Test Plots

Left-Tilt Low Channel

10/31/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low Channel 1850MHz

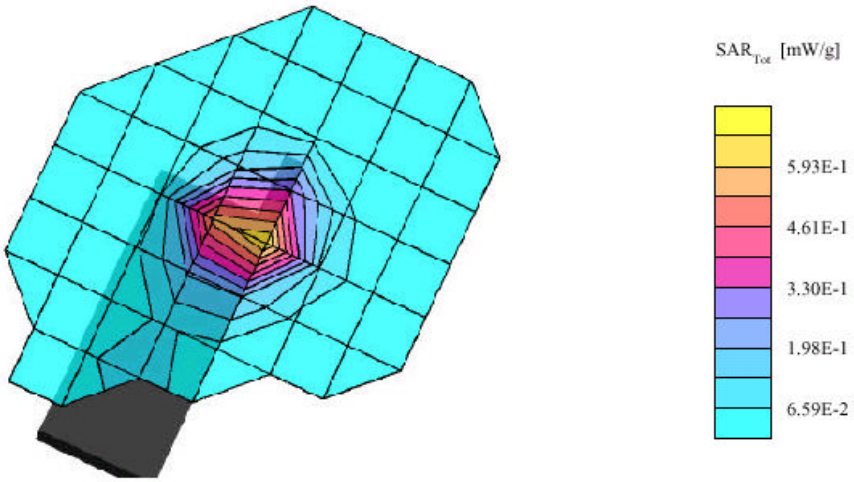
Generic Twin Phantom; Left Hand Section; Position: (80°,65°); Frequency: 1800 MHz

Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³

Cubes (2): SAR (1g): 0.743 mW/g ± 0.01 dB, SAR (10g): 0.397 mW/g ± 0.03 dB, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.18 dB

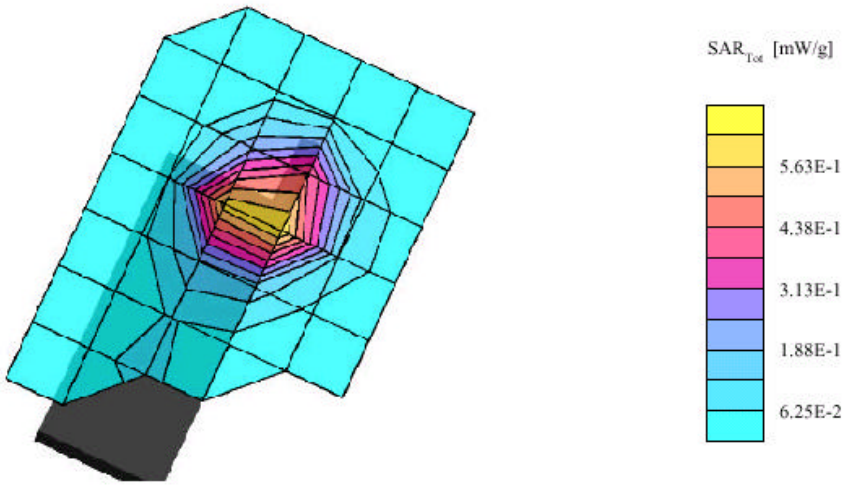


Compliance Certification Services

Left-Tilt Mid Channel

10/31/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Mid Channel 1880MHz
Generic Twin Phantom; Left Hand Section; Position: (80°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.801 mW/g, SAR (10g): 0.427 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.10 dB



Compliance Certification Services

SAR vs. Z-axis Plot

10/31/01

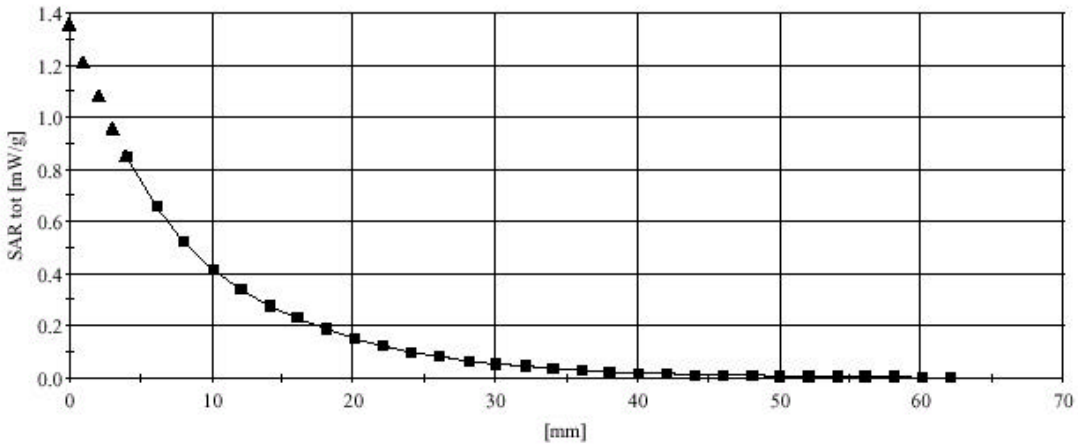
Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Mid Channel 1880MHz (Left tilt, Mid Channel, Antenna out)

