

MEASUREMENT RESULTS (EV-DO)

1. SYSTEM VERIFICATION

1.1 Tissue Verification

Table 1.1 MEASURED TISSUE PARAMETERS

	835MHz Muscle		1900MHz Muscle	
	Target	Measured	Target	Measured
Date	-	nov.11, 2005	-	Nov.11, 2005
Liquid Temperature(°C)	-	21.5	-	22.0
Dielectric Constant: ϵ'	55.2	53.4	53.3	51.8
Conductivity: σ	0.97	0.97	1.52	1.54

The measured value must be within $\pm 5\%$ of the target value.

1.2 Test System Validation

Prior to assessment, the system is verified to the $\pm 10\%$ of the specification 835MHz and 1900MHz by using the system validation kit(s).

Table 1.2 System Validation Results

System Validation Kit	Tissue	Targeted SAR _{1g} (mW/g)	Measured SAR _{1g} (mW/g)	Deviation (%)	Date	Liquid Temperature(°C)
D-835V2	835MHz Muscle	2.375	2.49	4.84	Nov.11, 2005	21.9
D-1900V2	1900MHz Muscle	9.925	10.1	1.76	Nov.11, 2005	22.0

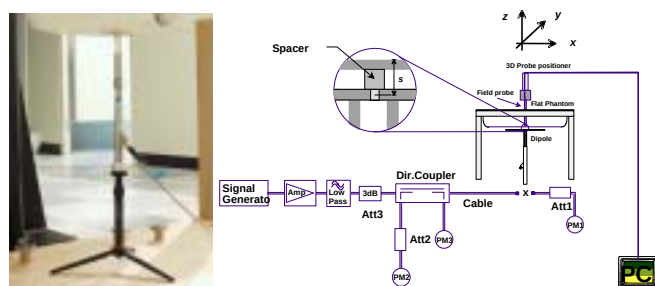


Figure 1.1 Dipole Validation Test Setup

2.1 MEASUREMENT RESULTS (CELLULAR CDMA Body SAR W/O Holster)

Date of Test :	Nov. 11, 2005		
Mixture Type:	835MHz Muscle	Tissue Depth:	15.3 cm
Dielectric Constant:	53.38	Liquid Tissue Temp.:	21.9
Conductivity:	0.97	Ambient Temp:	22.7

FREQUENCY		Modulation	Begin/End POWER*			Device Test Position	Antenna Position	SAR (W/kg)
MHz	Ch.		(dBm)		Battery			
848.31	0777	CDMA	24.22	24.23	Standard	[w/o Holster]	Intenna	0.368
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram		

NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supp.C [July 2001].
 - All modes of operation were investigated, and the worst-case results are reported.
 - Battery is fully charged for all readings.
- *Power Measured ☒ Conducted
4. SAR Measurement System ☒ DASY4
5. Phantom Configuration ☐ Left Head ☒ Flat Phantom ☐ Right Head
6. SAR Configuration ☐ Head ☒ Body ☐ Hand
7. Test Signal Call Mode ☐ Manu. Test Codes ☒ Base Station Simulator
8. Test Configuration ☐ With Holster ☒ Without Holster
9. Battery Option ☒ Standard ☐ Extended ☐ Slim



Figure 2.1 Body SAR Test Setup
-- w/o Holster--

2.2 MEASUREMENT RESULTS (PCS CDMA Body SAR W/O Holster)

Date of Test :	Nov.11, 2005		
Mixture Type:	1900MHz Muscle	Tissue Depth:	15.4 cm
Dielectric Constant:	51.8	Liquid Tissue Temp.:	22.0
Conductivity:	1.54	Ambient Temp:	22.5

FREQUENCY		Modulation	Begin/End POWER*			Device Test Position	Antenna Position	SAR (W/kg)
MHz	Ch.		(dBm)		Battery			
1851.25	0025	CDMA	24.25	24.23	Standard	[w/o Holster]	Intenna	0.474
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram		

NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supp.C [July 2001].
 - All modes of operation were investigated, and the worst-case results are reported.
 - Battery is fully charged for all readings.
- *Power Measured
- | | | | |
|---------------------------|---|--|-------------------------------------|
| 4. SAR Measurement System | ☒ Conducted | | |
| 5. Phantom Configuration | ☒ DASY4 | | |
| 6. SAR Configuration | ☐ Left Head | ☒ Flat Phantom | ☐ Right Head |
| 7. Test Signal Call Mode | ☐ Head | ☒ Body | ☐ Hand |
| 8. Test Configuration | ☐ Manu. Test Codes | ☒ Base Station Simulator | |
| 9. Battery Option | ☐ With Holster | ☒ Without Holster | |
| | ☒ Standard | ☐ Extended | ☐ Slim |



