MSM7200A™ Chipset Solution

CONVERGENCE
ENHANCED MULTIMEDIA
MULTIMEDIA
VALUE

Wireless now has the speed and power to converge seamlessly with other consumer and business electronics

The QUALCOMM® Convergence Platform makes it possible to incorporate the fastest, most in-demand consumer-electronic features into new wireless devices. With dual processors on a single chipset, the Convergence Platform is a breakthrough that not only promises major expansion for traditional wireless companies, but also opens the door for the entire wireless industry to create a new generation of hardware, software and services.

Powered by the Convergence Platform chipsets, wireless applications – from business tools to games, from top music picks to video that's created on the go – now have the processing power to deliver the data-intensive multimedia consumers use everyday. Products enabled by the Convergence Platform chipsets combine the power of personal electronics with the convenience of wireless to deliver portable business and infotainment devices that are always right at hand. New categories of wireless devices including entertainment, business, communication and portable file storage are a reality.

Now it's possible to deliver practically any personal electronics device to the wireless handset, with no loss of quality and functionality. Life without wires has truly arrived.



THE QUALCOMM CONVERGENCE PLATFORM MAKES IT POSSIBLE TO INCORPORATE THE FASTEST, MOST IN-DEMAND CONSUMER-ELECTRONIC FEATURES INTO NEW WIRELESS DEVICES.



PERFORMANCE

Maximize design and development potential

- Air interfaces supported:
 - WCDMA (UMTS) R6
 - High-Speed Downlink Packet Access (HSDPA), up to 7.2 Mbps (Category 8)
 - High-Speed Uplink Packet Access (HSUPA), up to 5.76 Mbps (Category 6)
 - GSM Release 4
 - GPRS/EGPRS Multislot Class 12, Release 4
 - DTM Multislot Class 11/SAIC
 - GP
- Integrated 528 MHz ARM11[™] applications processor and 256 MHz ARM9[™] microprocessor deliver accelerated applications processing and simultaneous modem processing; the dual-core implementation provides hardware-based security domains
- QVM[™] Java[®] environment platform with multitasking virtual machine (MVM) and ARM's Jazelle[™] Java acceleration speeds execution of multiple, concurrent games and applets

- QVM™ Java® environment platform with multitasking virtual machine (MVM) and ARM's Jazelle™ Java acceleration speeds execution of multiple, concurrent games and applets
- QDSP4000™ and QDSP5000™ high-performance digital signal processors (DSP)
- Memory support for NAND/SDRAM
- Advanced 543-pin 1.4 mm CSP packaging technology (15 mm x 15 mm)
- Integrated secure boot, secure software and secure storage
- Support for Windows Mobile® and Linux® operating systems
- OpenBREWapi™ software to run uiOne™ and BREW applications
- Support for uiOne Handset Development Kit (HDK).
 uiOne HDK is a fully customizable reference user interface and engine framework

JALCO/VVV

CDMA Technologies

MSM7200A™ Chipset Solution

The Mobile Station Modem™ (MSM™) MSM7200A™ chipset and system software solution for WCDMA (UMTS)/HSDPA/HSUPA and GSM/GPRS/EDGE networks features the next-generation technology required to run the world's most advanced applications on mobile handsets. From rich multimedia experiences to complex data applications, the MSM7200A chipset offers the ability to meet the needs of the most savviest wireless users.



GRAPHICS

Blazing fast 3D graphics rivaling the best dedicated handheld gaming devices

- Advanced 2D/3D graphics support with up to 4 million 3D triangles per second, and 133 million 3D textured pixels per second fill rate
- Q3Dimension™ rendering engine with OpenGL® ES-compliant 3D graphics
- · Supported by leading third-party game titles
- · Dedicated hardware accelerating the entire 3D rendering process
- Up to Video Graphics Array (VGA) resolution



VIDEO

Uncompromising video quality setting new standards for mobile handsets

Qtv™ Decoder

- High-performance video player powers broadcast video, streaming video- and audio-on-demand plus video messaging at 30 fps WVGA
- Video Codecs: MPEG-4, H.263, H.264, Windows Media® and RealNetworks®
- Audio Codecs: AMR-NB, AMR-WB/+, AAC, aacPlus[™] and Enhanced aacPlus, Windows Media and RealNetworks

