

OMAP-Vox™ EDGE solution offering scalable roadmap to UMTS

*OMAPV1030
integrated EDGE
solution for
mid-range
multimedia devices*

Key features:

- Developed to address growing mid-range wireless market
- Built on TI's leading OMAP™ architecture:
 - Merged modem and applications solution running on shared hardware resources (one ARM926™ and one TI DSP)
 - Scalable and compatible OMAP-Vox™ processor roadmap from GSM/GPRS/EDGE to 3G UMTS
 - No external co-processor required to reach multimedia performances
 - Hardware-based security
- Multimedia-rich solution:
 - Dual LCD support (main LCD up to QVGA)
 - 2-megapixel digital still camera
 - Video capture, playback and streaming up to QCIF 30 fps or CIF 15 fps
 - Up to MPEG4 and WB-AMR decode CIF 15 fps
- Audio AAC, MP3, AAC+ and MIDI 64 polyphonics
- EDGE Class 12 capable
- Attractive BOM:
 - Bill of materials (BOM) optimized to address mid-range wireless market segment
 - Advanced 90-nm CMOS process and manufacturing
 - Minimized component count frees up board space
- Support of Nucleus™ and Embedded Linux®:
 - Capable of HLOS (High-Level Operating System) support
- Leverage OMAP Ecosystem including OMAP Developers Network and independent OMAP Technology Centers

P R O D U C T B U L L E T I N

Overview

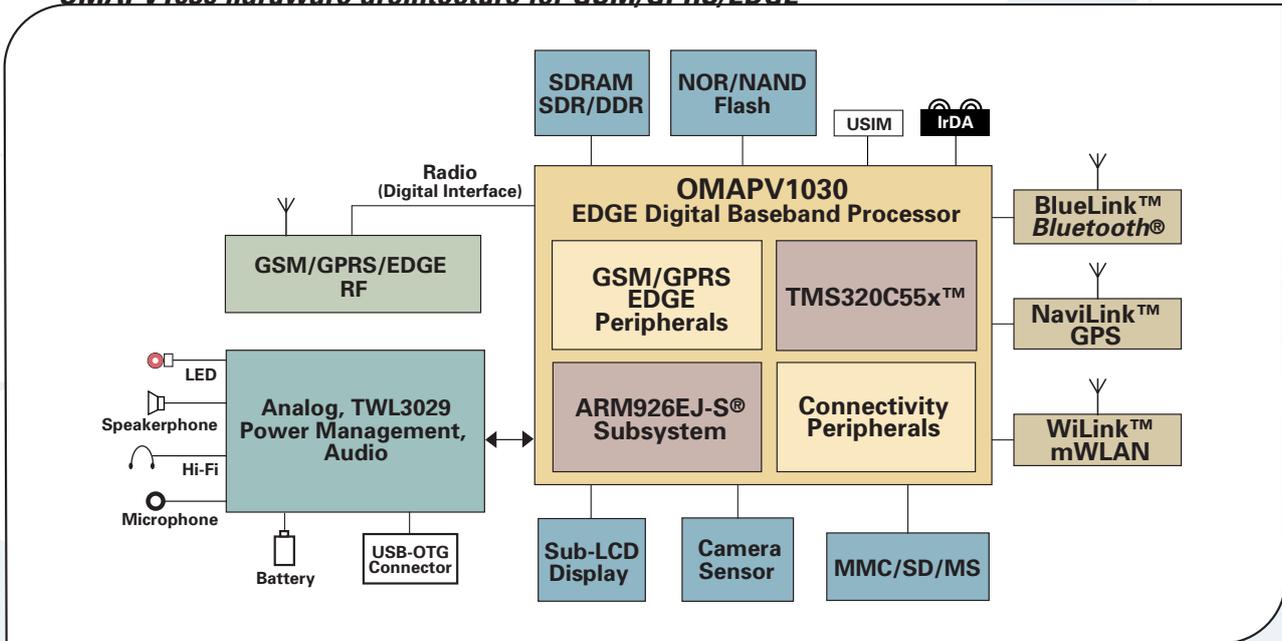
The first solution in Texas Instruments' (TI's) new OMAP-Vox™ family, the OMAPV1030 EDGE solution, delivers enhanced multimedia for customers who want to develop a cost-efficient GSM/GPRS/EDGE solution for mainstream wireless users. One of the industry's lowest costs and a highly optimized EDGE solution, TI's OMAPV1030 solution delivers the performance that mid-range mobile users desire for access to high-quality multimedia with extended battery life. Capabilities the OMAPV1030 solution delivers include high-quality video capture and playback at up to QCIF 30 fps, megapixel digital still images, video streaming downloads, interactive 2D/3D gaming and more.

*Enhanced
performance,
lower power
consumption
and cost*

The OMAPV1030 solution is part of the OMAP-Vox platform that merges both modem and applications processing onto a single core. OMAP-Vox solutions are optimized to efficiently run a dynamic mixture of applications and communications functions on the same hardware. Software compatibility across the OMAP-Vox family of solutions allows customers using the OMAPV1030 to easily migrate software across multiple market segments and standards. It is an extension of TI's EDGE roadmap and intended for mid-range multimedia devices. High levels of integration combine an ARM926TEJ and TI DSP on a single integrated digital baseband platform to enable a higher quality, more affordable multimedia experience. The OMAPV1030 solution addresses the latest audio and video standards and formats such as MPEG4, H.263, MP3, AAC and others.

Fully integrated power management, audio codecs and drivers are also integrated as part of the OMAPV1030 solution through a companion analog device. Manufactured in TI's advanced 90-nm CMOS process, the OMAPV1030 solution offers a lower BOM and therefore reduced cost over the previous applications processor. Its efficient design reduces power consumption and provides longer battery life when running multimedia-rich applications.

