

Test Laboratory: AGC Lab  
PCS 1900 Mid-Body-worn-Back (MS) <SIM 1>  
**DUT:TINGLE; Type:S107**

**Date:APR.14,2012**

Communication System:GPRS-3 slot; Communication System Band: PCS 1900;Duty Cycle:1:8 ; convF=6.42  
Frequency: 1880 MHz; Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 53.27$ ;  
 $\rho = 1000$ kg/m<sup>3</sup> ; Phantom section: Flat Section  
Ambient temperature (°C):21, Liquid temperature (°C):21

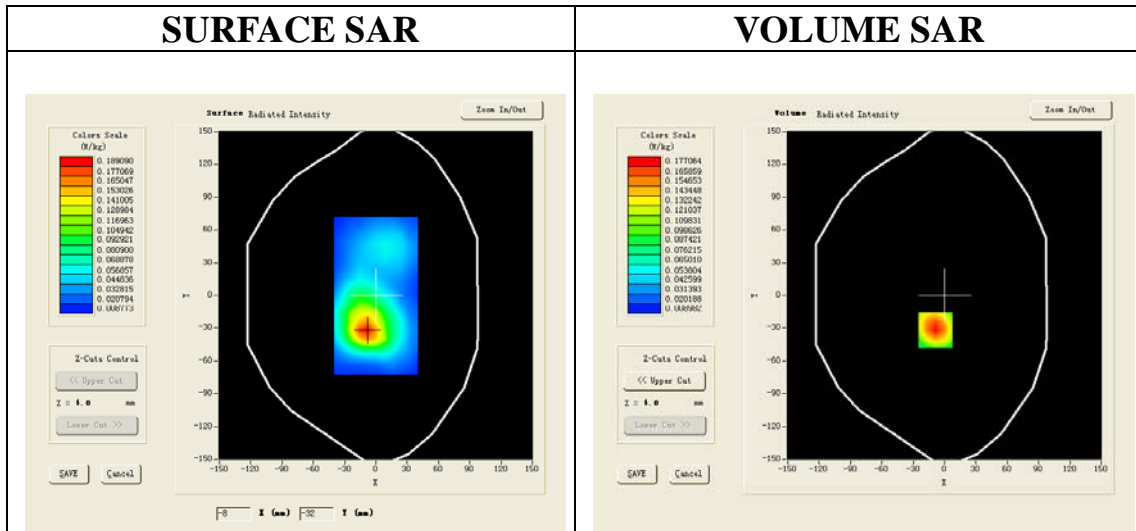
Satimo Configuration:

- Probe:SSE5; Calibrated: 12/09/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4\_02\_01

**Configuration/PCS 1900 Mid Body-Back/Area Scan:** Measurement grid: dx=20mm, dy=20mm

**Configuration/PCS 1900 Mid Body-Back/Zoom Scan:** Measurement grid: dx=8mm,  
dy=8mm, dz=5mm;

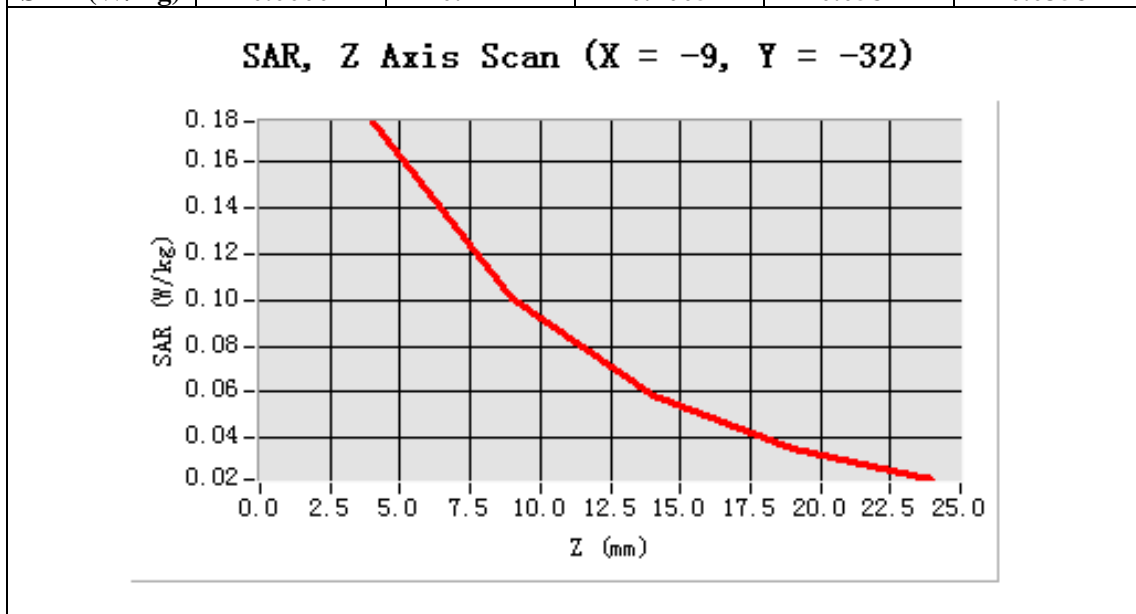
|                        |                                      |
|------------------------|--------------------------------------|
| <b>Area Scan</b>       | surf_sam_plan.txt                    |
| <b>ZoomScan</b>        | 5x5x7,dx=8mm dy=8mm dz=5mm,Very fast |
| <b>Phantom</b>         | Validation plane                     |
| <b>Device Position</b> | Body Back                            |
| <b>Band</b>            | GSM1900                              |
| <b>Channels</b>        | Middle                               |
| <b>Signal</b>          | TDMA (Crest factor: 8)               |

