

**1900 Body Towards Ground Middle with GPRS – Slide up**

Date/Time: 2009-4-2 14:16:15

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.54$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3°C      Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

**Towards Ground Middle/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.490 mW/g

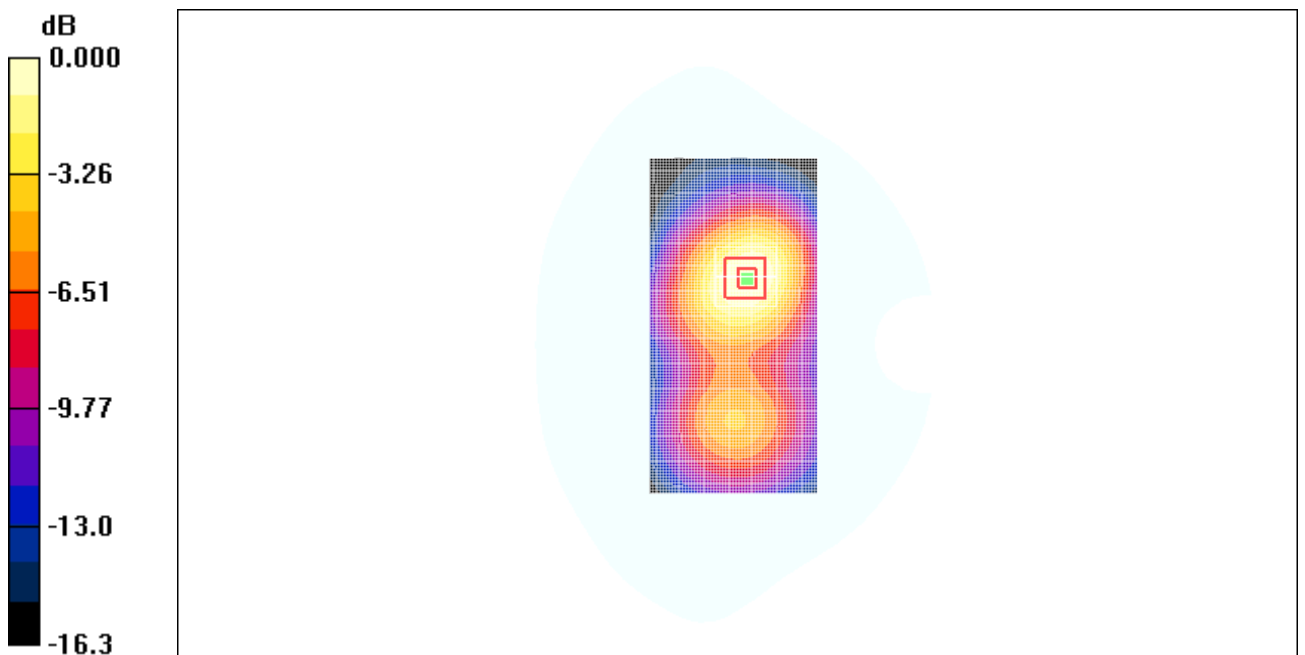
**Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.40 V/m; Power Drift = -0.176 dB

Peak SAR (extrapolated) = 0.677 W/kg

**SAR(1 g) = 0.404 mW/g; SAR(10 g) = 0.240 mW/g**

Maximum value of SAR (measured) = 0.437 mW/g



0 dB = 0.437mW/g

**Fig. 60 1900 MHz CH661 – Slide up**

**1900 Body Towards Ground Low with GPRS – Slide up**

Date/Time: 2009-4-2 14:30:29

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3°C      Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

**Towards Ground Low/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.465 mW/g

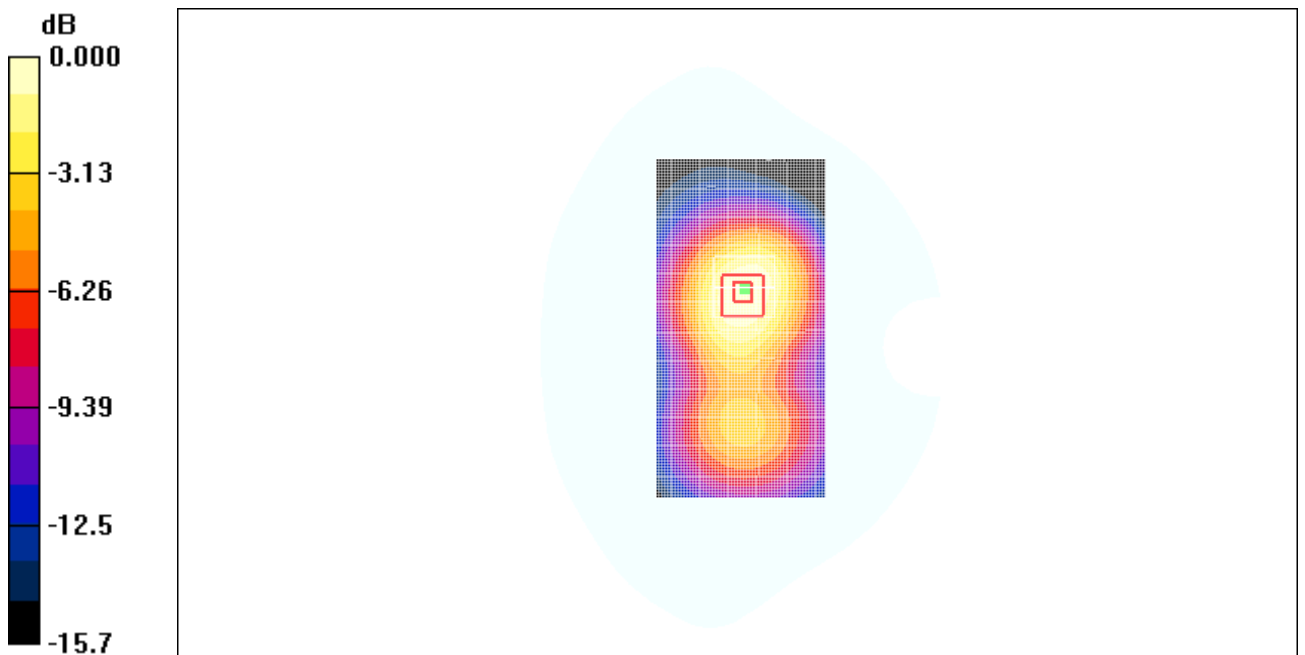
**Towards Ground Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.4 V/m; Power Drift = 0.062 dB

