

APPENDIX D – DAE3 CALIBRATION CERTIFICATES

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
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S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **BACL**

Certificate No: **DAE3-456_Nov07**

CALIBRATION CERTIFICATE

Object **DAE3 - SD 000 D03 AA - SN: 456**

Calibration procedure(s) **QA CAL-06.v12**
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: **November 8, 2007**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Fluke Process Calibrator Type 702	SN: 6295803	04-Oct-07 (Elcal AG, No: 6467)	Oct-08
Keithley Multimeter Type 2001	SN: 0810278	03-Oct-07 (Elcal AG, No: 6465)	Oct-08
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Calibrator Box V1.1	SE UMS 006 AB 1004	25-Jun-07 (SPEAG, in house check)	In house check Jun-08

Calibrated by:

Name	Function	Signature
Dominique Steffen	Technician	

Approved by:

Fin Bornholt	R&D Director
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Issued: November 8, 2007

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: DAE3-456_Nov07

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Accreditation No.: **SCS 108**

Glossary

DAE data acquisition electronics
Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- **DC Voltage Measurement:** Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- **Connector angle:** The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters contain technical information as a result from the performance test and require no uncertainty.
- **DC Voltage Measurement Linearity:** Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
- **Common mode sensitivity:** Influence of a positive or negative common mode voltage on the differential measurement.
- **Channel separation:** Influence of a voltage on the neighbor channels not subject to an input voltage.
- **AD Converter Values with inputs shorted:** Values on the internal AD converter corresponding to zero input voltage
- **Input Offset Measurement:** Output voltage and statistical results over a large number of zero voltage measurements.
- **Input Offset Current:** Typical value for information; Maximum channel input offset current, not considering the input resistance.
- **Input resistance:** DAE input resistance at the connector, during internal auto-zeroing and during measurement.
- **Low Battery Alarm Voltage:** Typical value for information. Below this voltage, a battery alarm signal is generated.
- **Power consumption:** Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V, full range = -100...+300 mV

Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.443 \pm 0.1% (k=2)	403.912 \pm 0.1% (k=2)	403.975 \pm 0.1% (k=2)
Low Range	3.94711 \pm 0.7% (k=2)	3.92468 \pm 0.7% (k=2)	3.95492 \pm 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	146 $^{\circ}$ \pm 1 $^{\circ}$
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Appendix

1. DC Voltage Linearity

High Range	Input (μV)	Reading (μV)	Error (%)
Channel X + Input	200000	200000.5	0.00
Channel X + Input	20000	20005.89	0.03
Channel X - Input	20000	-20004.96	0.02
Channel Y + Input	200000	200000.4	0.00
Channel Y + Input	20000	20005.26	0.03
Channel Y - Input	20000	-20006.07	0.03
Channel Z + Input	200000	200000.2	0.00
Channel Z + Input	20000	20003.44	0.02
Channel Z - Input	20000	-20004.74	0.02

Low Range	Input (μV)	Reading (μV)	Error (%)
Channel X + Input	2000	2000	0.00
Channel X + Input	200	199.91	-0.05
Channel X - Input	200	-200.15	0.08
Channel Y + Input	2000	2000.1	0.00
Channel Y + Input	200	199.14	-0.43
Channel Y - Input	200	-200.65	0.33
Channel Z + Input	2000	2000.1	0.00
Channel Z + Input	200	199.35	-0.32
Channel Z - Input	200	-201.29	0.64

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	-1.83	-4.02
	- 200	5.58	5.21
Channel Y	200	-7.40	-6.84
	- 200	5.85	6.13
Channel Z	200	10.66	10.58
	- 200	-12.52	-12.06

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	1.85	0.50
Channel Y	200	0.11	-	1.74
Channel Z	200	-0.78	-0.33	-

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16313	16505
Channel Y	15836	15211
Channel Z	16035	16922

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Input 10M Ω

	Average (μ V)	min. Offset (μ V)	max. Offset (μ V)	Std. Deviation (μ V)
Channel X	-0.48	-1.25	1.04	0.34
Channel Y	0.15	-1.13	2.26	0.37
Channel Z	0.69	-0.14	3.04	0.33

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance

	Zeroing (MOhm)	Measuring (MOhm)
Channel X	0.2001	199.3
Channel Y	0.2001	199.0
Channel Z	0.1998	199.3

8. Low Battery Alarm Voltage (verified during pre test)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (verified during pre test)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.0	+6	+14
Supply (- Vcc)	-0.01	-8	-9

APPENDIX E - TEST SYSTEM VERIFICATIONS SCANS

Measurement Result

System Validation Dipole: D900V2-SN: 122

Environmental Conditions

Ambient Temperature:	22 °C
Relative Humidity:	72 %
ATM Pressure:	103.3 kPa

Testing was performed by Jimmy Nguyen on 2008-03-31.

Frequency [MHz]	Parameters	Liquid Temp [°C]	Target Value	Measured Value	Deviation [%]	Limits [%]
835	ϵ_r	22	41.5	41.8	0.7	± 5
	σ	22	0.90	0.89	-1.11	± 5
	1g SAR	22	9.5	9.86	3.79	± 10

ϵ_r = relative permittivity, σ = conductivity and $\rho=1000\text{kg/m}^3$

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)**System Performance Check**

Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN: 122

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.82, 6.82, 6.82); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=0.5W/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 5.17 mW/g

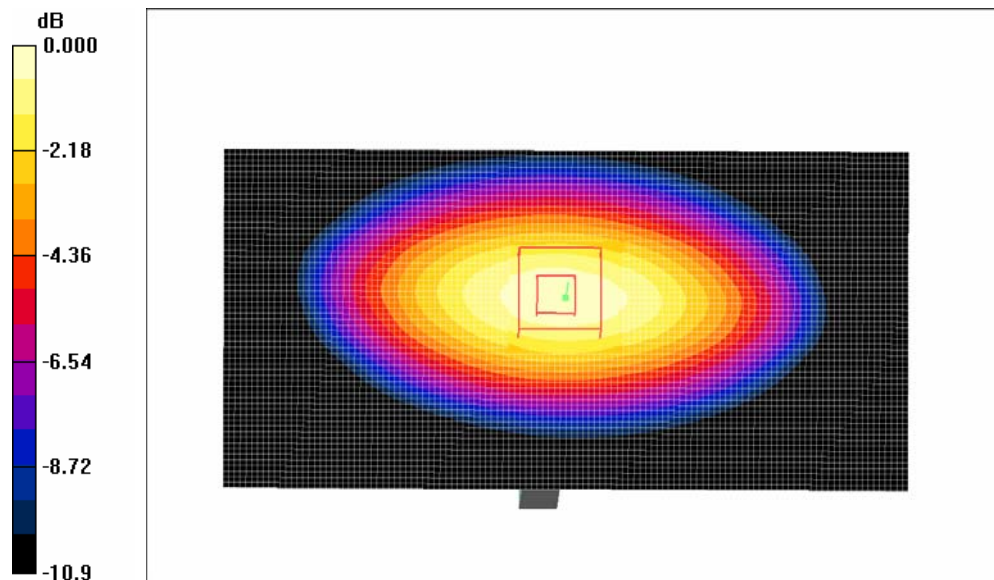
d=15mm, Pin=0.5W/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 82.5 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 7.95 W/kg