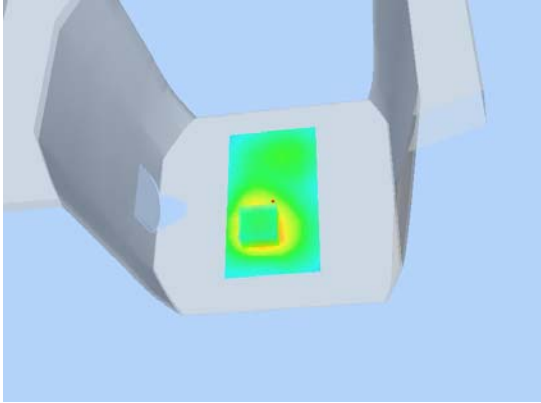
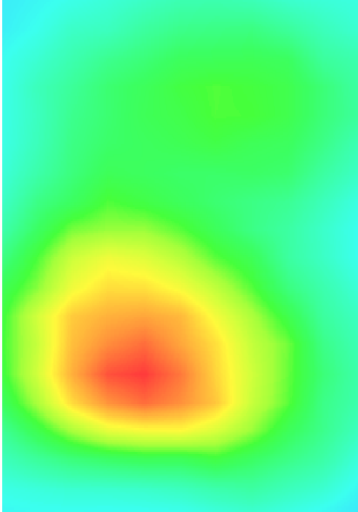


**Maximum location: X=-9.00, Y=-32.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.094959 |
| <b>SAR 1g (W/Kg)</b>  | 0.167747 |

| Z (mm)     | 0.00   | 4.00   | 9.00   | 14.00  | 19.00  |
|------------|--------|--------|--------|--------|--------|
| SAR (W/Kg) | 0.0000 | 0.1771 | 0.1005 | 0.0581 | 0.0358 |



| 3D screen shot  | Hot spot position  |
|---|--|
|  A 3D perspective view of a grey, rectangular component with a central square opening. A color-coded heatmap is overlaid on the component, showing a bright yellow and red circular area in the center of the opening, indicating a hot spot. The background is a light blue gradient. |  A 2D heatmap showing the spatial distribution of the hot spot. The central region is a bright red circle, surrounded by a yellow ring, which then transitions to green and cyan towards the edges of the rectangular area. The background is a light blue gradient. |

Test Laboratory: AGC Lab  
PCS 1900 Mid-Body-worn-Back (MS) with earphone <SIM 1>  
**DUT:TINGLE; Type:S107**

**Date:APR.14,2012**

Communication System: GPRS-3 Slot; Communication System Band:PCS 1900; Duty Cycle:1:8 ;ConvF=6.42  
Frequency: 1880 MHz; Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 53.27$ ;  
 $\rho = 1000$ kg/m<sup>3</sup> ; Phantom section: Flat Section  
Ambient temperature (°C):21, Liquid temperature (°C):21

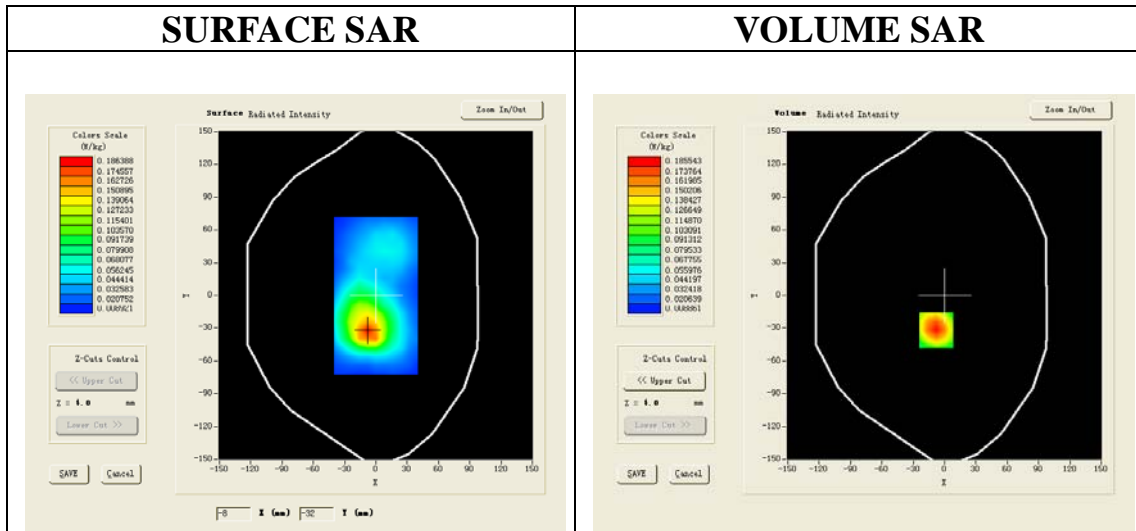
Satimo Configuration:

- Probe:SSE5; Calibrated: 12/09/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Phantom: SAM1; Type: SAM
- Measurement SW: OpenSAR V4\_02\_01

**Configuration/PCS 1900 Mid Body-Back/Area Scan:** Measurement grid: dx=20mm, dy=20mm

**Configuration/PCS 1900 Mid Body-Back/Zoom Scan:** Measurement grid: dx=8mm,  
dy=8mm, dz=5mm;

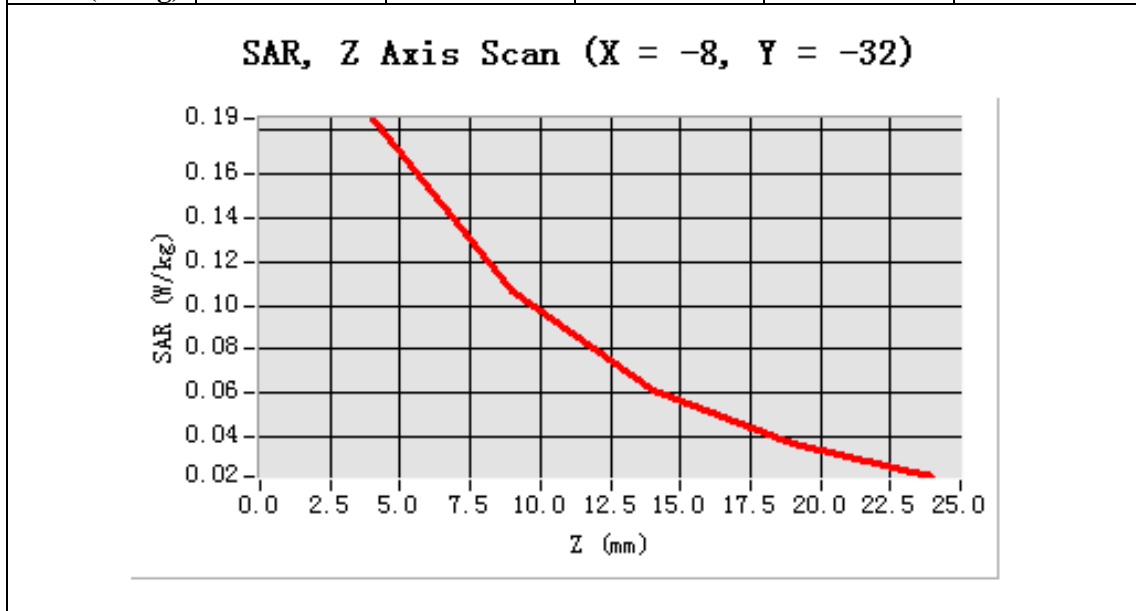
|                        |                                      |
|------------------------|--------------------------------------|
| <b>Area Scan</b>       | surf_sam_plan.txt                    |
| <b>ZoomScan</b>        | 5x5x7,dx=8mm dy=8mm dz=5mm,Very fast |
| <b>Phantom</b>         | Validation plane                     |
| <b>Device Position</b> | Body Back                            |
| <b>Band</b>            | GSM1900                              |
| <b>Channels</b>        | Middle                               |
| <b>Signal</b>          | TDMA (Crest factor: 8.0)             |

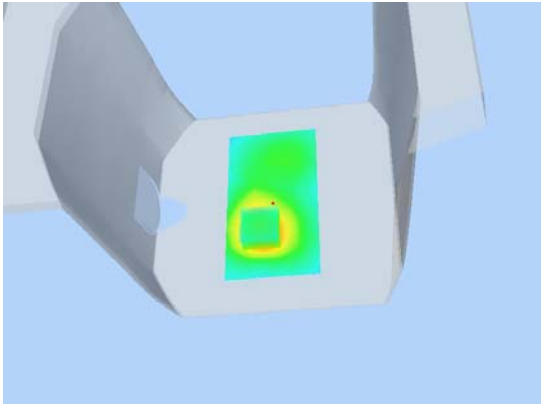
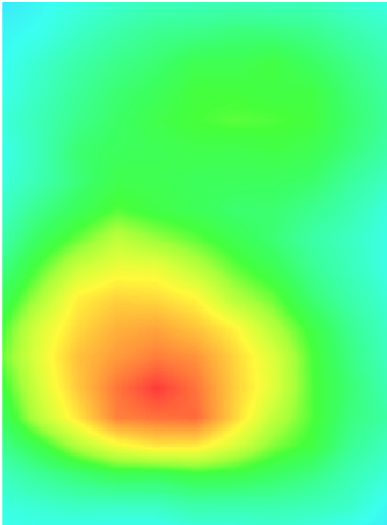


**Maximum location: X=-8.00, Y=-32.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.098548 |
| <b>SAR 1g (W/Kg)</b>  | 0.175122 |

