

**COMOSAR Dipole 1900 MHz  
Calibration Report**



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Issue: B

Date: 2012/10/05

**DIPOLE 1900 MHZ CALIBRATION REPORT**

Prepared By: LUC Jérôme, SATIMO  
Project Description: SAR TEST BENCH  
Prepared For (End User): Shenzhen Morlab Communication Technology

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**DIPOLE 1900 MHz CALIBRATION REPORT**

**DATE:** 19/02/2009

**REFERENCE:** SN 36/08 DIPF102

**OBJECT:** COMOSAR IEEE REFERENCE DIPOLE

**MANUFACTURER:** SATIMO

**SERIAL NUMBER:** SN 36/08 DIPF102

**CUSTOMER:** Shenzhen Morlab Communication Technology

**CONTRACT:** PF2130108b\_SAR\_Morlab

**DATE OF CALIBRATION:** 05/10/2012

**WARRANTY:**

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Date

*05. 10, 2012*

SAR TEAM MANAGER

*JCS*

**SATIMO Bretagne**  
Technopôle Brest Iroise  
Zone du Vernis  
225 rue Pierre Rivoalon  
29200 BREST

# COMOSAR Dipole 1900 MHz Calibration Report



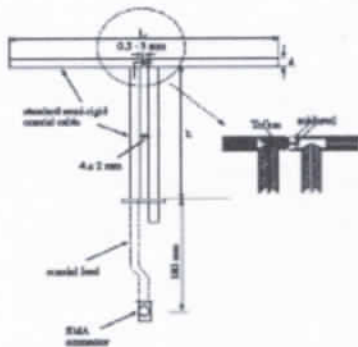
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## PRODUCT DESCRIPTION



Dimension: L=68 mm / h=39.5mm / d=3.6 mm

## CALIBRATION TEST EQUIPMENT

TYPE	IDENTIFICATION	DATE OF CALIBRATIO
Vector Network Analyzer	HP8753D (SN: 5410A08882)	9-12-2012

## MEASUREMENT PROCEDURE

We placed the dipole under the flat part of SAM phantom fill with 1900 MHz head and body liquid.

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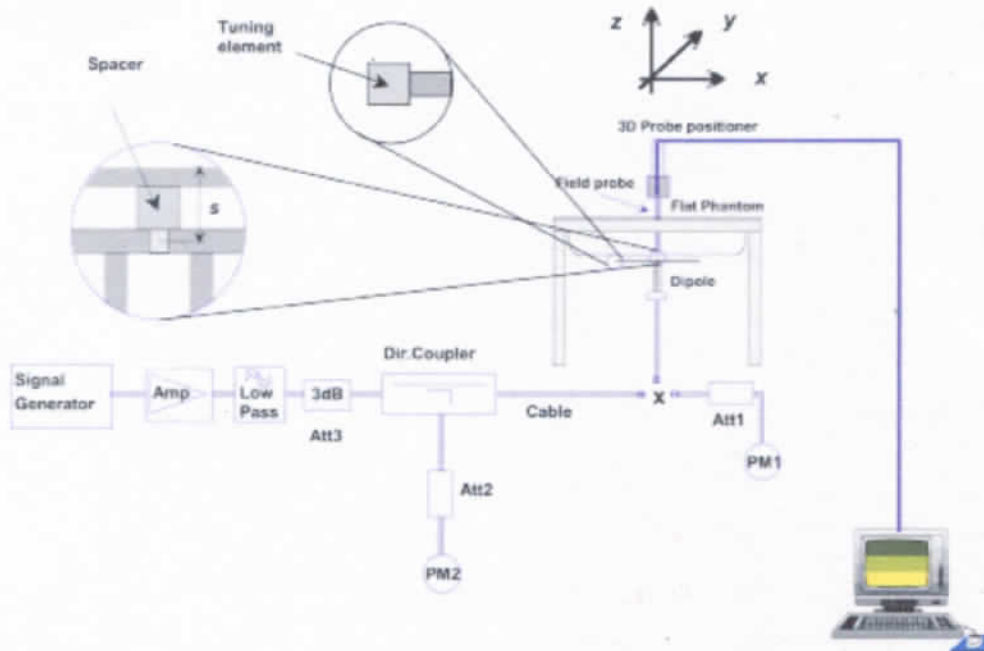