SAR(1 g) = 4.93 mW/g; SAR(10 g) = 3.1 mW/g

Maximum value of SAR (measured) = 5.35 mW/g



0 dB = 5.35 mW/g

System Performance Check

APPENDIX F - EUT SCANS

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

EUT Antenna Perpendicular Touch to the Flat Phantom (Middle Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

EUT Antenna Perpendicular Touch to the Flat Phantom with DELL (INSPIRON 300m)/Area Scan (71x101x1):

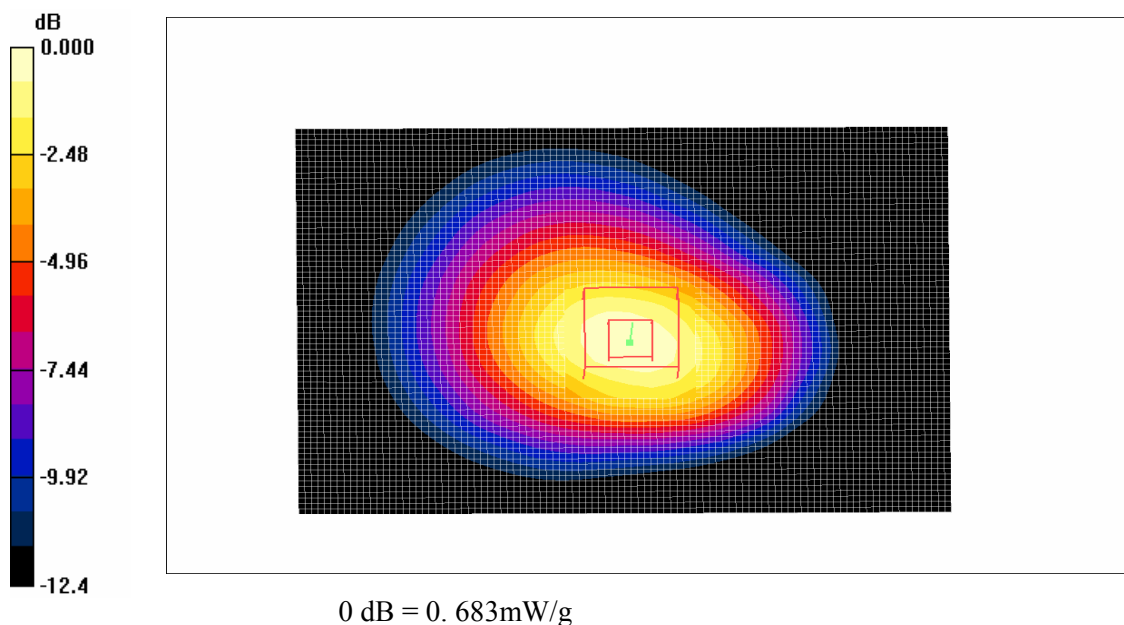
Measurement grid: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 0.686 mW/g

EUT Antenna Perpendicular Touch to the Flat Phantom with DELL (INSPIRON 300m)/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm
Reference Value = 26.9 V/m; Power Drift = -0.0111 dB
Peak SAR (extrapolated) = 0.971 W/kg

SAR(1 g) = 0.623 mW/g; SAR(10 g) = 0.385 mW/g

Maximum value of SAR (measured) = 0.683 mW/g



Plot # 1

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

DELL Laptop Back Touch to the Flat Phantom (Low Channel)

Anydata CDMA; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 824.7$ MHz; $\sigma = 0.951$ mho/m; $\epsilon_r = 56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.29 mW/g

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

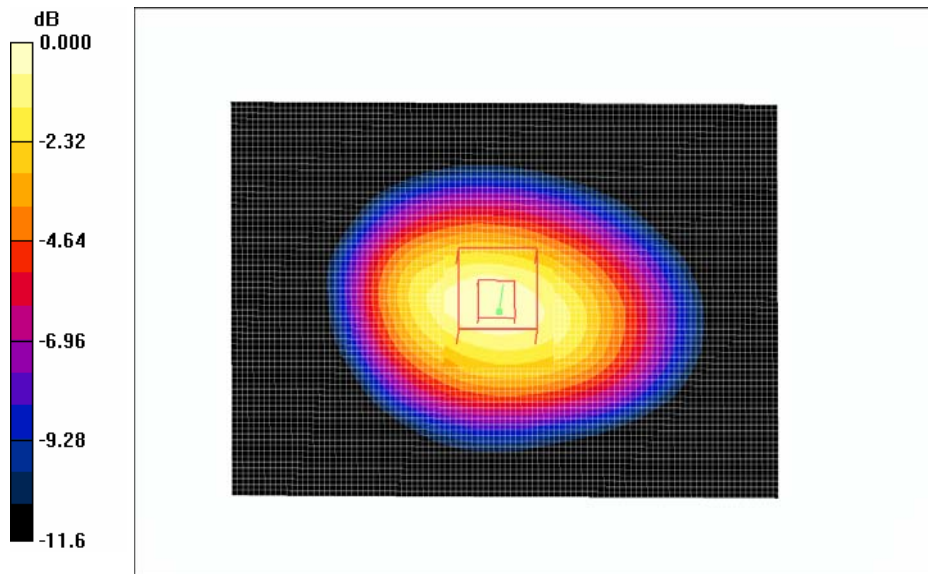
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 38.6 V/m; Power Drift = -0.084 dB

