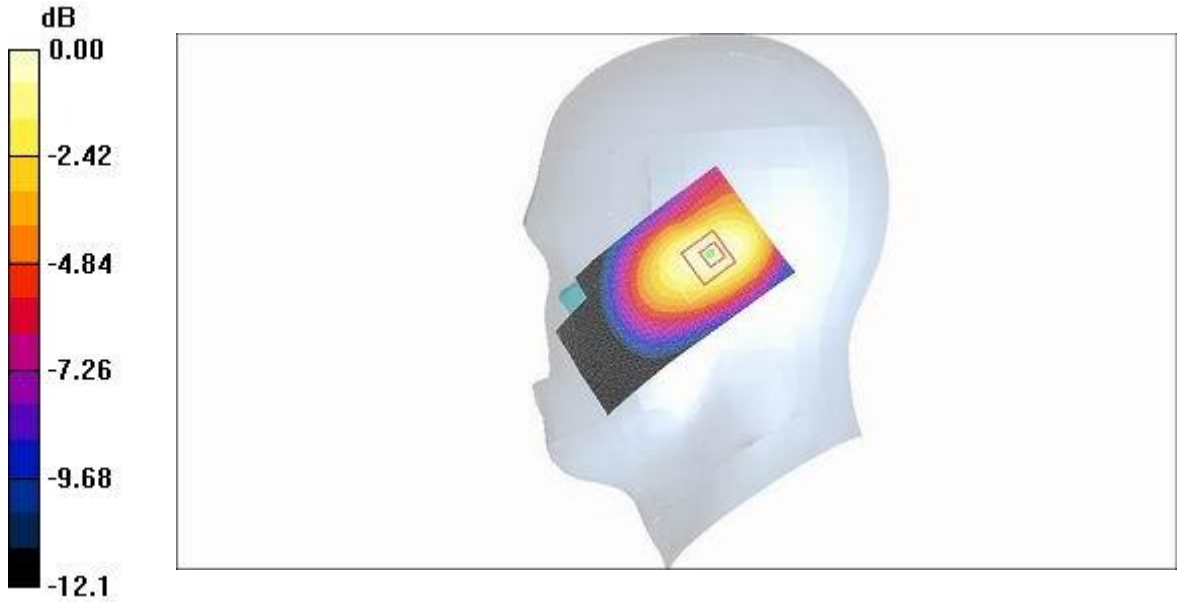
Communication System: GSM 850; Frequency: 869.2 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 869.2 MHz; σ = 0.949 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a GSM 850 Right Tilt L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.579 mW/g

Alcatel OT-C552a GSM 850 Right Tilt L/Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.1 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.798 W/kg
SAR(1 g) = 0.534 mW/g; SAR(10 g) = 0.359 mW/g

Maximum value of SAR (measured) = 0.575 mW/g



0 dB = 0.575mW/g

Fig. 19 Right Hand Tilt 15° 850MHz CH128

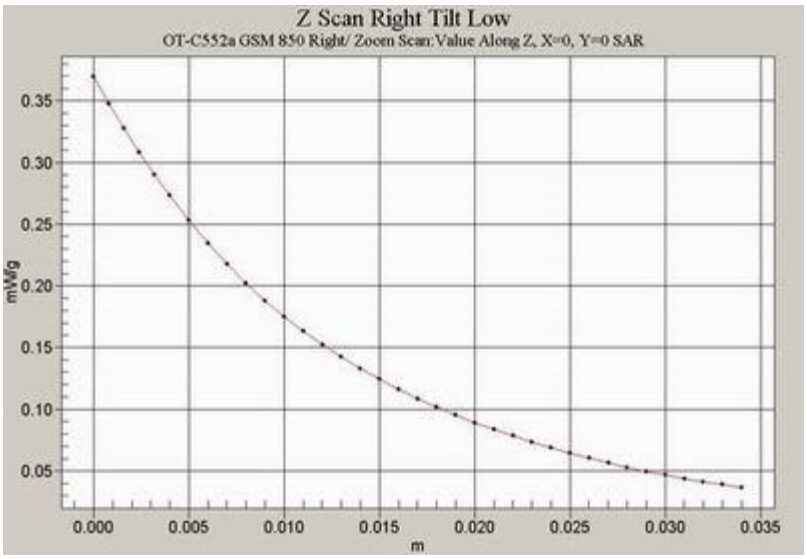


Fig. 20 Z-Scan at power reference point (Right Hand Tilt 15° 850MHz CH128)

Alcatel OT-C552a GSM 850 Right Tilt Middle

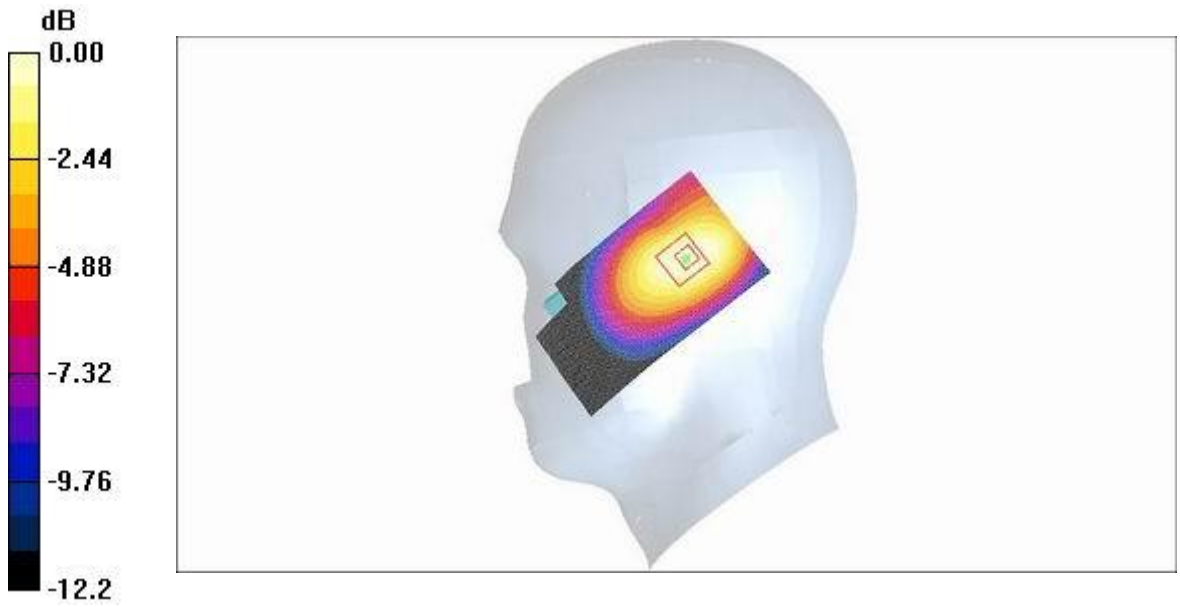
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

Communication System: GSM 850; Frequency: 881.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835 MHz Medium parameters used (interpolated): f = 881.6 MHz; σ = 0.961 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a GSM 850 Right Tilt M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

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

Alcatel OT-C552a GSM 850 Right Tilt M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.5 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.828 W/kg
SAR(1 g) = 0.559 mW/g; SAR(10 g) = 0.377 mW/g
Maximum value of SAR (measured) = 0.603 mW/g



0 dB = 0.603mW/g

Fig. 21 Right Hand Tilt 15° 850MHz CH190

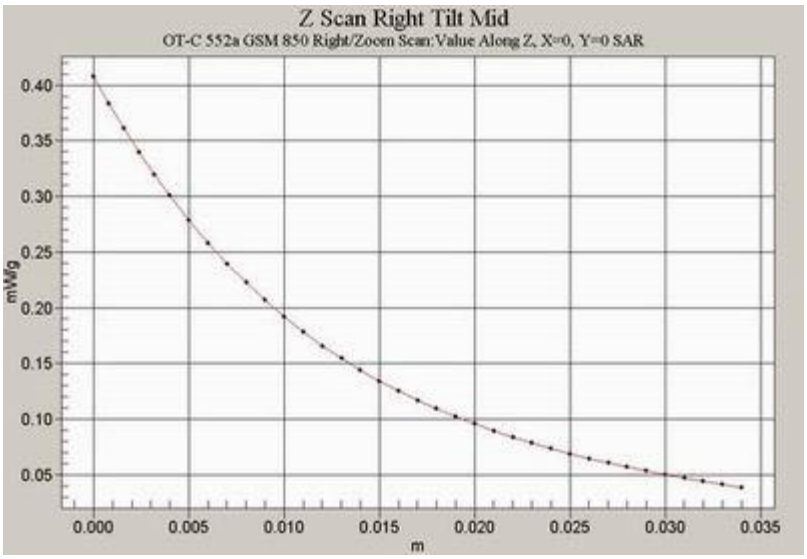


Fig. 22 Z-Scan at power reference point (Right Hand Tilt 15° 850MHz CH190)

Alcatel OT-C552a GSM 850 Right Tilt High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM 850; Frequency: 893.8 MHz; Duty Cycle: 1:8.3

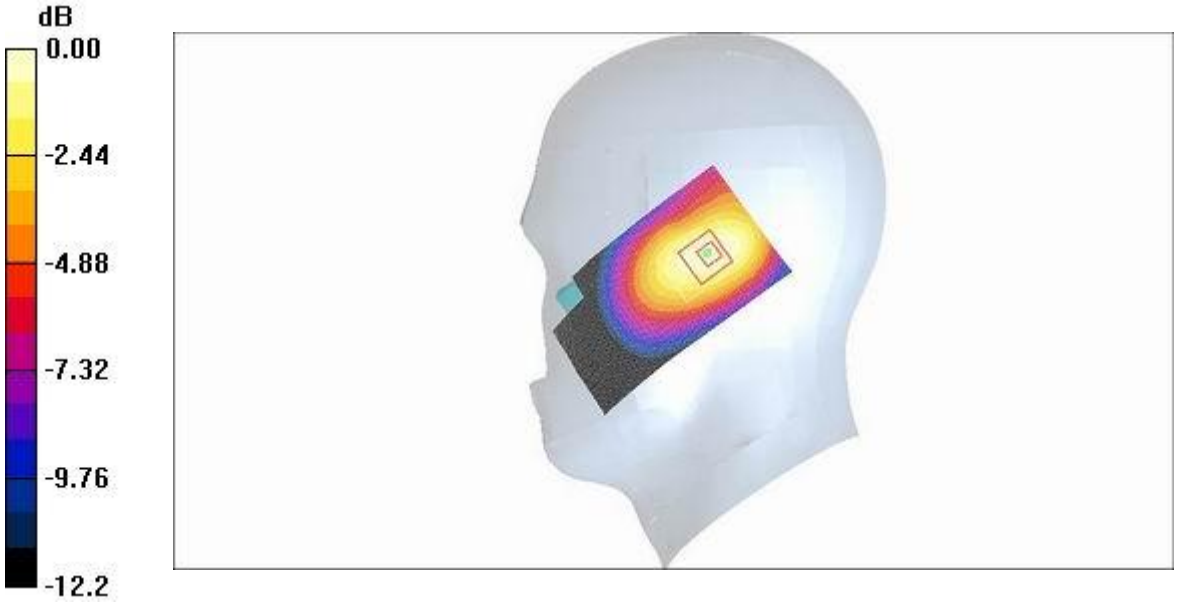
Medium: Head 835 MHz Medium parameters used (interpolated): f = 893.8 MHz; σ = 0.973 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a GSM 850 Right Tilt H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.466 mW/g

Alcatel OT-C552a GSM 850 Right Tilt H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.3 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.642 W/kg
SAR(1 g) = 0.425 mW/g; SAR(10 g) = 0.287 mW/g

Maximum value of SAR (measured) = 0.456 mW/g



0 dB = 0.456mW/g

Fig. 23 Right Hand Tilt 15° 850MHz CH251

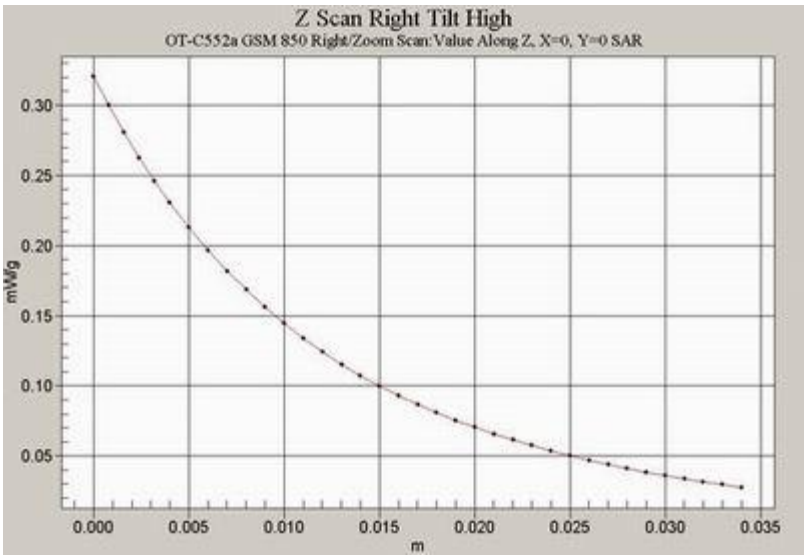


Fig. 24 Z-Scan at power reference point (Right Hand Tilt 15° 850MHz CH251)

Alcatel OT-C552a PCS 1900 Left Cheek Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

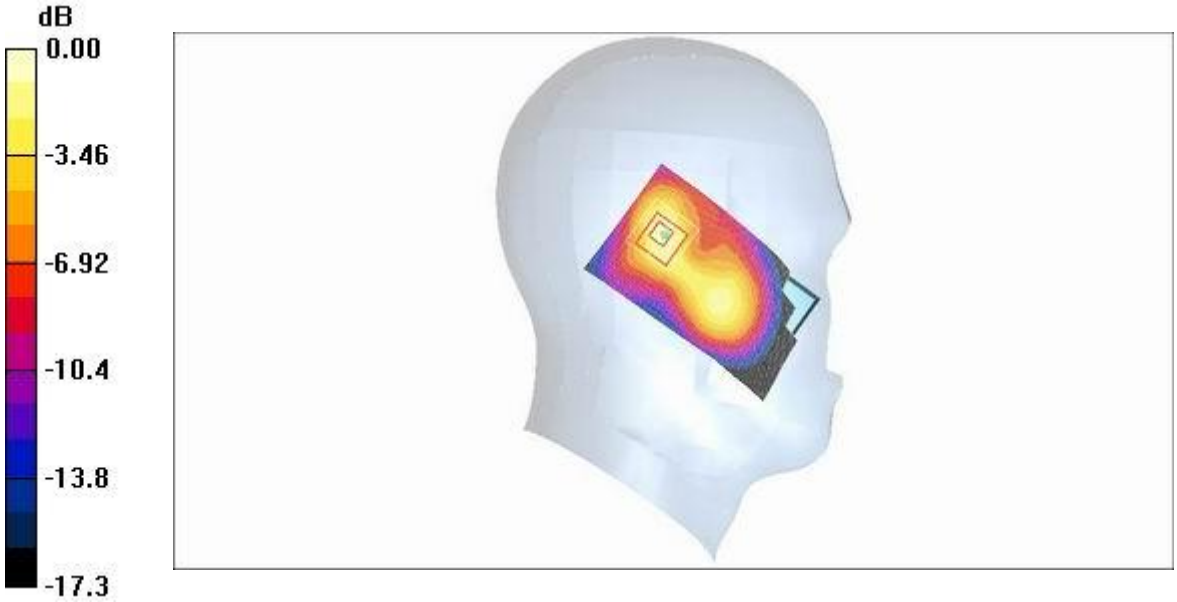
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a PCS 1900 Left Cheek L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.493 mW/g

Alcatel OT-C552a PCS 1900 Left Cheek L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.3 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.830 W/kg
SAR(1 g) = 0.483 mW/g; SAR(10 g) = 0.250 mW/g

Maximum value of SAR (measured) = 0.559 mW/g



0 dB = 0.559mW/g

Fig. 25 Left Hand Touch Cheek 1900MHz CH512

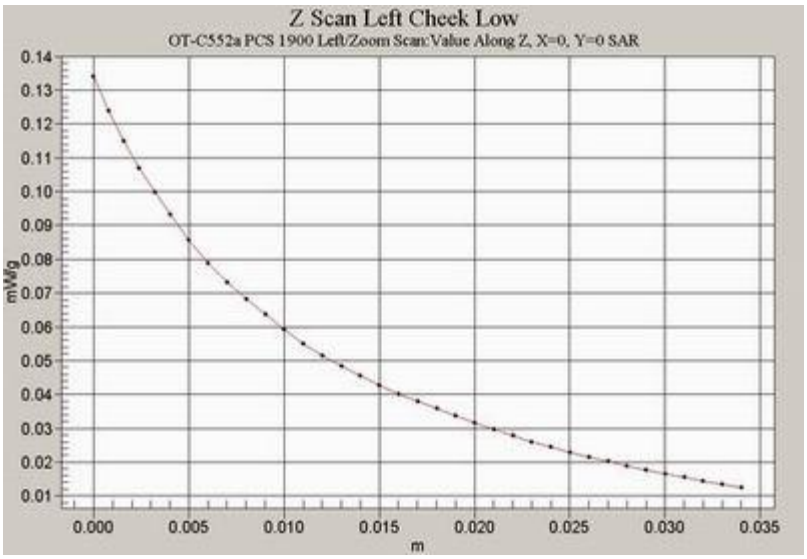


Fig. 26 Z-Scan at power reference point (Left Hand Touch Cheek 1900MHz CH512)

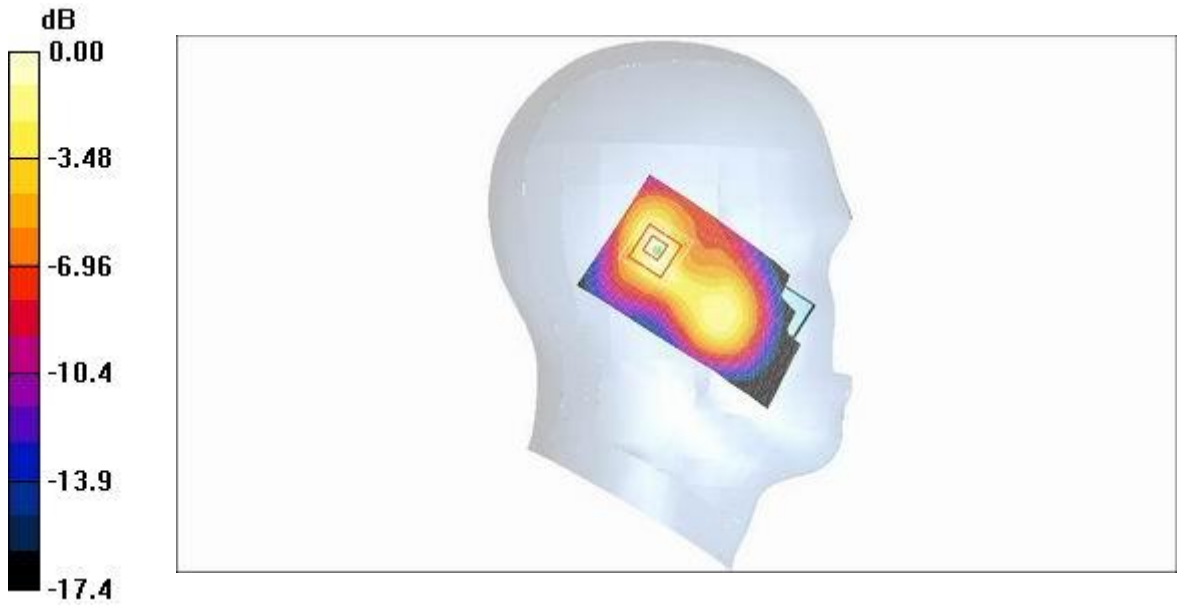
Alcatel OT-C552a PCS 1900 Left Cheek Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a PCS 1900 Left Cheek M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.426 mW/g

Alcatel OT-C552a PCS 1900 Left Cheek M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.7 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 0.706 W/kg
SAR(1 g) = 0.416 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.471 mW/g



0 dB = 0.471mW/g

Fig. 27Left Hand Touch Cheek 1900MHz CH661

Fig. 28 Z-Scan at power reference point (Left Hand Touch Cheek 1900MHz CH661)

Alcatel OT-C552a PCS 1900 Left Cheek High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

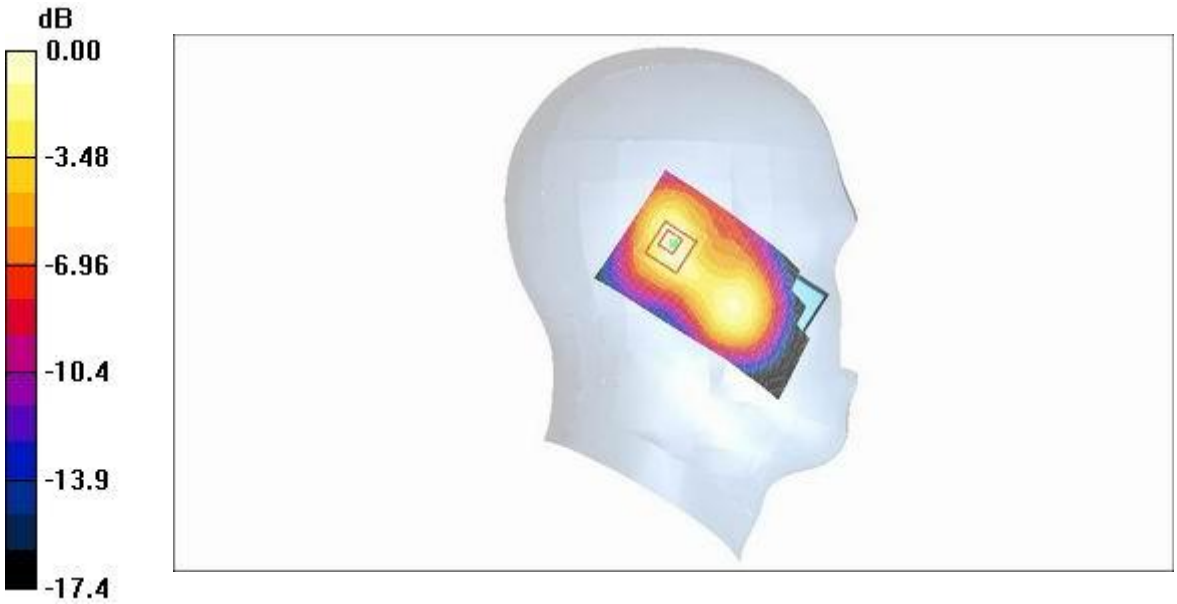
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a PCS 1900 Left Cheek H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.385 mW/g

Alcatel OT-C552a PCS 1900 Left Cheek H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 0.600 W/kg
SAR(1 g) = 0.359 mW/g; SAR(10 g) = 0.197 mW/g

Maximum value of SAR (measured) = 0.404 mW/g



0 dB = 0.404mW/g

Fig. 29 Left Hand Touch Cheek 1900MHz CH810

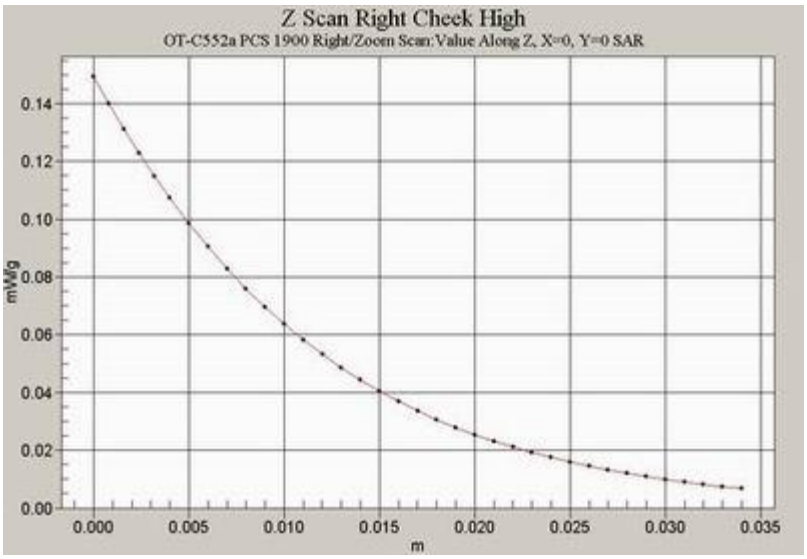


Fig. 30 Z-Scan at power reference point (Left Hand Touch Cheek 1900MHz CH810)

Alcatel OT-C552a PCS 1900 Left Tilt Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

