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Test Date: 06 December 2007

File Name: Edge On OFDM 5.77 GHz Antenna A Side Bluetooth Off Extended Battery 06-12-07.da4

DUT: **Fujitsu Tablet Ryuga with Atheros 11abg and Bluetooth; Type: XB62; Serial: ZX7X00480**

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.22102 \text{ mho/m}$, $\epsilon_r = 47.7697$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: EX3DV4 - SN3563; ConvF(3.72, 3.72, 3.72)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (51x131x1): Measurement grid: dx=15mm, dy=15mm

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

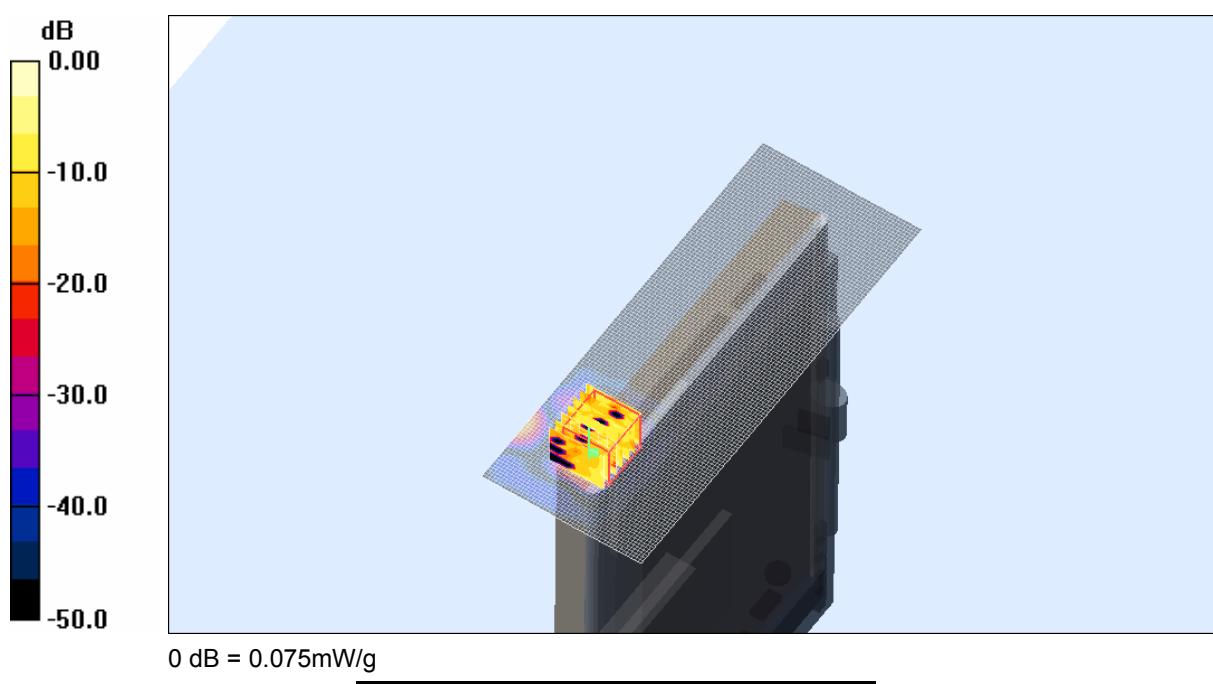
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.39 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.148 W/kg

SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.00947 mW/g

Maximum value of SAR (measured) = 0.075 mW/g



Ambient Temperature

21.6 Degrees Celsius

Liquid Temperature

21.0 Degrees Celsius

Humidity

61.0 %



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Test Date: 06 December 2007

File Name: Edge On OFDM 5.77 GHz Antenna A Side Bluetooth On 06-12-07.da4

DUT: Fujitsu Tablet Ryuga with Atheros 11abg and Bluetooth; Type: XB62; Serial: ZX7X00480

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.22102 \text{ mho/m}$, $\epsilon_r = 47.7697$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: EX3DV4 - SN3563; ConvF(3.72, 3.72, 3.72)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (51x131x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.285 mW/g