Peak SAR (extrapolated) = 1.89 W/kg

SAR (1 g) = 1.27 mW/g; SAR (10 g) = 0.811 mW/g

Maximum value of SAR (measured) = 1.39 mW/g



0 dB = 1.39 mW/g

Plot # 2

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

DELL Laptop Back Touch to the Flat Phantom (Middle Channel)
Anydata CDMA; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.58 mW/g

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

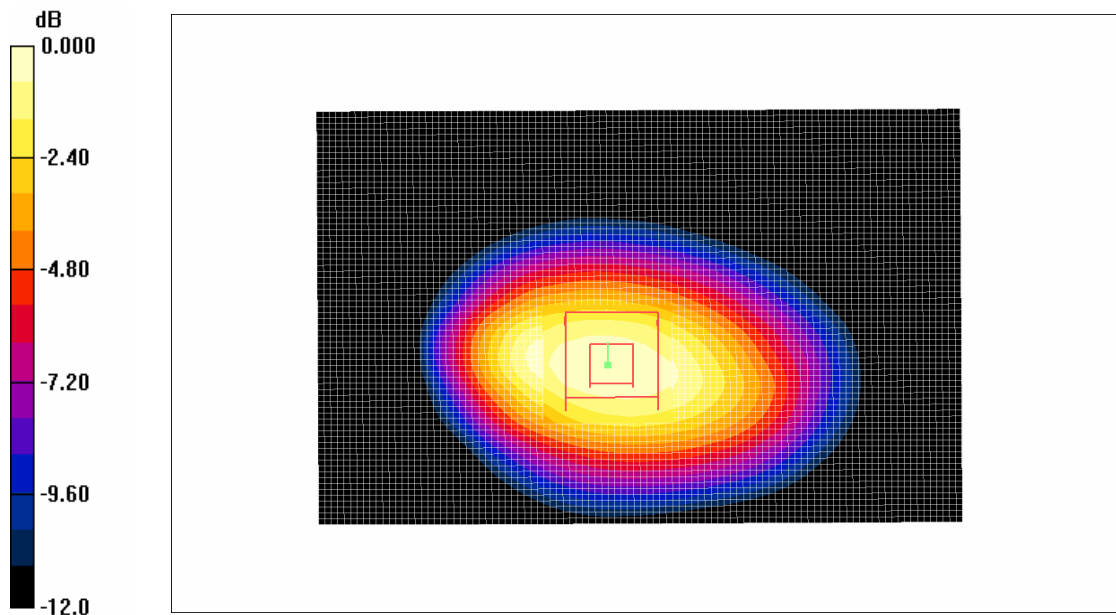
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 32.4 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 2.08 W/kg

SAR (1 g) = 1.38 mW/g; SAR (10 g) = 0.876 mW/g

Maximum value of SAR (measured) = 1.50 mW/g



0 dB = 1.50 mW/g

Plot # 3

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

DELL Laptop Back Touch to the Flat Phantom (High Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.969$ mho/m; $\epsilon_r = 55.8$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.40 mW/g

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

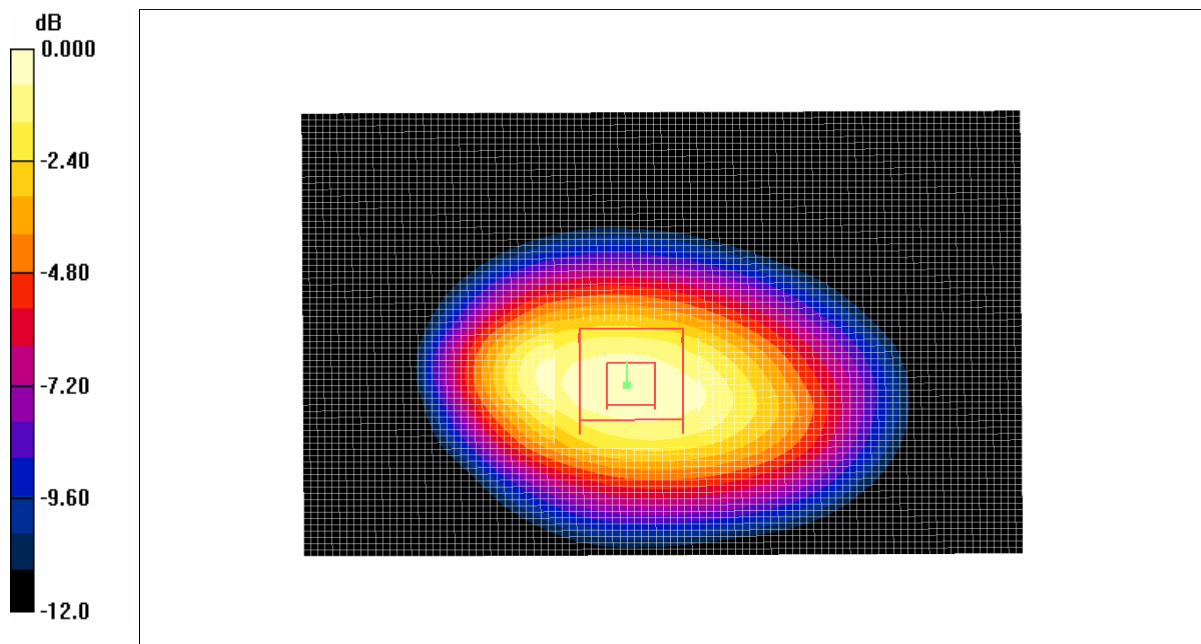
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 38.4 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 1.93 W/kg

SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.839 mW/g

Maximum value of SAR (measured) = 1.41 mW/g



0 dB = 1.41 mW/g

Plot # 4

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

EUT back touch to the flat phantom (Middle Channel)

Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 184

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.41 mW/g

DELL (INSPIRON 300m) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

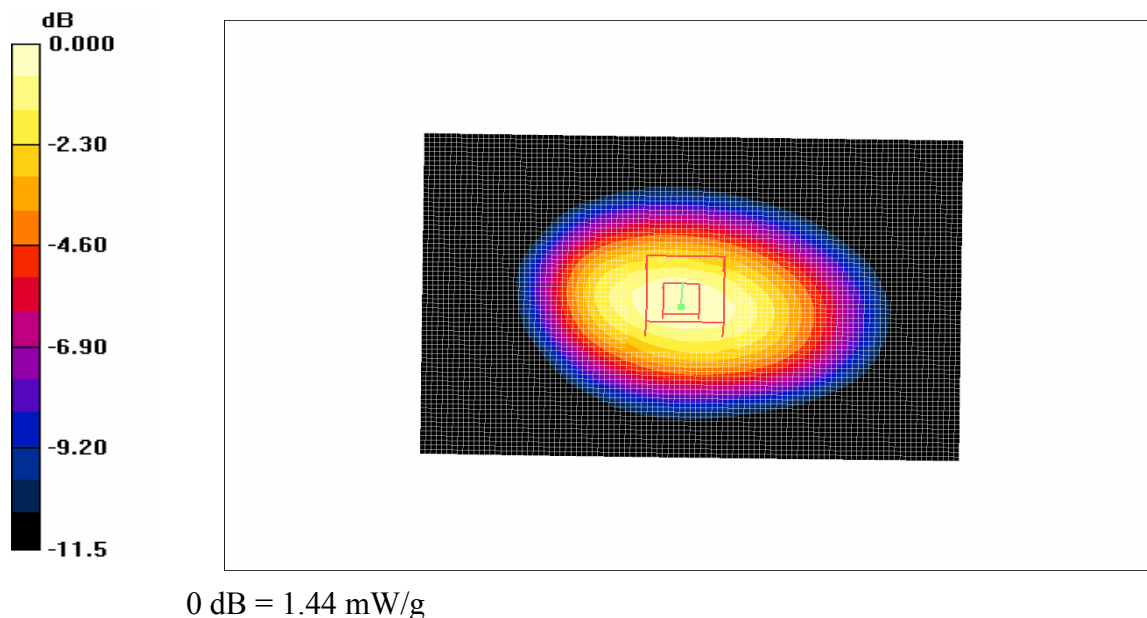
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 39.6 V/m; Power Drift = -0.0133 dB

Peak SAR (extrapolated) = 1.97 W/kg

SAR (1 g) = 1.33 mW/g; SAR (10 g) = 0.855 mW/g

Maximum value of SAR (measured) = 1.44 mW/g



Plot # 5

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

EUT Antenna Perpendicular Touch to the Flat Phantom (Middle Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

EUT Antenna Perpendicular Touch to the Flat Phantom with IBM (T40)/Area Scan (71x101x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.806 mW/g

EUT Antenna Perpendicular Touch to the Flat Phantom with IBM (T40)/Zoom Scan (7x7x7)/Cube

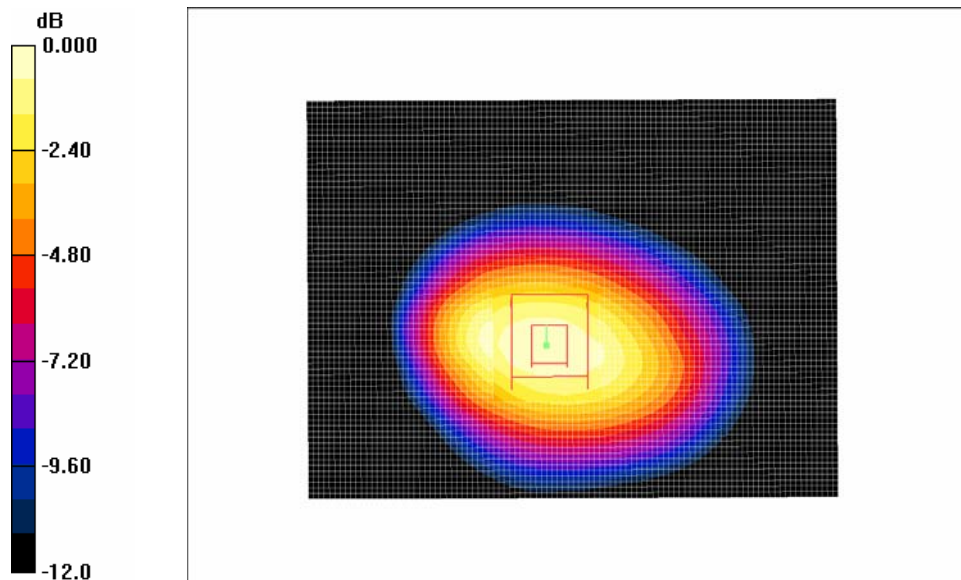
0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.5 V/m; Power Drift = 0.042dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.761 mW/g; SAR(10 g) = 0.467 mW/g

Maximum value of SAR (measured) = 0.822 mW/g



0 dB = 0.822 mW/g

Plot # 6

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

IBM Laptop Back Touch to the Flat Phantom (Low Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 824.7$ MHz; $\sigma = 0.951$ mho/m; $\epsilon_r = 56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.68 mW/g

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

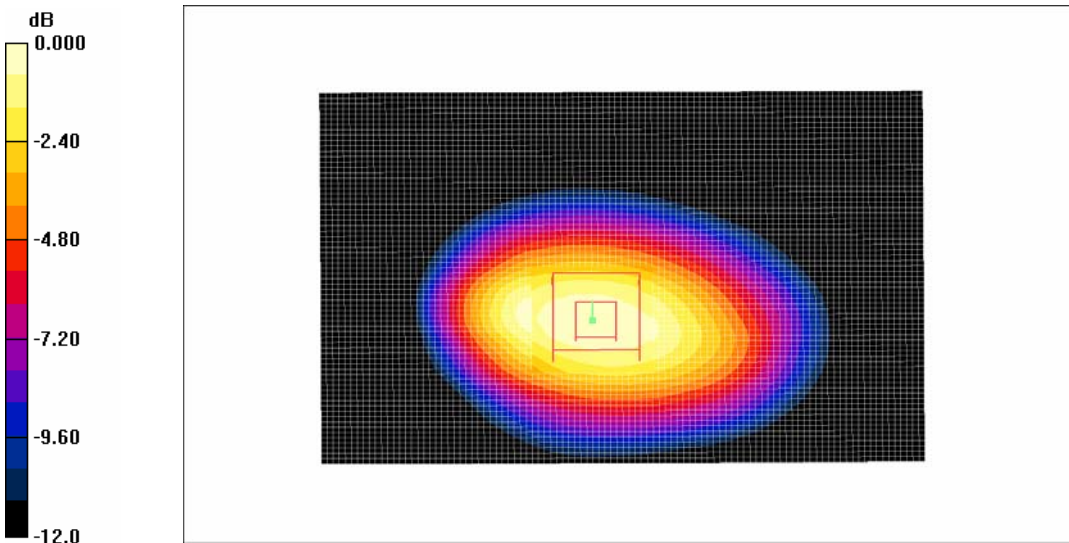
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 42.3 V/m; Power Drift = -0.030 dB