Generic Twin Phantom; Section; Position: ; Frequency: 1800 MHz

Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm^3 : , ()

Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

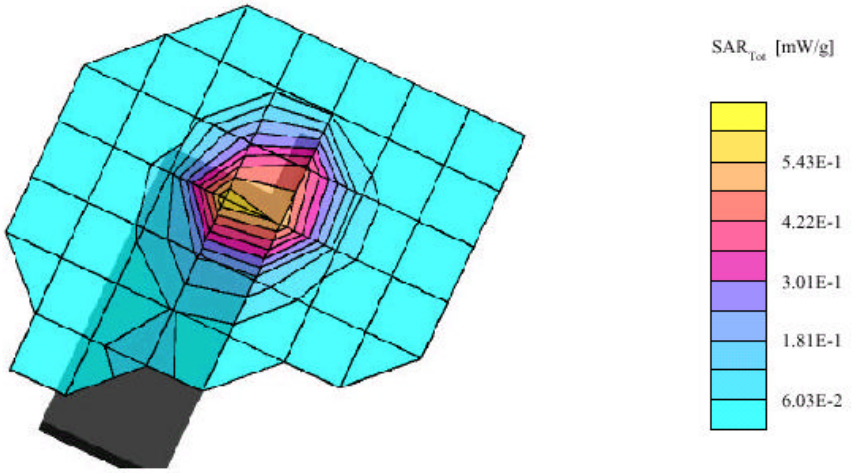
Penetration depth: 8.9 (8.5, 9.7) [mm]



Left-Tilt High Channel

10/31/01

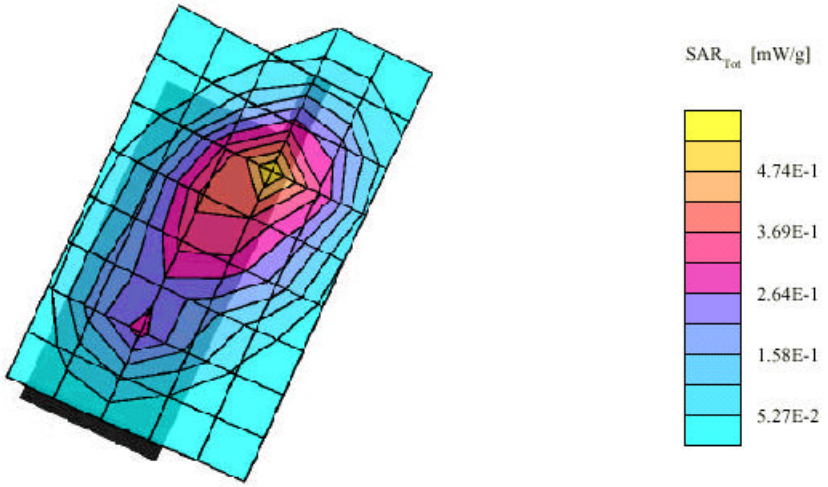
Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Hi Channel 1910MHz
Generic Twin Phantom; Left Hand Section; Position: (80°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.780 mW/g, SAR (10g): 0.415 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.10 dB



Compliance Certification Services

Left-Cheek Low Channel

ıng (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low
ıel 1850MHz
Γwin Phantom; Left Cheek Section; Position: (72°,65°); Frequency: 1800 MHz
Γ3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
ix7: SAR (1g): 0.477 mW/g, SAR (10g): 0.269 mW/g, (Worst-case extrapolation)
Dx = 15.0, Dy = 15.0, Dz = 10.0
ft: -0.13 dB



ıce Certification Services

SAR vs. Z-axis Plot

11/03/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low Channel 1850MHz (Left Check, Low Channel, Antenna out)

