

Fax.: +82-31-500-0159



# Appendix A. SAR PLOTS



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Test Laboratory: KTL

835MHz Validation – D835V2; SN:481

\*Test Date: 18th/Dec/2008

Measured Liquid Temperature( $^{\circ}$ C): 22.3, Ambient Temperature( $^{\circ}$ C): 22.0

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used: f = 835 MHz;  $\sigma = 0.91$  mho/m;  $\varepsilon_r = 40.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

#### DASY4 Configuration:

- Probe: ES3DV2 SN3020; ConvF(6.12, 6.12, 6.12); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (61x91x1):** Measurement grid: dx=20mm, dy=20mm

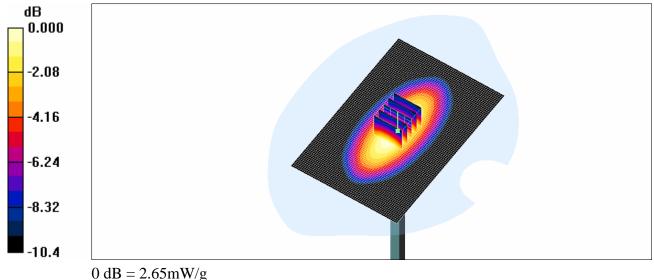
Maximum value of SAR (interpolated) = 2.70 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 55.1 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 3.56 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.61 mW/gMaximum value of SAR (measured) = 2.65 mW/g







#### AT870 GSM850 Ch.190 LEFT CHEEK TOUCH

\*Test Date: 18th/Dec/2008

Measured Liquid Temperature( $^{\circ}$ C):22.5, Ambient Temperature( $^{\circ}$ C):22.0

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 836.6 MHz;  $\sigma = 0.91$  mho/m;  $\varepsilon_r = 40.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(6.12, 6.12, 6.12); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

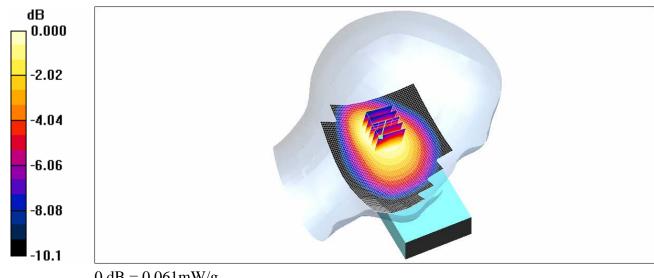
**Area Scan (61x81x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.064 mW/g

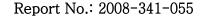
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.27 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 0.077 W/kg

SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.043 mW/gMaximum value of SAR (measured) = 0.061 mW/g







#### AT870 GSM850 Ch.190 LEFT EAR TILT

\*Test Date: 18th/Dec/2008

## Measured Liquid Temperature ( $^{\circ}$ C): 22.5, Ambient Temperature ( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 836.6 MHz;  $\sigma = 0.91$  mho/m;  $\varepsilon_r = 40.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

## DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(6.12, 6.12, 6.12); Calibrated: 2008-07-21

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.061 mW/g

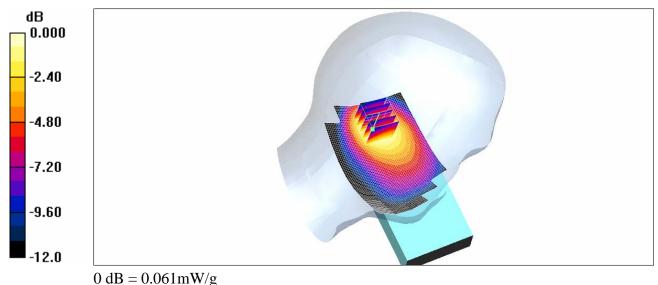
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

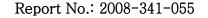
Reference Value = 7.83 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.079 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.039 mW/g

Maximum value of SAR (measured) = 0.061 mW/g







#### AT870 GSM850 Ch.190 RIGHT CHEEK TOUCH

\*Test Date: 18th/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 22.5, Ambient Temperature ( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 836.6 MHz;  $\sigma = 0.91$  mho/m;  $\varepsilon_r = 40.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

- Probe: ES3DV2 SN3020; ConvF(6.12, 6.12, 6.12); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.085 mW/g

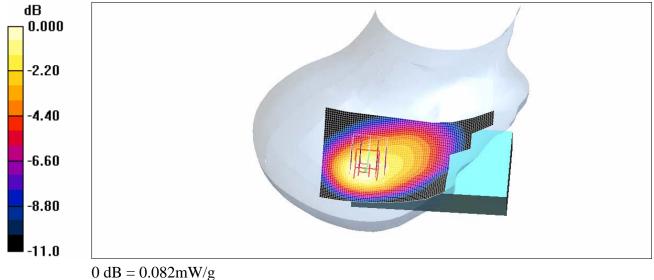
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

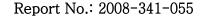
Reference Value = 7.08 V/m: Power Drift = 0.090 dB

Peak SAR (extrapolated) = 0.114 W/kg

SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.051 mW/g

Maximum value of SAR (measured) = 0.082 mW/g







#### AT870 GSM850 Ch.190 RIGHT EAR TILT

\*Test Date: 18th/Dec/2008

## Measured Liquid Temperature ( $^{\circ}$ C): 22.5, Ambient Temperature ( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 836.6 MHz;  $\sigma = 0.91$  mho/m;  $\varepsilon_r = 40.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

- Probe: ES3DV2 SN3020; ConvF(6.12, 6.12, 6.12); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.090 mW/g

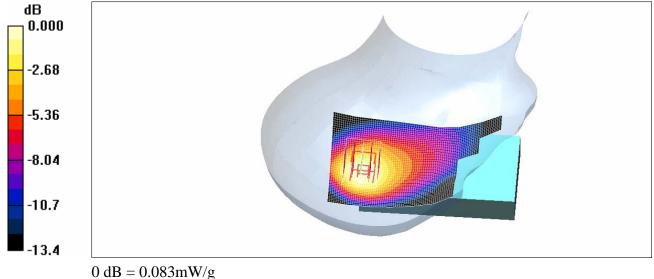
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.05 V/m; Power Drift = 0.061 dB

