






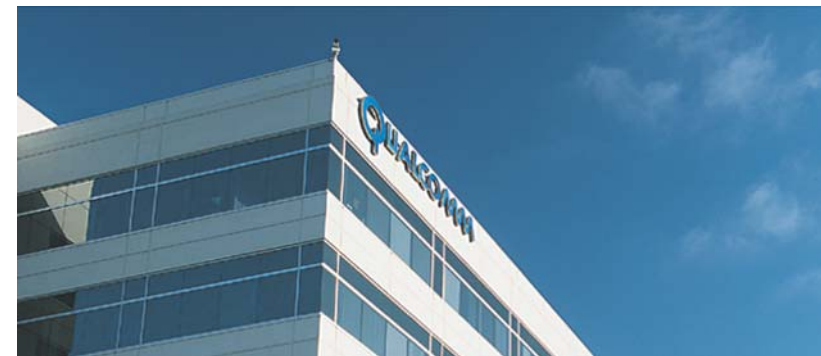


QUALCOMM CDMA Technologies CTIA 2005

March 2005

-  **Business Overview**
-  Market Opportunity & Growth Drivers
-  Product Overview
-  CDMA2000 Solutions
-  WCDMA Solutions

QUALCOMM Business Units



QUALCOMM CDMA Technologies
QCT

QUALCOMM Technology Licensing
QTL

QUALCOMM Wireless & Internet Group
QWI

Corporate/Reconciling Items

QUALCOMM Strategic Initiatives
QSI

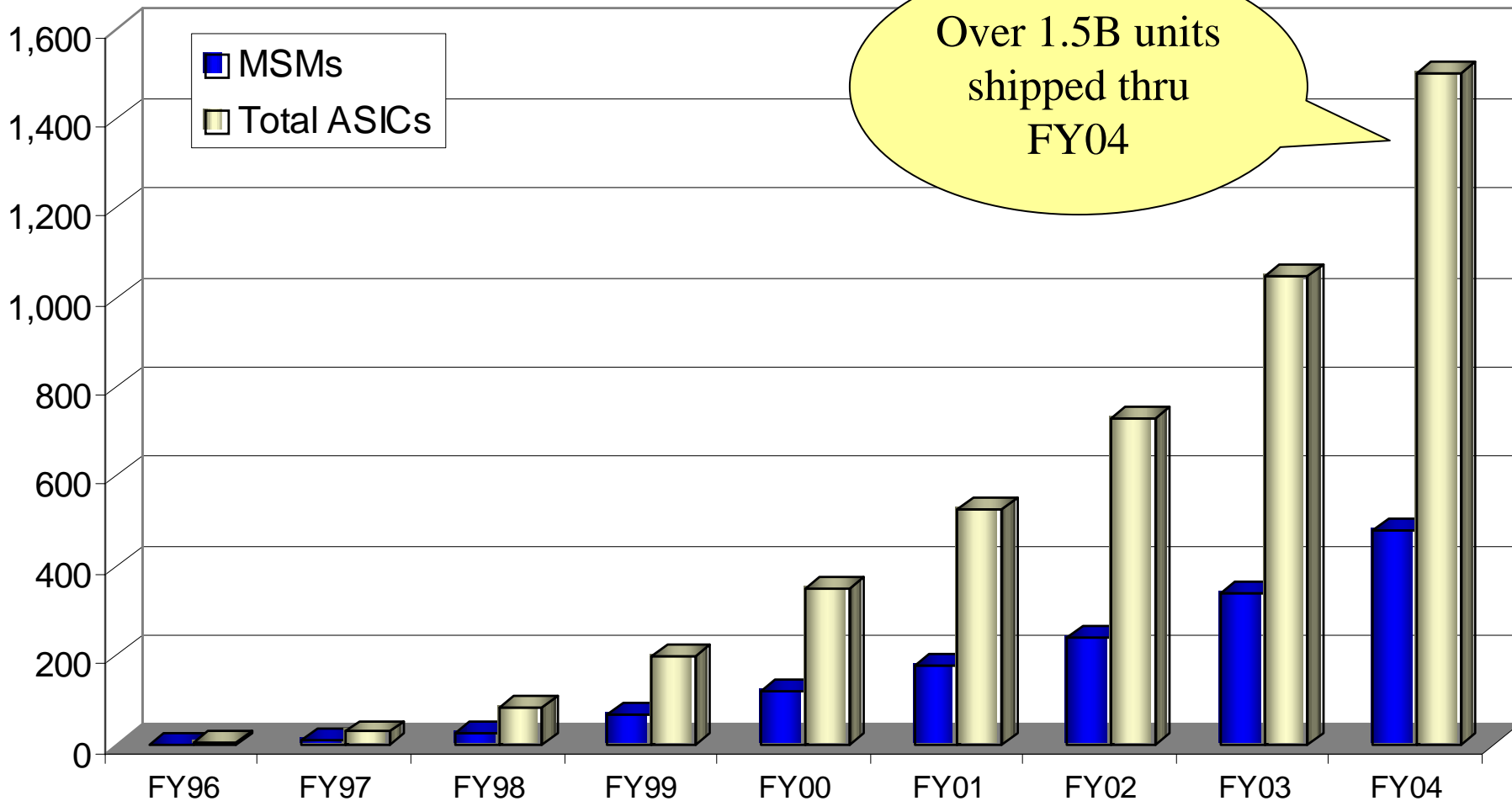
- QIS** QUALCOMM Internet Services
- QWBS** QUALCOMM Wireless Business Solutions
- QGOV** QUALCOMM Government Technologies

