



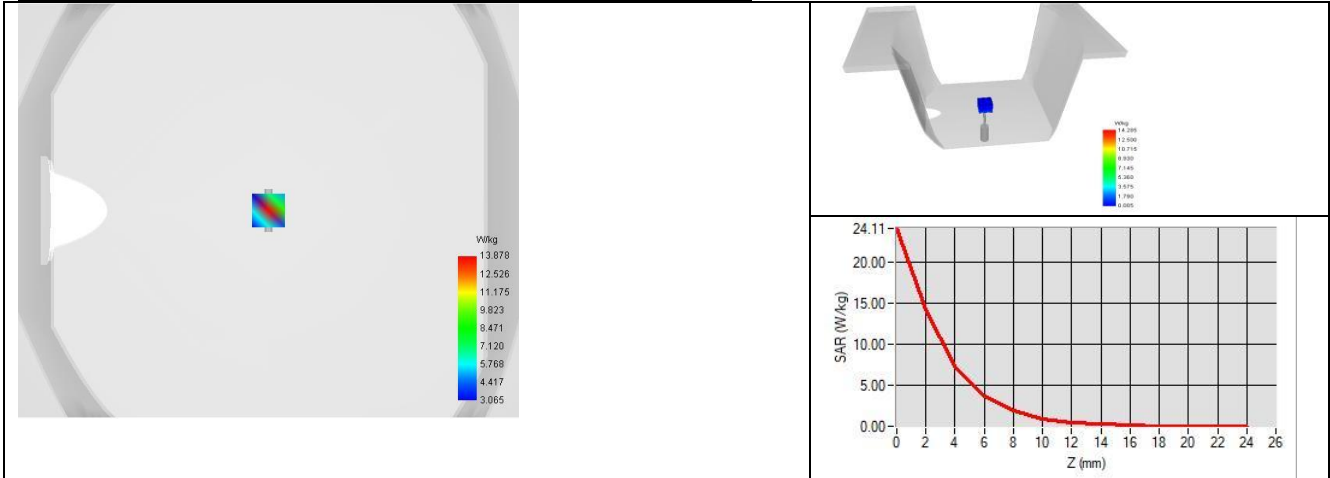
7.2 SAR MEASUREMENT RESULT WITH HEAD LIQUID

At those frequencies, the target SAR value can not be generic. Hereunder is the target SAR value defined by MVG, within the uncertainty for the system validation. All SAR values are normalized to 1 W net power. In bracket, the measured SAR is given with the used input power.

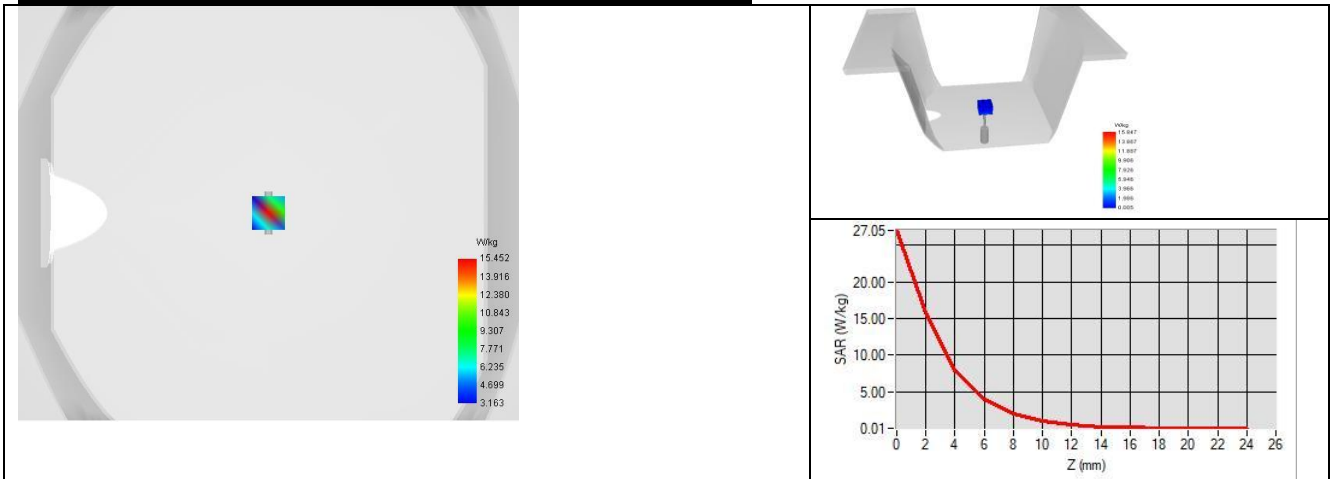
Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Head Liquid Values 5200 MHz: eps' :34.44 sigma : 4.64 Head Liquid Values 5400 MHz: eps' :33.63 sigma : 4.88 Head Liquid Values 5600 MHz: eps' :32.80 sigma : 5.12 Head Liquid Values 5800 MHz: eps' :32.63 sigma : 5.31
Distance between dipole and liquid	10 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=4mm/dy=4m/dz=2mm
Frequency	5200 MHz 5400 MHz 5600 MHz 5800 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-70 %

Frequency (MHz)	1 g SAR (W/kg)		10 g SAR (W/kg)	
	required	measured	required	measured
5200	76.50	73.88 (7.39)	21.60	21.29 (2.13)
5400	-	81.47 (8.15)	-	23.23 (2.32)
5600	-	78.71 (7.87)	-	22.64 (2.26)
5800	78.00	74.21 (7.42)	21.90	21.50 (2.15)

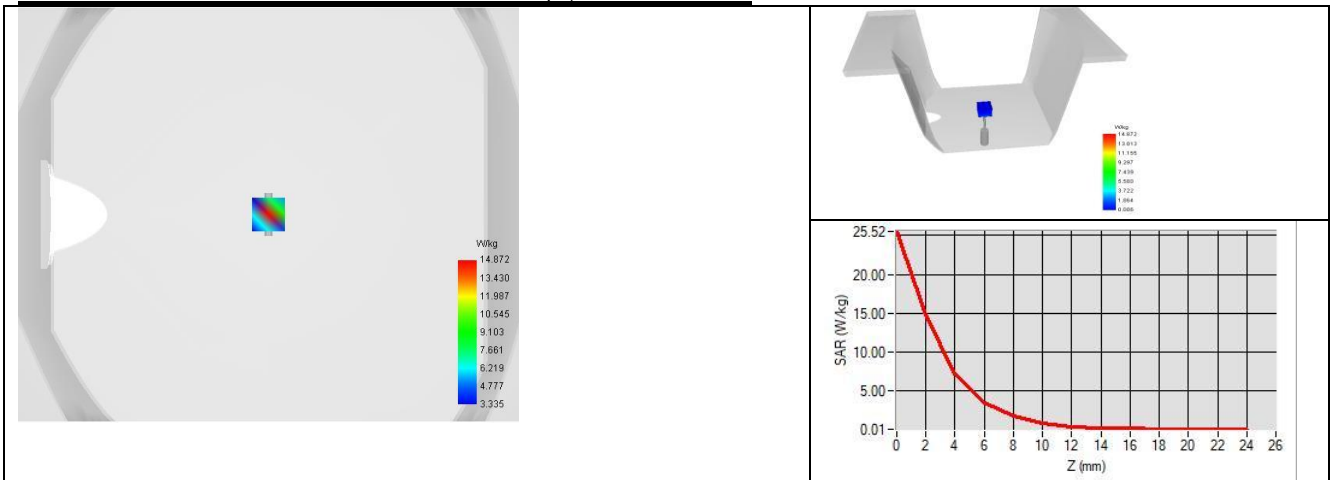
### SAR MEASUREMENT PLOTS @ 5200 MHz



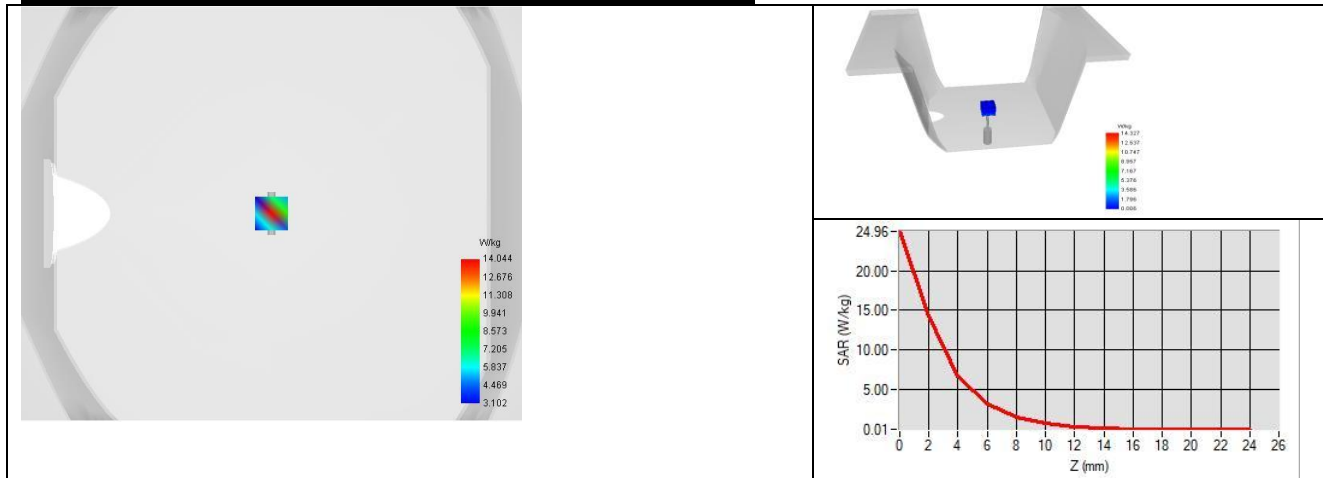
### SAR MEASUREMENT PLOTS @ 5400 MHz



### SAR MEASUREMENT PLOTS @ 5600 MHz



### SAR MEASUREMENT PLOTS @ 5800 MHz



7.3 BODY LIQUID MEASUREMENT

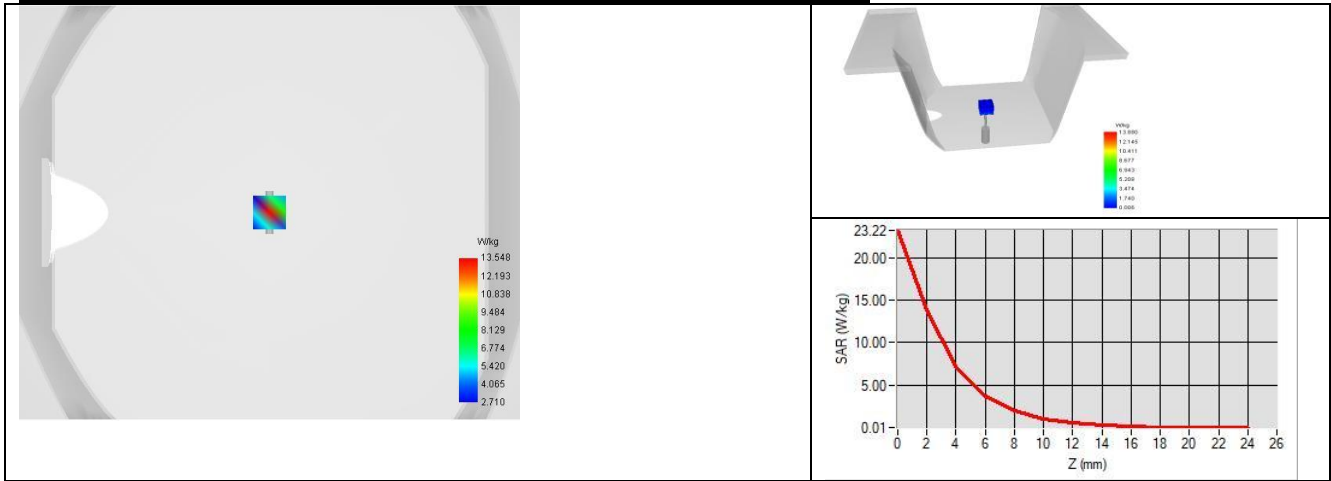
Frequency MHz	Relative permittivity ( $\epsilon_r'$ )		Conductivity ( $\sigma$ ) S/m	
	required	measured	required	measured
5200	49.0 ±10 %	45.50	5.30 ±10 %	5.63
5300	48.9 ±10 %		5.42 ±10 %	
5400	48.7 ±10 %	44.78	5.53 ±10 %	5.95
5500	48.6 ±10 %		5.65 ±10 %	
5600	48.5 ±10 %	44.85	5.77 ±10 %	6.26
5800	48.2 ±10 %	44.45	6.00 ±10 %	6.58

7.4 SAR MEASUREMENT RESULT WITH BODY LIQUID

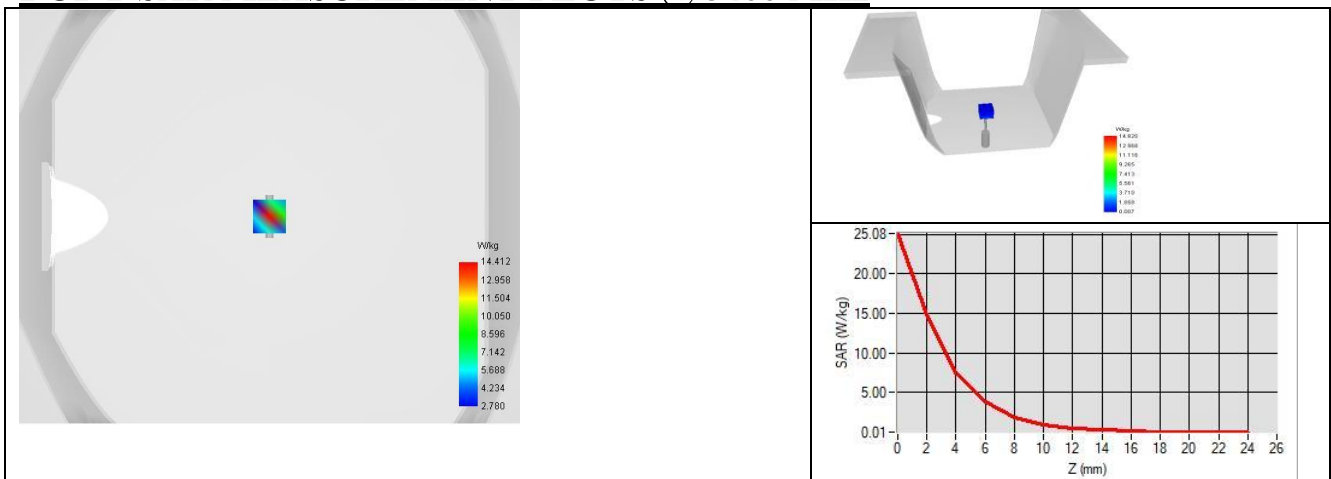
Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Body Liquid Values 5200 MHz: $\epsilon_r'$ :45.50 sigma : 5.63 Body Liquid Values 5400 MHz: $\epsilon_r'$ :44.78 sigma : 5.95 Body Liquid Values 5600 MHz: $\epsilon_r'$ :44.85 sigma : 6.26 Body Liquid Values 5800 MHz: $\epsilon_r'$ :44.45 sigma : 6.58
Distance between dipole and liquid	10 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=4mm/dy=4m/dz=2mm
Frequency	5200 MHz 5400 MHz 5600 MHz 5800 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-70 %

Frequency (MHz)	1 g SAR (W/kg)	10 g SAR (W/kg)
	measured	measured
5200	71.75 (7.18)	20.38 (2.04)
5400	75.93 (7.59)	21.44 (2.14)
5600	77.44 (7.74)	22.16 (2.22)
5800	69.01 (6.90)	19.75 (1.97)

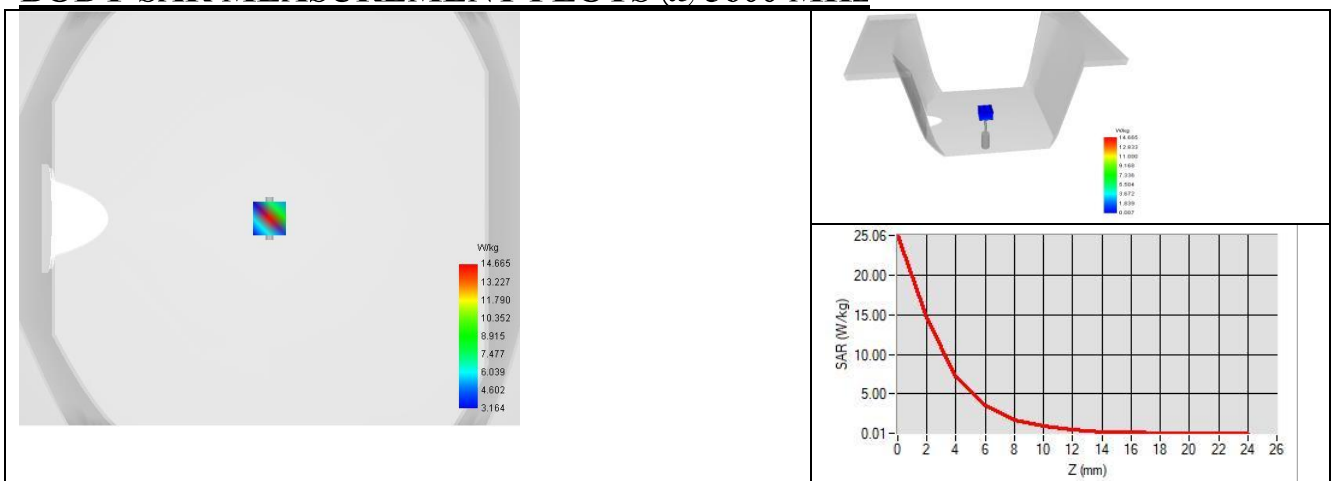
### BODY SAR MEASUREMENT PLOTS @ 5200 MHz



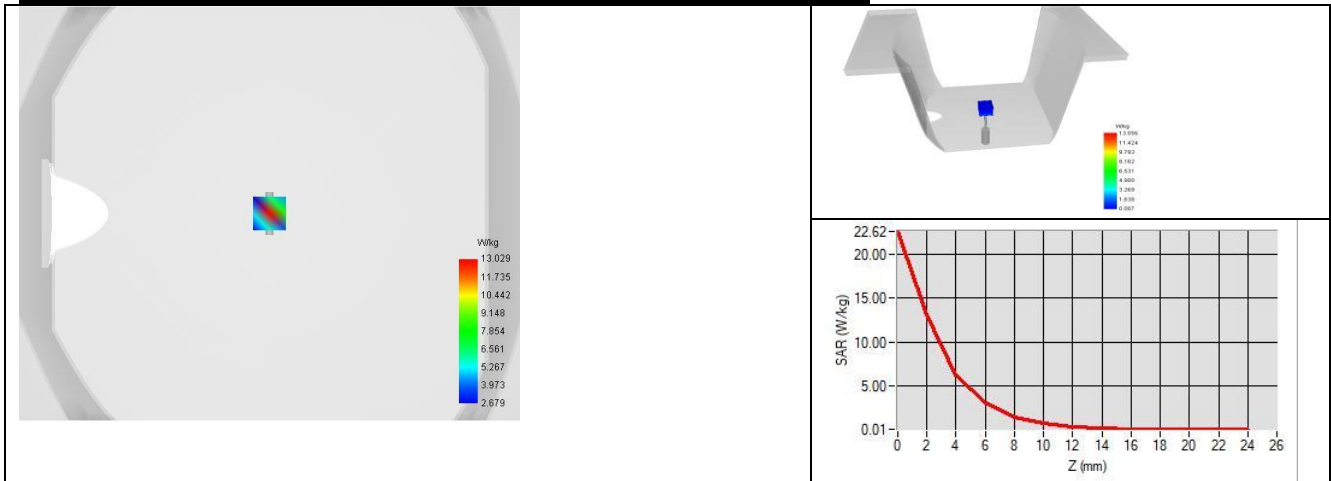
### BODY SAR MEASUREMENT PLOTS @ 5400 MHz



### BODY SAR MEASUREMENT PLOTS @ 5600 MHz



**BODY SAR MEASUREMENT PLOTS @ 5800 MHz**





8 LIST OF EQUIPMENT

Equipment Summary Sheet				
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date
SAM Phantom	MVG	SN 13/09 SAM68	Validated. No cal required.	Validated. No cal required.
COMOSAR Test Bench	Version 3	NA	Validated. No cal required.	Validated. No cal required.
Network Analyzer	Rohde & Schwarz ZVM	100203	08/2021	08/2024
Network Analyzer	Agilent 8753ES	MY40003210	10/2021	10/2024
Network Analyzer – Calibration kit	Rohde & Schwarz ZV-Z235	101223	05/2021	05/2024
Network Analyzer – Calibration kit	HP 85033D	3423A08186	06/2021	06/2027
Calipers	Mitutoyo	SN 0009732	10/2021	10/2024
Reference Probe	MVG	SN 41/18 EPGO333	10/2021	10/2024
Multimeter	Keithley 2000	1160271	02/2021	02/2024
Signal Generator	Rohde & Schwarz SMB	106589	04/2021	04/2024
Amplifier	MVG	MODU-023-C-0002	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Power Meter	NI-USB 5680	170100013	06/2021	06/2024
Power Meter	Rohde & Schwarz NRVD	832839-056	11/2021	11/2024
Directional Coupler	Krytar 158020	131467	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Temperature / Humidity Sensor	Testo 184 H1	44225320	06/2021	06/2024



# Dielectric Probe Calibration Report

Ref : ACR.49.20.22.BES.A

**BTF TESTING LAB (SHENZHEN) CO., LTD.**  
**F101,201 AND 301, BUILDING 1, BLOCK 2, TANTOU**  
**INDUSTRIAL PARK, TANTOU COMMUNITY**  
**SONGGANG STREET, BAO'AN DISTRICT, SHENZHEN,**  
**CHINA**

**MVG LIMESAR DIELECTRIC PROBE**  
**FREQUENCY: 0.4-6 GHZ**  
**SERIAL NO.: SN 06/22 OCPG 88**

**Calibrated at MVG**  
**Z.I. de la pointe du diable**  
**Technopôle Brest Iroise – 295 avenue Alexis de Rochon**  
**29280 PLOUZANE - FRANCE**

**Calibration date: 02/02/2024**

Accreditations #2-6789  
Scope available on [www.cofrac.fr](http://www.cofrac.fr)

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*Summary:*

This document presents the method and results from an accredited Dielectric Probe calibration performed at MVG, using the LIMESAR test bench. The test results covered by accreditation are traceable to the International System of Units (SI).