

**Appendix (Additional assessments outside the scope of SCS 0108)****Antenna Parameters with Head TSL**

Impedance, transformed to feed point	46.8 $\Omega$ - 6.6 j $\Omega$
Return Loss	- 22.4 dB

**Antenna Parameters with Body TSL**

Impedance, transformed to feed point	44.1 $\Omega$ - 4.9 j $\Omega$
Return Loss	- 21.8 dB

**General Antenna Parameters and Design**

Electrical Delay (one direction)	1.152 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

**Additional EUT Data**

Manufactured by	SPEAG
Manufactured on	October 30, 2007

## DASY5 Validation Report for Head TSL

Date: 22.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:1012**

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.02$  S/m;  $\epsilon_r = 37.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.56, 7.56, 7.56); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

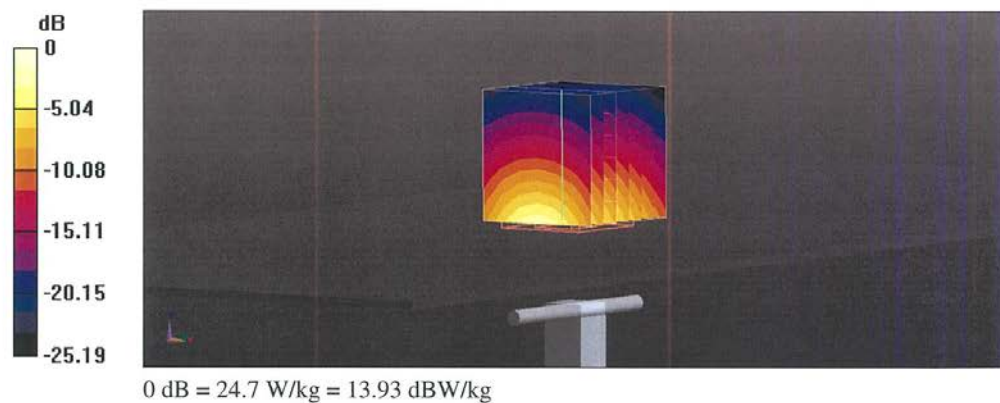
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 115.3 V/m; Power Drift = -0.02 dB

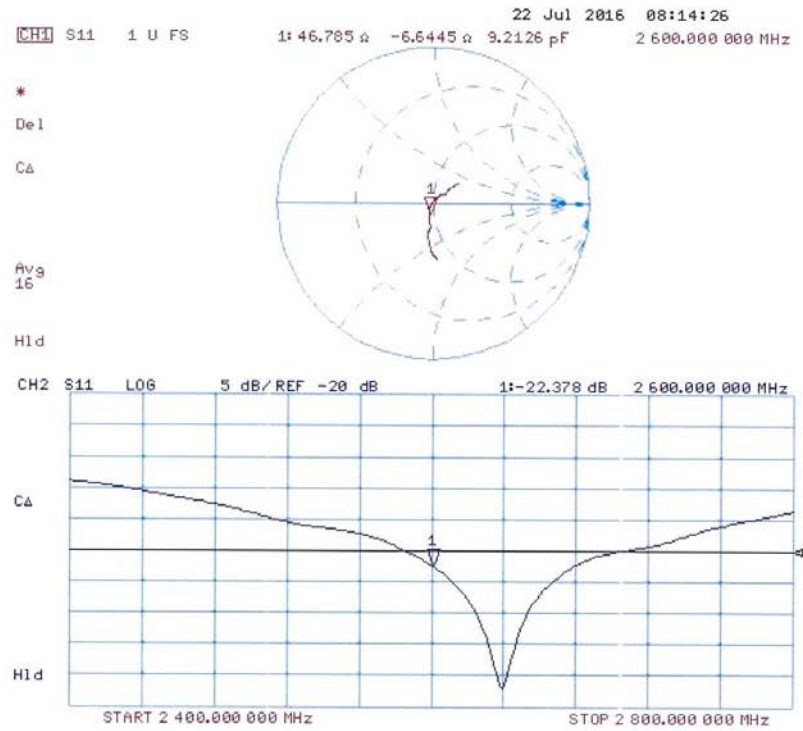
Peak SAR (extrapolated) = 30.9 W/kg

**SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.39 W/kg**

Maximum value of SAR (measured) = 24.7 W/kg



### Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 22.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:1012**

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.2$  S/m;  $\epsilon_r = 51.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.48, 7.48, 7.48); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

