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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: $\sigma = 6.22102$ mho/m, $\epsilon_r = 47.7697$; $\rho = 1000$ kg/m³

- 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



0 dB = 0.075mW/g

SAR MEASUREMENT PLOT 9

Ambient Temperature
Liquid Temperature
Humidity

21.6 Degrees Celsius
21.0 Degrees Celsius
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: $\sigma = 6.22102$ mho/m, $\epsilon_r = 47.7697$; $\rho = 1000$ kg/m³

- 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

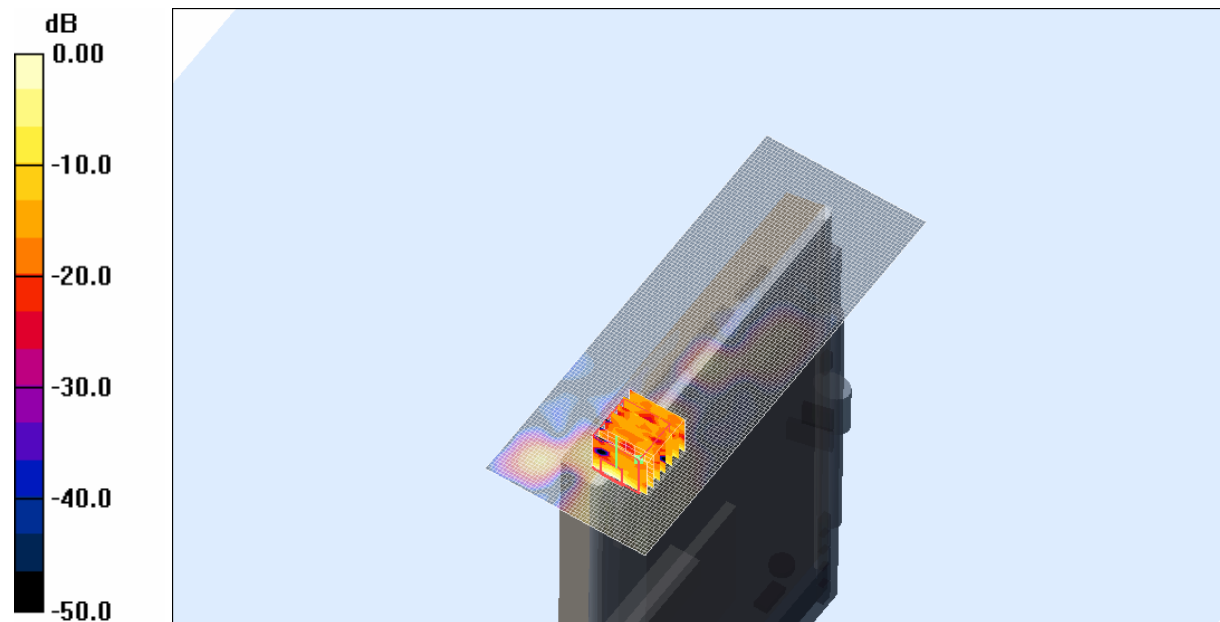
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