QMT QUALCOMM MEMs Technologies (Iridigm)

Strategic Investments
MediaFLO USA

Cumulative ASICs Shipments

(Millions of Units)



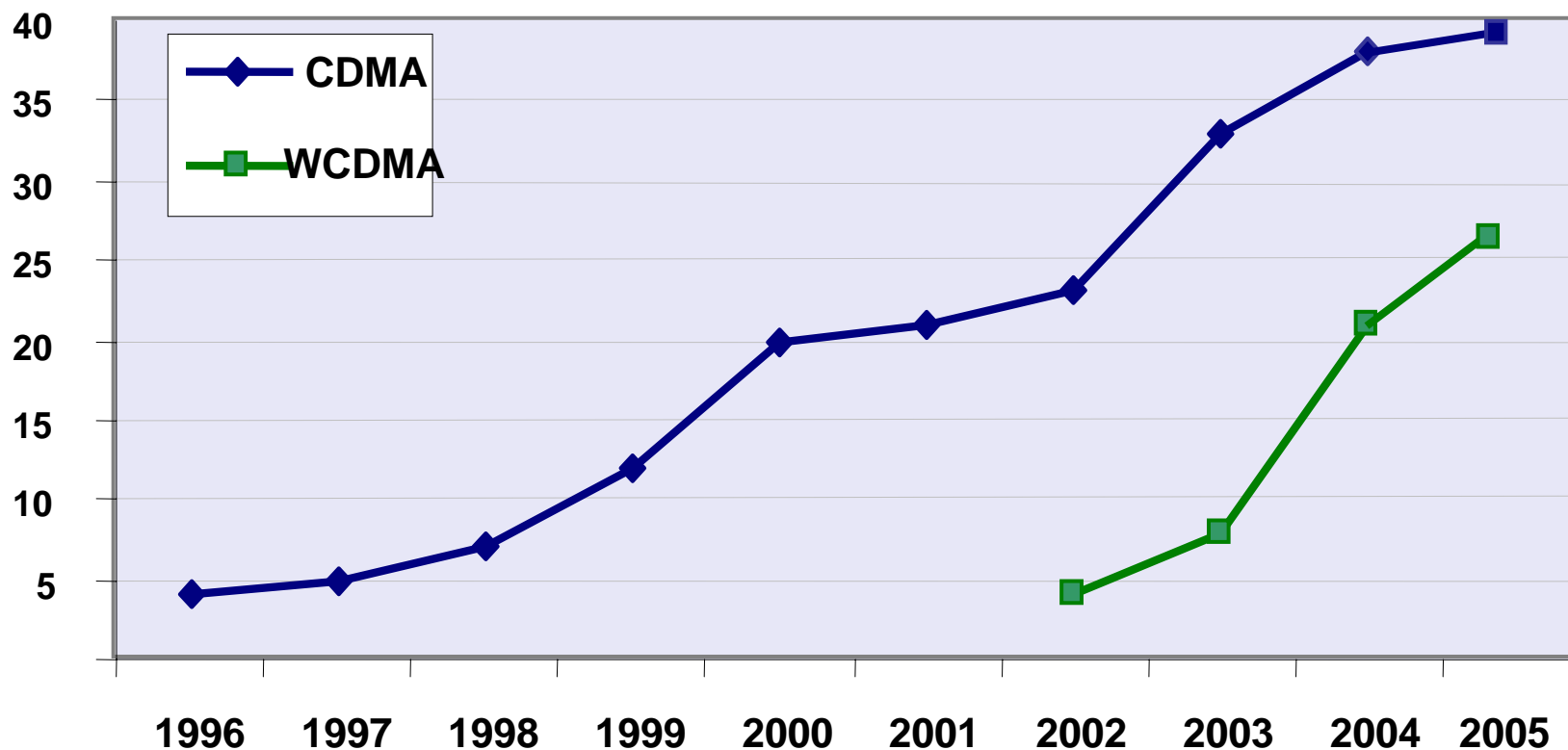
Over 1.5B units shipped thru FY04

QCT Pushing Aggressive Growth Path



