

cSAR 3D Pre-Certification Testing

Rapidly reducing SAR testing times with cSAR 3D technology



Specific Absorption Rate (SAR) systems evaluate critical health and safety levels of Radio Frequency (RF) energy that is absorbed in the human body from wireless devices used in close proximity to the human head or body. UL offers a new pre-certification test that provides results in seconds.

Innovative RF exposure measurement uses array-based system

UL is the first laboratory globally to provide both SAR certification testing and high-speed, array-based SAR assessment to demonstrate compliance to R&TTE article 3.1a Health & Safety. Without robots, fluid changes, and placement adjustments, the new cSAR 3D technology literally reduces hours of testing and equipment maintenance to seconds.

SAR testing is mandatory in most markets for the ever-greater number and types of mobile and wireless devices. Over the past few years, the SAR testing standard has seen many changes, and it is now possible to use array systems for preliminary filtering before a certification test is performed.

The development of the updated IEC 62209-1 is expected to allow greater acceptance of array-based systems for SAR testing, and the IEC is currently in the process of developing a specific standard for faster array systems that can be used in conjunction with the existing SAR systems to support regulatory compliance claims.

UL makes the testing technology of tomorrow available today.

Key Drivers	Benefits	Standards/Specifications
Pre-Compliance Testing <ul style="list-style-type: none">cSAR3D fast evaluation – find overall worst case position/modeDASY evaluation on worst bandwidth	<ul style="list-style-type: none">Immediate test reports, with highest reported SARReduces cost of re-testing full compliance SARIndicates compliance readiness	IEC 62311 EN 50360 IEC 62209-1/2 EN 50566 IEEE 1528
Full Compliance Testing <ul style="list-style-type: none">DASY evaluation – starting with worst case mode	<ul style="list-style-type: none">Full compliance SAR test/full test reports with short lead time	FCC KDB Publications RSS-102 Issue 5

Who benefits from UL cSAR 3D testing?

While cSAR 3D testing is not yet sufficient for SAR certification, it is highly valued for pre-certification engineering evaluations. It should also soon be accepted as the basis for a reduced formal testing plan. Already today, that makes seconds-long cSAR 3D testing extremely useful to:

- Smartphone, tablet and wearable device manufacturers
- R&D engineers
- Wireless product designers
- Regulatory engineers
- Compliance engineers

These sentences are awkward and unclear. For example, “accepted” by whom? And do we have substantiation for this?



Leading expertise

UL's Consumer Technology Division leads the field in the certification of wireless devices. Our strategic application of technical expertise and state-of-the-art equipment enhances customer success in certification and helps minimize time to market.

About UL

UL is a premier global independent safety science company that has championed progress for more than 120 years.

Its nearly 11,000 professionals are guided by the UL mission to promote safe working and living environments for all people.

UL uses research and standards to continually advance and meet ever-evolving safety needs.

We partner with businesses, manufacturers, trade associations and international regulatory authorities to bring solutions to a more complex global supply chain.

For more information, contact ConsumerTechInfo@UL.com, call us at +1510-771-1000 or visit ul.com