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



0 dB = 0.311mW/g

SAR MEASUREMENT PLOT 10

Ambient Temperature

21.6 Degrees Celsius

Liquid Temperature

21.0 Degrees Celsius

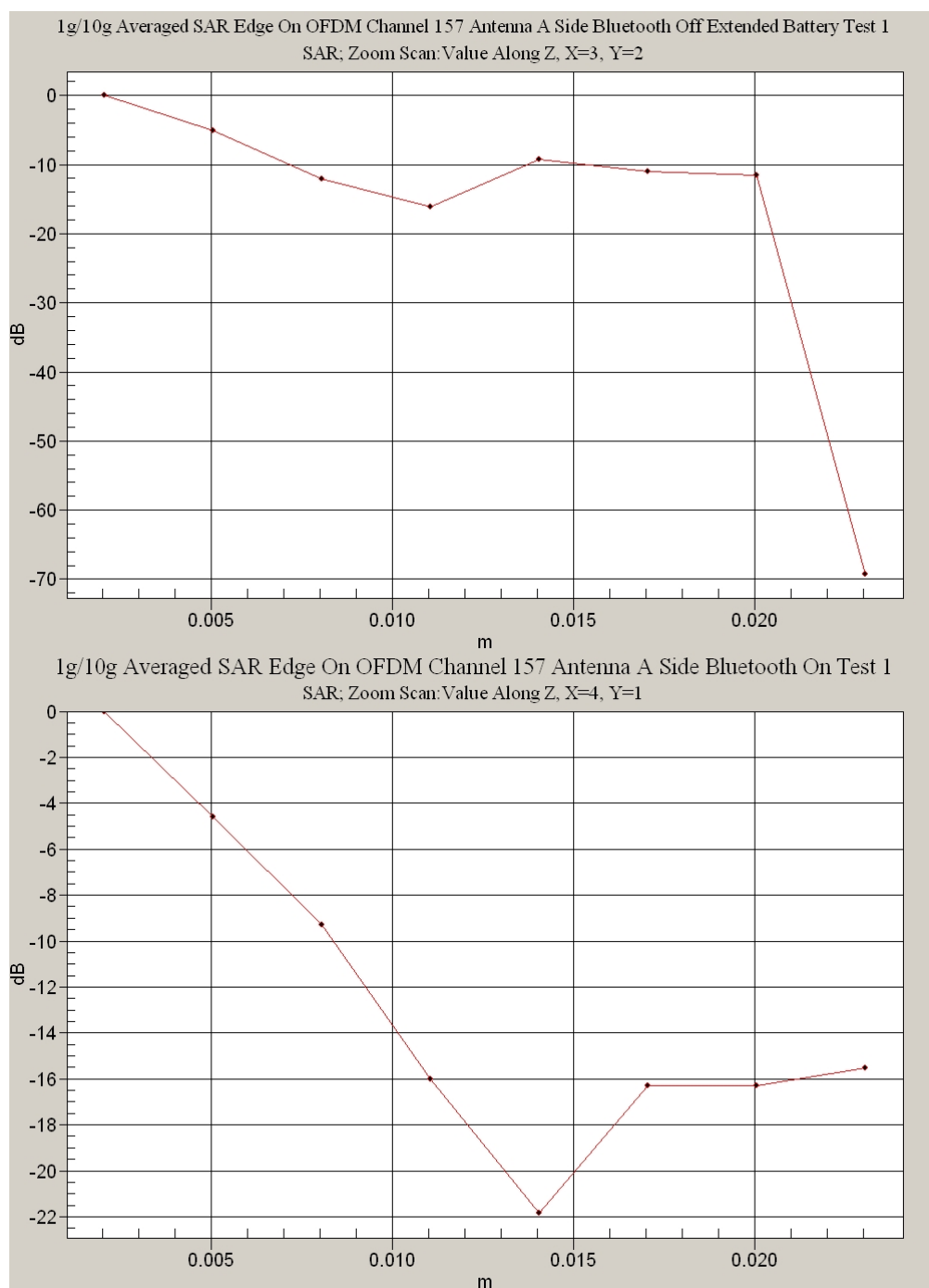
Humidity

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: $\sigma = 4.74957$ mho/m, $\epsilon_r = 36.765$; $\rho = 1000$ kg/m³

