

Be on time:

benefit from our fast measurement services!



SATIMO offers pre-test and certification measurement services for wireless devices, stand alone antennas and integrated antennas in 4 measurement facilities in the USA, France and Italy. In addition to advanced post-processing services, our measurement facilities offer the following measurement capabilities:

Antenna	Gain, directivity, beamwidth, cross polar discrimination, sidelobe levels, 3D radiation pattern, radiation pattern in any polarization (linear or circular), antenna efficiency, either in transmit or receive mode, advanced post-processing
OTA	Total Radiated Power (TRP), Total Isotropic Sensitivity (TIS), Effective Isotropic Radiated Power (EIRP), Effective Isotropic Sensitivity (EIS), GPS sensitivity (TIS, UHIS, PIGS, ICD)
SAR	Specific Absorption Rate
HAC	M ratings (microphone mode) and T ratings (telecoil mode) with Hearing Aid Compatibility devices

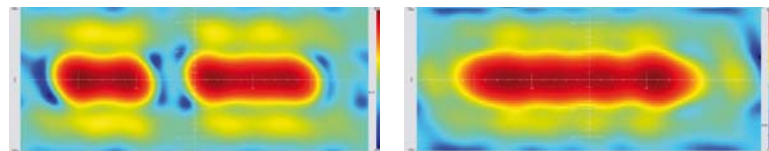
Benefit from full on-site support

We offer more than traditional “black box” measurement services.

- If required, our clients are welcome to support the measurement session in order to perform on-site trouble shooting and fine tuning of the antenna.
- Whether present on site or not, our Test Engineer can help with diagnostic performance evaluation and further post-processing possibilities.
- We measure antennas from all over the world. Our on-site administrative manager will be happy to assist you with the shipment and travel plan.

Get more from the results

Profit from our expertise in antenna and wireless devices measurements, and in the measurement systems we develop. Our Test Engineer will let you know immediately if any particular measurement configuration or post processing would be appropriate. Please consult the «select the results you need» section for additional information on our post-processing capabilities.



Example of back propagation post processing with SatMap to quickly identify the source of a defect



For antenna measurements, all our systems are able to

perform measurements in record speed, using our patented multi-probe technology (MV-Scan™). Faster measurements enable not only increased throughput, but real-time performance feedback and design tuning. It is not unusual for customers to measure over 30 antennas per day for full 3D, volumetric pattern measurements!



Choose the right equipment

A choice of measurement systems are available according to measurement specifications and the size of the device that needs to be measured. Further information on the equipment used in each of these facilities is detailed on the measurement services section of our website.

Available equipment worldwide								
	Equipment	Approximate max. DUT size ¹	Frequency Range	Certifications				
				CTIA ²	A2LA/ NIST ³	ISO 17025	ISO 9001	
Any kind of antenna or Over The Air	SG 64	179 cm / 70.47 in	0.4 to 6 GHz	✓	✓	✓	✓	
	SG 64	179 cm / 70.47 in	0.4 to 18 GHz	○	NA		✓	
	SG 24	134 cm / 52.75 in	0.4 to 6 GHz	○	NA		✓	
	StarLab	45 cm / 17.71 in	0.8 to 18 GHz	○	NA		✓	
Linear or BTS antennas	StarLab BTS	600 cm / 236.22 in	0.8 to 6 GHz	NA	NA		✓	
SAR				IEEE ⁴	FCC ⁵	IEC ⁶	EN ⁷	ISO 9001
	COMOSAR	100 cm	0.3 to 6 GHz	○	○	○	✓	✓
HAC							ANSI C63-19	ISO 9001
	COMOHAC	40 cm	Audio test	NA	○	NA	○	✓
			RF test 0.8 - 2.5 GHz	NA	○	NA	○	✓

✓ Facility/ Measurements are certified

- Max. DUT size depends on design and frequency range. Please consult us for more details.
- CTIA certified measurement for GSM, CDMA and WCDMA Over The Air (OTA) Total Radiated Power (TRP) and Total Isotropic Sensitivity (TIS) measurements.
- A2LA Certification 2246.02 and 2246.01 for calibration and electrical. The scope of accreditation is location-dependent and does not include the entire scope of SATIMO activities. The actual scope of accreditation is available on A2LA's website. NIST traceable gain calibration is available.