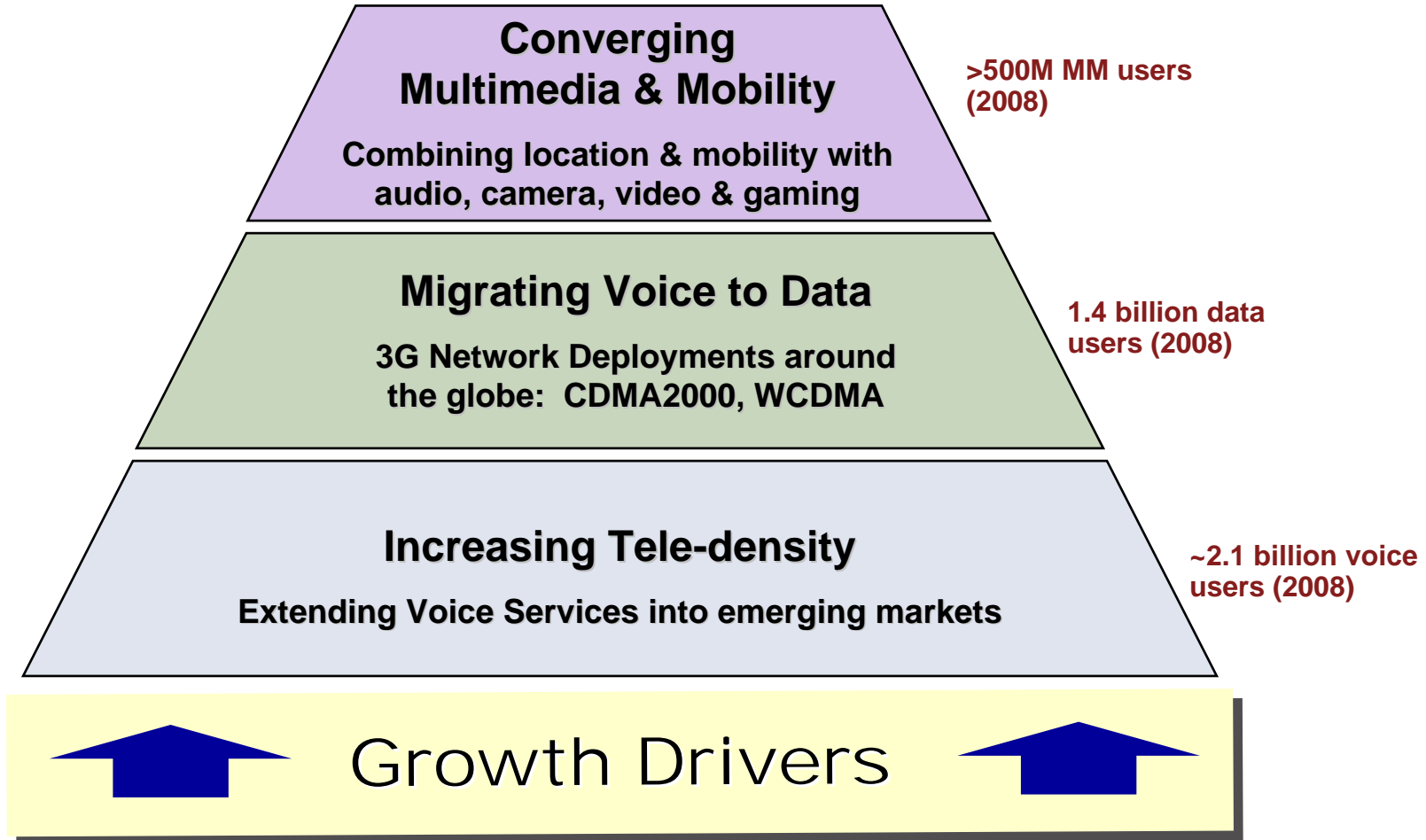
- Doubled customer base in 2 years ['02 – '04]
- Added Europe, China, India & S.E. Asia since 2002
- Our customers have delivered over 500 devices
- Supported by industry's largest CDMA eng. team

