

2.5G Feature Phones/ Smartphones

Overview

Freescall Semiconductor's i.250-20 Innovative Convergence platform is a comprehensive, silicon-to-software solution for 2.5G technology, designed to enable rapid time-to-market with smart, GSM/GPRS wireless products such as Smartphones and feature phones.

Building on the success of the industry-leading i.250-20 platform, Freescall Semiconductor has introduced the i.250-21 Innovative Convergence platform to provide advanced features and applications in the GSM/GPRS arena.

Our i.250-20 and i.250-21 platforms can offer the lowest system part-count in the

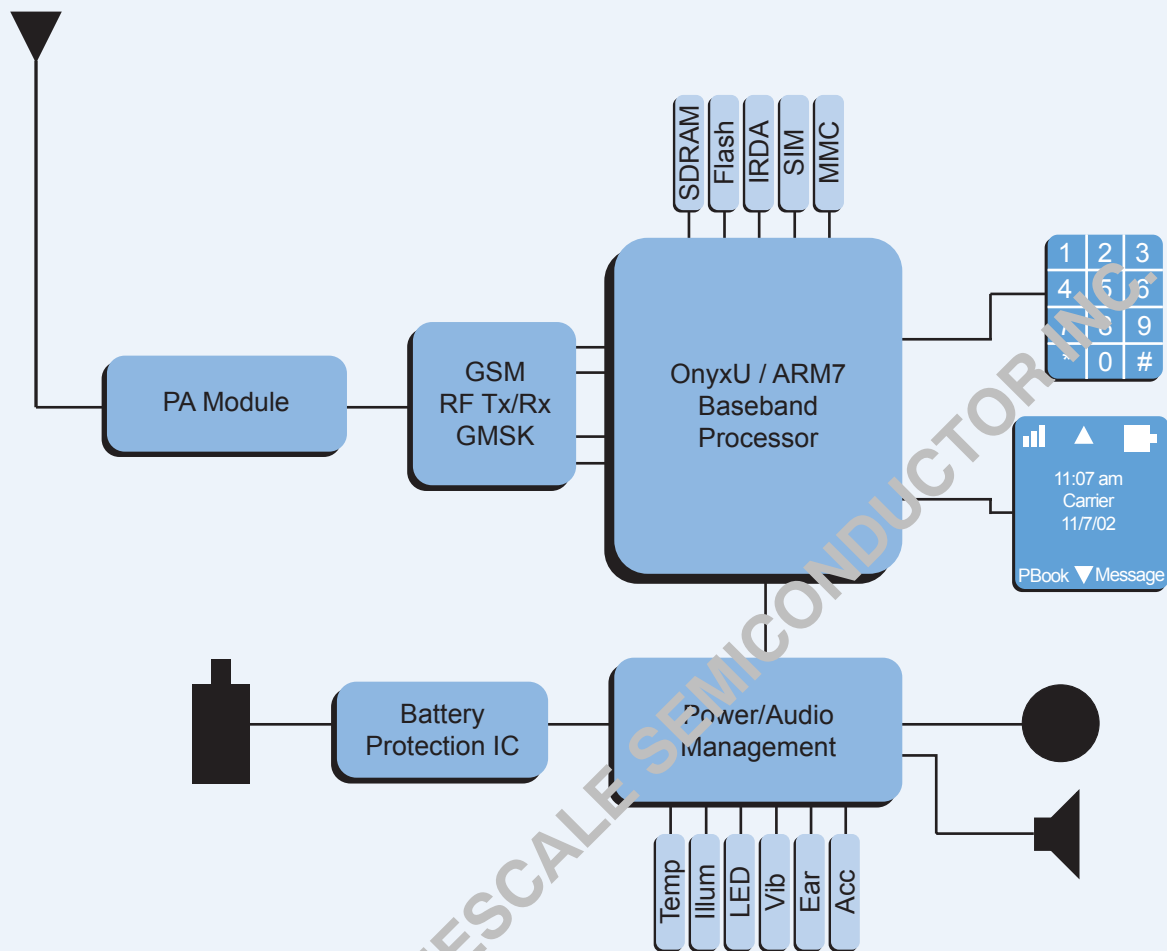
industry for best-in-class system cost. And we're continuing on a path to even further integration. From an advanced chipset including integrated communications and application software, to powerhouse development tools, "always-on" connectivity and the industry's smallest footprint, we have what you need to capture the broadest range of handset consumers.