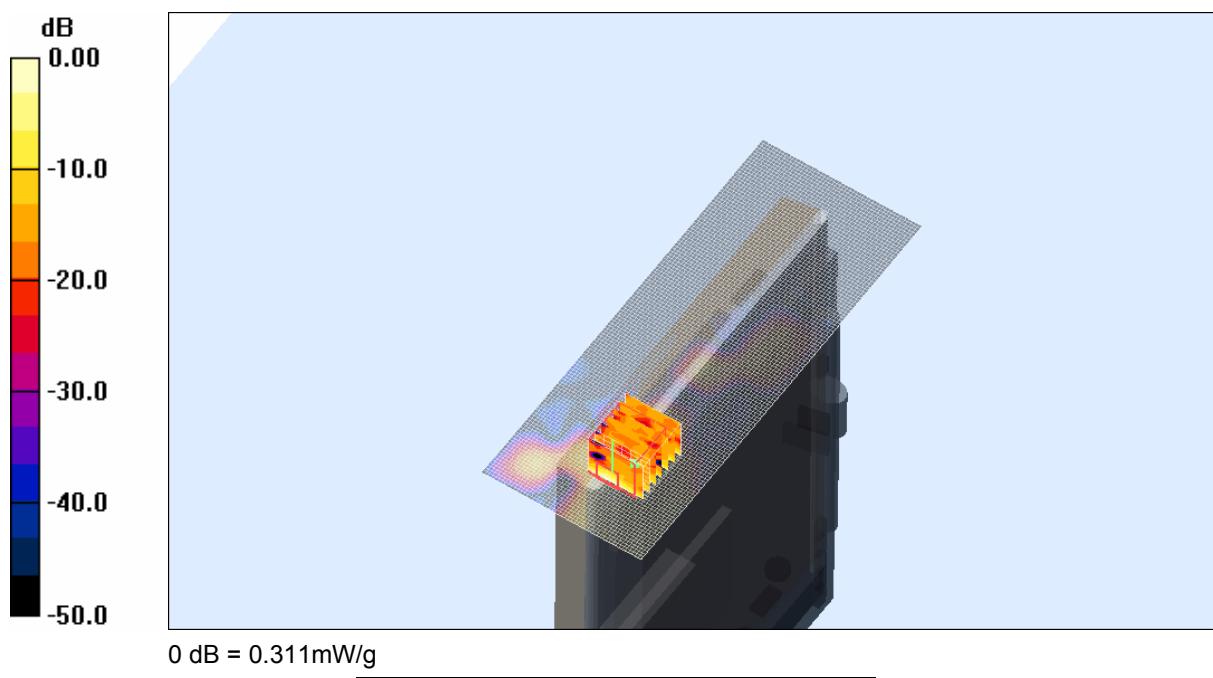
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 5.36 V/m; Power Drift = -0.195 dB