Chipset
Customers



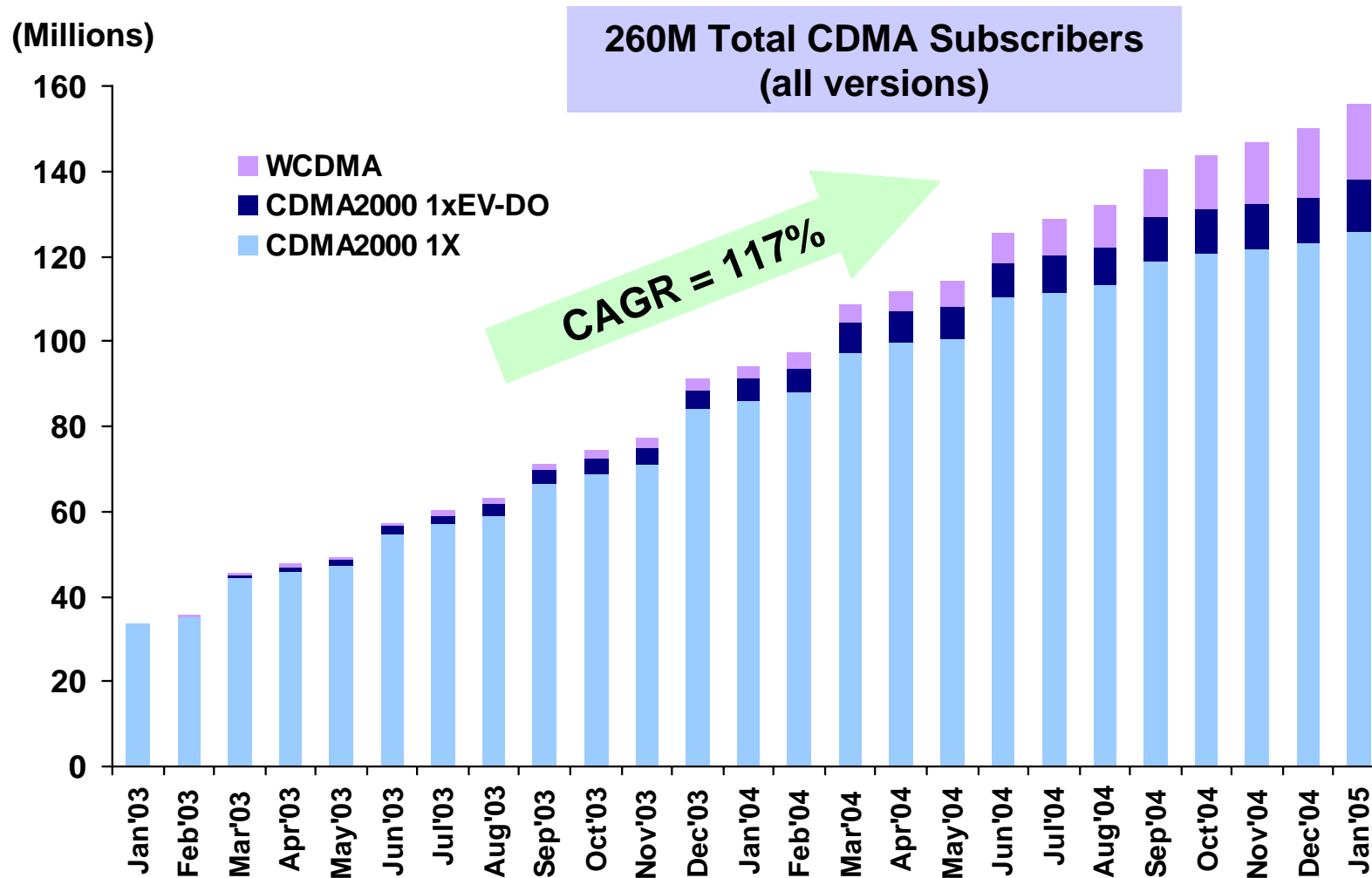
-  **Business Overview**
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-  **CDMA2000 Solutions**
-  **WCDMA Solutions**