OMAPV1030 hardware architecture for GSM/GPRS/EDGE



Delivering system-on-chip integration through technology innovation

TI's OMAPV1030 solution is manufactured on TI's advanced, proven 90-nm CMOS process technology. Shrinking designs from the previous process generation allows TI to pack more functionality on-chip and contribute to the device's high levels of integration and performance, along with the lower power consumption of the device. TI's system level integration expertise brings improved functionality to the OMAPV1030 and optimizes it for lower cost.

Mobile connectivity for use anytime, anywhere

A full range of connectivity options are included as part of the OMAPV1030 solution, including supporting interfaces for the latest technologies: USB-OTG, *Bluetooth*® wireless technology, mobile WLAN and assisted GPS (A-GPS). Enhanced security protection in hardware and software is also provided, including a secure boot, secure mode and hardware encryption accelerators. Many sophisticated interfaces extend capabilities to enable user-friendly multimedia devices.

*Full support
through
development
options*

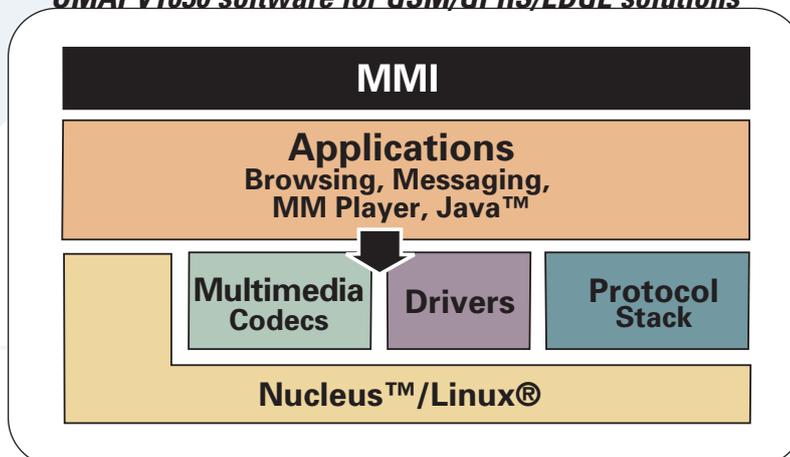
The OMAPV1030 certified reference design provides a full BOM, including the RF and power amplifier, on a form factor board that enables manufacturers to develop their complete solutions in record time. To further reduce development resources, the OMAPV1030 also includes complete field-tested GSM/GPRS/EDGE protocol stack software, as well as integrated multimedia codecs and functions and a range of development tools. Access to TI's worldwide support from design start through full-scale production further improves time to market for wireless manufacturers. TI's system-level expertise and experience developing digital RF integration provides the company with a natural path toward a single-chip cell phone solution for GSM/GPRS/EDGE in the future.

The OMAPV1030 solution includes Nucleus™ and Embedded Linux®-based applications suites, as well as Java™ acceleration support. This solution is also capable of supporting high-level operating systems. Like all TI OMAP processors, this new technology platform provides access to OMAP Ecosystem, a worldwide network of application software developers, system integrators and development tools providers. These options allow TI customers to benefit from reuse of existing applications, standard APIs and access to a broad base of development options for furthering differentiation. TI supports software scalability and a range of development options.

*Software reuse
gives customers
evolution path*

Based on TI's proven GSM/GPRS technology and enhanced for EDGE, the OMAPV1030 solution supports EDGE Class 12 and provides an ideal migration path for GSM and GPRS customers who want to deliver advanced multimedia capabilities to their user base through upgrades to the EDGE standard. With the new OMAP-Vox platform, the OMAPV1030 solution is first in a family of processors that will allow manufacturers to scale multiple market segments from GSM/GPRS/EDGE to UMTS by leveraging software reuse as new capabilities and standards evolve.

OMAPV1030 software for GSM/GPRS/EDGE solutions



OMAPV1030 features and specifications:

- Integrated, digital baseband combines ARM926TEJ and TI DSP
- GSM/GPRS/EDGE Class 12 capable
- Based on OMAP1710 architecture
- Includes single-chip analog companion device:
 - Full power management
 - Audio codecs
 - Analog drivers
- Supports a wide range of image codecs:
 - JPEG
 - GIF87a, GIF89a
 - PNG
 - BMP, WBMP
- Video record, playback and streaming downloads:
 - Up to QCIF 30 fps or CIF 15 fps
 - Up to 15 fps (MPEG4 and WB-AMR decode)
- Digital audio processing:
 - Decode/Encode with streaming support
 - Audio treatment (mono-stereo, equalizer)
- Full range of audio codecs:
 - MP3
 - AAC
 - MIDI 64 polyphonics
 - ADPCM
- 2D and 3D gaming
- Enhanced connectivity options including *Bluetooth*, WLAN, A-GPS
- Complete hardware and software smart phone reference design
- Supports Nucleus and Embedded Linux
- HLOS capable
- Hardware and software security protection:
 - Secure boot loader
 - Acceleration for security standards and random number generation
 - Security software library
 - Full range of hardware accelerators
- 3 UARTs
- SDRAM, NAND Flash, NOR Flash
- SIM, USIM, EMV smart card controller
- IrDA support including SIR, MIR, FIR
- USB OTG
- Manufactured in TI's 90-nm advanced CMOS process technology
- Roadmap includes integration of RF functions in digital CMOS

For more information

To learn more about the OMAPV1030 EDGE solution and TI's other leading wireless products, visit us at www.ti.com/omapv1030

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