



SAR DISTRIBUTION SCANS FROM RADIO FREQUENCY INVESTIGATION LTD.

Test of: Sendo Ltd.
Sendo X Tri Band Mobile Handset

(Body Measurements Only)

To: OET Bulletin 65 Supplement C: (2001-01)

Measurements were performed on the DASY4 System

RADIO FREQUENCY INVESTIGATION LTD.

Operations Department

Test Of: Sendo Ltd.

Sendo X Tri Band Mobile Handset

To: OET Bulletin 65 Supplement C: (2001-01)

SAR Distribution Scans

S.No. RFI/SARB2/RP45077JD26A

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Issue Date: 15 March 2004

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Test Of: Sendo Ltd.
Sendo X Tri Band Mobile Handset
To: OET Bulletin 65 Supplement C: (2001-01)

SAR Distribution Scans

This appendix contains SAR Distribution Scans.

Plot Number	Title
45077/JD26/001	Rear of Handset facing phantom
45077/JD26/002	Display of Handset facing phantom
45077/JD26/003	Handset in Case A with Rear of Handset facing phantom
45077/JD26/004	Handset in Case A with Display of Handset facing phantom
45077/JD26/005	Handset in Case A with PHF. Rear of Handset facing phantom
45077/JD26/006	Handset in Case A with PHF. Rear of Handset facing phantom
45077/JD26/007	Handset in Case A with PHF. Rear of Handset facing phantom
45077/JD26/008	Handset in Case B. Rear of Handset facing phantom
45077/JD26/009	Handset in Case B. Display of Handset facing phantom
45077/JD26/010	Handset in Case B with PHF. Rear of Handset facing phantom
45077/JD26/011	Handset in Case B. Rear of Handset facing phantom
45077/JD26/012	Handset in Case B. Rear of Handset facing phantom
45077/JD26/Validation 001	1800MHz Body Validation 07/01/04
45077/JD26/Validation 002	1800MHz Body Validation 08/01/04

RADIO FREQUENCY INVESTIGATION LTD.

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Rear of Handset Facing Phantom (15mm Distance)/Area Scan (111x81x1): Measurement grid:

dx=15mm, dy=15mm

Reference Value = 9.18 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.414 mW/g

Rear of Handset Facing Phantom (15mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 0.653 W/kg

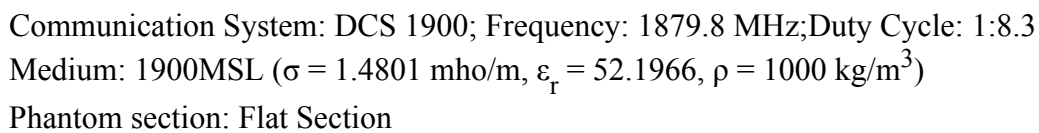
SAR(1 g) = 0.386 mW/g; SAR(10 g) = 0.227 mW/g

Reference Value = 9.18 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.413 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SN1528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Display of Handset Facing Phantom (15mm Distance)/Area Scan (111x101x1): Measurement grid:

dx=15mm, dy=15mm

Reference Value = 6.91 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.158 mW/g

Display of Handset Facing Phantom (15mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 0.218 W/kg

SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.0928 mW/g

Reference Value = 6.91 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.154 mW/g

Display of Handset Facing Phantom (15mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 1:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 0.167 W/kg

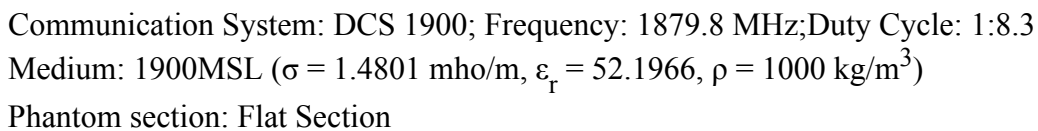
SAR(1 g) = 0.118 mW/g; SAR(10 g) = 0.0767 mW/g

Reference Value = 6.91 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 0.126 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SN1528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case Rear Facing Phantom (10mm Distance)/Area Scan (111x81x1): Measurement grid:

dx=15mm, dy=15mm

Reference Value = 8.19 V/m

Power Drift = 0.02 dB

Maximum value of SAR = 0.536 mW/g

Handset in Case Rear Facing Phantom (10mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 0.793 W/kg