Peak SAR (extrapolated) = 0.114 W/kg

SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.051 mW/g

Maximum value of SAR (measured) = 0.083 mW/g





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Test Laboratory: KTL

#### AT870 GSM850 Ch.128 RIGHT EAR TILT

\*Test Date: 18th/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C): 22.5, Ambient Temperature( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 824.2 MHz;  $\sigma = 0.9$  mho/m;  $\varepsilon_r = 40.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

## DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(6.12, 6.12, 6.12); Calibrated: 2008-07-21

• Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

• Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.121 mW/g

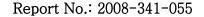
**Z Scan (1x1x16):** Measurement grid: dx=20mm, dy=20mm, dz=20mm Maximum value of SAR (interpolated) = 0.043 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

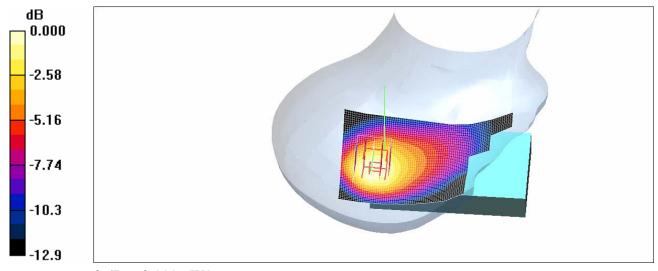
Reference Value = 8.43 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.152 W/kg

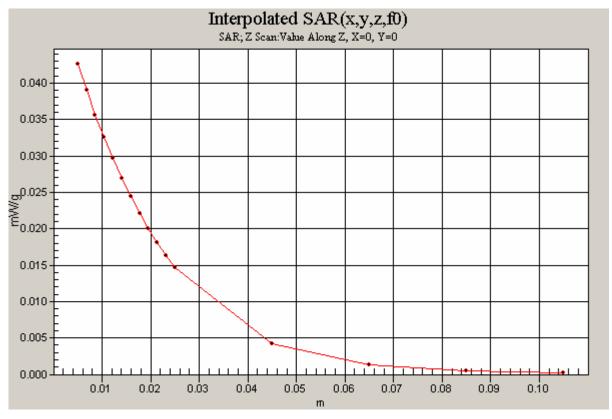
SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.068 mW/gMaximum value of SAR (measured) = 0.111 mW/g



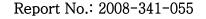




0 dB = 0.111 mW/g



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#### AT870 GSM850 Ch.251 RIGHT EAR TILT

\*Test Date: 18th/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 22.5, Ambient Temperature ( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 848.8 MHz;  $\sigma = 0.93 \text{ mho/m}$ ;  $\varepsilon_r = 40.5$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(6.12, 6.12, 6.12); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.077 mW/g

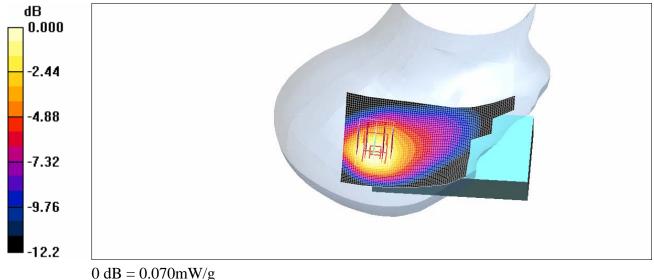
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

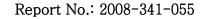
Reference Value = 6.20 V/m: Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.097 W/kg

SAR(1 g) = 0.065 mW/g; SAR(10 g) = 0.042 mW/g

Maximum value of SAR (measured) = 0.070 mW/g







# AT870 GSM850 Ch.190 Body Front facing phantom: distance 1.5 cm

\*Test Date: 18th/Dec/2008

## Measured Liquid Temperature ( $^{\circ}$ C): 22.2, Ambient Temperature ( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 836.6 MHz;  $\sigma = 0.97$  mho/m;  $\varepsilon_r = 54.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# **DASY4** Configuration:

• Probe: ES3DV2 - SN3020; ConvF(6.21, 6.21, 6.21); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.045 mW/g

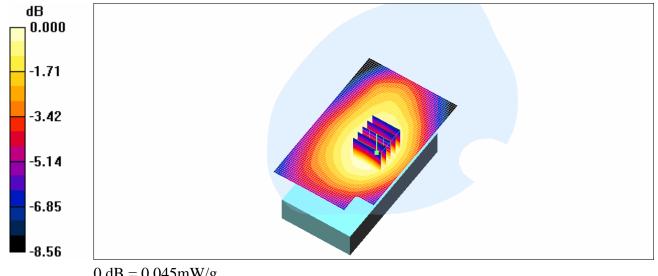
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

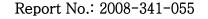
Reference Value = 5.81 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 0.054 W/kg

SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.033 mW/g

Maximum value of SAR (measured) = 0.045 mW/g







# AT870 GSM850 Ch.190 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 18th/Dec/2008

## Measured Liquid Temperature( $^{\circ}$ C): 22.2, Ambient Temperature( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: HSL835 Medium parameters used: f = 836.6 MHz;  $\sigma = 0.97$  mho/m;  $\varepsilon_r = 54.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(6.21, 6.21, 6.21); Calibrated: 2008-07-21

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

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.054 mW/g

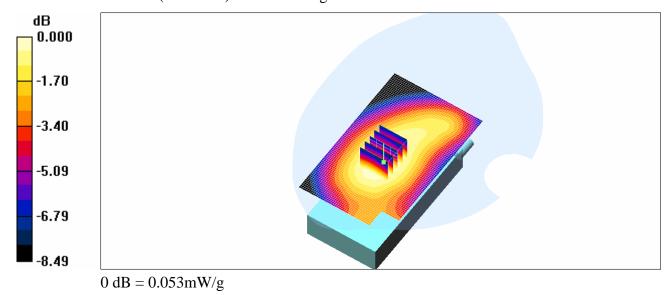
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

