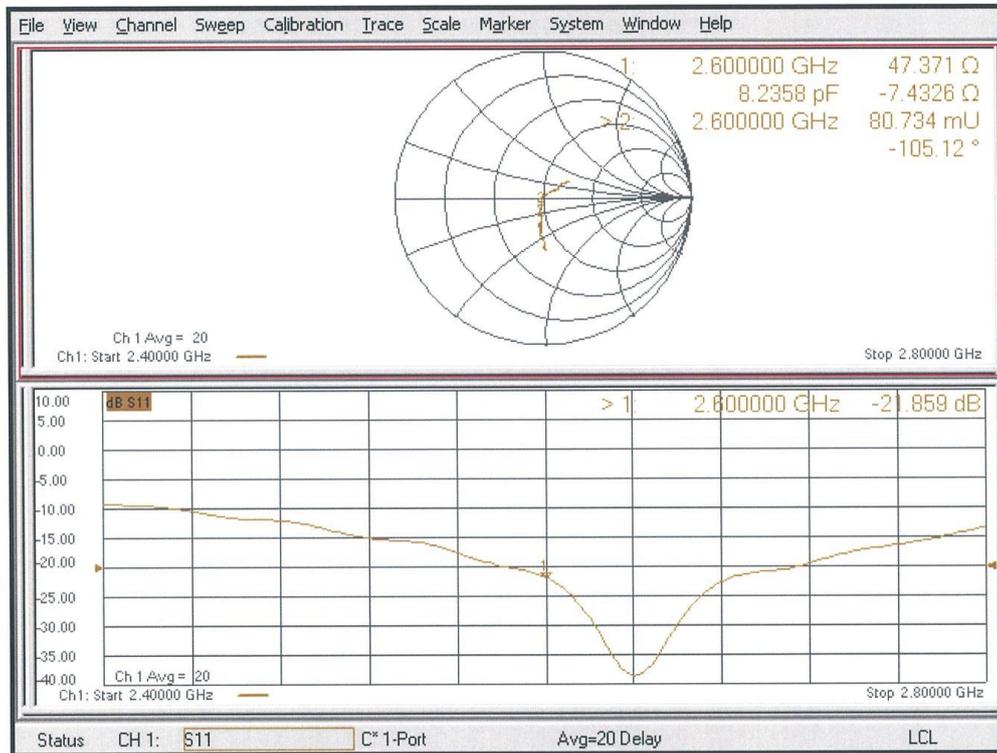


Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 26.07.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz; 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;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.81, 7.81, 7.81) @ 2600 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

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

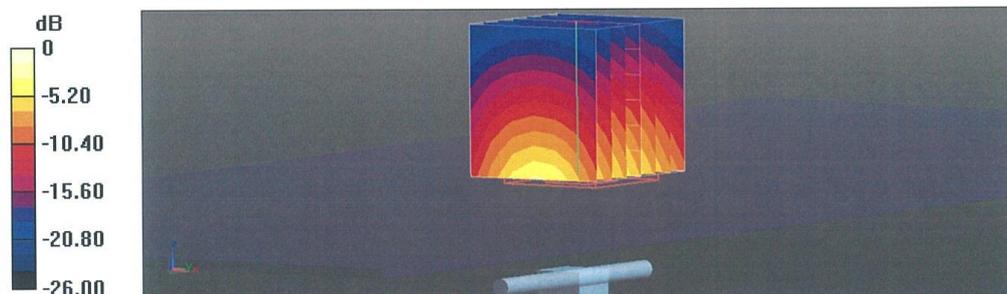
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.5 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 27.7 W/kg

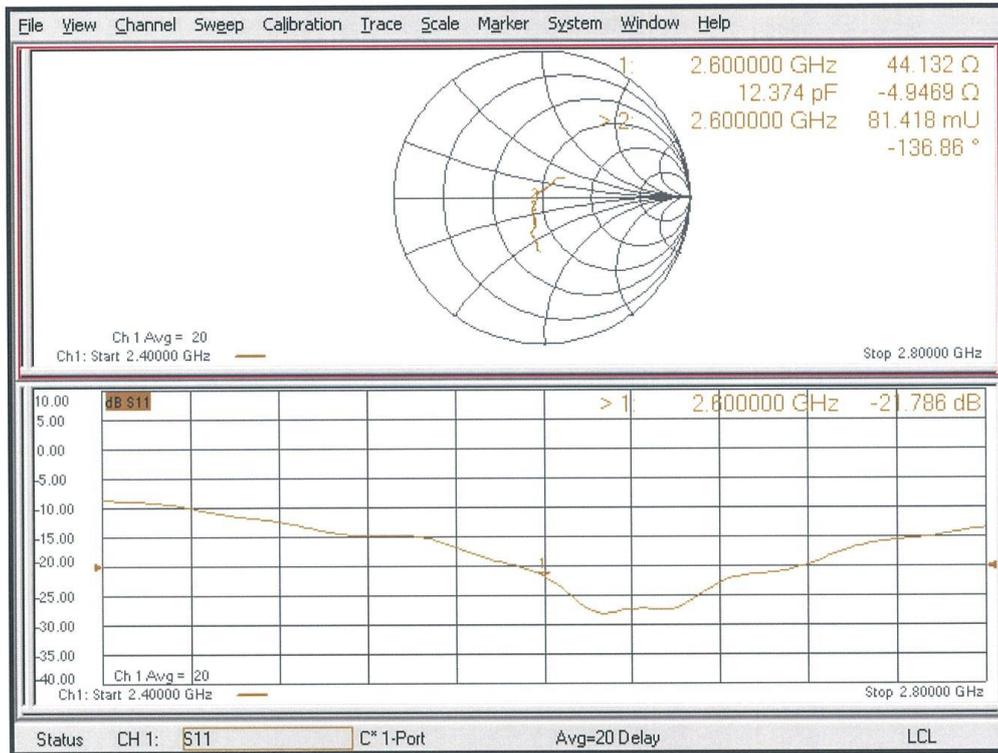
**SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.17 W/kg**