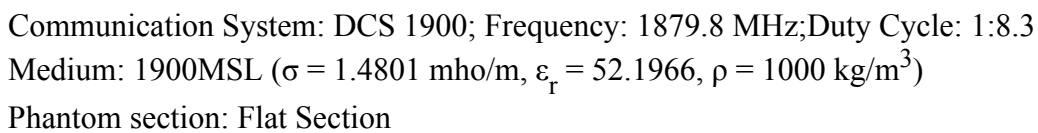
SAR(1 g) = 0.465 mW/g; SAR(10 g) = 0.269 mW/g

Reference Value = 8.19 V/m

Power Drift = 0.02 dB

Maximum value of SAR = 0.504 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SN1528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case Display Facing Phantom (12mm Distance)/Area Scan (131x81x1): Measurement grid:

dx=15mm, dy=15mm

Reference Value = 8.84 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.181 mW/g

Handset in Case Display Facing Phantom (12mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 0.24 W/kg

SAR(1 g) = 0.161 mW/g; SAR(10 g) = 0.103 mW/g

Reference Value = 8.84 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.171 mW/g

Handset in Case Display Facing Phantom (12mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 1:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 0.195 W/kg

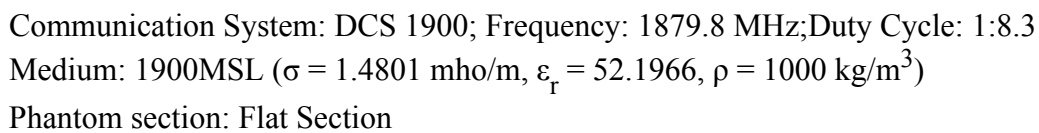
SAR(1 g) = 0.138 mW/g; SAR(10 g) = 0.0885 mW/g

Reference Value = 8.84 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.147 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SN1528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case_A With PHF Rear Facing Phantom. Middle (10mm Distance)/Area Scan (111x91x1):

Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 10.9 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.577 mW/g

Handset in Case_A With PHF Rear Facing Phantom. Middle (10mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.567 mW/g ; SAR(10 g) = 0.34 mW/g

Reference Value = 10.9 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.606 mW/g

Handset in Case_A With PHF Rear Facing Phantom. Middle (10mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 1:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 1.06 W/kg

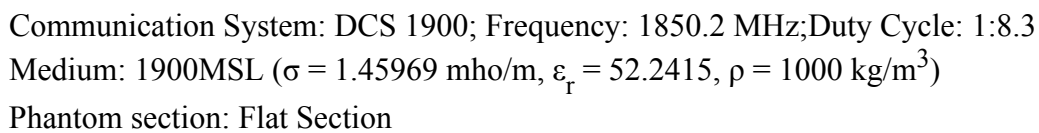
SAR(1 g) = 0.429 mW/g ; SAR(10 g) = 0.196 mW/g

Reference Value = 10.9 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.495 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SN1528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case_A With PHF Rear Facing Phantom. Low (10mm Distance)/Area Scan (111x101x1):

Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 9.28 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.523 mW/g

Handset in Case_A With PHF Rear Facing Phantom. Low (10mm Distance)/Zoom Scan (7x7x7)

(7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 0.844 W/kg

SAR(1 g) = 0.485 mW/g ; SAR(10 g) = 0.293 mW/g

Reference Value = 9.28 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.526 mW/g

Handset in Case_A With PHF Rear Facing Phantom. Low (10mm Distance)/Zoom Scan (7x7x7)

(7x7x7)/Cube 1: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 0.855 W/kg

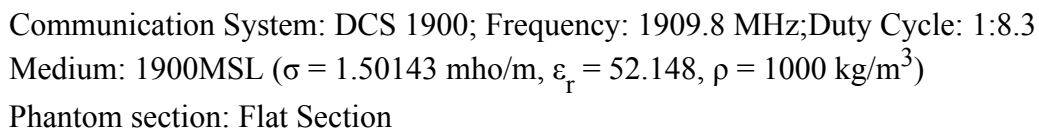
SAR(1 g) = 0.357 mW/g ; SAR(10 g) = 0.166 mW/g

Reference Value = 9.28 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.419 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SNI528; ConvF(4.6, 4.6, 4.6); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case_A With PHF Rear Facing Phantom. High (10mm Distance)/Area Scan (111x101x1):

Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 12.3 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.91 mW/g

Handset in Case_A With PHF Rear Facing Phantom. High (10mm Distance)/Zoom Scan (7x7x7)

(7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 1.93 W/kg

SAR(1 g) = 0.819 mW/g; SAR(10 g) = 0.363 mW/g

Reference Value = 12.3 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.975 mW/g