Peak SAR (extrapolated) = 0.668 W/kg

**SAR(1 g) = 0.429 mW/g; SAR(10 g) = 0.270 mW/g**

Maximum value of SAR (measured) = 0.459 mW/g



0 dB = 0.459mW/g

**Fig. 61 1900 MHz CH512 – Slide up**

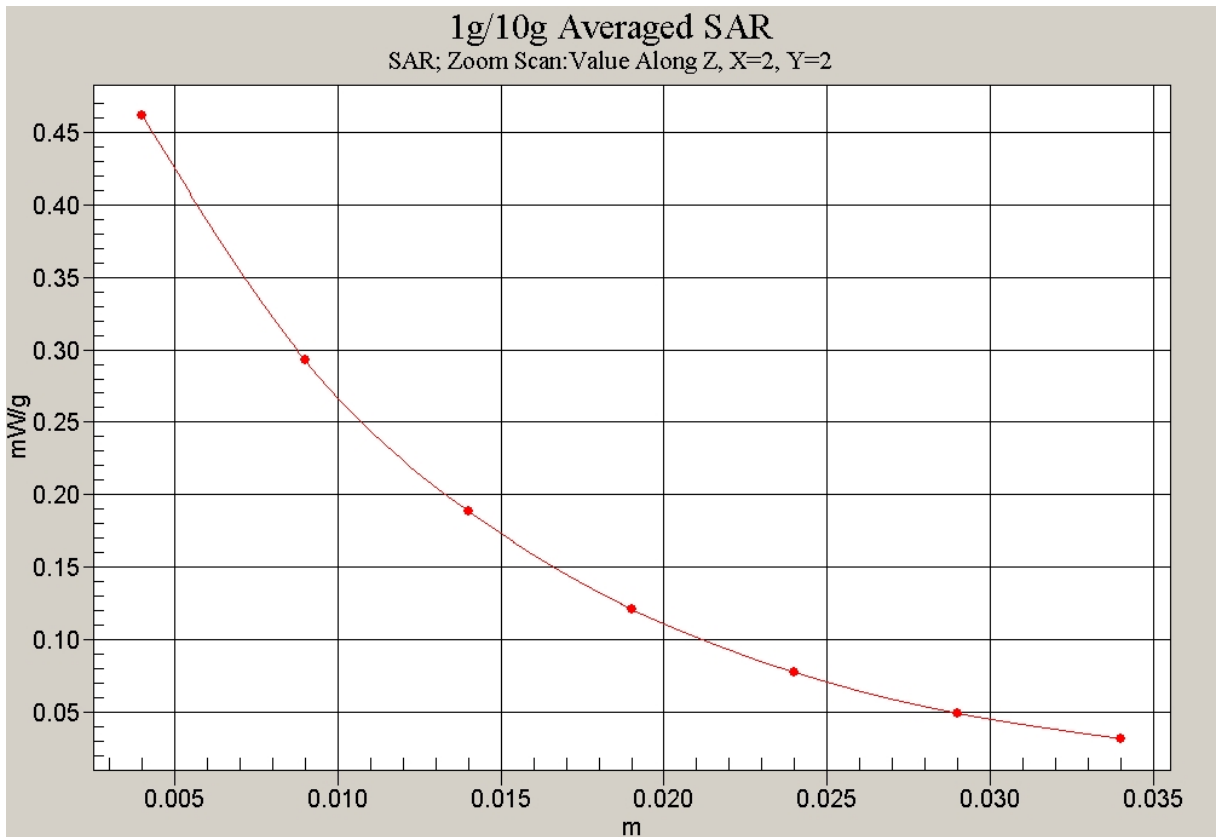


Fig. 62 Z-Scan at power reference point (1900 MHz CH512) – Slide up

**1900 Body Towards Phantom High with GPRS – Slide up**

Date/Time: 2009-4-2 14:44:54

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 52.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3°C      Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