- 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

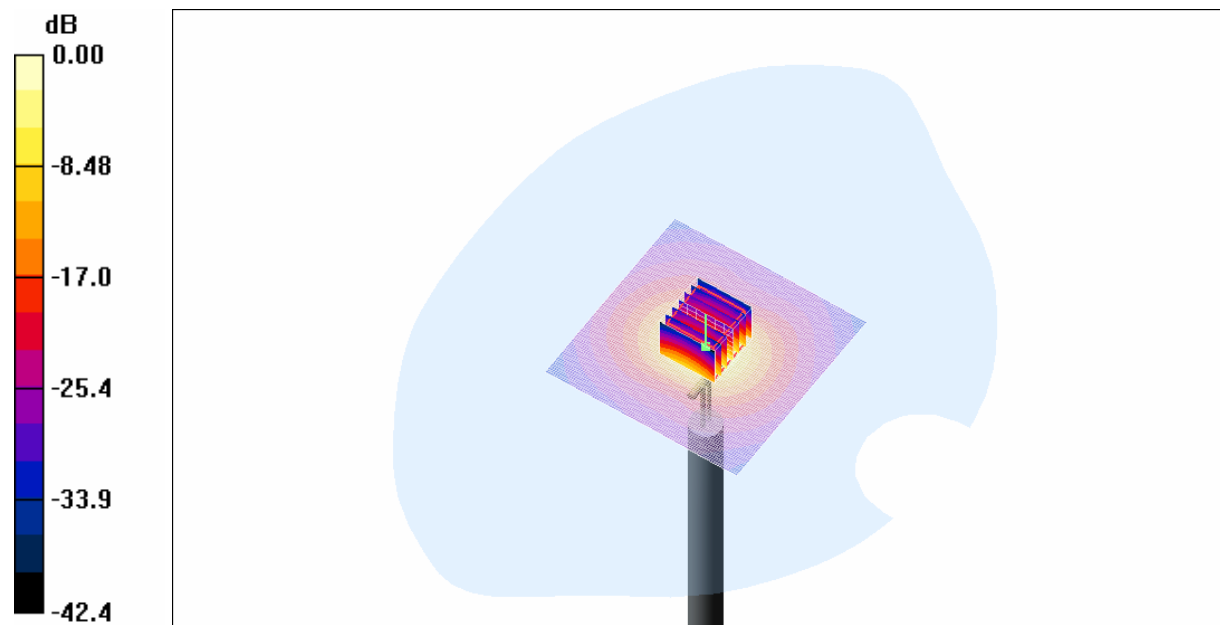
Channel 1 Test 2/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

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



0 dB = 43.7mW/g

SAR MEASUREMENT PLOT 11

Ambient Temperature
Liquid Temperature
Humidity

21.8 Degrees Celsius
21.1 Degrees Celsius
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: $\sigma = 5.31113$ mho/m, $\epsilon_r = 35.3584$; $\rho = 1000$ kg/m³

- 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

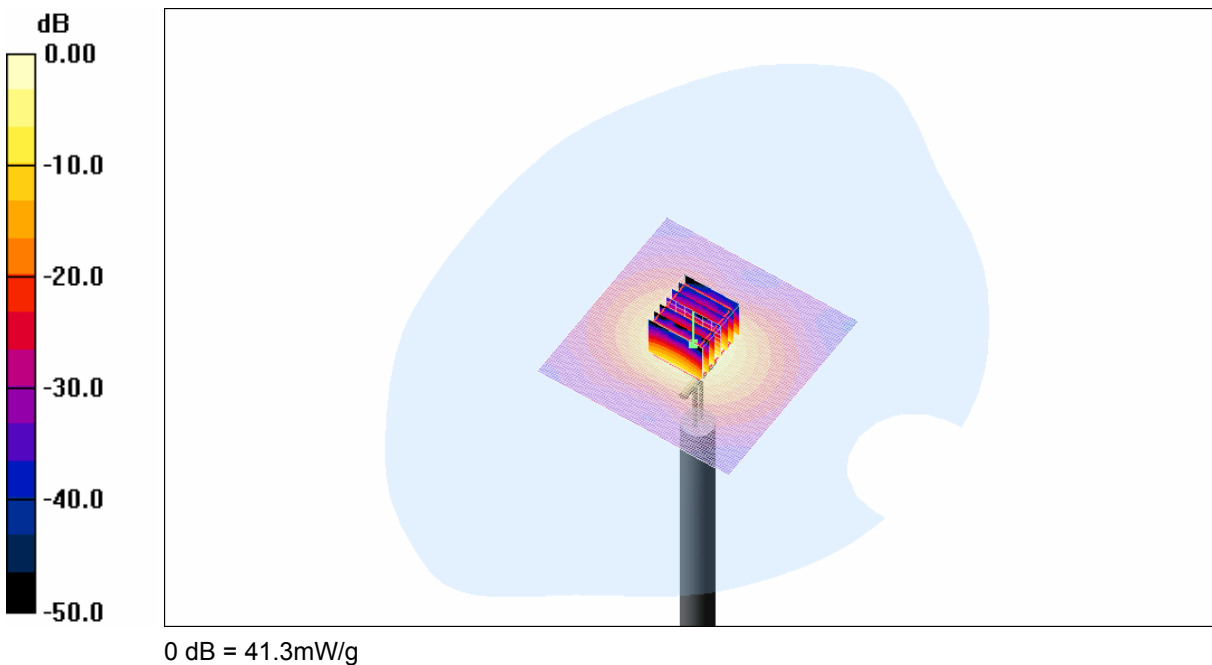
Channel 1 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