Handset in Case_A With PHF Rear Facing Phantom. High (10mm Distance)/Zoom Scan (7x7x7)

(7x7x7)/Cube 1: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.599 mW/g; SAR(10 g) = 0.362 mW/g

Reference Value = 12.3 V/m

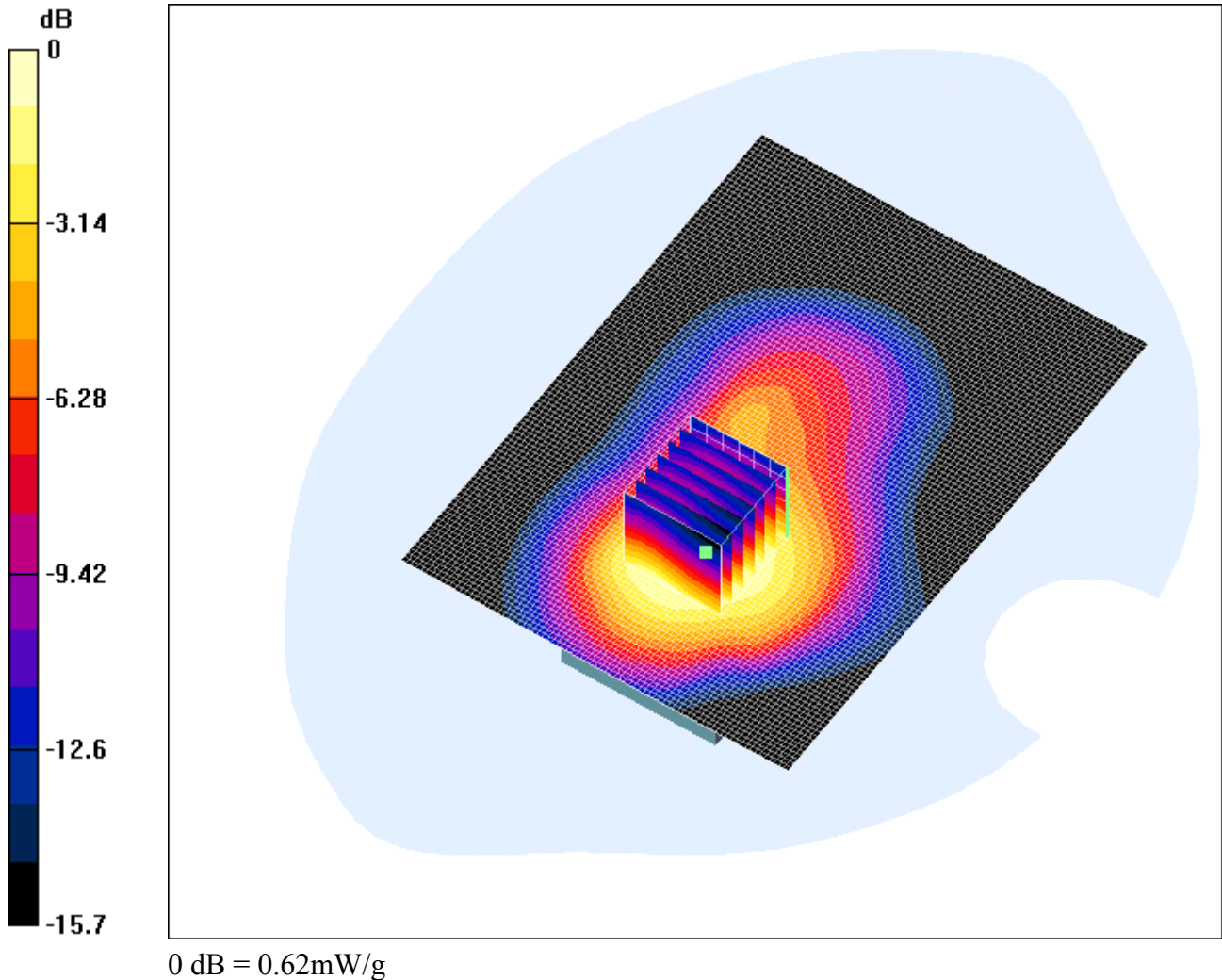
Power Drift = -0.2 dB

Maximum value of SAR = 0.64 mW/g

Date: 08/01/0
45077/JD26/008

Test Laboratory: RADIO FREQUENCY INVESTIGATION LTD.

