

# MSM6550™ Chipset Solution

## Maximize market share with a power-efficient, single-chipset solution for high-intensity wireless multimedia

The QUALCOMM® Enhanced Multimedia Platform of chipsets takes the true multimedia handset from concept to reality. These chipsets make a leap in processing power to deliver the quality of video, graphics and audio that will amaze users today and define the multimedia experience for years to come. This enormous performance gain is backed by power efficiency and chip design that make the most sophisticated wireless multimedia both possible and profitable.

By deploying a single-chip design, this platform enables sleek, sophisticated media devices with large, high-resolution screens that deliver rich multimedia features such as 4.0 megapixel camera capability, video-on-demand, 3D gaming and video telephony. Picture quality is so crisp, games are so realistic and video streams are so fast that users are compelled to seek out more and more exciting content, driving demand for airtime and additional services.

The QUALCOMM Enhanced Multimedia Platform is the industry's best solution for extending the capabilities of true wireless multimedia in 3G. It has a chipset solution for all major air interfaces and the power, speed and efficiency to run high-end multimedia that will revolutionize what people can do on a handset.



THE QUALCOMM ENHANCED MULTIMEDIA PLATFORM OF CHIPSETS TAKES THE TRUE MULTIMEDIA HANDSET FROM CONCEPT TO REALITY.

6550

QUALCOMM

### PERFORMANCE

Integrated architecture ensures designs that minimize development time and expense and accelerate return on investment

- Air interfaces supported:
  - CDMA2000® 1X (Release 0 and Revision A)
  - CDMA2000 1xEV-DO (Rel. 0)
  - GSM release 99 phase 2 compliant
  - GPRS class B multislot class 10
  - GPS
- WorldMode™-capable for global roaming solution
- High-performance 225 MHz ARM926EJ-S™ microprocessor core with memory management unit (MMU)
- Two QDSP4000™ high-performance digital signal processors (DSP)
- QVM™ Java® environment platform with multitasking virtual machine (MVM) and ARM's Jazelle™ Java acceleration
- Enhanced memory support for NAND, burst mode NOR, SDRAM and burst mode PSRAM
- Advanced 409-pin 0.5 mm pitch CSP package (14 mm x 14 mm)
- Open BREWapi™ software for developing handset UI and BREW® applications

# MSM6550™ Chipset Solution

The Mobile Station Modem™ (MSM™) MSM6550™ solution for CDMA2000 1xEV-DO networks powers the blazing-fast speeds required to run the high-impact, multimedia applications that maximize profitability and drive revenue. Deliver DO-enabled, high-end devices designed for demanding consumers with the MSM6550 chipset.

## GRAPHICS

### True 3D graphics for advanced wireless gaming and rich GUIs

- Advanced 2D/3D graphics support with up to 225,000 3D triangles per second, and 7 million 3D textured pixels per second fill rate
- Q3Dimension™ rendering engine with OpenGL® ES- and JSR 184-compliant 3D graphics
- Dedicated hardware support for 3D rendering
- Supported by leading third-party game titles
- Up to Quarter Video Graphics Array (QVGA) resolution

## VIDEO

### Television-like clarity and camcorder-like recording

#### Qtv™ Decoder

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

#### Qvideophone™ Video Conferencing Application

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

#### Qcamcorder Encoder

- A real-time wireless video recording solution that captures movies at 15 fps QVGA
- 3GPP/2 standards compliant
- Video Codecs: MPEG-4, H.263 and H.264
- Audio Codecs: QCELP, EVRC, AMR-NB and AAC

## POSITION LOCATION

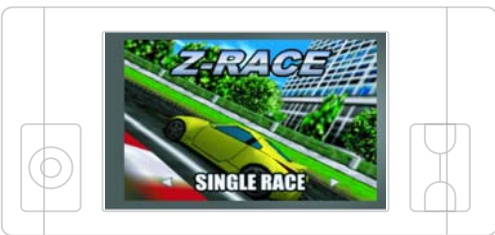
### Highly accurate positioning for location-based services (LBS)