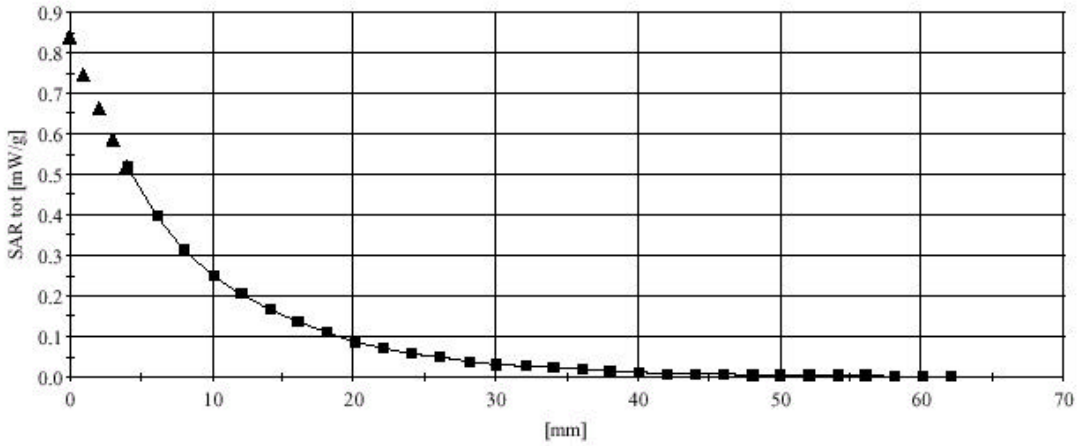
Generic Twin Phantom; Section; Position: ; Frequency: 1800 MHz

Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm^3

: , ()

Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0

Penetration depth: 8.7 (8.2, 9.6) [mm]

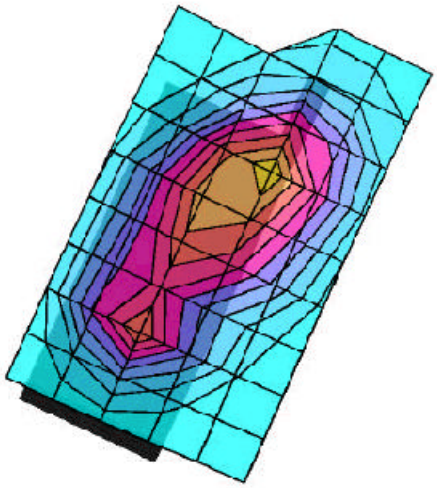


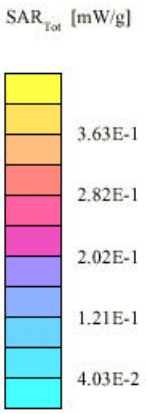
Left-Cheek Mid Channel

11/01/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Mid Channel 1880MHz

Generic Twin Phantom; Left Cheek Section; Position: (72°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR(1g): 0.369 mW/g, SAR(10g): 0.223mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.17 dB





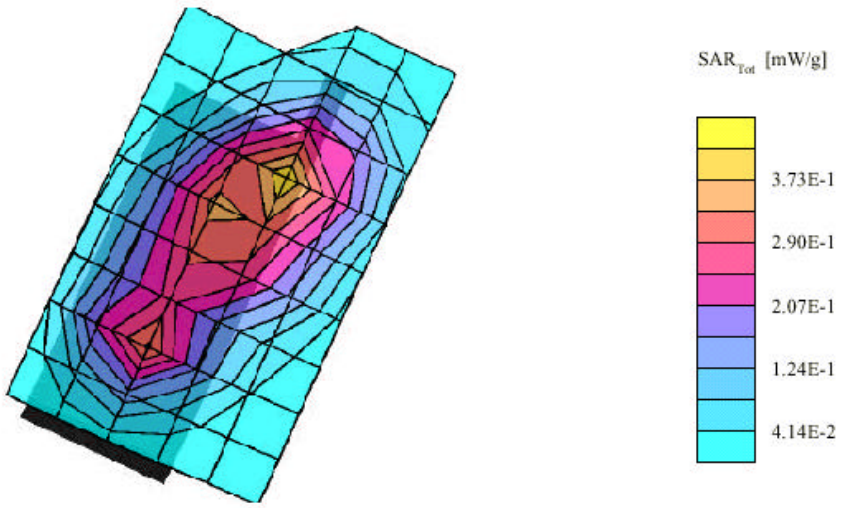
Compliance Certification Services

Left-Cheek High Channel

11/01/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) High Channel 1910MHz

Generic Twin Phantom; Left Cheek Section; Position: (72°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.352 mW/g, SAR (10g): 0.207 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.10 dB



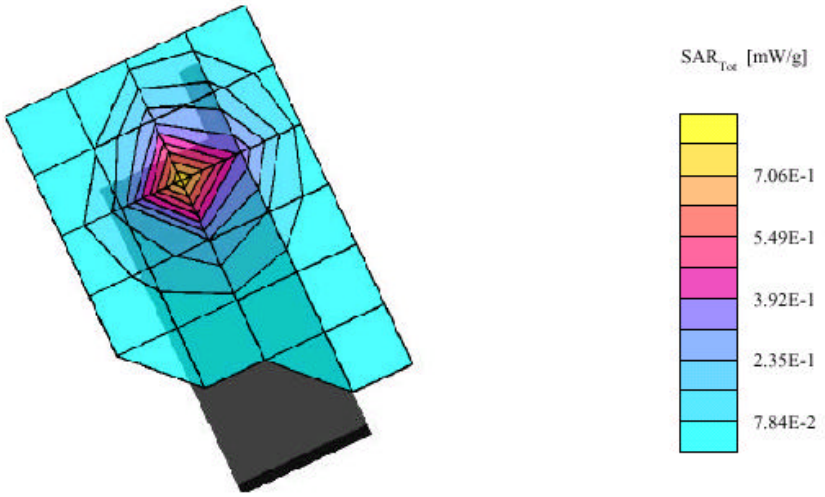
Compliance Certification Services

Right-Tilt Low Channel

11/01/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low Channel 1850MHz

Generic Twin Phantom; Right Hand Section; Position: (80°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.726 mW/g, SAR (10g): 0.393 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.13 dB