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



Communication System: DCS 1900; Frequency: 1879.8 MHz; Duty Cycle: 1:8.3

Medium: 1900MSL ($\sigma = 1.4801$ mho/m, $\epsilon_r = 52.1966$, $\rho = 1000$ kg/m³)

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SNI528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case_B Rear Facing Phantom (10mm Distance)/Area Scan (111x81x1): Measurement grid:

dx=15mm, dy=15mm

Reference Value = 12.8 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.612 mW/g

Handset in Case_B Rear Facing Phantom (10mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.575 mW/g; SAR(10 g) = 0.345 mW/g

Reference Value = 12.8 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.62 mW/g

Handset in Case_B Display Facing Phantom (12mm Distance)/Area Scan (131x81x1): Measurement

grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 8.54 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.261 mW/g

Handset in Case_B Display Facing Phantom (12mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 0.35 W/kg

SAR(1 g) = 0.23 mW/g ; SAR(10 g) = 0.142 mW/g

Reference Value = 8.54 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.249 mW/g

Handset in Case_B Display Facing Phantom (12mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 1:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 0.245 W/kg

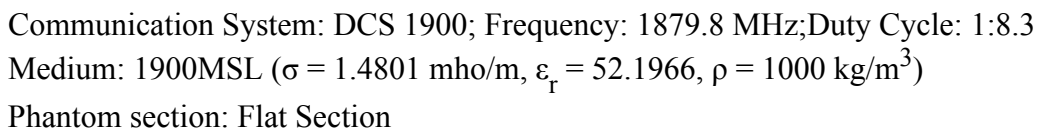
SAR(1 g) = 0.171 mW/g ; SAR(10 g) = 0.108 mW/g

Reference Value = 8.54 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.185 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SNI528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case_B With PHF Rear Facing Phantom (10mm Distance)/Area Scan (111x91x1):

Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 8.56 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.471 mW/g

Handset in Case_B With PHF Rear Facing Phantom (10mm Distance)/Zoom Scan (7x7x7)

(7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 0.791 W/kg

SAR(1 g) = 0.421 mW/g ; SAR(10 g) = 0.246 mW/g

Reference Value = 8.56 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.47 mW/g

Handset in Case_B With PHF Rear Facing Phantom (10mm Distance)/Zoom Scan (7x7x7)

(7x7x7)/Cube 1: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 0.813 W/kg

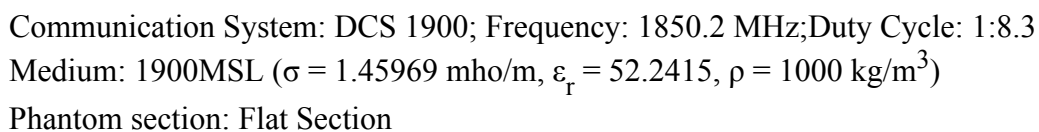
SAR(1 g) = 0.441 mW/g ; SAR(10 g) = 0.251 mW/g

Reference Value = 8.56 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.482 mW/g

DUT: Sendo; Type: Huli; Serial: 151515151515151515151515158



- Probe: ET3DV6 - SNI528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 19/05/2003
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 116

Handset in Case_B Rear Facing Phantom. Low (10mm Distance)/Area Scan (111x81x1): Measurement

grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 10.9 V/m

Power Drift = 0.05 dB

Maximum value of SAR = 0.576 mW/g

Handset in Case_B Rear Facing Phantom. Low (10mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 0.883 W/kg