Wireless: Key Growth Driver for Semiconductor Industry



Sources (top to bottom): Strategy Analytics, Aug'04 (MM users = users of Personalization, Information and Entertainment apps. Excludes users of Messaging and P2P communication); Strategy Analytics, Aug'04 Yankee Group, Nov '04

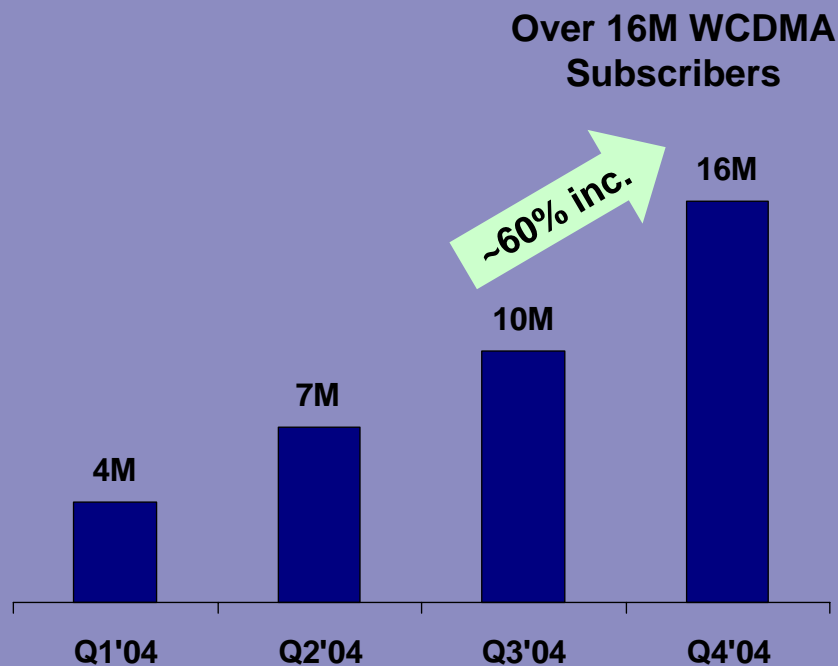
Over 156 Million Reported 3G CDMA/WCDMA Subscribers Worldwide (As of January 31, 2005)



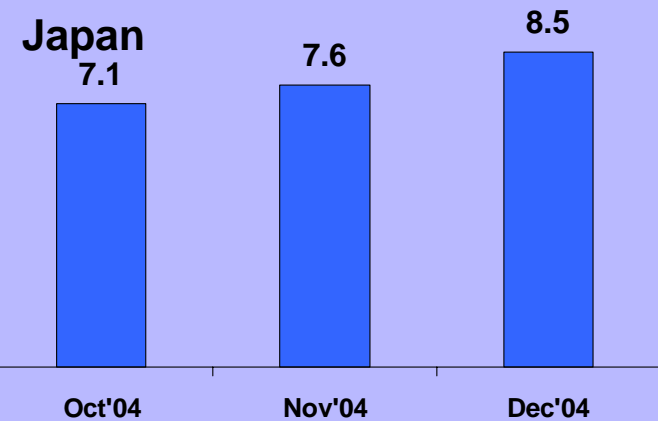
Based on information available at 3Gtoday.com; Eighty-four of the 125 operators have reported 3G CDMA subscriber totals at some point. Fifty-one of those operators have updated their 3G CDMA subscriber totals for January 2005. Forty-one operators have yet to report 3G CDMA subscriber numbers; EMC as of January 31, 2005.