- Next-generation gpsOne® Assisted-GPS solutions provide enhanced GPS engines for greater sensitivity and faster start times
- Enhanced filtering software optimizes GPS accuracy and availability for tracking and satellite navigation applications
- Full integration with JAVA and BREW-based development environments delivers support for commercially deployed location services
- Seamless operation in MS-Assisted, MS-Assisted Hybrid, MS-Based and Standalone GPS modes provides optimal performance both on and off-network
- Support for both User Plane and Control Plane protocols including IS-801 Control Plane and Trusted, V1 and V2 User Plane Assisted-GPS protocols
- Simultaneous operation capabilities with CDMA2000 1X

## CONNECTIVITY

### Connection with indispensable consumer electronics

- Supports QUALCOMM's high-speed serial interconnection technology, Mobile Digital Display Interface (MDDI), for increased reliability in clamshell phones
- Integrated Bluetooth® baseband processor for wireless connectivity to peripherals
- Support for 802.11 for wireless LAN and Voice-over-IP capabilities
- Universal serial bus (USB) on-the-go (OTG) functionality
- Support for multicast technologies, including QUALCOMM's FLO™ technology, DVB-H and ISDB-T
- SecureMSM™ security suite v1.0: supports subsidy protection and device-identifier integrity, including ESN



## IMAGING

### Integrated digital-still camera interface

- Qcamera™ software with 30 fps QVGA viewfinder resolution
- Support for up to 4.0 megapixel camera sensors with a flexible, integrated interface to CCD and CMOS sensors
- Hand jitter reduction, adaptive lighting
- 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

## AUDIO

### 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 accPlus, Windows Media Audio and RealNetworks Audio
- CMX™ multimedia software for customized ringtones, screensavers and greeting cards:
  - MIDI-based voice (up to 72 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
- Fourth-Generation Vocoder™ (4GV™) voice codec to provide network operators with the flexibility to prioritize voice quality and network capacity

