

COMOSAR Twin configuration



## TECHNOLOGY

- Specific Absorption Rate (SAR) measurement

## SOLUTION FOR

- Mobile equipment device development
- Mobile equipment device testing
- Mobile equipment device certification
- Any equipment radiating close to the body

MVG provides a complete line of SAR equipment to ensure compliancy with certification standards as well as flexibility in terms of set-up and use. The COMOSAR systems are available in four configurations: with one, two, three or four phantom tables. The COMOSAR standard benches are complete turn-key systems which include a set of equipment and accessories to cover all customer requirements.

## Main features

### Measurement capabilities

- Head and Body SAR Measurement
- Enhanced HAC Testing capabilities available with additional COMOHAC kit

### Frequency bands

- 30 MHz to 6 GHz

## System configurations

### Software

- OPENSAR V5 (Under License) **NEW**

### Equipment

- SAM phantom
- Probe holder with security sensor
- Video positioning system
- Handset positioning system
- Multimeter with scan card
- A broad selection of phantoms\*
- Vector Network Analyzer (for liquid characterization)
- Network Simulator (to emulate Device Under Test)
- Signal Generator (for system validation)

### Accessories

- GPIB card
- GPIB cable
- GSM 900 head liquid (30 liters)
- GSM 1800 head liquid (30 liters)
- IEEE GSM 900 dipole
- IEEE GSM 1800 dipole
- GSM 835/900/1800/1900/2000 test antenna
- Probe shielded cable
- 3 GHz E-field probe
- 6 GHz E-field probe
- Validation dipoles

- Laptop positioning system
- Base station positioning system
- Dipole for additional frequencies
- Head and body liquids for additional frequencies

### Add on

- Liquid measurement kit (LIMESAR)
- SAR/HAC Probe calibration kit (CALIProbe) **NEW**
- HAC evaluation kit (COMOHAC)

### Document

- Acceptance report
- Calibration reports
- Cumulated uncertainty reports
- User manual

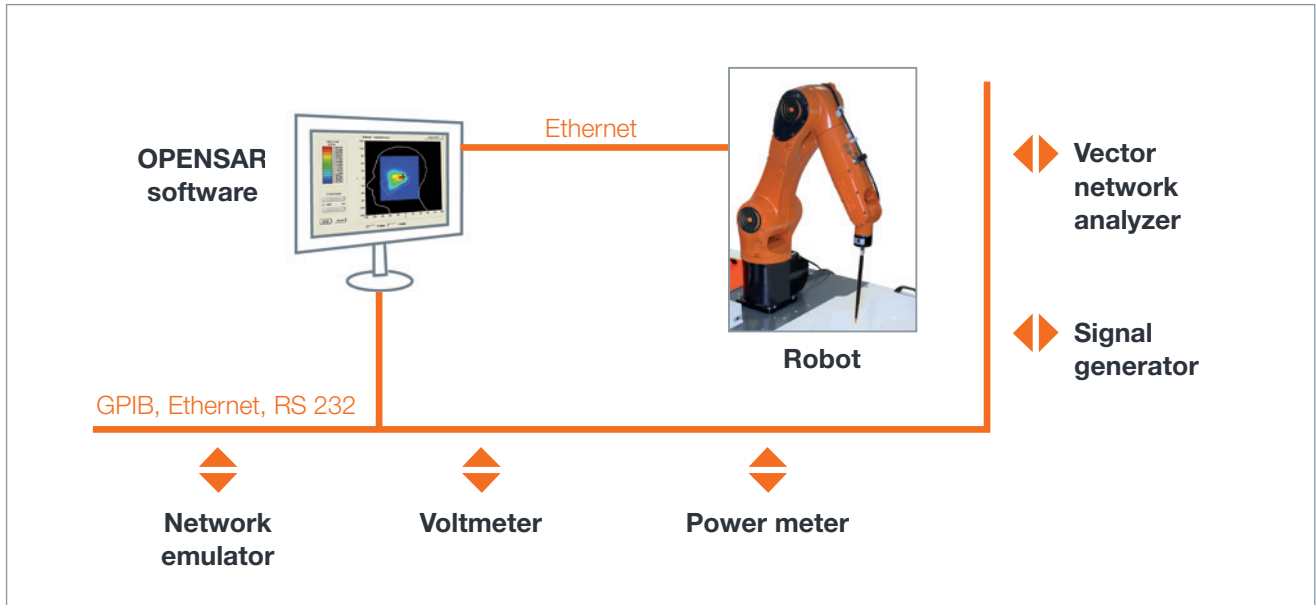
### Services

- SAR Probe calibration 900, 1800 MHz
- Installation
- Training
- 1 year warranty
- Probe calibration for additional frequencies
- Extended warranty

\* See a complete list of available SAM and flat phantoms in our SAR & HAC catalog.

