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DASY5 Validation Report for Body TSL

Date: 01.09.2014

Test Laboratory: CTTT, Beijing, China

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 884

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.988 \text{ S/m}$; $\epsilon_r = 51.25$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3149; ConvF(4.21, 4.21, 4.21); Calibrated: 2013-09-03;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn536; Calibrated: 2014-01-23
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/2
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

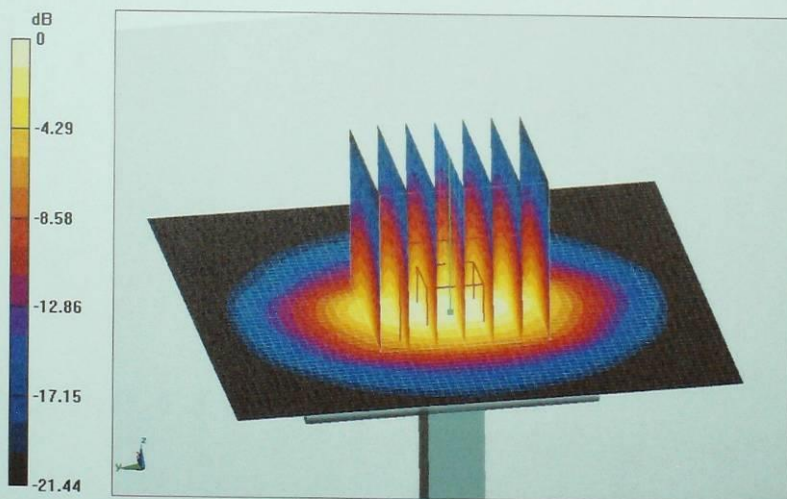
$dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 96.180 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 27.6 W/kg

SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.11 W/kg

Maximum value of SAR (measured) = 17.4 W/kg

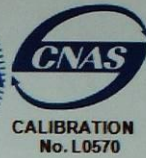


0 dB = 17.4 W/kg = 12.41 dBW/kg

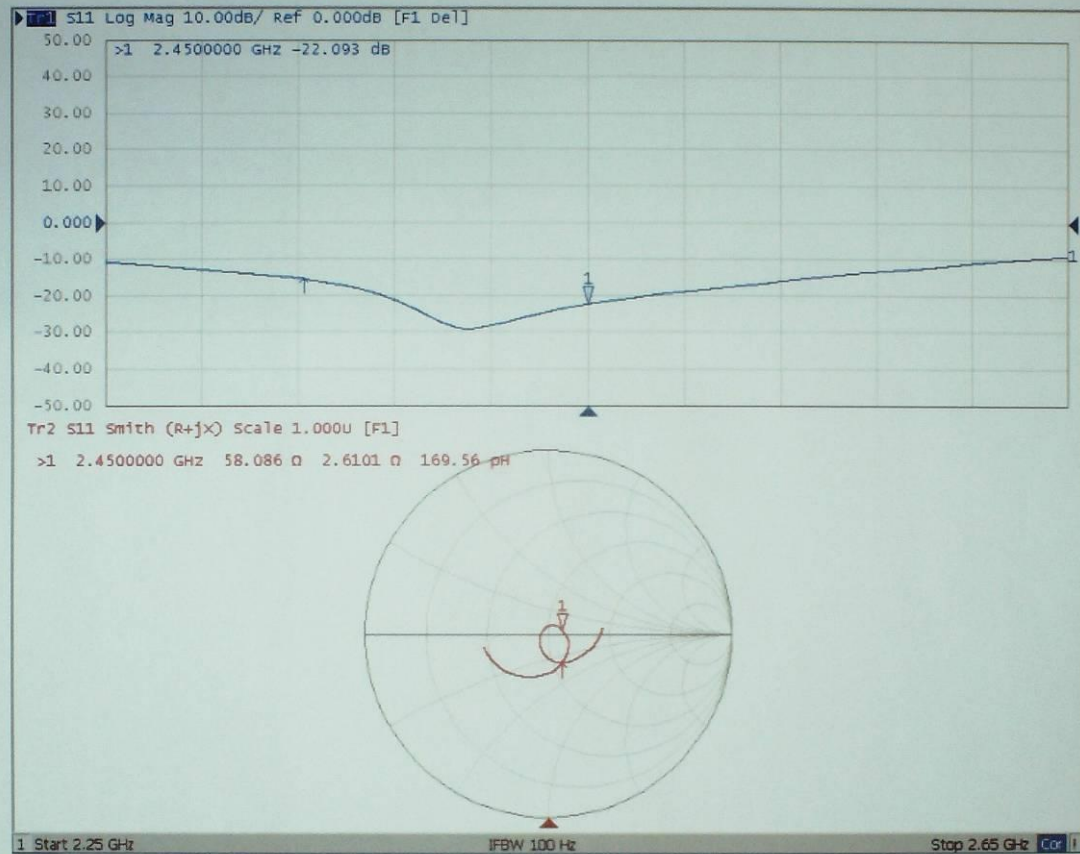


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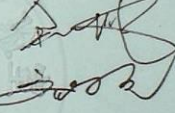
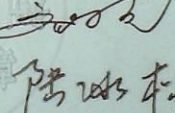
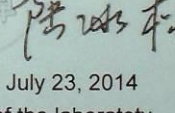
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Impedance Measurement Plot for Body TSL



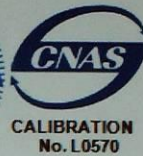
6.5. DAE4 Calibration Certificate

		In Collaboration with s p e a g CALIBRATION LABORATORY					
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Client :		CIQ-SZ(Auden)		Certificate No: Z14-97066			
CALIBRATION CERTIFICATE							
Object		DAE4 - SN: 1315					
Calibration Procedure(s)		TMC-OS-E-01-198 Calibration Procedure for the Data Acquisition Electronics (DAEx)					
Calibration date:		July 22, 2014					
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)℃ and humidity<70%.							
Calibration Equipment used (M&TE critical for calibration)							
Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)			Scheduled Calibration		
Documenting Process Calibrator 753	1971018	01-July-14 (CTTL, No:J14X02147)			July-15		
Calibrated by:		Name	Function	Signature			
		Yu Zongying	SAR Test Engineer				
Reviewed by:		Qi Dianyuan	SAR Project Leader				
Approved by:		Lu Bingsong	Deputy Director of the laboratory				
Issued: July 23, 2014 This calibration certificate shall not be reproduced except in full without written approval of the laboratory.							



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Glossary:

DAE data acquisition electronics
Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters:

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle:* The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The report provide only calibration results for DAE, it does not contain other performance test results.



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DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V, full range = -100...+300 mV
Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	405.162 \pm 0.15% (k=2)	405.006 \pm 0.15% (k=2)	404.963 \pm 0.15% (k=2)
Low Range	3.99072 \pm 0.7% (k=2)	3.98481 \pm 0.7% (k=2)	3.98836 \pm 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	22° \pm 1 °
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7. Test Setup Photos



Photograph of the depth in the Head Phantom (850MHz)



Photograph of the depth in the Body Phantom (850MHz)



Photograph of the depth in the Head Phantom (1900MHz)



Photograph of the depth in the Body Phantom (1900MHz)



Photograph of the depth in the Head Phantom (2450MHz)



Photograph of the depth in the Body Phantom (2450MHz)



