

APPLICATIONS

- Portable Navigation Devices
- Automotive

SiRFprima Multifunction Location Platform

GPS/Galileo Location, 2D/3D Graphics, and Multimedia Processor

PRODUCT OVERVIEW

Unleash the power of next generation location-centric convergence devices with best-in-class GPS/Galileo performance, eye-popping 2D/3D graphics, and unparalleled multimedia features—all tuned to perform in harmony. The SiRFprima™ high-performance, low-power, multifunction location processor is a highly-integrated single-chip solution that delivers knockout concurrent performance for turn-by-turn navigation on crisply rendered 3D maps and high-resolution video recording and playback.



GENERAL SPECIFICATIONS

Supported OS

- WinCE, Linux

Supported Software

Standard

- Base software platform to support core location, graphics, and multimedia functions

Premium

- SiRFInstantFix™ extended ephemeris services
- SiRFDirect™ GPS/Dead Reckoning software for continuous and accurate positioning for portable navigation

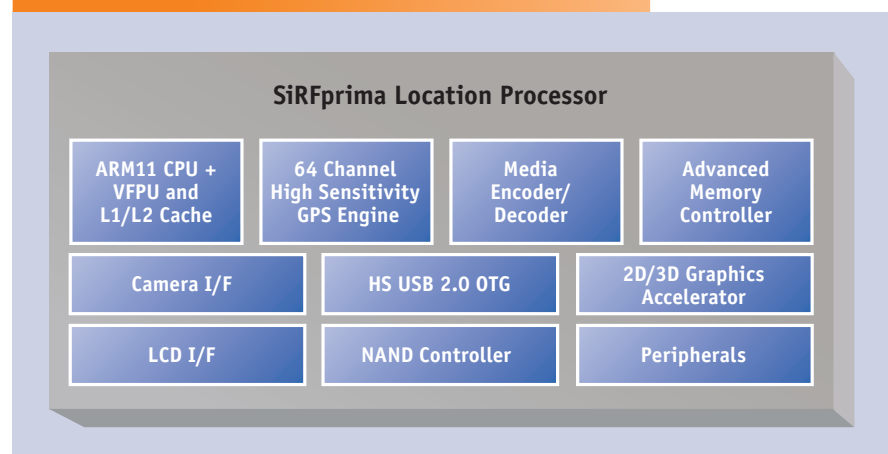
Target Applications

- Portable navigation devices
- Automotive navigation systems
- Automotive infotainment systems
- Portable media players
- Personal navigation devices
- Location-centric phones
- Digital video cameras
- Telematics

KEY FEATURES

- High-performance GPS and Galileo location engine
- High-speed ARM11 CPU with floating point unit
- Integrated hardware 2D/3D engine with OpenGL ES 1.1 support and vertex geometry processor for enhanced transform and lighting features
- Integrated hardware video decoder engine with support for D1 resolution H.264/MPEG1/MPEG2/MPEG4/WMV9
- Integrated hardware video and image encoder engine with support for D1 resolution H.264/MPEG4 video and 10 megapixel JPEG still images
- Integrated touch screen controller
- Advanced memory controller supports Mobile-SDR, Mobile-DDR, and DDR
- 8/16-bit NAND flash interface with 8-bit BCH HW ECC support for direct booting from SLC or MLC NAND
- Integrated SD/MMC/MMC+ controller
- Two high-speed USB 2.0 ports can be configured as host or slave
- 128-bit secure ID
- Low power advanced 65 nm process

SiRFprima BLOCK DIAGRAM



TECHNICAL SPECIFICATIONS

Computing Core

ARM1136JF-S CPU
Vector Floating Point Unit
L1 cache 16 KB/16 KB (D/I)
L2 cache 128 KB

Memory Subsystem

System bus 64 bit
DMA 16 channels
Mobile-SDR, Mobile-DDR, DDR1 support

GPS/Galileo Receiver

64 channels, high sensitivity
Seamless compatibility with SiRF GRF3i+

Storage

Direct boot from 8/16-bit SLC/MLC NAND Flash
SDHC/SD 2.0/MMC4.2 (x2)
Direct boot from iNAND/MoviNAND