**Towards Phantom High/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.357 mW/g

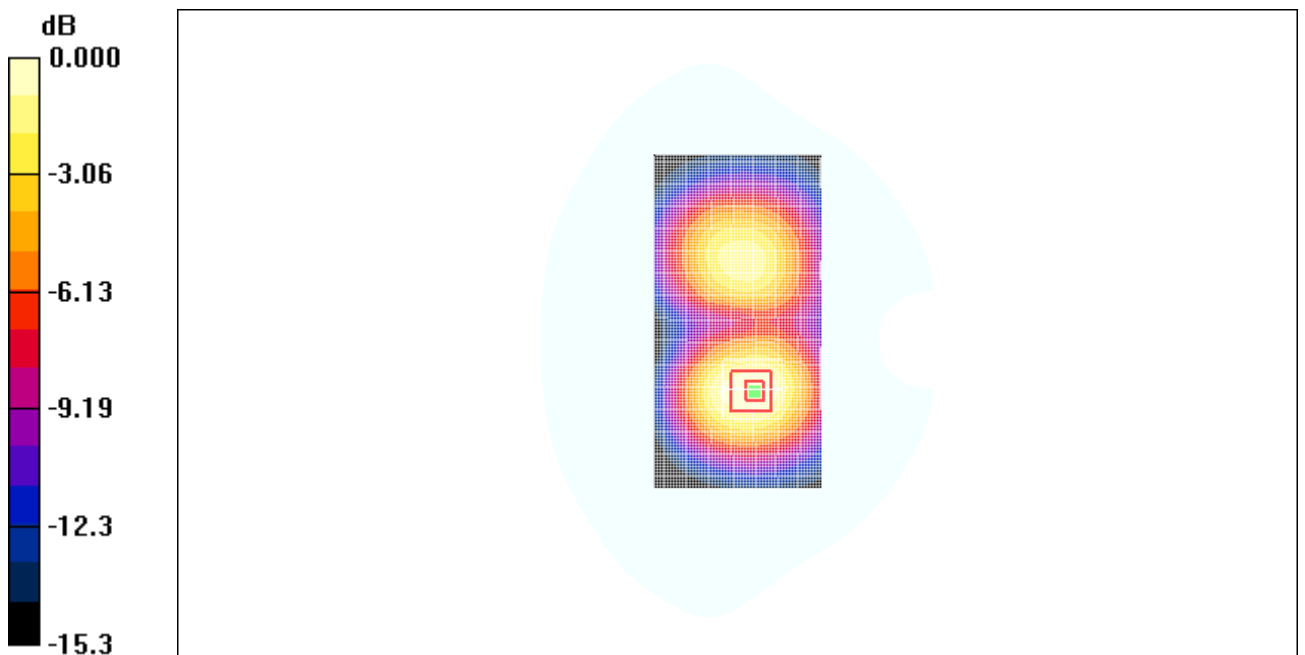
**Towards Phantom High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.49 V/m; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.503 W/kg

**SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.197 mW/g**

Maximum value of SAR (measured) = 0.342 mW/g



0 dB = 0.342mW/g

**Fig. 63 1900 MHz CH810 – Slide up**

**1900 Body Towards Phantom Middle with GPRS – Slide up**

Date/Time: 2009-4-2 14:58:38

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.54$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3°C      Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

**Towards Phantom Middle/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.406 mW/g

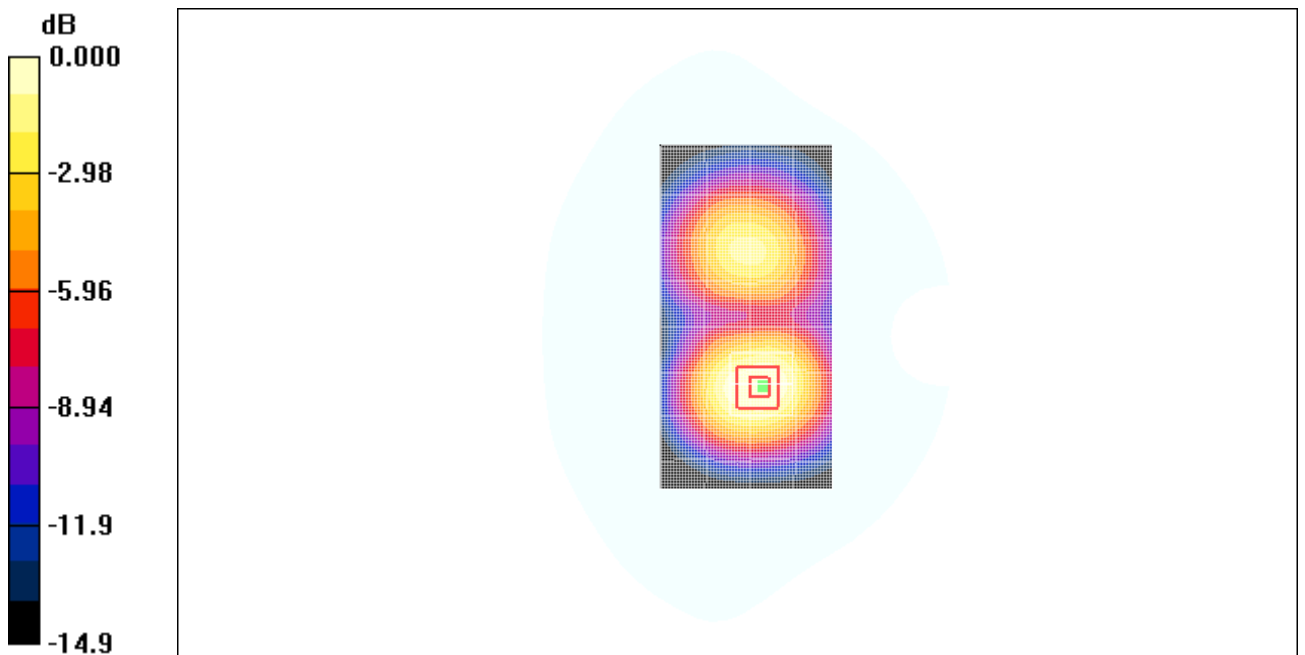
**Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.64 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 0.552 W/kg

**SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.225 mW/g**

Maximum value of SAR (measured) = 0.382 mW/g



0 dB = 0.382mW/g

**Fig.64 1900 MHz CH661 – Slide up**

**1900 Body Towards Phantom Low with GPRS – Slide up**

Date/Time: 2009-4-2 15:12:24

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3°C      Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