■ Included    Optional   ○ Required

## System overview



## Compliance

COMOSAR bench has been developed to perform SAR measurements for the certification of device in full compliance with the international standards.

It is available with a range of additional equipment and accessories to cover all needs with regard to these standards.

## Flexible set-up

Set-up could be long, and is often the most time-consuming phase of the measurement; this is particularly true during R&D tests. In order to optimize the time of the overall measurement process, we offer full turn-key systems in four configurations: with 1, 2, 3 or 4 tables.

Our tables are compatible with any of our phantoms or kits (HAC or CALIProbe) and have been designed to stabilize mechanical performance over a long time period.

Our OPENSAR software already integrates drivers for the most commonly used RF equipment:

### List of available drivers\*

Network Simulator	Signal Generator	Power Meter	Vector Network Analyzer
Rohde & Schwarz CMU 200 <sup>(1)</sup> Rohde & Schwarz CMW 500 <sup>(1)</sup>	Rohde & Schwarz SMB, SML, SMT, SMIQ, SMP, SMR27, CMU 200	Rohde & Schwarz NRVD, NRVS, NRP-Z21	Rohde & Schwarz ZVA, ZVB, ZVL, ZVR
Anritsu MT8820	Agilent E8257C, ESG serie	Agilent E4416A, N191x	Anritsu MS4622B
Agilent 5515C	AnaPico APSIN6010	Anritsu ML2430, MA 24106 A	Agilent HP8753C, HP8753D, HP8753E, E5071B
Willtek 4200, 4400, 3100		Keithley 3500	Agilent 8357, 8510C, HP8753C/E, HP8753D, E5071B, N9923
Wavetek 3107S		National Instrument USB5680	

\* Additional drivers can be added upon request.  
(1) including audio capabilities

## Reduce measurement time

MVG has implemented several SW features to enhance the measurement speed:

- Controlling the radio tester allows the measurement of the 3 channels simultaneously through inter-channel handover (20% of measurement reducing).
- Adaptive path algorithm reduces the number of points measured during the area scan (divide measurement time up to 5).
- 3D truncation algorithm quickens the zoom scan process (divide measurement up to 5).

As a result, the combination of these algorithms brings measurement time for one channel down to 1 minute and for 3 channels down to 2 minutes for one handset in a given position.

## LIMESAR: an efficient solution to assess liquids properties

LIMESAR is a liquid measurement add-on. It enables the liquid properties to be checked and potential deviation over time to be consider for SAR calculations.

LIMESAR is directly operated from our OPENSAR SW allowing easier routine management. It can be also install on a separate computer in a liquid dedicated lab.

## Reduce measurement uncertainties

All components of the COMOSAR System have been designed to facilitate the exact positioning of probes, phantoms and Devices Under Test (DUT):

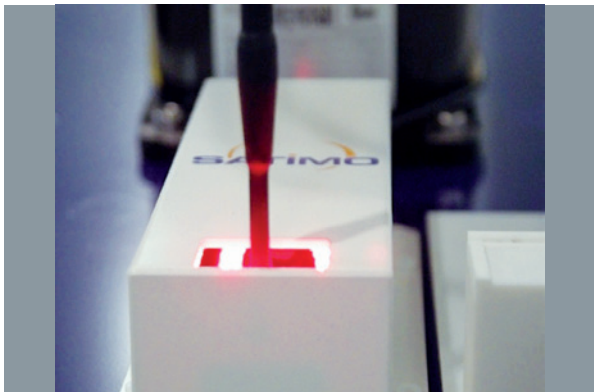
- A Video Positioning System (VPS) ensures the probes' position at  $\pm 0.1\text{mm}$ . VPS is fixed on the table plate and calibrated during the installation.
- The handset positioning system includes two rails with a precision  $< 1^\circ$ .
- Moving from the tilt to the cheek position is possible in 1 slide.
- The probes are made of high permittivity material to minimize E-field disturbance. Hence, it is possible to perform measurements without any amplification or embedded battery.

### COMOSAR

#### Mechanical

	SINGLE	TWIN	TRIO	QUAD
Dimensions (L, W, H)	1.00 x 0.62 x 2.00 m	1.00 x 1.44 x 2.00 m	2.74 x 2.74 x 2.00 m	2.74 x 2.74 x 2.00 m
Estimated room size*	3.00 x 3.00 x 2.50 m	3.00 x 3.00 x 2.50 m	4.00 x 4.00 x 3.00 m	4.00 x 4.00 x 3.00 m

\* RF instrumentation not included in the estimate



Video positioning system



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Contact your local sales representative for more information

[www.mvg-world.com](http://www.mvg-world.com)



[salesteam@mvg-world.com](mailto:salesteam@mvg-world.com)