

Nemerix Indoor A-GPS Chipset

Supercharging GPS Performance for Wireless Indoor Devices

Several technology milestones have significantly enhanced our lives. Computers helped us do math. The Internet brought the world to our desktop. Mobile phones helped us instantly talk to anyone in the world. And global positioning satellite (GPS) technology pinpointed us on a map as long as satellites were visible.

Now, with Assisted-GPS (A-GPS) ICs connected to mobile phone ICs, not only can we reach anyone or anything that has a phone number, but we can pinpoint anyone or anything who chooses to participate, even indoors - the place where people and things often are - and the place where GPS signals are obscured, distorted, and very weak.

A-GPS benefits extend far beyond convenience. Using this technology, emergency crews can quickly pinpoint trouble inside a building and come to the rescue. But for this technology to be viable, it cannot drain our batteries, take up extra space or add much cost, but it has to work reliably. No excuses.

Nemerix now has this solution.

Introducing the Nemerix Indoor A-GPS Chipset

The A-GPS system architecture includes the Nemerix NJ1006 RFIC and the NJ2020 baseband IC connected to the customer's host CPU where navigation tasks are handled. This new solution leverages CEVA's latest generation GPS 4000 GPS IP solution to provide unmatched performance and programmability for mobile handheld devices.

Nemerix NJ2020 Baseband IC

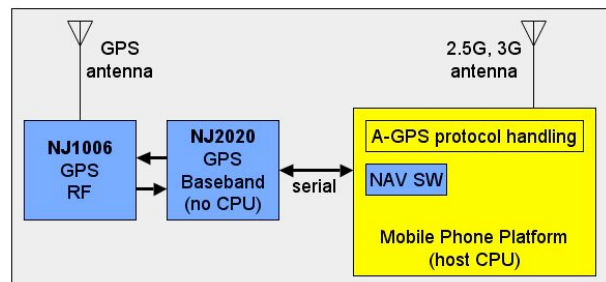
Sometimes called a "pseudo-range engine," this chip performs the GPS signal correlation and detection and sends pseudo-range information to the host CPU for position-velocity-time (PVT) computation.

Nemerix NJ1006 RF Front-End IC Family

The GPS antenna is connected to this ultra-quiet, low noise, highly-linear, double super-heterodyne RF receiver IC with integrated LNA and multiple power-down modes.

NAV Software

Price, performance, power, and space are best optimized by eliminating the CPU in the GPS subsystem and instead, giving low-MIPS, low-overhead tasks to the host CPU to do. In fact, there are no real-time demands on the host CPU. In addition, all the necessary navigation software is provided.



Nemerix A-GPS System Architecture



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Product Features

EXTREMELY SENSITIVE

-158 dBm sensitivity extends GPS operation even deep indoors

BLAZING FAST

< 1 s time-to-first-fix (TTFF) outdoors, < 8 s indoors means location is instantly pinpointed

UNDENIABLY ACCURATE

< 5 m accuracy outdoors, < 40 m indoors ensures that the reported location is true

ROBUST AND RELIABLE

Multipath mitigation and over-deterministic software allows operation in cluttered urban canyons and offices

ALL 2.5G, 3G STANDARDS

No precise timing requirement in network signaling means the chipset also works with asynchronous mobile networks (e.g., GSM, GPRS, EDGE, WCDMA, TD-SCDMA, UMTS) in addition to CDMA, cdma2000 1x EV-Dx synchronous networks

EXCEEDS INDUSTRY SPECIFICATIONS

10x more accurate than FCC E-911 Phase II, exceeding TIA-916 and 3GPP 25.171 minimum performance standards

MICRO-MINIATURE FOOTPRINT

uBGA or wafer-scale SIP packaging

NEGLIGIBLE BATTERY DRAIN

Proven industry leader in lowest-power GPS

ARCHITECTURE INDEPENDENT

Works equally well in MS(UE)-assisted or MS(UE)-based network architectures and in both control-plane or user-plane configurations

AUTONOMOUS OPERATION

Outperforms other GPS receivers even without assistance data or when network reception is unavailable

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09/04