SAR(1 g) = 0.519 mW/g ; SAR(10 g) = 0.32 mW/g

Reference Value = 10.9 V/m

Power Drift = 0.05 dB

Maximum value of SAR = 0.558 mW/g

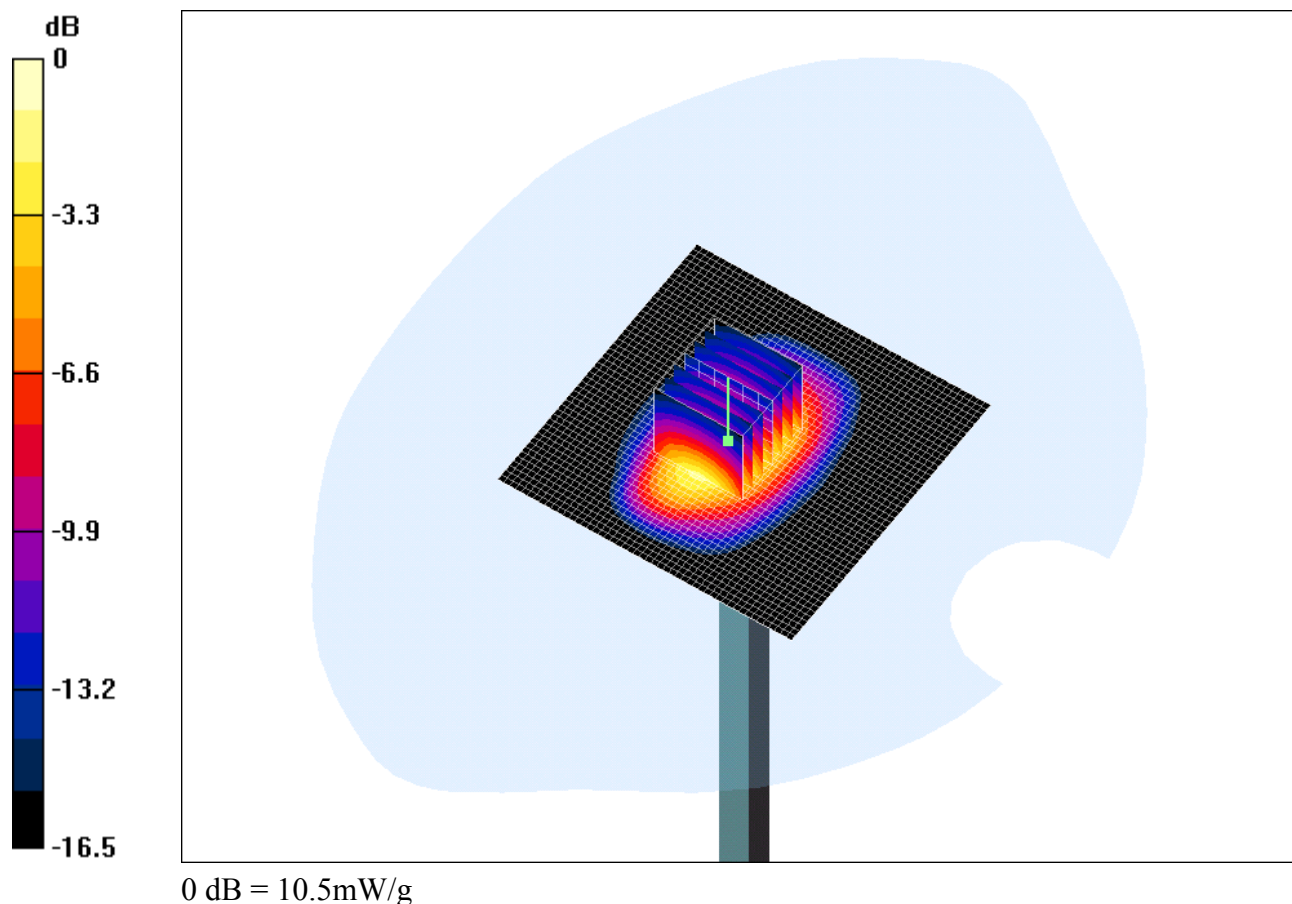
Handset in Case_B Rear Facing Phantom. High (10mm Distance)/Area Scan (111x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Reference Value = 16.1 V/m
Power Drift = 0.2 dB
Maximum value of SAR = 1.07 mW/g

Handset in Case_B Rear Facing Phantom. High (10mm Distance)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Peak SAR (extrapolated) = 2.25 W/kg
SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.645 mW/g
Reference Value = 16.1 V/m
Power Drift = 0.2 dB
Maximum value of SAR = 1.21 mW/g

Date: 07/01/04

Validation_001

Test Laboratory: RADIO FREQUENCY INVESTIGATION LTD.

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: SN2d009

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: 1900MSL Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.5 \text{ mho/m}$; $\epsilon_r = 52.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003

- Sensor-Surface: 4mm (Mechanical Surface Detection)

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)

- Electronics: DAE3 Sn450; Calibrated: 19/05/2003

- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197

- Measurement SW: DASY4, V4.2 Build 12; Postprocessing SW: SEMCAD, V1.8 Build 93

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 86.9 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 10.6 mW/g

d=10mm, Pin=250mW/Zoom Scan 7x7x7 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 15.8 W/kg