Figure 2.2 Body SAR Test Setup
-- w/o Holster--

835MHz Dipole Validation

DUT: Dipole 835 MHz; Serial: 4d014

Program Name: 835MHz Dipole Validation 2005.11.11

Procedure Name: 835MHz @ 250mW

Procedure Notes:

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.97 \text{ mho/m}$; $\epsilon_r = 53.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3080; ConvF(5.82, 5.82, 5.82); Calibrated: 2005-05-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2005-04-05
- Phantom: SAM 835/900 MHz; Type: SAM; Serial: TP-1141
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

835MHz @ 250mW/Area Scan (51x51x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$

Maximum value of SAR (interpolated) = 2.79 mW/g

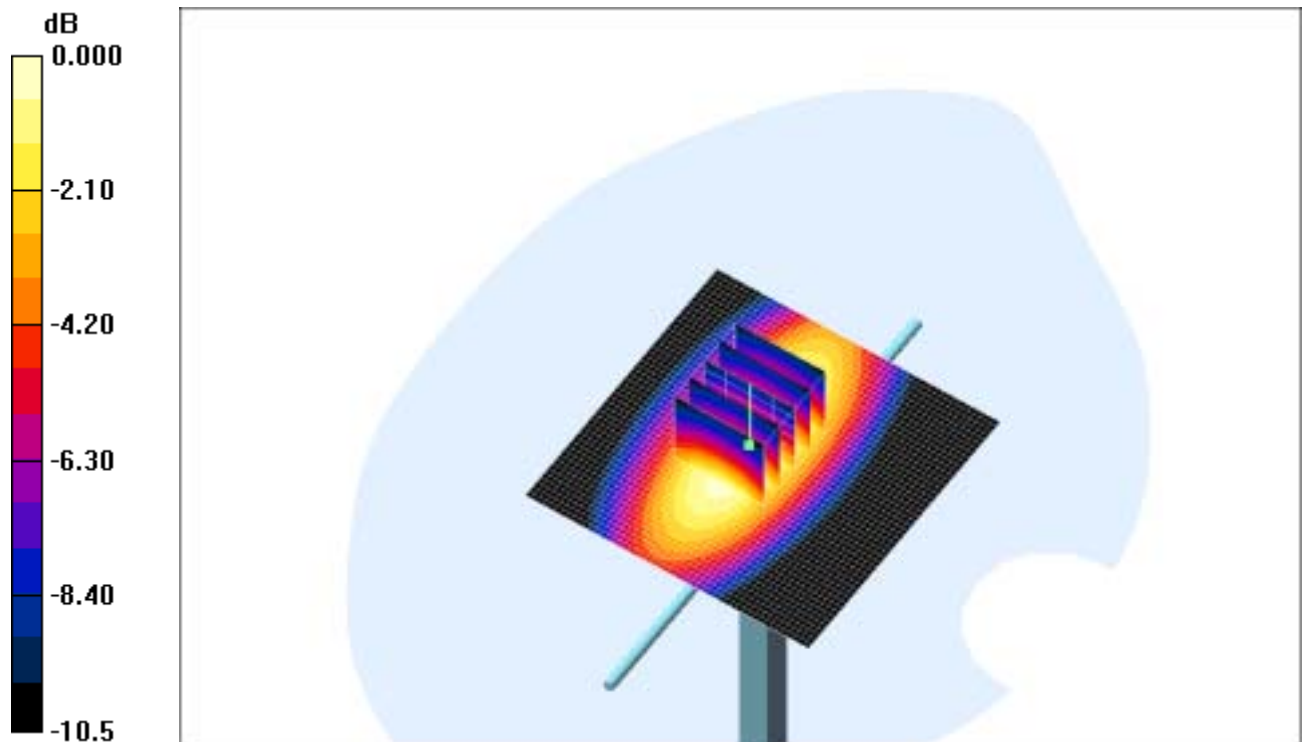
835MHz @ 250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 51.3 V/m ; Power Drift = -0.075 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.49 mW/g

Maximum value of SAR (measured) = 2.69 mW/g



0 dB = 2.69 mW/g

1900MHz Dipole Validation

DUT: Dipole 1900 MHz; Serial: 5d023

Program Name: 1900MHz Dipole Validation 2005.11.11

Procedure Name: 1900MHz @ 250mW

Procedure Notes:

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3080; ConvF(4.42, 4.42, 4.42); Calibrated: 2005-05-26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2005-04-05
- Phantom: SAM 1800/1900 MHz; Type: SAM; Serial: TP-1143
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

1900MHz @ 250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.4 V/m; Power Drift = -0.114 dB