**Towards Phantom Low/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.399 mW/g

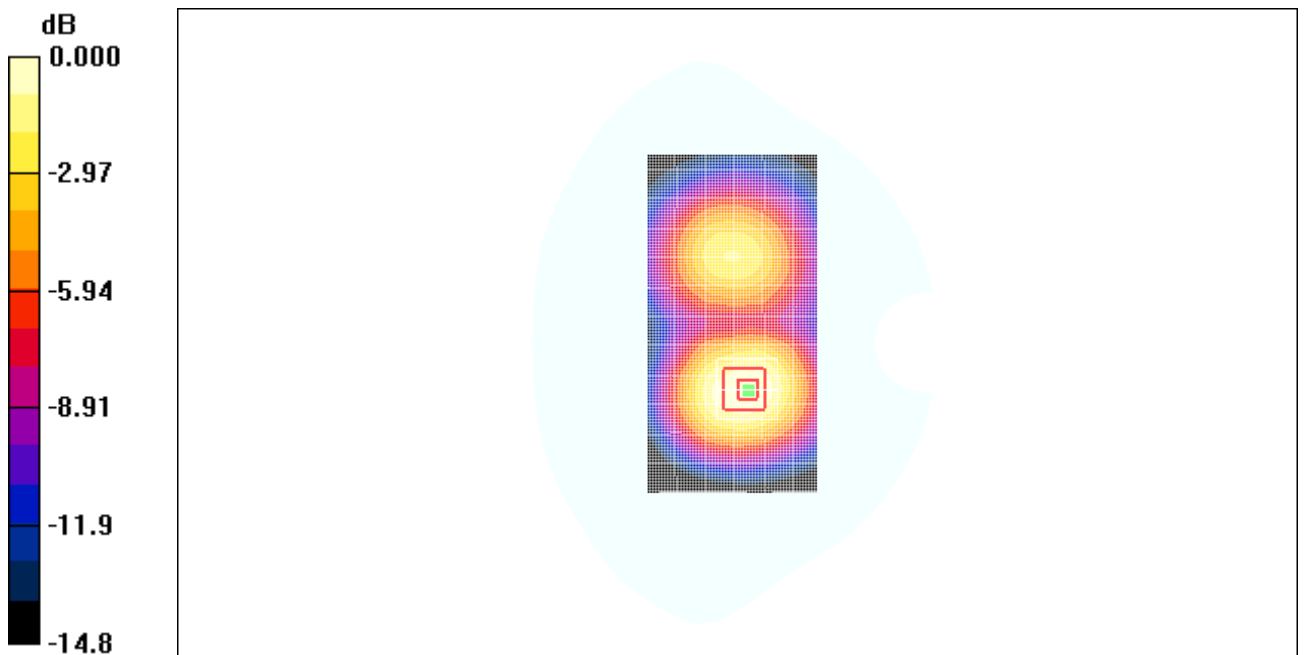
**Towards Phantom Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.42 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.548 W/kg

**SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.227 mW/g**

Maximum value of SAR (measured) = 0.385 mW/g



0 dB = 0.385mW/g

**Fig.65 1900 MHz CH512 – Slide up**

**1900 Body Towards Ground Low with Headset – Slide up**

Date/Time: 2009-4-2 15:26:17

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 52.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 23.3°C      Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

**Towards Ground Low/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.299 mW/g

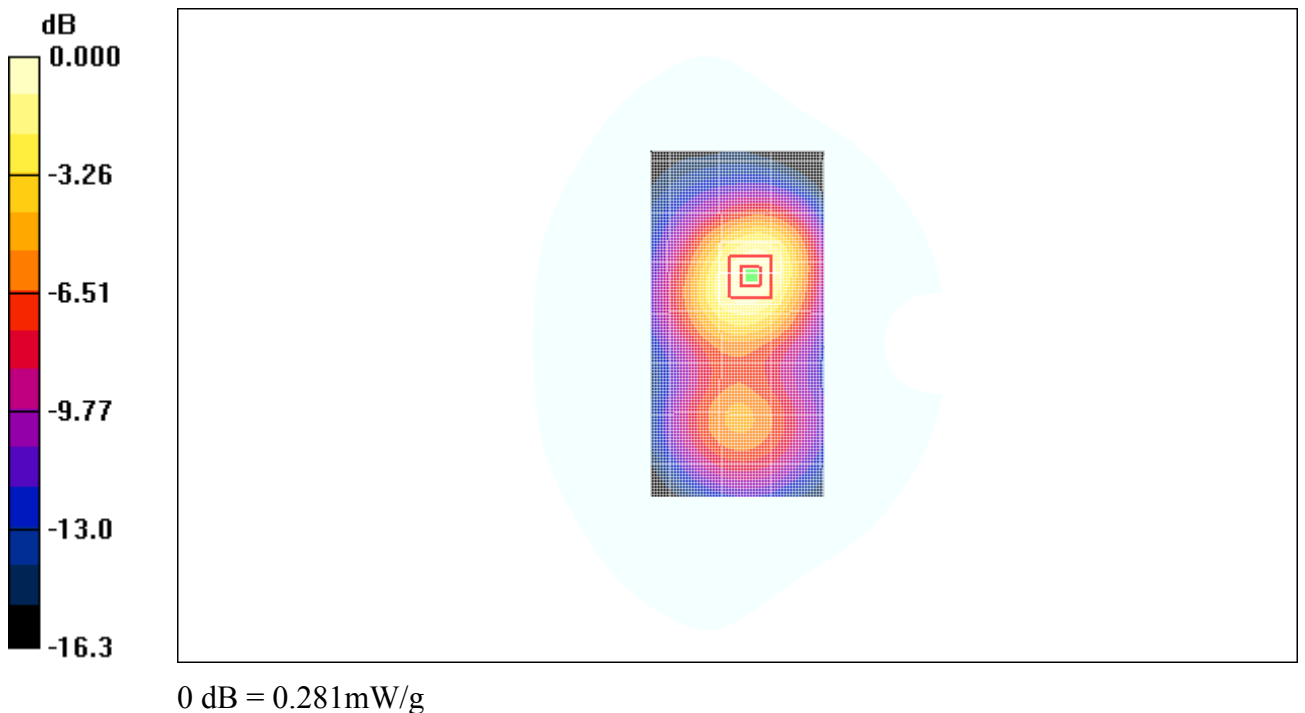
**Towards Ground Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.49 V/m; Power Drift = -0.150 dB