Together, the i.250-20 and i.250-21 platforms offer a range of voice-centric, voice/data and data-centric products and a comprehensive roadmap with distinct industry advantages for smaller, lighter, cost-effective wireless products.

Key Benefits

- > Supports low-, mid-, or high-tier feature sets such as Web browsing, video mail, instant messaging, Java 2 Micro Edition (J2ME™) technology, music, and mobile e-commerce
- > Supports migration paths from 2G to 2.5G and 2.75G protocols
- > Connects with personal area network solutions, such as Bluetooth™ wireless technology
- > Offers the lowest system part-count in the industry for best-in-class system cost
- > Scales from voice-only wireless devices to multimedia-rich platforms
- > Reduces design-to-production time from 12-18 months to 6-9 months

2.5G INNOVATIVE CONVERGENCE (i.250-20) PLATFORM



Freescale Ordering Information

Part Number	Product Highlights	Additional Information
i.250-20	> Cost-effective GSM/GPRS feature phone and Smartphone handsets > Flexible and scalable platform > Allows for high-volume production of economical phones > Enables the use of higher-tier feature sets > Provides a migration path to next-generation technology	www.freescale.com/i250
i.250-21	> Supports GSM850/GSM900/DCS/PCS quad-band operation > Enables rapid development and deployment of cost-effective GSM/GPRS feature phone and Smartphone handsets > Flexible and scalable platform > Support high-volume production of entry-level voice/data feature and Smartphones > Enables the use of higher-tier feature sets > Provides a migration path to next-generation technology	www.freescale.com/i250

Design Challenges

The mobile phone market continues to evolve at a rapid-fire pace. Device life cycles are shrinking as new features and functions become available and consumers adopt their mobile phone as part of their lifestyle. Consumers are increasingly selecting mobile devices for their style and form, subjecting your design to shorter and shorter development cycles as fashions change.

These market forces are significantly impacting all participants in the value chain. Mobile operators are rapidly rolling out new network technology to help improve the consumer experience while boosting revenue opportunities. There is an extreme regional differentiation in market needs from low-cost, low-tier solutions for emerging markets to advancing 2.5G markets in highly industrialized economies. Outsourcing device design and development is routine, exerting dramatic downward pressure on component prices. Demands on processing performance, power consumption and component parts differ widely for each generation of mobile services.

To win in this highly competitive marketplace, Original Device Manufacturers (ODMs), Original Equipment Manufacturers (OEMs), Integrated Design Houses (IDHs), and others are all faced with the same challenge: How to bring new devices to market in record time, at the lowest possible costs, with the greatest possible features and in a stylish eye-catching design.

Freescal Semiconductor Solution

Freescal Semiconductor provides advanced solutions that enable you to drive your own momentum and set the market agenda. The Innovative Convergence™ and Mobile Extreme Convergence portfolio of platforms bring together the elements you need to deliver next-generation wireless communications devices to gain competitive advantage and a quick return on investment.

Our rich set of proven platform technologies built on more than 70 years of wireless experience enables you to add features and functions to your devices, enriching your consumers' mobile experience. In this fast-paced consumer market, the faster we enable you to launch a product, the better the return on your investment. Freescal Semiconductor offers a wide range of products addressing each network opportunity from current 2G digital technology through advanced 3G networks and their variations.

Not only is Freescal Semiconductor a world leader in 2.5G platforms but our platform also serve as a backbone technology for global mobile operators.

With innovative Convergence™ platforms you benefit from a turnkey, packaged solution that includes a cutting-edge chipset and proven software and industry-leading development tools.