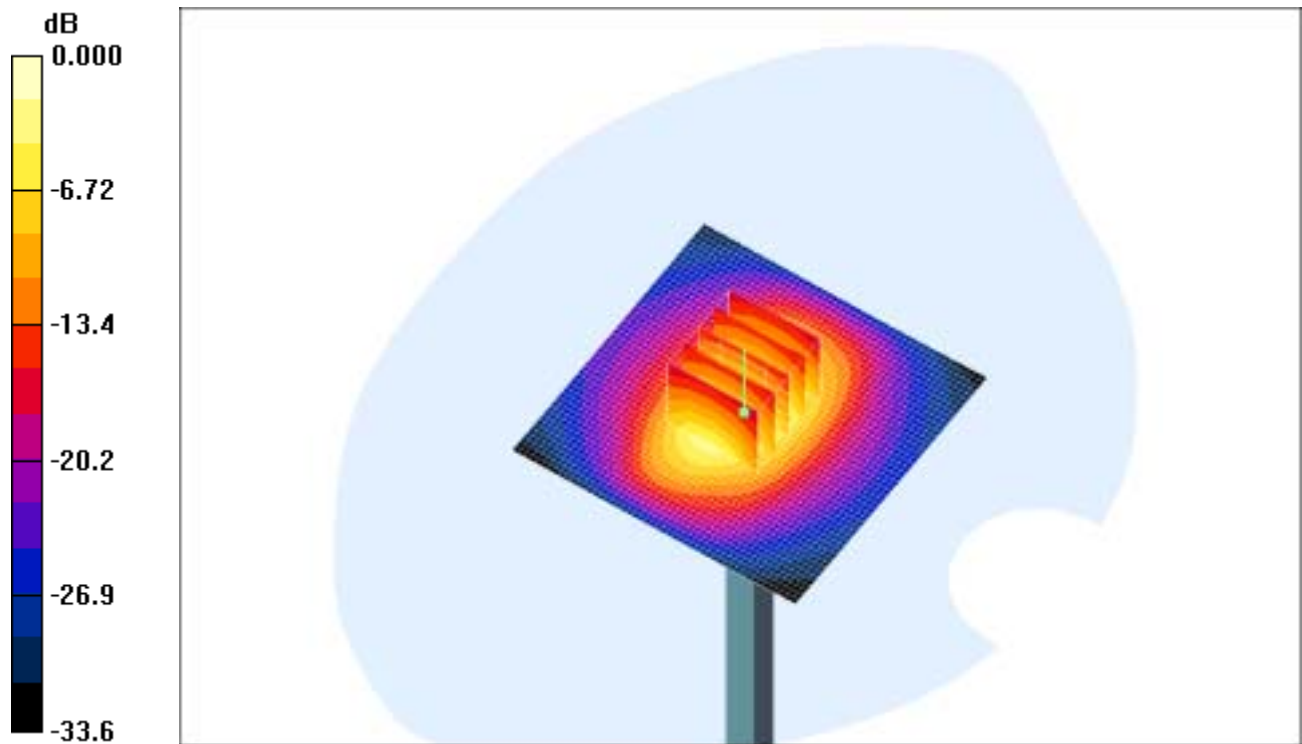
Peak SAR (extrapolated) = 17.0 W/kg

SAR(1 g) = 10.1 mW/g

Maximum value of SAR (measured) = 11.3 mW/g

1900MHz @ 250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 14.4 mW/g



0 dB = 14.4mW/g

SAMSUNG FCC ID : A3LSPHA960 835MHz CDMA Body SAR [EV-DO]

DUT: SPH-A960(Body); Serial: FC-140-G

Program Name: SPH-A960 CDMA Body (Job No. : FC-140)

Procedure Name: Body, Ch. 0777, Ant. Intenna, Bat. Standard with Base Station

Procedure Notes: Meas. Tissue Temp(celsius)- 21.9 Ambient Temp-22.7 ;Test Date-11/Nov/2004 [OET Bulletin 65-Supplement C, July 2001]

Communication System: CDMA; Frequency: 848.31 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 848.31$ MHz; $\sigma = 0.97$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3080; ConvF(5.82, 5.82, 5.82); Calibrated: 2005-05-26

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

- Electronics: DAE4 Sn670; Calibrated: 2005-04-05

- Phantom: SAM 835/900 MHz; Type: SAM; Serial: TP-1141

- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body, Ch. 0777, Ant. Intenna, Bat. Standard with Basestation/Zoom Scan