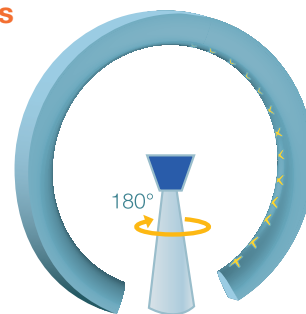
○ Measurements are comparable and appropriate for pre-testing stages

- IEEE 1528
- FCC OET Bulletin 65 (Ed.97-01), supplement C
- IEC 62209-1 and IEC 62209-2
- EN 50361:2001 and EN 50383



Antenna measurement: the advantages of our SG and StarLab systems

Our systems can perform cylindrical or spherical measurements, based on our probe array technology. For passive (cable-fed) measurements, post-processing options include back projection and holography, allowing the determination of the field values at the aperture, or on a particular plane or radius. As opposed to traditional single probe mechanical scanning, our technology is based on electronic scanning of an array of probes. This technology is faster, reduces mechanical movements, simplifies mounting, reduces setup time, and improves accuracy and repeatability.



■ Single Azimuth rotation required for full 3D measurement

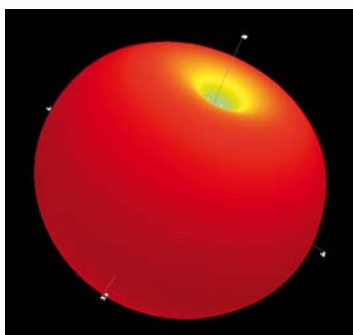
Faster measurement means faster service and higher throughput

Typical measurement time		
Mobile phone/OTA	TIS Measurement*	Less than 5 min
179 cm diameter antenna	3D pattern at 6 GHz**	Less than 3 min
45 cm diameter antenna	3D pattern at 18 GHz**	± 1 min
Mobile phone/SAR	1 position/ 1 frequency/ 1 channel	± 1 min 30 s

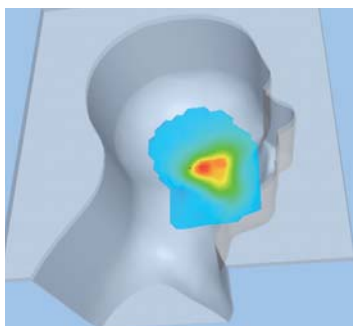
- * Typical TIS based on Rx level, 1 channel, 30 deg sampling, 1 time each probe with a SG 64. Measurement time depends on protocol. CTIA comparable measurements.
- ** For 11 frequencies, no oversampling, no averaging with a SG 64

Select the results you need

The exported data is available in both ASCII (CSV form) and freeware 3D viewer formats, by default. An automated HTML report containing summary plots allows for a quick overview of the measurement results via a web browser. Specific report content or formats are available when required (such as CTIA certification report) or upon request.



3D view of omnidirectional positioning antenna



3D view of SAR measurement for a handset

Antenna measurement		
Standard data	ASCII data	Plots
Antenna efficiency [dB or %] versus frequency	✓	✓
Antenna gain and antenna peak gain [dBi] versus frequency and as a function of 3D pattern angle	✓	✓
Principal plane far-field radiation patterns for multiple frequencies as a function of angle	✓	✓
1D, 2D and 3D radiation patterns	✓	✓
Additional special cuts	✓	✓
Advanced post-processing	ASCII data	Plots
Linear, slant or circular polarizations	✓	✓
Cross-pol discrimination	✓	✓
Beamwidth	✓	✓
Front to back ratio	✓	✓
Sidelobe levels	✓	✓
Active CW measurement	✓	✓
Diversity measurement	✓	✓
Diversity correlation	✓	✓
Beamforming	✓	✓
Cylindrical back propagation/ Holography	✓	✓
Phase center identification	✓	✓
S11	✓	✓
OTA Measurement for GSM, GPRS, EDGE, Wi-Fi, Bluetooth, PHS, CDMA 2000, WCDMA, TD-CDMA, HSPA, WiMAX, A-GPS, DVB-H or A-GPS protocols ¹		
Standard data	ASCII data	Plots
Effective Isotropic Radiated Power	✓	✓
Effective Isotropic Radiated Sensitivity	✓	✓
Upper Hemisphere Partial Radiated Power	✓	✓
Upper Hemisphere Partial Isotropic Sensitivity	✓	✓
Near-horizon Partial Radiated Power	✓	✓
Near-horizon Partial Isotropic Sensitivity	✓	✓
Intermediate Channel	✓	✓
SAR Measurement		
Standard data	ASCII data	3D View
SAR mapping	✓	✓
Advanced post-processing	ASCII data	3D View
Local SAR value [W/kg]	✓	✓
Average SAR value over 1 g and 10 g	✓	
HAC Measurement		
Standard data	ASCII data	3D View
Magnetic signal strength axial and radial calculation	✓	✓
Signal quality calculation	✓	
Frequency response curved data	✓	
Max. electric and magnetic values	✓	✓