Peak SAR (extrapolated) = 0.503 W/kg

SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.037 mW/g

Maximum value of SAR (measured) = 0.311 mW/g



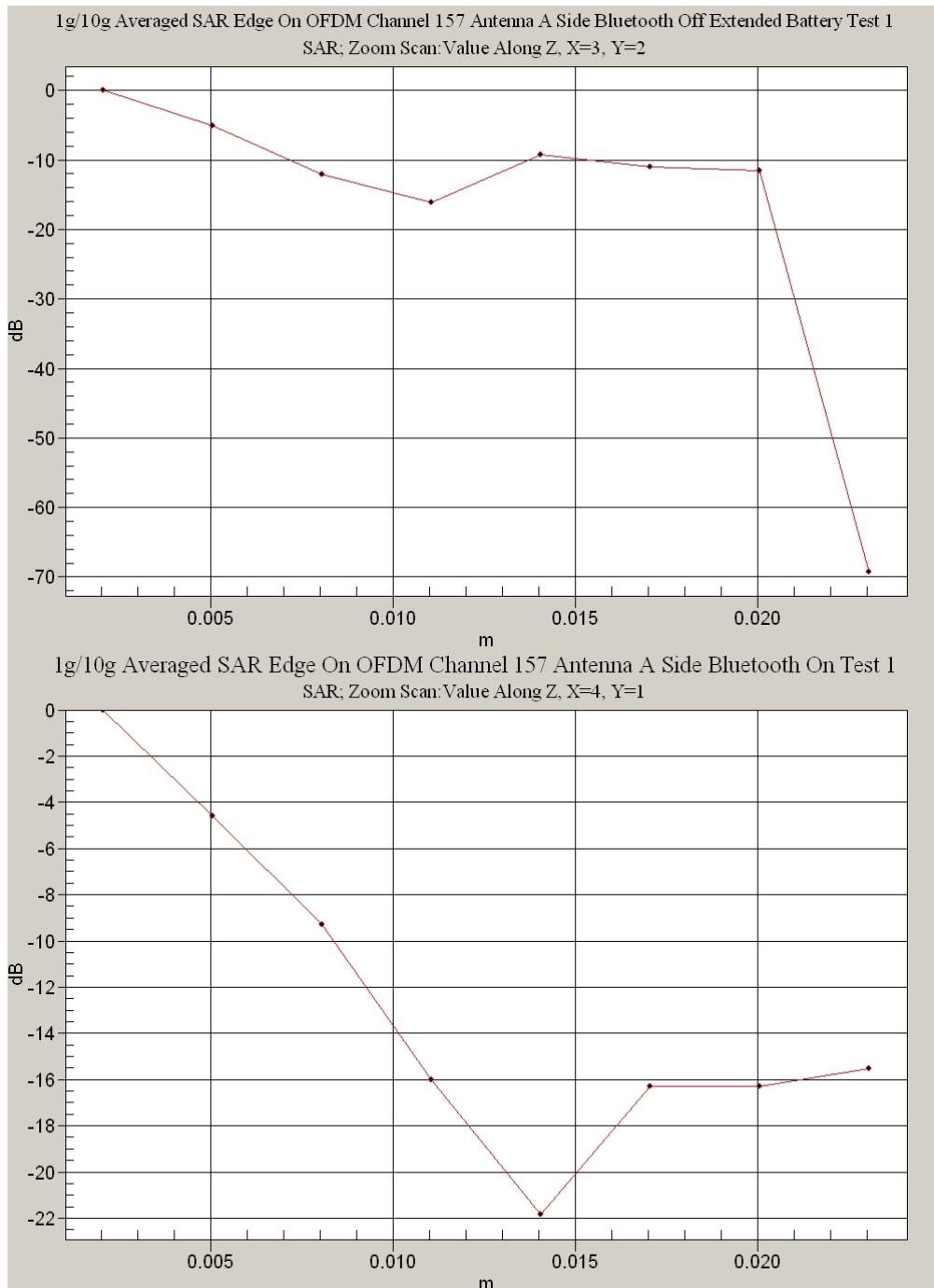
Ambient Temperature
Liquid Temperature
Humidity

21.6 Degrees Celsius
21.0 Degrees Celsius
61.0 %



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Test Date: 05 December 2007

File Name: Validation 5200MHz (DAE 359 Probe EX3DV4) 05-12-07.da4

DUT: **Dipole 5200_5800 MHz**; Type: **D5GHzV2**; Serial: **1008**

* Communication System: CW 5800 MHz; Frequency: 5200 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 4.74957 \text{ mho/m}$, $\epsilon_r = 36.765$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: EX3DV4 - SN3563; ConvF(4.25, 4.25, 4.25)