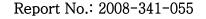
Reference Value = 6.45 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 0.064 W/kg

SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.038 mW/g

Maximum value of SAR (measured) = 0.053 mW/g





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Test Laboratory: KTL

# AT870 GPRS850 Ch.190 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 18th/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 22.2, Ambient Temperature ( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium: HSL835 Medium parameters used: f = 836.6 MHz;  $\sigma = 0.97$  mho/m;  $\varepsilon_r = 54.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(6.21, 6.21, 6.21); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.097 mW/g

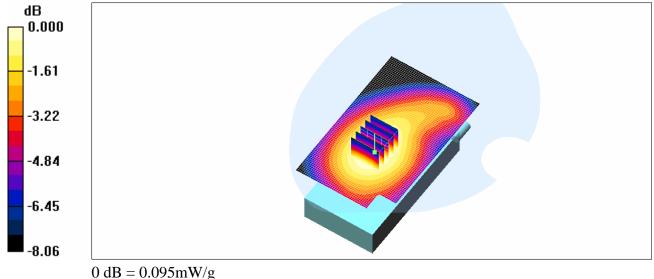
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.32 V/m; Power Drift = 0.307 dB

Peak SAR (extrapolated) = 0.114 W/kg

SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.068 mW/g

Maximum value of SAR (measured) = 0.095 mW/g





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Test Laboratory: KTL

AT870 GPRS850 Ch.128 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 18th/Dec/2008

Measured Liquid Temperature( $^{\circ}$ C):22.2, Ambient Temperature( $^{\circ}$ C):22.0

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:4.15

Medium: HSL835 Medium parameters used: f = 824.2 MHz;  $\sigma = 0.96$  mho/m;  $\varepsilon_r = 54.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

## DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(6.21, 6.21, 6.21); Calibrated: 2008-07-21

- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.142 mW/g

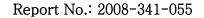
**Z Scan (1x1x16):** Measurement grid: dx=20mm, dy=20mm, dz=20mm Maximum value of SAR (interpolated) = 0.041 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.75 V/m; Power Drift = 0.050 dB

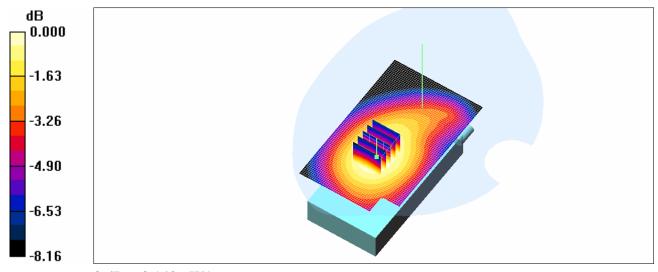
Peak SAR (extrapolated) = 0.169 W/kg

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.101 mW/gMaximum value of SAR (measured) = 0.142 mW/g

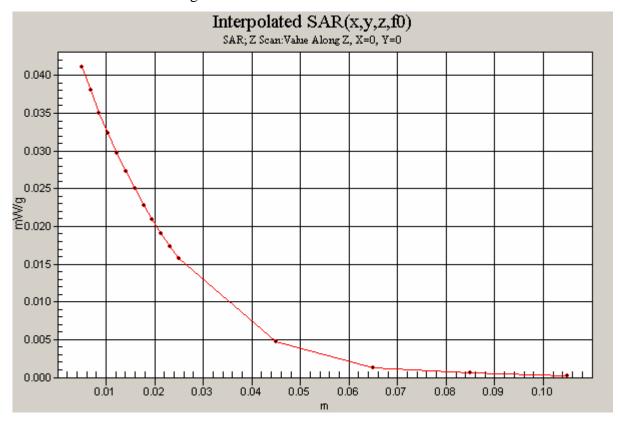


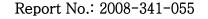
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0 dB = 0.142 mW/g





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Test Laboratory: KTL

# AT870 GPRS850 Ch.251 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 18th/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 22.2, Ambient Temperature ( $^{\circ}$ C): 22.0

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.15

Medium: HSL835 Medium parameters used: f = 848.8 MHz;  $\sigma = 0.98 \text{ mho/m}$ ;  $\varepsilon_r = 54.2$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(6.21, 6.21, 6.21); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_835MHz; Type: SAM; Serial: TP-1276

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.078 mW/g

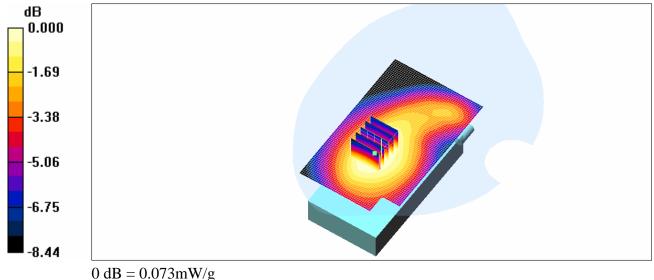
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

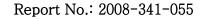
Reference Value = 6.57 V/m; Power Drift = 0.101 dB

Peak SAR (extrapolated) = 0.087 W/kg

SAR(1 g) = 0.070 mW/g; SAR(10 g) = 0.052 mW/g

Maximum value of SAR (measured) = 0.073 mW/g





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Test Laboratory: KTL

1900MHz Validation - D1900V2; SN:5d038

\*Test Date: 19th/Dec/2008

## Measured Liquid Temperature( $^{\circ}$ C): 21.5, Ambient Temperature( $^{\circ}$ C): 21.0

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900 Medium parameters used: f = 1900 MHz;  $\sigma = 1.42$  mho/m;  $\varepsilon_r = 39.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

- Probe: ES3DV2 SN3020; ConvF(5.03, 5.03, 5.03); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (61x71x1):** Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 12.7 mW/g