3G WCDMA Market Growing Rapidly More Than 60 Networks (January 2005)

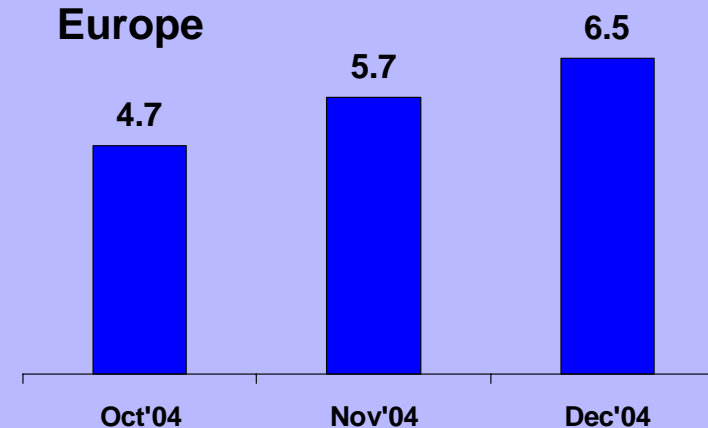
Total WCDMA Subscribers (Millions)



WCDMA Subscribers Cum (Millions)



Europe

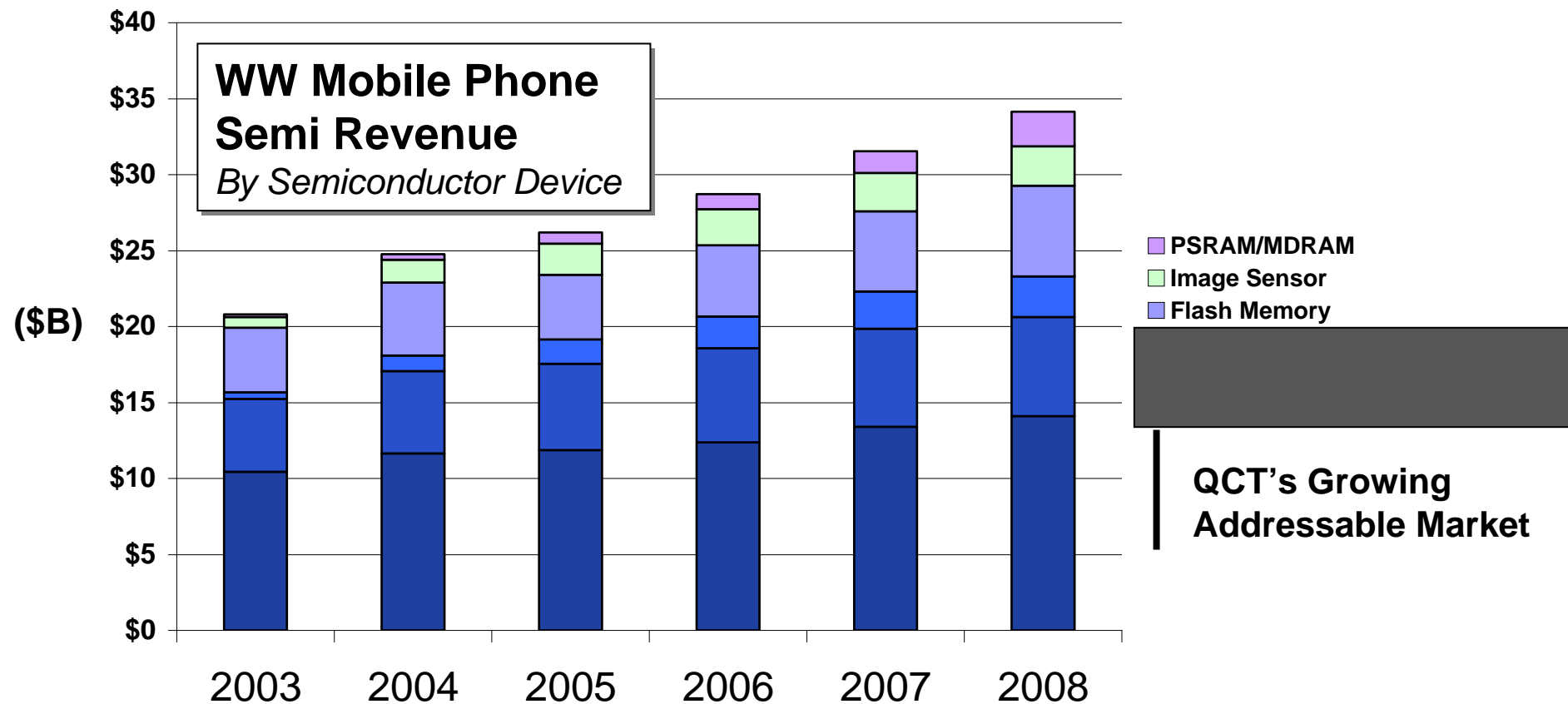


Convergence With Consumer Electronics








Feature Integration

Supports Mainstream Demand for Data



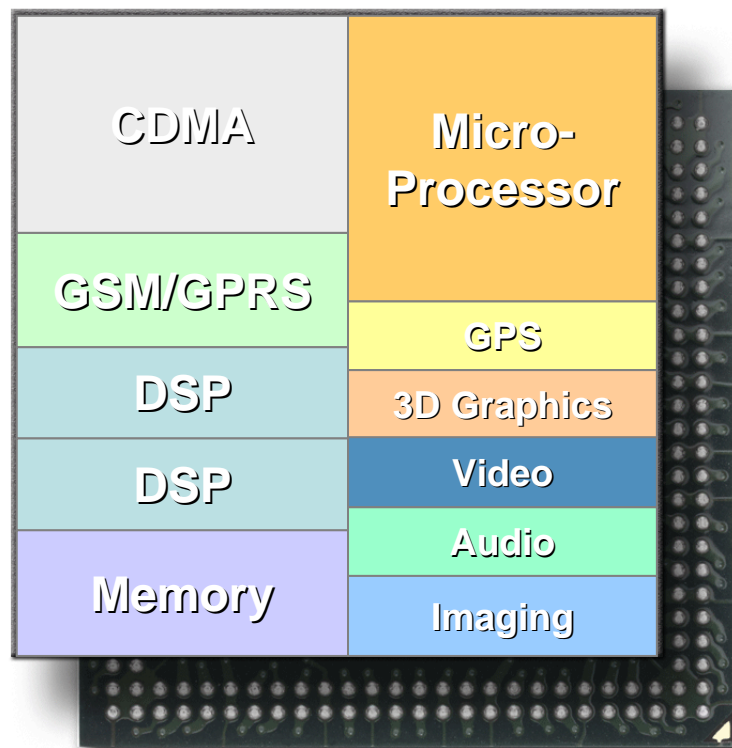
Source: IDC Sep '04