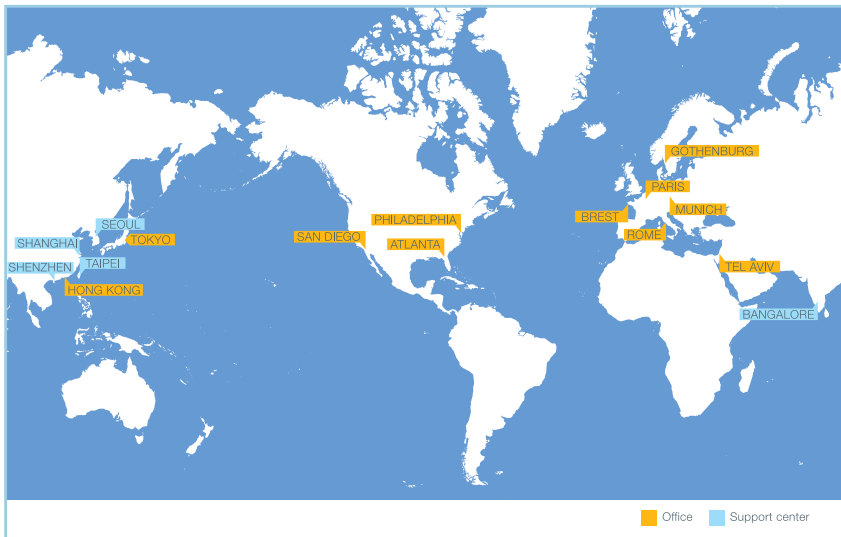
¹ The list of compatible protocols is evolving on an on-going basis. Please contact us for updated information.

4 steps to keep it short

- 1 Fill out and post the request for quotation on our website in the service section <http://www.satimo.com/content/measurement-services> or contact one of our offices listed on the right-hand side.
- 2 You will receive a financial proposal stipulating the measurement duration, the closest possible date, time and location.
- 3 An email notification will be sent to confirm reception of the equipment and delivery time of the results.
- 4 A shipping notification is sent as soon as the equipment is shipped back along with a CD containing the measurement results.



Your device and information are secure with us!
Items are stored in a dedicated, secured area,
and classified by customer and company name.



Certification 2246.02 and 2246.01 for calibration and electrical: The scope of accreditation is location-dependent and does not include the entire scope of Satimo activities. The actual scope of accreditation is available on A2LA's website.



SATIMO's Corporate Headquarter

17, avenue de Norvège
91140 Villebon-sur-Yvette, FRANCE
Tel: +33 (0)1 69 29 02 47
Fax : +33 (0)1 69 29 02 27

SATIMO Bretagne

Technopole Brest Iroise, Z.I. du Vernis
225 rue Pierre Rivoalon
29200 Brest, FRANCE
Tel: +33 (0)2 98 05 13 34
Fax: +33 (0)2 98 05 53 87

SATIMO Sweden

Sofierogatan 3A
412 51 Gothenburg, SWEDEN
Tel: +46 31 402430
Fax: +46 31 402430

ORBIT/FR Germany

Johann-Sebastian-Bach-Str. 11
Vaterstetten 85591, GERMANY
Tel: +49 (0)8106 99606 0
Fax: +49 (0)8106 99606 77

SATIMO Italy

Via dei Castelli Romani, 59
00040 Pomezia (Rome), ITALY
Tel: +39 06 89 99 53 11
Fax: +39 06 89 99 53 24

ORBIT/FR Israel

1 Gesher Ha'Ets Street
Emek Hefer Industrial Park
P.O.Box 12096
Emek Hefer 38777, ISRAEL
Tel: +972 74 7130130
Fax: +972 4 6247375

SATIMO Hong-Kong

Suite 702, 7th floor, Cyberport 1
100 Cyberport Road
Pok Fu Lam, HONG KONG
Tel: +852 2989 6128
Fax: +852 2989 6108

SATIMO Japan

6-20-11 Shinbashi-1K, Bldg. 1F
Shinbashi, Minato-ku
Tokyo 105-0004, JAPAN
Tel: +81 3 6426 0432
Fax: +81 3 3435 3233

SATIMO USA

2105 Barrett Park Dr., Suite 104
Kennesaw, GA 30144, USA
Tel: +1 678 797 9172
Fax: +1 678 797 9173

ORBIT/FR's Corporate Headquarter

506 Prudential Road
Horsham, PA 19044, USA
Tel: +1 215 674 5100
Fax: +1 215 674 5108

Advanced Electromagnetics Inc (AEMI)

9311 Stevens Rd
Santee (San Diego),
CA 92071-2809, USA
Tel: +1 619 449 9492
Fax: +1 619 449 1553