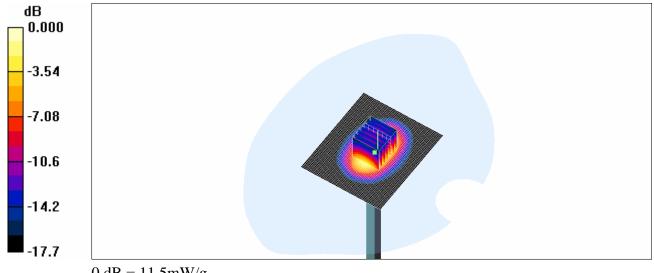
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

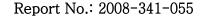
Reference Value = 90.7 V/m; Power Drift = 0.002 dB

Peak SAR (extrapolated) = 19.1 W/kg

SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.35 mW/g

Maximum value of SAR (measured) = 11.5 mW/g







#### AT870 GSM1900 Ch.661 LEFT CHEEK TOUCH

\*Test Date: 19th/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):21.5, Ambient Temperature( $^{\circ}$ C):21.0

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: f = 1880 MHz;  $\sigma = 1.4$  mho/m;  $\varepsilon_r = 39.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

# **DASY4** Configuration:

• Probe: ES3DV2 - SN3020; ConvF(5.03, 5.03, 5.03); Calibrated: 2008-07-21

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

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

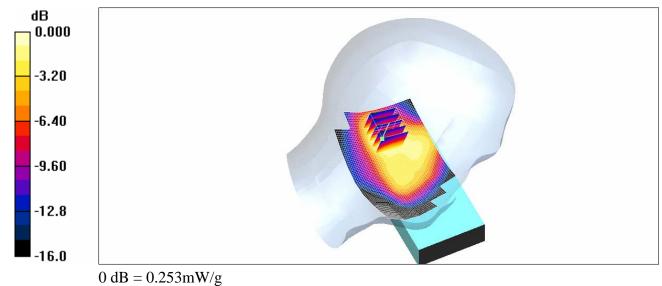
Maximum value of SAR (interpolated) = 0.244 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

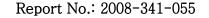
Reference Value = 12.0 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 0.385 W/kg

SAR(1 g) = 0.236 mW/g; SAR(10 g) = 0.141 mW/gMaximum value of SAR (measured) = 0.253 mW/g



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#### AT870 GSM1900 Ch.661 LEFT EAR TILT

\*Test Date: 19th/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 21.5, Ambient Temperature ( $^{\circ}$ C): 21.0

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: f = 1880 MHz;  $\sigma = 1.4$  mho/m;  $\varepsilon_r = 39.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

# **DASY4** Configuration:

Probe: ES3DV2 - SN3020; ConvF(5.03, 5.03, 5.03); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.301 mW/g

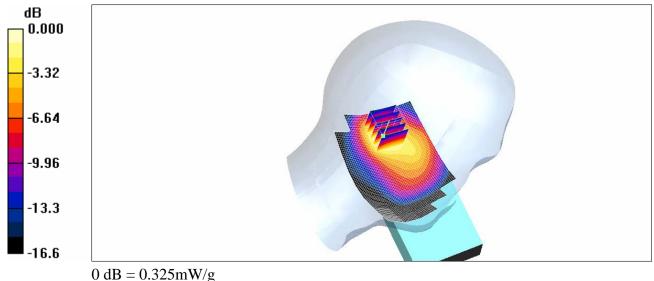
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

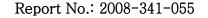
Reference Value = 12.8 V/m; Power Drift = -0.044 dB

Peak SAR (extrapolated) = 0.495 W/kg

SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.170 mW/g

Maximum value of SAR (measured) = 0.325 mW/g







#### AT870 GSM1900 Ch.661 RIGHT CHEEK TOUCH

\*Test Date: 19th/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 21.5, Ambient Temperature ( $^{\circ}$ C): 21.0

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: f = 1880 MHz;  $\sigma = 1.4$  mho/m;  $\varepsilon_r = 39.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(5.03, 5.03, 5.03); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

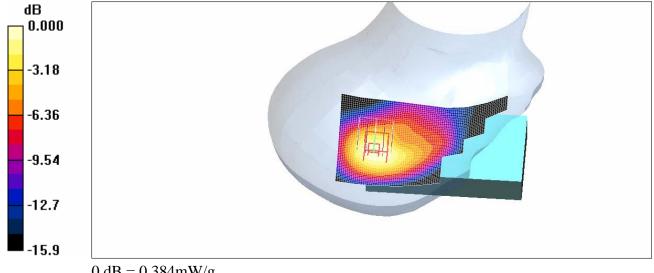
Maximum value of SAR (interpolated) = 0.372 mW/g

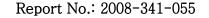
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.0 V/m; Power Drift = -0.123 dB

Peak SAR (extrapolated) = 0.589 W/kg

SAR(1 g) = 0.352 mW/g; SAR(10 g) = 0.207 mW/gMaximum value of SAR (measured) = 0.384 mW/g





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Test Laboratory: KTL

#### AT870 GSM1900 Ch.661 RIGHT EAR TILT

\*Test Date: 19th/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):21.5, Ambient Temperature( $^{\circ}$ C):21.0

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: f = 1880 MHz;  $\sigma = 1.4$  mho/m;  $\varepsilon_r = 39.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(5.03, 5.03, 5.03); Calibrated: 2008-07-21

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

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.472 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.6 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 0.734 W/kg

SAR(1 g) = 0.438 mW/g; SAR(10 g) = 0.247 mW/gMaximum value of SAR (measured) = 0.472 mW/g

-3.54
-7.08
-10.6
-14.2
-17.7

0 dB = 0.472 mW/g



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Test Laboratory: KTL

#### AT870 GSM1900 Ch.512 RIGHT EAR TILT

\*Test Date: 19th/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):21.5, Ambient Temperature( $^{\circ}$ C):21.0

Communication System: DCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: f = 1850.2 MHz;  $\sigma = 1.39$  mho/m;  $\varepsilon_r = 39.9$ ;  $\rho = 1000$ 