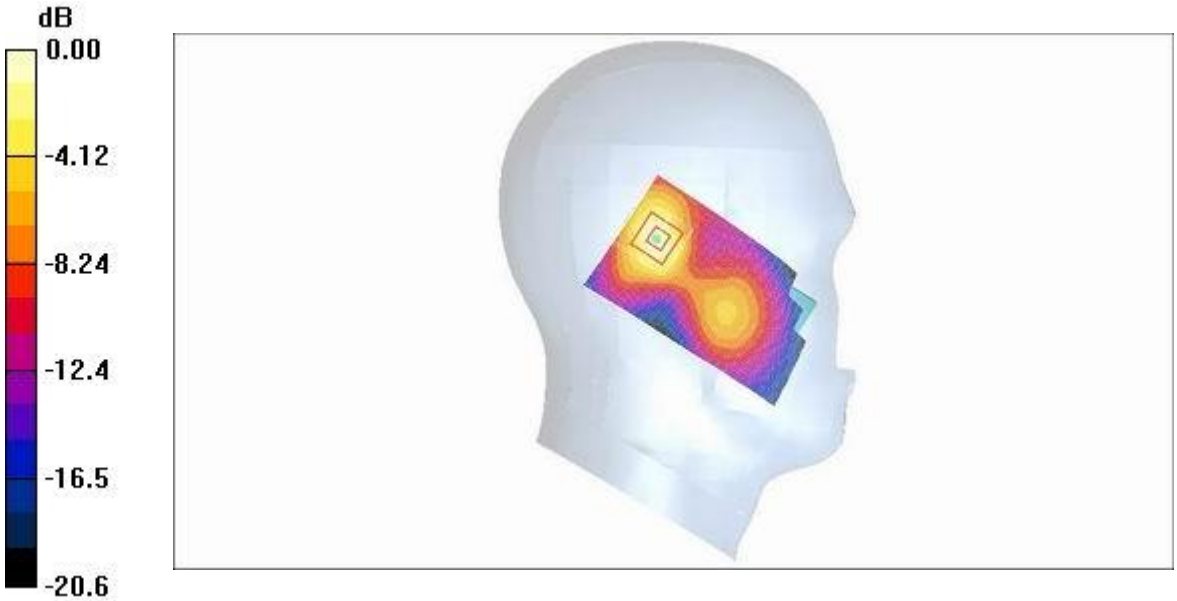
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a PCS 1900 Left Tilt L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.494 mW/g

Alcatel OT-C552a PCS 1900 Left Tilt L/Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.2 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.779 W/kg
SAR(1 g) = 0.452 mW/g; SAR(10 g) = 0.230 mW/g

Maximum value of SAR (measured) = 0.516 mW/g



0 dB = 0.516mW/g

Fig. 31 Left Hand Tilt 15° 1900MHz CH512

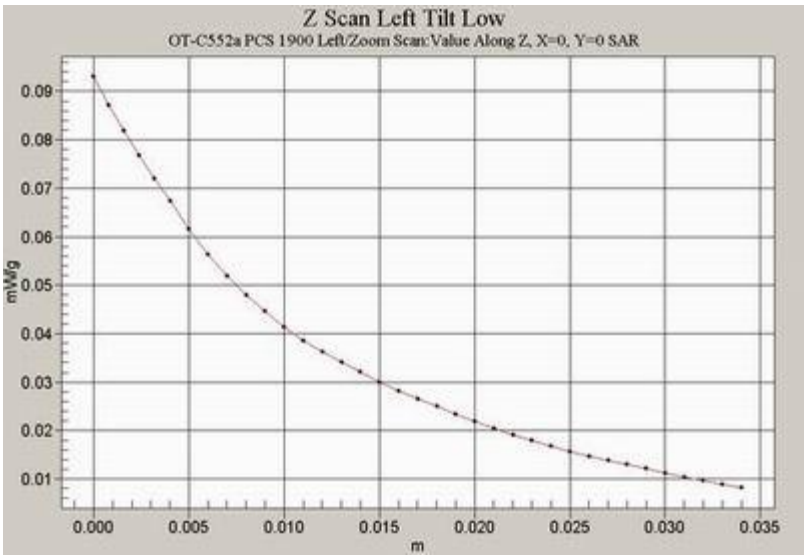


Fig. 32 Z-Scan at power reference point (Left Hand Tilt 15° 1900MHz CH512)

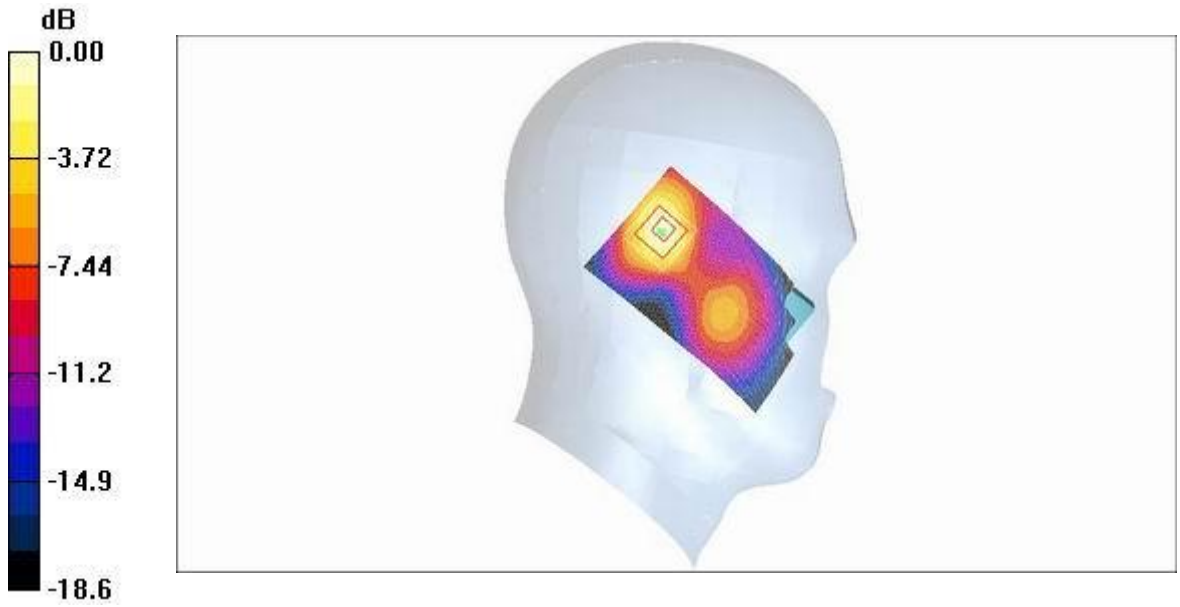
Alcatel OT-C552a PCS 1900 Left Tilt Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a PCS 1900 Left Tilt M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.394 mW/g

Alcatel OT-C552a PCS 1900 Left Tilt M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.611 W/kg
SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.186 mW/g
Maximum value of SAR (measured) = 0.402 mW/g



0 dB = 0.402mW/g

Fig. 33 Left Hand Tilt 15° 1900MHz CH661

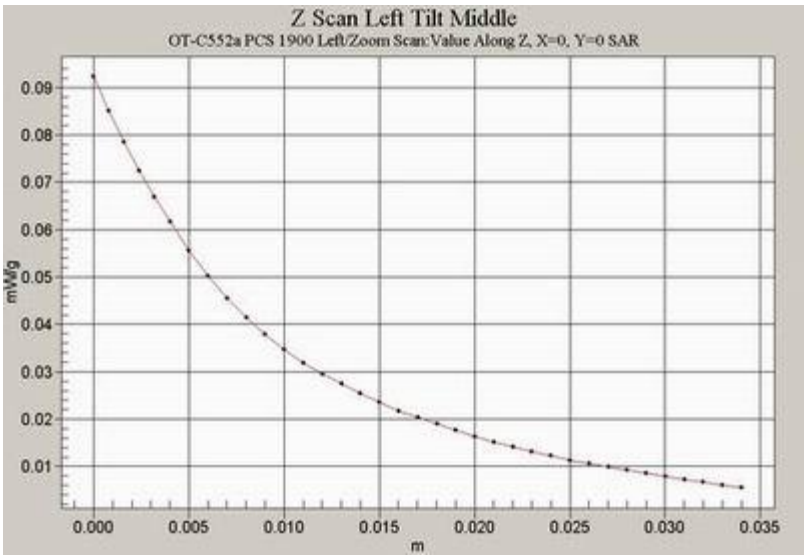


Fig. 34 Z-Scan at power reference point (Left Hand Tilt 15° 1900MHz CH661)

Alcatel OT-C552a PCS 1900 Left Tilt High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

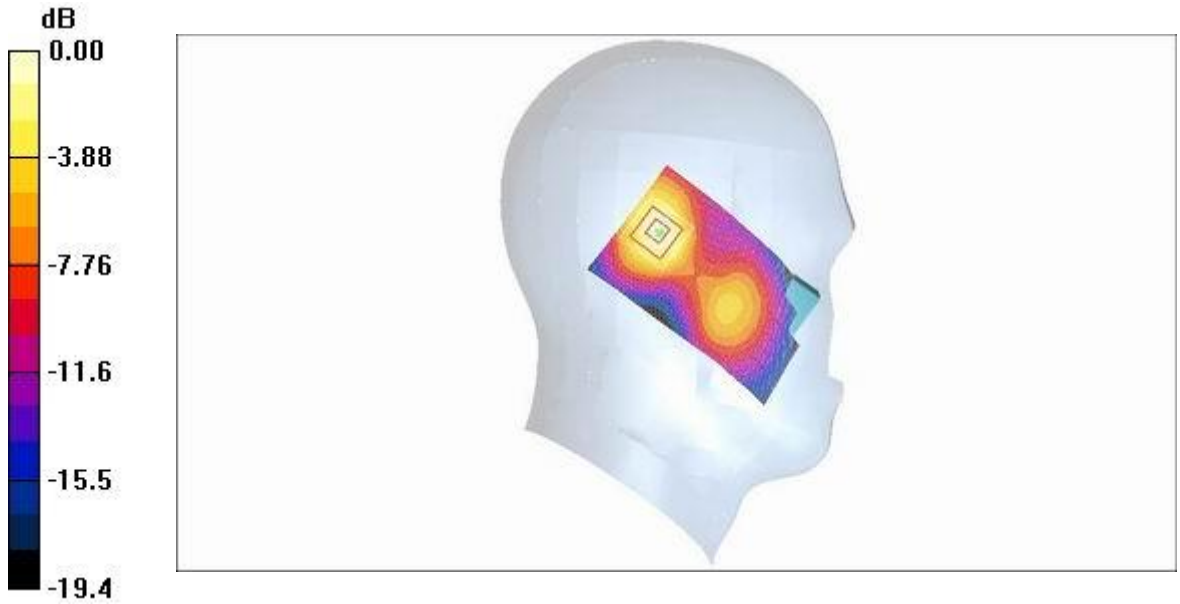
Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

Alcatel OT-C552a PCS 1900 Left Tilt H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.374 mW/g

Alcatel OT-C552a PCS 1900 Left Tilt H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.552 W/kg
SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.175 mW/g

Maximum value of SAR (measured) = 0.371 mW/g



0 dB = 0.371mW/g

Fig. 35 Left Hand Tilt 15° 1900MHz CH810

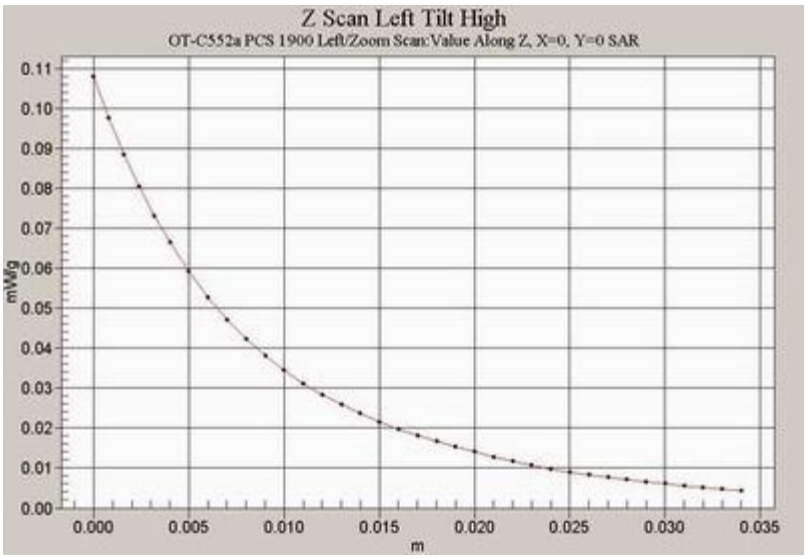


Fig. 36 Z-Scan at power reference point (left Hand Tilt 15° 1900MHz CH810)

Alcatel OT-C552a PCS 1900 Right Cheek Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

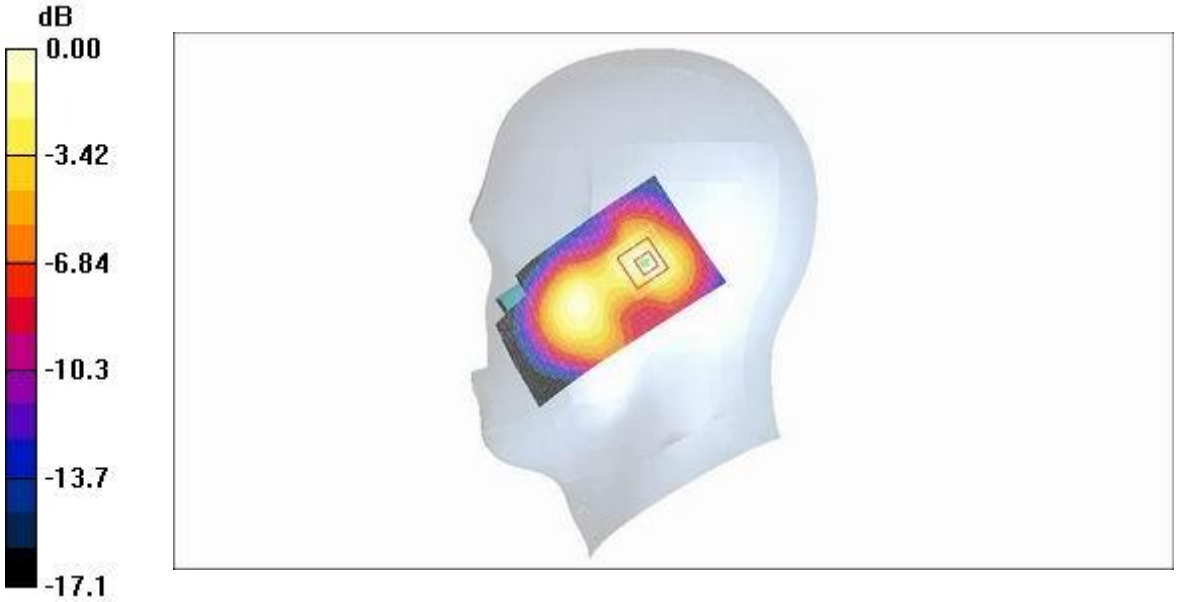
Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a PCS 1900 Right Cheek L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.503 mW/g

Alcatel OT-C552a PCS 1900 Right Cheek L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.8 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.691 W/kg
SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 0.486 mW/g



0 dB = 0.486mW/g

Fig. 37 Right Hand Touch Cheek 1900MHz CH512

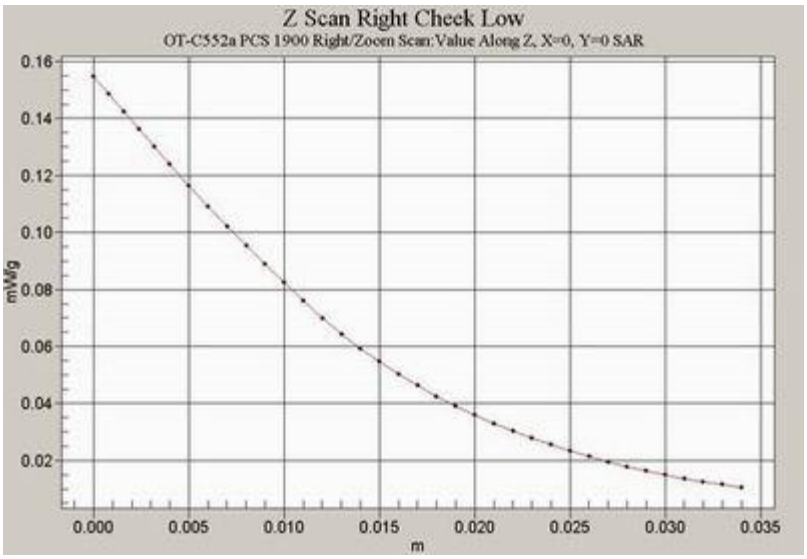


Fig. 38 Z-Scan at power reference point (Right Hand Touch Cheek 1900MHz CH512)

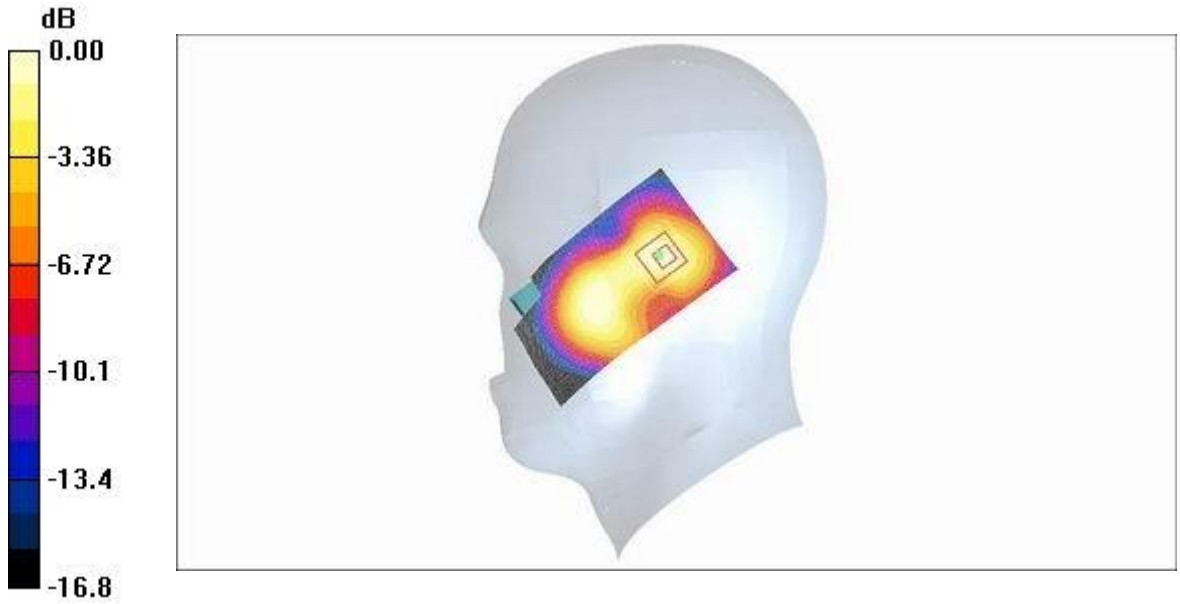
Alcatel OT-C552a PCS 1900 Right Cheek Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a PCS 1900 Right Cheek M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.373 mW/g

Alcatel OT-C552a PCS 1900 Right Cheek M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.505 W/kg
SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.186 mW/g
Maximum value of SAR (measured) = 0.360 mW/g



0 dB = 0.360mW/g

Fig. 39 Right Hand Touch Cheek 1900MHz CH661

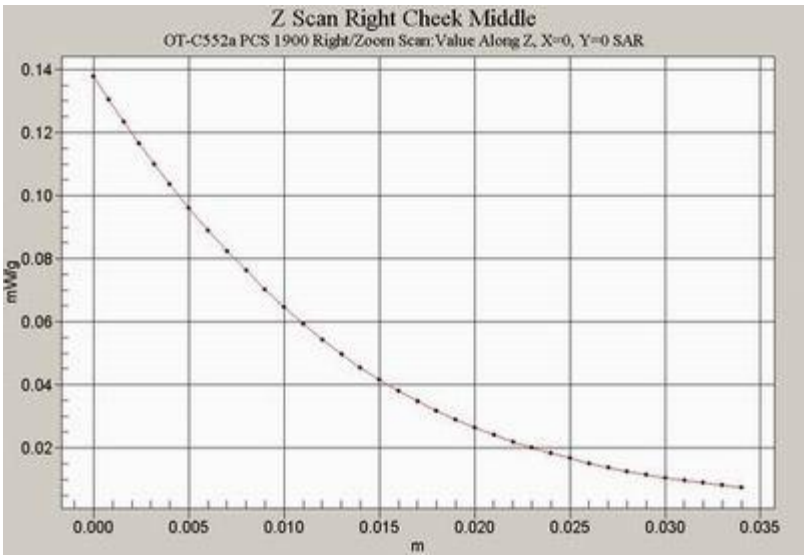


Fig. 40 Z-Scan at power reference point (Right Hand Touch Cheek 1900MHz CH661)

Alcatel OT-C552a PCS 1900 Right Cheek High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

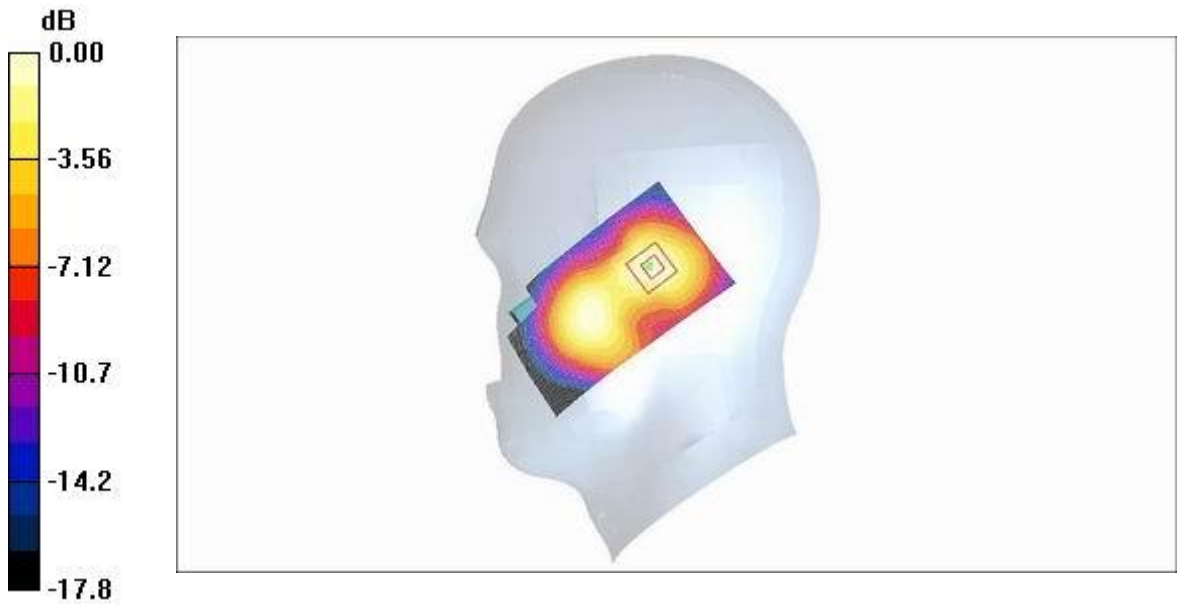
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a PCS 1900 Right Cheek H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.378 mW/g

Alcatel OT-C552a PCS 1900 Right Cheek H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.494 W/kg
SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.190 mW/g

Maximum value of SAR (measured) = 0.361 mW/g



0 dB = 0.361mW/g

Fig. 41 Right Hand Touch Cheek 1900MHz CH810

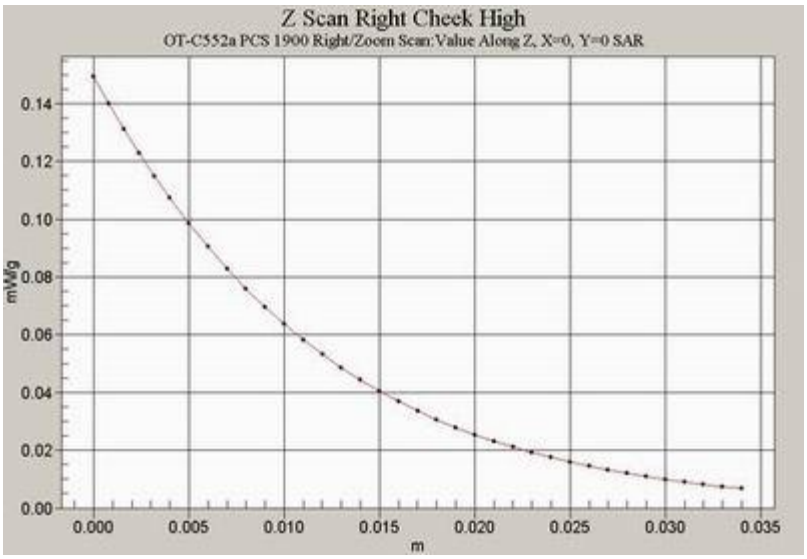


Fig. 42 Z-Scan at power reference point (Right Hand Touch Cheek 1900MHz CH810)

Alcatel OT-C552a PCS 1900 Right Tilt Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