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.1855</b> | <b>0.1064</b> | <b>0.0615</b> | <b>0.0369</b> |



| 3D screen shot  | Hot spot position  |
|---|--|
|  A 3D perspective view of a grey, rectangular device. A small, square, glowing hot spot is visible on the front face of the device, centered horizontally and vertically. The hot spot has a color gradient from red at the center to yellow and then green towards the edges. |  A close-up, 2D view of the hot spot. It shows a circular area with a color gradient from red at the center, transitioning through yellow and green to cyan at the outer edge. The background is a uniform cyan color. |

#

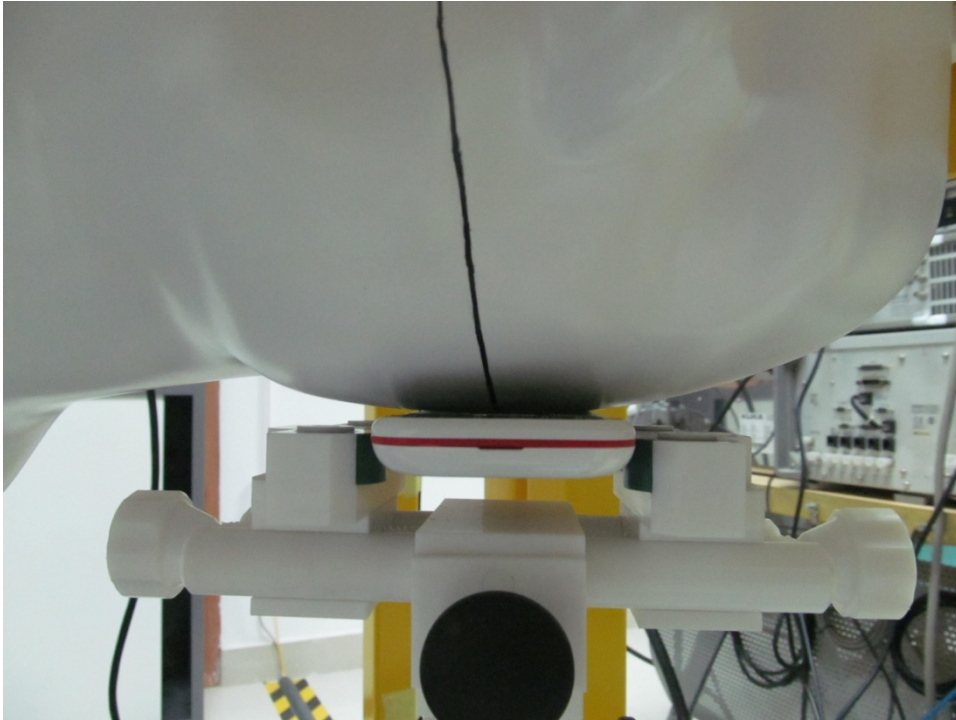
**Appendix C. TEST SETUP PHOTOGRAPHS &EUT PHOTOGRAPS**  
**Test Setup Photographs**

**DEPTH OF THE LIQUID IN THE PHANTOM—ZOOM IN**

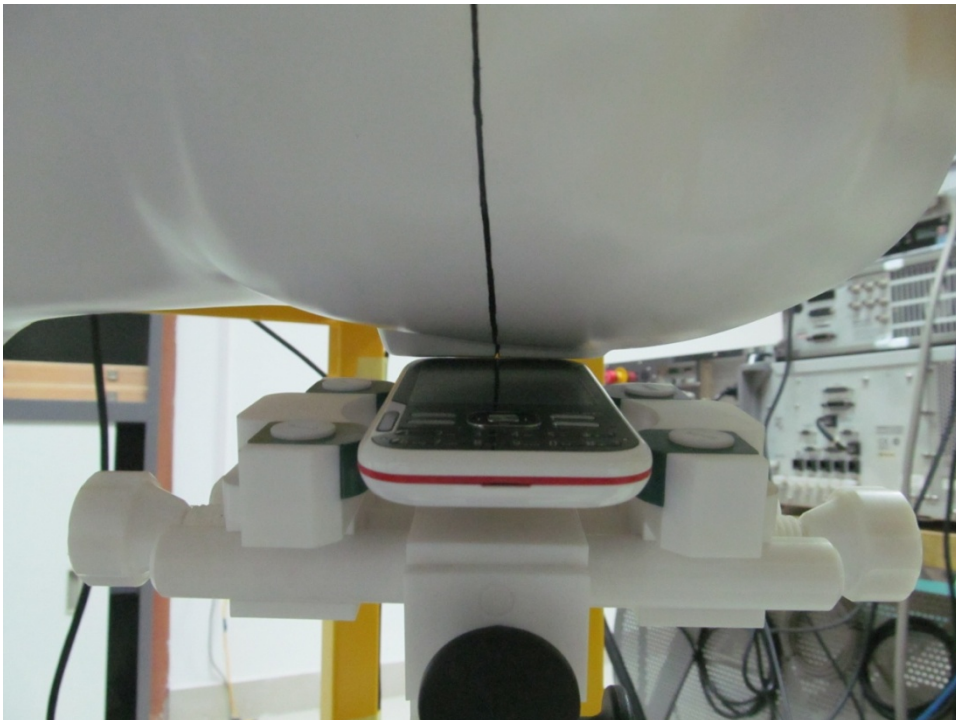
Note : The position used in the measurement were according to IEEE 1528-2003