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



SAR MEASUREMENT PLOT 12

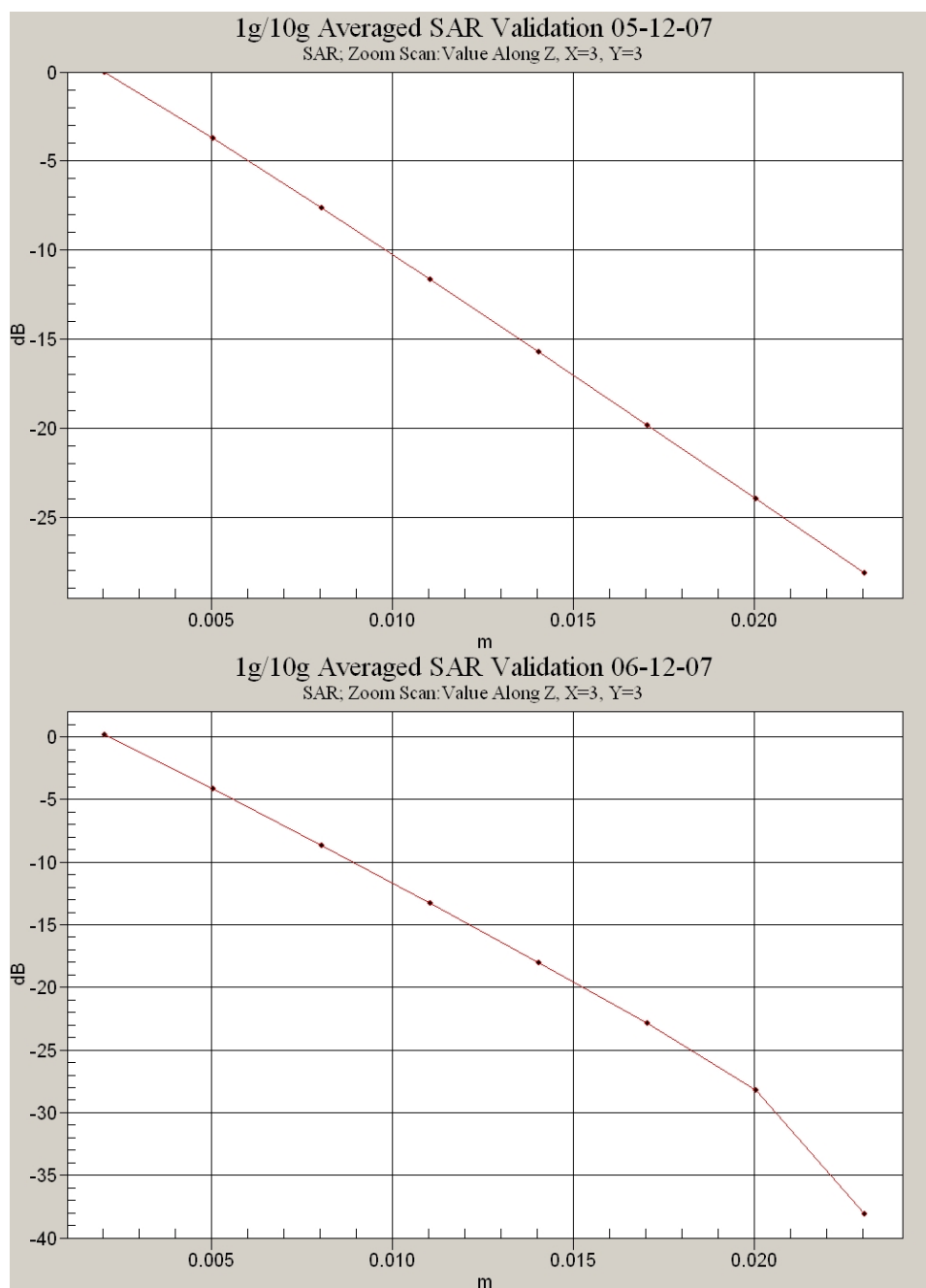
Ambient Temperature
Liquid Temperature
Humidity