Peak SAR (extrapolated) = 0.426 W/kg

**SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.160 mW/g**

Maximum value of SAR (measured) = 0.281 mW/g



**Fig. 66 1900 MHz CH661 – Slide up**

## ANNEX D SYSTEM VALIDATION RESULTS

### 835MHz

Date/Time: 2009-4-1 7:13:45

Electronics: DAE4 Sn771

Medium: Head 835

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.92 \text{ mho/m}$ ;  $\epsilon_r = 40.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $23.3^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

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

Probe: ES3DV3 – SN3149 ConvF(6.56, 6.56, 6.56)

**835MHz/Area Scan (101x101x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 2.68 mW/g

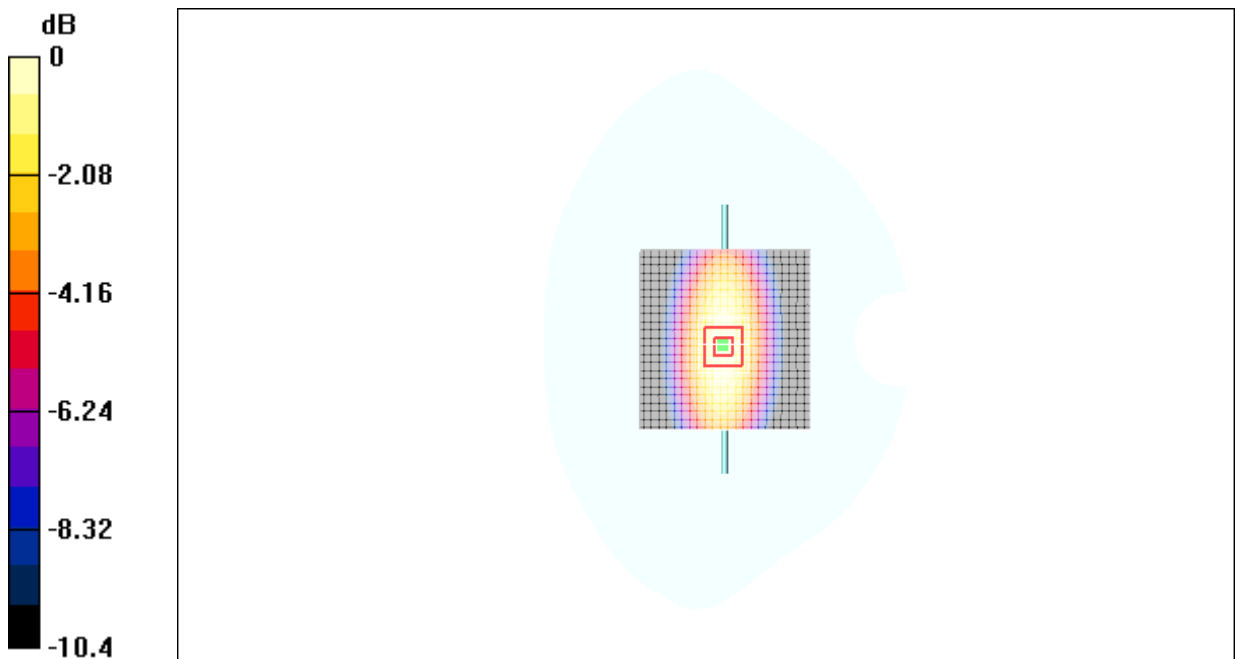
**835MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 56.8 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.50 mW/g; SAR(10 g) = 1.62 mW/g**

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



0 dB = 2.69mW/g

Fig.67 validation 835MHz 250mW



## 1900MHz

Date/Time: 2009-4-2 7:20:08

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.42 \text{ mho/m}$ ;  $\epsilon_r = 39.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $23.3^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

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

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

-

**System Validation/Area Scan (101x101x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Maximum value of SAR (interpolated) =  $11.2 \text{ mW/g}$