 $kg/m^3$ 

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

#### DASY4 Configuration:

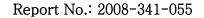
• Probe: ES3DV2 - SN3020; ConvF(5.03, 5.03, 5.03); Calibrated: 2008-07-21

- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.605 mW/g

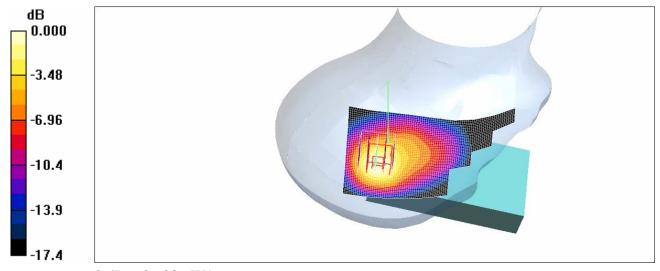
**Z Scan (1x1x16):** Measurement grid: dx=20mm, dy=20mm, dz=20mm Maximum value of SAR (interpolated) = 0.130 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm Reference Value = 13.3 V/m; Power Drift = 0.029 dB Peak SAR (extrapolated) = 0.945 W/kg SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.322 mW/g Maximum value of SAR (measured) = 0.608 mW/g

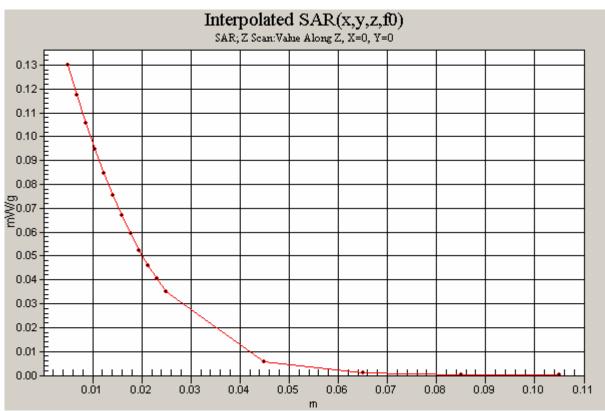


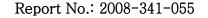
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0 dB = 0.608 mW/g







#### AT870 GSM1900 Ch.810 RIGHT EAR TILT

\*Test Date: 19th/Dec/2008

## Measured Liquid Temperature ( $^{\circ}$ C): 21.5, Ambient Temperature ( $^{\circ}$ C): 21.0

Communication System: DCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: f = 1909.8 MHz;  $\sigma = 1.43$  mho/m;  $\varepsilon_r = 39.7$ ;  $\rho = 1000$ 

kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

#### DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(5.03, 5.03, 5.03); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom 1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.416 mW/g

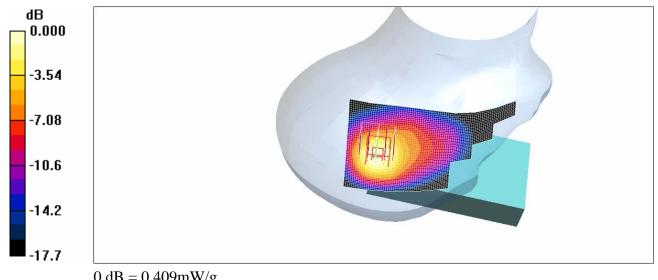
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.7 V/m; Power Drift = -0.001 dB

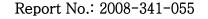
Peak SAR (extrapolated) = 0.635 W/kg

SAR(1 g) = 0.376 mW/g; SAR(10 g) = 0.212 mW/g

Maximum value of SAR (measured) = 0.409 mW/g



0 dB = 0.409 mW/g





# AT870 GSM1900 Ch.661 Body Front facing phantom: distance 1.5 cm

\*Test Date: 19th/Dec/2008

## Measured Liquid Temperature( $^{\circ}$ C): 22.2, Ambient Temperature( $^{\circ}$ C): 22.0

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: MSL1900 Medium parameters used: f = 1880 MHz;  $\sigma = 1.52$  mho/m;  $\varepsilon_r = 52.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(4.58, 4.58, 4.58); Calibrated: 2008-07-21

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

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

• Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.106 mW/g

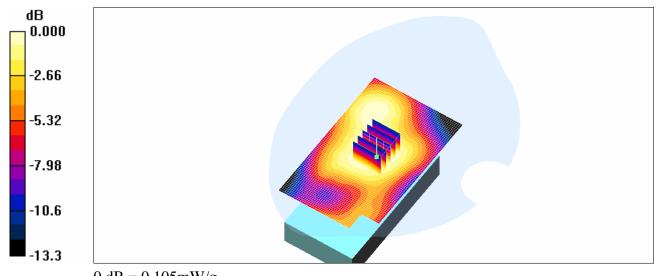
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.19 V/m; Power Drift = 0.026 dB

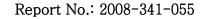
Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.099 mW/g; SAR(10 g) = 0.066 mW/g

Maximum value of SAR (measured) = 0.105 mW/g



0 dB = 0.105 mW/g





# AT870 GSM1900 Ch.661 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 19th/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):22.2, Ambient Temperature( $^{\circ}$ C):22.0

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: MSL1900 Medium parameters used: f = 1880 MHz;  $\sigma = 1.52$  mho/m;  $\varepsilon_r = 52.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

- Probe: ES3DV2 SN3020; ConvF(4.58, 4.58, 4.58); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.110 mW/g

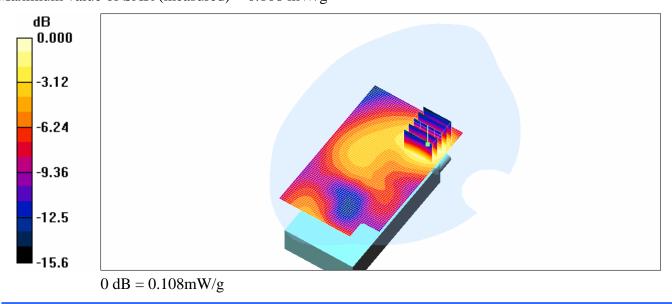
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

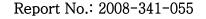
Reference Value = 6.19 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.158 W/kg