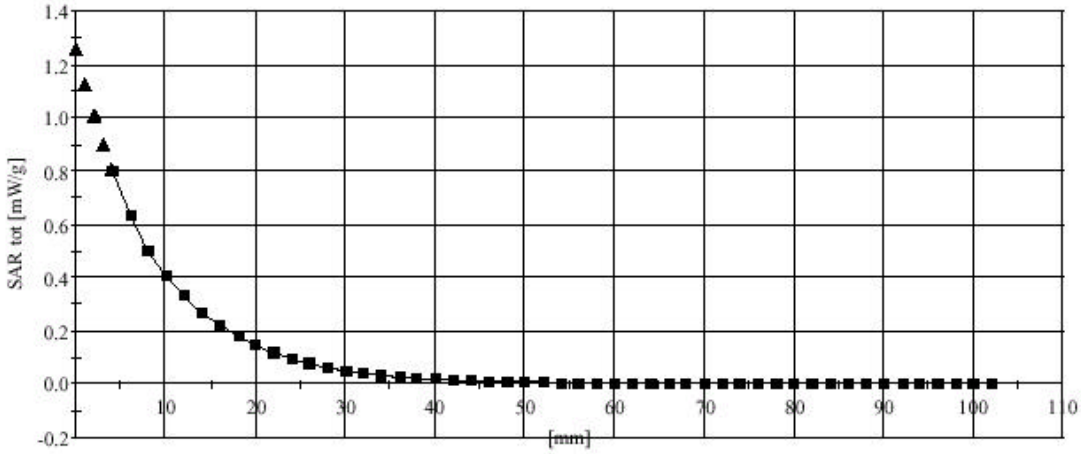
Compliance Certification Services

SAR vs. Z-axis Plot

11/01/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low Channel 1850MHz (Right tilt, Low Channel, Antenna out)

Generic Twin Phantom; Section; Position: ; Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm^3
: , ()
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0
Penetration depth: 9.2 (8.9, 9.7) [mm]

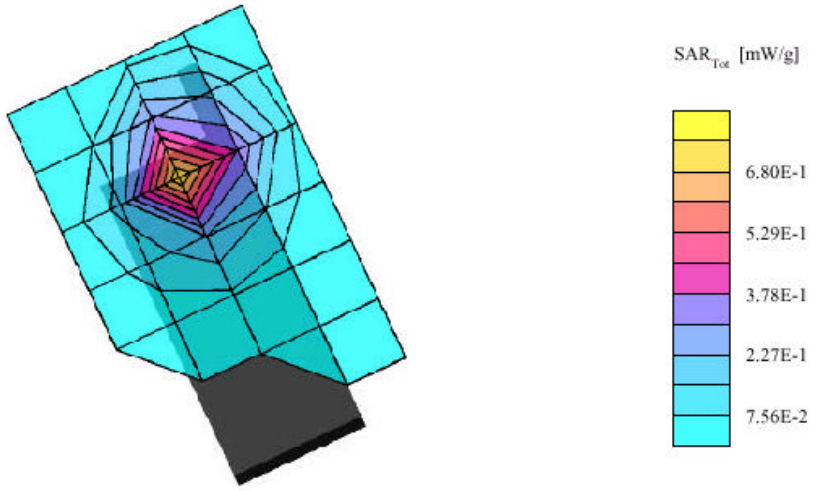


Right-Tile Mid Channel

11/01/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Mid Channel 1880MHz

Generic Twin Phantom; Right Hand Section; Position: (80°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.709 mW/g, SAR (10g): 0.384 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.06 dB



