No. SAR2006002

Page 46 of 79

1900 Body Toward Phantom High

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

Toward Phantom High/Area Scan (81x121x1): Measurement grid: dx=10mm,

dy=10mm

Maximum value of SAR (interpolated) = 0.113 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

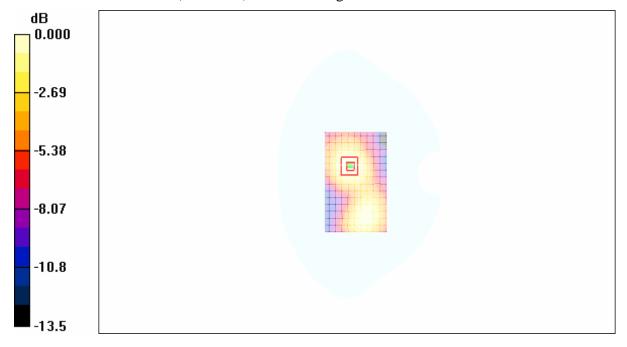
dy=5mm, dz=5mm

Reference Value = 7.92 V/m; Power Drift = -0.200 dB

Peak SAR (extrapolated) = 0.169 W/kg

SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.067 mW/g

Maximum value of SAR (measured) = 0.111 mW/g



0~dB = 0.111 mW/g

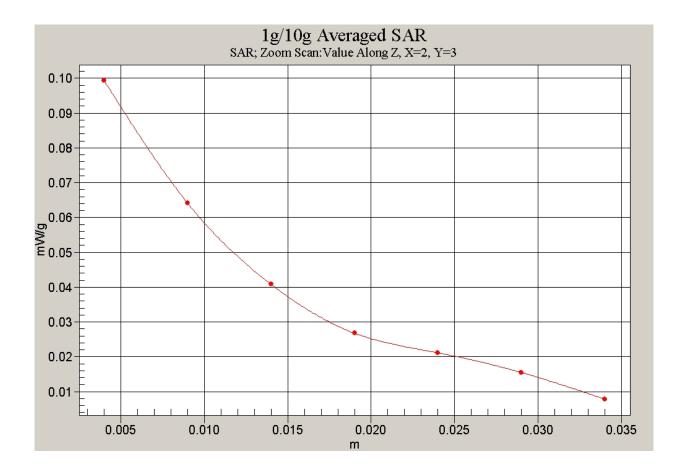


Fig. 26 Z-Scan at power reference point (PCS 1900MHz, Body Towards Phantom, CH810)

No. SAR2006002

Page 48 of 79

1900 Body Toward Phantom Middle

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

Toward Phantom Middle/Area Scan (81x121x1): Measurement grid: dx=10mm,

dy=10mm

Maximum value of SAR (interpolated) = 0.114 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

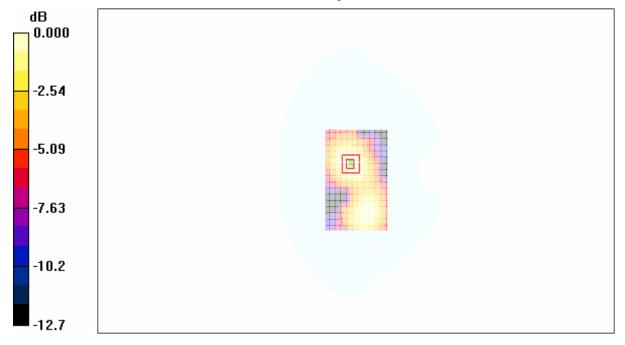
dy=5mm, dz=5mm

Reference Value = 7.85 V/m; Power Drift = 0.067 dB

Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.068 mW/g

Maximum value of SAR (measured) = 0.113 mW/g



 $0\ dB = 0.113 mW/g$

No. SAR2006002

Page 49 of 79

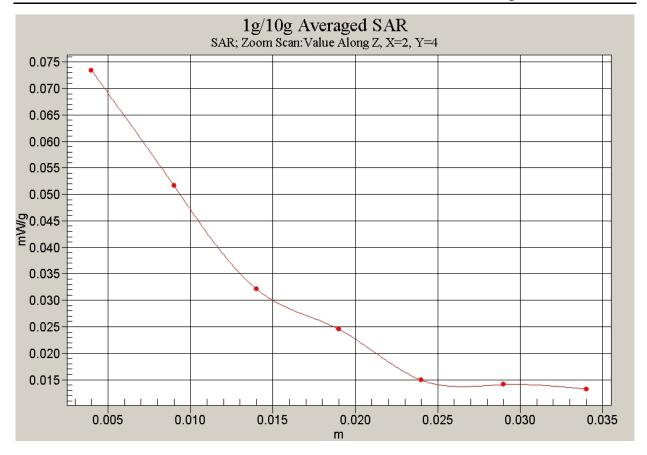


Fig. 28 Z-Scan at power reference point (PCS 1900MHz, Body Towards Phantom, CH661)