SAR(1 g) = 0.100 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (measured) = 0.108 mW/g





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Test Laboratory: KTL

# AT870 GPRS1900 Ch.661 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 19th/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):22.2, Ambient Temperature( $^{\circ}$ C):22.0

Communication System: DCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium: MSL1900 Medium parameters used: f = 1880 MHz;  $\sigma = 1.52$  mho/m;  $\varepsilon_r = 52.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

- Probe: ES3DV2 SN3020; ConvF(4.58, 4.58, 4.58); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.210 mW/g

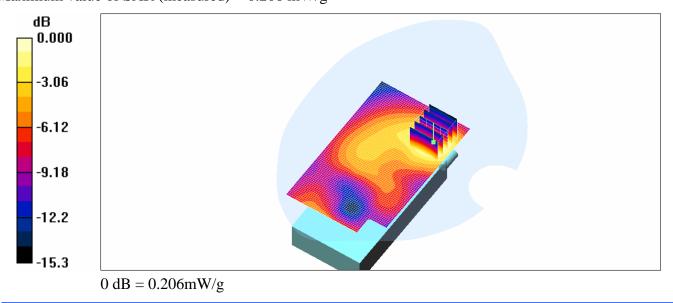
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.00 V/m; Power Drift = -0.303 dB

Peak SAR (extrapolated) = 0.304 W/kg

SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.113 mW/g

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





한국산업기술시험원 Report No.: 2008-341-055

Test Laboratory: KTL

AT870 GPRS1900 Ch.512 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 19th/Dec/2008

Measured Liquid Temperature( $^{\circ}$ C):22.2, Ambient Temperature( $^{\circ}$ C):22.0

Communication System: DCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4.15

Medium: MSL1900 Medium parameters used: f = 1850.2 MHz;  $\sigma = 1.49$  mho/m;  $\varepsilon_r = 52.8$ ;  $\rho = 1000$ 

 $kg/m^3$ 

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

#### DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(4.58, 4.58, 4.58); Calibrated: 2008-07-21

• Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

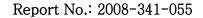
• Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.232 mW/g

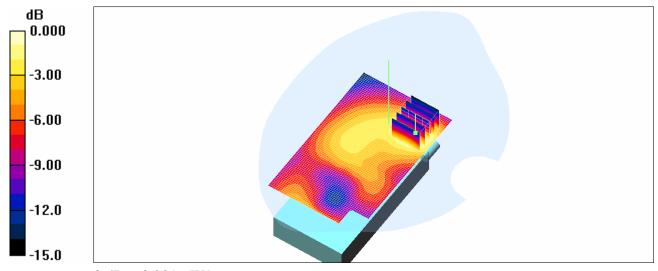
**Z Scan (1x1x16):** Measurement grid: dx=20mm, dy=20mm, dz=20mm Maximum value of SAR (interpolated) = 0.062 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm Reference Value = 9.88 V/m; Power Drift = -0.003 dB Peak SAR (extrapolated) = 0.338 W/kg SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.131 mW/g Maximum value of SAR (measured) = 0.231 mW/g

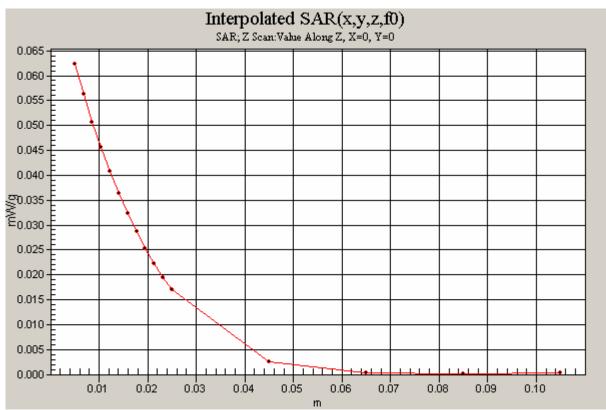


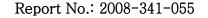
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 $0\ dB = 0.231 mW/g$ 







# AT870 GPRS1900 Ch.810 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 19th/Dec/2008

## Measured Liquid Temperature( $^{\circ}$ C): 22.2, Ambient Temperature( $^{\circ}$ C): 22.0

Communication System: DCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15

Medium: MSL1900 Medium parameters used: f = 1909.8 MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$ 

 $kg/m^3$ 

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

#### DASY4 Configuration:

- Probe: ES3DV2 SN3020; ConvF(4.58, 4.58, 4.58); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x81x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.175 mW/g

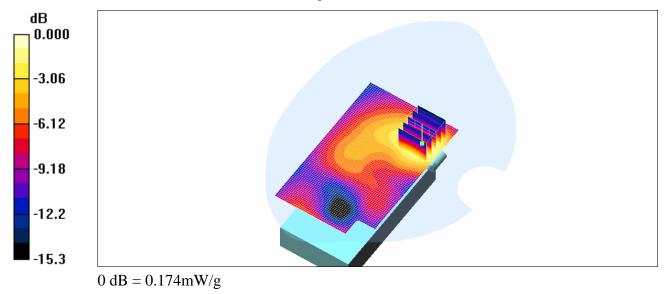
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

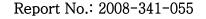
Reference Value = 8.11 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.096 mW/g

Maximum value of SAR (measured) = 0.174 mW/g





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Test Laboratory: KTL

2450MHz Validation - D2450V2; SN:746

\*Test Date: 22nd/Dec/2008

Measured Liquid Temperature( $^{\circ}$ C): 21.7, Ambient Temperature( $^{\circ}$ C): 21.0

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used: f = 2450 MHz;  $\sigma = 1.82$  mho/m;  $\varepsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

#### DASY4 Configuration:

Probe: ES3DV2 - SN3020; ConvF(4.33, 4.33, 4.33); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

• Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (61x71x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 15.8 mW/g