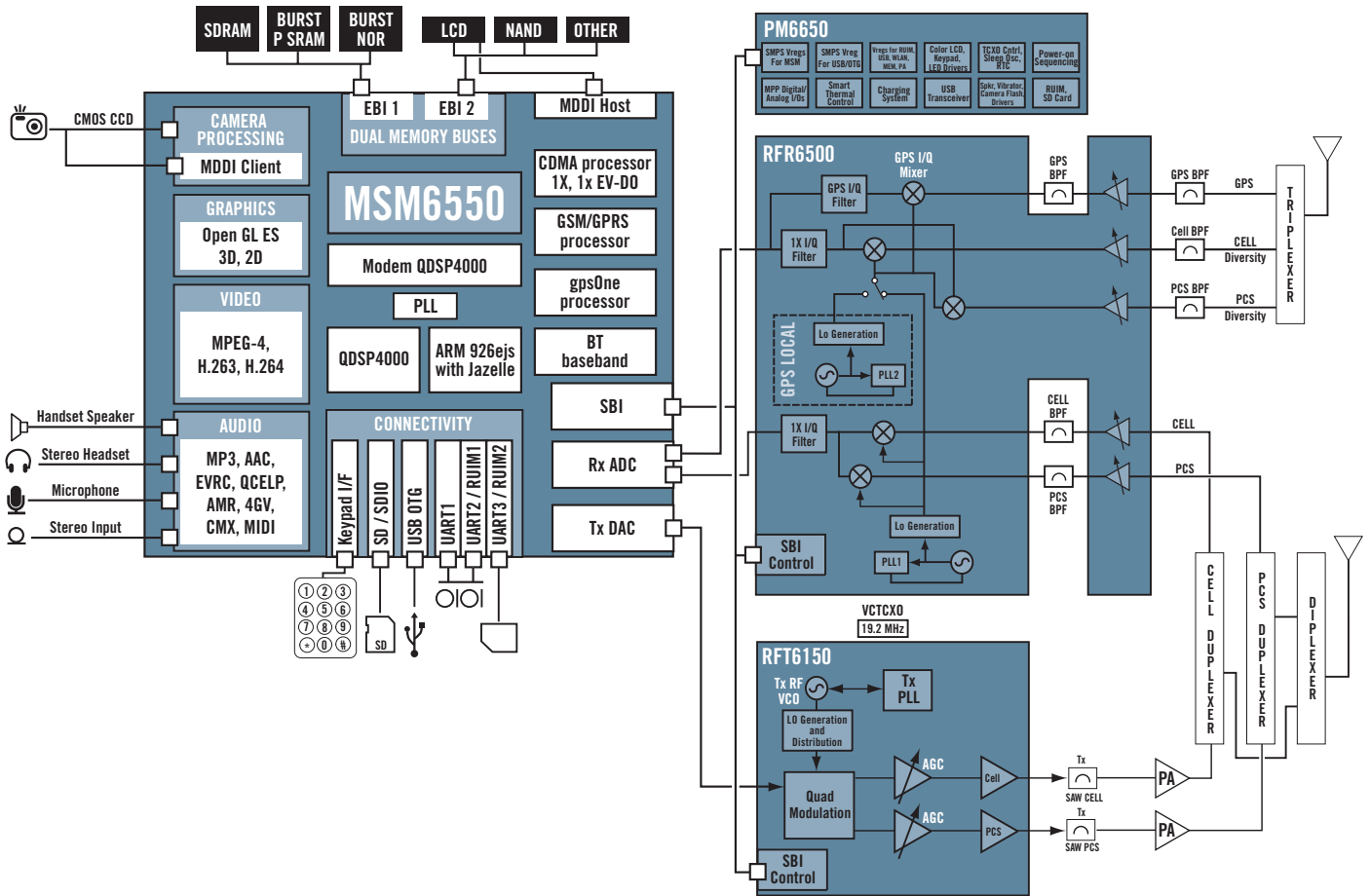
## OPTIMIZED RF AND PMIC SOLUTIONS

QUALCOMM's radioOne® zero-IF radio frequency and powerOne™ power management solutions are optimized for our MSM chipsets for high-efficiency, price-competitive wireless devices. Expect a higher return on investment with our integrated solution — 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.

## MSM6550 | AVAILABLE RF & PM CHIPSET COMBINATIONS

RF Chipset Configurations	RFL6000™ RFR6000™ RFT6100™	RFR6125™ RFT6120™	WORLD MODE™ RFR6500™ RTR6350™	RFR6500™ RFT6150™	RFR6525™ RFT6150™
Power Management IC	PM6650™	PM6650™	PM6650™	PM6650™	PM6650™
CDMA2000	450 MHz				
	CELL 850 MHz	■	■	■	■
	JCDMA 800 MHz	■	■		■
	KPCS 1700 MHz	■			■
	PCS 1900 MHz	■		■	■
GSM	IMT 2100 MHz	■			■
	900 / 1800 MHz			■	
GPS	SH	SH	SH	SI	SI
Receive Diversity			■	■	■

# MSM6550™ 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/enhancedplatform](http://www.cdmatech.com/enhancedplatform) to view the chipset comparison tool that details specific chipset features.

© 2006 QUALCOMM Incorporated. All rights reserved. QUALCOMM, gpsOne, QCELP, BREW and radioOne are registered trademarks of QUALCOMM Incorporated. Fourth-Generation Vocoder, 4GV, Mobile Station Modem, MSM, MSM6550, QDSP4000, Q3Dimension, Qvideophone, Qcamera, Compact Media Extensions, Qsynth, CMX, Qcamcorder, QConcert, QAudioFX, Qtv, SecureMSM, 4GV, RFR6500, RFR6525, RFT6150, RTR6300, PM6650 and powerOne are trademarks of QUALCOMM Incorporated. Microsoft and Windows Media are registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries. RealNetworks and RealPlayer are registered trademarks or trademarks of RealNetworks, Inc. OpenGL is a registered trademark of Khronos Group. Java is a registered trademark of Sun Microsystems, Inc., in the United States and other countries. ARM9, 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. Open Mobile Alliance is a trademark of the Open Mobile Alliance Ltd. aacPlus is a trademark of Coding Technologies. Bluetooth and the Bluetooth logos are trademarks owned by Bluetooth SIG, Inc., USA. WorldMode is a trademark of the CDMA Development Group, Inc. 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 owner. Data subject to change.

MSM6550\_6/2006 Rev. D (ACL1059)