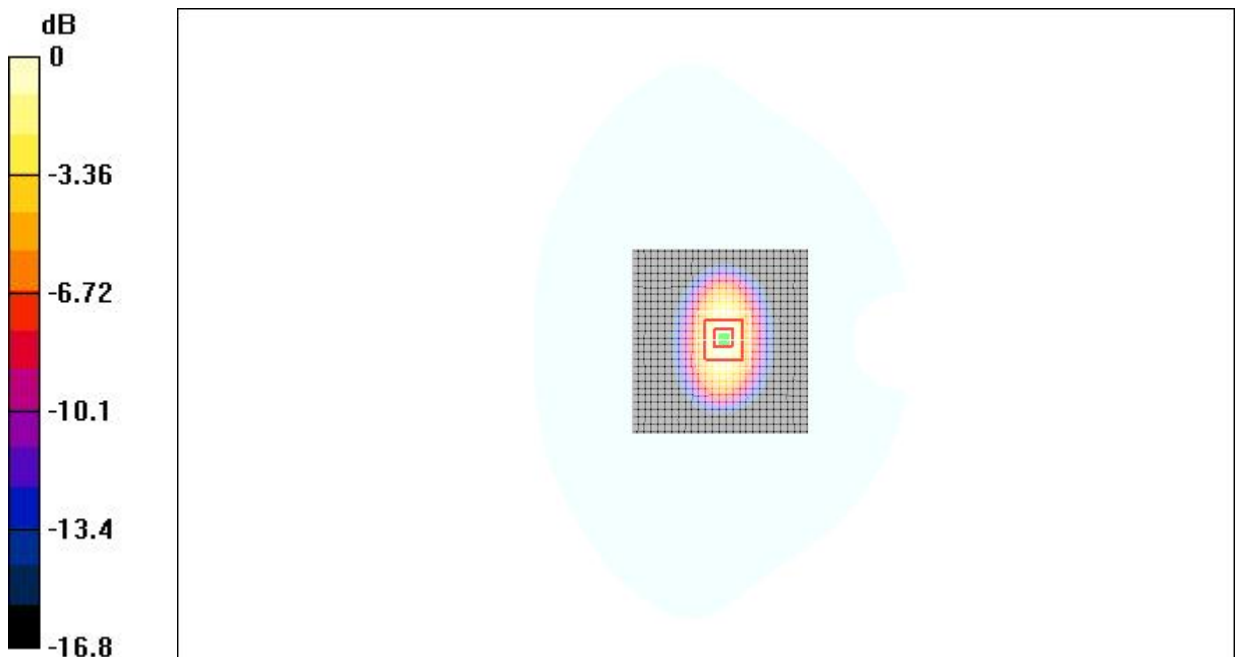
**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $92.1 \text{ V/m}$ ; Power Drift =  $0.1 \text{ dB}$

Peak SAR (extrapolated) =  $16.9 \text{ W/kg}$

**SAR(1 g) =  $9.91 \text{ mW/g}$ ; SAR(10 g) =  $5.27 \text{ mW/g}$**

Maximum value of SAR (measured) =  $11.3 \text{ mW/g}$



0 dB =  $11.3\text{mW/g}$

**Fig.68 validation 1900MHz 250mW**

## ANNEX E PROBE CALIBRATION CERTIFICATE

**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 Accreditation Service (SAS)  
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 **TMC China**

Certificate No: **ES3DV3-3149\_Oct08**

### CALIBRATION CERTIFICATE

Object	<b>ES3DV3-SN: 3149</b>
Calibration procedure(s)	<b>QA CAL-01.v6 Calibration procedure for dosimetric E-field probes</b>
Calibration date:	<b>October 1, 2008</b>
Condition of the calibrated item	<b>In Tolerance</b>

This calibration certify 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 at an environment temperature (22±3)°C and humidity<70%

#### Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Data (Calibrated by, Certification NO.)	Scheduled Calibration
Power meter E4419B	GB41293874	6-May-08 (METAS, NO. 251-00388)	May-09
Power sensor E4412A	MY41495277	6-May-08 (METAS, NO. 251-00388)	May-09
Reference 3 dB Attenuator	SN:S5054 (3c)	11-Aug-08 (METAS, NO. 251-00403)	Aug-09
Reference 20 dB Attenuator	SN:S5086 (20b)	4-May-08 (METAS, NO. 251-00389)	May-09
Reference 30 dB Attenuator	SN:S5129 (30b)	11-Aug-08 (METAS, NO. 251-00404)	Aug-09
DAE4	SN:617	11-Jun-08 (SPEAG, NO.DAE4-907_Jun08)	Jun-09
Reference Probe ES3DV2	SN: 3013	13-Jan-08 (SPEAG, NO. ES3-3013_Jan08)	Jan-09

Secondary Standards	ID#	Check Data (in house)	Scheduled Calibration
RF generator HP8648C	US3642U01700	4-Aug-99(SPEAG, in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01(SPEAG, in house check Nov-07)	In house check: Nov-09

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: **October 1, 2008**

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

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 Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

**Glossary:**

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\vartheta$	$\vartheta$ 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) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

**Methods Applied and Interpretation of Parameters:**

- NORM<sub>x,y,z</sub>: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not effect the E<sup>2</sup>-field uncertainty inside TSL (see below ConF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* 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 ConF.
- DCP<sub>x,y,z</sub>: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  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 NORM<sub>x,y,z</sub> \* ConF whereby the uncertainty corresponds to that given for ConF. A frequency dependent ConF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  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.

ES3DV3 SN: 3149

October 1, 2008

# Probe ES3DV3

**SN: 3149**

Manufactured: June 12, 2007

Calibrated: October 1, 2008

Calibrated for DASY4 System

ES3DV3 SN: 3149

October 1, 2008

**DASY – Parameters of Probe: ES3DV3 SN:3149**

Sensitivity in Free Space<sup>A</sup>

Diode Compression<sup>B</sup>

NormX	1.14±10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	94mV
NormY	1.23±10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	95mV
NormZ	1.29±10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	91mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)  
Please see Page 8

Boundary Effect

TSL                    900MHz      Typical SAR gradient: 5% per mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mm
SARbe[%]	Without Correction Algorithm	3.8	1.6
SARbe[%]	With Correction Algorithm	0.8	0.7

TSL                    1810MHz      Typical SAR gradient: 10% per mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mm
SARbe[%]	Without Correction Algorithm	6.8	3.6
SARbe[%]	With Correction Algorithm	0.4	0.2

Sensor Offset

Probe Tip to Sensor Center                    2.0 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%.