Maximum value of SAR (measured) = 22.6 W/kg



0 dB = 22.6 W/kg = 13.54 dBW/kg

Impedance Measurement Plot for Body TSL



## ANNEX I Sensor Triggering Data Summary

1, Maximum transmit power reduce process follow below strategy when mobile connect network.

| Headset  | P-sensor | SAR sensor | TX Power reduce |
|----------|----------|------------|-----------------|
| Insert   | Near     | Near       | Yes             |
| Insert   | Near     | Far        | No              |
| Insert   | Far      | Near       | Yes             |
| Insert   | Far      | Far        | No              |
| Pull out | Near     | Near       | No              |
| Pull out | Near     | Far        | No              |
| Pull out | Far      | Near       | Yes             |
| Pull out | Far      | Far        | No              |

2, Distance definition

| P-sensor Detect   | Near | Far   |
|-------------------|------|-------|
| Distance Detected | <3cm | >=5cm |

| SAR Sensor Detect | Near       | Far        |
|-------------------|------------|------------|
| rear              | <=16mm     | >16mm      |
| front             | <=12mm     | >12mm      |
| bottom            | <=16mm     | >16mm      |
| top               | Not Detect | Not Detect |
| right             | Not Detect | Not Detect |
| left              | Not Detect | Not Detect |

3, Reduction and Bands

| Band   | Requirement | Conduct power reduction |
|--------|-------------|-------------------------|
| DCS    | 2、3、4 Slots | 3.5dB                   |
| PCS    | 2、3、4 Slots | 3dB                     |
| WB1    |             | 2dB                     |
| LTE B1 |             | 2.5dB                   |
| LTE B3 |             | 2dB                     |
| LTE B7 |             | 2dB                     |

According to the above description, this device was tested by the manufacturer to determine the SAR sensor triggering distances for the rear and bottom edge of the device. The measured power state within  $\pm 5\text{mm}$  of the triggering points (or until touching the phantom) is included for rear and each applicable edge.

To ensure all production units are compliant it is necessary to test SAR at a distance 1mm less than the smallest distance from the device and SAR phantom with the device at maximum output power without power reduction.

We tested the power and got the different proximity sensor triggering distances for rear and bottom edge. But the manufacturer has declared 16mm is the most conservative triggering distance for main antenna. So base on the most conservative triggering distance of 16mm, additional SAR measurements were required at 15mm from the highest SAR position between rear and bottom edge of main antenna.

### Rear

Moving device toward the phantom:

| The power state |        |        |        |        |        |     |     |     |     |     |     |
|-----------------|--------|--------|--------|--------|--------|-----|-----|-----|-----|-----|-----|
| Distance [mm]   | 21     | 20     | 19     | 18     | 17     | 16  | 15  | 14  | 13  | 12  | 11  |
| Main antenna    | Normal | Normal | Normal | Normal | Normal | Low | Low | Low | Low | Low | Low |

Moving device away from the phantom:

| The power state |     |     |     |     |     |     |        |        |        |        |        |
|-----------------|-----|-----|-----|-----|-----|-----|--------|--------|--------|--------|--------|
| Distance [mm]   | 11  | 12  | 13  | 14  | 15  | 16  | 17     | 18     | 19     | 20     | 21     |
| Main antenna    | Low | Low | Low | Low | Low | Low | Normal | Normal | Normal | Normal | Normal |