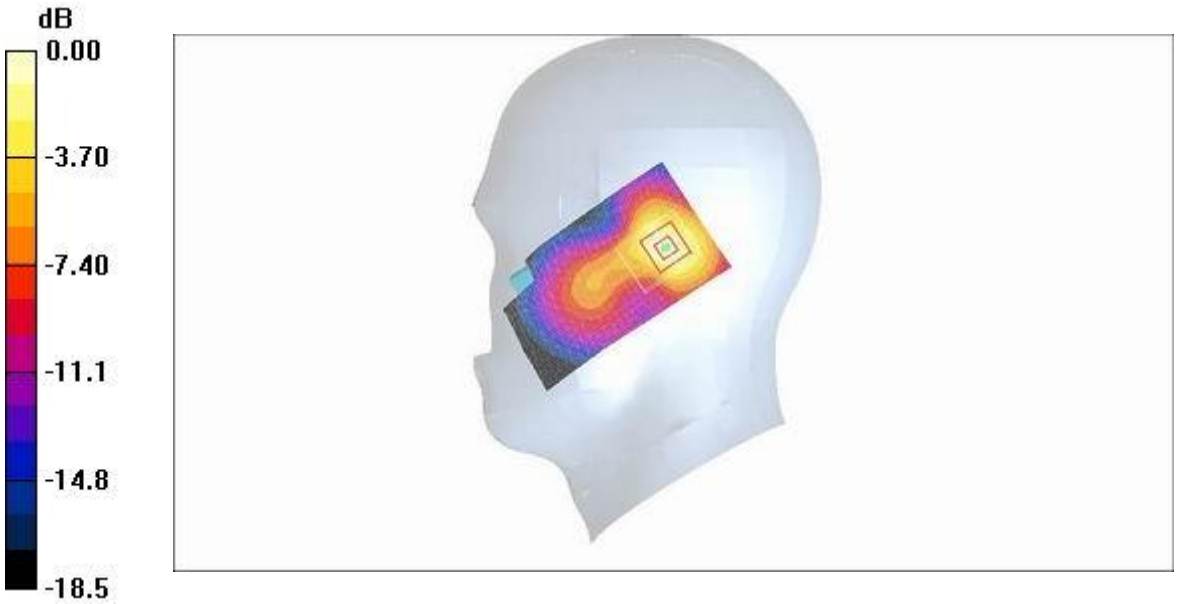
Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a PCS 1900 Right Tilt L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.363 mW/g

Alcatel OT-C552a PCS 1900 Right Tilt L/Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.1 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.525 W/kg
SAR(1 g) = 0.325 mW/g; SAR(10 g) = 0.178 mW/g

Maximum value of SAR (measured) = 0.369 mW/g



0 dB = 0.369mW/g

Fig. 43 Right Hand Tilt 15° 1900MHz CH512

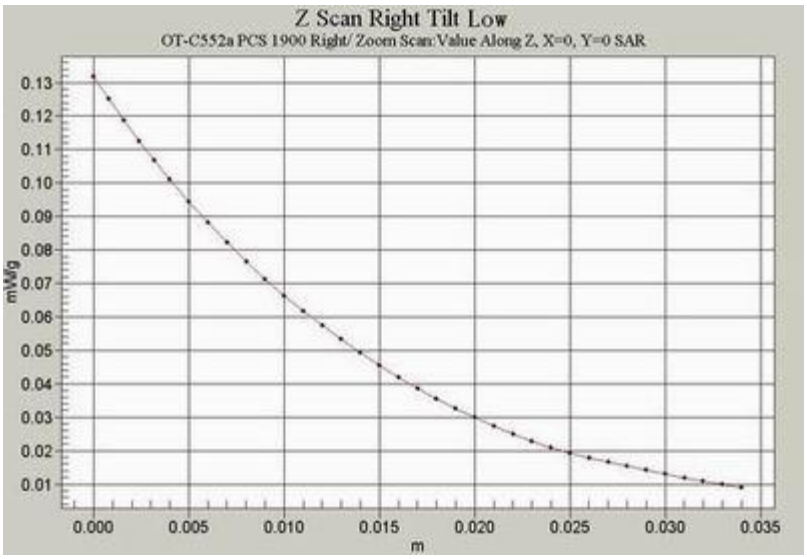


Fig. 44 Z-Scan at power reference point (Right Hand Tilt 15° 1900MHz CH512)

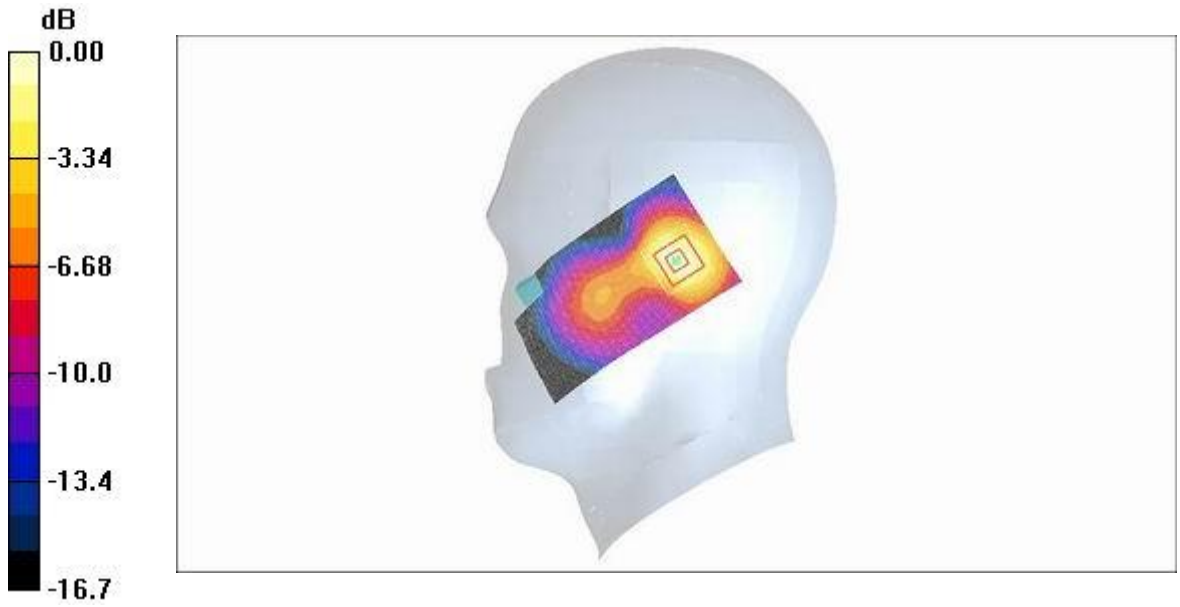
Alcatel OT-C552a PCS 1900 Right Tilt Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a PCS 1900 Right Tilt M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.299 mW/g

Alcatel OT-C552a PCS 1900 Right Tilt M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.426 W/kg
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.147 mW/g
Maximum value of SAR (measured) = 0.299 mW/g



0 dB = 0.299mW/g

Fig. 45 Right Hand Tilt 15° 1900MHz CH661

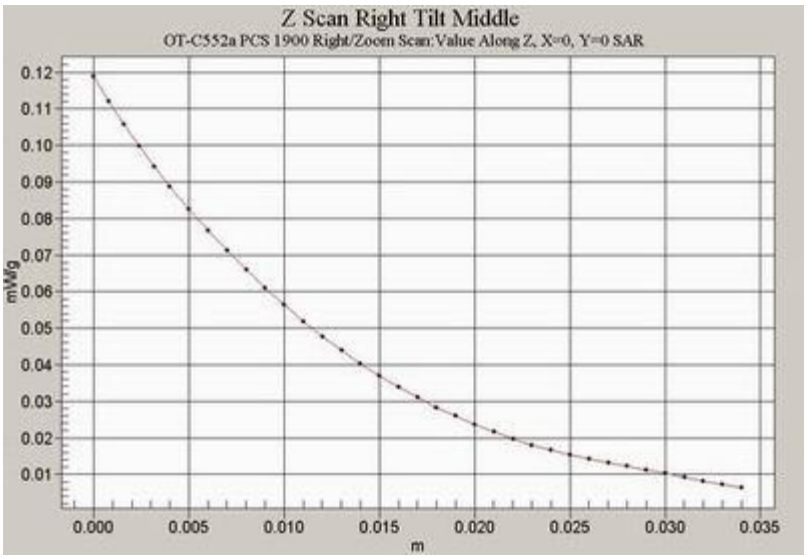


Fig. 46 Z-Scan at power reference point (Right Hand Tilt 15° 1900MHz CH661)

Alcatel OT-C552a PCS 1900 Right Tilt High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

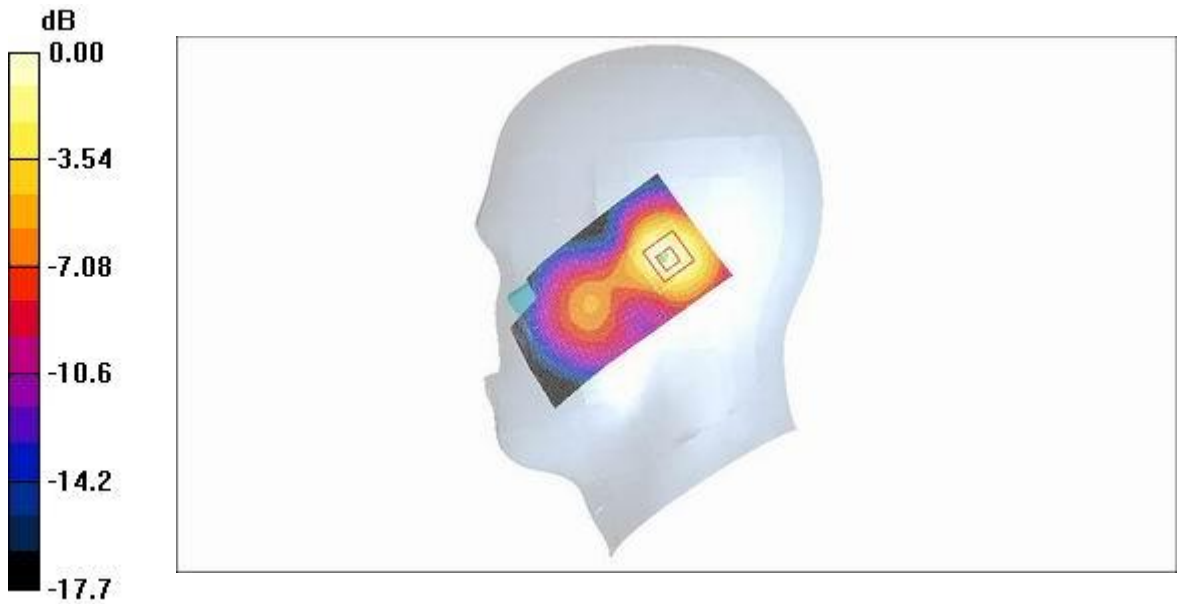
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

Alcatel OT-C552a PCS 1900 Right Tilt H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.277 mW/g

Alcatel OT-C552a PCS 1900 Right Tilt H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.387 W/kg
SAR(1 g) = 0.243 mW/g; SAR(10 g) = 0.136 mW/g

Maximum value of SAR (measured) = 0.271 mW/g



0 dB = 0.271mW/g

Fig. 47 Right Hand Tilt 15° 1900MHz CH810

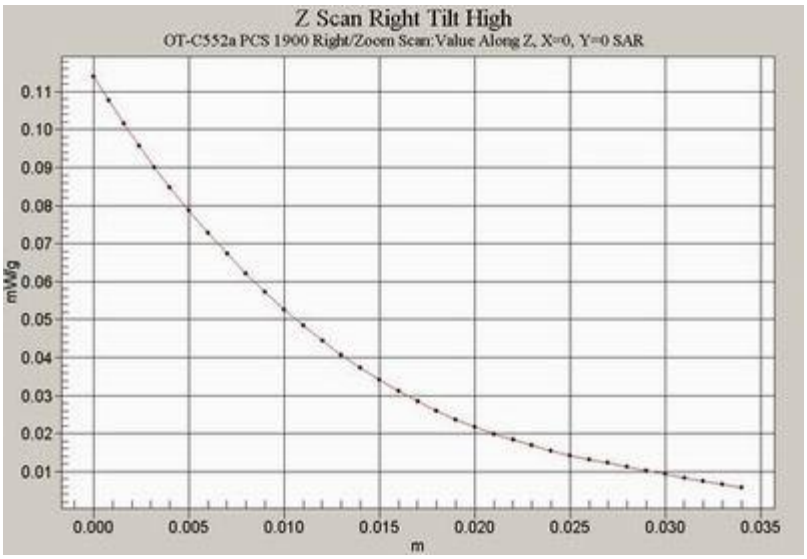


Fig. 48 Z-Scan at power reference point (Right Hand Tilt 15° 1900MHz CH810)

Alcatel OT-C552a GSM 850 toward the phantom Flat Low

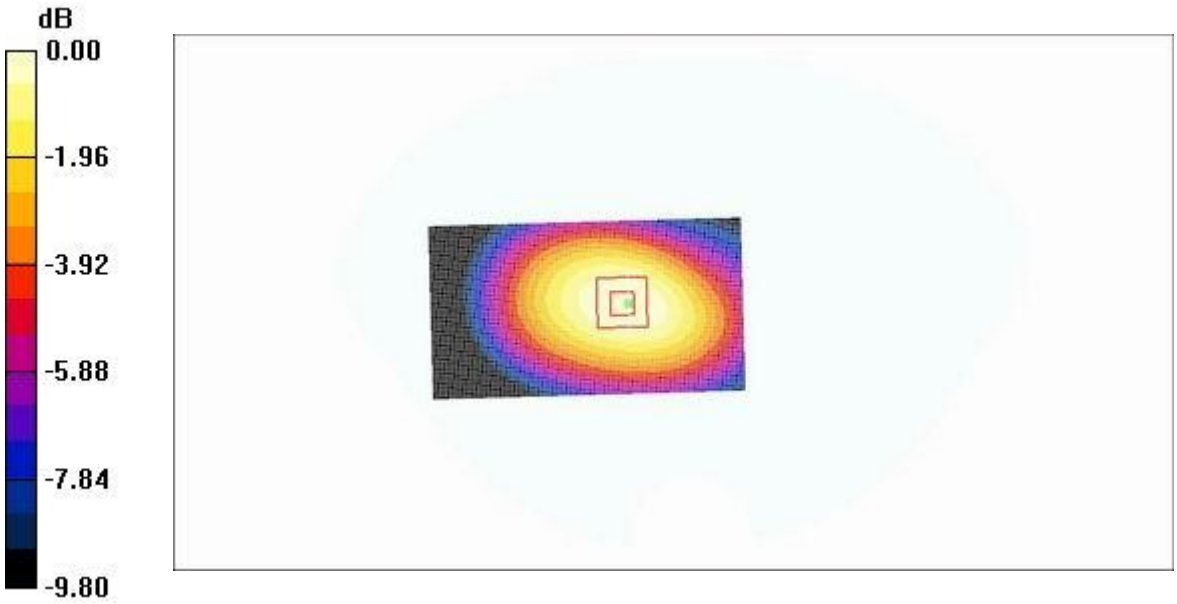
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM 850; Frequency: 869.2 MHz; Duty Cycle: 1:8.3

Medium: Body 850 Medium parameters used (interpolated): f = 869.2 MHz; σ = 1.06 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM 850 Display toward the phantom Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.300 mW/g

Alcatel OT-C552a GSM 850 Display toward the phantom Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.5 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.362 W/kg
SAR(1 g) = 0.278 mW/g; SAR(10 g) = 0.199 mW/g
Maximum value of SAR (measured) = 0.296 mW/g



0 dB = 0.296mW/g

Fig. 49 Flat Phantom Body-worn Position 850MHz CH128 with the display of the handset toward the phantom

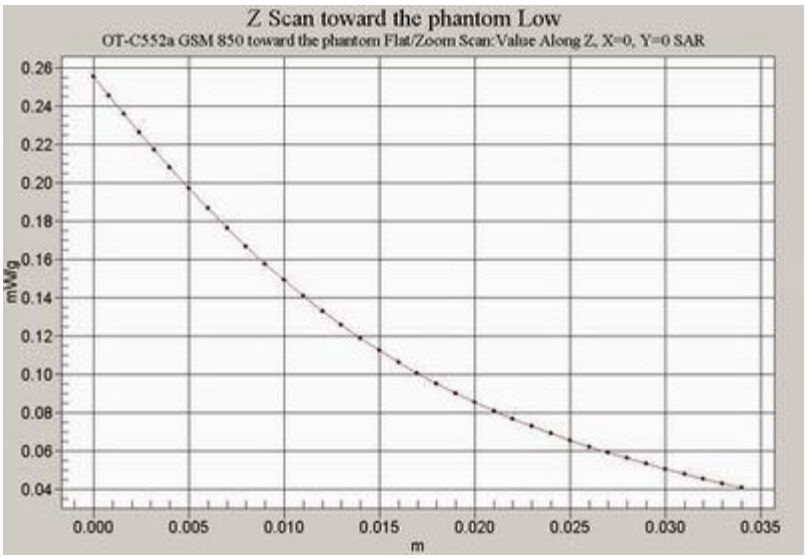


Fig.50 Z-Scan at power reference point (Flat Phantom 850MHz CH128 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM 850 toward the phantom Flat Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

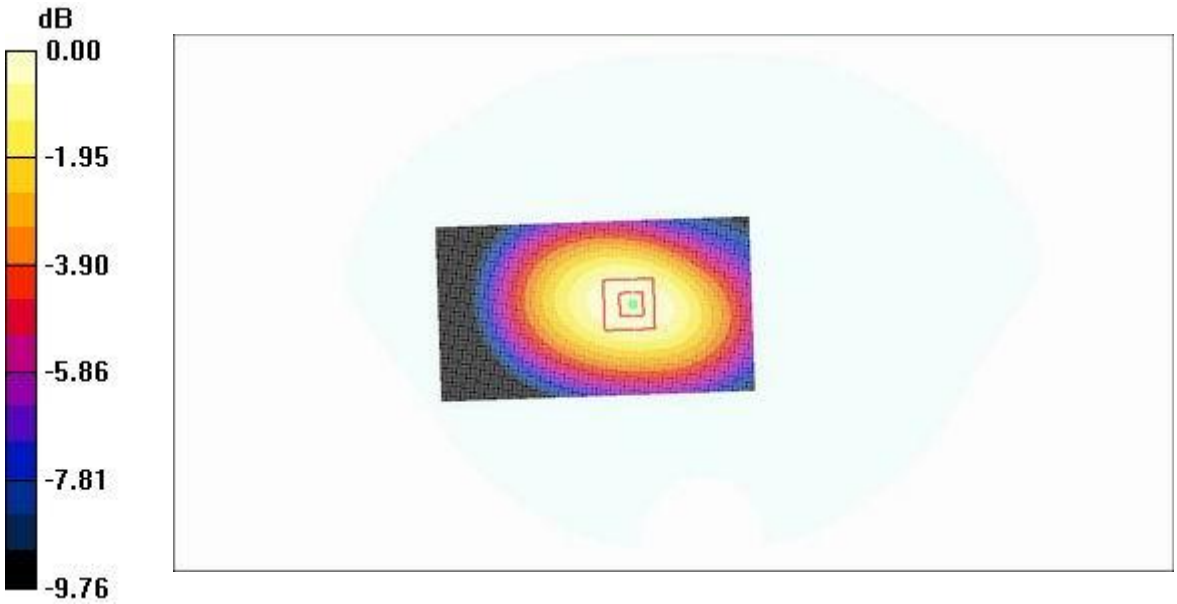
Communication System: GSM 850; Frequency: 881.6 MHz; Duty Cycle: 1:8.3
Medium: Body 850 Medium parameters used (interpolated): f = 881.6 MHz; σ = 1.07 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM 850 Display toward the phantom Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.323 mW/g

Alcatel OT-C552a GSM 850 Display toward the phantom Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.394 W/kg
SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.214 mW/g

Maximum value of SAR (measured) = 0.319 mW/g



0 dB = 0.319mW/g

Fig. 51 Flat Phantom Body-worn Position 850MHz CH190 with the display of the handset toward the phantom

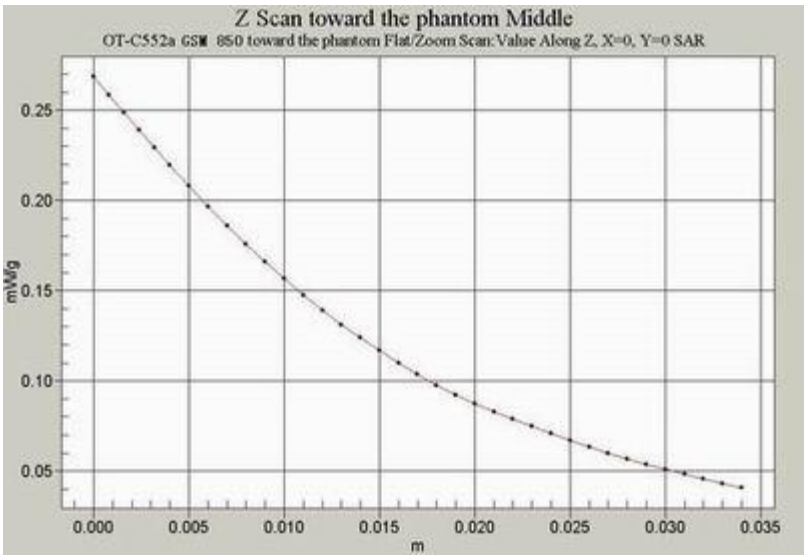


Fig. 52 Z-Scan at power reference point (Flat Phantom 850MHz CH190 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM 850 toward the phantom Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

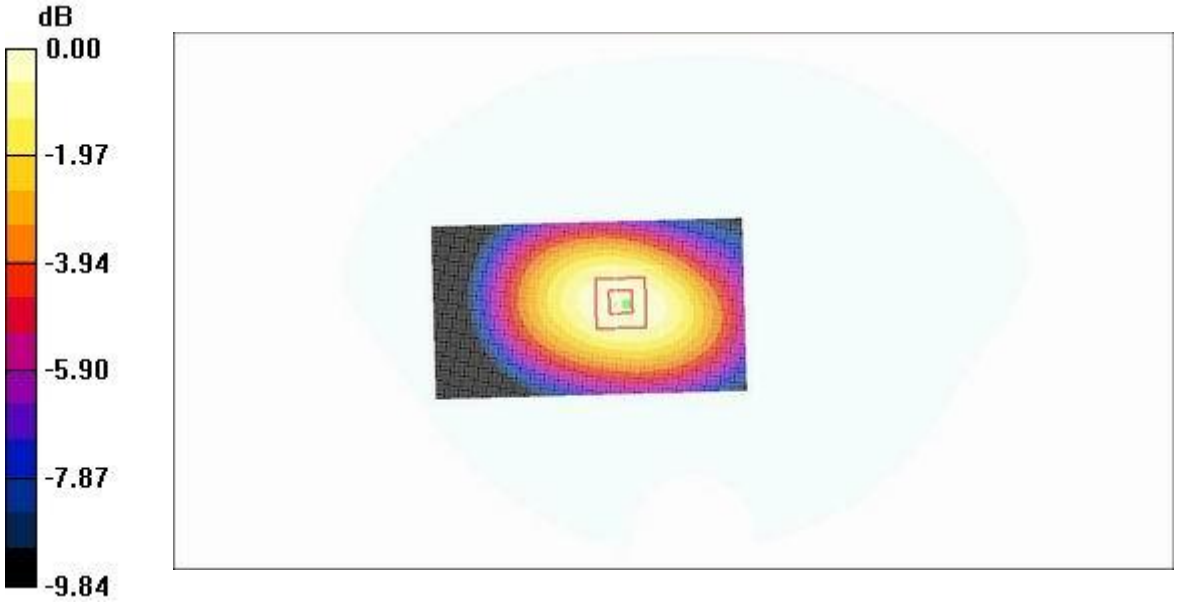
Communication System: GSM 850; Frequency: 893.8 MHz; Duty Cycle: 1:8.3
Medium: Body 850 Medium parameters used (interpolated): f = 893.8 MHz; σ = 1.08 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM 850 Display toward the phantom Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.244 mW/g

Alcatel OT-C552a GSM 850 Display toward the phantom Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = -0.070 dB
Peak SAR (extrapolated) = 0.293 W/kg
SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.161 mW/g

Maximum value of SAR (measured) = 0.239 mW/g



0 dB = 0.239mW/g

Fig. 53 Flat Phantom Body-worn Position 850MHz CH251 with the display of the handset toward the phantom

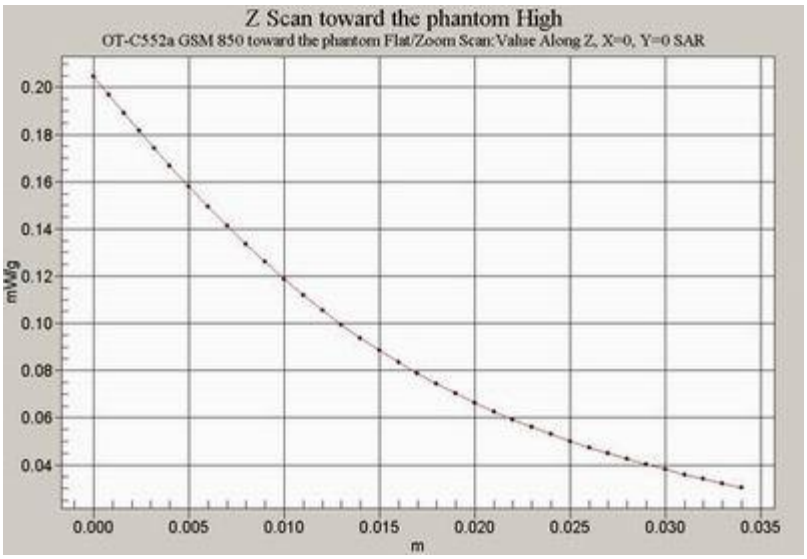


Fig. 54 Z-Scan at power reference point (Flat Phantom 850MHz CH251 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM 850 toward the ground Flat Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