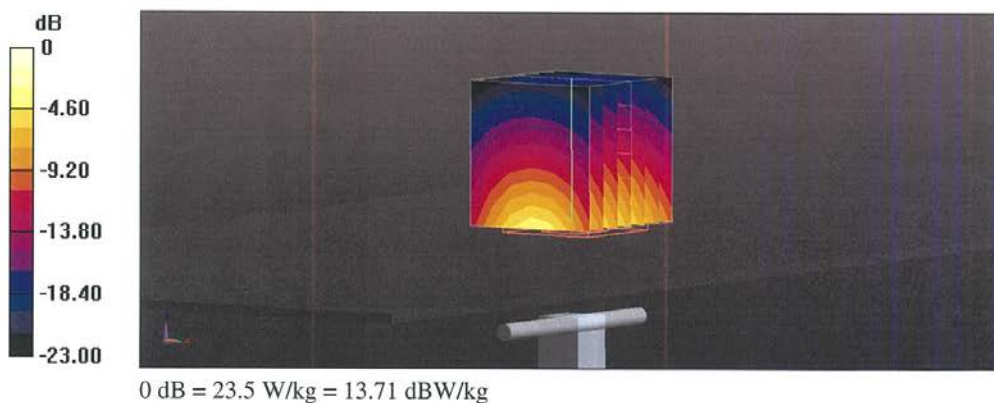
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 108.8 V/m; Power Drift = -0.03 dB

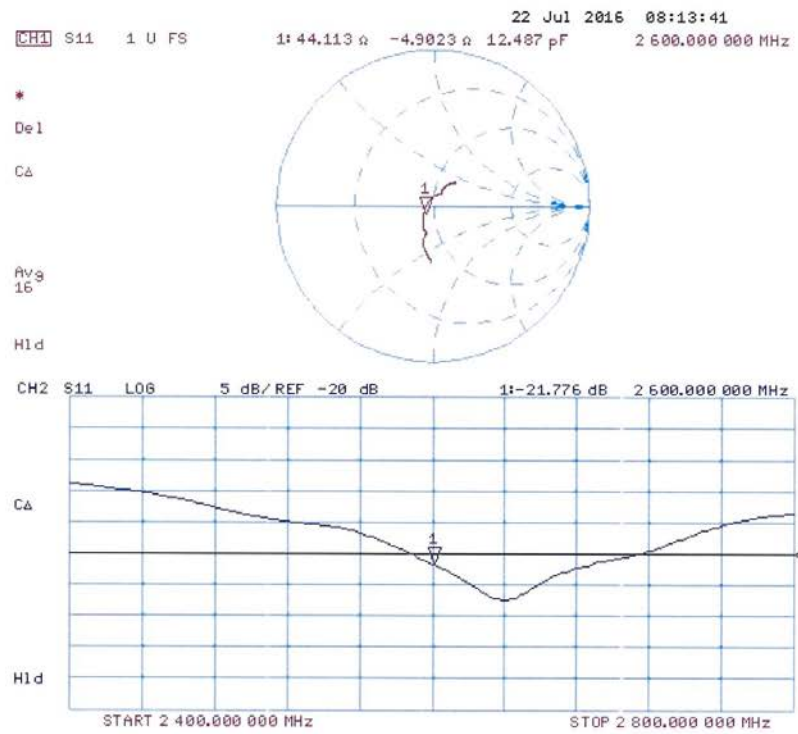
Peak SAR (extrapolated) = 28.9 W/kg

**SAR(1 g) = 14 W/kg; SAR(10 g) = 6.25 W/kg**

Maximum value of SAR (measured) = 23.5 W/kg



### Impedance Measurement Plot for Body TSL





## ANNEX I Accreditation Certificate



**China National Accreditation Service for Conformity Assessment**  
**LABORATORY ACCREDITATION CERTIFICATE**  
(Registration No. CNAS L0570 )

**Telecommunication Technology Labs,  
Academy of Telecommunication Research, MIIT**

No.52, Huayuan North Road, Haidian District, Beijing, China

No.51, Xueyuan Road, Haidian District, Beijing, China

TCL International E City, No. 1001 Zhongshanyuan Road, Nanshan  
District, Shenzhen, Guangdong Province

*is accredited in accordance with ISO/IEC 17025:2005 General Requirements  
for the Competence of Testing and Calibration Laboratories(CNAS-CL01  
Accreditation Criteria for the Competence of Testing and Calibration  
Laboratories) for the competence to undertake testing and calibration service as  
described in the schedule attached to this certificate.*

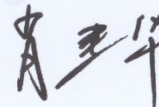
*The scope of accreditation is detailed in the attached schedule bearing the  
same registration number as above. The schedule form an integral part of this  
certificate.*

Date of Issue: 2015-11-13

Date of Expiry: 2017-06-19

Date of Initial Accreditation: 1998-07-03

Signed on behalf of China National Accreditation Service for Conformity Assessment



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