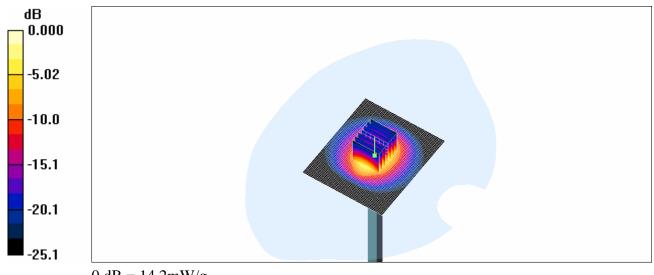
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 90.0 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 30.1 W/kg

SAR(1 g) = 12.7 mW/g; SAR(10 g) = 5.57 mW/g

Maximum value of SAR (measured) = 14.2 mW/g



0 dB = 14.2 mW/g



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Test Laboratory: KTL

AT870 802.11b Ch.6 Body Front facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

Measured Liquid Temperature( $^{\circ}$ C):21.7, Ambient Temperature( $^{\circ}$ C):21.0

Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2437 MHz;  $\sigma = 1.95$  mho/m;  $\varepsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

## DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21

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

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

• Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tel.: +82-31-500-0133

Fax.: +82-31-500-0159

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm Maximum value of SAR (interpolated) = 0.060 mW/g

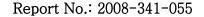
**Z Scan (1x1x16):** Measurement grid: dx=20mm, dy=20mm, dz=20mm Maximum value of SAR (interpolated) = 0.001 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.62 V/m; Power Drift = -0.167 dB

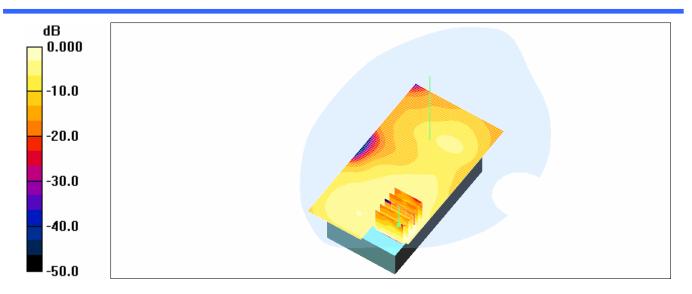
Peak SAR (extrapolated) = 0.125 W/kg

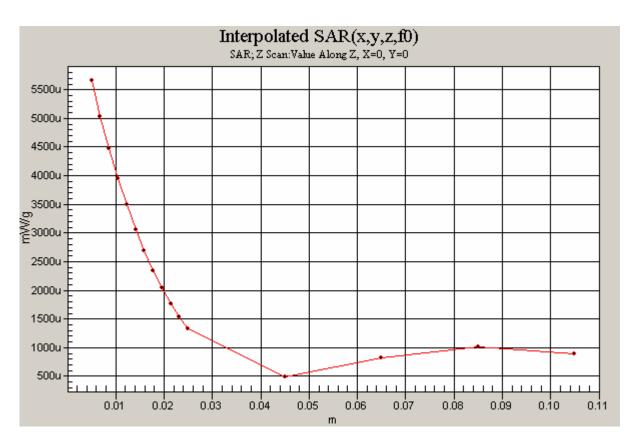
SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.031 mW/gMaximum value of SAR (measured) = 0.064 mW/g



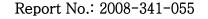
Fax.: +82-31-500-0159







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# AT870 802.11b Ch.6 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):21.7, Ambient Temperature( $^{\circ}$ C):21.0

Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2437 MHz;  $\sigma = 1.95$  mho/m;  $\varepsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# **DASY4** Configuration:

• Probe: ES3DV2 - SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21

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

• Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.021 mW/g

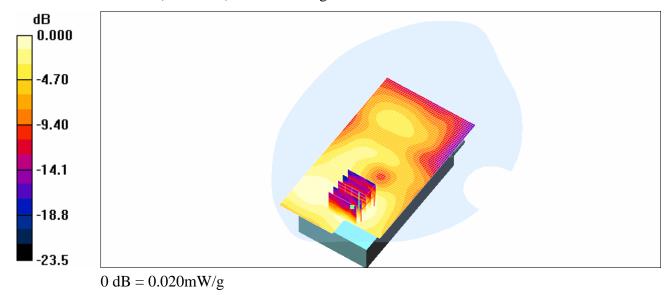
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

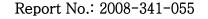
Reference Value = 1.92 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.038 W/kg

SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.011 mW/g

Maximum value of SAR (measured) = 0.020 mW/g





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Test Laboratory: KTL

# AT870 802.11b Ch.1 Body Front facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 21.7, Ambient Temperature ( $^{\circ}$ C): 21.0

Communication System: WLAN; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2412 MHz;  $\sigma = 1.92$  mho/m;  $\varepsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.044 mW/g

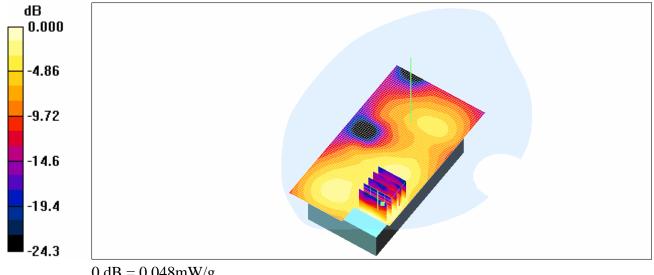
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.63 V/m; Power Drift = 0.127 dB

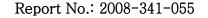
Peak SAR (extrapolated) = 0.095 W/kg

SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.023 mW/g

Maximum value of SAR (measured) = 0.048 mW/gdB



0 dB = 0.048 mW/g



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Test Laboratory: KTL

# AT870 802.11b Ch.11 Body Front facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):21.7, Ambient Temperature( $^{\circ}$ C):21.0

Communication System: WLAN; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2412 MHz;  $\sigma = 1.92$  mho/m;  $\varepsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# **DASY4** Configuration:

- Probe: ES3DV2 SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn559; Calibrated: 2008-03-13
- Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm

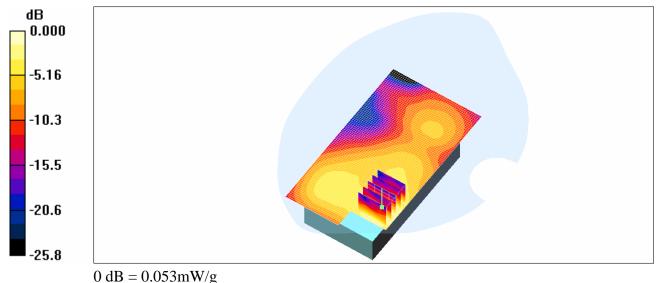
Maximum value of SAR (interpolated) = 0.050 mW/g

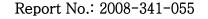
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.87 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 0.096 W/kg

SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.025 mW/gMaximum value of SAR (measured) = 0.053 mW/g







## AT870 802.11g Ch.6 Body Front facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 21.7, Ambient Temperature ( $^{\circ}$ C): 21.0

Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2437 MHz;  $\sigma = 1.95$  mho/m;  $\varepsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.022 mW/g

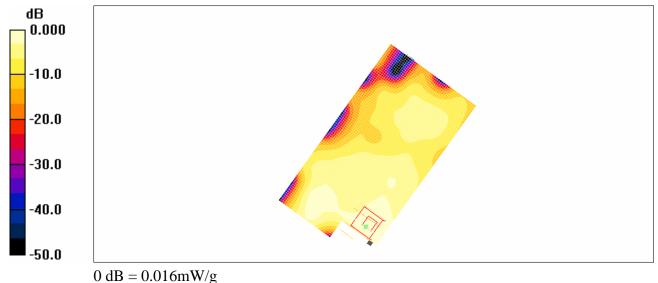
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

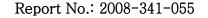
Reference Value = 1.37 V/m; Power Drift = 0.109 dB

Peak SAR (extrapolated) = 0.031 W/kg

SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00781 mW/g

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







# AT870 802.11g Ch.6 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 21.7, Ambient Temperature ( $^{\circ}$ C): 21.0

Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2437 MHz;  $\sigma = 1.95$  mho/m;  $\varepsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# **DASY4** Configuration:

• Probe: ES3DV2 - SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.011 mW/g

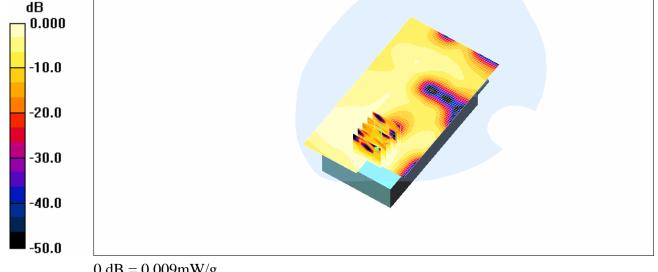
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.17 V/m; Power Drift = 0.160 dB

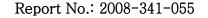
Peak SAR (extrapolated) = 0.015 W/kg

SAR(1 g) = 0.00784 mW/g; SAR(10 g) = 0.00373 mW/g

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



0 dB = 0.009 mW/g





# AT870 802.11g Ch.1 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

# Measured Liquid Temperature ( $^{\circ}$ C): 21.7, Ambient Temperature ( $^{\circ}$ C): 21.0

Communication System: WLAN; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2412 MHz;  $\sigma = 1.92$  mho/m;  $\varepsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# **DASY4** Configuration:

• Probe: ES3DV2 - SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm

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

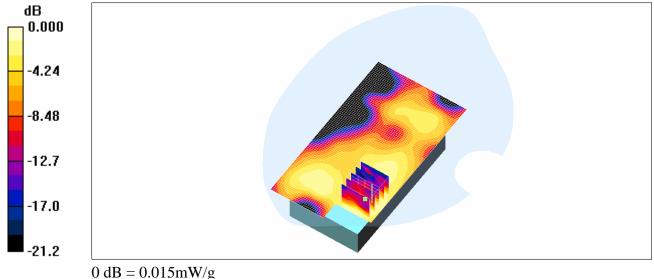
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

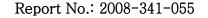
Reference Value = 1.35 V/m; Power Drift = 0.128 dB

Peak SAR (extrapolated) = 0.027 W/kg

SAR(1 g) = 0.014 mW/g; SAR(10 g) = 0.00727 mW/g

Maximum value of SAR (measured) = 0.015 mW/g





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Test Laboratory: KTL

# AT870 802.11g Ch.11 Body Rear facing phantom: distance 1.5 cm

\*Test Date: 22nd/Dec/2008

# Measured Liquid Temperature( $^{\circ}$ C):21.7, Ambient Temperature( $^{\circ}$ C):21.0

Communication System: WLAN; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450D Medium parameters used: f = 2462 MHz;  $\sigma = 2$  mho/m;  $\varepsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

# DASY4 Configuration:

• Probe: ES3DV2 - SN3020; ConvF(3.82, 3.82, 3.82); Calibrated: 2008-07-21

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

Electronics: DAE4 Sn559; Calibrated: 2008-03-13

• Phantom: SAM Twin Phantom\_1800MHz; Type: SAM; Serial: TP-1433

Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Area Scan (51x91x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.017 mW/g

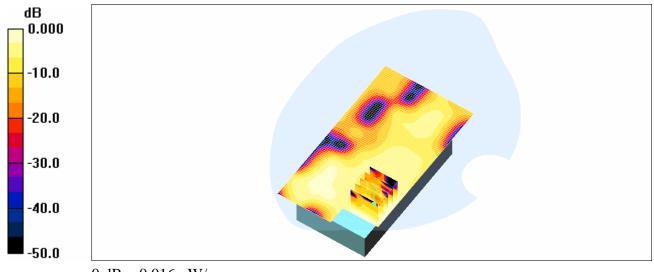
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.36 V/m; Power Drift = 0.123 dB

Peak SAR (extrapolated) = 0.030 W/kg

SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00764 mW/g

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



0 dB = 0.016 mW/g