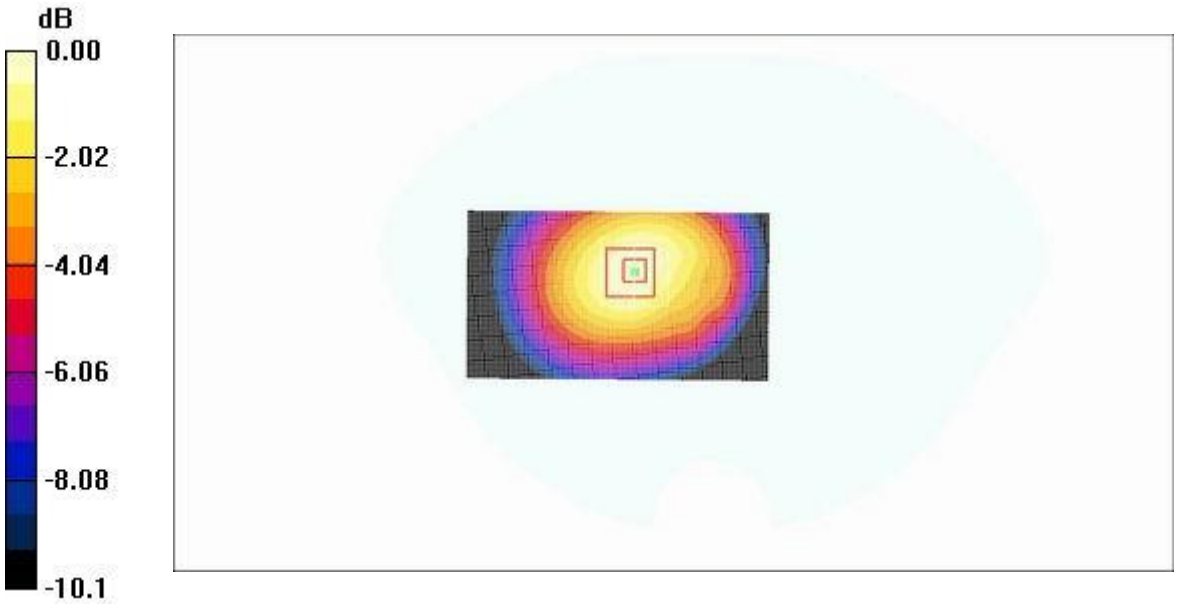
Communication System: GSM 850; Frequency: 869.2 MHz; Duty Cycle: 1:8.3
Medium: Body 850 Medium parameters used (interpolated): f = 869.2 MHz; σ = 1.06 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM 850 Display toward the ground Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.691 mW/g

Alcatel OT-C552a GSM 850 Display toward the ground Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.4 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.872 W/kg
SAR(1 g) = 0.644 mW/g; SAR(10 g) = 0.448 mW/g

Maximum value of SAR (measured) = 0.687 mW/g



0 dB = 0.687mW/g

Fig.55 Flat Phantom Body-worn Position 850MHz CH128 with the display of the handset toward the ground

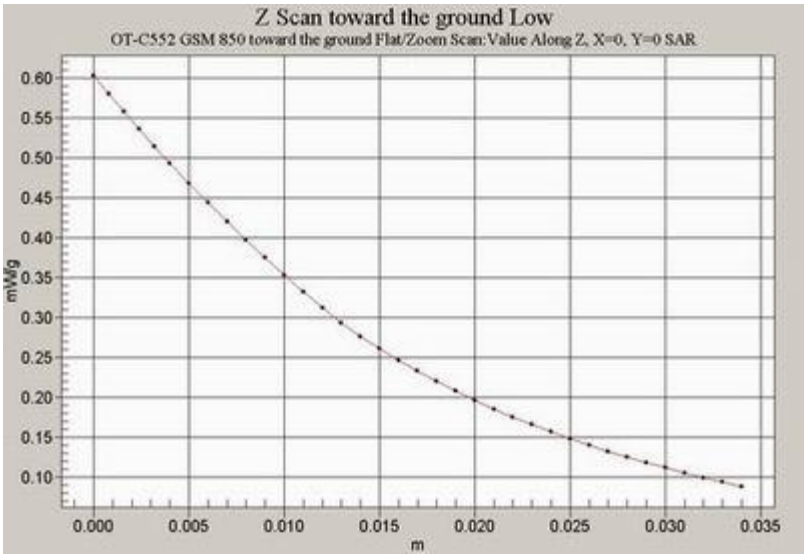


Fig. 56 Z-Scan at power reference point (Flat Phantom 850MHz CH128 with the display of the handset toward the ground)

Alcatel OT-C552a GSM 850 toward the ground Flat Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM 850; Frequency: 881.6 MHz; Duty Cycle: 1:8.3
Medium: Body 850 Medium parameters used (interpolated): f = 881.6 MHz; σ = 1.07 mho/m;

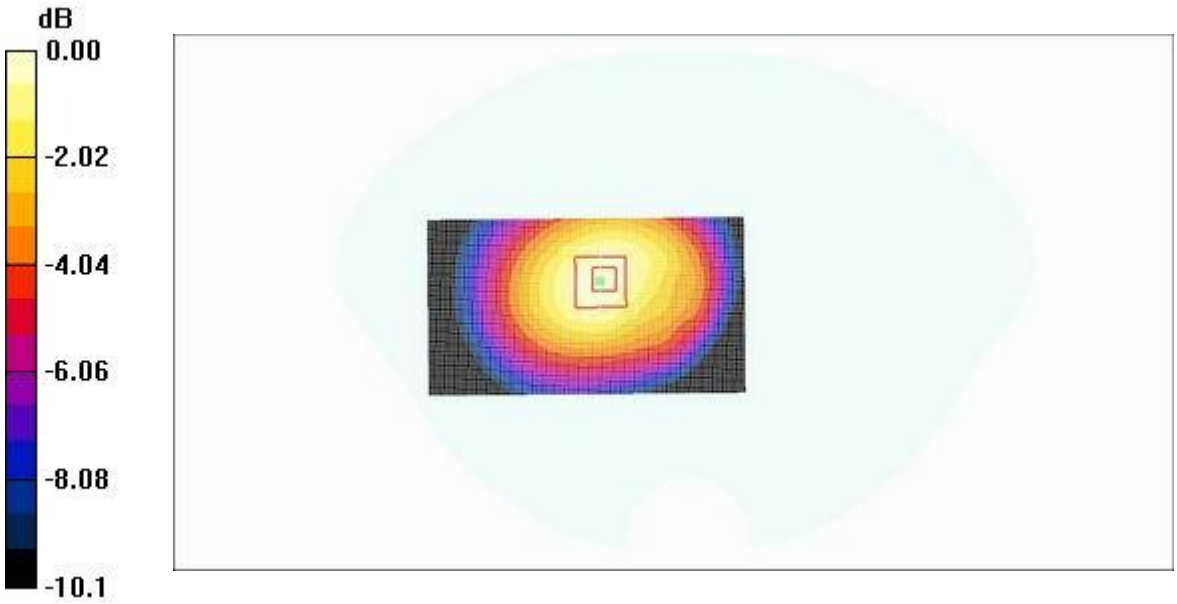
ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM 850 Display toward the ground Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.591 mW/g

Alcatel OT-C552a GSM 850 Display toward the ground Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.0 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.747 W/kg
SAR(1 g) = 0.555 mW/g; SAR(10 g) = 0.386 mW/g

Maximum value of SAR (measured) = 0.595 mW/g



0 dB = 0.595mW/g

Fig. 57 Flat Phantom Body-worn Position 850MHz CH190 with the display of the handset toward the ground

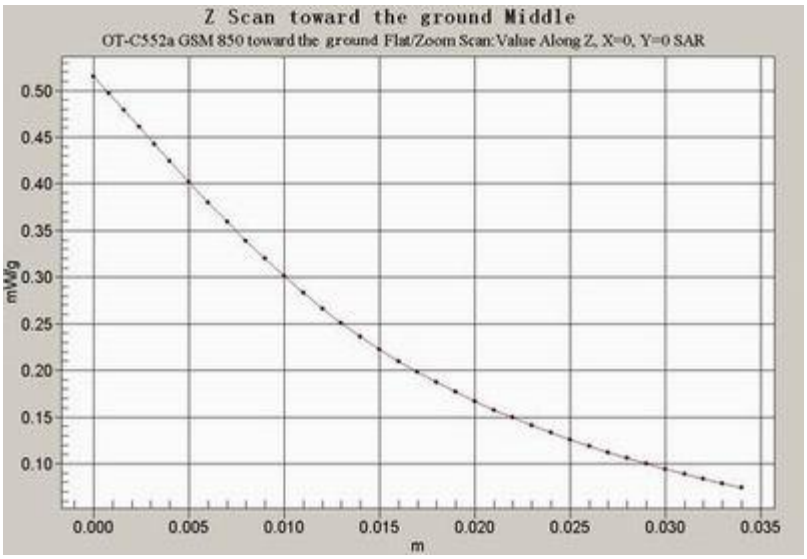


Fig. 58 Z-Scan at power reference point (Flat Phantom 850MHz CH190 with the display of the handset toward the ground)

Alcatel OT-C552a GSM 850 toward the ground Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

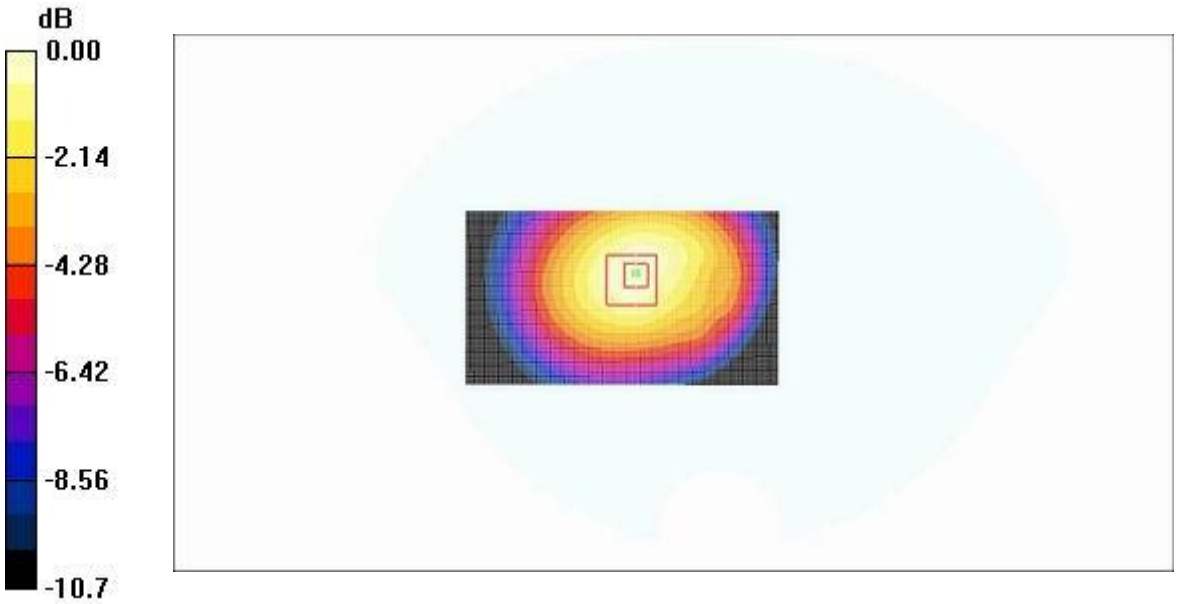
Communication System: GSM 850; Frequency: 893.8 MHz; Duty Cycle: 1:8.3
Medium: Body 850 Medium parameters used (interpolated): f = 893.8 MHz; σ = 1.08 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM 850 Display toward the ground Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.442 mW/g

Alcatel OT-C552a GSM 850 Display toward the ground Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.6 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.571 W/kg
SAR(1 g) = 0.419 mW/g; SAR(10 g) = 0.287 mW/g

Maximum value of SAR (measured) = 0.449 mW/g



0 dB = 0.449mW/g

Fig.59 Flat Phantom Body-worn Position 850MHz CH251 with the display of the handset toward the ground

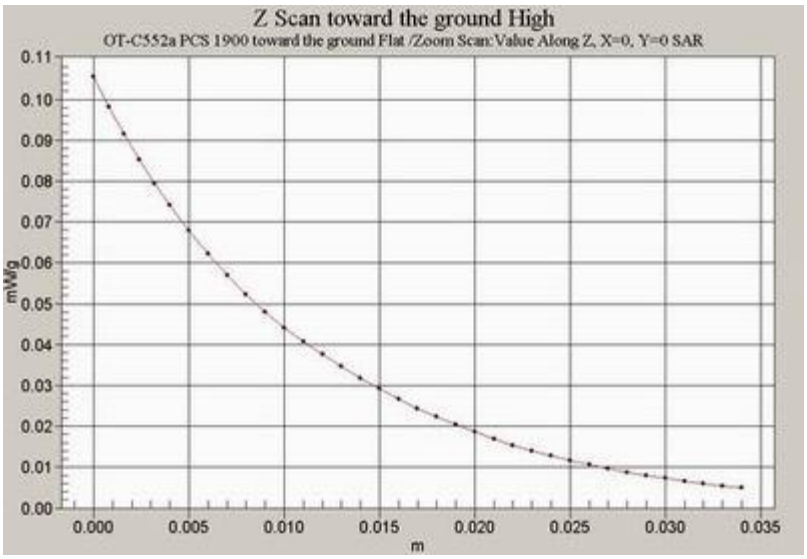


Fig. 60 Z-Scan at power reference point (Flat Phantom 850MHz CH251 with the display of the handset toward the ground)

Alcatel OT-C552a PCS 1900 toward the phantom Flat Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

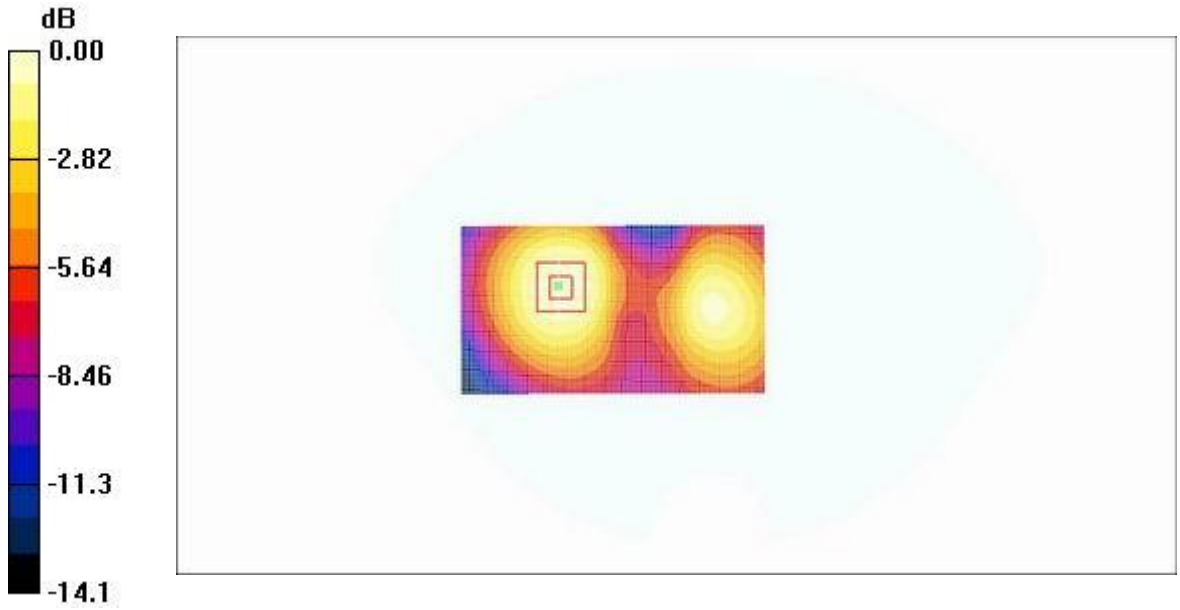
Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; ε_r = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS 1900 Display toward the phantom Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.091 mW/g

Alcatel OT-C552a PCS 1900 Display toward the phantom Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.67 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 0.131 W/kg
SAR(1 g) = 0.084 mW/g; SAR(10 g) = 0.053 mW/g

Maximum value of SAR (measured) = 0.091 mW/g



0 dB = 0.091mW/g

Fig. 61 Flat Phantom Body-worn Position 1900MHz CH512 with the display of the handset toward the phantom

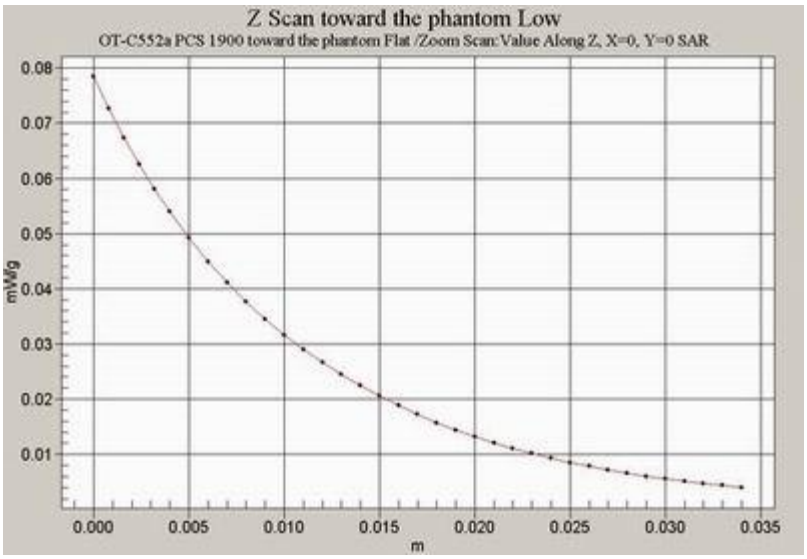


Fig. 62 Z-Scan at power reference point (Flat Phantom 1900MHz CH512 with the display of the handset toward the phantom)

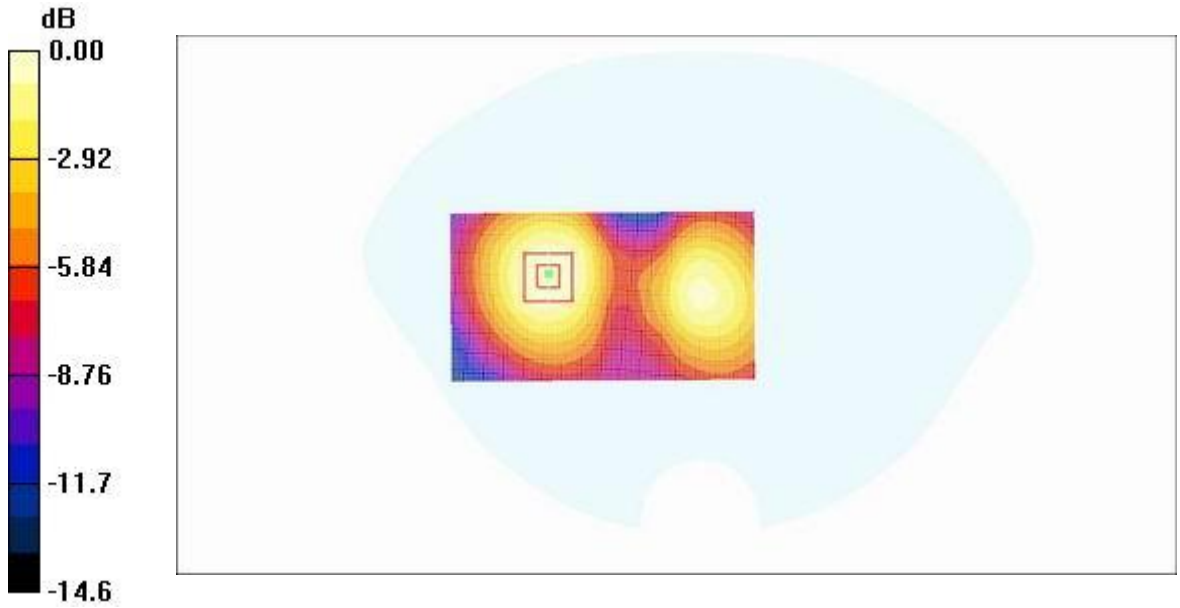
Alcatel OT-C552a PCS 1900 toward the phantom Flat Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Body PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS 1900 Display toward the phantom Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.084 mW/g

Alcatel OT-C552a PCS 1900 Display toward the phantom Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.30 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.125 W/kg
SAR(1 g) = 0.079 mW/g; SAR(10 g) = 0.049 mW/g
Maximum value of SAR (measured) = 0.085 mW/g



0 dB = 0.085mW/g

Fig.63 Flat Phantom Body-worn Position 1900MHz CH661 with the display of the handset toward the phantom

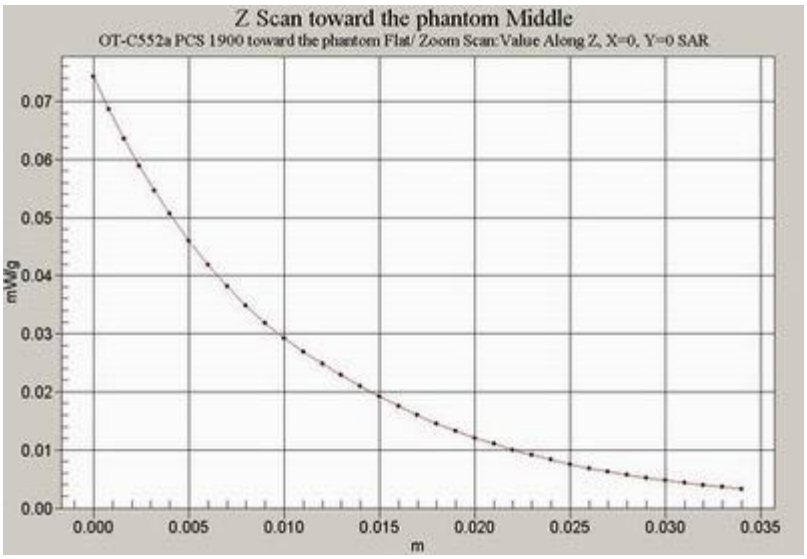


Fig. 64 Z-Scan at power reference point (Flat Phantom 1900MHz CH661 with the display of the handset toward the phantom)

Alcatel OT-C552a PCS 1900 toward the phantom Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

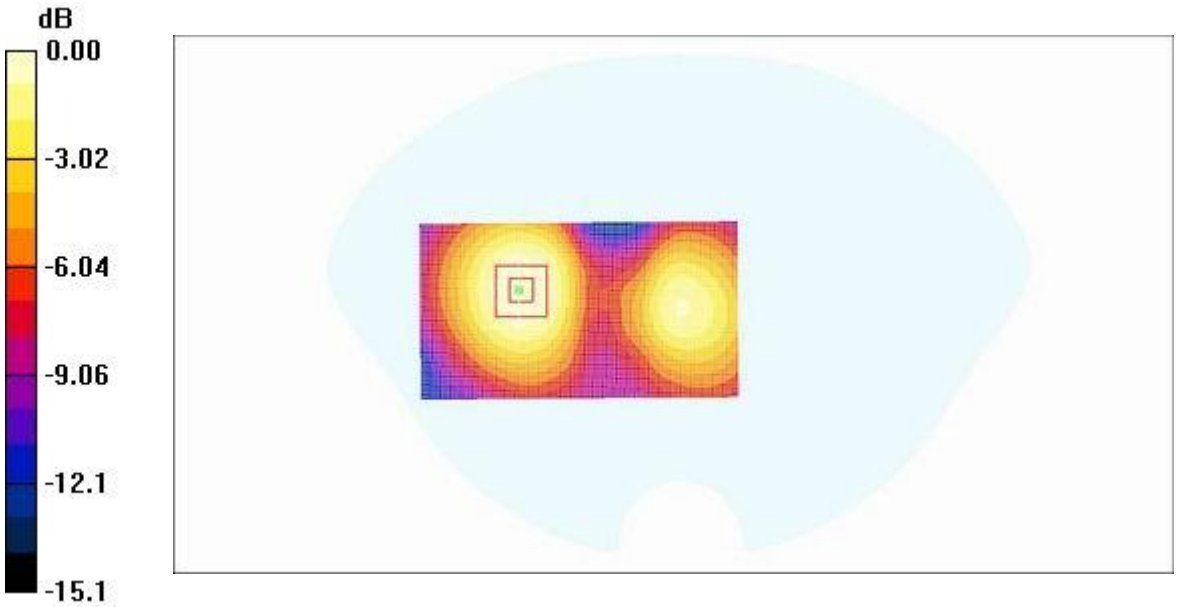
Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.56 mho/m; ε_r = 55.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS 1900 Display toward the phantom Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.081 mW/g

Alcatel OT-C552a PCS 1900 Display toward the phantom Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.74 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.121 W/kg
SAR(1 g) = 0.075 mW/g; SAR(10 g) = 0.046 mW/g