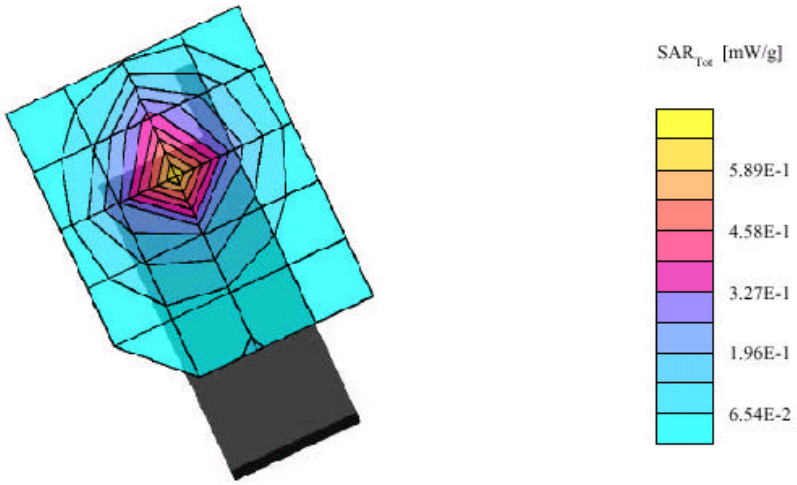
Compliance Certification Services

Right-Tilt High Channel

11/01/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Hi Channel 1910MHz

Generic Twin Phantom; Right Hand Section; Position: (80°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.37 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.636 mW/g, SAR (10g): 0.346 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.01 dB



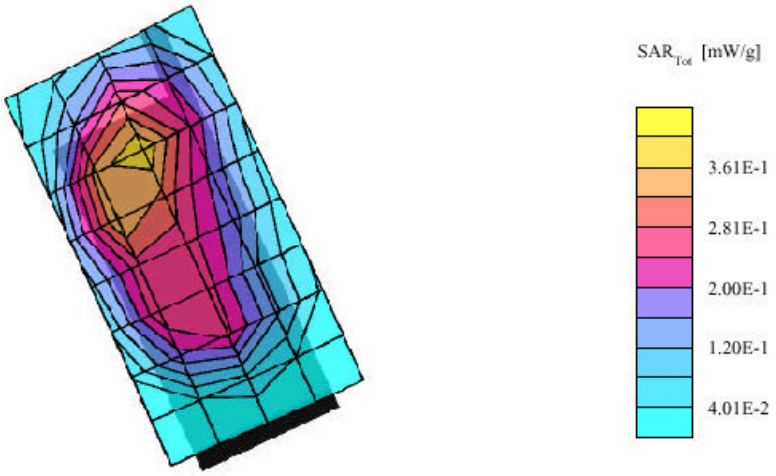
Compliance Certification Services

Right-Cheek Low Channel

11/02/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low Channel 1850MHz

Generic Twin Phantom; Right Cheek Section; Position: (72°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.40 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.405 mW/g, SAR (10g): 0.239 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.16 dB



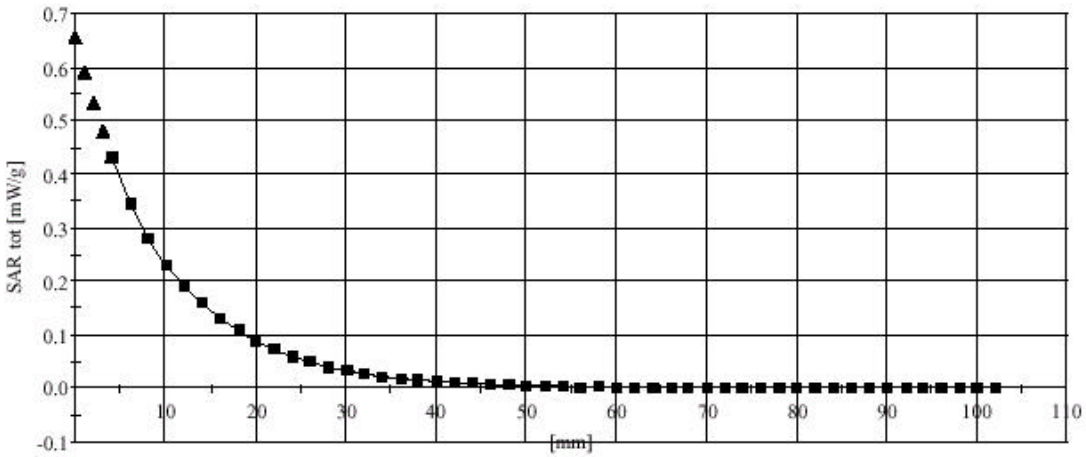
Compliance Certification Services

SAR vs. Z-axis Plot

11/02/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low Channel 1850MHz (Right Cheek, Low Channel, Antenna out)

Generic Twin Phantom; Section; Position: ; Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.40 mho/m ε_r = 39.1 ρ = 1.00 g/cm^3
: , ()
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0
Penetration depth: 10.0 (9.6, 10.6) [mm]