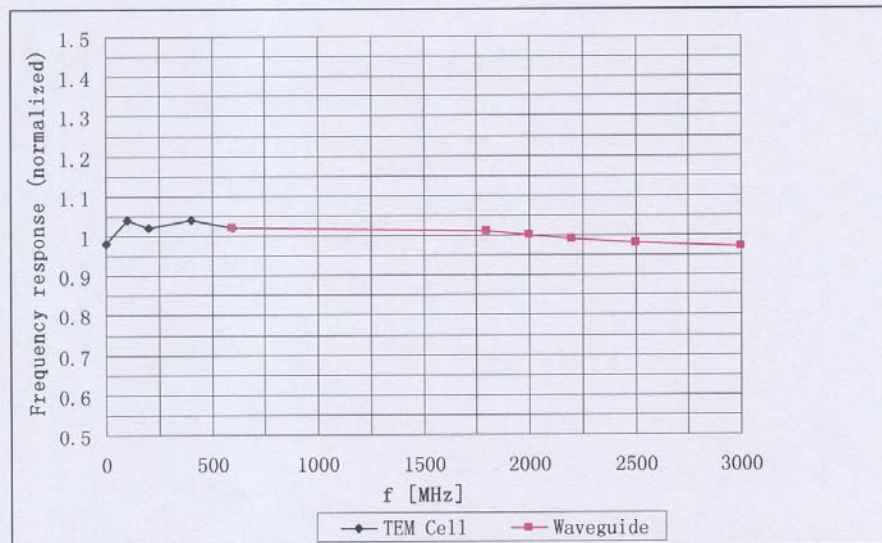
<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the  $E^2$ -field uncertainty inside TSL (see Page 8).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

ES3DV3 SN: 3149

October 1, 2008

### Frequency Response of E-Field

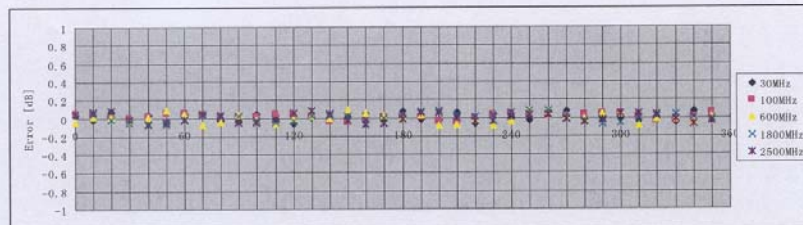
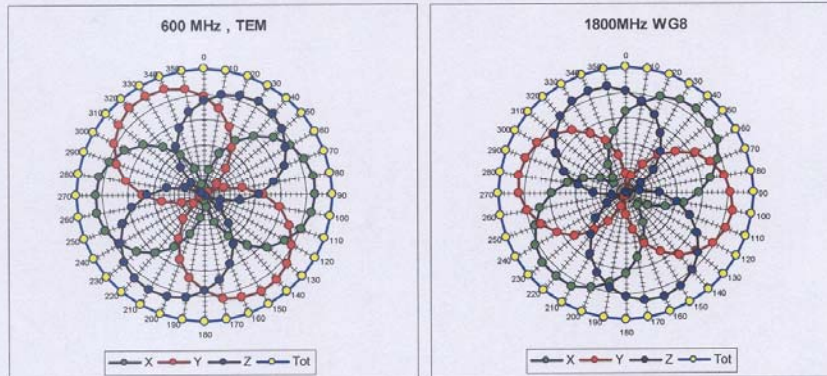


Uncertainty of Frequency Response of E-field:  $\pm 5.0\%$  (k=2)

ES3DV3 SN: 3149

October 1, 2008

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

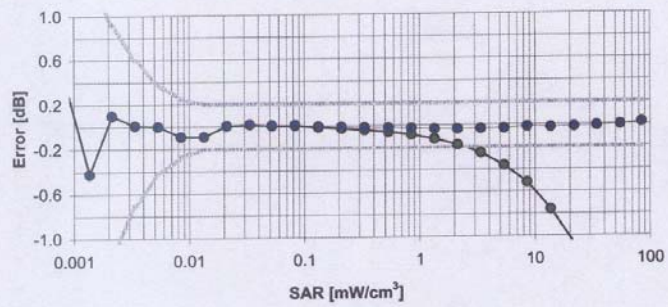
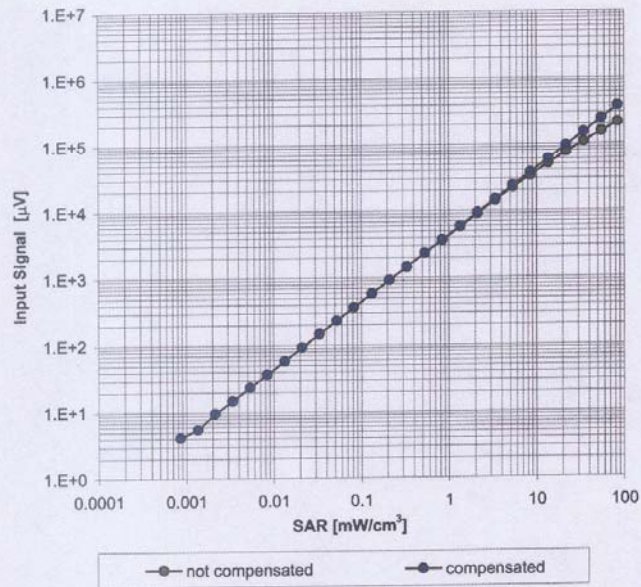


Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  (k=2)

ES3DV3 SN: 3149

October 1, 2008

### Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide: WG8, $f = 1800$ MHz)