21.6 Degrees Celsius
21.0 Degrees Celsius
61.0 %



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APPENDIX C CALIBRATION DOCUMENTS

5-039-24

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



S Schweizerischer Kalibrierdienst
S Service suisse d'étalonnage
C 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**

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
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

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	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****Diode Compression^B**

NormX	0.390 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	88 mV
NormY	0.390 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	80 mV
NormZ	0.460 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	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 OffsetProbe 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%.

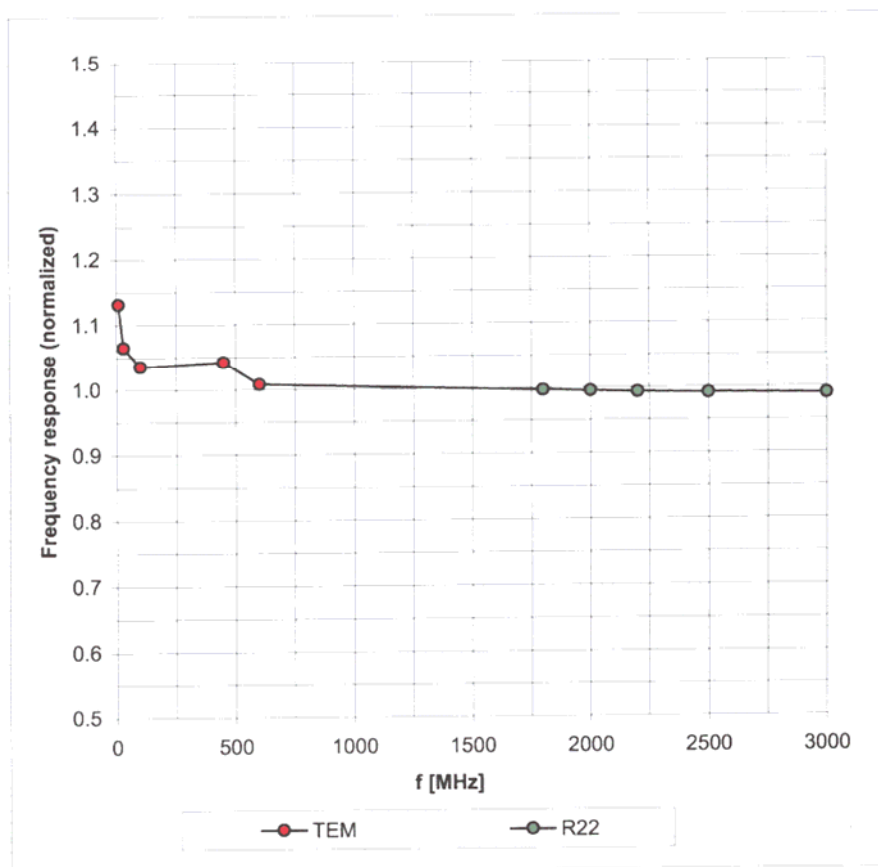
^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).^B Numerical linearization parameter: uncertainty not required.