Maximum value of SAR (measured) = 0.080 mW/g



0 dB = 0.080mW/g

Fig. 65 Flat Phantom Body-worn Position 1900MHz CH810 with the display of the handset toward the phantom

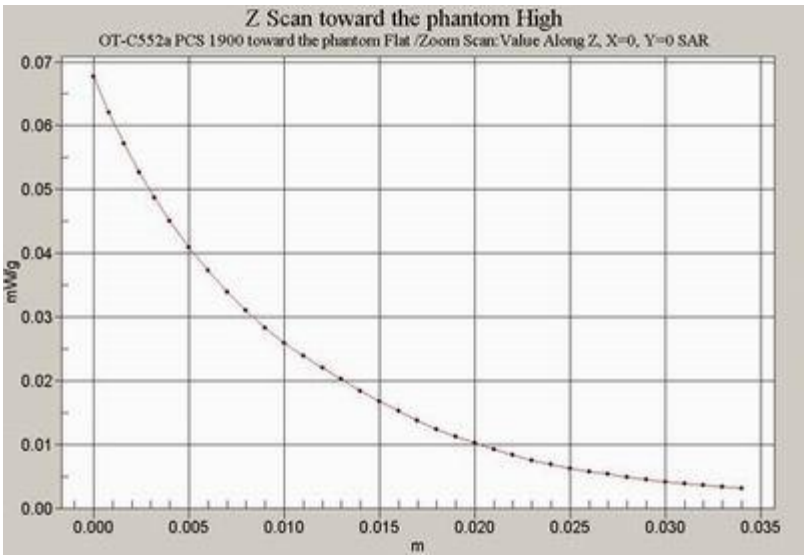


Fig. 66 Z-Scan at power reference point (Flat Phantom 1900MHz CH810 with the display of the handset toward the phantom)

Alcatel OT-C552a PCS 1900 toward the ground Flat Low

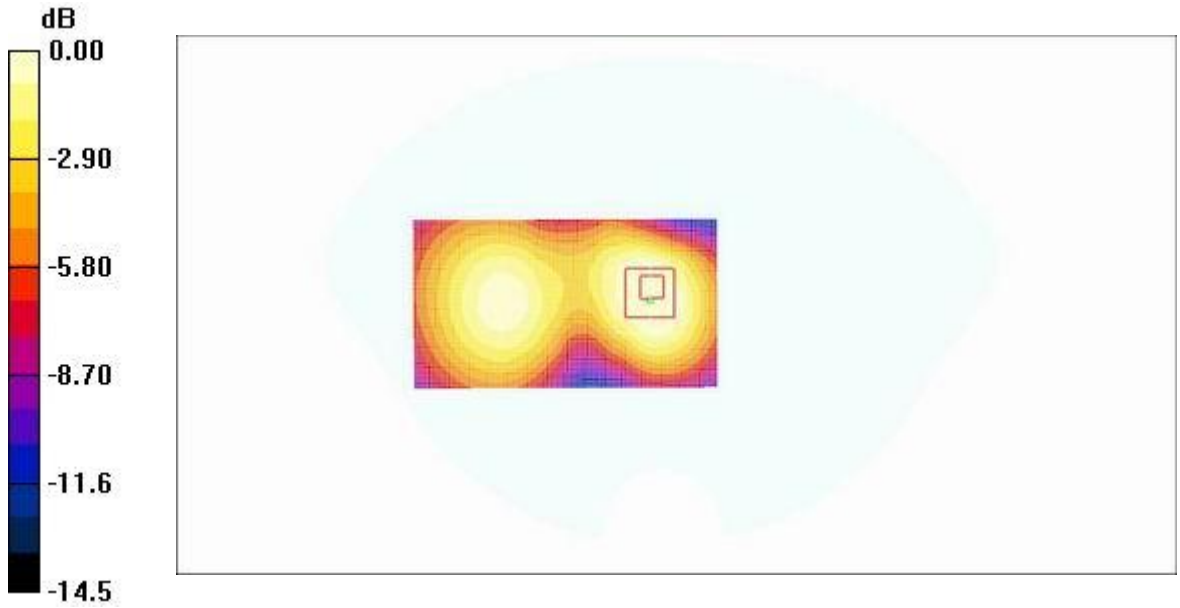
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; ε_r = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS 1900 Display toward the ground Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.203 mW/g

Alcatel OT-C552a PCS 1900 Display toward the ground Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.0 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.314 W/kg
SAR(1 g) = 0.183 mW/g; SAR(10 g) = 0.114 mW/g
Maximum value of SAR (measured) = 0.194 mW/g



0 dB = 0.194mW/g

Fig. 67 Flat Phantom Body-worn Position 1900MHz CH512 with the display of the handset toward the ground

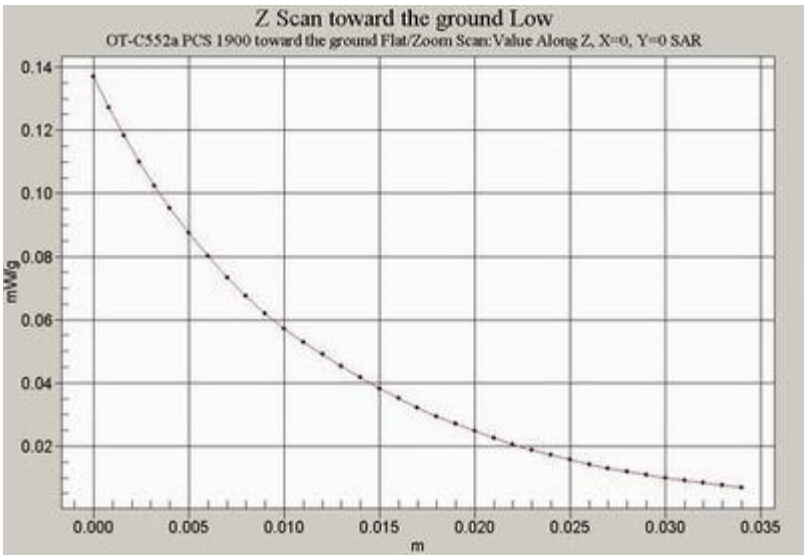


Fig. 68 Z-Scan at power reference point (Flat Phantom 1900MHz CH512 with the display of the handset toward the ground)

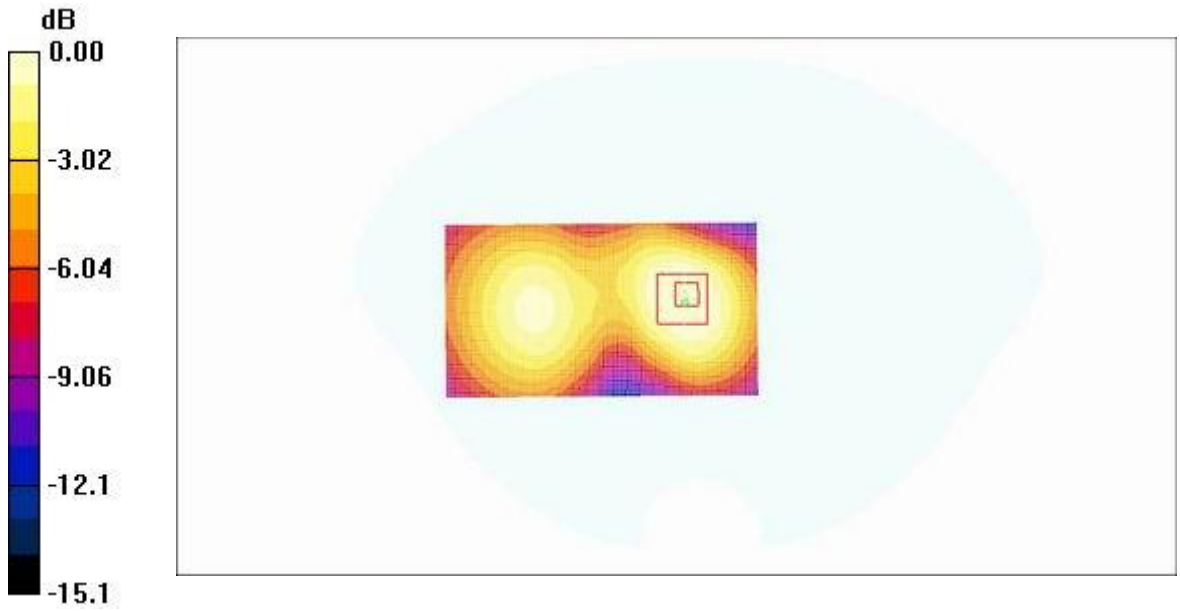
Alcatel OT-C552a PCS 1900 toward the ground Flat Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS 1900 Display toward the ground Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.186 mW/g

Alcatel OT-C552a PCS 1900 Display toward the ground Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.289 W/kg
SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.103 mW/g
Maximum value of SAR (measured) = 0.176 mW/g



0 dB = 0.176mW/g

Fig. 69 Flat Phantom Body-worn Position 1900MHz CH661 with the display of the handset toward the ground

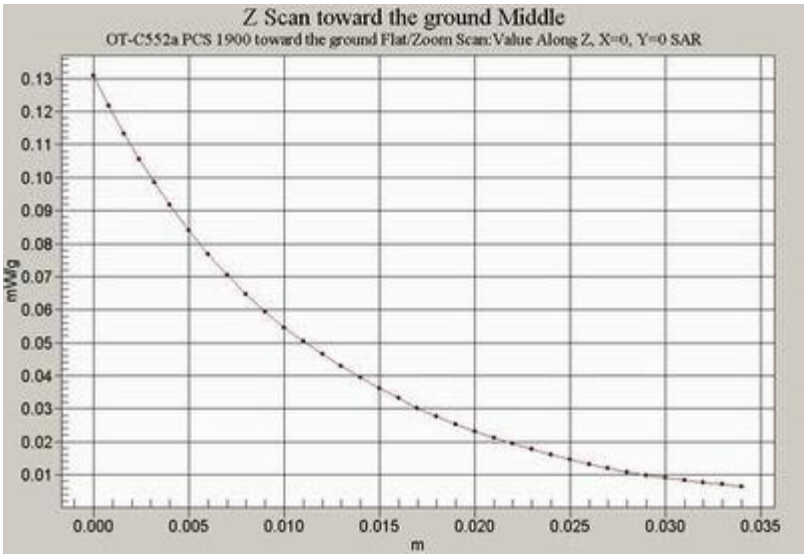


Fig. 70 Z-Scan at power reference point (Flat Phantom 1900MHz CH661 with the display of the handset toward the ground)

Alcatel OT-C552a PCS 1900 toward the ground Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

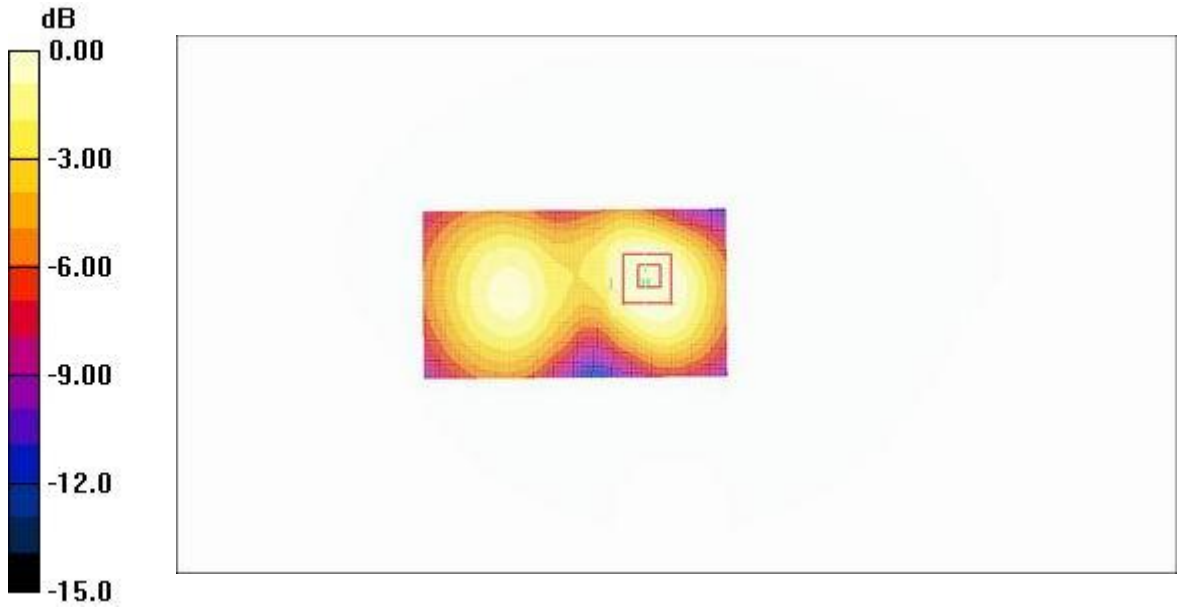
Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.56 mho/m; ε_r = 55.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS 1900 Display toward the ground Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.164 mW/g

Alcatel OT-C552a PCS 1900 Display toward the ground Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = -0.094 dB
Peak SAR (extrapolated) = 0.252 W/kg
SAR(1 g) = 0.146 mW/g; SAR(10 g) = 0.091 mW/g

Maximum value of SAR (measured) = 0.155 mW/g



0 dB = 0.155mW/g

Fig. 71 Flat Phantom Body-worn Position 1900MHz CH810 with the display of the handset toward the ground

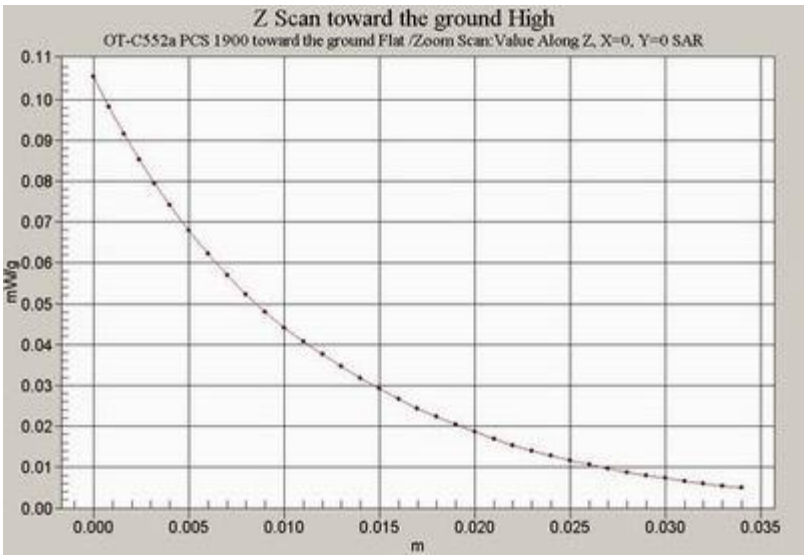


Fig. 72 Z-Scan at power reference point (Flat Phantom 1900MHz CH810 with the display of the handset toward the ground)

Alcatel OT-C552a GSM+GPRS 850 toward the phantom Flat Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

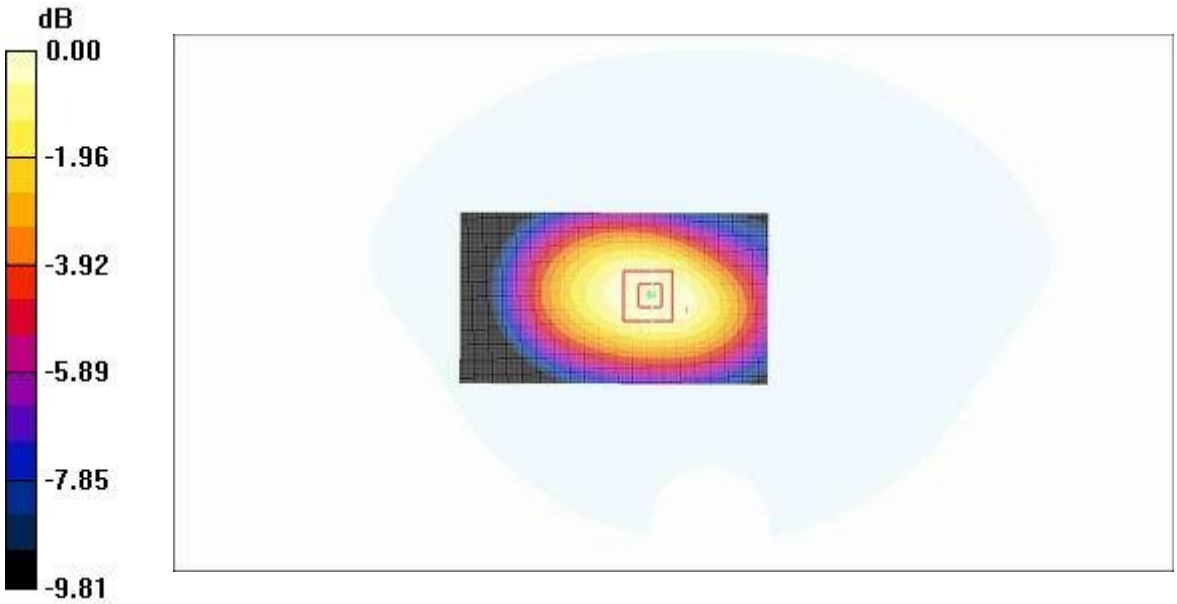
Communication System: GSM+GPRS 850; Frequency: 869.2 MHz; Duty Cycle: 1:4
Medium: Body 850 Medium parameters used (interpolated): f = 869.2 MHz; σ = 1.06 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Display toward the phantom Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.621 mW/g

Alcatel OT-C552a GSM+GPRS 850 Display toward the phantom Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.6 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 0.729 W/kg
SAR(1 g) = 0.564 mW/g; SAR(10 g) = 0.403 mW/g

Maximum value of SAR (measured) = 0.602 mW/g



0 dB = 0.602mW/g

Fig.73 Flat Phantom Body-worn Position 850MHz GPRS CH128 with the display of the handset toward the phantom

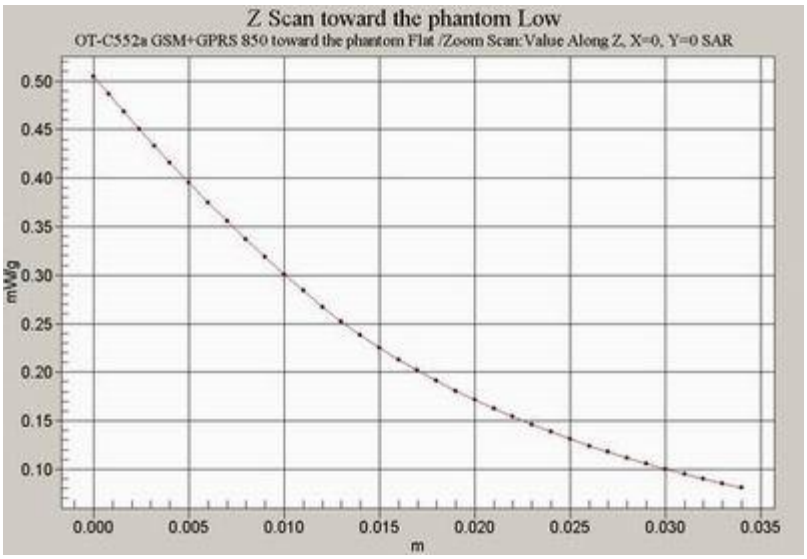


Fig. 74 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH128 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM+GPRS 850 toward the phantom Flat Middle

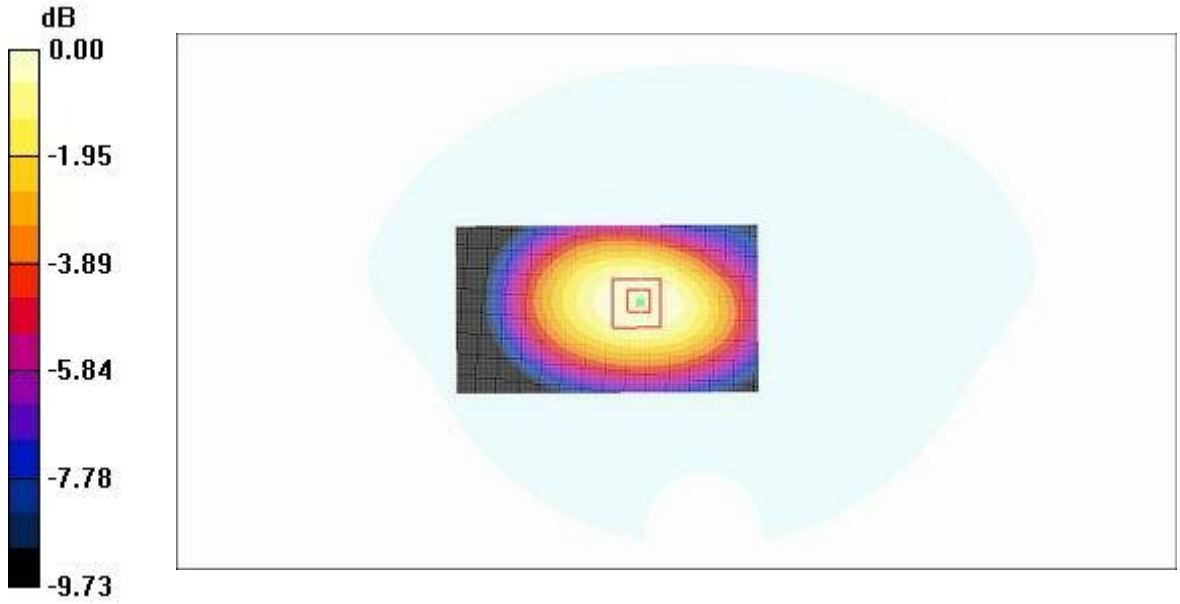
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM+GPRS 850; Frequency: 881.6 MHz; Duty Cycle: 1:4
Medium: Body 850 Medium parameters used (interpolated): f = 881.6 MHz; σ = 1.07 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Display toward the phantom Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.641 mW/g

Alcatel OT-C552a GSM+GPRS 850 Display toward the phantom Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.0 V/m; Power Drift = -0.128 dB
Peak SAR (extrapolated) = 0.758 W/kg
SAR(1 g) = 0.582 mW/g; SAR(10 g) = 0.416 mW/g

Maximum value of SAR (measured) = 0.619 mW/g



0 dB = 0.619mW/g

Fig.75 Flat Phantom Body-worn Position 850MHz GPRS CH190 with the display of the handset toward the phantom

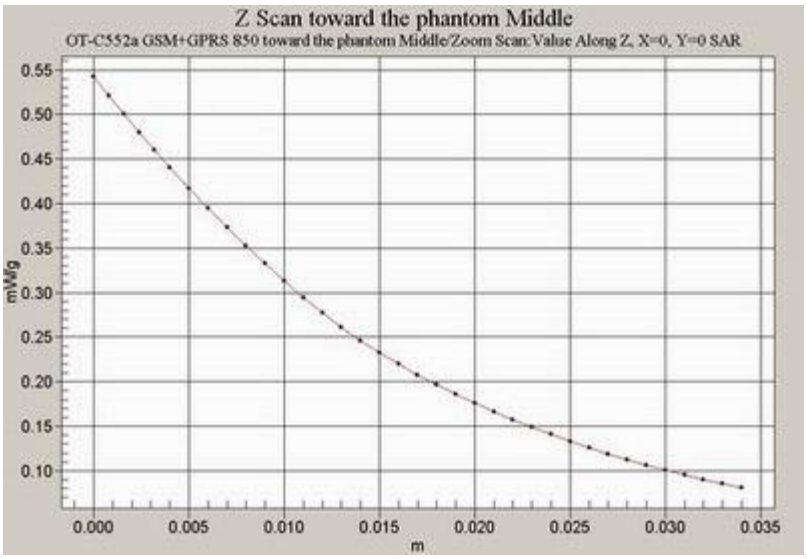


Fig.76 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH190 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM+GPRS 850 toward the phantom Flat High

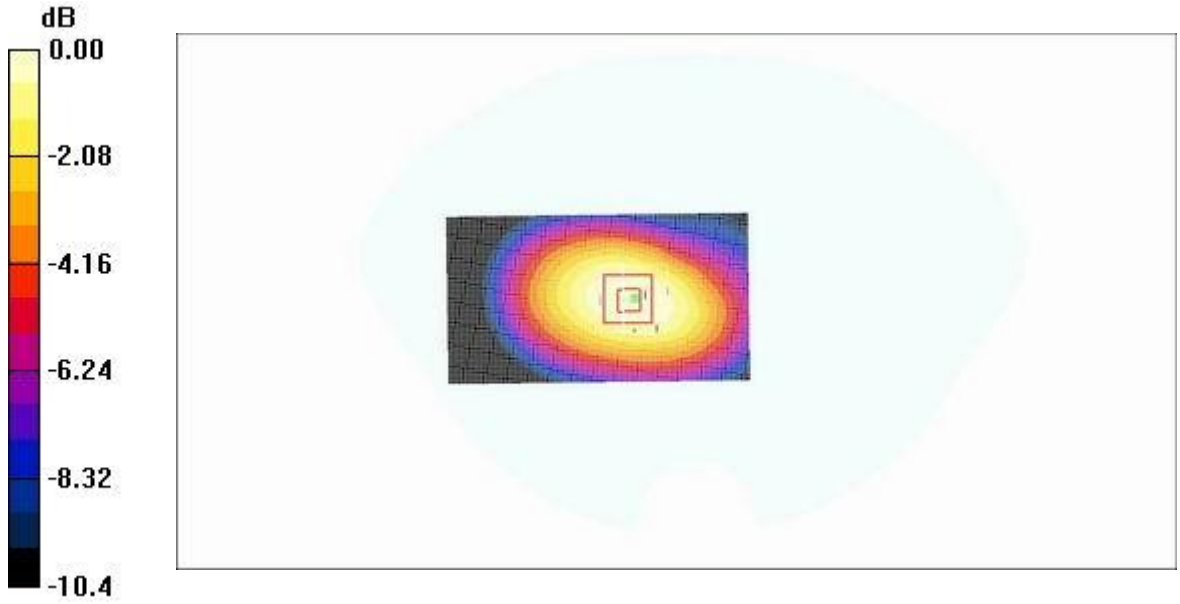
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM+GPRS 850; Frequency: 893.8 MHz; Duty Cycle: 1:4
Medium: Body 850 Medium parameters used (interpolated): f = 893.8 MHz; σ = 1.08 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Display toward the phantom Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.637 mW/g