Our 2G, 2.5G, 2.75G, and 3G leadership solutions help you create winning designs, meet changing mobile consumer marketplace demands, and scale from voice-only wireless devices to multimedia-rich platforms.

Our innovative Convergence platforms are designed to make wireless products smarter and consumers' lives better. Our common architecture can be used across many platforms and in many configurations—from low-power units to the highest-end functionality attainable. Freescal Semiconductor's solutions can form the engine for any mobile device on any network, anytime, anywhere. With our Innovative Convergence platform, you can easily migrate from 2G to 2.5G and 2.75G with these distinct GSM solutions:

- > i.200-20: an entry-level GSM platform for voice and enhanced voice-centric applications
- > i.250-20: a 2.5G GSM/GPRS platform enabling voice-centric or voice/data applications with multiple reference designs
- > i.250-21: a 2.5G GSM/GPRS platform enabling enhanced multimedia applications for the optimal audio and visual consumer experience
- > i.275: a 2.75G GSM/EDGE platform that is focused on data-centric applications

Freescal Semiconductor has teamed up with other technology specialists and vendors to help manufacturers significantly reduce the development time of enhanced multimedia-feature phones. The i.250-21 Feature Phone Reference Design, based on Freescal Semiconductor's i.250-21 platform, includes rich multimedia and connectivity features for GSM (Global System Mobile) and GPRS (General Packet Radio System) handset developers.

Development Tools

Product Name	Vendor	Description
Integrated Development Environment (IDE)	Freescale Semiconductor	For software and man-machine interface development gives you unlimited freedom and flexibility for accessing the platform and customizing and differentiating your products. Reference designs that have passed FTA speed time-to-market by providing a typical cellular system design for a quick start on customer product designs.
Radio Test Environment (RTE)	Freescale Semiconductor	Environment eases radio development and performance optimization.
Manufacturing Test Environment (MTE)	Freescale Semiconductor	Used for meeting type approval and production line test requirements. Extensive advanced technology options, such as Web browsing, video mail, instant messaging, J2ME technology, and music are enabled by our i.MX family of applications processors.

Reference Design

Part Number	Vendor	Description
i.250-21rd2	Freescale Semiconductor	Freescale has teamed up with other technology specialists to help manufacturers significantly reduce the development time of enhanced multimedia feature phones. The i.250-21 Feature Phone Reference Design, based on Freescale Semiconductor's i.250-21 platform, includes rich multimedia and connectivity features for GSM (Global System Mobile) and GPRS (General Packet Radio System) handset developers. Synchronization – BVRP Enables consumers to use their PC's full-sized keyboard to input their phone data easily, as well as send SMS messages and e-mails, and then transfer the data to their phone. Provides different displays by encapsulating the display driver functionality through a standard API. Camera Image Processor – CoreLogic, Inc. A software framework designed to support varied camera module solutions, VGA and 1M pixel imaging function, high-quality video capture, and true camera feel with zoom and continuous shot. Bluetooth™ Wireless Technology – Cambridge Silicon Radio (CSR) A flexible "turnkey" solution for local connectivity, allowing a substantial reduction in time-to-market for final products. MMI – eSIM An MMI (Man-Machine Interface) development tool that provides a customizable simulation environment to configure the user's operational experience. 3-D Graphics Engine – HI Corporation A compact software engine that enables real-time rendering of 3-D graphics applications on mobile handsets. CMOS Sensor – Hynix A "smart CMOS sensor" device that is controlled through the camera processor by the Freescale Semiconductor CCFW (common camera). Display – Solomon Systech Software architecture that enables integration and deployment of different displays by encapsulating the display driver functionality through a standard API. MIDI – Yamaha Flexibility to integrate various leading MIDI ICs, to enhance ring-tone quality, and sound effects for games and other applications. Flash Memory – STMicroelectronics Memory optimized on the i.250 platform for maximized performance and minimized cost and power, with reduced package size.

Learn More: Contact the Technical Information Center at +1-800-521-6247 or +1-480-768-2130.

For more information about Freescale products, please visit www.freescale.com.