No. SAR2006002

Page 50 of 79

1900 Body Toward Phantom Low

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

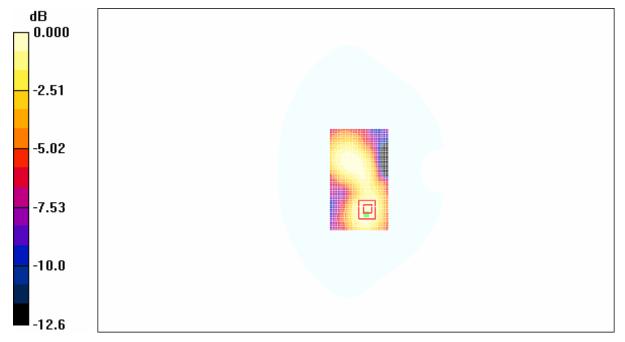
Toward Phantom Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 0.073 mW/g

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

Reference Value = 6.15 V/m; Power Drift = -0.147 dB

Peak SAR (extrapolated) = 0.082 W/kg

SAR(1 g) = 0.063 mW/g; SAR(10 g) = 0.038 mW/gMaximum value of SAR (measured) = 0.066 mW/g



 $0\ dB=0.066mW/g$

No. SAR2006002

Page 51 of 79

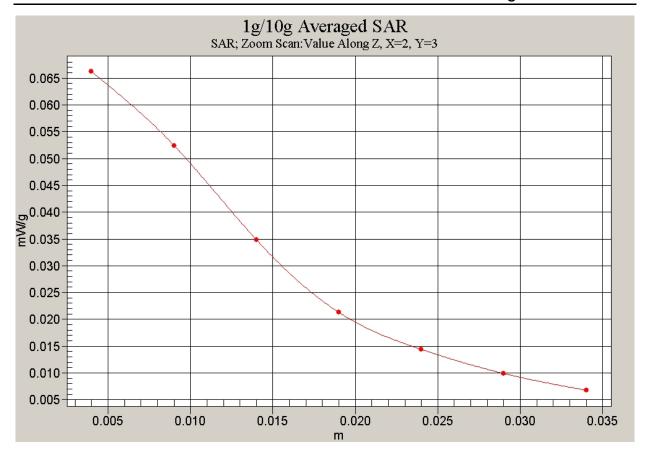


Fig. 30 Z-Scan at power reference point (PCS 1900MHz, Body Towards Phantom, CH512)

No. SAR2006002

Page 52 of 79

1900 Body Toward Ground High

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

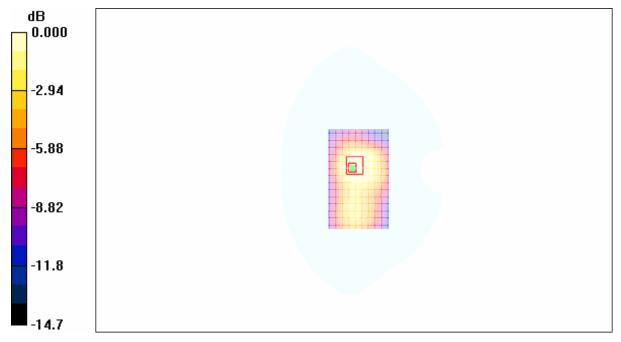
Toward Ground High/Area Scan (81x121x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 0.298 mW/g

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

Reference Value = 12.6 V/m; Power Drift = -0.046 dB

Peak SAR (extrapolated) = 0.481 W/kg

SAR(1 g) = 0.271 mW/g; SAR(10 g) = 0.161 mW/gMaximum value of SAR (measured) = 0.296 mW/g



 $0\ dB=0.296mW/g$

No. SAR2006002

Page 53 of 79

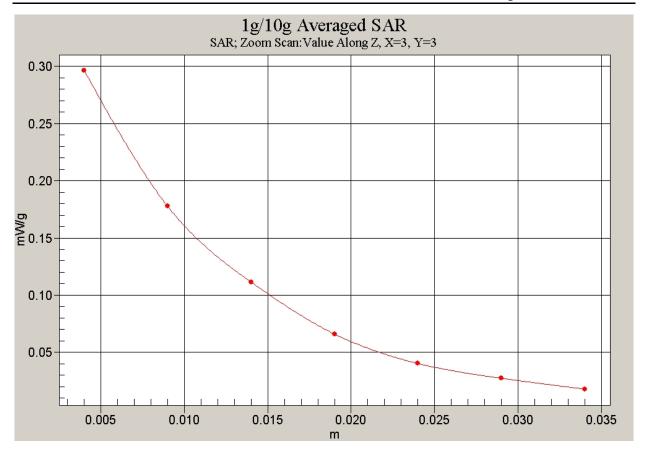


Fig. 232 Z-Scan at power reference point (PCS 1900MHz, Body Towards Ground, CH810)

No. SAR2006002

Page 54 of 79

1900 Body Toward Ground Middle

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

Toward Ground Middle/Area Scan (81x121x1): Measurement grid: dx=10mm,

dy=10mm

Maximum value of SAR (interpolated) = 0.346 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