Alcatel OT-C552a GSM+GPRS 850 Display toward the phantom Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.4 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.749 W/kg
SAR(1 g) = 0.580 mW/g; SAR(10 g) = 0.412 mW/g

Maximum value of SAR (measured) = 0.615 mW/g



0 dB = 0.615mW/g

Fig.77 Flat Phantom Body-worn Position 850MHz GPRS CH251 with the display of the handset toward the phantom

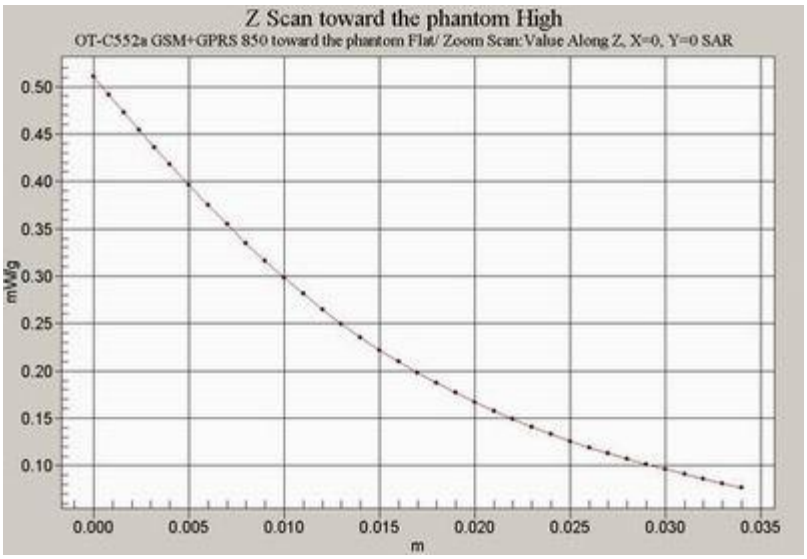


Fig. 78 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH251 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM+GPRS 850 toward the ground Flat Low

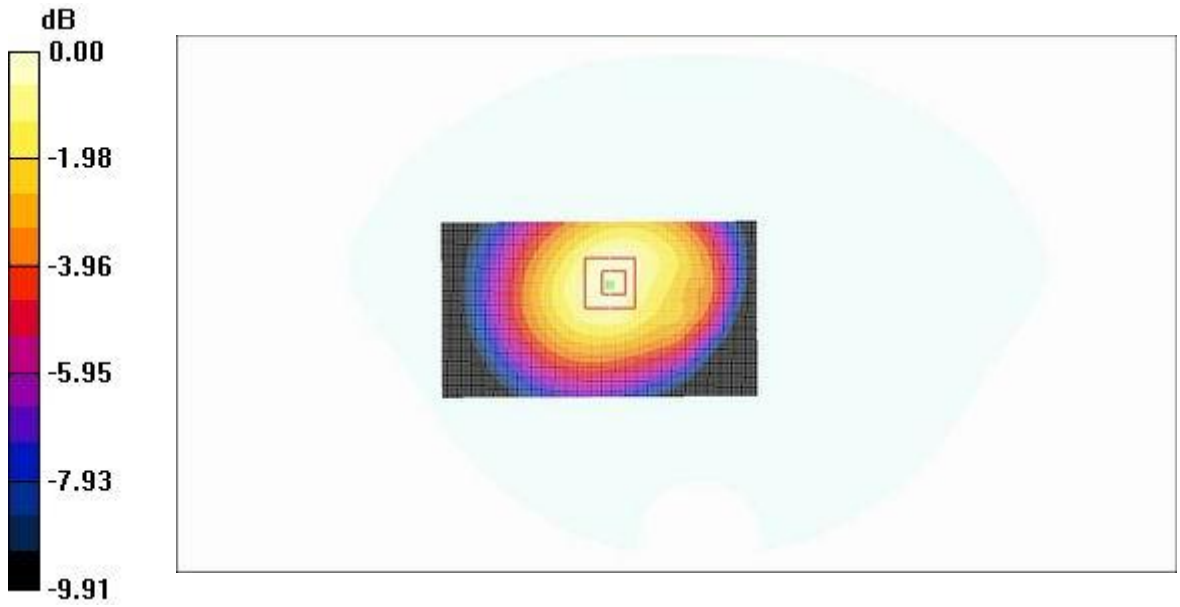
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM+GPRS 850; Frequency: 869.2 MHz; Duty Cycle: 1:4
Medium: Body 850 Medium parameters used (interpolated): f = 869.2 MHz; σ = 1.06 mho/m;

ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Display toward the ground Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.15 mW/g

Alcatel OT-C552a GSM+GPRS 850 Display toward the ground Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.6 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.752 mW/g
Maximum value of SAR (measured) = 1.15 mW/g



0 dB = 1.15mW/g

Fig.79 Flat Phantom Body-worn Position 850MHz GPRS CH128 with the display of the handset toward the ground

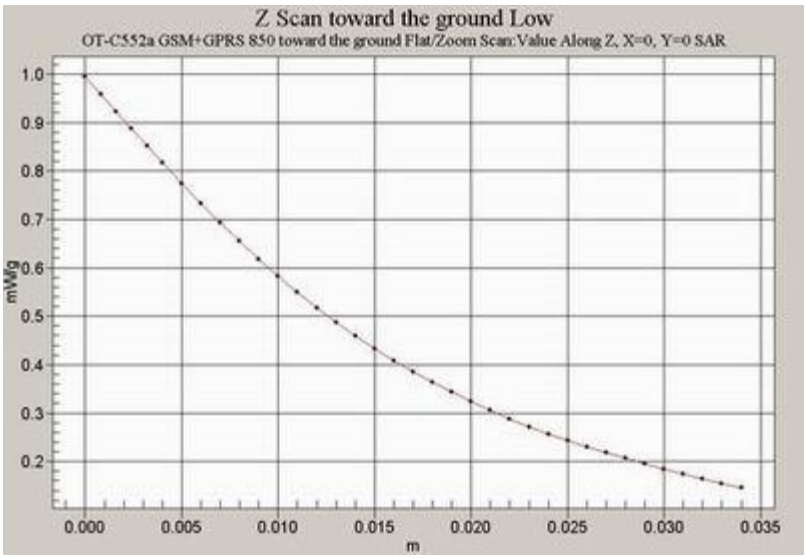


Fig. 80 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH128 with the display of the handset toward the ground)

Alcatel OT-C552a GSM+GPRS 850 toward the ground Flat

Middle

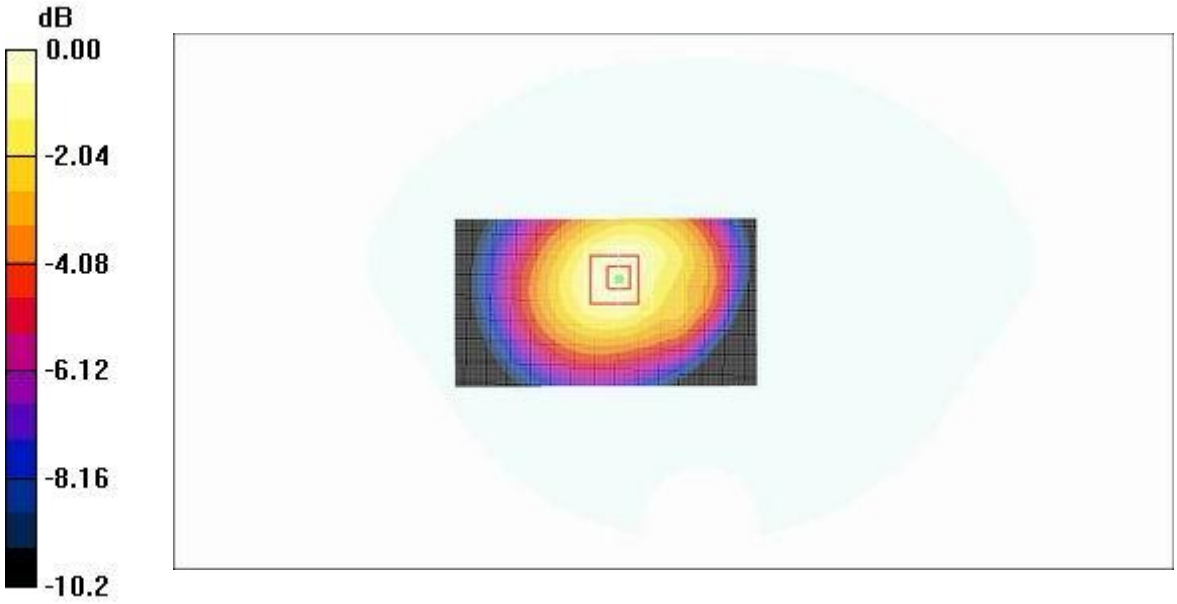
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM+GPRS 850; Frequency: 881.6 MHz; Duty Cycle: 1:4
Medium: Body 850 Medium parameters used (interpolated): f = 881.6 MHz; σ = 1.07 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Display toward the ground Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.05 mW/g

Alcatel OT-C552a GSM+GPRS 850 Display toward the ground Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.0 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.970 mW/g; SAR(10 g) = 0.676 mW/g

Maximum value of SAR (measured) = 1.04 mW/g



0 dB = 1.04mW/g

Fig.81 Flat Phantom Body-worn Position 850MHz GPRS CH190 with the display of the handset toward the ground

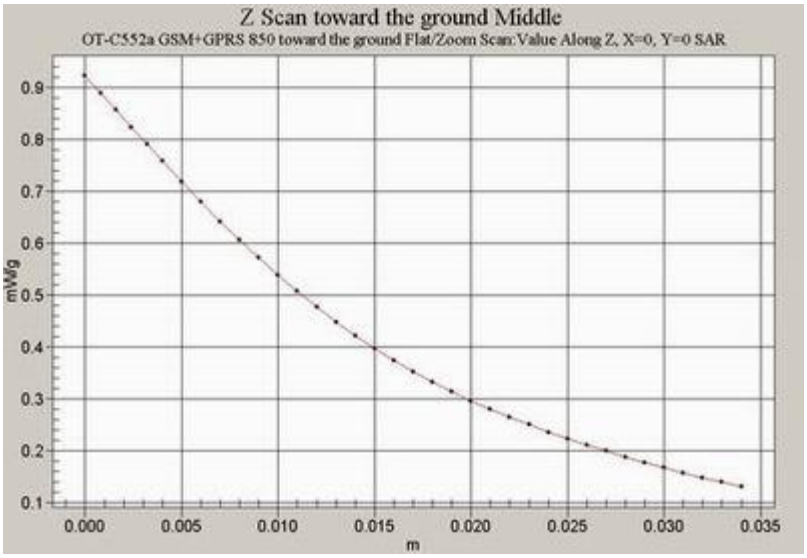


Fig. 82 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH190 with the display of the handset toward the ground)

Alcatel OT-C552a GSM+GPRS 850 toward the ground Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: GSM+GPRS 850; Frequency: 893.8 MHz; Duty Cycle: 1:4
Medium: Body 850 Medium parameters used (interpolated): f = 893.8 MHz; σ = 1.08 mho/m;

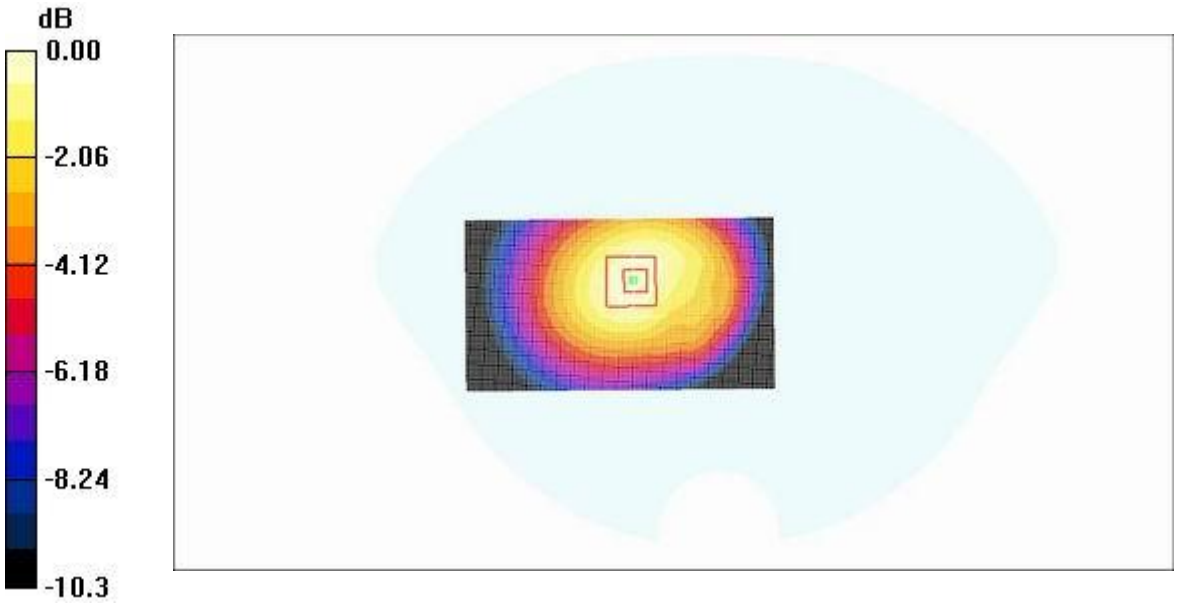
ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Display toward the ground Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.787 mW/g

Alcatel OT-C552a GSM+GPRS 850 Display toward the ground Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.3 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 1.000 W/kg
SAR(1 g) = 0.738 mW/g; SAR(10 g) = 0.511 mW/g

Maximum value of SAR (measured) = 0.791 mW/g



0 dB = 0.791mW/g

Fig.83 Flat Phantom Body-worn Position 850MHz GPRS CH251 with the display of the handset toward the ground

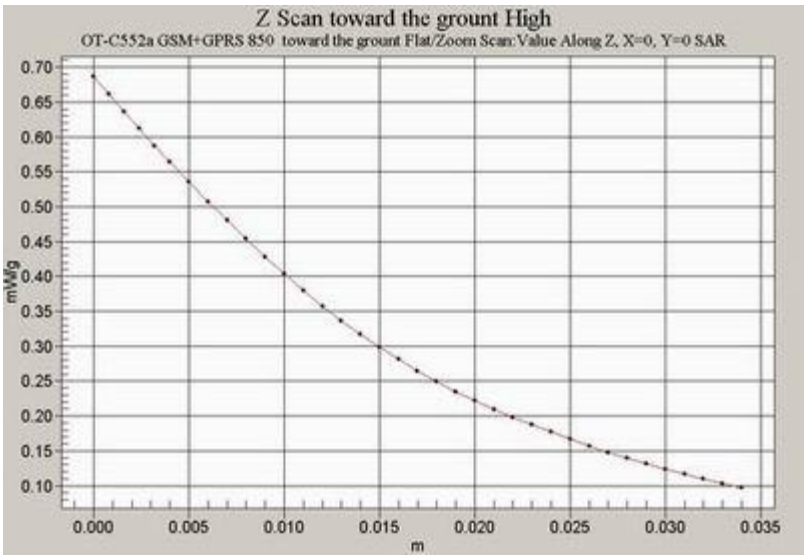


Fig. 84 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH251 with the display of the handset toward the ground)

Alcatel OT-C552a PCS+GPRS 1900 toward the phantom Flat

Low

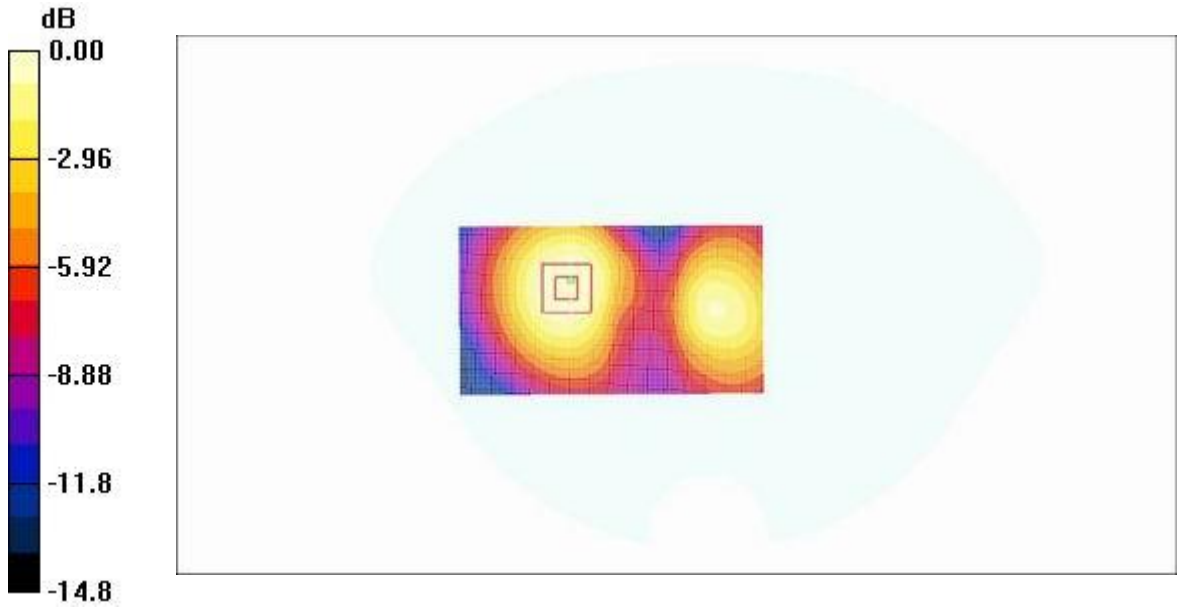
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS+GPRS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4
Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; ε_r = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Display toward the phantom Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.227 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Display toward the phantom Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = -0.178 dB
Peak SAR (extrapolated) = 0.320 W/kg
SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.131 mW/g

Maximum value of SAR (measured) = 0.221 mW/g



0 dB = 0.221mW/g

Fig.85 Flat Phantom Body-worn Position 1900MHz GPRS CH512 with the display of the handset toward the phantom

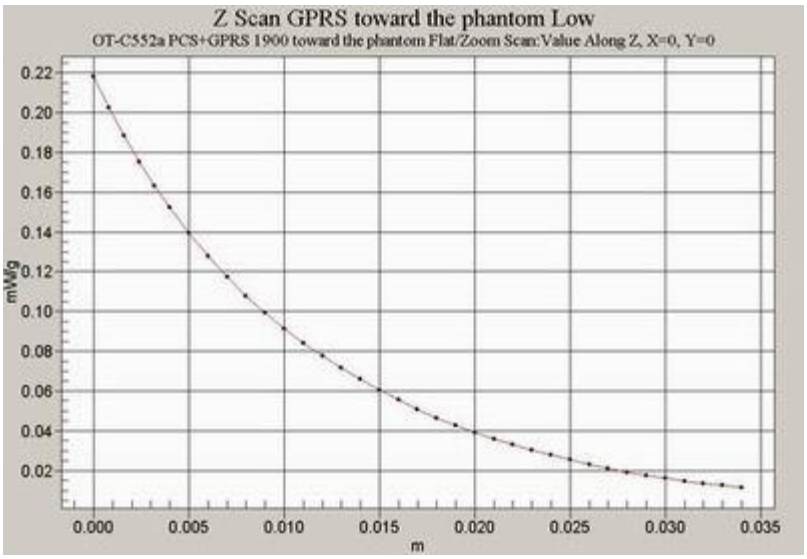


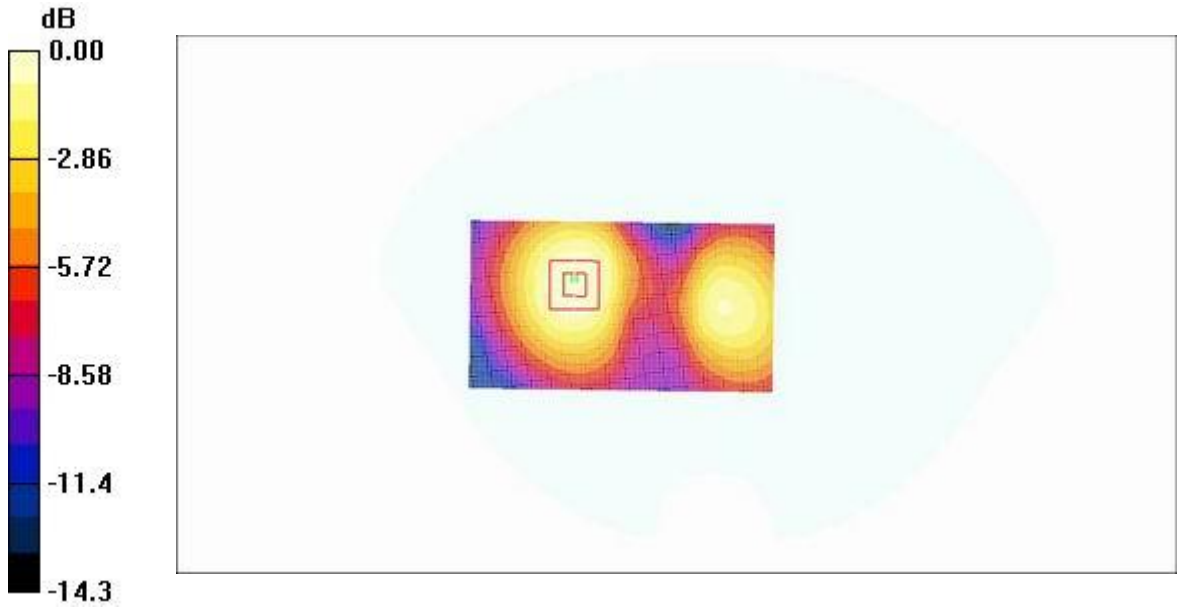
Fig. 86 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH512 with the display of the handset toward the phantom)

Alcatel OT-C552a PCS+GPRS 1900 toward the phantom Flat Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS+GPRS 1900; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: Body PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Display toward the phantom Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.195 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Display toward the phantom Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.282 W/kg
SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.111 mW/g
Maximum value of SAR (measured) = 0.190 mW/g



0 dB = 0.190mW/g

Fig.87 Flat Phantom Body-worn Position 1900MHz GPRS CH661 with the display of the handset toward the phantom

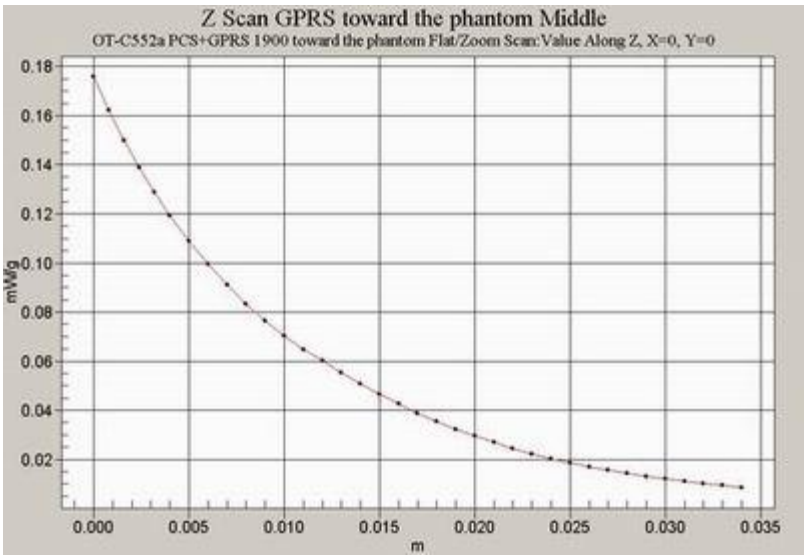


Fig.88 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH661 with the display of the handset toward the phantom)