### Bottom Edge

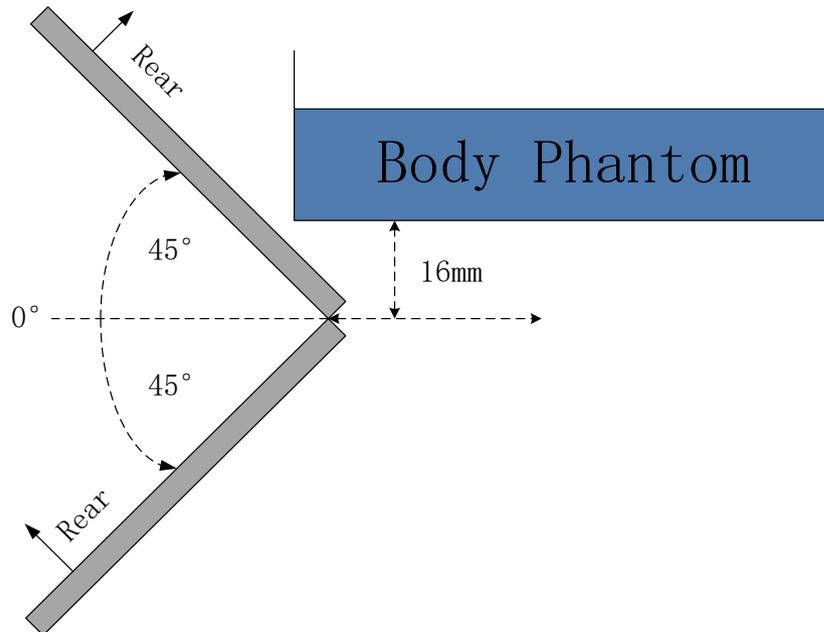
Moving device toward the phantom:

| The power state |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Distance [mm]   | 21  | 20  | 19  | 18  | 17  | 16  | 15  | 14  | 13  | 12  | 11  |
| Main antenna    | Low |

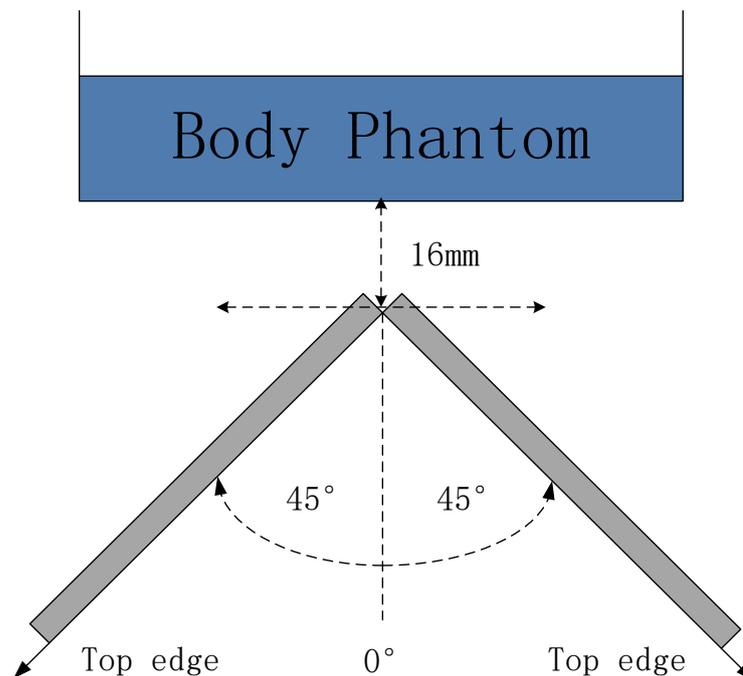
Moving device away from the phantom:

| The power state |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Distance [mm]   | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  |
| Main antenna    | Low |

The influence of table tilt angles to proximity sensor triggering is determined by positioning each edge that contains a transmitting antenna, perpendicular to the flat phantom, at the smallest sensor triggering test distance by rotating the device around the edge next to the phantom in  $\leq 10^\circ$  increments until the tablet is  $\pm 45^\circ$  or more from the vertical position at  $0^\circ$ .



**The rear evaluation for main antenna**



**The bottom edge evaluation for main antenna**

Based on the above evaluation, we come to the conclusion that the sensor triggering is not released and normal maximum output power is not restored within the  $\pm 45^\circ$  range at the smallest sensor triggering test distance declared by manufacturer.

## ANNEX J Accreditation Certificate

United States Department of Commerce  
National Institute of Standards and Technology

**NVLAP**<sup>®</sup>

---

**Certificate of Accreditation to ISO/IEC 17025:2005**

---

NVLAP LAB CODE: 600118-0

**Telecommunication Technology Labs, CAICT**  
Beijing  
China

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

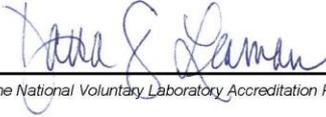
**Electromagnetic Compatibility & Telecommunications**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

---

2018-09-28 through 2019-09-30  
*Effective Dates*



  
*For the National Voluntary Laboratory Accreditation Program*