Peak SAR (extrapolated) = 2.34 W/kg

SAR(1 g) = 1.57 mW/g; SAR(10 g) = 1.01 mW/g

Maximum value of SAR (measured) = 1.71 mW/g



0 dB = 1.71 mW/g

Plot # 7

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

IBM Laptop Back Touch to the Flat Phantom (Middle Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.37 mW/g

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

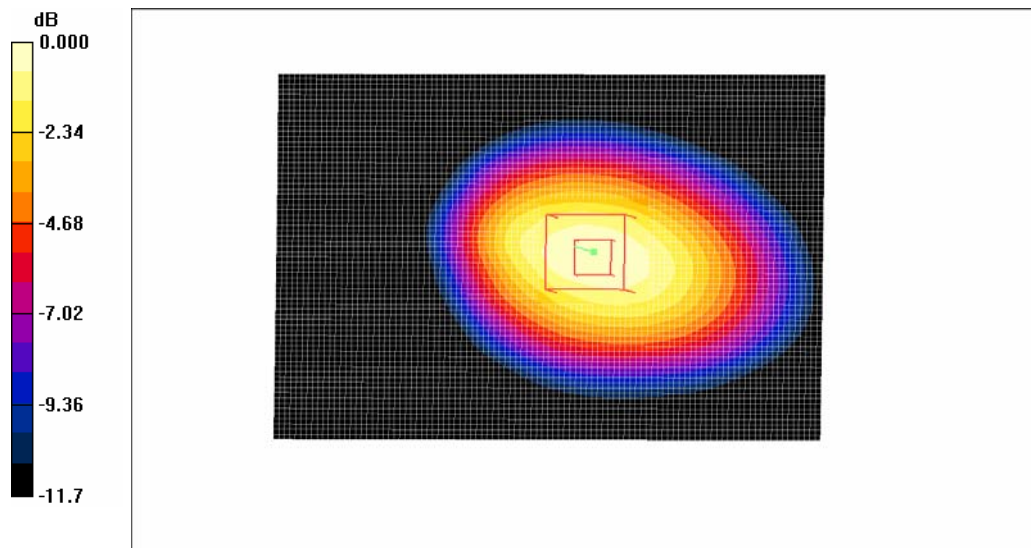
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 38.1 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 1.32 mW/g; SAR(10 g) = 0.849 mW/g

Maximum value of SAR (measured) = 1.41 mW/g



0 dB = 1.41 mW/g

Plot # 8

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

IBM Laptop back touch to the flat phantom (High Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.969$ mho/m; $\epsilon_r = 55.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement

grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.89 mW/g

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

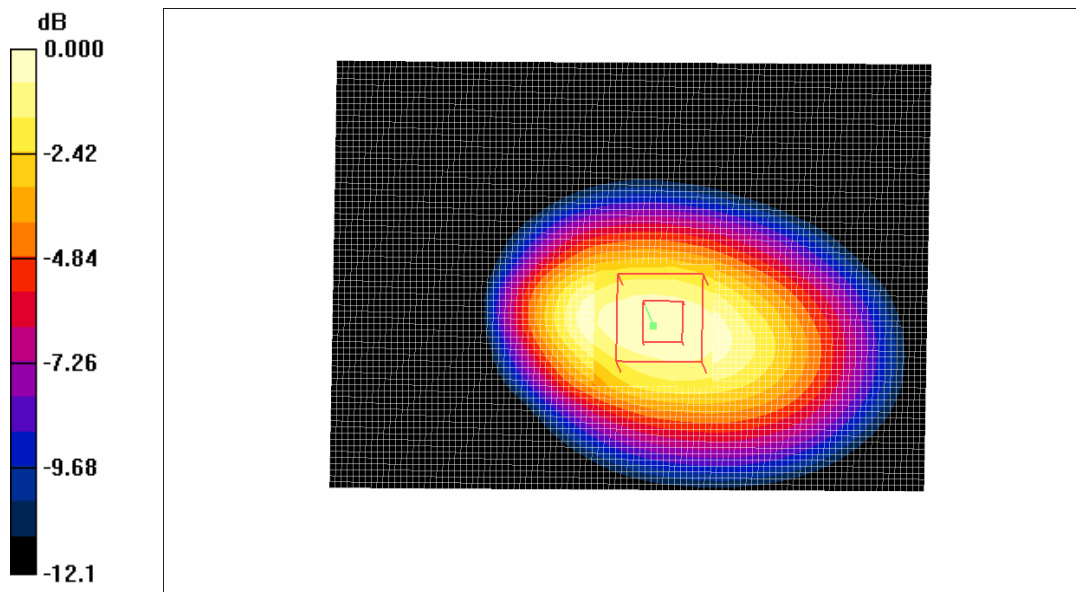
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 39.1 V/m; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 2.38 W/kg

SAR(1 g) = 1.56 mW/g; SAR(10 g) = 0.993 mW/g

Maximum value of SAR (measured) = 1.71 mW/g



0 dB = 1.71 mW/g

Plot # 9

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

EUT back touch to the flat phantom (Middle Channel)

Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 184

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.26 mW/g

IBM Thinkpad (T40) Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0:

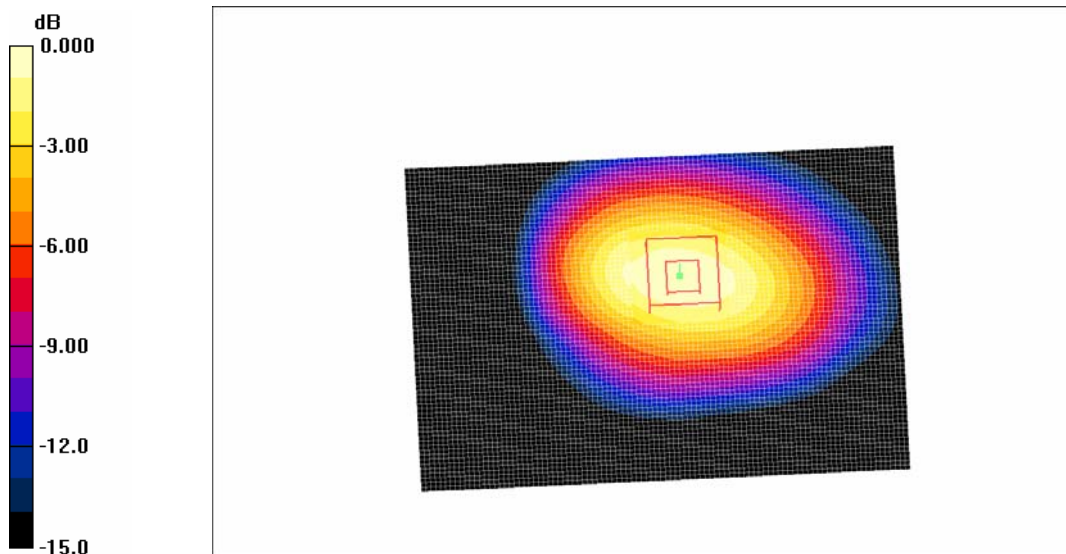
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 28.2 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 1.71 W/kg