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-  **WCDMA Solutions**

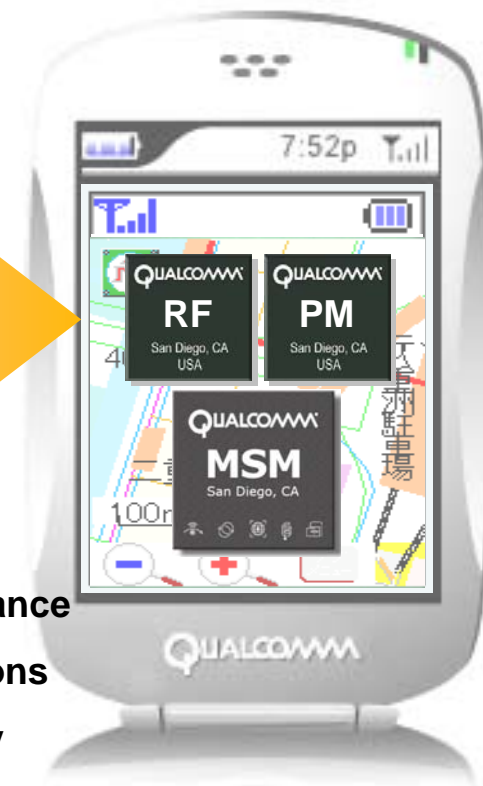
What is in a QUALCOMM Chipset?

A Leader in delivering Wireless Solutions

Always striving to achieve Semiconductor Excellence



- 
- **Smaller Form Factor**
 - **Enhanced System Performance**
 - **Highly Integrated Applications**
 - **Greater Quality & Reliability**
 - **Reduced Power Consumption**
 - **Lower Overall Costs**
 - **Faster Time to Market**