LEFT-CHECK TOUCH

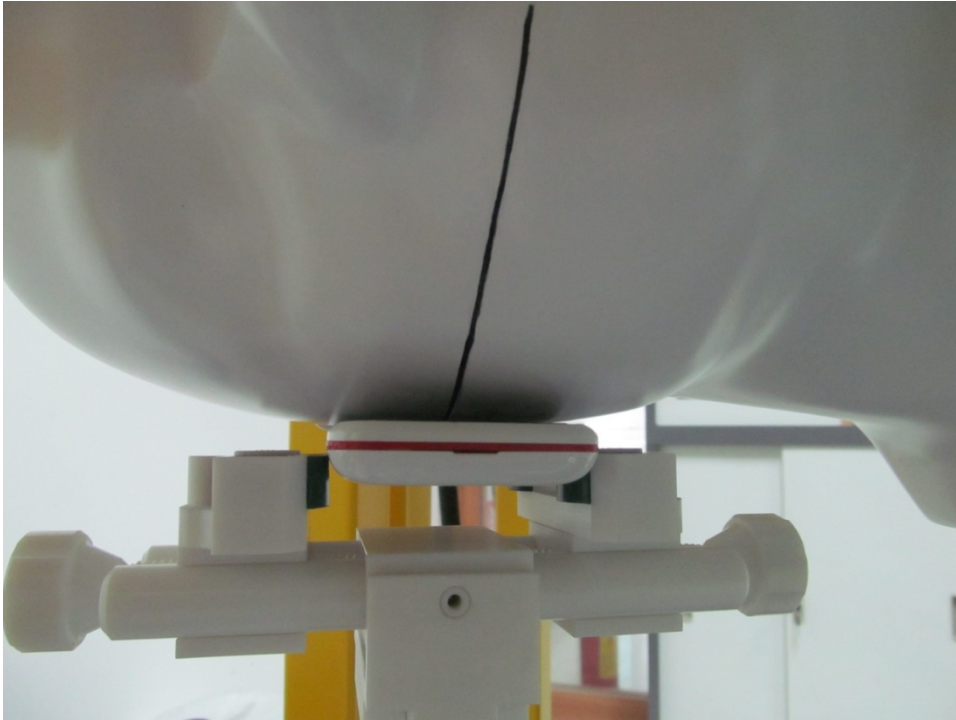


LEFT-TILT 15°

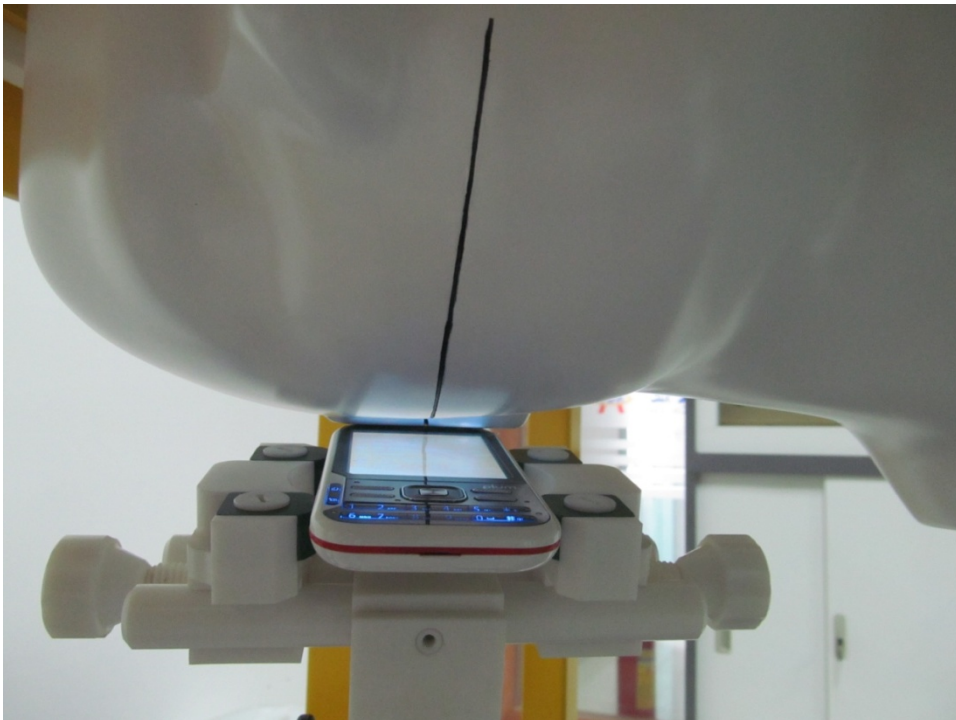




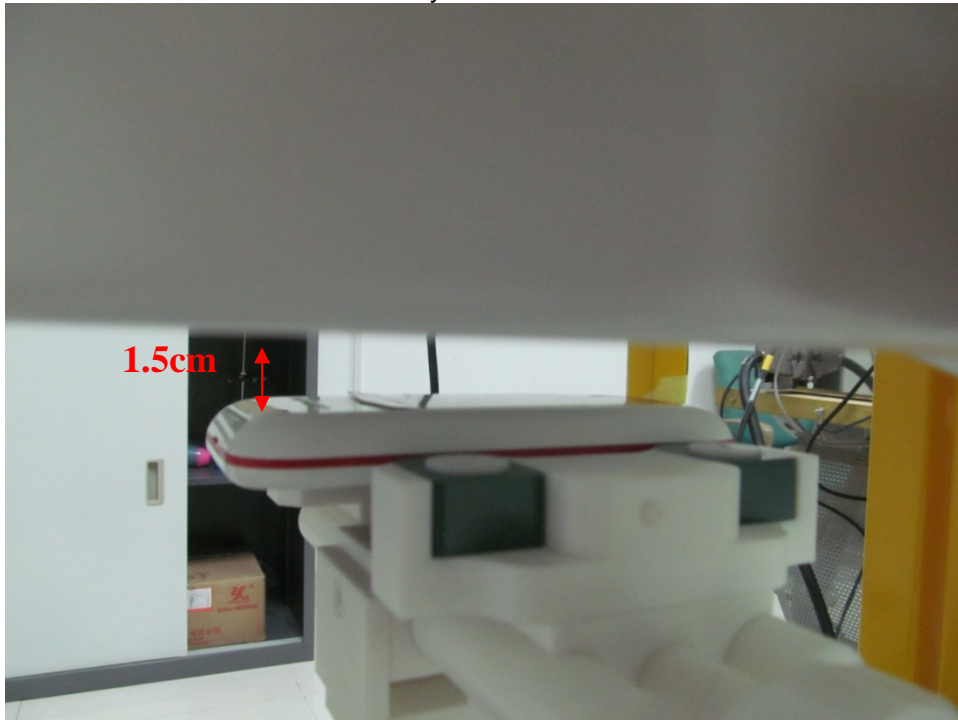
RIGHT-CHECK TOUCH



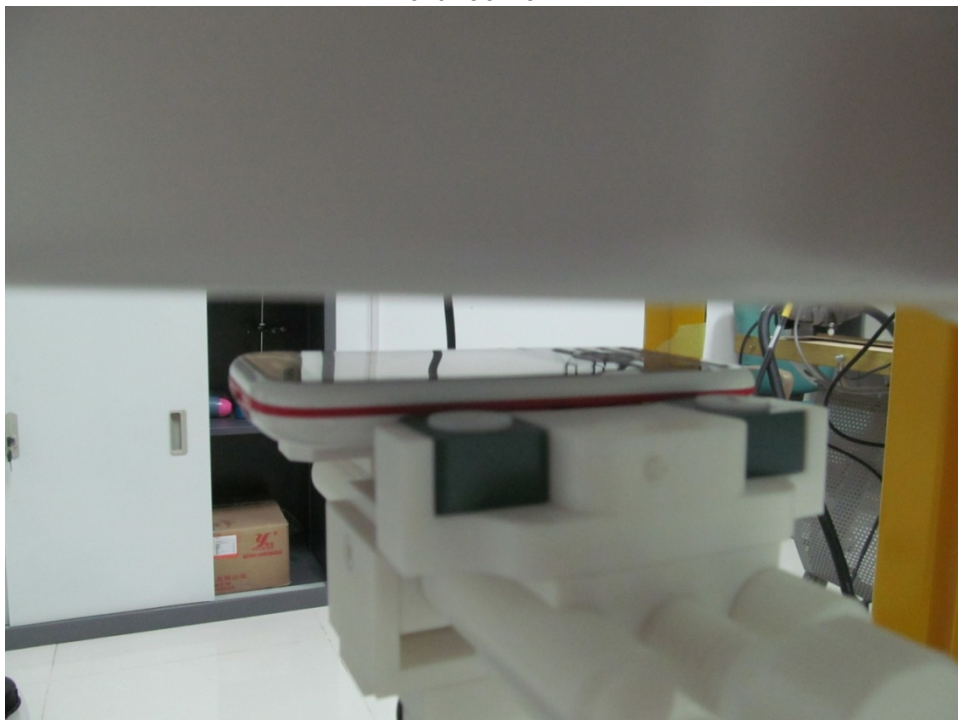
RIGHT-TILT 15°



Body Back15mm



Front Back15mm



Body back with Headset



**EUT PHOTOGRAPS**  
TOP VIEW OF SAMPLE



**BOTTOM VIEW OF SAMPLE**



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



FRONT VIEW OF SAMPLE



BACK VEIW OF SAMPLE



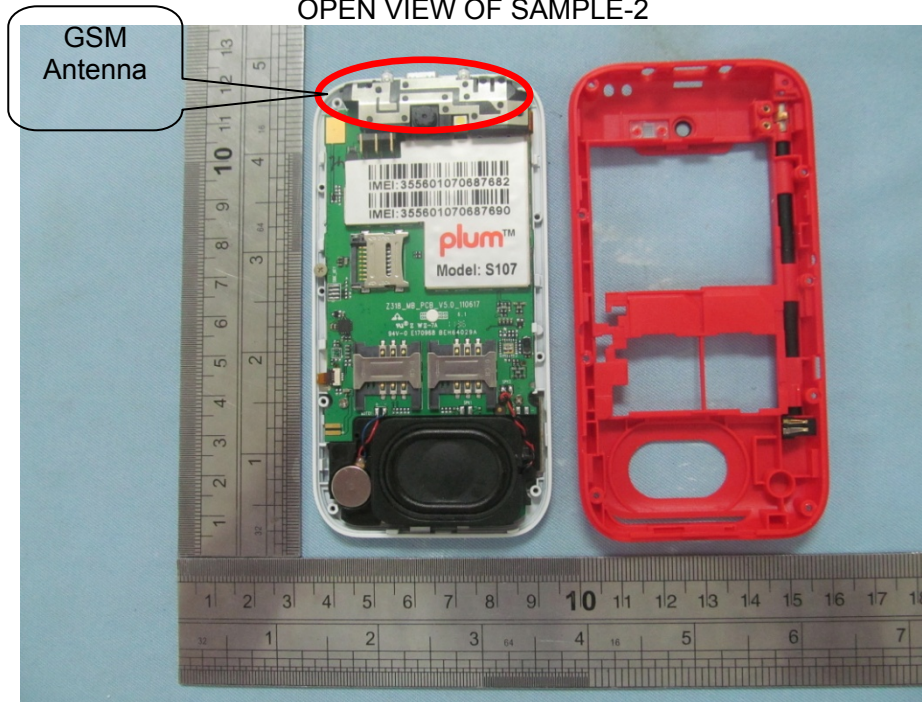
ALL VIEW OF SAMPLE



OPEN VIEW OF SAMPLE-1



OPEN VIEW OF SAMPLE-2

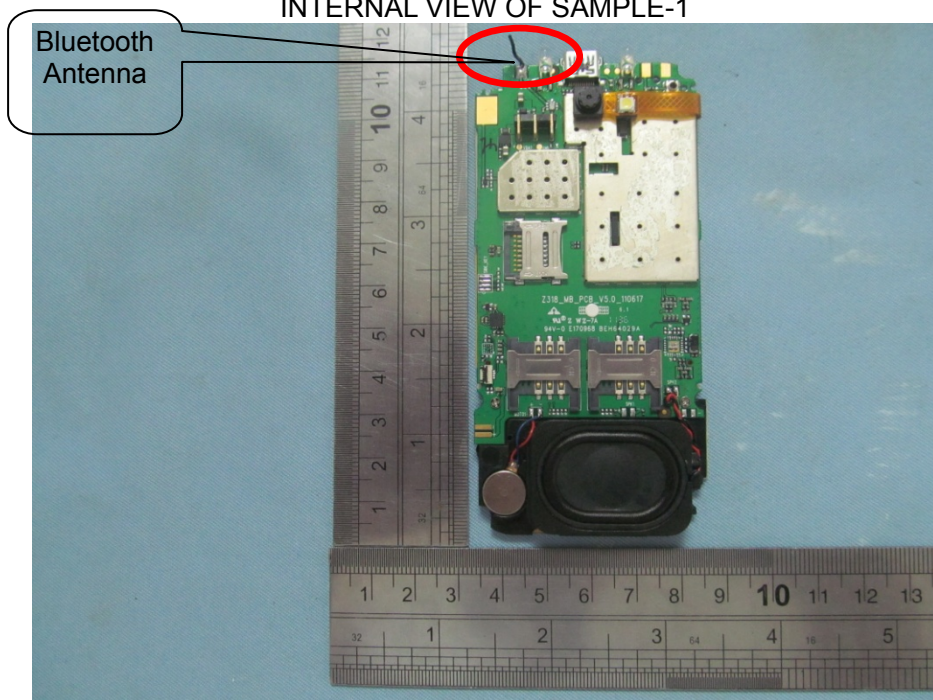


OPEN VIEW OF SAMPLE-3