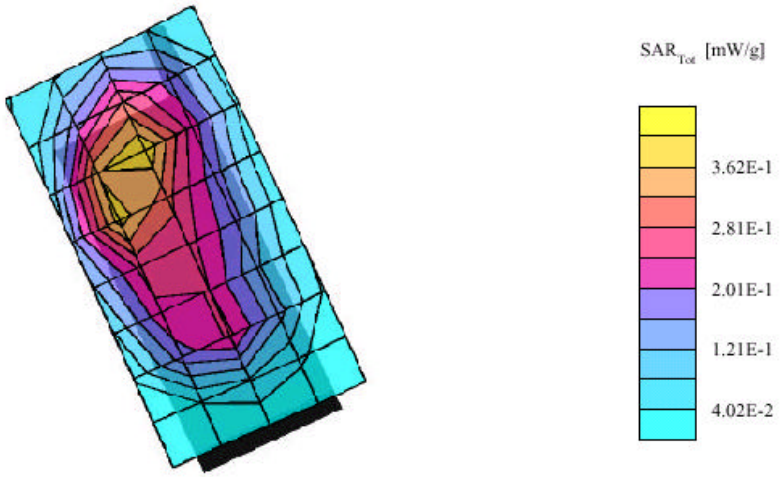


Right-Cheek Mid Channel

11/02/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Mid Channel 1880MHz

Generic Twin Phantom; Right Cheek Section; Position: (72°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.40 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.404 mW/g, SAR (10g): 0.239 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.14 dB



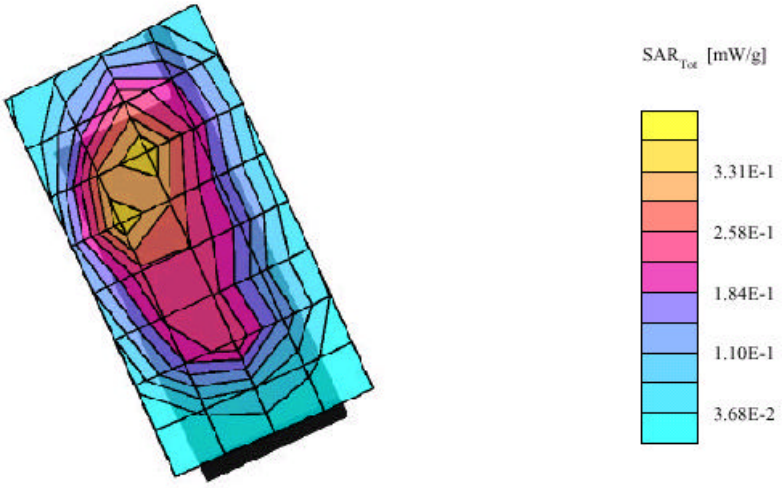
Compliance Certification Services

Left-Cheek High Channel

11/02/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Hi Channel 1910MHz

Generic Twin Phantom; Right Cheek Section; Position: (72°,65°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577; ConvF(5.92,5.92,5.92); Crest factor: 8.0; Head 1800 MHz: σ = 1.40 mho/m ε_r = 39.1 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.374 mW/g, SAR (10g): 0.221 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.09 dB