Qvideophone™ Video Conferencing Applications

- Two-way mobile videoconferencing solution that delivers 15 fps quality
- 3GPP/2 standards compliant
- Video Codecs: MPEG-4 and H.263; Audio Codecs: AMR-NB

Qcamcorder[™] Encoder

- A real-time wireless video recording solution that captures movies at 30 fps WVGA
- 3GPP/2 standards compliant
- Video Codecs: MPEG-4, H.263 and H.264; Audio Codecs: AMR-NB and AAC



POSITION LOCATION

Highly accurate positioning for location-enhanced services

- Next-generation gpsOne® solution with an enhanced GPS engine
- Enhanced filtering software optimizes GPS accuracy and availability
- Full integration with JAVA and BREW-based development environments
- MS-Assisted, MS-Based, MS-Assisted/hybrid, and Standalone GPS modes
- gpsOneXTRA™ assistance for enhanced standalone GPS performance
- Support for UMTS Control Plane, GSM Control Plane and OMA SUPL 1.0 User Plane Assisted-GPS protocols



CONNECTIVITY

Seamless connection with indispensable consumer electronics

- Supports QUALCOMM's Mobile Digital Display Interface (MDDI), high-speed serial interconnection technology, for increased reliability in clamshell phones
- Supports external Bluetooth® 2.0 + EDR solution for wireless connectivity to BT mono and stereo headsets, PDAs, printers and other BT enabled peripherals
- Universal serial bus (USB) on-the-go (OTG) functionality
- TV-out support for viewing video and photos or playing 3D games
- Support for 802.11 for wireless LAN and Voice-over-IP capabilities
- Capable of supporting broadcast technologies, including QUALCOMM's FLO™ technology, DVB-H and ISDB-T
- SecureMSM[™] security suite v3.0: Includes support for OMA DRM v2.0, subsidy protection and device-identifier integrity including IMEI



HMAGING

Integrated high-megapixel camera support for high-quality imaging

- Qcamera™ software with 30 fps WVGA viewfinder resolution
- Support for up to 8.0 megapixel camera sensors with a flexible, integrated interface to CCD and CMOS sensors
- Hardware-based image signal processor and JPEG encoder
- Full image processing capabilities, including color correction, crop, resize, rotation, image blurring and sharpening, image overlay, picture frame support and visual noise reduction





Outstanding audio performance with support of industry-wide codecs

- Support for stereo output up to 48 kHz
- PureVoice® Audio AGC (automatic gain control) for better calls, especially under noisy conditions
- Digital audio support for MP3, AAC, aacPlus, Enhanced aacPlus, AMR-WB/+, Windows Media Audio and RealNetworks Audio
- CMX® multimedia software for customized ringtones, screensavers and greeting cards:
 - MIDI-based voice (up to 128 polyphony)
 - Playback support for compact MIDI, General MIDI, SMAF™ (audio only), SP-MIDI, XMF/DLS and MFi
 - Scaleable Vector Graphics (SVG) Tiny
- QConcert[™] surround-sound engine and QAudioFX[™] enhanced gaming audio for positional sound
- QUALCOMM Audio Post Processing Functionality
- Enhanced Echo Cancellation for Full-Duplex Calls



Fully tested Windows Mobile® board support package with integrated multimedia and graphics

- LTK and CETK-tested implementation of the OEM Adaptation Layer, boot code and device drivers for all on-chip peripherals
- Turnkey integration of video, audio and imaging engines into DirectShow® sub-system
- Hardware accelerated DirectDraw®, Direct3D® and Position Location drivers