SAR(1 g) = 9.23 mW/g; SAR(10 g) = 4.95 mW/g

Reference Value = 86.9 V/m

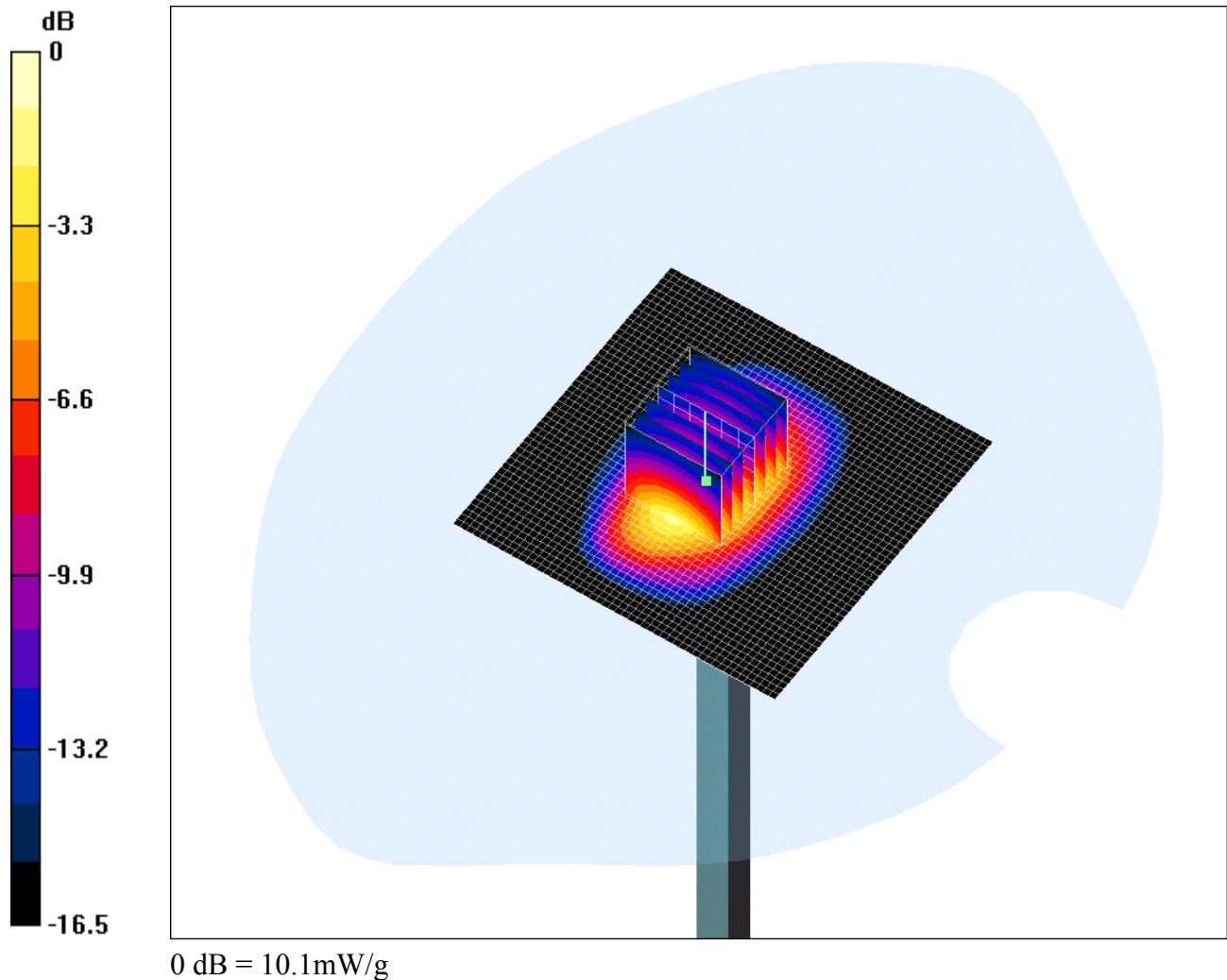
Power Drift = 0.1 dB

Maximum value of SAR = 10.5 mW/g

Date: 08/01/04

Validation_002

Test Laboratory: RADIO FREQUENCY INVESTIGATION LTD.

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: SN2d009

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: 1900MSL Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.5 \text{ mho/m}$; $\epsilon_r = 52.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1528; ConvF(4.7, 4.7, 4.7); Calibrated: 29/07/2003

- Sensor-Surface: 4mm (Mechanical Surface Detection)

Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)

- Electronics: DAE3 Sn450; Calibrated: 19/05/2003

- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1197

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.8 Build 93

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 83.8 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 10.1 mW/g

d=10mm, Pin=250mW/Zoom Scan 7x7x7 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 15.3 W/kg

SAR(1 g) = 8.95 mW/g; SAR(10 g) = 4.81 mW/g

Reference Value = 83.8 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 10.1 mW/g