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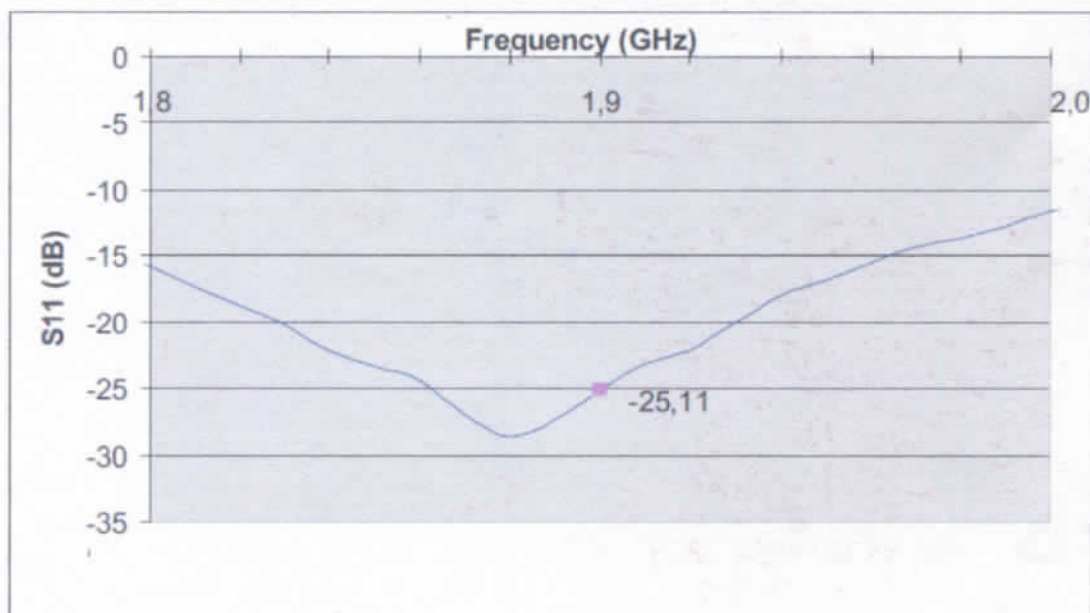
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Calibration was performed according to IEEE Std P1528-2003 and OET bulletin 65 Supplement C (Ed. 01-01)

VSWR at 1900 MHz: -25.11 dB.



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## SAR MEASUREMENT EQUIPEMENT Head

<b>Voltmeter</b>	Keithley (2000, SN:1000572)	Date of calibration: 01-07-2012
<b>Signal generator</b>	Rohde&Schwarz (SML_03, SN:101868)	Date of calibration: 15-11-2011
<b>Power amplifier</b>	Nuclétudes (ALB216, SN:10800)	Date of calibration: 24-10-2011
<b>Power meter</b>	Rohde&Schwarz (NRVD, SN:101066)	Date of calibration: 04-07-2012
<b>Probe</b>	SATIMO Bretagne (SN:EP37) CF (40.136,34.843,38.721)	Date of calibration: 04-10-2012

## SAR MEASUREMENT CONDITION

<b>Software</b>	OpenSAR V3
<b>Phantom</b>	SATIMO Bretagne (SN: SN_20_07_SAM42)
<b>Liquid</b>	SATIMO Bretagne (Last Calibration: 05-10-12) Head Liquid Values: eps' : 40,00 sigma : 1,42
<b>Distance between the center of the dipole and the liquid (set with a spacer)</b>	10 mm
<b>Area scan resolution</b>	dx=8mm/dy=8mm
<b>Zoom scan resolution</b>	dx=8mm/dy=8m/dz=5mm
<b>Frequency</b>	1900 MHz
<b>Input power</b>	30 dBm
<b>Expanded uncertainty (K=1)</b>	8.09%

## SAR MEASUREMENT RESULT

	10g	1g
SAR measured	21,05 W/Kg	40,32 W/Kg
Liquid : HL	+ 2,68 %	+ 1,56 %
Input power : 1W		

