



## SAR 实验室 (SAR Lab)

随着信息技术的飞速发展，大众在享受无线通信设备带来的各种便利之时，也日益关注无线通信终端的电磁辐射对人体健康的影响。各国政府部门、电信法规机构等要求将电磁波辐射降低至一个合适的水平。

With the rapid development of information technology, when people enjoy the advantages from wireless telecommunication devices, they also pay much attention to the electromagnetic radiation influence of wireless telecommunication terminal for human body health. The different government departments and telecom regulation institutions all required reducing the electromagnetic wave radiation to an appropriate level.

### 比吸收率SAR的定义 (Definition of SAR)

SAR的英文全称为Specific Absorption Rate，中文一般称为电磁波吸收比值或比吸收率。是手机或无线产品之电磁波能量吸收比值，SAR的意义为单位质量的人体组织所吸收或消耗的电磁功率，单位为W/kg。

SAR is Specific Absorption Rate for short, which is a measure of the amount of radio frequency energy absorbed by the body when using a mobile phone. The meaning of SAR is electromagnetic power which absorbs or consumes average tissue volume, the unit is W/kg.

$$SAR = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dV} \right) = \frac{\sigma E^2}{\rho}$$

### SAR 的限值要求: 北美、韩国、台湾 (Limit requirement of SAR: North America、Korea、Taiwan)

	全身平均 Whole Body	局部特定部位 Partial Body	手、手腕、足、足踝 Hands、Wrists、Feet and Ankles
职业 Occupational	0.4	8.0	20.0
公众 General Population	0.08	1.6	4.0

### SAR 的限值要求: 中国、欧洲、澳洲、日本(Limit requirement of SAR: China、Europe、Australia、Japan)

	全身平均 Whole Body	局部特定部位 Partial Body	手、手腕、足、足踝 Hands、Wrists、Feet and Ankles
职业 Occupational	0.4	10.0	20.0
公众 General Population	0.08	2.0	4.0



### SAR 实验室能力及测试系统 (SAR Test ability & Testing system)

摩尔实验室 (MORLAB) 拥有南方地区唯一对外开放的 SAR 测试实验室。目前, 摩尔实验室拥有两套 SAR 测试系统:

MORLAB is the only one open SAR test lab in the south of China. At present, MORLAB has two sets of SAR test system.

(一) MORLAB 采用 IndexSAR 公司提供的测试系统 SARA2 提供 SAR 测试服务。该测试系统, 完全符合 IEEE/IEC/EN 及美国 ANSI 的 SAR 标准要求, 具有快速、准确、安全高效等特点, 也是目前国际顶尖实验室采用最多、被广泛认可的 SAR 测试系统。该套系统测试频率范围达到 6GHz, 可以针对 GSM、CDMA、WLAN 等多类型产品 (不限于手机) 进行认证测试。(如图 1 所示)

MORLAB has equipped IndexSAR SAR test system SARA2. This test system conforms to IEEE/IEC/EN and the American ANSI SAR standard request completely, has fast, accurate, safe highly effective and so on characteristics, is also the present international apex laboratory uses are most, the SAR test system which widely approves. This set of systems test frequency range reach to 6GHz, which aims to various styles of products such as GSM、CDMA、WLAN. and so on multi-type product (not limited to mobile phone).

(二) 另外, MORLAB 最新引进法国 SATIMO HAC Test benches 测试系统, 此测试系统能完全满足美国标准化协会提出的 ANSI C63-19 标准要求, 也可兼容 SAR 的测试内容。(如图 2 所示)

MORLAB has established a SATIMO HAC Test benches testing system, this test system can completely satisfy ANSI C63-19 standard request proposed by American National Standards Institute, also can compatible with SAR testing contents. (Figure2)



图 1: Index SAR 测试系统  
Figure1 (Index SAR test system)



图 2: Open SAR 测试系统  
Figure 2 (Open SAR&HAC test system)

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