SAR (1 g) = 1.15 mW/g; SAR (10 g) = 0.738 mW/g

Maximum value of SAR (measured) = 1.25 mW/g



0 dB = 1.25 mW/g

Plot # 10

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

EUT Antenna Perpendicular Touch to the Flat Phantom (Middle Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

EUT Antenna Perpendicular Touch to the Flat Phantom with Sony(GR370)/Area Scan (71x101x1):

Measurement grid: dx=15mm, dy=15mm

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

EUT Antenna Perpendicular Touch to the Flat Phantom with Sony(GR370)/Zoom Scan

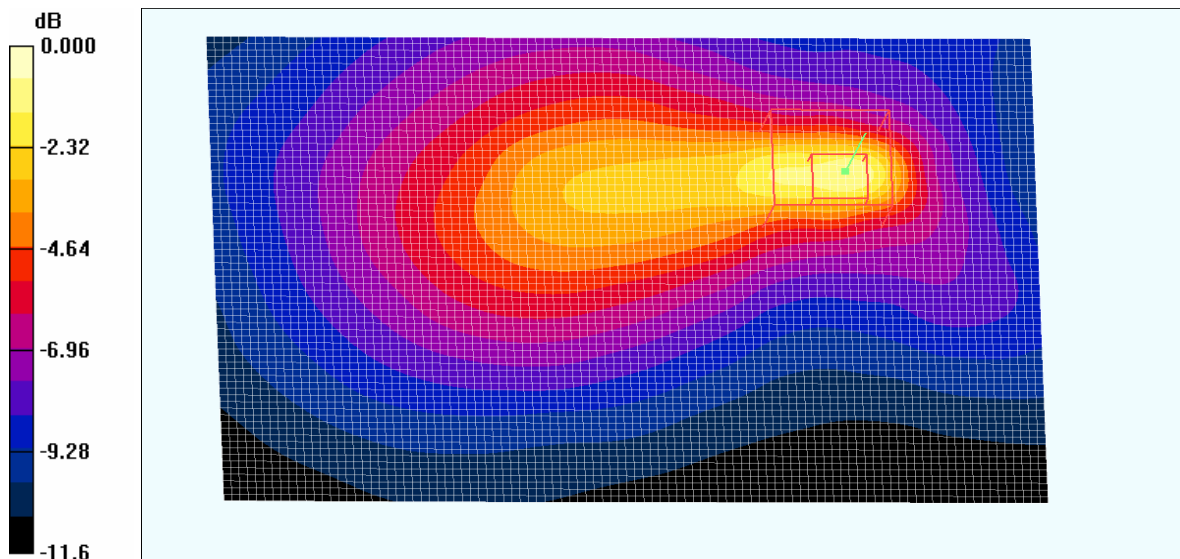
(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.1 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 1.94 W/kg

SAR(1 g) = 0.761 mW/g; SAR(10 g) = 0.333 mW/g.

Maximum value of SAR (measured) = 0.911 mW/g



0 dB = 0.911 mW/g

Plot # 11

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

SONY Laptop Back Touch to the Flat Phantom (Low Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 824.7$ MHz; $\sigma = 0.951$ mho/m; $\epsilon_r = 56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

Sony Laptop (GR370) Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement grid:
dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.08 mW/g

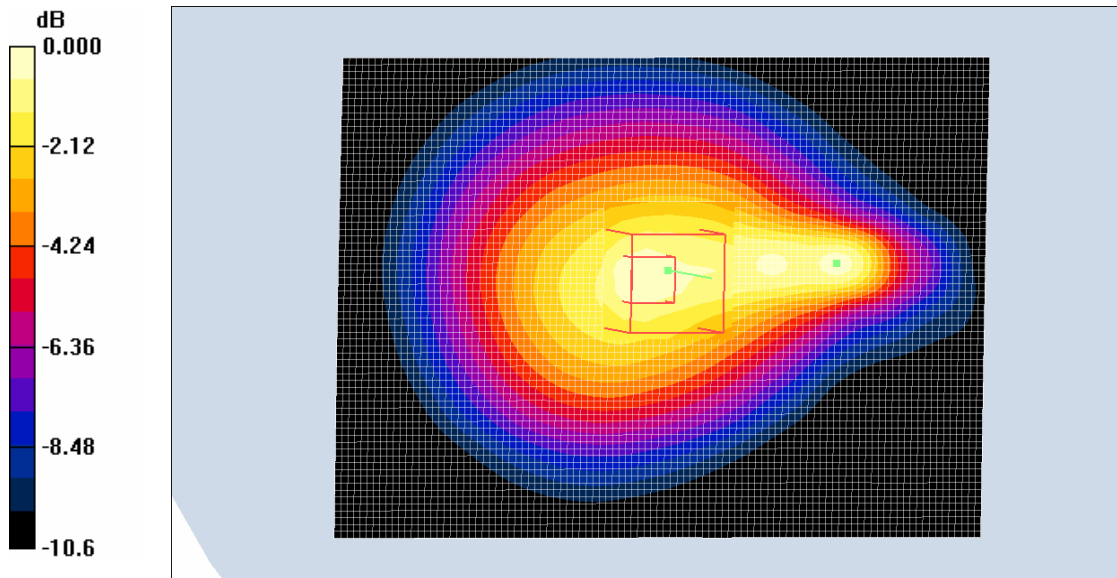
Sony Laptop (GR370) Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.3 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 1.92 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.628 mW/g