Alcatel OT-C552a PCS+GPRS 1900 toward the phantom Flat

High

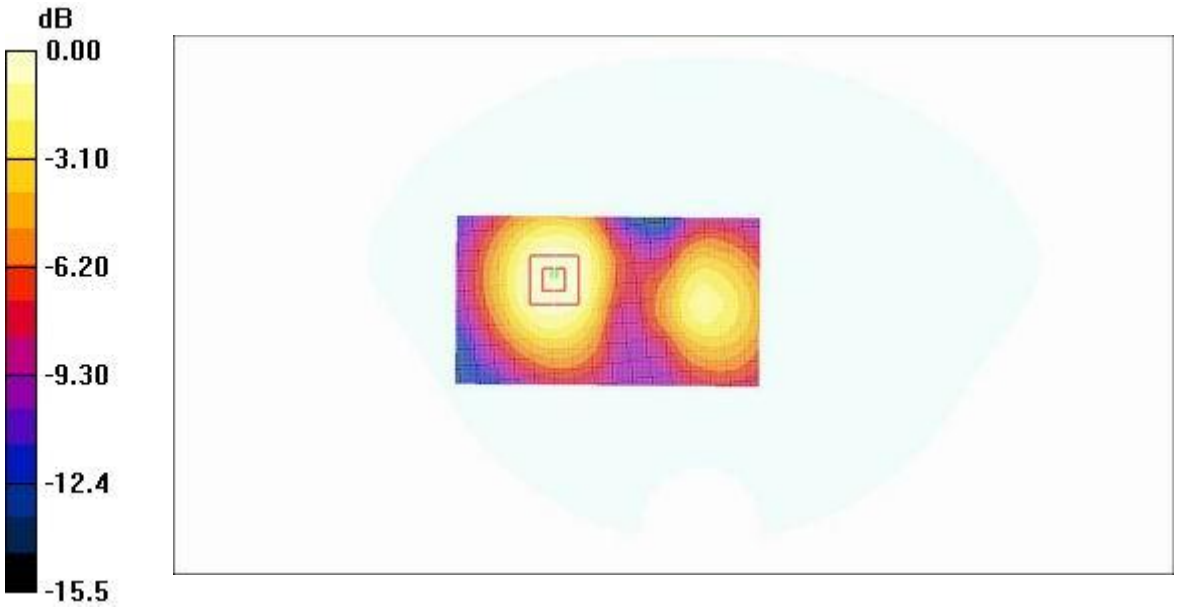
DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS+GPRS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4
Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.56 mho/m; ε_r = 55.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Display toward the phantom Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.212 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Display toward the phantom Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.309 W/kg
SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.118 mW/g

Maximum value of SAR (measured) = 0.206 mW/g



0 dB = 0.206mW/g

Fig.89 Flat Phantom Body-worn Position 1900MHz GPRS CH810 with the display of the handset toward the phantom

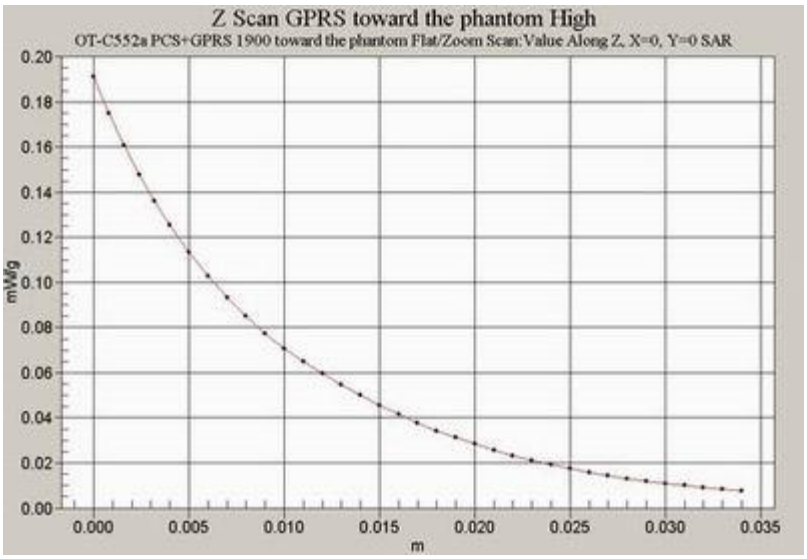


Fig. 90 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH810 with the display of the handset toward the phantom)

Alcatel OT-C552a PCS+GPRS 1900 toward the ground Flat Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS+GPRS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4

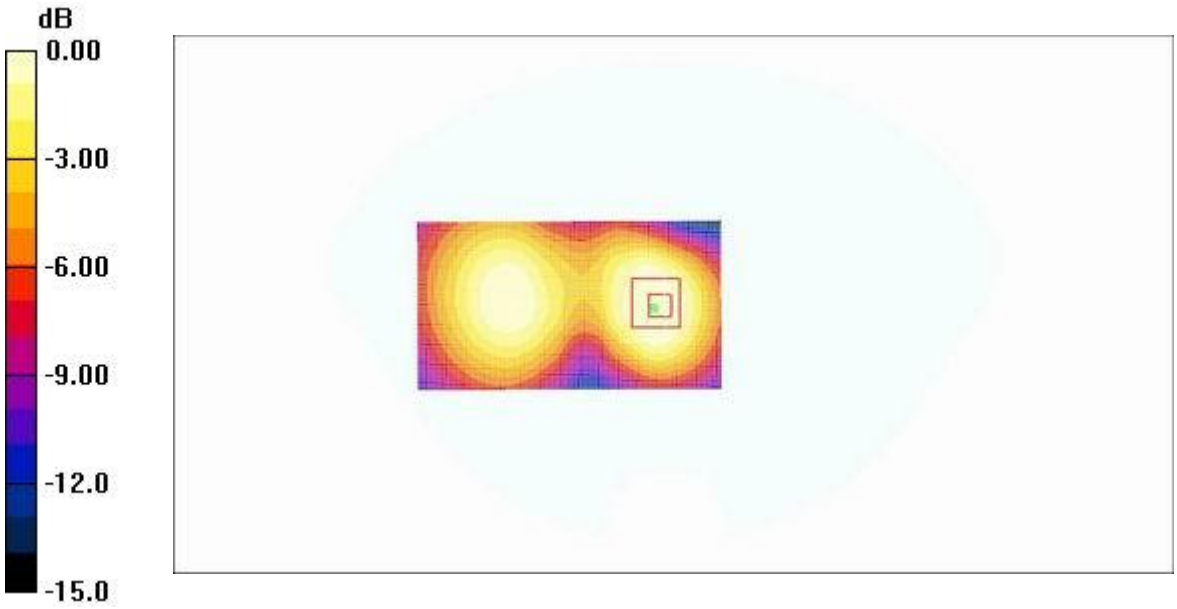
Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; ε_r = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Display toward the ground Flat L/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.543 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Display toward the ground Flat L/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.9 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 0.805 W/kg
SAR(1 g) = 0.459 mW/g; SAR(10 g) = 0.279 mW/g

Maximum value of SAR (measured) = 0.488 mW/g



0 dB = 0.488mW/g

Fig.91 Flat Phantom Body-worn Position 1900MHz GPRS CH512 with the display of the handset toward the ground

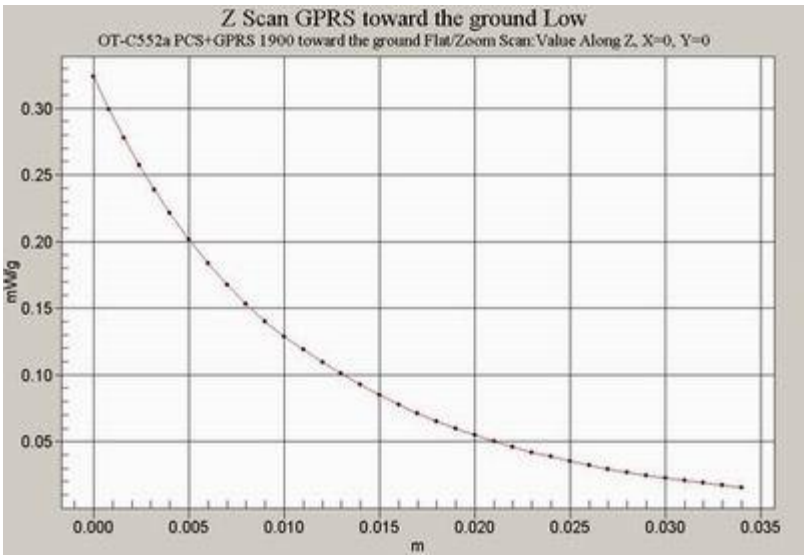


Fig. 92 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH512 with the display of the handset toward the ground)

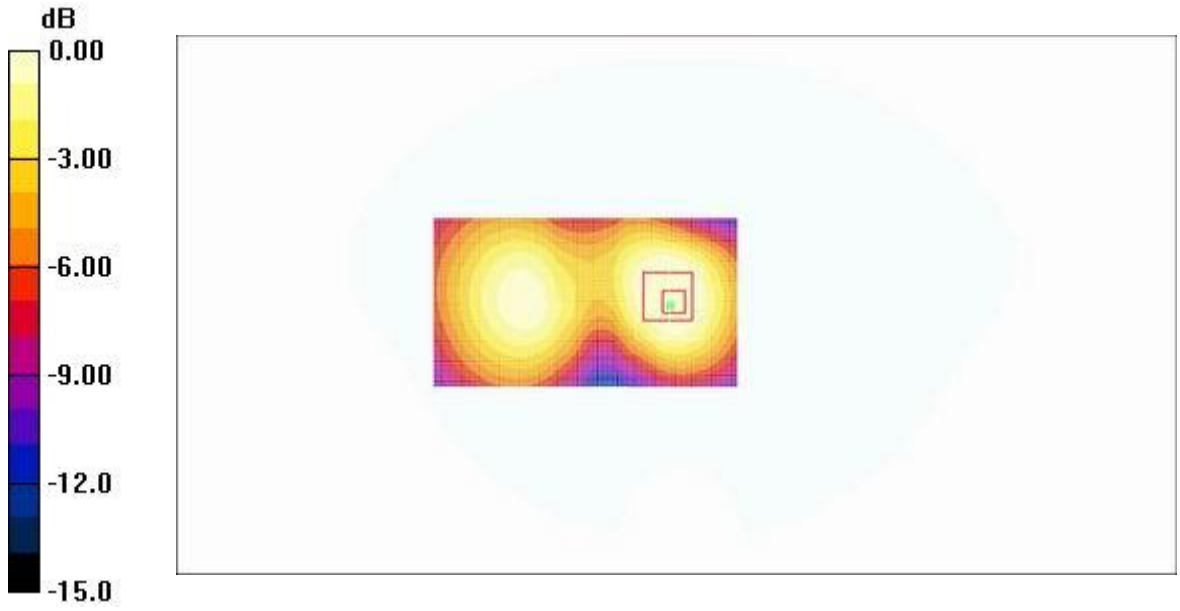
Alcatel OT-C552a PCS+GPRS 1900 toward the ground Flat

Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875
Communication System: PCS+GPRS 1900; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: Body PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Display toward the ground Flat M/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.376 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Display toward the ground Flat M/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.568 W/kg
SAR(1 g) = 0.323 mW/g; SAR(10 g) = 0.199 mW/g
Maximum value of SAR (measured) = 0.343 mW/g



0 dB = 0.343mW/g

Fig.93 Flat Phantom Body-worn Position 1900MHz GPRS CH661 with the display of the handset toward the ground

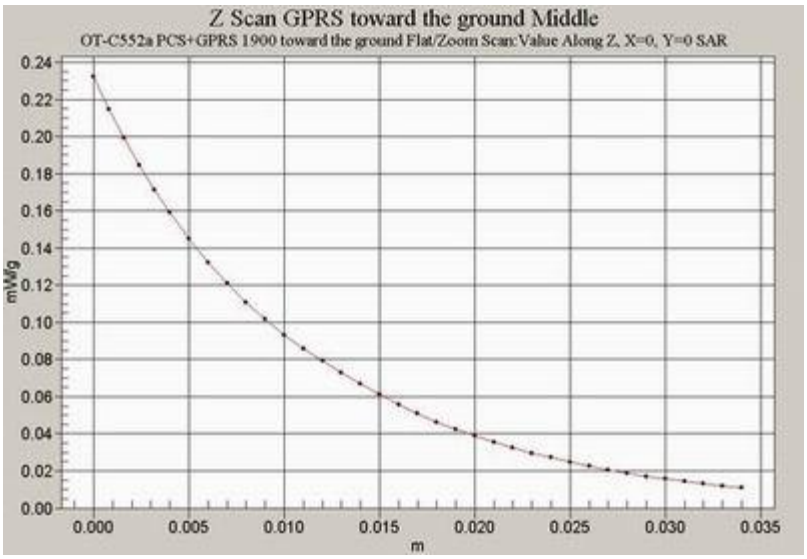


Fig. 94 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH661 with the display of the handset toward the ground)

Alcatel OT-C552a PCS+GPRS 1900 toward the ground Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

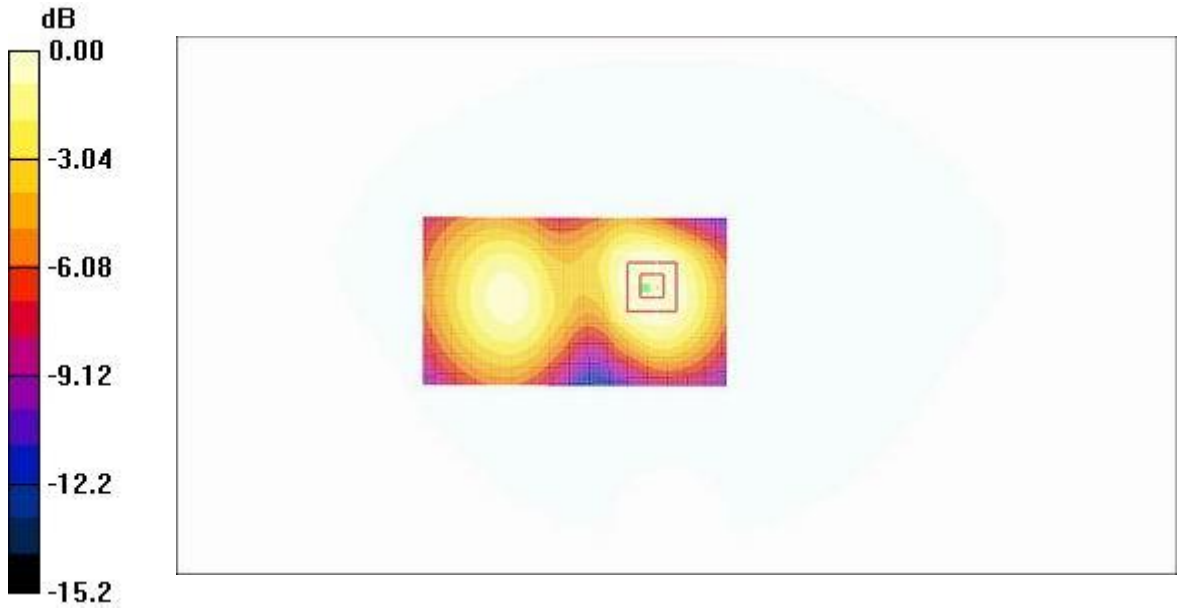
Communication System: PCS+GPRS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4
Medium: Body PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.56 mho/m; ε_r = 55.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Display toward the ground Flat H/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.335 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Display toward the ground Flat H/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.0 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.531 W/kg
SAR(1 g) = 0.303 mW/g; SAR(10 g) = 0.187 mW/g

Maximum value of SAR (measured) = 0.320 mW/g



0 dB = 0.320mW/g

Fig.95 Flat Phantom Body-worn Position 1900MHz GPRS CH810 with the display of the handset toward the ground

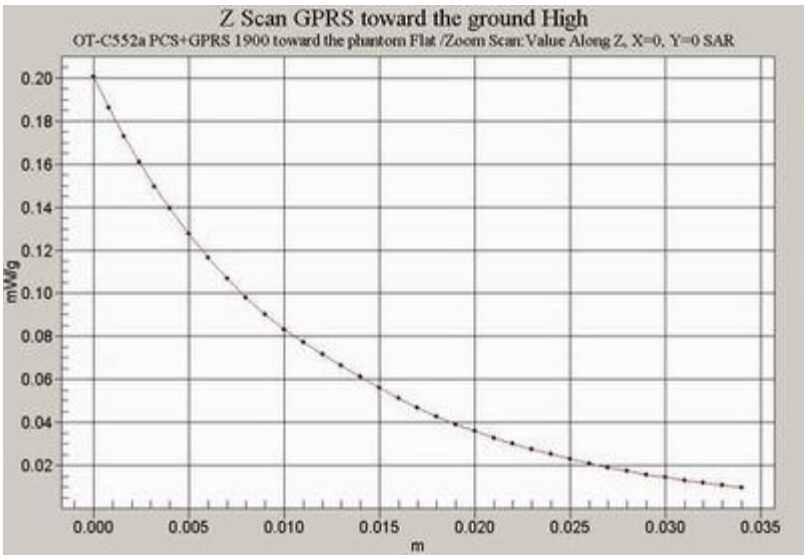


Fig. 96 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH810 with the display of the handset toward the ground)

Alcatel OT-C552a GSM+GPRS 850 Head Flat Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

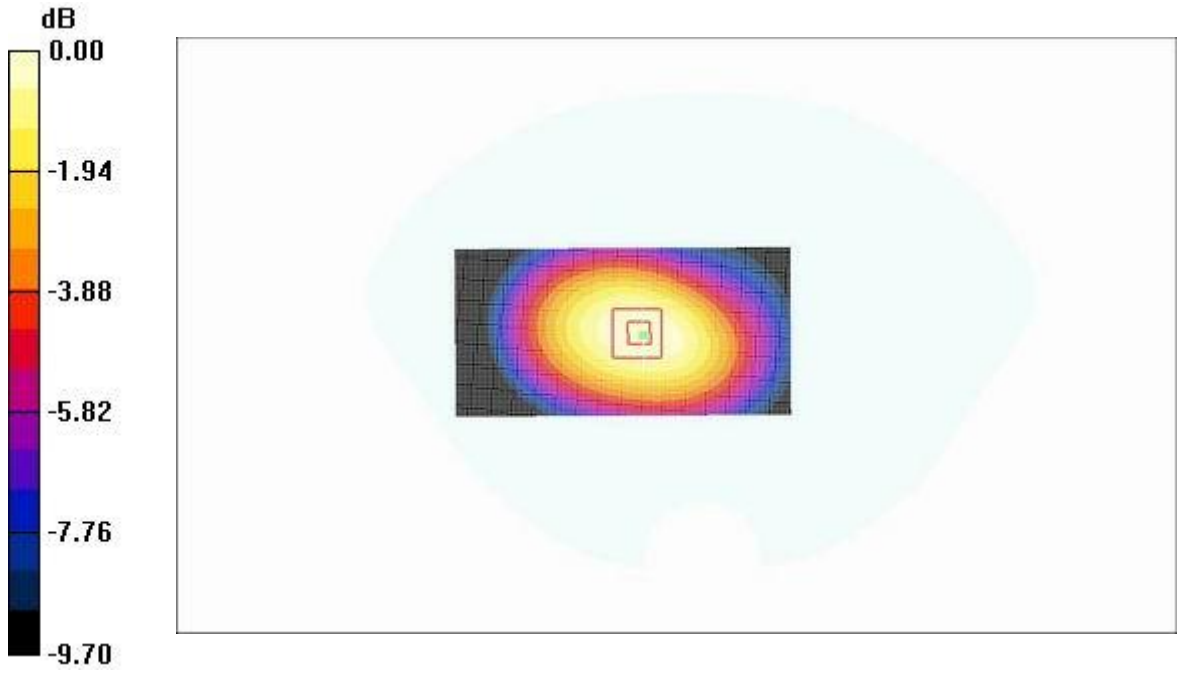
Communication System: GSM+GPRS 850; Frequency: 869.2 MHz; Duty Cycle: 1:4
Medium: Head 850 MHz Medium parameters used (interpolated): f = 869.2 MHz; σ = 0.949 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Head L/Area Scan (51x101x1):
Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.615 mW/g

Alcatel OT-C552a GSM+GPRS 850 Head L/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.764 W/kg
SAR(1 g) = 0.576 mW/g; SAR(10 g) = 0.409 mW/g

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



0 dB = 0.612mW/g

Fig.97 Flat Phantom Hand-worn Position 850MHz GPRS CH128 with the display of the handset toward the phantom

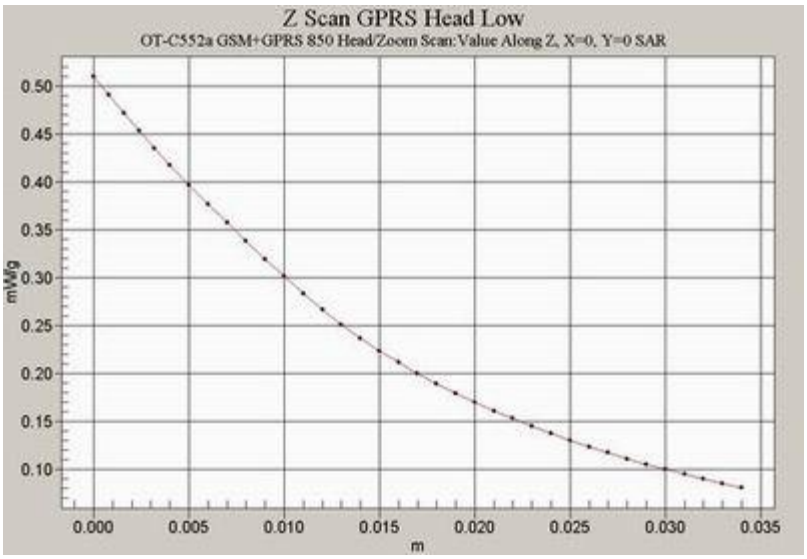


Fig. 98 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH128 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM+GPRS 850 Head Flat Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

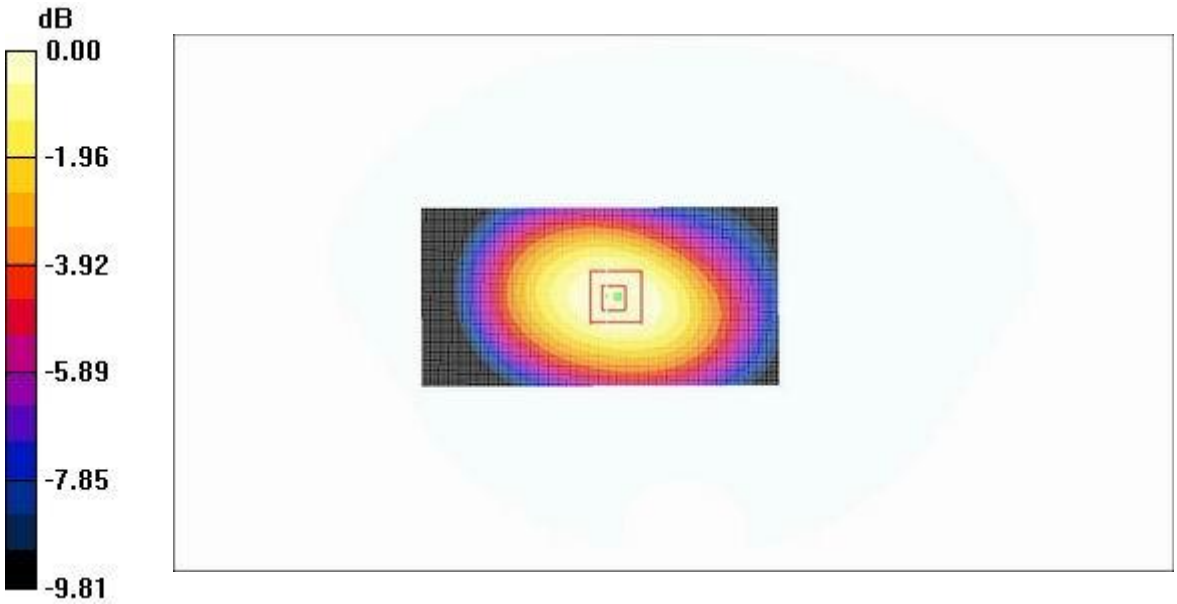
Communication System: GSM+GPRS 850; Frequency: 881.6 MHz; Duty Cycle: 1:4
Medium: Head 850 MHz Medium parameters used (interpolated): f = 881.6 MHz; σ = 0.961 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Head M/Area Scan (51x101x1):
Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.619 mW/g

Alcatel OT-C552a GSM+GPRS 850 Head M/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.7 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.751 W/kg
SAR(1 g) = 0.568 mW/g; SAR(10 g) = 0.405 mW/g

Maximum value of SAR (measured) = 0.605 mW/g



0 dB = 0.605mW/g

Fig.99Flat Phantom Hand-worn Position 850MHz GPRS CH190 with the display of the handset toward the phantom