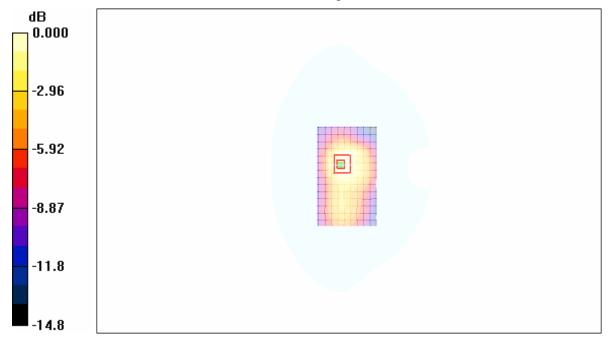
dy=5mm, dz=5mm

Reference Value = 13.8 V/m; Power Drift = -0.126 dB

Peak SAR (extrapolated) = 0.537 W/kg

SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.186 mW/g

Maximum value of SAR (measured) = 0.344 mW/g



0 dB = 0.344 mW/g

No. SAR2006002

Page 55 of 79

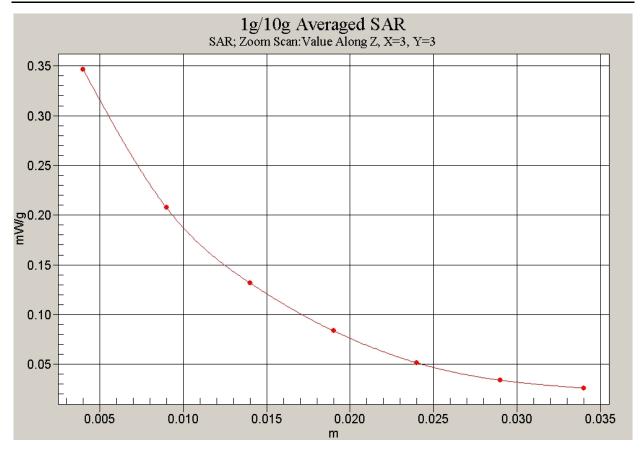


Fig. 34 Z-Scan at power reference point (PCS 1900MHz, Body Towards Ground, CH661)

No. SAR2006002

Page 56 of 79

1900 Body Toward Ground Low

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

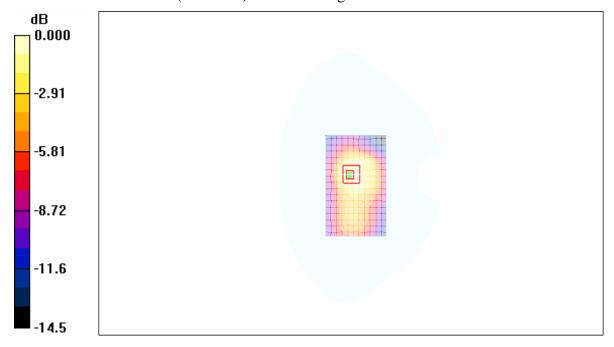
Toward Ground Low/Area Scan (81x121x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 0.290 mW/g

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

Reference Value = 12.6 V/m; Power Drift = 0.057 dB

Peak SAR (extrapolated) = 0.449 W/kg

SAR(1 g) = 0.262 mW/g; SAR(10 g) = 0.155 mW/gMaximum value of SAR (measured) = 0.287 mW/g



0 dB = 0.287 mW/g

No. SAR2006002

Page 57 of 79

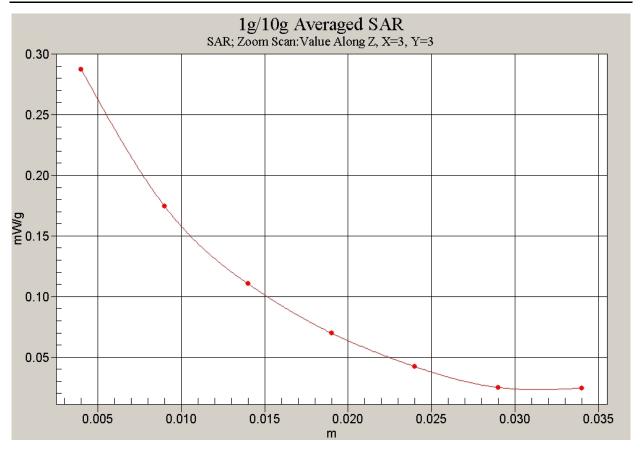


Fig. 36 Z-Scan at power reference point (PCS 1900MHz, Body Towards Ground, CH512)

No. SAR2006002

Page 58 of 79

1900 Body Toward Phantom High with GPRS

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:4

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

Toward Phantom High/Area Scan (81x121x1): Measurement grid: dx=10mm,

dy=10mm

Maximum value of SAR (interpolated) = 0.189 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