Maximum value of SAR (measured) = 1.14 mW/g



Plot # 12

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

SONY Laptop back touch to the flat phantom (Middle Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

Sony Laptop(GR370) Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement grid:
dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.858 mW/g

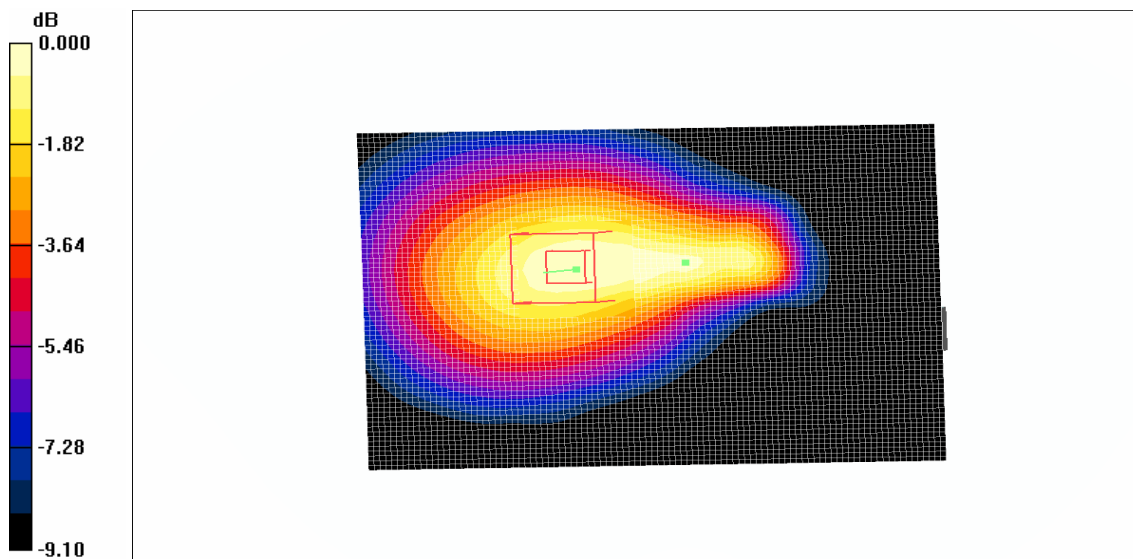
Sony Laptop(GR370) Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.7 V/m; Power Drift = 0.048 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR (1 g) = 0.794 mW/g; SAR (10 g) = 0.527 mW/g

Maximum value of SAR (measured) = 0.850 mW/g



0 dB = 0.850 mW/g

Plot # 13

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

SONY Laptop Back Touch to the Flat Phantom (High Channel)
Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.969$ mho/m; $\epsilon_r = 55.8$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

Sony Laptop(GR370) Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement grid:
dx=15mm, dy=15mm.

Maximum value of SAR (interpolated) = 1.00 mW/g

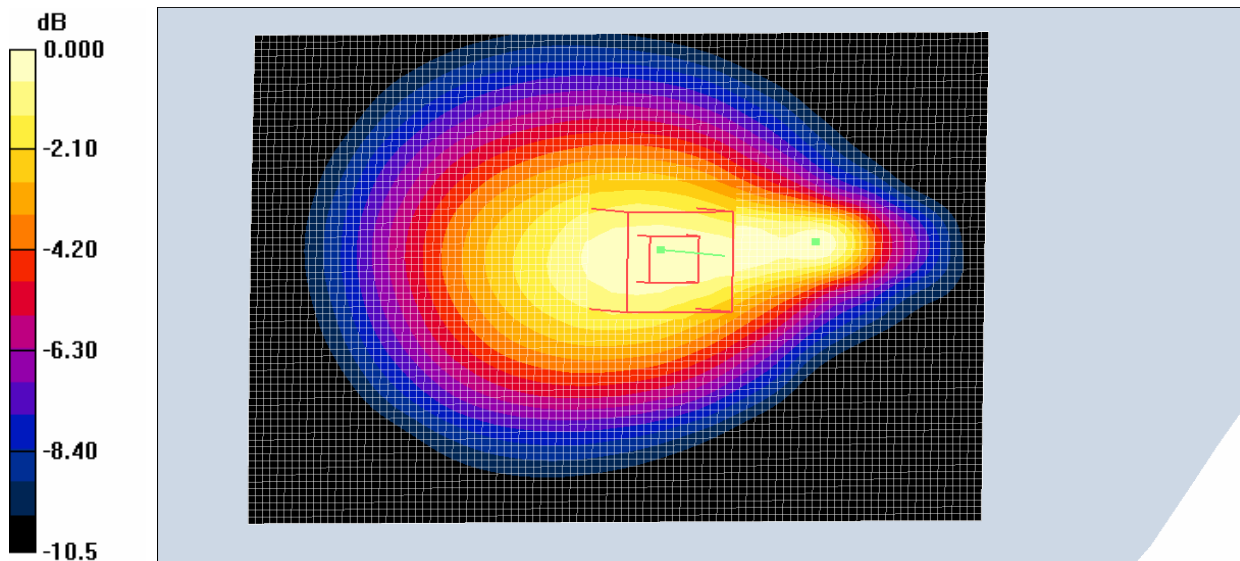
Sony Laptop(GR370) Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0: Measurement
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 32.3 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 0.936 mW/g; SAR(10 g) = 0.594 mW/g

Maximum value of SAR (measured) = 1.000 mW/g



0 dB = 1.00 mW/g

Plot # 14

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

EUT back touch to the flat phantom (Middle Channel)

Anydata; Type: CDMA Wireless DATA Modem; Serial: B1758

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 184

Sony Laptop Back Touching to Flat Phantom/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.797 mW/g

Sony Laptop Back Touching to Flat Phantom/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

