

DASY5 Validation Report for Head TSL

Date: 03.02.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1119

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

Medium parameters used: $f = 2600 \text{ MHz}$; $\sigma = 2.01 \text{ S/m}$; $\epsilon_r = 38.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.49, 7.49, 7.49); Calibrated: 31.12.2015;
- 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:

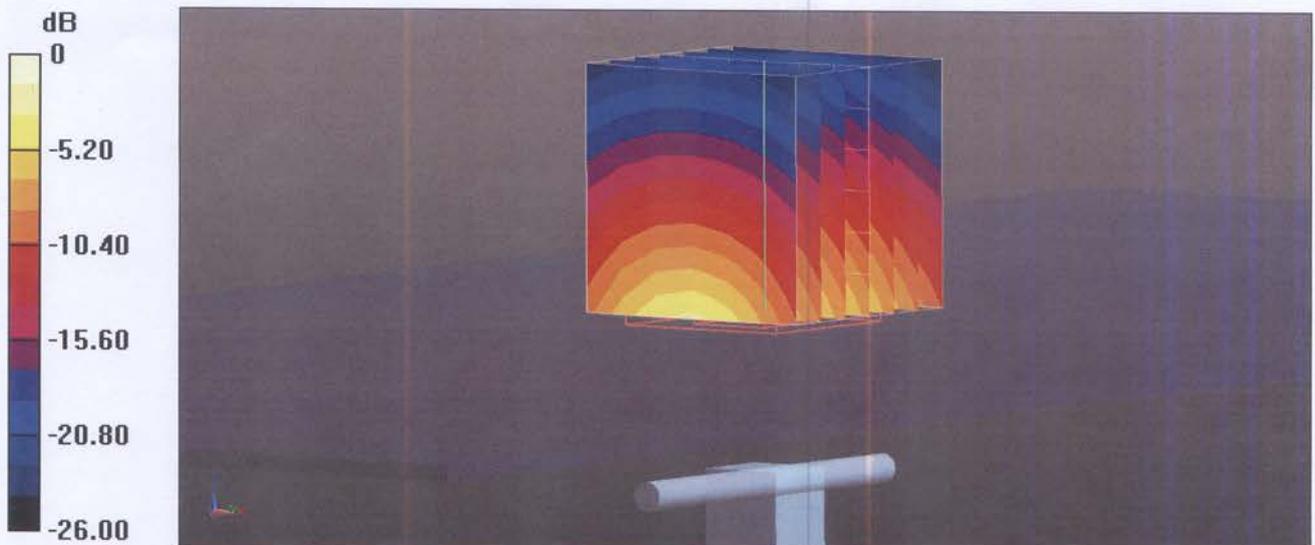
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 113.8 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 29.0 W/kg

SAR(1 g) = 13.6 W/kg; SAR(10 g) = 6.04 W/kg

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

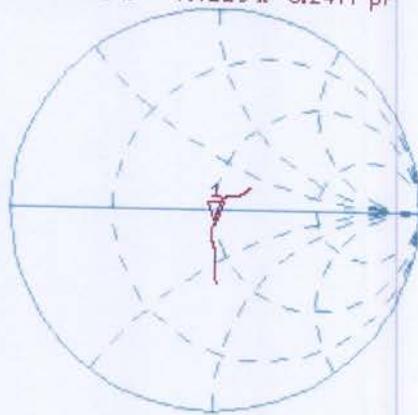


0 dB = 23.5 W/kg = 13.71 dBW/kg

Impedance Measurement Plot for Head TSL

CH1 S11 1 U FS 3 Feb 2016 14:49:18
 1: 49.076 Ω -7.4219 Ω 8.2477 pF 2 500.000 000 MHz

*
 De1
 CA
 Avg
 16
 H1d



CH2 S11 LOG 5 dB/REF -20 dB 1: -22.465 dB 2 500.000 000 MHz

De1
 CA
 Avg
 16
 H1d



DASY5 Validation Report for Body TSL

Date: 03.02.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1119

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

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.22$ S/m; $\epsilon_r = 51.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.6, 7.6, 7.6); Calibrated: 31.12.2015;
- 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:

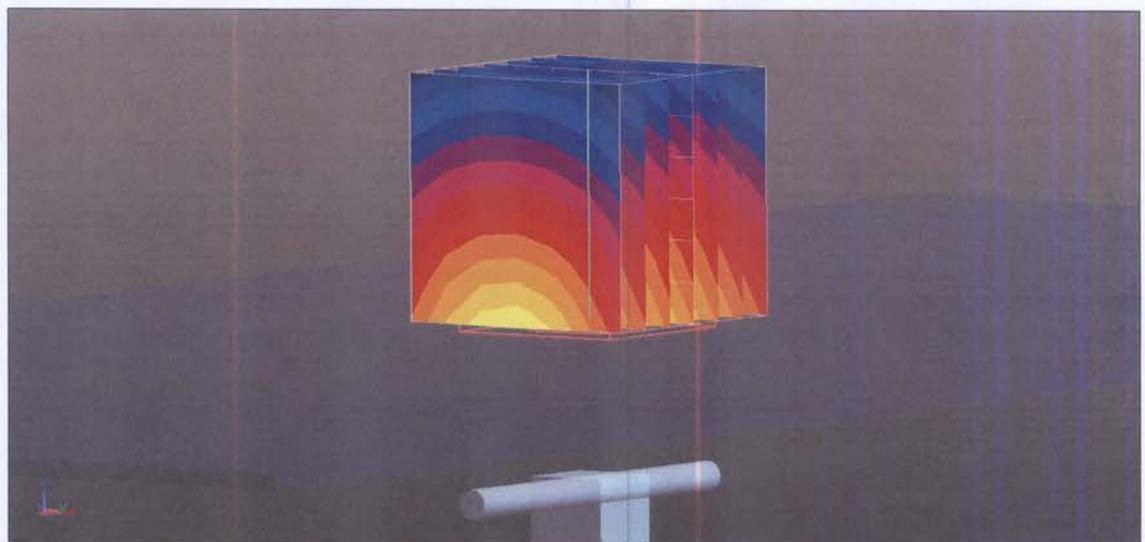
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.4 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 26.8 W/kg