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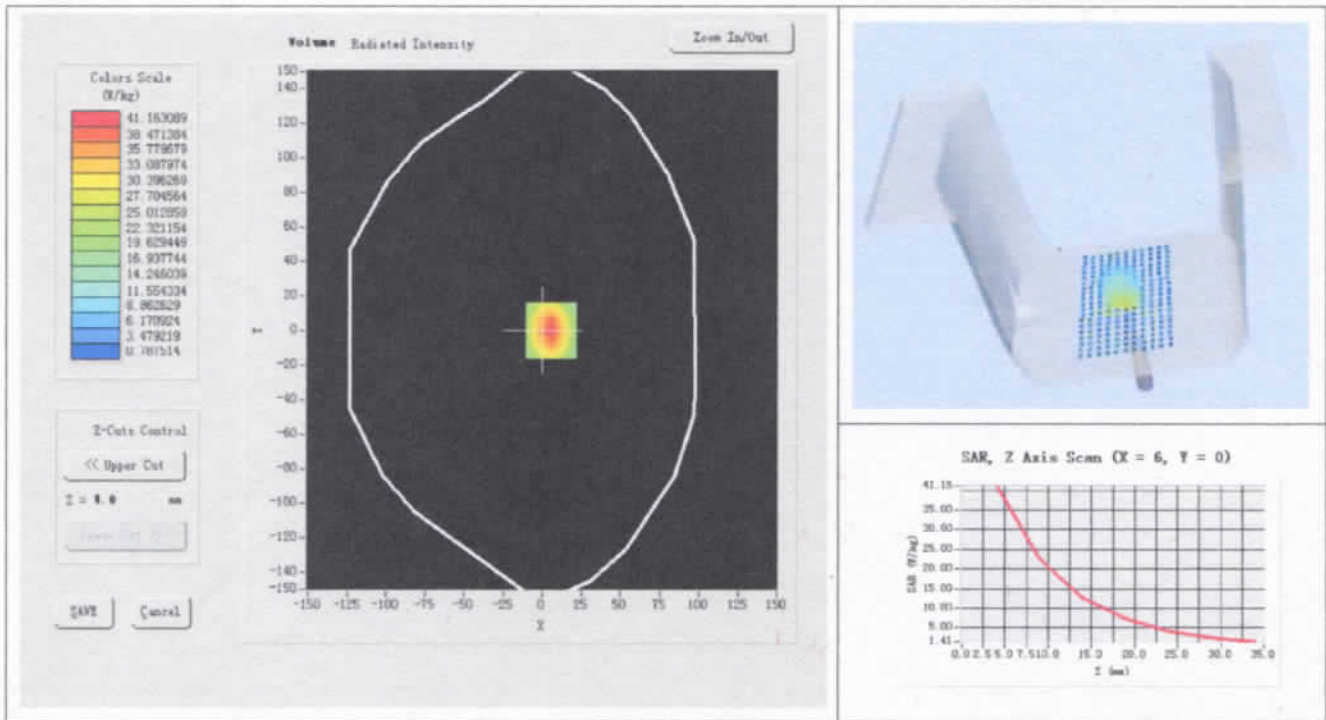
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## SAR MEASUREMENT PLOTS

Head:



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**SAR MEASUREMENT EQUIPEMENT Body**

<b>Voltmeter</b>	Keithley (2000, SN:1000572)	Date of calibration: 01-07-2012
<b>Signal generator</b>	Rohde&Schwarz (SML_03, SN:101868)	Date of calibration: 15-11-2011
<b>Power amplifier</b>	Nuclétudes (ALB216, SN:10800)	Date of calibration: 24-10-2011
<b>Power meter</b>	Rohde&Schwarz (NRVD, SN:101066)	Date of calibration: 04-07-2012
<b>Probe</b>	SATIMO Bretagne (SN:EP37) CF (40.625,34.773,38.535)	Date of calibration: 04-10-2012

**SAR MEASUREMENT CONDITION**

<b>Software</b>	OpenSAR V3
<b>Phantom</b>	SATIMO Bretagne (SN: SN_20_07_SAM42)
<b>Liquid</b>	SATIMO Bretagne (Last Calibration: 05-10-12) Body Liquid Values: eps' : 53,30 sigma : 1,52
<b>Distance between the center of the dipole and the liquid (set with a spacer)</b>	10 mm
<b>Area scan resolution</b>	dx=8mm/dy=8mm
<b>Zoom scan resolution</b>	dx=8mm/dy=8m/dz=5mm
<b>Frequency</b>	1900 MHz
<b>Input power</b>	30 dBm
<b>Expanded uncertainty (K=1)</b>	8.09%

**SAR MEASUREMENT RESULT**

	10g	1g
SAR measured	<b>20,15 W/Kg</b>	<b>38,53 W/Kg</b>
Liquid : HL	<b>-1,71 %</b>	<b>-2,95 %</b>
Input power : 1W		

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## SAR MEASUREMENT PLOTS

Body:

