

Plot 35

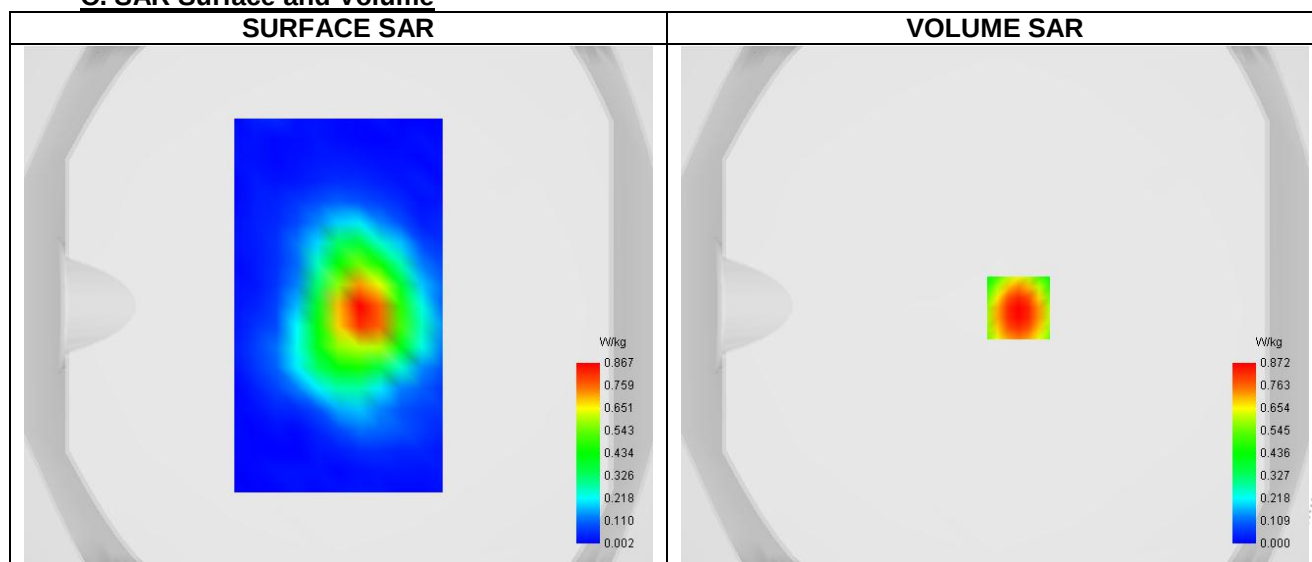
A. Experimental conditions.

Probe	SN 25/22 EPG0373
ConvF	2.86
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Body
Band	IEEE 802.11a U-NII-3
Channels	High
Signal	IEEE802.a (Crest factor: 1.0)

B. Permittivity

Frequency (MHz)	5825.000
Relative permittivity (real part)	34.670
Relative permittivity (imaginary part)	16.370
Conductivity (S/m)	5.228

C. SAR Surface and Volume

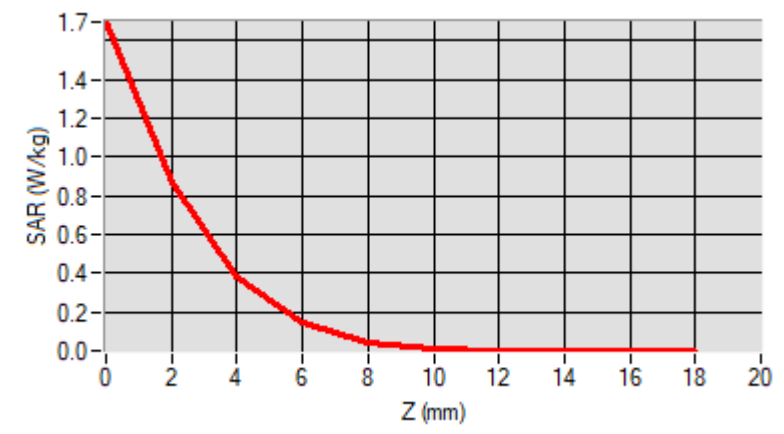


D. SAR 1g & 10g

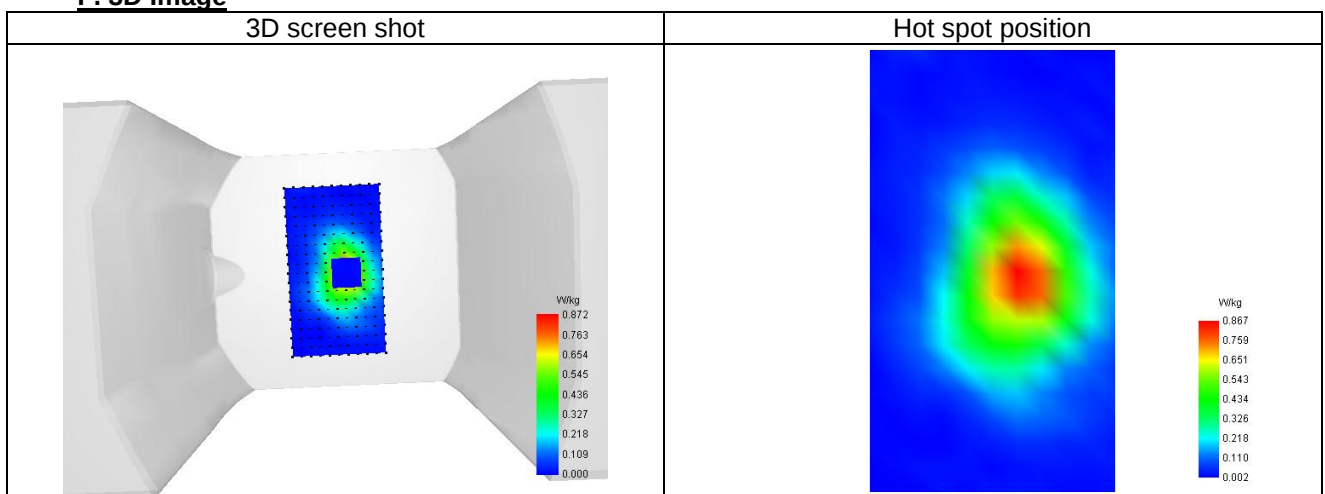
SAR 10g (W/Kg)	0.156
SAR 1g (W/Kg)	0.483
Variation (%)	1.170
Horizontal validation criteria: minimum distance (mm)	--
Vertical validation criteria: SAR ratio M2/M1 (%)	--

E. Z Axis Scan

Z (mm)	0.00	2.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00
SAR (W/Kg)	1.694	0.872	0.388	0.147	0.048	0.014	0.004	0.003	0.004

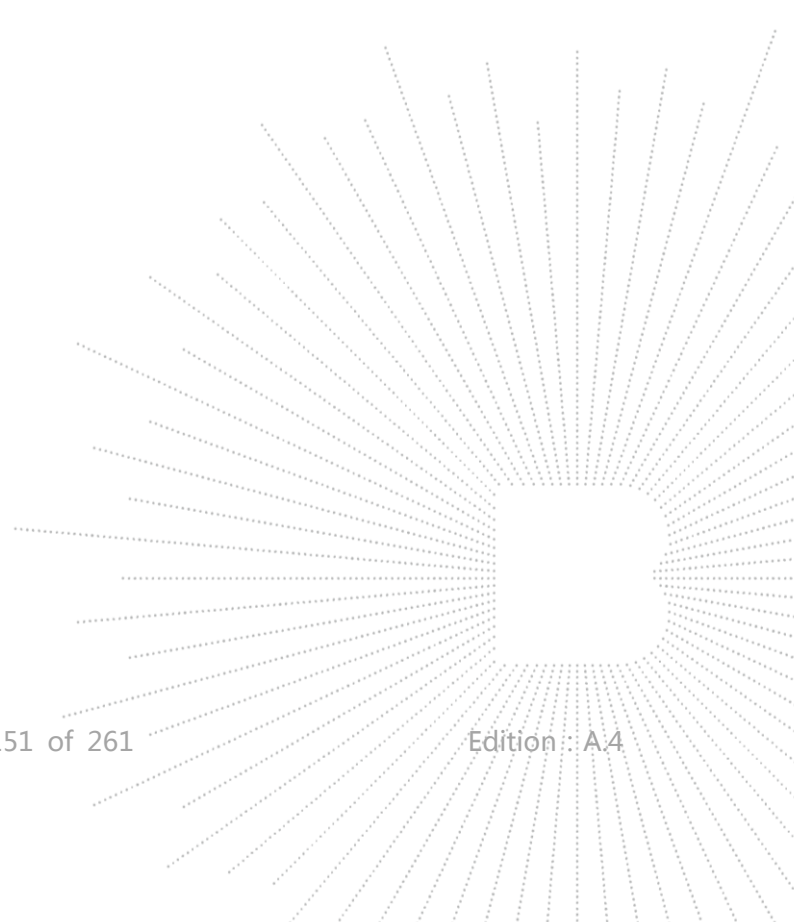


F. 3D Image



16. CALIBRATION CERTIFICATES

Probe-EPGO373 Calibration Certificate
SID750Dipole Calibration Certificate
SID835Dipole Calibration Certificate
SID1800Dipole Calibration Certificate
SID1900Dipole Calibration Certificate
SID2450Dipole Calibration Certificate
SID2600Dipole Calibration Certificate
SID5000Dipole Calibration Certificate





COMOSAR E-Field Probe Calibration Report

Ref : ACR.180.5.22.BES.A

SHENZHEN BCTC TECHNOLOGY CO., LTD.
1 ~2/ F, NO. B FACTORY BUILDING, PENGZHOU INDUSTRIAL
PARK, FUYUAN 1ST ROAD,
TANGWEI COMMUNITY, FUHAI STREET, BAO'AN DISTRICT,
SHENZHEN, GUANGDONG, CHINA
MVG COMOSAR DOSIMETRIC E-FIELD PROBE
SERIAL NO.: SN 25/22 EPG0373

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

Calibration date: 06/29/2022



Accreditations #2-6789
Scope available on www.cofrac.fr

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Summary:

This document presents the method and results from an accredited COMOSAR Dosimetric E-Field Probe calibration performed at MVG, using the CALIPROBE test bench, for use with a MVG COMOSAR system only. The test results covered by accreditation are traceable to the International System of Units (SI).

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COMOSAR E-FIELD PROBE CALIBRATION REPORT

Ref ACR.180.5.22.BES.A

	<i>Name</i>	<i>Function</i>	<i>Date</i>	<i>Signature</i>
<i>Prepared by :</i>	Jérôme Le Gall	Measurement Responsible	6/30/2022	
<i>Checked & approved by:</i>	Jérôme Luc	Technical Manager	6/30/2022	
<i>Authorized by:</i>	Yann Toutain	Laboratory Director	6/30/2022	

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	<i>Customer Name</i>
<i>Distribution :</i>	Shenzhen BCTC Technology Co., Ltd.

<i>Issue</i>	<i>Name</i>	<i>Date</i>	<i>Modifications</i>
A	Jérôme Le Gall	6/30/2022	Initial release

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Template ACR.DDD.N.YY.MVGB.ISSUE COMOSAR Probe vK

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1 DEVICE UNDER TEST

Device Under Test	
Device Type	COMOSAR DOSIMETRIC E FIELD PROBE
Manufacturer	MVG
Model	SSE2
Serial Number	SN 25/22 EPG0373
Product Condition (new / used)	New
Frequency Range of Probe	0.15 GHz-6GHz
Resistance of Three Dipoles at Connector	Dipole 1: R1=0.234 MΩ Dipole 2: R2=0.195 MΩ Dipole 3: R3=0.250 MΩ

2 PRODUCT DESCRIPTION

2.1 GENERAL INFORMATION

MVG's COMOSAR E field Probes are built in accordance to the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards.



Figure 1 – MVG COMOSAR Dosimetric E field Probe

Probe Length	330 mm
Length of Individual Dipoles	2 mm
Maximum external diameter	8 mm
Probe Tip External Diameter	2.5 mm
Distance between dipoles / probe extremity	1 mm

3 MEASUREMENT METHOD

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards provide recommended practices for the probe calibrations, including the performance characteristics of interest and methods by which to assess their affect. All calibrations / measurements performed meet the fore mentioned standards.

3.1 LINEARITY

The evaluation of the linearity was done in free space using the waveguide, performing a power sweep to cover the SAR range 0.01W/kg to 100W/kg.

3.2 SENSITIVITY

The sensitivity factors of the three dipoles were determined using a two step calibration method (air and tissue simulating liquid) using waveguides as outlined in the standards.

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3.3 LOWER DETECTION LIMIT

The lower detection limit was assessed using the same measurement set up as used for the linearity measurement. The required lower detection limit is 10 mW/kg.

3.4 ISOTROPY

The axial isotropy was evaluated by exposing the probe to a reference wave from a standard dipole with the dipole mounted under the flat phantom in the test configuration suggested for system validations and checks. The probe was rotated along its main axis from 0 to 360 degrees in 15-degree steps. The hemispherical isotropy is determined by inserting the probe in a thin plastic box filled with tissue-equivalent liquid, with the plastic box illuminated with the fields from a half wave dipole. The dipole is rotated about its axis (0°–180°) in 15° increments. At each step the probe is rotated about its axis (0°–360°).

3.1 BOUNDARY EFFECT

The boundary effect is defined as the deviation between the SAR measured data and the expected exponential decay in the liquid when the probe is oriented normal to the interface. To evaluate this effect, the liquid filled flat phantom is exposed to fields from either a reference dipole or waveguide. With the probe normal to the phantom surface, the peak spatial average SAR is measured and compared to the analytical value at the surface.

The boundary effect uncertainty can be estimated according to the following uncertainty approximation formula based on linear and exponential extrapolations between the surface and $d_{be} + d_{step}$ along lines that are approximately normal to the surface:

$$SAR_{uncertainty} [\%] = \Delta SAR_{be} \frac{(d_{be} + d_{step})^2}{2d_{step}} \frac{(e^{-d_{be}/\delta})^2}{\delta/2} \quad \text{for } (d_{be} + d_{step}) < 10 \text{ mm}$$

where

$SAR_{uncertainty}$	is the uncertainty in percent of the probe boundary effect
d_{be}	is the distance between the surface and the closest <i>zoom-scan</i> measurement point, in millimetre
Δ_{step}	is the separation distance between the first and second measurement points that are closest to the phantom surface, in millimetre, assuming the boundary effect at the second location is negligible
δ	is the minimum penetration depth in millimetres of the head tissue-equivalent liquids defined in this standard, i.e., $\delta \approx 14 \text{ mm}$ at 3 GHz;
ΔSAR_{be}	in percent of SAR is the deviation between the measured SAR value, at the distance d_{be} from the boundary, and the analytical SAR value.

The measured worst case boundary effect SAR uncertainty[%] for scanning distances larger than 4mm is 1.0% Limit ,2%).



4 MEASUREMENT UNCERTAINTY

The guidelines outlined in the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards were followed to generate the measurement uncertainty associated with an E-field probe calibration using the waveguide technique. All uncertainties listed below represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$, traceable to the Internationally Accepted Guides to Measurement Uncertainty.

Uncertainty analysis of the probe calibration in waveguide					
ERROR SOURCES	Uncertainty value (%)	Probability Distribution	Divisor	ci	Standard Uncertainty (%)
Expanded uncertainty 95 % confidence level $k = 2$					14 %

5 CALIBRATION MEASUREMENT RESULTS

Calibration Parameters	
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-70 %

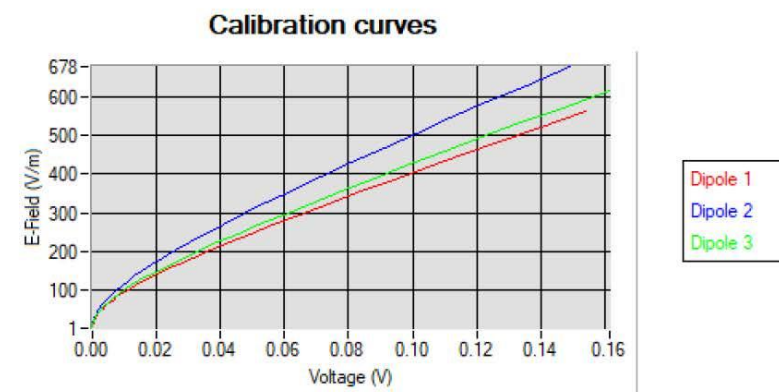
5.1 SENSITIVITY IN AIR

Normx dipole 1 ($\mu\text{V}/(\text{V}/\text{m})^2$)	Normy dipole 2 ($\mu\text{V}/(\text{V}/\text{m})^2$)	Normz dipole 3 ($\mu\text{V}/(\text{V}/\text{m})^2$)
1.19	0.77	1.05

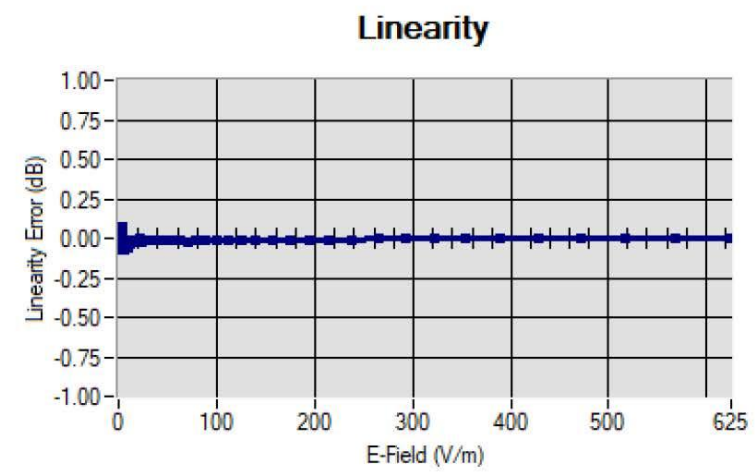
DCP dipole 1 (mV)	DCP dipole 2 (mV)	DCP dipole 3 (mV)
108	109	110

Calibration curves $e_i=f(V)$ ($i=1,2,3$) allow to obtain E-field value using the formula:

$$E = \sqrt{E_1^2 + E_2^2 + E_3^2}$$



5.2 LINEARITY



Linearity: $\pm 1.77\%$ ($\pm 0.08\text{dB}$)

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5.3 SENSITIVITY IN LIQUID

<u>Liquid</u>	<u>Frequency (MHz +/- 100MHz)</u>	<u>ConvF</u>
HL450*	450*	3.00*
BL450*	450*	2.83*
HL750	750	2.96
BL750	750	3.07
HL850	835	3.01
BL850	835	3.13
HL900	900	3.08
BL900	900	3.18
HL1800	1800	3.35
BL1800	1800	3.42
HL1900	1900	3.27
BL1900	1900	3.55
HL2100	2100	3.77
BL2100	2100	3.92
HL2300	2300	3.77
BL2300	2300	3.94
HL2450	2450	3.96
BL2450	2450	4.13
HL2600	2600	3.63
BL2600	2600	3.79
HL5200	5200	2.72
BL5200	5200	2.45
HL5400	5400	2.92
BL5400	5400	2.74
HL5600	5600	3.09
BL5600	5600	2.90
HL5800	5800	2.86
BL5800	5800	2.72

* Frequency not cover by COFRAC scope, calibration not accredited

LOWER DETECTION LIMIT: 7mW/kg

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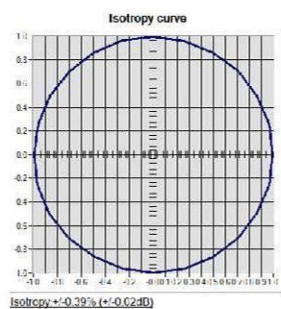
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5.4 ISOTROPY

HL1800 MHz



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6 LIST OF EQUIPMENT

Equipment Summary Sheet				
Equipment Description	Manufacturer / Model	Identification No.	Current Calibration Date	Next Calibration Date
CALIPROBE Test Bench	Version 2	NA	Validated. No cal required.	Validated. No cal required.
Network Analyzer	Rohde & Schwarz ZVM	100203	08/2021	08/2024
Network Analyzer	Agilent 8753ES	MY40003210	10/2019	10/2022
Network Analyzer – Calibration kit	HP 85033D	3423A08186	06/2021	06/2027
Multimeter	Keithley 2000	1160271	02/2020	02/2023
Signal Generator	Rohde & Schwarz SMB	106589	03/2022	03/2025
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	11/2019	11/2022
Directional Coupler	Krytar 158020	131467	Characterized prior to test. No cal required.	Characterized prior to test. No cal required.
Waveguide	MVG	SN 32/16 WG4_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_0G900_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG6_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G500_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG8_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G800B_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_1G800H_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG10_1	Validated. No cal required.	Validated. No cal required.
Liquid transition	MVG	SN 32/16 WGLIQ_3G500_1	Validated. No cal required.	Validated. No cal required.
Waveguide	MVG	SN 32/16 WG12_1	Validated. No cal required.	Validated. No cal required.

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**COMOSAR E-FIELD PROBE CALIBRATION REPORT**

Ref: ACR.180.5.22.BES.A

Liquid transition	MVG	SN 32/16 WGLIQ_5G000_1	Validated. No cal required.	Validated. No cal required.
Temperature / Humidity Sensor	Testo 184 H1	44225320	06/2021	06/2024

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SAR Reference Dipole Calibration Report

Ref : ACR.329.8.21.BES.A

SHENZHEN BCTC TECHNOLOGY CO., LTD.

**1 ~2/ F, NO. B FACTORY BUILDING, PENGZHOU
INDUSTRIAL PARK, FUYUAN 1ST ROAD,
TANGWEI COMMUNITY, FUHAI STREET, BAO'AN
DISTRICT, SHENZHEN, GUANGDONG, CHINA
MVG COMOSAR REFERENCE DIPOLE**

FREQUENCY: 750 MHZ

SERIAL NO.: SN 47/21 DIP 0G750-620

Calibrated at MVG

Z.I. de la pointe du diable

**Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE**

Calibration date: 11/25/2021



Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

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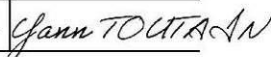
Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed in MVG using the COMOSAR test bench. All calibration results are traceable to national metrology institutions.

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SAR REFERENCE DIPOLE CALIBRATION REPORT

Ref ACR.329.8.21.BES.A

	<i>Name</i>	<i>Function</i>	<i>Date</i>	<i>Signature</i>
<i>Prepared by :</i>	Jérôme Luc	Technical Manager	11/25/2021	
<i>Checked by :</i>	Jérôme Luc	Technical Manager	11/25/2021	
<i>Approved by :</i>	Yann Toutain	Laboratory Director	11/25/2021	 2021.11.25 11:51:55 +01'00'

	<i>Customer Name</i>
<i>Distribution :</i>	Shenzhen BCTC Technology Co., Ltd.

<i>Issue</i>	<i>Name</i>	<i>Date</i>	<i>Modifications</i>
A	Jérôme Luc	11/25/2021	Initial release

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Template ACR.DDD.N.YY.MVGB.ISSUE SAR Reference Dipole vJ

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1 INTRODUCTION

This document contains a summary of the requirements set forth by the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards for reference dipoles used for SAR measurement system validations and the measurements that were performed to verify that the product complies with the fore mentioned standards.

2 DEVICE UNDER TEST

Device Under Test	
Device Type	COMOSAR 750 MHz REFERENCE DIPOLE
Manufacturer	MVG
Model	SID750
Serial Number	SN 47/21 DIP 0G750-620
Product Condition (new / used)	New

3 PRODUCT DESCRIPTION

3.1 GENERAL INFORMATION

MVG's COMOSAR Validation Dipoles are built in accordance to the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards. The product is designed for use with the COMOSAR test bench only.



Figure 1 – MVG COMOSAR Validation Dipole

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4 MEASUREMENT METHOD

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards provide requirements for reference dipoles used for system validation measurements. The following measurements were performed to verify that the product complies with the fore mentioned standards.

4.1 RETURN LOSS REQUIREMENTS

The dipole used for SAR system validation measurements and checks must have a return loss of -20 dB or better. The return loss measurement shall be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. A direct method is used with a network analyser and its calibration kit, both with a valid ISO17025 calibration.

4.2 MECHANICAL REQUIREMENTS

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards specify the mechanical components and dimensions of the validation dipoles, with the dimension's frequency and phantom shell thickness dependent. The COMOSAR test bench employs a 2 mm phantom shell thickness therefore the dipoles sold for use with the COMOSAR test bench comply with the requirements set forth for a 2 mm phantom shell thickness. A direct method is used with a ISO17025 calibrated caliper.

5 MEASUREMENT UNCERTAINTY

All uncertainties listed below represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$, traceable to the Internationally Accepted Guides to Measurement Uncertainty.

5.1 RETURN LOSS

The following uncertainties apply to the return loss measurement:

Frequency band	Expanded Uncertainty on Return Loss
400-6000MHz	0.08 LIN

5.2 DIMENSION MEASUREMENT

The following uncertainties apply to the dimension measurements:

Length (mm)	Expanded Uncertainty on Length
0 - 300	0.20 mm
300 - 450	0.44 mm

5.3 VALIDATION MEASUREMENT

The guidelines outlined in the IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards were followed to generate the measurement uncertainty for validation measurements.

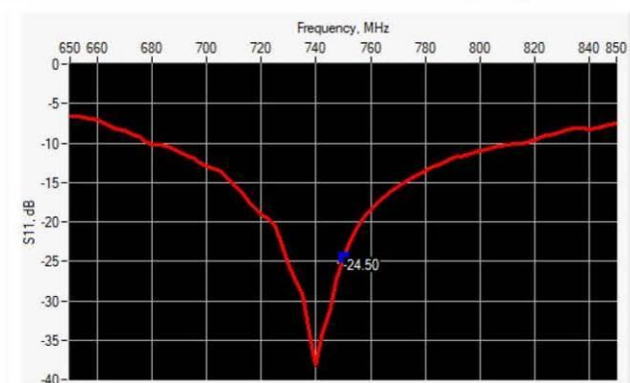

SAR REFERENCE DIPOLE CALIBRATION REPORT

Ref: ACR.329.8.21.BES.A

Scan Volume	Expanded Uncertainty
1 g	19 % (SAR)
10 g	19 % (SAR)

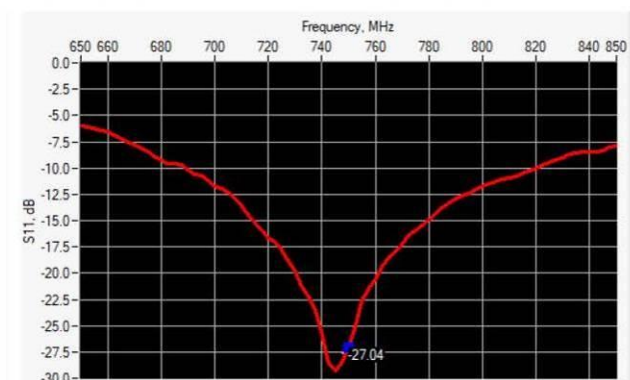
6 CALIBRATION MEASUREMENT RESULTS

6.1 RETURN LOSS AND IMPEDANCE IN HEAD LIQUID



Frequency (MHz)	Return Loss (dB)	Requirement (dB)	Impedance
750	-24.50	-20	$55.7 \Omega - 1.7 j\Omega$

6.2 RETURN LOSS AND IMPEDANCE IN BODY LIQUID



Frequency (MHz)	Return Loss (dB)	Requirement (dB)	Impedance
750	-27.04	-20	$53.8 \Omega + 2.3 j\Omega$

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6.3 MECHANICAL DIMENSIONS

Frequency MHz	L mm		h mm		d mm	
	required	measured	required	measured	required	measured
300	420.0 ± 1 %.		250.0 ± 1 %.		6.35 ± 1 %.	
450	290.0 ± 1 %.		166.7 ± 1 %.		6.35 ± 1 %.	
750	176.0 ± 1 %.	177.28	100.0 ± 1 %.	99.79	6.35 ± 1 %.	6.35
835	161.0 ± 1 %.		89.8 ± 1 %.		3.6 ± 1 %.	
900	149.0 ± 1 %.		83.3 ± 1 %.		3.6 ± 1 %.	
1450	89.1 ± 1 %.		51.7 ± 1 %.		3.6 ± 1 %.	
1500	86.2 ± 1 %.		50.0 ± 1 %.		3.6 ± 1 %.	
1640	79.0 ± 1 %.		45.7 ± 1 %.		3.6 ± 1 %.	
1750	75.2 ± 1 %.		42.9 ± 1 %.		3.6 ± 1 %.	
1800	72.0 ± 1 %.		41.7 ± 1 %.		3.6 ± 1 %.	
1900	68.0 ± 1 %.		39.5 ± 1 %.		3.6 ± 1 %.	
1950	66.3 ± 1 %.		38.5 ± 1 %.		3.6 ± 1 %.	
2000	64.5 ± 1 %.		37.5 ± 1 %.		3.6 ± 1 %.	
2100	61.0 ± 1 %.		35.7 ± 1 %.		3.6 ± 1 %.	
2300	55.5 ± 1 %.		32.6 ± 1 %.		3.6 ± 1 %.	
2450	51.5 ± 1 %.		30.4 ± 1 %.		3.6 ± 1 %.	
2600	48.5 ± 1 %.		28.8 ± 1 %.		3.6 ± 1 %.	
3000	41.5 ± 1 %.		25.0 ± 1 %.		3.6 ± 1 %.	
3300	-		-		-	
3500	37.0 ± 1 %.		26.4 ± 1 %.		3.6 ± 1 %.	
3700	34.7 ± 1 %.		26.4 ± 1 %.		3.6 ± 1 %.	
3900	-		-		-	
4200	-		-		-	
4600	-		-		-	
4900	-		-		-	

7 VALIDATION MEASUREMENT

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

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7.1 HEAD LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ϵ_r)		Conductivity (σ) S/m	
	required	measured	required	measured
300	45.3 $\pm$ 10 %		0.87 $\pm$ 10 %	
450	43.5 $\pm$ 10 %		0.87 $\pm$ 10 %	
750	41.9 $\pm$ 10 %	41.0	0.89 $\pm$ 10 %	0.82
835	41.5 $\pm$ 10 %		0.90 $\pm$ 10 %	
900	41.5 $\pm$ 10 %		0.97 $\pm$ 10 %	
1450	40.5 $\pm$ 10 %		1.20 $\pm$ 10 %	
1500	40.4 $\pm$ 10 %		1.23 $\pm$ 10 %	
1640	40.2 $\pm$ 10 %		1.31 $\pm$ 10 %	
1750	40.1 $\pm$ 10 %		1.37 $\pm$ 10 %	
1800	40.0 $\pm$ 10 %		1.40 $\pm$ 10 %	
1900	40.0 $\pm$ 10 %		1.40 $\pm$ 10 %	
1950	40.0 $\pm$ 10 %		1.40 $\pm$ 10 %	
2000	40.0 $\pm$ 10 %		1.40 $\pm$ 10 %	
2100	39.8 $\pm$ 10 %		1.49 $\pm$ 10 %	
2300	39.5 $\pm$ 10 %		1.67 $\pm$ 10 %	
2450	39.2 $\pm$ 10 %		1.80 $\pm$ 10 %	
2600	39.0 $\pm$ 10 %		1.96 $\pm$ 10 %	
3000	38.5 $\pm$ 10 %		2.40 $\pm$ 10 %	
3300	38.2 $\pm$ 10 %		2.71 $\pm$ 10 %	
3500	37.9 $\pm$ 10 %		2.91 $\pm$ 10 %	
3700	37.7 $\pm$ 10 %		3.12 $\pm$ 10 %	
3900	37.5 $\pm$ 10 %		3.32 $\pm$ 10 %	
4200	37.1 $\pm$ 10 %		3.63 $\pm$ 10 %	
4600	36.7 $\pm$ 10 %		4.04 $\pm$ 10 %	
4900	36.3 $\pm$ 10 %		4.35 $\pm$ 10 %	

7.2 SAR MEASUREMENT RESULT WITH HEAD LIQUID

The IEC/IEEE 62209-1528 and FCC KDB865664 D01 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

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SAR REFERENCE DIPOLE CALIBRATION REPORT

Ref ACR.329.8.21.BES.A

Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Head Liquid Values: ϵ_{ps}^* : 41.0 σ : 0.82
Distance between dipole center and liquid	15.0 mm
Area scan resolution	$dx=8mm/dy=8mm$
Zoon Scan Resolution	$dx=8mm/dy=8mm/dz=5mm$
Frequency	750 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/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49	8.58 (0.86)	5.55	5.59 (0.56)
835	9.56		6.22	
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4		20.1	
1900	39.7		20.5	
1950	40.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7		23.3	
2450	52.4		24	
2600	55.3		24.6	
3000	63.8		25.7	
3300	-		-	
3500	67.1		25	
3700	67.4		24.2	
3900	-		-	
4200	-		-	
4600	-		-	
4900	-		-	

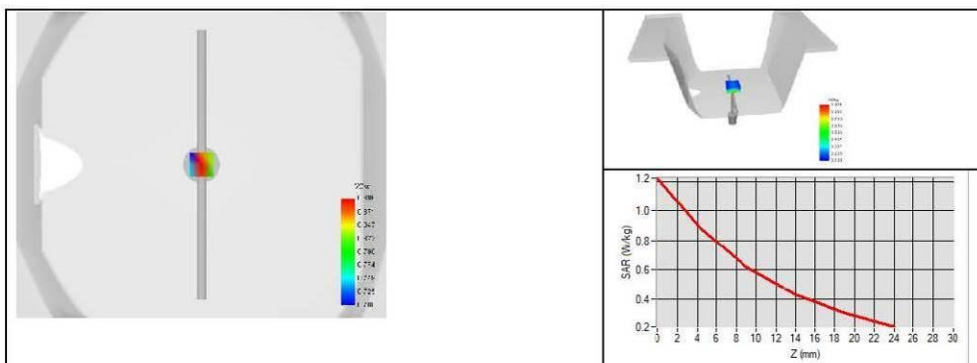
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