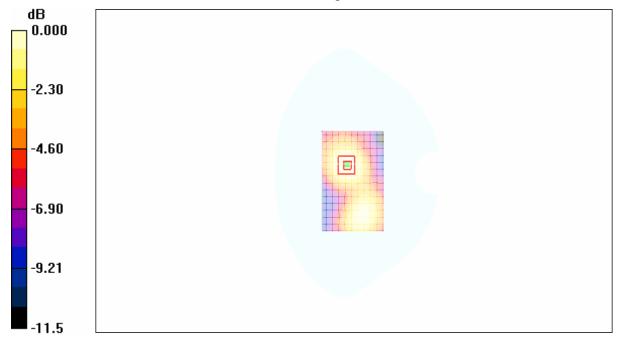
dy=5mm, dz=5mm

Reference Value = 12.21 V/m; Power Drift = -0.156 dB

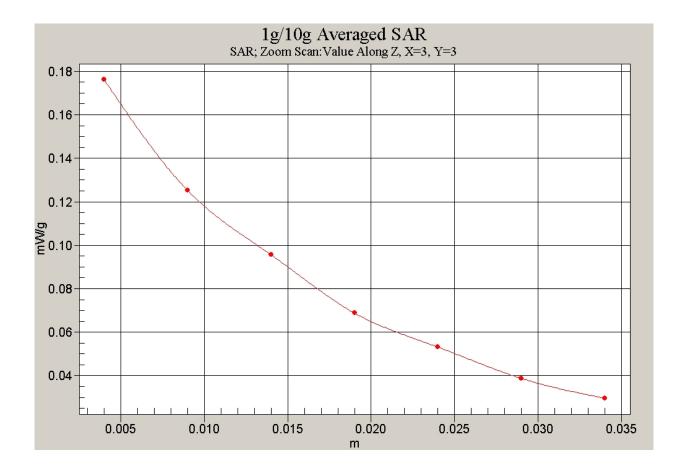
Peak SAR (extrapolated) = 0.289 W/kg

SAR(1 g) = 0.178 mW/g; SAR(10 g) = 0.107 mW/g

Maximum value of SAR (measured) = 0.179 mW/g



0~dB=0.179mW/g



No. SAR2006002

Page 60 of 79

1900 Body Toward Phantom Middle with GPRS

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:4

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

Toward Phantom Middle/Area Scan (81x121x1): Measurement grid: dx=10mm,

dy=10mm

Maximum value of SAR (interpolated) = 0.197 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

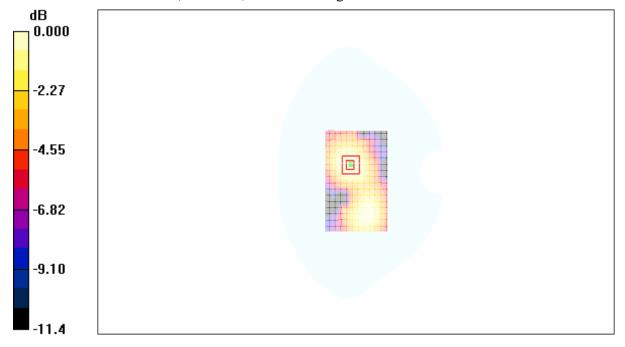
dy=5mm, dz=5mm

Reference Value = 12.35 V/m; Power Drift = -0.059 dB

Peak SAR (extrapolated) = 0.296 W/kg

SAR(1 g) = 0.182 mW/g; SAR(10 g) = 0.122 mW/g

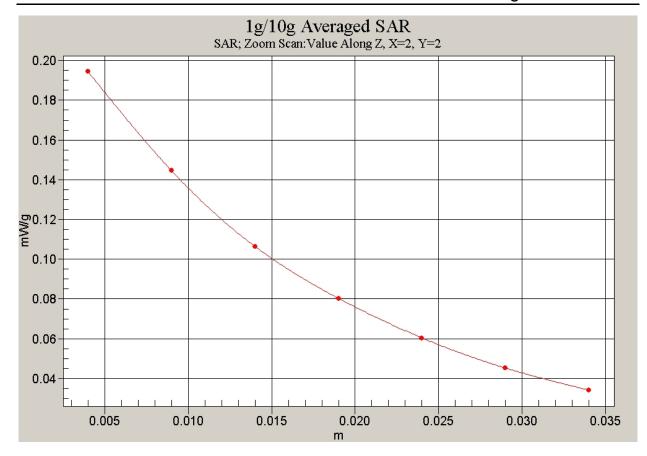
Maximum value of SAR (measured) = 0.195 mW/g



0~dB=0.195mW/g

No. SAR2006002

Page 61 of 79



No. SAR2006002

Page 62 of 79

1900 Body Toward Phantom Low with GPRS

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

Toward Phantom Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 0.128 mW/g

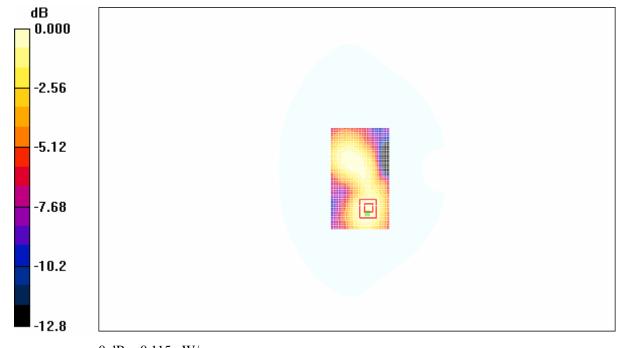
Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.87 V/m; Power Drift = -0.147 dB

Peak SAR (extrapolated) = 0.209 W/kg

SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.061 mW/g

Maximum value of SAR (measured) = 0.115 mW/g



 $0\ dB=0.115mW/g$

Fig. 41 PCS 1900MHz, Body, Towards Phantom with GPRS, CH512

No. SAR2006002

Page 63 of 79

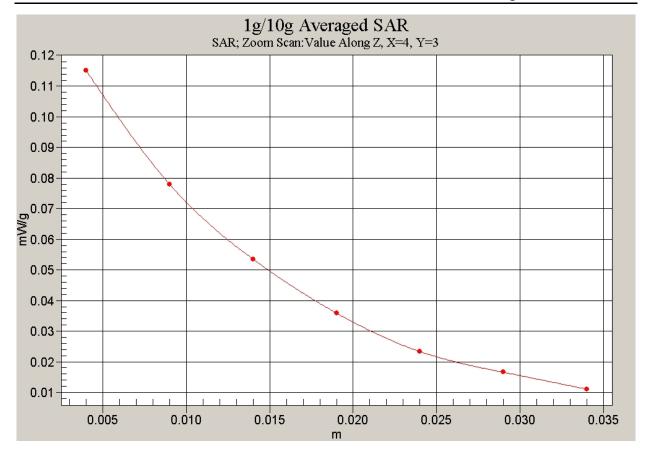


Fig. 42 Z-Scan at power reference point (PCS 1900MHz, Body Towards Phantom with GPRS, CH512)

No. SAR2006002

Page 64 of 79

1900 Body Toward Ground High with GPRS

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:4

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

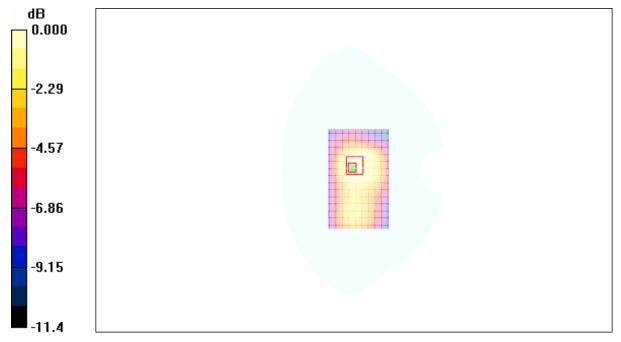
Toward Ground High/Area Scan (81x121x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 0.452 mW/g

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

Reference Value = 17.5 V/m; Power Drift = 0.039 dB

Peak SAR (extrapolated) = 0.555 W/kg

SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.274 mW/gMaximum value of SAR (measured) = 0.447 mW/g

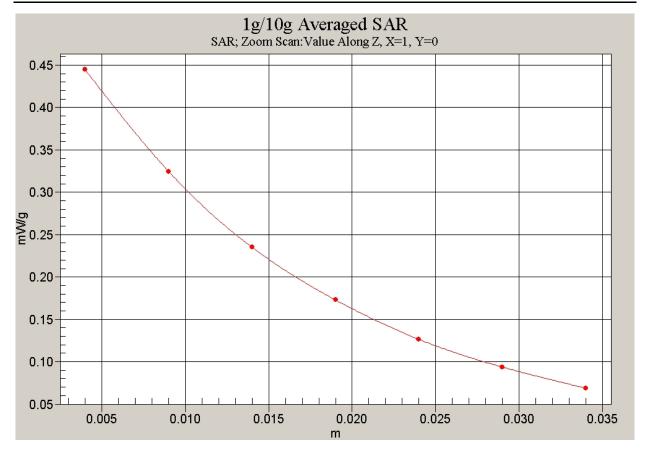


0 dB = 0.447 mW/g

Fig. 43 PCS 1900MHz, Body, Towards Ground with GPRS, CH810

No. SAR2006002

Page 65 of 79



No. SAR2006002

Page 66 of 79

1900 Body Toward Ground Middle with GPRS

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:4

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

Toward Ground Middle/Area Scan (81x121x1): Measurement grid: dx=10mm,

dy=10mm

Maximum value of SAR (interpolated) = 0.569 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

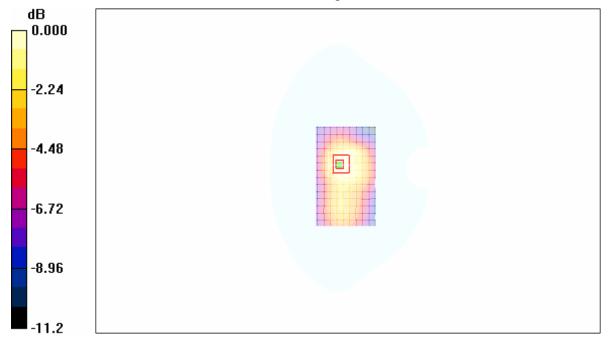
dy=5mm, dz=5mm

Reference Value = 18.6 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 0.715 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.334 mW/g

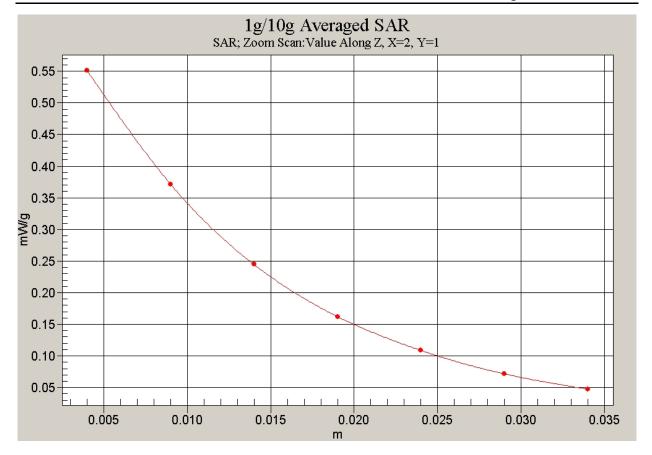
Maximum value of SAR (measured) = 0.558 mW/g