- Phantom: SAM 22; Serial: 1260; Phantom section: Flat Section

Channel 1 Test 2/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 45.0 mW/g

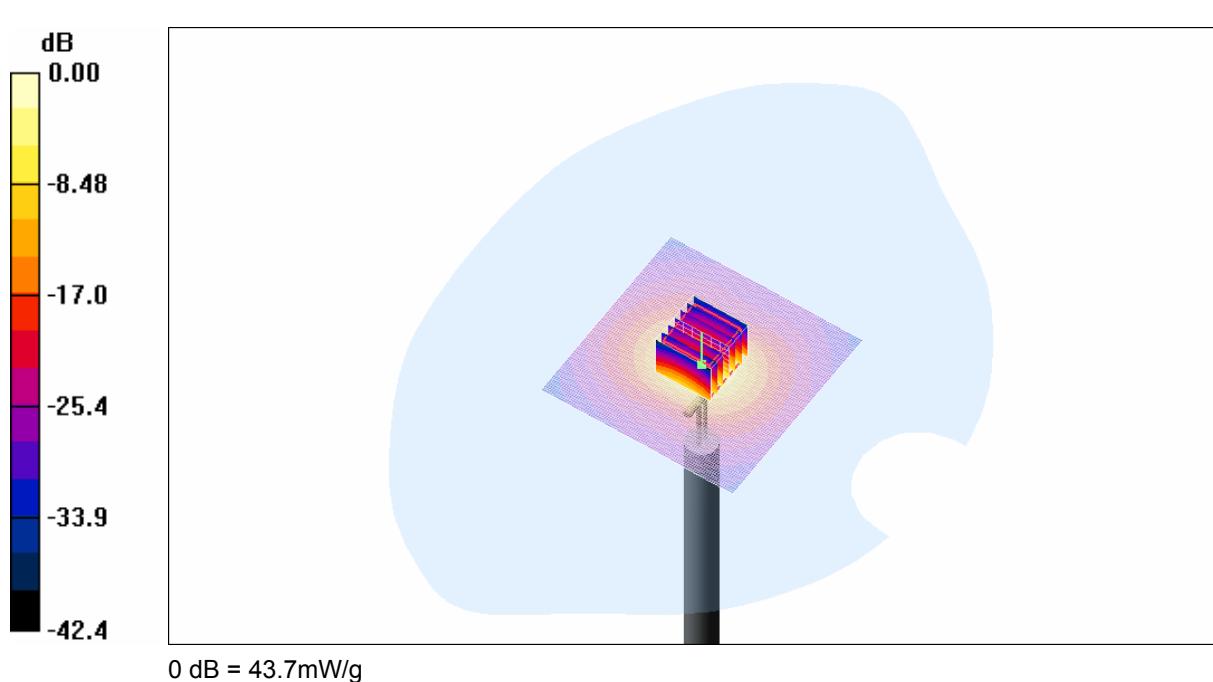
Channel 1 Test 2/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 102.3 V/m; Power Drift = 0.036 dB

Peak SAR (extrapolated) = 79.0 W/kg

SAR(1 g) = 21 mW/g; SAR(10 g) = 6.07 mW/g

Maximum value of SAR (measured) = 43.7 mW/g



Ambient Temperature

21.8 Degrees Celsius

Liquid Temperature

21.1 Degrees Celsius

Humidity

59.0 %



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Test Date: 06 December 2007

File Name: Validation 5800MHz (DAE 359 Probe EX3DV4) 06-12-07.da4

DUT: **Dipole 5200_5800 MHz; Type: D5GHzV2; Serial: 1008**

* Communication System: CW 5800 MHz; Frequency: 5800 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 5.31113 \text{ mho/m}$, $\epsilon_r = 35.3584$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: EX3DV4 - SN3563; ConvF(3.65, 3.65, 3.65)