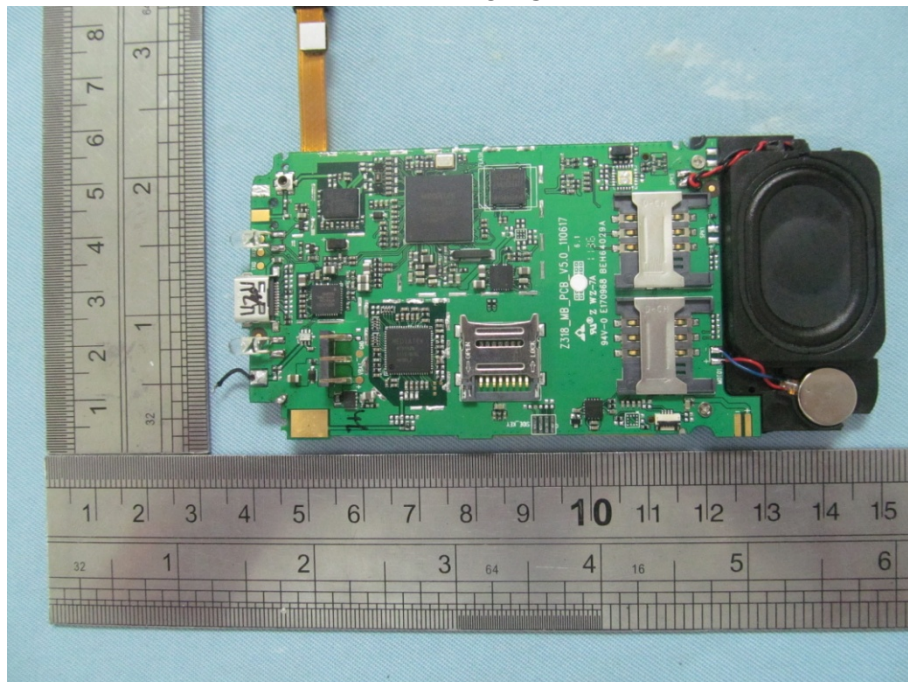




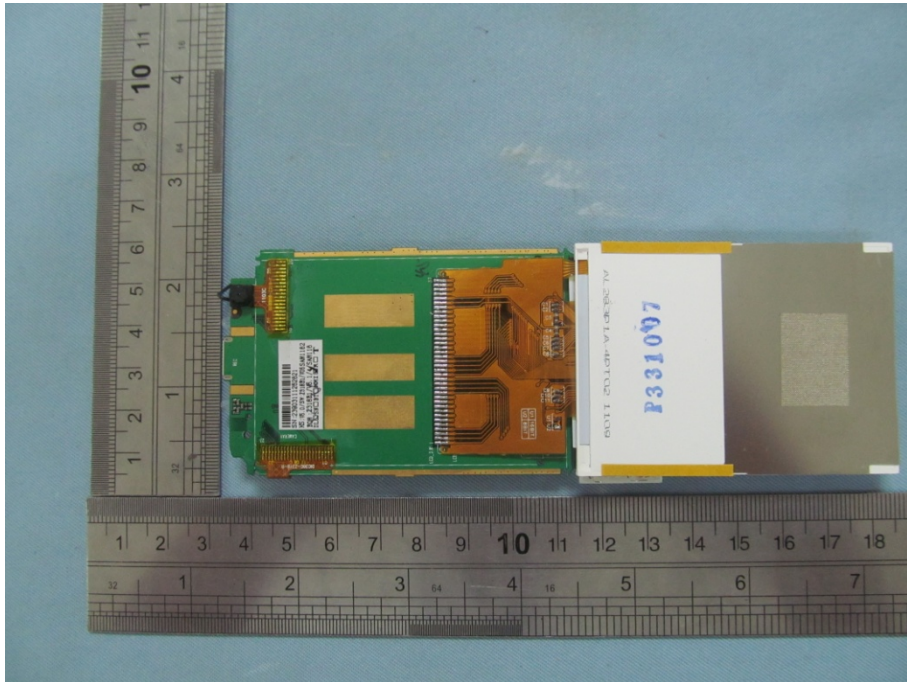
INTERNAL VIEW OF SAMPLE-1



INTERNAL VIEW OF SAMPLE-2



INTERNAL VIEW OF SAMPLE-3



## Appendix D. Probe Calibration Data



### COMOSAR E-Field Probe Calibration Report

Ref : ACR.343.2.11.SATU.A

**ATTESTATION OF GLOBAL COMPLIANCE CO.  
LTD.**

**1&2F, NO.2 BUILDING, HUAFENG NO.1 INDUSTRIAL  
PARK, GUSHU COMMUNITY XIXIANG STREET  
BAOAN DISTRICT, SHENZHEN, P.R. CHINA  
SATIMO COMOSAR DOSIMETRIC E-FIELD PROBE  
SERIAL NO.: SN 35/11 EP132**

**Calibrated at SATIMO US  
2105 Barrett Park Dr. - Kennesaw, GA 30144**



**12/09/11**

*Summary:*