OPTIMIZED SYSTEM SOLUTIONS

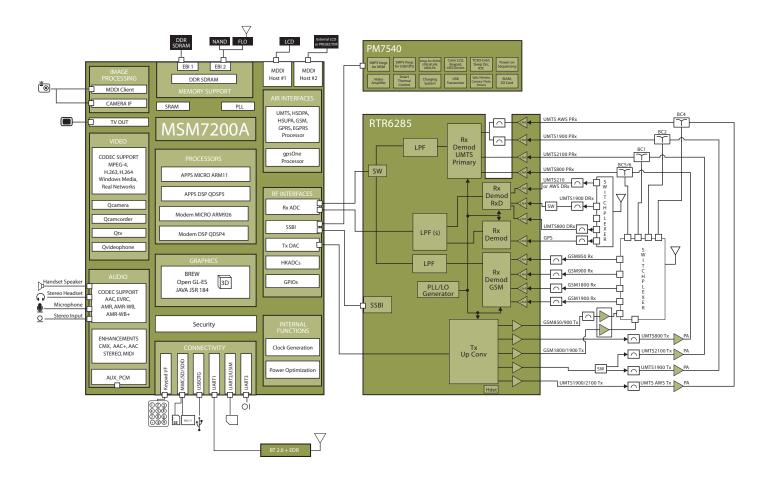
QUALCOMM's MSM baseband modem, radioOne® zero-IF frequency and powerOne™ power management solutions are optimized for seamless operation to enable efficient, price-competitive wireless devices. Expect a higher return on investment with our integrated solutions—fewer discrete parts means lower development costs, lower BOM costs and ultimately lower handset costs. With our innovative RF CMOS processing technology on select chipsets and lead-free packaging solutions, handset manufacturers can be confident that wireless devices based on our complete solutions will be power-efficient, dependable and cost-competitive.

MSM7200A | AVAILABLE RF & PM CHIPSET COMBINATIONS

| RF Chipset Configurations | | 3GPP Band | RTR6285™ | |
|------------------------------------|-----------------------|-----------|----------|--|
| Power Management IC | | | PM7540™ | |
| GSM | 850/900/1800/1900 MHz | | | |
| | 2100 MHz | 1 | | |
| | 1900 MHz | 2 | | |
| UMTS | AWS | 4 | | |
| | 850 MHz | 5 | | |
| | 800 MHz | 6 | | |
| | 900 MHz | 8 | | |
| | 1700 MHz | 9 | | |
| GPS | | | | |
| Receive Diversity | | | | |
| UMTS Dual-Band Receive Diversity | | | | |
| UMTS Triple-Band Receive Diversity | | | | |

^{**} Additional RF combinations available. Please contact QUALCOMM for details.

MSM7200A™ Chipset Solution



Information shown in this document is only exemplary of QUALCOMM products. QUALCOMM reserves the right to make changes, at any time and without notice, to its products that may cause its products to differ from the information shown in this document. NOTE: Alternative GPS antenna configurations are available.

Go Online

CHIPSET COMPARISON ONLINE TOOL

Please visit www.cdmatech.com/chipcompare to view the chipset comparison tool that details specific chipset features.

© 2007 QUALCOMM Incorporated. All rights reserved. QUALCOMM, BREW, CMX and radioOne are registered trademarks of QUALCOMM Incorporated. FLO, Mobile Station Modem, MSM, MSM7200, QVM, QAudioFX, QDSP4000, Q3Dimension, Qtv, Qcamcorder, Qconcert, Qvideophone, QCELP, SecureMSM, Qcamera, RTR6285, gpsOneXTRA, PM7540 and powerOne are trademarks of QUALCOMM Incorporated. Microsoft, Windows Media, Windows Mobile, Direct3D, DirectDraw and DirectShow are registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries. Bluetooth and the Bluetooth logos are trademarks owned by Bluetooth SIG, Inc., USA. Java is a registered trademark of Sun Microsystems, Inc. in the United States and other countries. ARM, Jazelle and ARM926EJ-S are trademarks or registered trademarks of ARM Limited. Synthetic music Mobile Application Format and SMAF are trademarks of Yamaha Corporation of America. aacPlus is a trademark of Coding Technologies. Open Mobile Alliance is a trademark of Open Mobile Alliance Ltd. CDMA2000 is a registered certification mark of the Telecommunications Industry Association. Used under license. All other trademarks and service marks are the property of their respective owners. Data subject to change without notice.

MSM7200A_5/2007 Rev. C (ACL1137)

QUALCOM*
CDMA Technologies