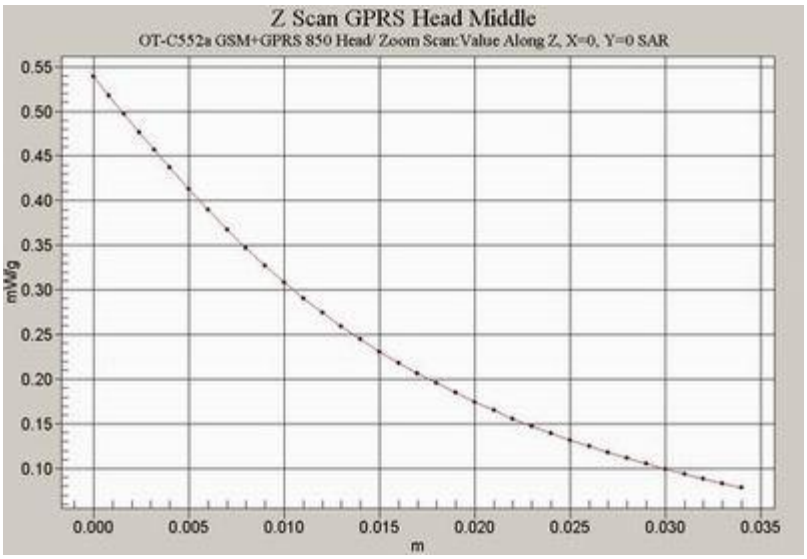


Fig. 100 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH190 with the display of the handset toward the phantom)

Alcatel OT-C552a GSM+GPRS 850 Head Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

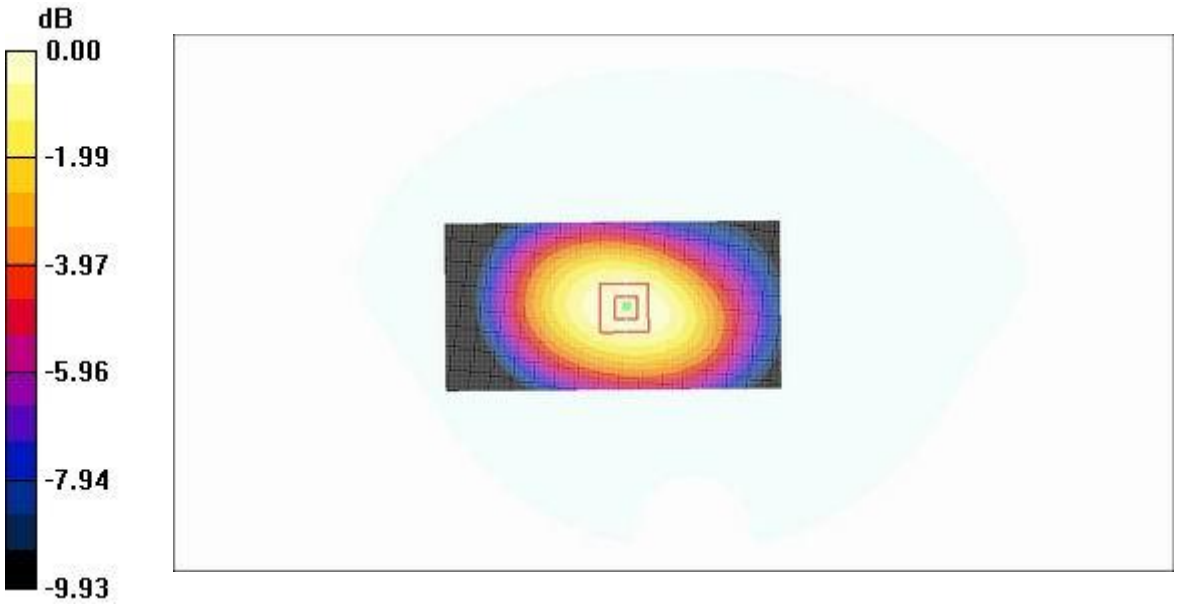
Communication System: GSM+GPRS 850; Frequency: 893.8 MHz; Duty Cycle: 1:4
Medium: Head 850 MHz Medium parameters used (interpolated): f = 893.8 MHz; σ = 0.973 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a GSM+GPRS 850 Head H/Area Scan (51x101x1):
Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.503 mW/g

Alcatel OT-C552a GSM+GPRS 850 Head H/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.0 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.614 W/kg
SAR(1 g) = 0.467 mW/g; SAR(10 g) = 0.331 mW/g

Maximum value of SAR (measured) = 0.496 mW/g



0 dB = 0.496mW/g

Fig.101Flat Phantom Hand-worn Position 850MHz GPRS CH251 with the display of the handset toward the phantom

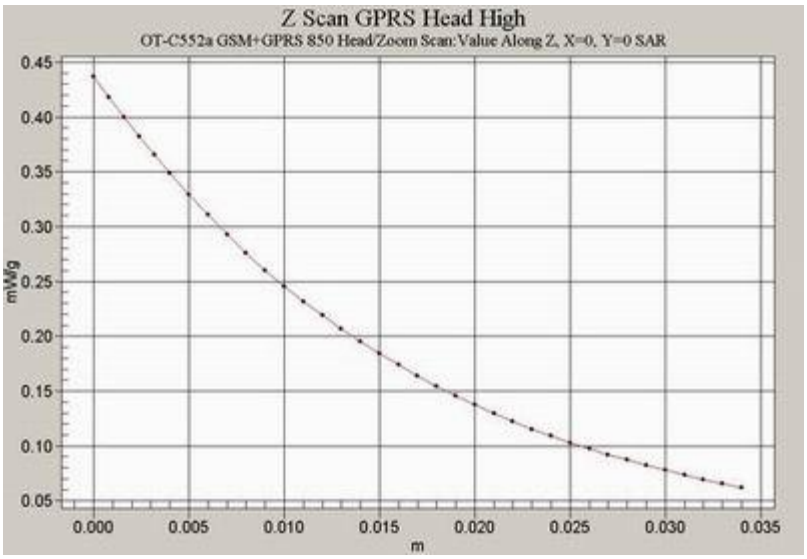


Fig. 102 Z-Scan at power reference point (Flat Phantom 850MHz GPRS CH251 with the display of the handset toward the phantom)

Alcatel OT-C552a PCS+GPRS1900 Head Flat Low

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

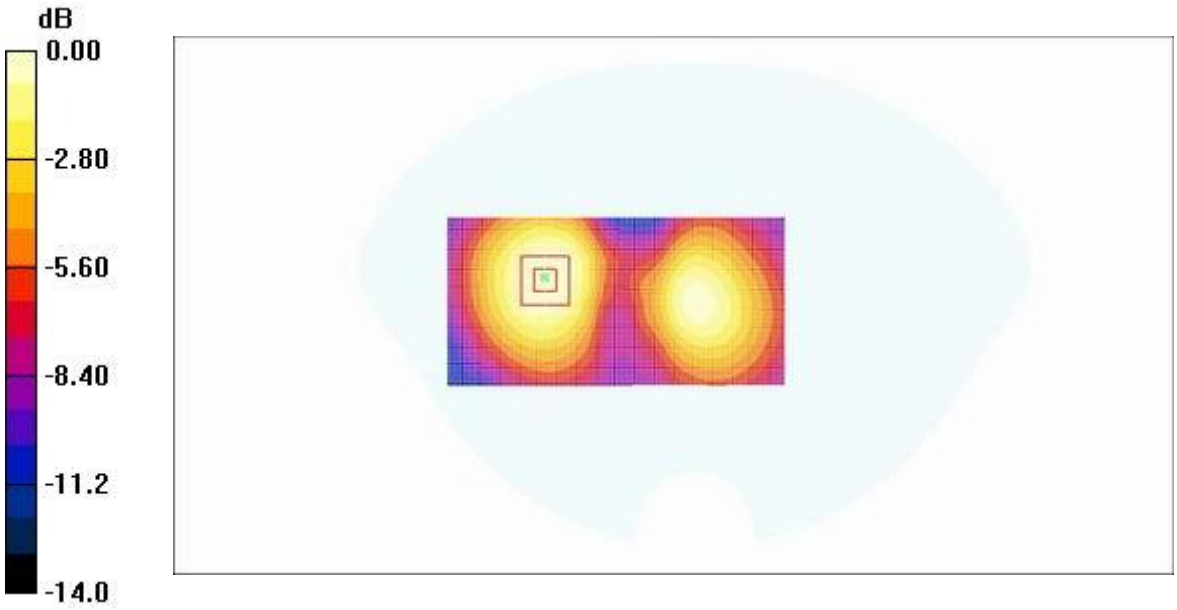
Communication System: PCS+GPRS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Head L/Area Scan (51x101x1):
Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.220 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Head L/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = -0.181 dB
Peak SAR (extrapolated) = 0.305 W/kg
SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.128 mW/g

Maximum value of SAR (measured) = 0.220 mW/g



0 dB = 0.220mW/g

Fig.103 Flat Phantom Hand-worn Position 1900MHz GPRS CH512 with the display of the handset toward the phantom

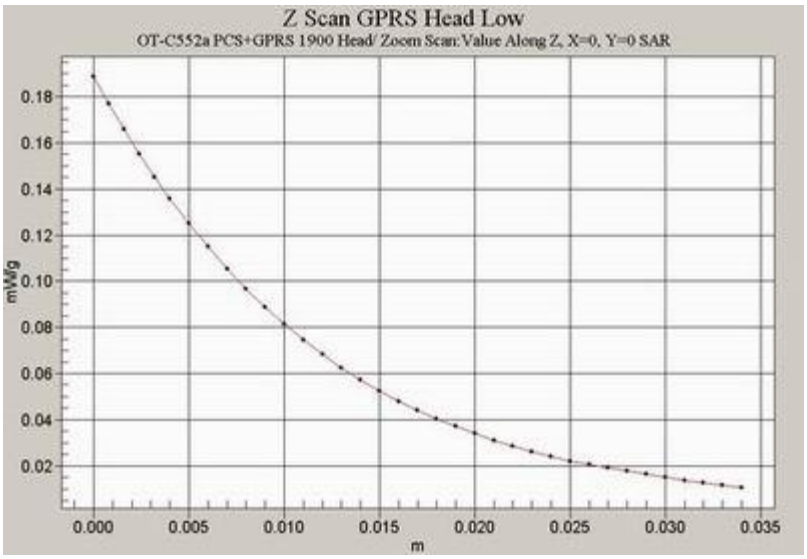


Fig. 104 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH512 with the display of the handset toward the phantom)

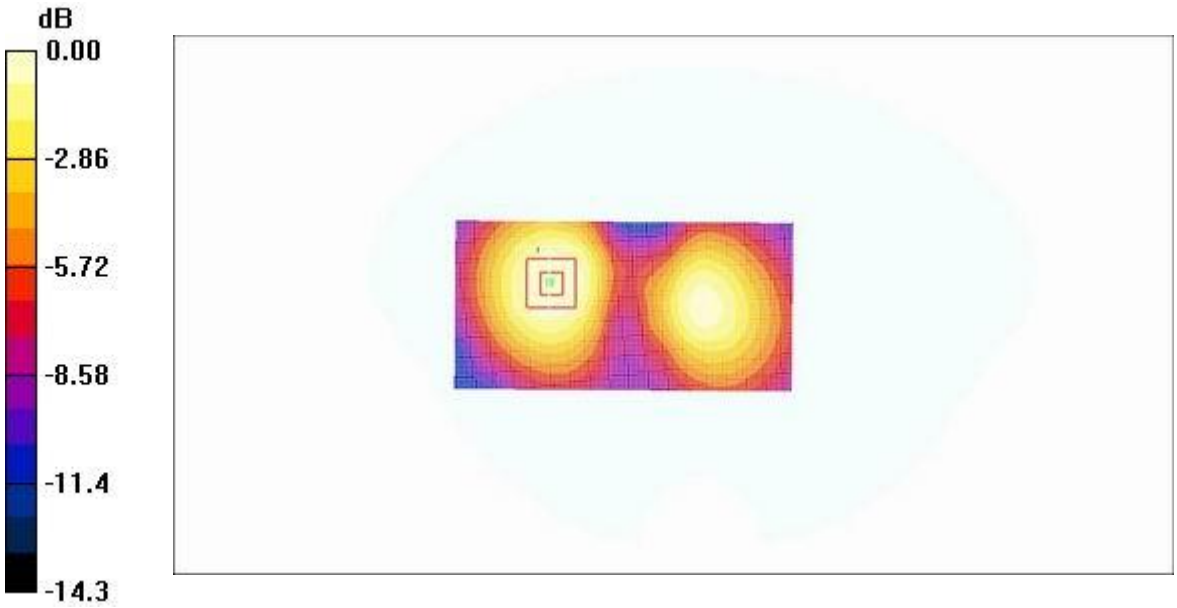
Alcatel OT-C552a PCS+GPRS1900 Head Flat Middle

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

Communication System: PCS+GPRS 1900; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: Head PCS 1900 Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Head M/Area Scan (51x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.202 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Head M/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = -0.064 dB
Peak SAR (extrapolated) = 0.274 W/kg
SAR(1 g) = 0.185 mW/g; SAR(10 g) = 0.116 mW/g
Maximum value of SAR (measured) = 0.199 mW/g



0 dB = 0.199mW/g

Fig.105Flat Phantom Hand-worn Position 1900MHz GPRS CH661 with the display of the handset toward the phantom

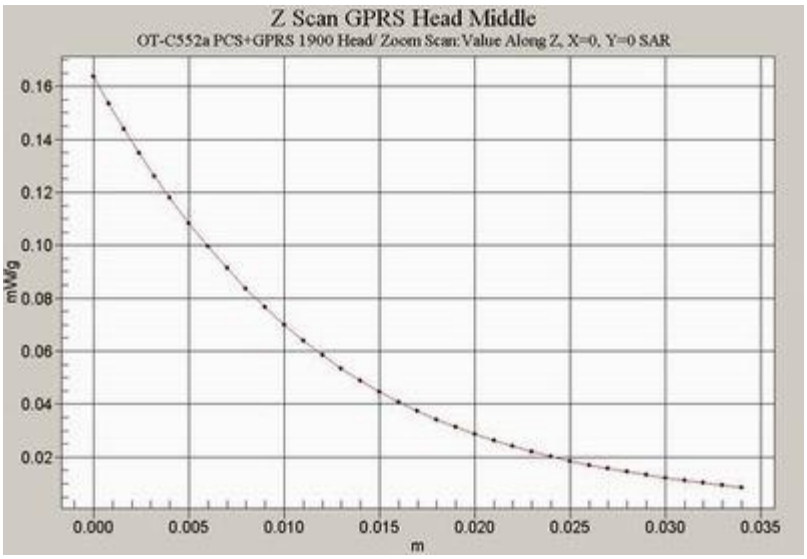


Fig. 106 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH661 with the display of the handset toward the phantom)

Alcatel OT-C552a PCS+GPRS1900 Head Flat High

DUT: Alcatel OT-C552a; Type: GSM Dual-Band; Serial: 001016000230875

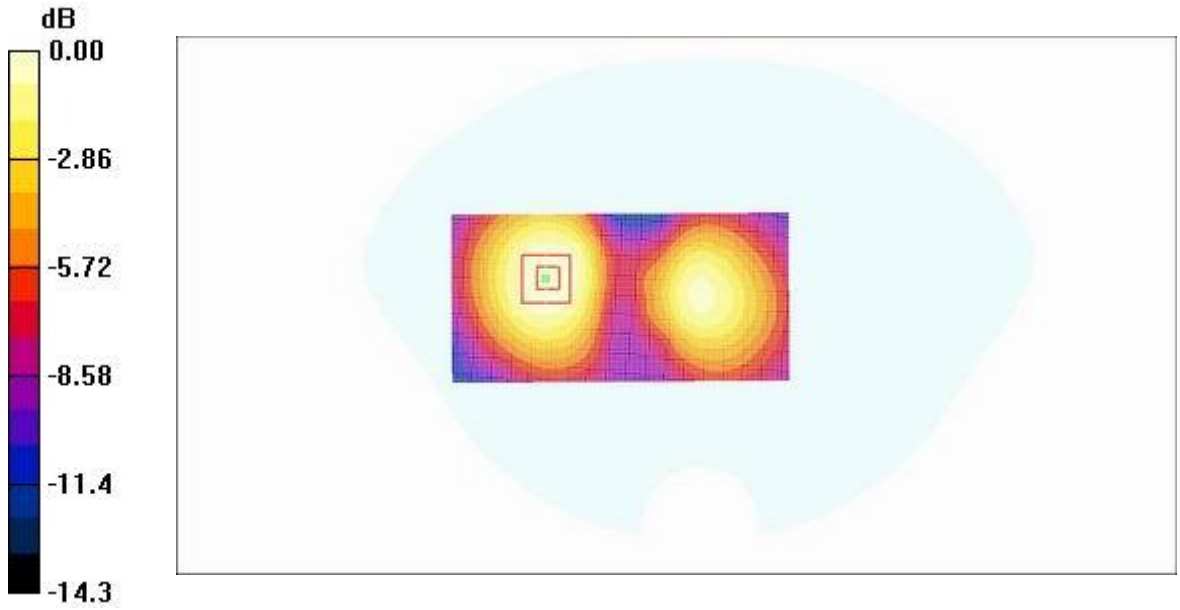
Communication System: PCS+GPRS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4
Medium: Head PCS 1900 Medium parameters used (interpolated): f = 1909.8 MHz; σ = 1.46 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

Alcatel OT-C552a PCS+GPRS 1900 Head H/Area Scan (51x101x1):
Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.193 mW/g

Alcatel OT-C552a PCS+GPRS 1900 Head H/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.259 W/kg
SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.109 mW/g

Maximum value of SAR (measured) = 0.187 mW/g



0 dB = 0.187mW/g

Fig.107Flat Phantom Hand-worn Position 1900MHz GPRS CH810 with the display of the handset toward the phantom

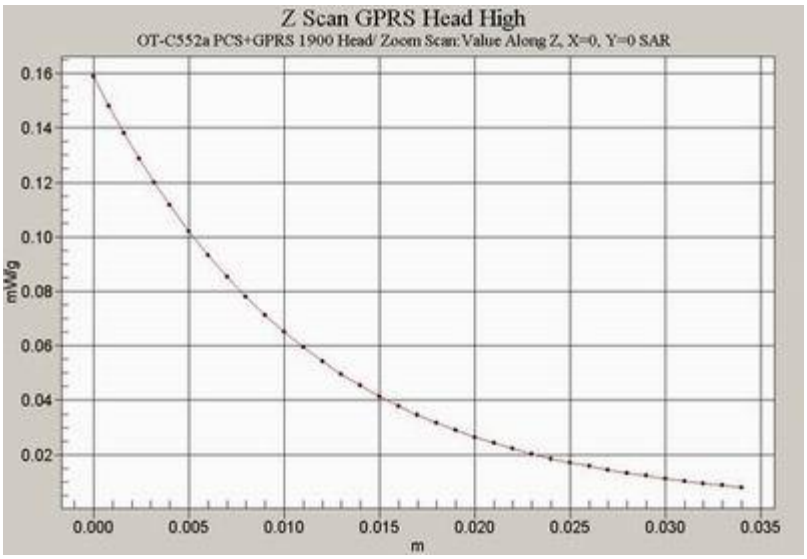


Fig. 108 Z-Scan at power reference point (Flat Phantom 1900MHz GPRS CH810 with the display of the handset toward the phantom)

ANNEX D: SYSTEM VALIDATION RESULTS

Test Laboratory: TMC
File Name: 835MHz.da4

DUT: Dipole 835 MHz Type & Serial Number: D835V2 - SN:443
Program: System Performance Check; Dipole 835MHz,Pin=250mW,d=15mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm
Reference Value = 54.7 V/m
Peak SAR = 3.47 mW/g
SAR(1 g) = 2.35 mW/g; SAR(10 g) = 1.52 mW/g
Power Drift = -0.01 dB
Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm

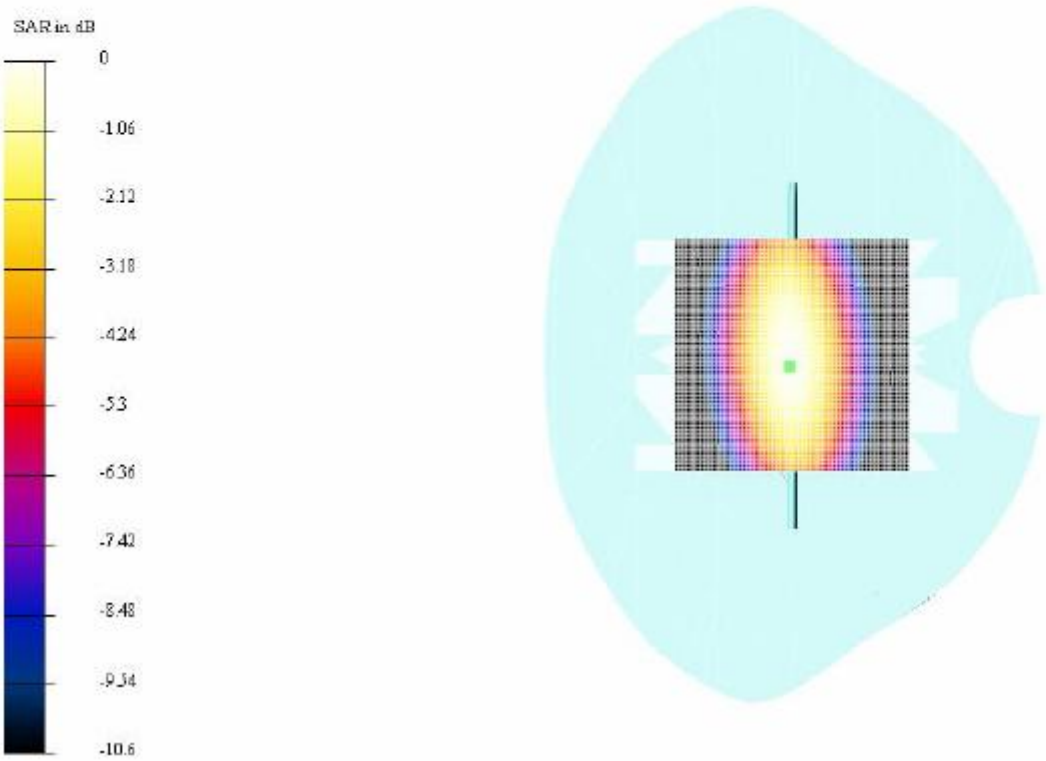


Fig.109 System Performance Check 835MHz 250mW

Test Laboratory: TMC
File Name: D1900_SystemCheck_040403.da4

DUT: Dipole 1900 MHz Type & Serial Number: D1900V2 - SN:541
Program: Unnamed Program; Dipole 1900MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm
Reference Value = 90.9 V/m
Peak SAR = 18.3 mW/g
SAR(1 g) = 9.8 mW/g; SAR(10 g) = 4.91 mW/g
Power Drift = 0.004 dB
Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm

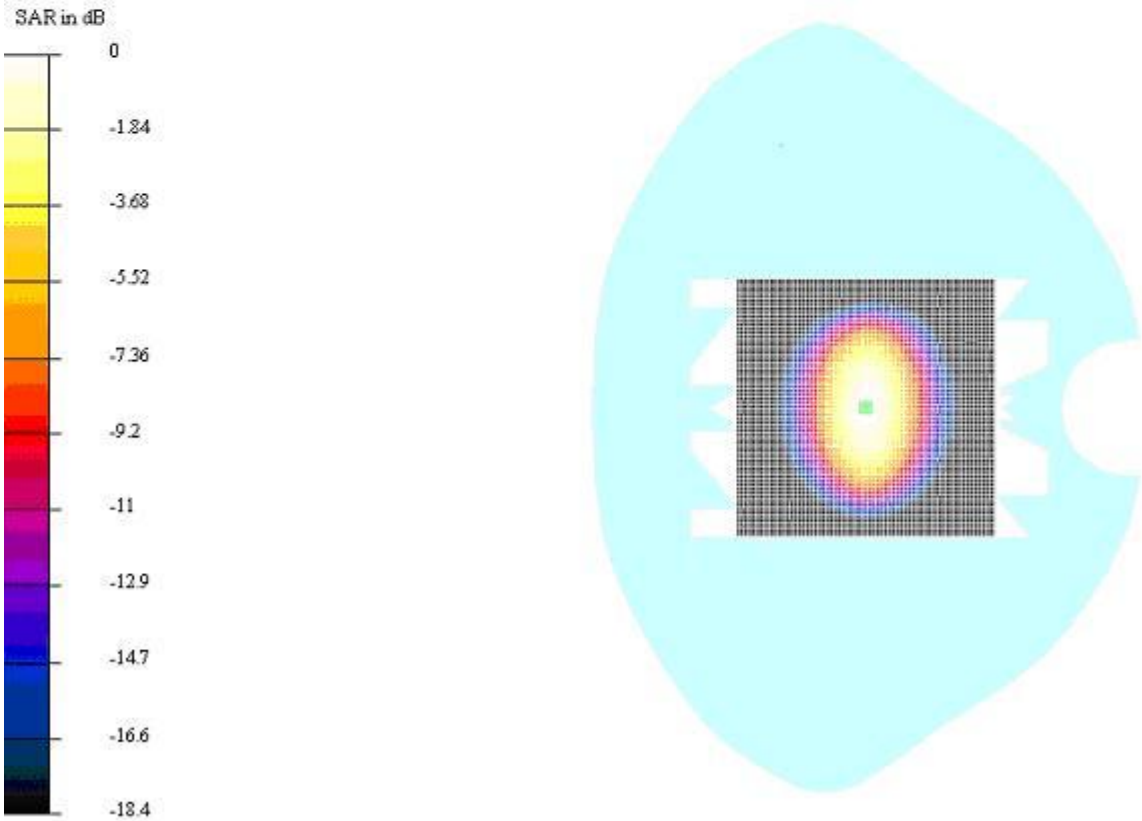


Fig.110 System Performance Check 1900MHz 250mW