0~dB=0.558mW/g

No. SAR2006002

Page 67 of 79



No. SAR2006002

Page 68 of 79

1900 Body Toward Ground Low with GPRS

Electronics: DAE3 Sn536

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4

Probe: ET3DV6 - SN1736 ConvF(4.88, 4.88, 4.88)

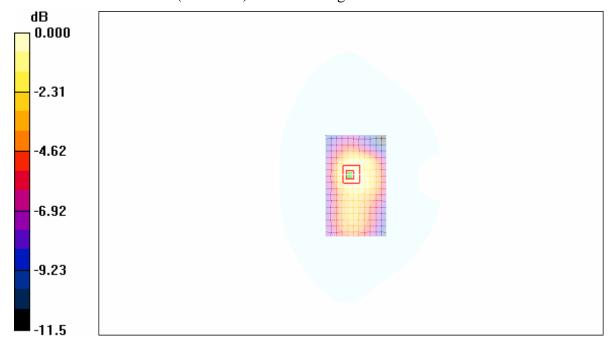
Toward Ground Low/Area Scan (81x121x1): Measurement grid: dx=10mm, dy=10mm Maximum value of SAR (interpolated) = 0.492 mW/g

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

Reference Value = 18.0 V/m; Power Drift = 0.088 dB

Peak SAR (extrapolated) = 0.579 W/kg

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.279 mW/gMaximum value of SAR (measured) = 0.497 mW/g

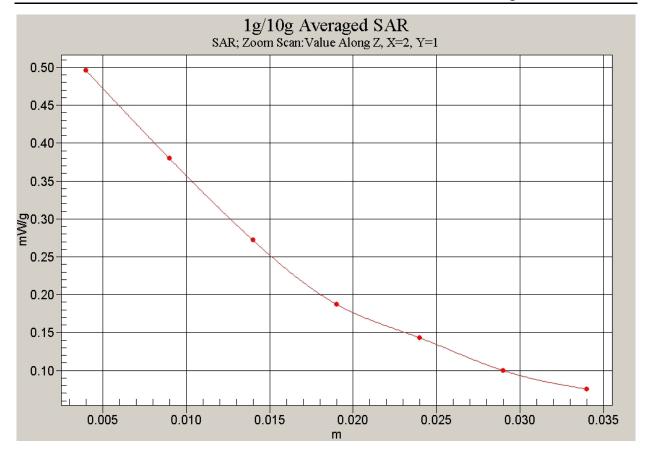


0 dB = 0.497 mW/g

Fig. 47 PCS 1900MHz, Body, Towards Ground with GPRS, CH512

No. SAR2006002

Page 69 of 79



Page 70 of 79

ANNEX D SYSTEM VALIDATION RESULTS

1900MHzDAE536Probe1736

Electronics: DAE3 Sn536

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

Probe: ET3DV6 - SN1736 ConvF(5.4, 5.4, 5.4)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm

Reference Value = 92.1 V/m; Power Drift = 0.1 dB Maximum value of SAR (interpolated) = 11.2 mW/g

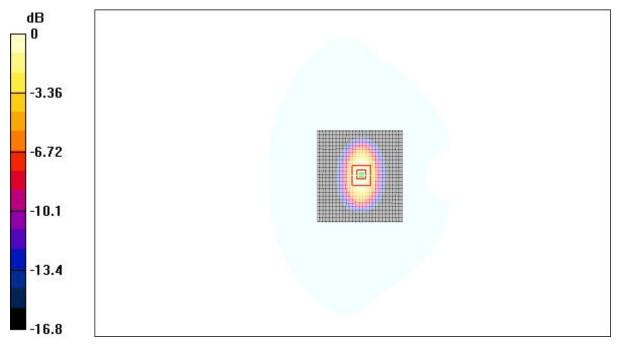
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.1 V/m; Power Drift = 0.1 dB