- Phantom: SAM 22; Serial: 1260; Phantom section: Flat Section

Channel 1 Test/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 41.8 mW/g

Channel 1 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm,

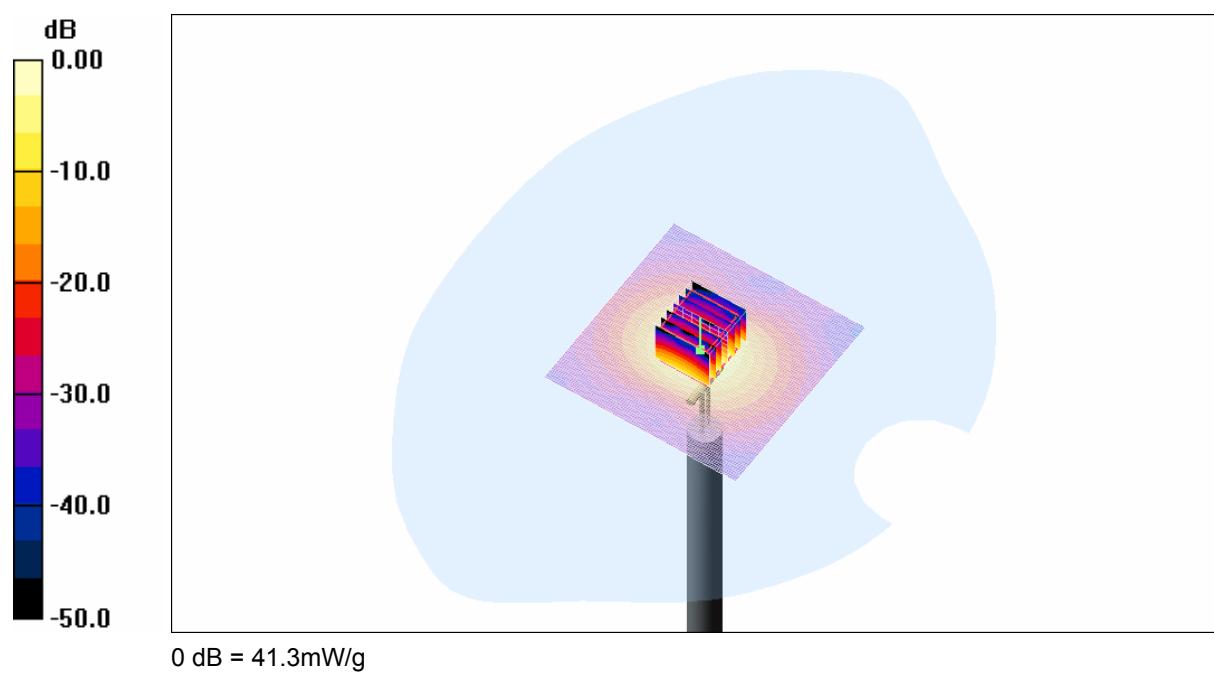
dz=3mm

Reference Value = 92.8 V/m; Power Drift = 0.060 dB

Peak SAR (extrapolated) = 84.1 W/kg

SAR(1 g) = 19.4 mW/g; SAR(10 g) = 5.47 mW/g

Maximum value of SAR (measured) = 41.3 mW/g



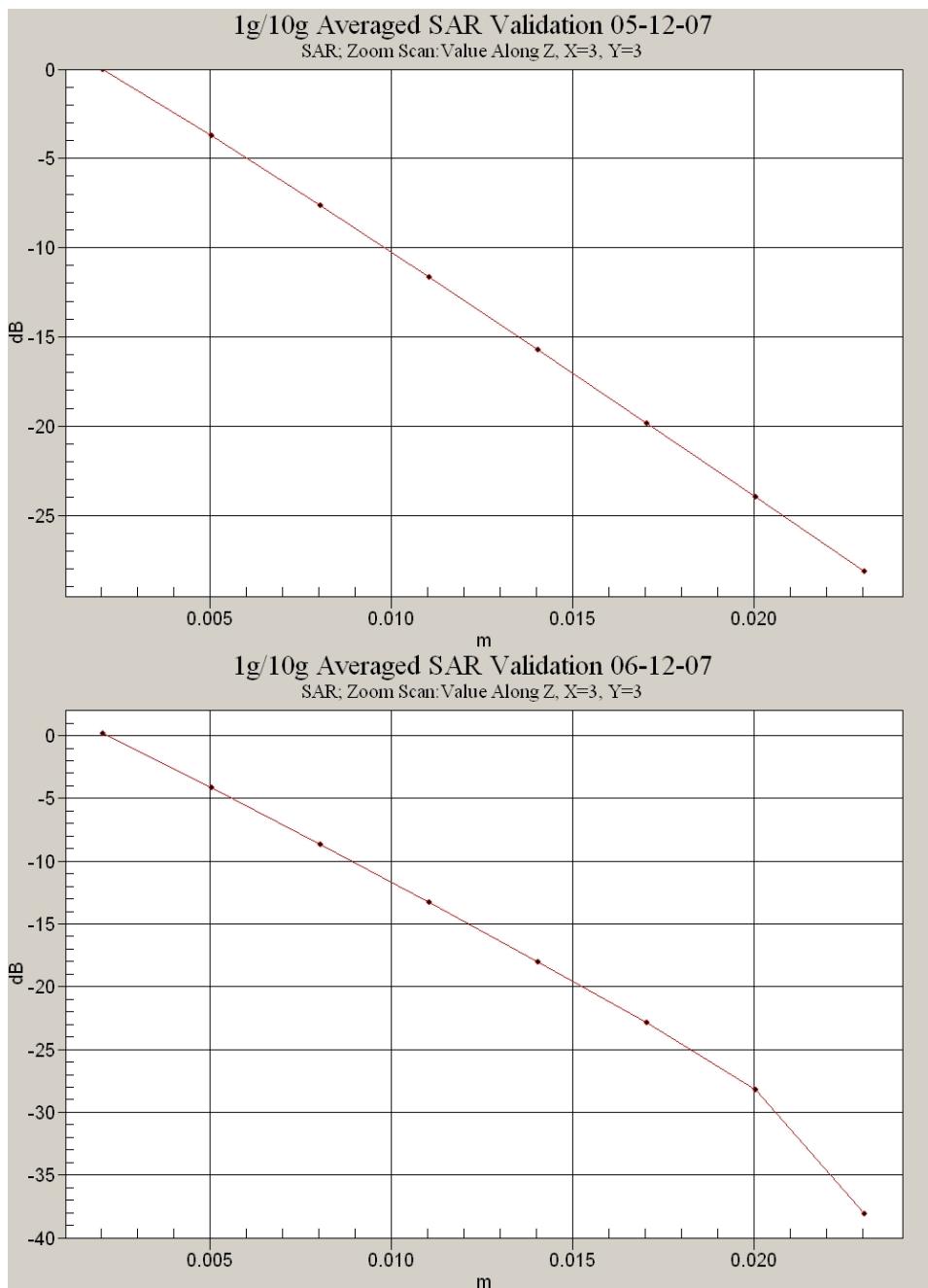
Ambient Temperature
Liquid Temperature
Humidity

21.6 Degrees Celsius
21.0 Degrees Celsius
61.0 %



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APPENDIX C CALIBRATION DOCUMENTS

5-039-14

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



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**Client **EMC Technologies**Certificate No: **EX3-3563_Jul06****CALIBRATION CERTIFICATE**

Object	EX3DV4 - SN:3563		
Calibration procedure(s)	QA CAL-01.v5 and QA CAL-14.v3 Calibration procedure for dosimetric E-field probes		
Calibration date:	July 14, 2006		
Condition of the calibrated item	In Tolerance		
<p>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.</p> <p>All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.</p> <p>Calibration Equipment used (M&TE critical for calibration)</p>			
Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41495277	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41498087	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Reference 3 dB Attenuator	SN: S5054 (3c)	11-Aug-05 (METAS, No. 251-00499)	Aug-06
Reference 20 dB Attenuator	SN: S5086 (20b)	4-Apr-06 (METAS, No. 251-00558)	Apr-07
Reference 30 dB Attenuator	SN: S5129 (30b)	11-Aug-05 (METAS, No. 251-00500)	Aug-06
Reference Probe ES3DV2	SN: 3013	2-Jan-06 (SPEAG, No. ES3-3013_Jan06)	Jan-07
DAE4	SN: 654	21-Jun-06 (SPEAG, No. DAE4-654_Jun06)	Jun-07
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov 06
Calibrated by:	Name	Function	Signature
	Katja Pokovic	Technical Manager	
Approved by:	Name	Function	Signature
	Niels Kuster	Quality Manager	
Issued: July 15, 2006			