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

Reference Value = 15.7 V/m; Power Drift = -0.130 dB

Peak SAR (extrapolated) = 0.478 W/kg

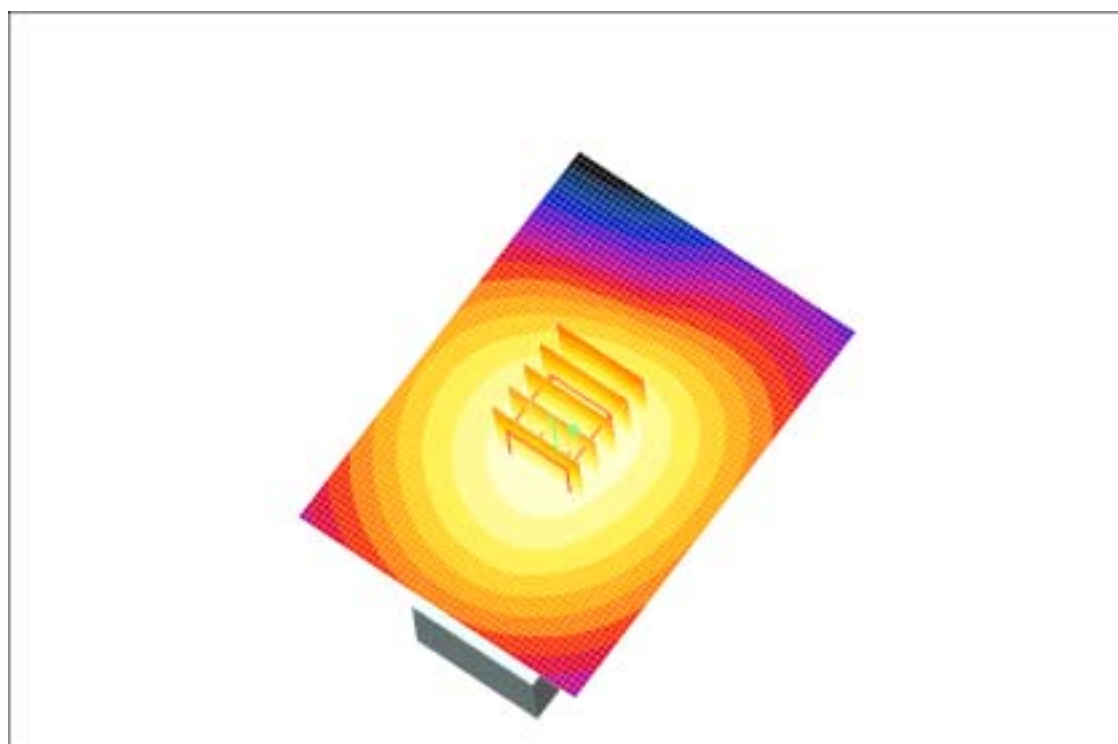
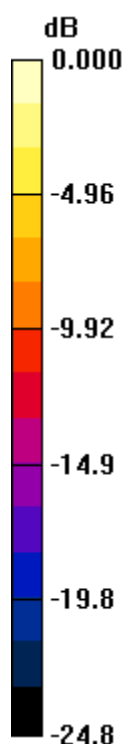
SAR(1 g) = 0.368 mW/g

Maximum value of SAR (measured) = 0.389 mW/g

Body, Ch. 0777, Ant. Intenna, Bat. Standard with Basestation/Area Scan (51x71x1):

Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.413 mW/g



0 dB = 0.413mW/g

SAMSUNG FCC ID : A3LSPHA960 1900MHz PCS Body SAR [EV-DO]

DUT: SPH-A960(Body); Serial: FC-140-C

Program Name: SPH-A960 PCS Body EV-DO (Job No. : FC-140)

Procedure Name: Body, Ch. 0025, Ant. Intenna, Bat. Standard With Base Station

**Procedure Notes: Meas.Tissue Temp(celsius)-22.0; Ambient Temp -22.5 Test Date-11/Nov/2005
[OET Bulletin 65-Supplement C, July 2001]**

Communication System: PCS; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1851.25$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3080; ConvF(4.42, 4.42, 4.42); Calibrated: 2005-05-26

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

- Electronics: DAE4 Sn670; Calibrated: 2005-04-05

- Phantom: SAM 1800/1900 MHz; Type: SAM; Serial: TP-1143

- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body, Ch. 0025, Ant. Intenna, Bat. Standard With BaseStation/Area Scan

(51x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.566 mW/g

Body, Ch. 0025, Ant. Intenna, Bat. Standard With BaseStation/Zoom Scan

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

Reference Value = 15.2 V/m; Power Drift = -0.022 dB

Peak SAR (extrapolated) = 0.655 W/kg

SAR(1 g) = 0.474 mW/g

Maximum value of SAR (measured) = 0.511 mW/g