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

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.27 mW/g



0 dB = 11.3 mW/g

No. SAR2006002

Page 71 of 79

ANNEX E PROBE CALIBRATION CERTIFICATE

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



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

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

Client TMC-Auden

Certificate No: ET3-1736_Nov05

Accreditation No.: SCS 108

ALIBRATION	CERTIFICAT	E	The state of the state of			
Dbject	ET3DV6 - SN:1736					
Calibration procedure(s)	QA CAL-01.v5 Calibration procedure for dosimetric E-field probes					
Calibration date:	November 25, 2005					
Condition of the calibrated item	In Tolerance	In Tolerance				
The measurements and the unce	ertainties with confidence	ational standards, which realize the physical units of probability are given on the following pages and arrory facility: environment temperature $(22 \pm 3)^{\circ}$ C and	e part of the certificate.			
Calibration Equipment used (M&	TE critical for calibration)					
Primary Standards	ID#	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration			
			779. 7875			
ower meter E4419B	GB41293874	3-May-05 (METAS, No. 251-00466)	May-06			
Power meter E4419B Power sensor E4412A	MY41495277	3-May-05 (METAS, No. 251-00466)	May-06			
Power meter E4419B Power sensor E4412A Power sensor E4412A	MY41495277 MY41498087	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466)	May-06 May-06			
Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator	MY41495277 MY41498087 SN: S5086 (20b)	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467)	May-06 May-06 May-06			
Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2	MY41495277 MY41498087 SN: S5086 (20b) SN: S5086 (20b)	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467) 3-May-05 (METAS, No. 251-00467)	May-06 May-06			
Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4	MY41495277 MY41498087 SN: S5086 (20b)	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467)	May-06 May-06 May-06 May-06			
Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Reference Probe ES3DV2	MY41495277 MY41498087 SN: S5086 (20b) SN: S5086 (20b) SN: 3013	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467) 3-May-05 (METAS, No. 251-00467) 7-Jan-05 (SPEAG, No. ES3-3013_Jan05)	May-06 May-06 May-06 May-06 Jan-06			
Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Reference Probe ES3DV2	MY41495277 MY41498087 SN: S5086 (20b) SN: S5086 (20b) SN: 3013 SN: 907	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467) 3-May-05 (METAS, No. 251-00467) 7-Jan-05 (SPEAG, No. ES3-3013_Jan05) 21-Jun-05 (SPEAG, No. DAE4-907_Jun05)	May-06 May-06 May-06 May-06 Jan-06 Jun-06 Scheduled Check In house check: Dec-05			
Power meter E4419B Power sensor E4412A Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Reference Probe ES3DV2 Reference Probe ES3DV2 Reference Probe ES3DV2 Reference Probe ES3DV2	MY41495277 MY41498087 SN: S5086 (20b) SN: S5086 (20b) SN: 3013 SN: 907	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467) 3-May-05 (METAS, No. 251-00467) 7-Jan-05 (SPEAG, No. ES3-3013_Jan05) 21-Jun-05 (SPEAG, No. DAE4-907_Jun05)	May-06 May-06 May-06 May-06 Jan-06 Jun-06 Scheduled Check			
Power meter E4419B Power sensor E4412A Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Reference Probe ES3DV2 Reference Probe ES3DV2 Reference Probe ES3DV2 Reference Probe ES3DV2	MY41495277 MY41498087 SN: S5086 (20b) SN: S5086 (20b) SN: 3013 SN: 907	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467) 3-May-05 (METAS, No. 251-00467) 7-Jan-05 (SPEAG, No. ES3-3013_Jan05) 21-Jun-05 (SPEAG, No. DAE4-907_Jun05) Check Date (in house) 4-Aug-99 (SPEAG, in house check Dec-03)	May-06 May-06 May-06 May-06 Jan-06 Jun-06 Scheduled Check In house check: Dec-05			
Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Reference Probe ES3DV2 Secondary Standards RF generator HP 8648C Network Analyzer HP 8753E	MY41495277 MY41498087 SN: S5086 (20b) SN: S5086 (20b) SN: 3013 SN: 907 ID # US3642U01700 US37390585	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467) 3-May-05 (METAS, No. 251-00467) 7-Jan-05 (SPEAG, No. ES3-3013_Jan05) 21-Jun-05 (SPEAG, No. DAE4-907_Jun05) Check Date (in house) 4-Aug-99 (SPEAG, in house check Dec-03) 18-Oct-01 (SPEAG, in house check Nov-04)	May-06 May-06 May-06 May-06 Jan-06 Jun-06 Scheduled Check In house check: Dec-05 In house check: Nov 05			
Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Reference Probe ES3DV2 Secondary Standards RF generator HP 8648C Network Analyzer HP 8753E Calibrated by:	MY41495277 MY41498087 SN: S5086 (20b) SN: S5086 (20b) SN: 3013 SN: 907	3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00466) 3-May-05 (METAS, No. 251-00467) 3-May-05 (METAS, No. 251-00467) 7-Jan-05 (SPEAG, No. ES3-3013_Jan05) 21-Jun-05 (SPEAG, No. DAE4-907_Jun05) Check Date (in house) 4-Aug-99 (SPEAG, in house check Dec-03) 18-Oct-01 (SPEAG, in house check Nov-04) Function	May-06 May-06 May-06 May-06 Jan-06 Jun-06 Scheduled Check In house check: Dec-05 In house check: Nov 05			

No. SAR2006002

Page 72 of 79

Calibration Laboratory of

Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich, Switzerland

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



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

Accreditation No.: SCS 108

Glossary:

TSL tissue simulating liquid
NORMx,y,z sensitivity in free space
ConF sensitivity in TSL / NORMx,y,z
DCP diode compression point
Polarization φ rotation around probe axis

Polarization 9 9 rotation around an axis that is in the plane normal to probe axis (at

measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003

 b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization θ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)x,y,z = NORMx,y,z * frequency_response (see Frequency Response Chart). This
 linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of
 the frequency response is included in the stated uncertainty of ConvF.
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

No. SAR2006002

Page 73 of 79

ET3DV6 SN:1736

November 25, 2005

Probe ET3DV6

SN:1736

Manufactured:

September 27, 2002

Last calibrated:

July 14, 2005

Recalibrated:

November 25, 2005

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

No. SAR2006002

Page 74 of 79

ET3DV6 SN:1736

November 25, 2005

DASY - Parameters of Probe: ET3DV6 SN:1736

Sensitivity in Fre	e Space ^A	e ^A Diode Compression			
NormX	1.97 ± 10.1%	$\mu V/(V/m)^2$	DCP X	93 mV	
NormY	1.75 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	93 mV	
NormZ	1.97 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	93 mV	

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL

900 MHz

Typical SAR gradient: 5 % per mm

Sensor Center	3.7 mm	4.7 mm	
SAR _{be} [%]	Without Correction Algorithm	9.6	5.0
SAR _{be} [%]	With Correction Algorithm	0.1	0.3

TSL

1810 MHz

Typical SAR gradient: 10 % per mm

Sensor Cente	r to Phantom Surface Distance	3.7 mm	4.7 mm
SAR _{be} [%]	Without Correction Algorithm	13.2	8.8
SAR _{be} [%]	With Correction Algorithm	0.6	0.1

Sensor Offset

Probe Tip to Sensor Center

2.7 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%.

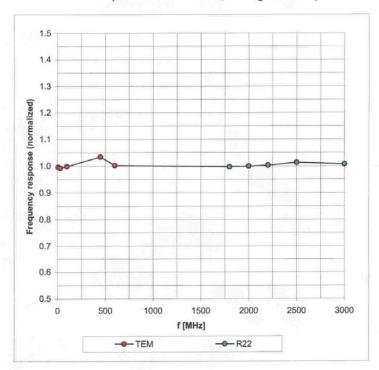
^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter: uncertainty not required.

November 25, 2005

Frequency Response of E-Field

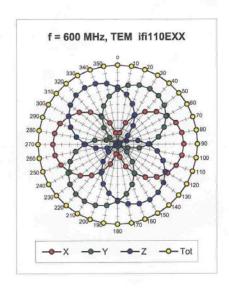
(TEM-Cell:ifi110 EXX, Waveguide: R22)

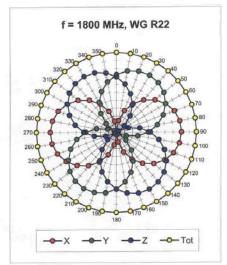


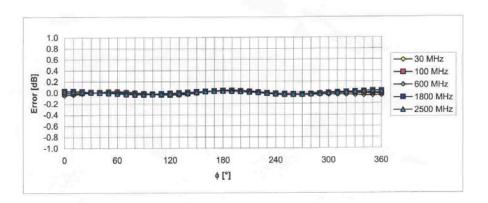
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

November 25, 2005

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





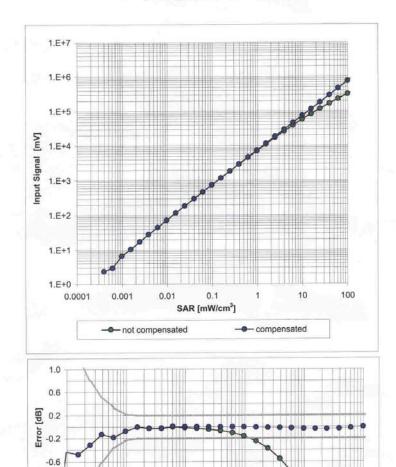


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

November 25, 2005

Dynamic Range f(SAR_{head})

(Waveguide R22, f = 1800 MHz)



Uncertainty of Linearity Assessment: ± 0.6% (k=2)

10

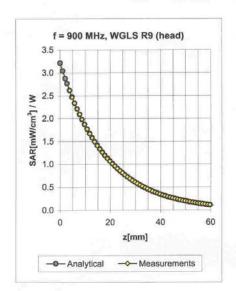
SAR [mW/cm³]

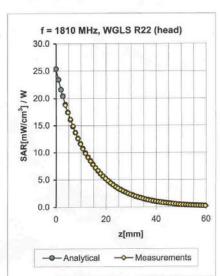
-1.0

0.001

November 25, 2005

Conversion Factor Assessment





f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.56	1.85	6.51 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.57	2.47	5.40 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.62	2.29	4.67 ± 11.8% (k=2)
450	± 50 / ± 100	Body	56.7 ± 5%	0.94 ± 5%	0.12	1.61	7.74 ± 13.3% (k=2)
900	± 50 / ± 100	Body	$55.0 \pm 5\%$	1.05 ± 5%	0.47	2.15	6.45 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.53	2.78	4.88 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.65	2.11	4.35 ± 11.8% (k=2)

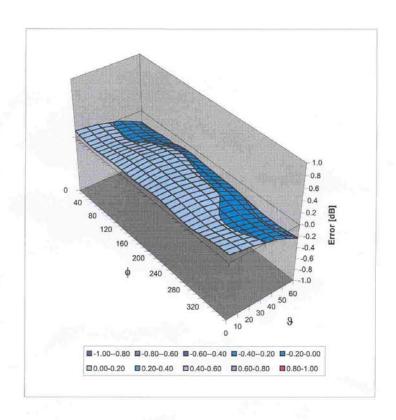
Certificate No: ET3-1736_Nov05

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

November 25, 2005

Deviation from Isotropy in HSL

Error (φ, θ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)