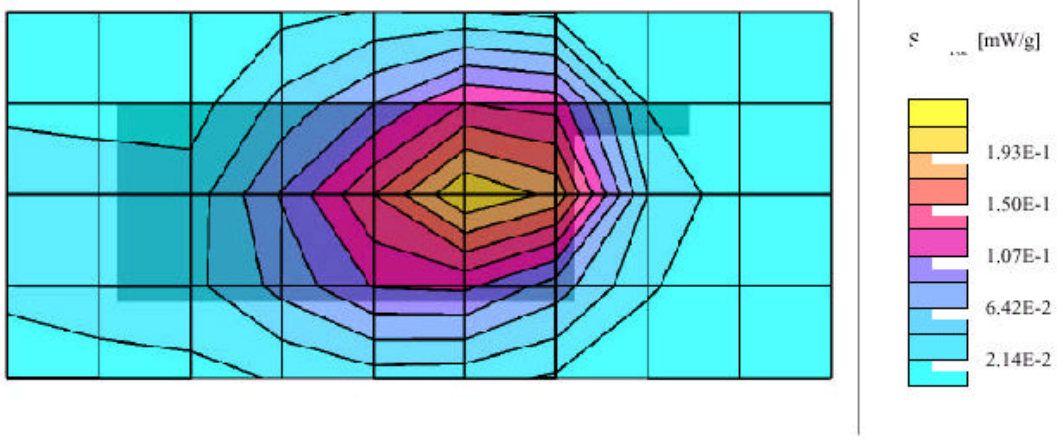


Compliance Certification Services

Flat-Rear Panel 15mm Separation Low Channel

12/18/01

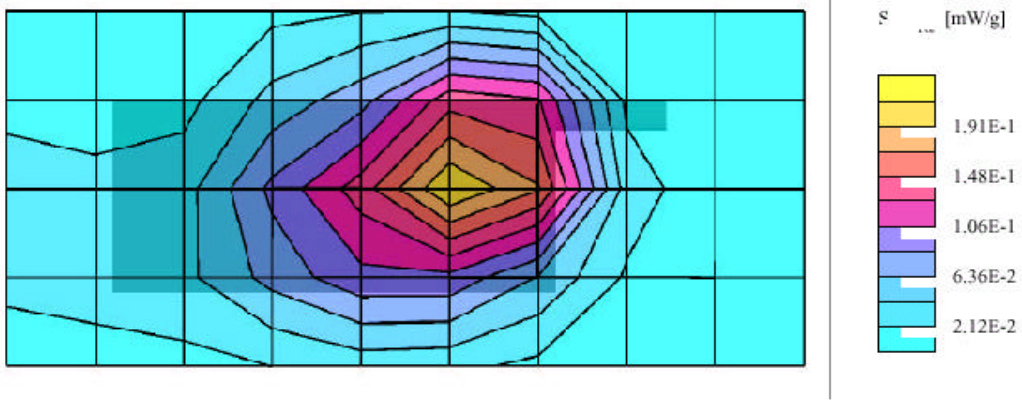
Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Low Channel 1850 MHz (Body-worn, Low Channel, Antenna out)
Generic Twin Phantom; Flat Section; Position: (270°,270°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577M; ConvF(5.40,5.40,5.40); Crest factor: 8.0; Muscle 1800 MHz: σ = 1.53 mho/m ε_r = 52.0 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.242 mW/g, SAR (10g): 0.140 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.03 dB; Penetration depth: 9.1 (8.5, 10.3) [mm]



Flat-Rear Panel 15mm Separation Mid Channel

12/18/01

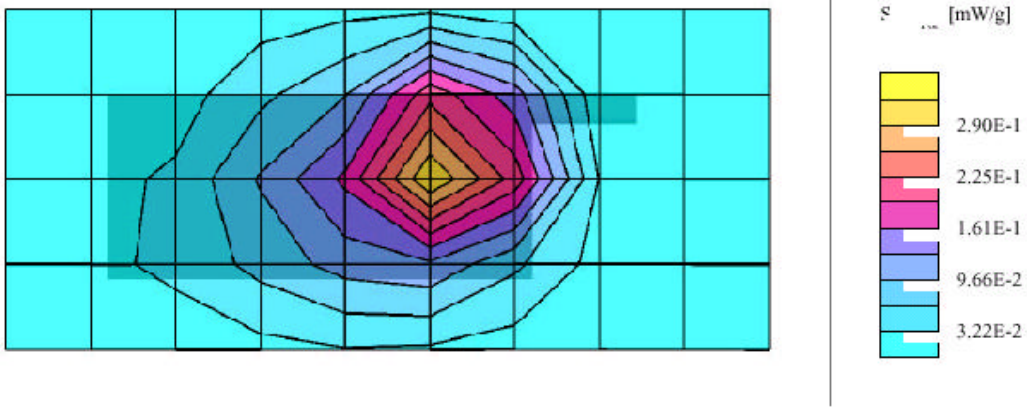
Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) Mid Channel 1880 MHz (Body-worn, Mid Channel, Antenna out)
Generic Twin Phantom; Flat Section; Position: (270°,270°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577M; ConvF(5.40,5.40,5.40); Crest factor: 8.0; Muscle 1800 MHz: σ = 1.53 mho/m ϵ_r = 52.0 ρ = 1.00 g/cm³
Cube 5x5x7: SAR (1g): 0.249 mW/g, SAR (10g): 0.141 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.05 dB; Penetration depth: 9.0 (8.4, 10.1) [mm]



Flat-Rear Panel 15mm Separation High Channel

12/18/01

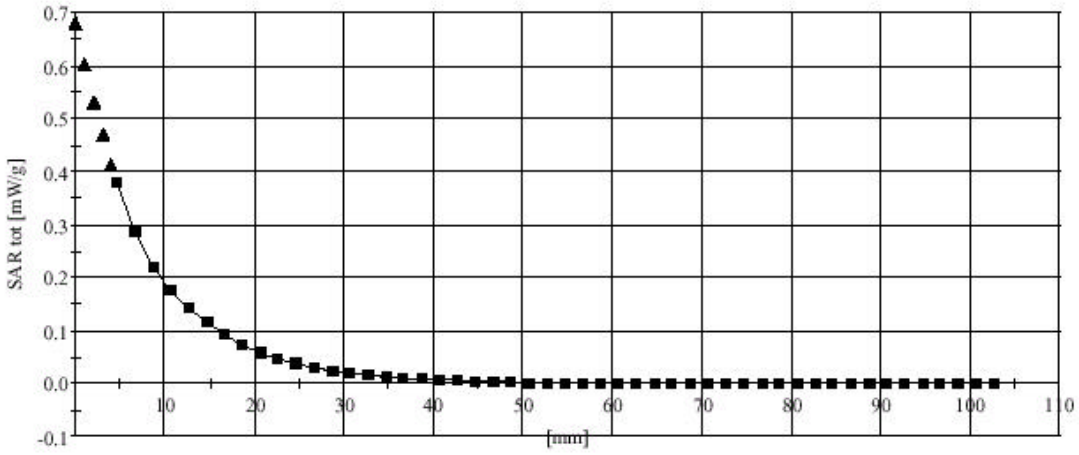
Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) High Channel 1910MHz (Body-worn configuration, Hight Channel, Antenna out)
Generic Twin Phantom; Flat Section; Position: (270°,270°); Frequency: 1800 MHz
Probe: ET3DV6 - SN1577M; ConvF(5.40,5.40,5.40); Crest factor: 8.0; Muscle 1800 MHz: σ = 1.53 mho/m ε_r = 52.0 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.383 mW/g, SAR (10g): 0.210 mW/g, (Worst-case extrapolation)
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Powerdrift: -0.01 dB; Penetration depth: 9.1 (8.5, 10.2) [mm]



SAR vs. Z-axis Plot

12/18/01

Samsung (GSM 1900 Single Modulation Cellular Phone, M/N: SGH-N625) High Channel 1910MHz (Body-worn, Hight Channel, Antenna out)
Generic Twin Phantom; Section; Position: ; Frequency: 1800 MHz
Probe: ET3DV6 - SN1577M; ConvF(5.40,5.40,5.40); Crest factor: 8.0; Muscle 1800 MHz: σ = 1.53 mho/m ε_r = 52.0 ρ = 1.00 g/cm³
: , ()
Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0
; Penetration depth: 8.3 (7.8, 9.2) [mm]



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8. APPENDIX

8.1. EUT PHOTOS

External Photos

8.2 EQUIPMENTS LIST & CALIBRATION INFO

Type / Model	Cal. Date	S/N:
DASY3 Professional Dosimetric System	N/A	
Robot RX90BL	N/A	F00/5H31A1/A/01
Robot Controller	N/A	D22134001-1
Teach Pendant	N/A	321
Dell Computer Optiplex GX110	N/A	
Pentium III, Windows NT	N/A	
SPEAG EDC3	N/A	
SPEAG DAE3	4/27/01	421
SPEAG E-Field Probe ET3DV6	4/20/01	1577
SPEAG E-Field Probe ET3DV6	4/20/01	1578
SPEAG Dummy Probe	N/A	
SPEAG Generic Twin Phantom	N/A	
SPEAG Light Alignment Sensor	N/A	261
SPEAG Validation Dipole D1800V2	4/19/01	294
SPEAG Validation Dipole D900V2	4/17/01	108
Brain Equivalent Matter (800MHz)	Daily	
Brain Equivalent Matter (1900MHz)	Daily	
Muscle Equivalent Matter (800MHz)	Daily	
Muscle Equivalent Matter (1900MHz)	Daily	
Robot Table	N/A	
Phone Holder	N/A	
Phantom Cover	N/A	
HP Spectrum Analyzer HP8593GM	6/20/01	3009A00791
Microwave Amp. Model: ZHL-42W	N/A	D072701-5
Power Meter HP436A	4/2/01	2709A29209
Power Sensor HP8482A	4/2/01	2349A08568
Signal Generator HP-83732B	3/21/01	US13449049
Network Analyzer HP-8753ES	7/28/01	MY40001647
Dielectric Probe Kit HP85070A	N/A	

8.3 IEEE SCC-34/SC-2 P1528 RECOMMENDED TISSUE DIELECTRIC PARAMETERS

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in P1528.

Target Frequency	Head		Body	
(MHz)	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

8.4 EQUIPMENTS CALIBRATION CERTIFICATE

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Calibration Certificate

Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1577**
Place of Calibration:	**Zurich**
Date of Calibration:	**Apr. 20, 2001**
Calibration Interval:	**12 months**

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by: Nikolai Nevjana

Approved by:

Schmid & Partner Engineering AG

DASY - DOSIMETRIC ASSESSMENT SYSTEM

CALIBRATION REPORT

DATA ACQUISITION ELECTRONICS

MODEL: DAE3 V1

SERIAL NUMBER: 427

This Data Acquisition Unit was calibrated and tested using a FLUKE 702 Process Calibrator. Calibration and verification were performed at an ambient temperature of 23 ± 5 °C and a relative humidity of < 70%.

Measurements were performed using the standard DASY software for converting binary values, offset compensation and noise filtering. Software settings are indicated in the reports.

Results from this calibration relate only to the unit calibrated.

Calibrated by: E. Meyer

Calibration Date: April 27, 2001

DASY Software Version: DASY3 V3.1c