EX3DV4 SN:3563

July 14, 2006

Frequency Response of E-Field

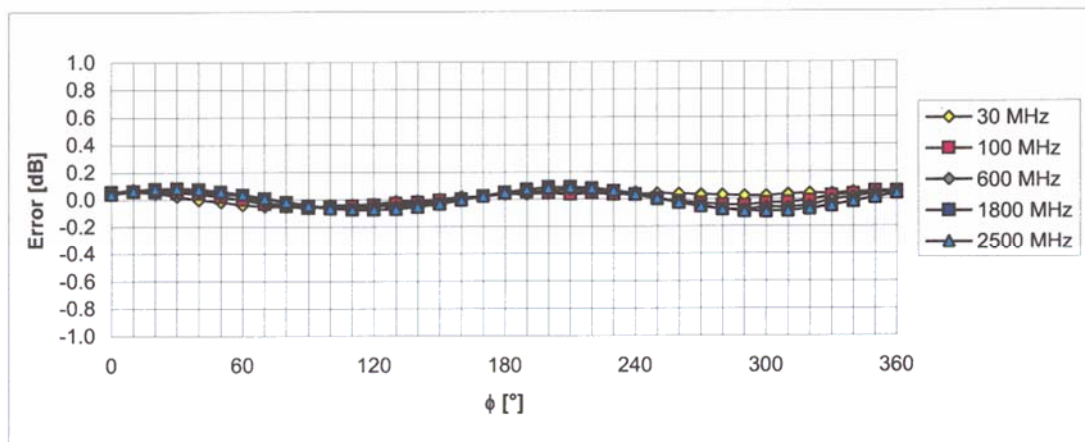
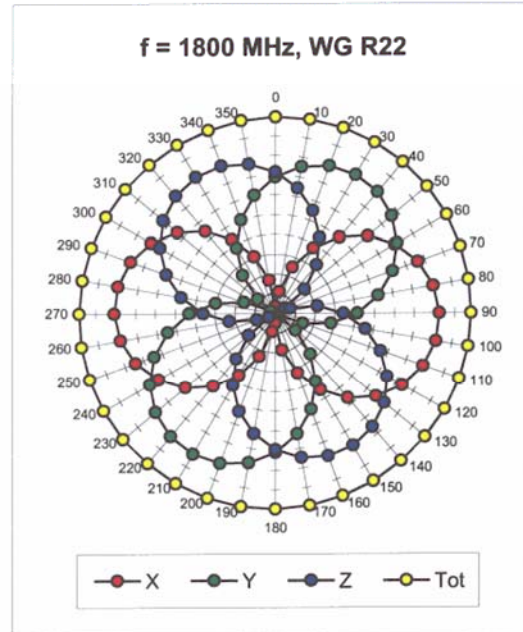
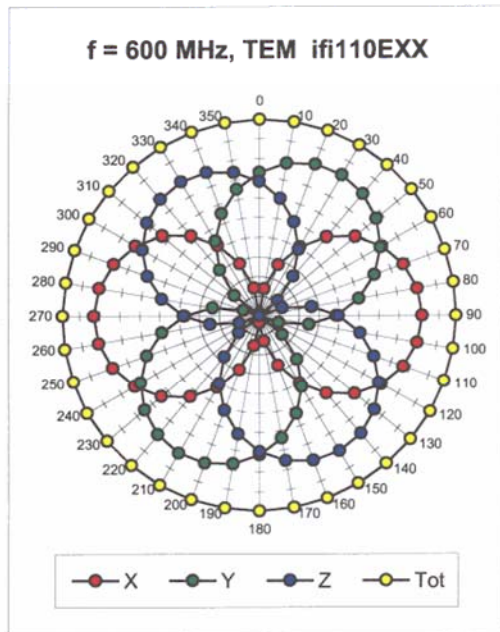
(TEM-Cell:ifi110 EXX, Waveguide: R22)

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

EX3DV4 SN:3563

July 14, 2006

Receiving Pattern (ϕ), $\vartheta = 0^\circ$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)