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Certificate No: EX3-3563_Jul06

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EX3DV4 SN:3563**July 14, 2006**

Probe EX3DV4

SN:3563

Manufactured:	February 14, 2005
Last calibrated:	July 1, 2005
Repaired:	July 9, 2006
Recalibrated:	July 14, 2006

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

EX3DV4 SN:3563

July 14, 2006

DASY - Parameters of Probe: EX3DV4 SN:3563

Sensitivity in Free Space^A

NormX	0.390 \pm 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$
NormY	0.390 \pm 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	0.460 \pm 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression^B

DCP X	88 mV
DCP Y	80 mV
DCP Z	90 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **5200** MHz Typical SAR gradient: 25 % per mm

Sensor Center to Phantom Surface Distance	2.0 mm	3.0 mm
SAR _{be} [%] Without Correction Algorithm	13.0	6.8
SAR _{be} [%] With Correction Algorithm	0.0	0.0

TSL **5800** MHz Typical SAR gradient: 30 % per mm

Sensor Center to Phantom Surface Distance	2.0 mm	3.0 mm
SAR _{be} [%] Without Correction Algorithm	14.2	7.3
SAR _{be} [%] With Correction Algorithm	0.0	0.0

Sensor Offset

Probe Tip to Sensor Center **1.0** mm

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E^2 -field uncertainty inside TSL (see Page 8).

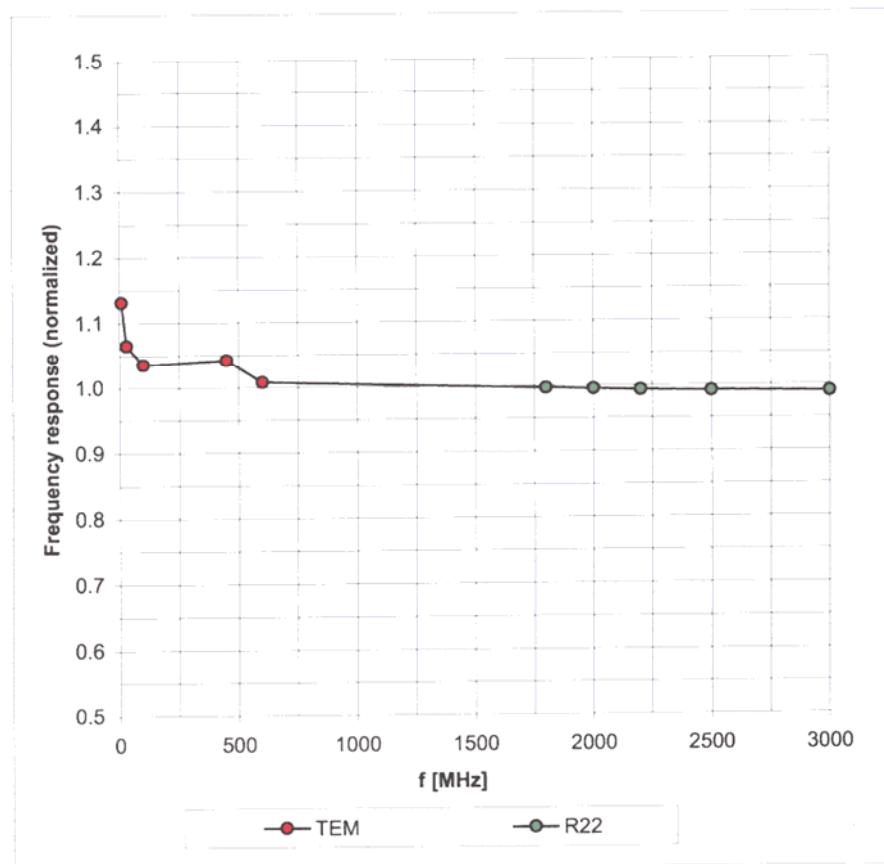
^B Numerical linearization parameter: uncertainty not required.