SAR(1 g) = 13.1 W/kg; SAR(10 g) = 5.81 W/kg

Maximum value of SAR (measured) = 21.6 W/kg

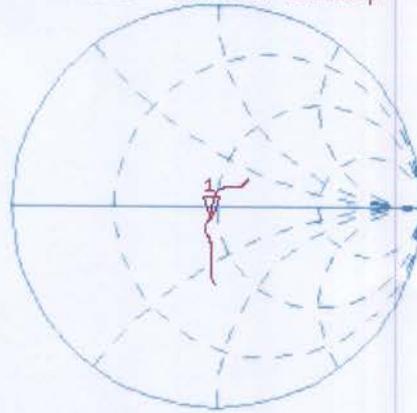


0 dB = 21.6 W/kg = 13.34 dBW/kg

Impedance Measurement Plot for Body TSL

3 Feb 2016 14:48:07
CH1 S11 1 U FS 1: 45.799 Ω -6.0488 Ω 10.120 pF 2 600.000 000 MHz

*
De1
C Δ



Avg
16

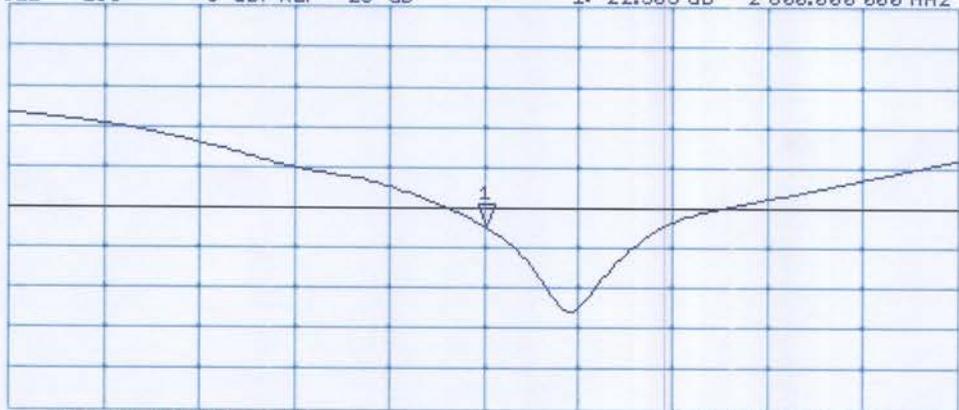
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-22.303 dB 2 600.000 000 MHz

De1
C Δ

Avg
16

H1d



START 2 400.000 000 MHz

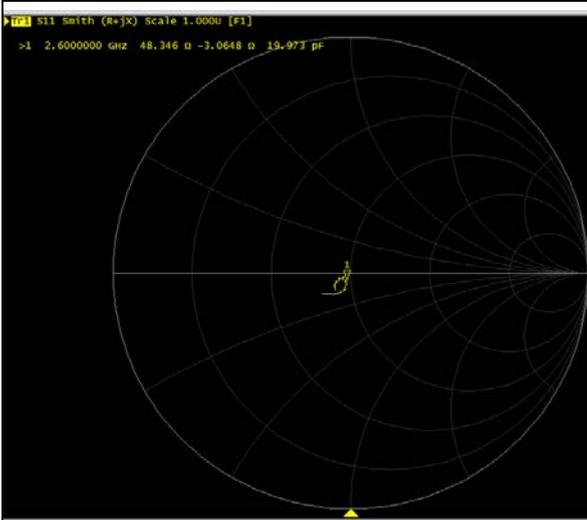
STOP 2 800.000 000 MHz

Justification of the extended calibration of Dipole D2600V2 SN:1119

Per KDB 865664, we have Measured the Impedance and Return Loss as below, and the return loss is <-20dB, with 20% of prior calibration; the real or imaginary parts of the impedance is with 5 ohm of prior calibration. Therefore the verification result should support extended calibration.

Dipole 2600 Head TST	Target Value	Measured Value	Difference
Impedance transformed to feed point	49.1Ω-7.4jΩ	48.35Ω-3.06jΩ	R=-0.75Ω, X=4.34Ω
Return Loss	-22.5dB	-24.25dB	7.78%
Dipole 2600 Body TST	Target Value	Measured Value	Difference
Impedance transformed to feed point	45.8Ω-6.0jΩ	43.94Ω-5.35jΩ	R=-1.86Ω, X=0.65Ω
Return Loss	-22.3dB	-23.41dB	4.98%
Measured Date	2016-02-03	2017-01-26	-----

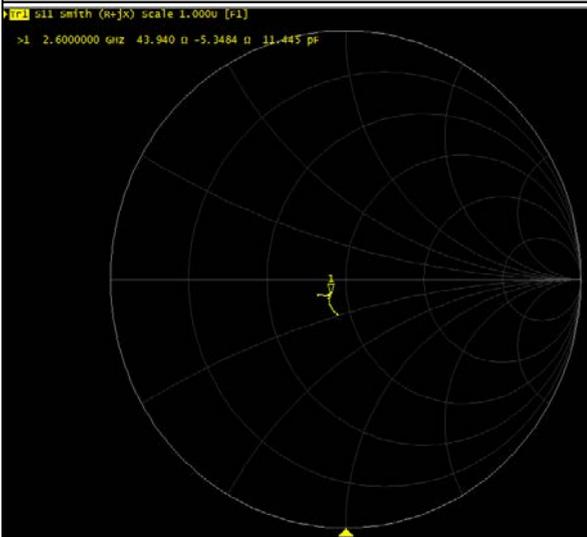
Impedance Test-Head



Return Loss Test-Head



Impedance Test-Body



Return Loss Test- Body