This document presents the method and results from an accredited COMOSAR Dosimetric E-Field Probe calibration performed in SATIMO USA using the CALISAR / CALIBAIR test bench, for use with a SATIMO COMOSAR system only. All calibration results are traceable to national metrology institutions.



COMOSAR E-FIELD PROBE CALIBRATION REPORT

Ref: ACR.3432.11.SATU.A

|                      | <i>Name</i>   | <i>Function</i> | <i>Date</i> | <i>Signature</i>     |
|----------------------|---------------|-----------------|-------------|----------------------|
| <i>Prepared by :</i> | Jérôme LUC    | Product Manager | 12/9/2011   | <i>JS</i>            |
| <i>Checked by :</i>  | Jérôme LUC    | Product Manager | 12/9/2011   | <i>JS</i>            |
| <i>Approved by :</i> | Kim RUTKOWSKI | Quality Manager | 12/9/2011   | <i>Kim Rutkowski</i> |

|                       | <i>Customer Name</i>                               |
|-----------------------|--|
| <i>Distribution :</i> | ATTESTATION<br>OF GLOBAL<br>COMPLIANCE<br>CO. LTD. |

| <i>Issue</i> | <i>Date</i> | <i>Modifications</i> |
|--------------|-------------|----------------------|
| A            | 12/9/2011   | Initial release      |
|              |             |                      |
|              |             |                      |
|              |             |                      |