EX3DV4 SN:3563

July 14, 2006

Frequency Response of E-Field

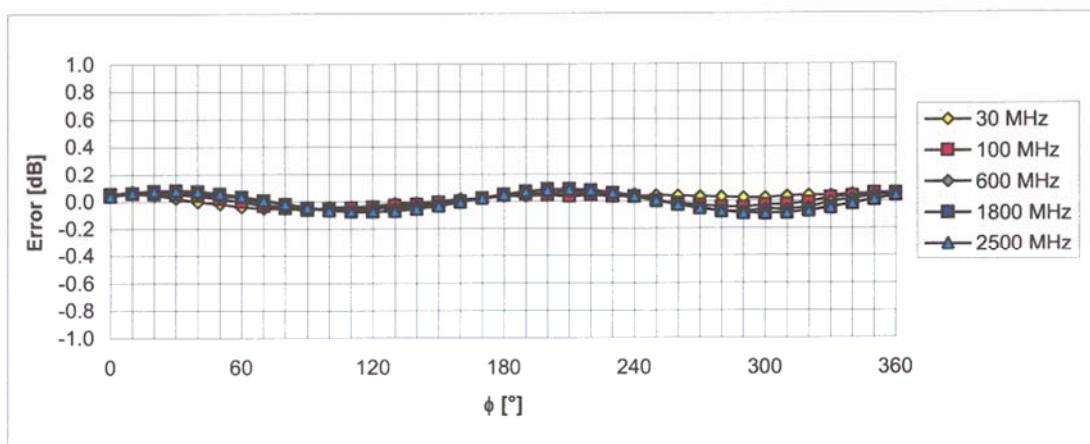
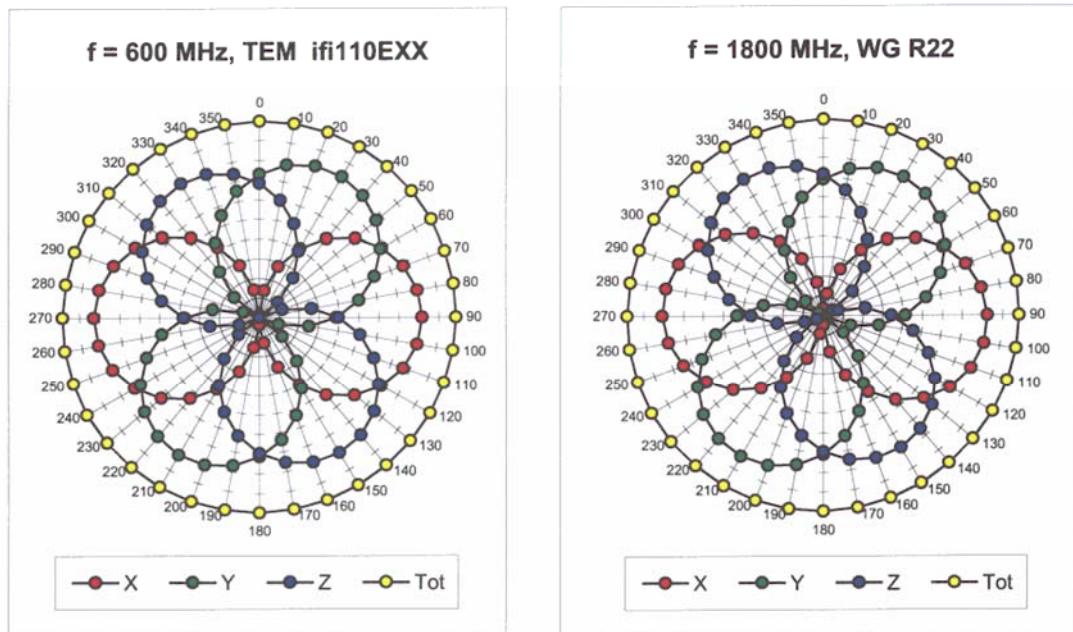
(TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: $\pm 6.3\% (k=2)$

EX3DV4 SN:3563

July 14, 2006

Receiving Pattern (ϕ), $\theta = 0^\circ$ Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)