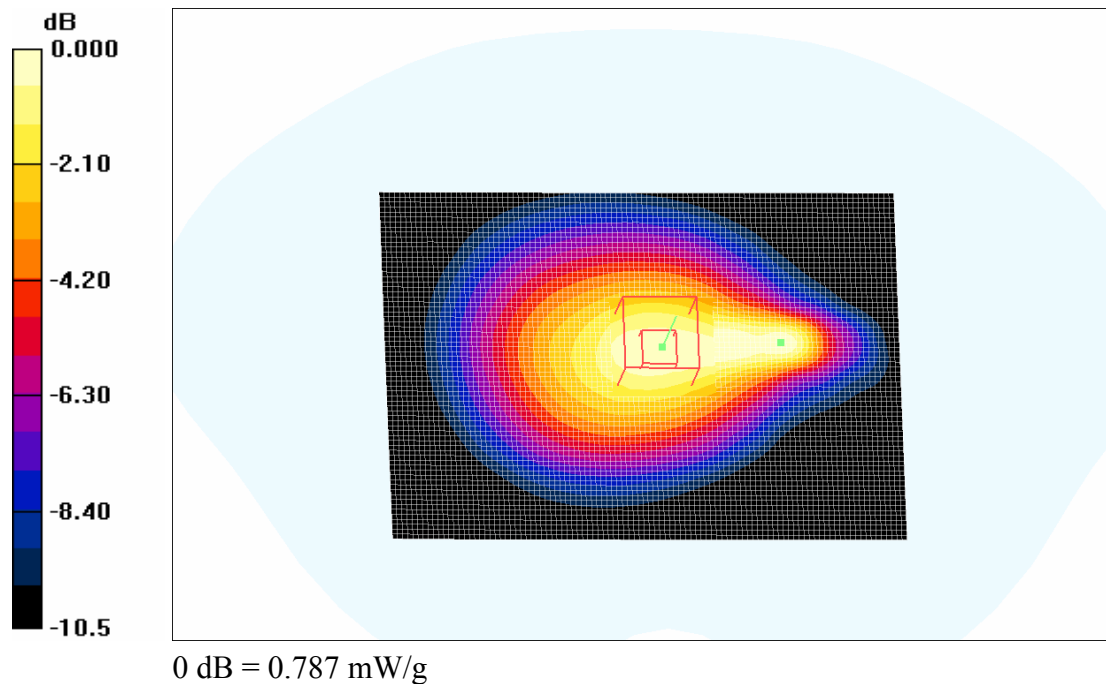
dx=5mm, dy=5mm, dz=5mm

Reference Value = 32.2 V/m; Power Drift = 0.048 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 0.754 mW/g; SAR(10 g) = 0.589 mW/g

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

**Plot # 15**

APPENDIX G – CONDUCTED OUTPUT POWER MEASUREMENT

Provision Applicable

The measured peak output power should be greater and within 5% than EMI measurement.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

Test Results

Mode, CDMA 1xEVDO

RADIO CONFIG.	OUTPUT POWER (dBm)			Limit (dBm)
	Low CH 824.70 MHz	Mid CH 836.52 MHz	High CH 848.30 MHz	
RC1, S02	24.25	24.30	24.35	38.45
RC2, S09	24.36	24.42	24.30	38.45
RC3, S055	24.82	24.65	24.66	38.45
RC4, S055	24.35	24.50	24.45	38.45
RC5, S055	24.52	24.40	24.50	38.45

Mode, CDMA 1xRTT

RADIO CONFIG.	OUTPUT POWER (dBm)			Limit (dBm)
	Low CH 824.70 MHz	Mid CH 836.52 MHz	High CH 848.30 MHz	
RC3, S055	24.90	24.62	24.70	RC3, S055

APPENDIX H –TEST SET UP PHOTOS

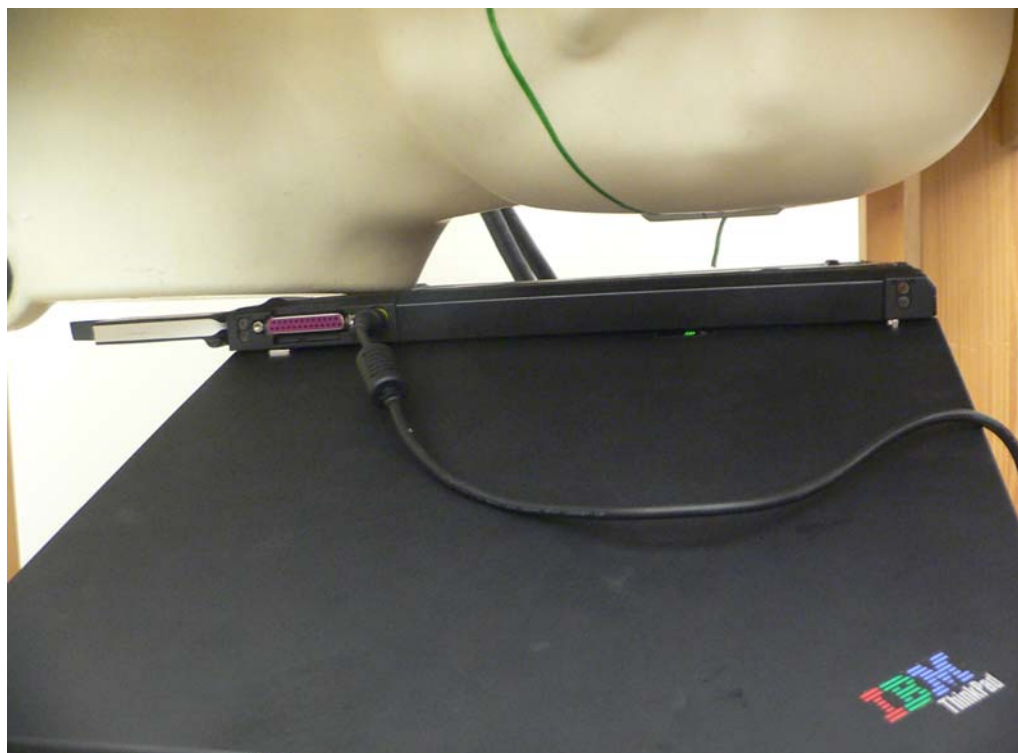
EUT with antenna parallel back touch to the flat phantom with SONY laptop (GR370) setup



EUT with antenna perpendicular to the flat phantom with SONY laptop (GR370) setup



EUT with antenna parallel back touch to the flat phantom with Dell laptop (Inspiron 1300)**EUT with antenna perpendicular back touch to the flat phantom with Dell laptop (Inspiron 1300)**

EUT with antenna parallel back touch to the flat phantom with IBM laptop (ThinkPad T40)**EUT with antenna perpendicular back touch to the flat phantom with IBM laptop (ThinkPad T40)**

APPENDIX I – EUT & ACCESSORIES PHOTOS

EUT – Front View



EUT – Back View



APPENDIX J - INFORMATIVE REFERENCES

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***** END OF REPORT *****