Ultra-Sensitive, Ultra-Small, Single-Chip GPS Module for Mobile Handsets

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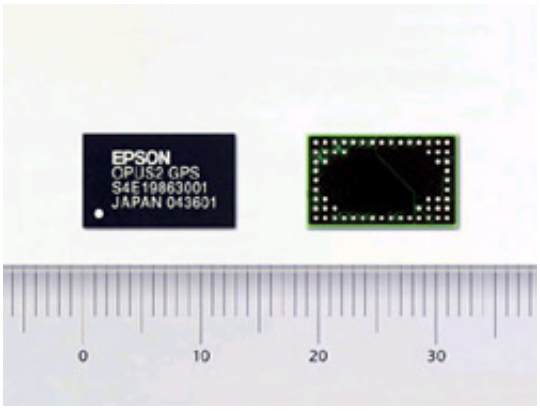

Seiko Epson Corporation ("Epson") today announced that it has developed a single-chip global-positioning system (GPS) module whose small size and high sensitivity (-160 dBm max.) make it ideal for use in next-generation mobile handsets equipped with built-in GPS support. Samples of the new S4E19863 chips will be available beginning in October 2004.

The global market for mobile phones with built-in GPS functionality is expected to expand dramatically with the spread of position information services such as pedestrian navigation and systems for locating a user's position in the event of an emergency call. In Japan in particular, all new 3G mobile phones debuting in and after the spring of 2007 are likely to

be equipped with a GPS function that enables the user's position information to be identified in the event an emergency call is placed. This likely requirement is driving demand for GPS devices that are capable of quickly and accurately identifying location anytime, anywhere. In response to this demand, Epson independently developed its own positioning algorithm and GPS chipset (which consists of a GPS baseband processor and RF receiver). Then, availing itself of a storehouse of high-density-packaging technology, Epson designed an ultra-sensitive, ultra-compact, one-chip GPS module that is capable of acquiring locations even indoors, in the shadows of tall buildings, and in other places where GPS positioning has traditionally been problematic.

The GPS module supports the three 3GPP-compliant positioning modes (MS-Based, MS-Assisted, and Autonomous), for world-class GPS positioning performance in any application and under any network environment.

Epson is committed to further serving customer needs by expanding and enhancing its line of device products that use the company's GPS and other device technologies.

S4E19863 features

· High sensitivity (-160 dBm) enables acquisition of indoor location
· High-speed satellite search algorithm
· Support for three positioning modes in compliance with the 3GPP specification
· Miniature one-chip package