2D/3D Graphics

4 Mtriangles/second
350 Mpixel/sec fill rate
OpenGL ES 1.1 support
Four hardware overlay layers
Supports up to 1024x768 @ 32 bpp

Multimedia

Decoder MPEG2/MPEG4/H.264/WMV D1@30 fps
Encoder MPEG4/H.264 D1@30 fps
JPEG codec for camera applications
Interfaces CCIR656, Parallel TS for mobile TV

Peripheral Connectivity

AC97/I2S
UART (x3), USP for PCM, DSP, I2S, SPI, IrDA
SPI/I2C (x2)
10-bit ADC
SDIO support for WiFi, Bluetooth, and digital TV
High-speed USB 2.0 (x2) up to 480 Mbps

ORDERING INFORMATION

For more information about this and related products, contact your SiRF representative, or call our sales force at (1) (408) 467-0410, or visit www.sirf.com.

For the location of your nearest authorized SiRF distributor, visit www.sirf.com.

HIGHLIGHTED ADVANTAGES

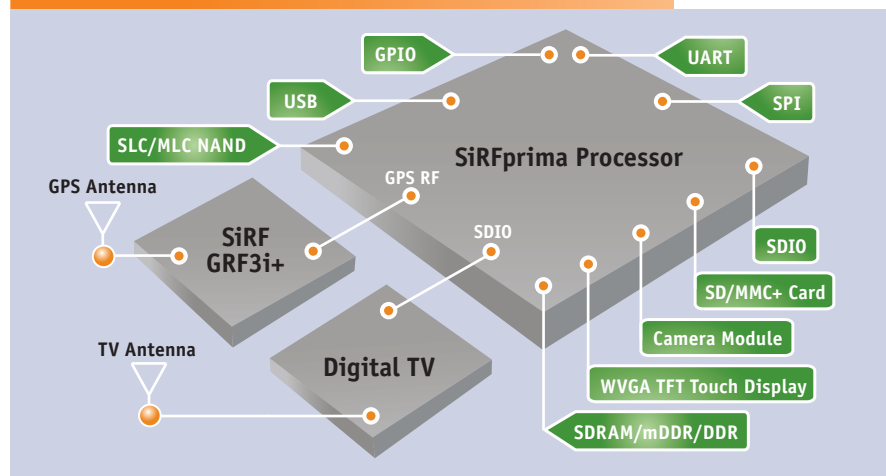
Premium automotive and portable navigation devices require a platform that can provide enough computing horsepower and features to render the most complex, photo-realistic maps without sacrificing GPS speed and tracking performance. The growing demands of today's mobile user require devices that can simultaneously enable location-awareness and deliver multimedia content through a rich user experience. Many products on the market today provide some of these features in a standalone fashion but leave much to be desired when these applications blend together. The SiRFprima multifunction platform is designed to address these needs.

The SiRFprima is powered by an ARM11 CPU with floating point unit and a location engine optimized for simultaneous tracking of GPS and Galileo satellites. Peak performance is ensured with an integrated 128KB L2 cache and a 64-bit bus interface to a high-speed memory controller capable of supporting various DRAM modules including SDRAM/DDR/Mobile-DDR, providing adequate memory bandwidth for the most intensive application scenarios.

The built-in OpenGL ES 1.1 2D/3D graphics accelerator and hardware multi-standard video encoder/decoder enable crystal-clear user interfaces and support for the latest crop of video files including H.264/MPEG1/MPEG2/WMV9 at DVD resolutions for media player, smart phone, and camera applications.

The location, graphics, and multimedia engines in SiRFprima function optimally in unison and with adequate memory bandwidth to enable extremely rich consumer experiences expected of next-generation mobile devices. The SiRF GRF3i+ and digital TV chips connect seamlessly to the SiRFprima processor to deliver full convergence capabilities to these devices.

SiRFprima PLATFORM CONFIGURATION



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