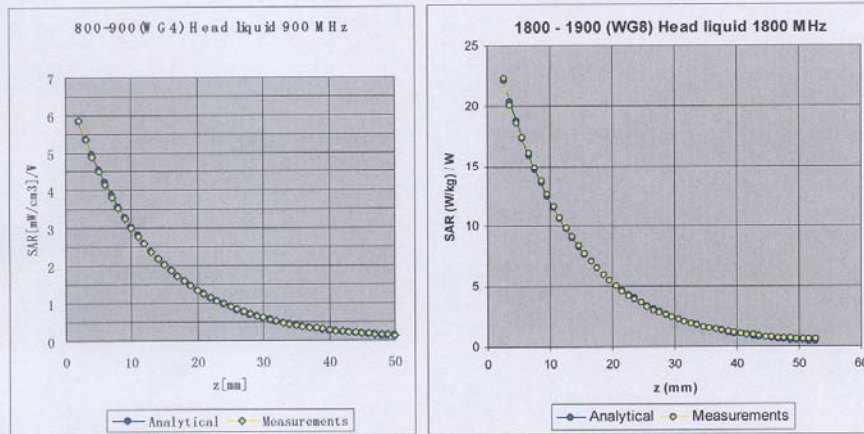
Uncertainty of Linearity Assessment:  $\pm 0.5\%$  ( $k=2$ )



ES3DV3 SN: 3149

October 1, 2008

### Conversion Factor Assessment



f[MHz]	Validity[MHz] <sup>C</sup>	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
850	±50 /±100	Head	41.5±5%	0.90±5%	0.91	1.13	6.56	±11.0% (k=2)
900	±50 /±100	Head	41.5±5%	0.97±5%	0.83	1.26	6.34	±11.0% (k=2)
1800	±50 /±100	Head	40.0±5%	1.40±5%	0.69	1.47	5.18	±11.0% (k=2)
1900	±50 /±100	Head	40.0±5%	1.40±5%	0.72	1.38	5.03	±11.0% (k=2)
850	±50 /±100	Body	55.2±5%	0.97±5%	0.76	1.26	6.22	±11.0% (k=2)
900	±50 /±100	Body	55.0±5%	1.05±5%	0.99	1.06	6.02	±11.0% (k=2)
1800	±50 /±100	Body	53.3±5%	1.52±5%	0.75	1.34	4.97	±11.0% (k=2)
1900	±50 /±100	Body	53.3±5%	1.52±5%	0.62	1.33	4.68	±11.0% (k=2)

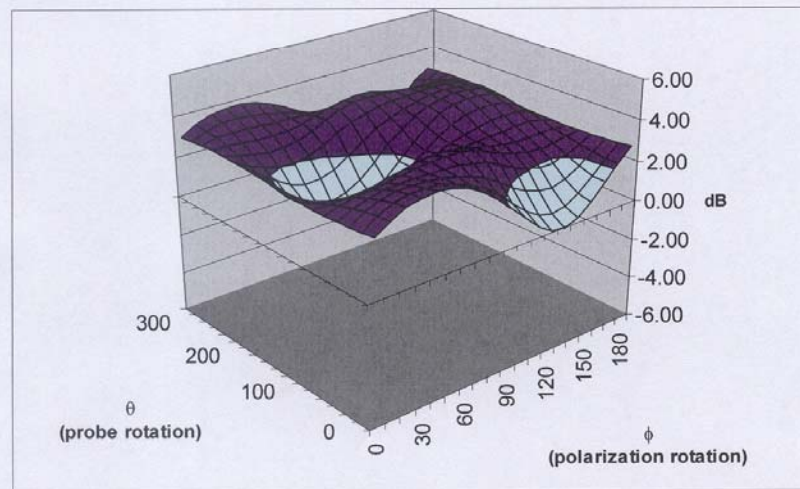
<sup>C</sup> The validity of ±100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

ES3DV3 SN: 3149

October 1, 2008

### Deviation from Isotropy

Error ( $\phi, \theta$ ),  $f = 900$  MHz



Uncertainty of Spherical Isotropy Assessment:  $\pm 2.5\%$  ( $k=2$ )

## ANNEX F DIPOLE CALIBRATION CERTIFICATE

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 TMC China

Certificate No: D835V2-443\_Feb09

### CALIBRATION CERTIFICATE



Object	D835V2-SN: 443
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	February 18, 2009
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 at an environment temperature  $(22\pm 3)^{\circ}\text{C}$  and humidity <70%

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Data (Calibrated by, Certification NO.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Oct-08 (METAS, NO. 217-00608)	Oct-09
Power sensor 8481A	US37292783	01-Oct-08 (METAS, NO. 217-00608)	Oct-09
Reference 20 dB Attenuator	SN:5086 (20g )	08-Aug-08 (METAS, NO. 217-00591)	Aug-09
Reference 10 dB Attenuator	SN:5047_2 (10r)	08-Aug-08 (METAS, NO. 217-00591)	Aug-09
DAE4	SN:601	28-Jan-09 (SPEAG, NO.DAE4-601_Jan09)	Jan-10
Reference Probe ET3DV6 (HF)	SN: 1507	17-Oct-08 (SPEAG, NO. ET3-1507_Oct08)	Oct-09
Secondary Standards	ID#	Check Data (in house)	Scheduled Calibration
Power sensor HP 8481A	MY41092317	18-Oct-02(SPEAG, in house check Oct-07)	In house check: Oct-09
RF generator Aglient E4421B	MY41000676	11-May-05(SPEAG, in house check Nov-07)	In house check: Nov -09
Network Analyzer HP 8753E	US37390585S4206	18-Oct-01(SPEAG, in house check Oct-08)	In house check: Oct -09

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Director	

Issued: February 19, 2009

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