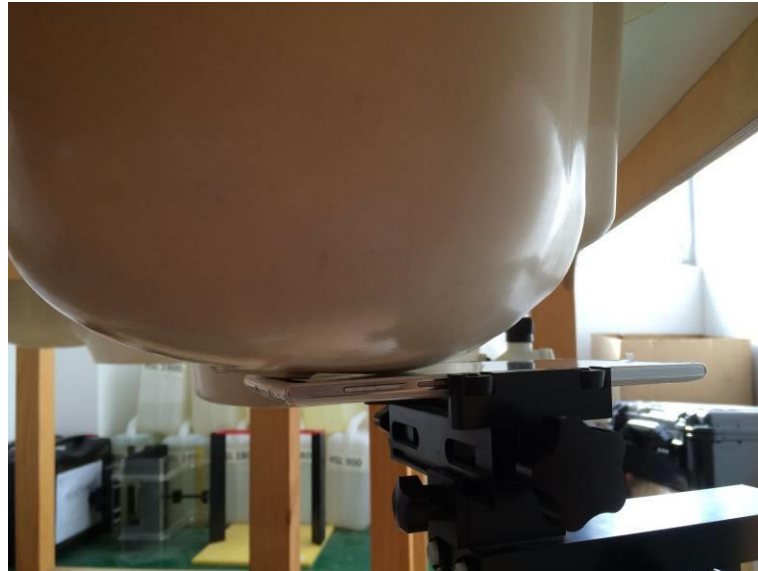
Right Head Tilt Setup Photo



Right Head Cheek Setup Photo



Left Head Tilt Setup Photo



Left Head Cheek Setup Photo



0mm Body-worn Rear Side Setup Photo



0mm Body-worn Left Side Setup Photo



0mm Body-worn Right Side Setup Photo



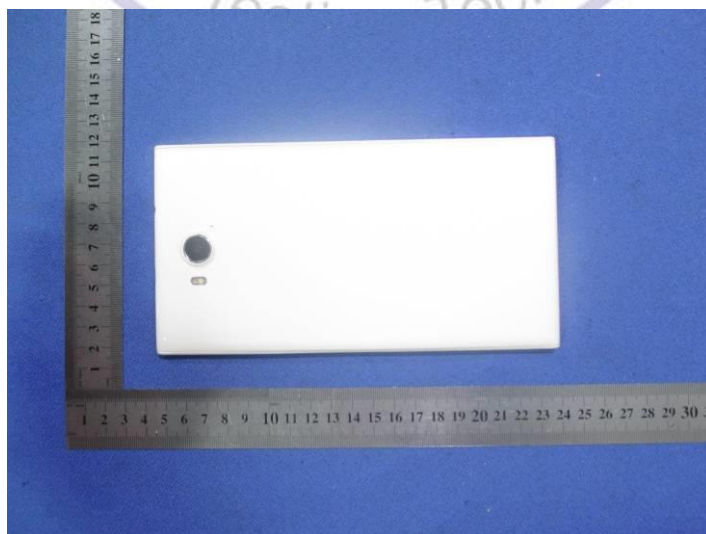
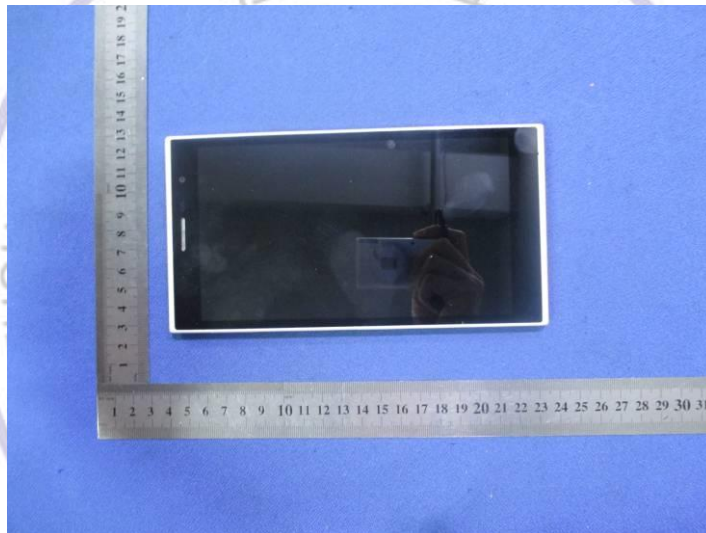
0mm Body-worn Top Side Setup Photo



10mm Body-worn Bottom Side Setup Photo

8. External Photos of the EUT

External Photos of EUT







.....End of Report.....