QCT Chipset Roadmap Overview

XXXX — Product Name

xQ '0x — Engineering Sample Date

	CDMA2000		CDMA2000 + GSM-GPRS				WCDMA (UMTS)			
	1X		1X	1xEV-DO (Rel. 0)	1xEV-DO (DOrA)	+ UMTS/ EDGE/HSDPA	GSM/GPRS	EDGE	EDGE/HSDPA	HSUPA
CONVERGENCE PLATFORM Dual CPU On-Chip					 7500 2Q '05	 7600 2006				 7200 1Q '06
ENHANCED PLATFORM Enhanced Multimedia & Graphics	 6150 2Q '04			 6550 2Q '04	 6800 1Q '05				 6280 3Q '05	
MULTIMEDIA PLATFORM Multimedia & 2D-3D Graphics	 6100 3Q '02		 6300 3Q '02	 6500 2Q '03			 6250A 2Q '05	 6255 2Q '05	 6255A 4Q '05	 6260 4Q '05
VALUE PLATFORM Integrated gpsOne Voice & Data Voice	 6050 1Q '02	 6025 3Q '03	 6000 1Q '02	 Single-Chip 1X 1Q '06 Integrated • MSM • RTR • PMIC			 6200 2Q '02	 6225 1Q '05		

QCT Positioning for Global Expansion

Our Value to the Industry Originates with Our Complete Solution

Digital IC

RFIC

Launchpad™ Applications Suite

Software Protocol Stack

Tools

Support

COMPLETE SOLUTIONS

- Faster time to market
- Integrated multimedia engines for broad market appeal

LOWEST SYSTEM COSTS

- Highest performance single chip processor implementations
- Aggressive cost structures
- RFCMOS based single-chip transceiver integration

PROVEN SOLUTIONS

- Fully tested platforms prior to commercial shipment
- QC Test and Certification

COMPREHENSIVE PRODUCT OFFERING

- Multiple solutions to address varying market preferences
- Multiple Bands of RF Support

LAUNCHPAD™

The technology engines that drive rich applications on the MSM



multimedia	connectivity	position location	user interface	storage
<ul style="list-style-type: none"> • Qsynth™ • MIDI player • CMX™ Compact Media Extension • Qtunes™ <ul style="list-style-type: none"> • AAC, AAC+, EAAC+ • MP3 • Qcamera™ • Qtv™ <ul style="list-style-type: none"> • MPEG4/H.263 • H.264 • Real Networks • Win Media • Qcamcorder™ • Qvideophone™ • PNG, JPEG, GIF • 2D/3D Graphic Acceleration 	<ul style="list-style-type: none"> • BREW™ Integration Support • USB • USB Host (On the Go) • Bluetooth • PureVoice Mail™ • IP Protocol stack • Secure MSM <ul style="list-style-type: none"> • SSL Encryption • DRM • OMA DRM • Secure Boot • JAVA J2ME <ul style="list-style-type: none"> • Jazelle H/W • JSR Support • 802.11 	<ul style="list-style-type: none"> • gpsOne™ AGPS technology • Hybrid AGPS/network solution • Mobile-Assisted Mode • Mobile-Based Mode • Stand Alone Mode • 3GPP/3GPP2 compatible • Control Plane support • User Plane support • Digital compass interface 	<ul style="list-style-type: none"> • PureVoice VR • PureVoice Recorder • PureVoice Audio AGC • SIM/UIM Card interface • CMOS/CCD image sensor interface • Color LCD interface 	<ul style="list-style-type: none"> • MIMC • SD-Card

QUALCOMM's Position Location Technology

gpsOne available in over 100 million devices

More than 20 device manufacturers delivering more than 150 different handset models

17 Operators



Broad range of location-based services



QUALCOMM's Graphics Solution

Q3Dimension™



gameloft



ideaWORKS3D!



More Than 30 Leading Publishers and Developers Creating 3D Games Optimized for Enhanced Platform

Graphics Performance Levels:

Chipset Platform	Enhanced	Convergence
Geography (triangles/sec):	100k	4 Million
Refresh rate (3D Pixels/sec):	7 Million	133 Million
Display Resolution:	QVGA (240x320)	VGA (480x640)
Concurrent Audio available on both platforms		








“Slingshot” Enhanced Multimedia Development Handset

QUALCOMM's Mobile Video Solutions











Qtv, QCamcorder & QVideophone

- Video decoder that enables mobile devices to stream, download and play back multimedia content
- Encoding solution that enables mobile devices to record video and audio simultaneously
- 2-way video conferencing application tailored to 3G networks such as EV-DO and UMTS
- All major video and audio codecs supported

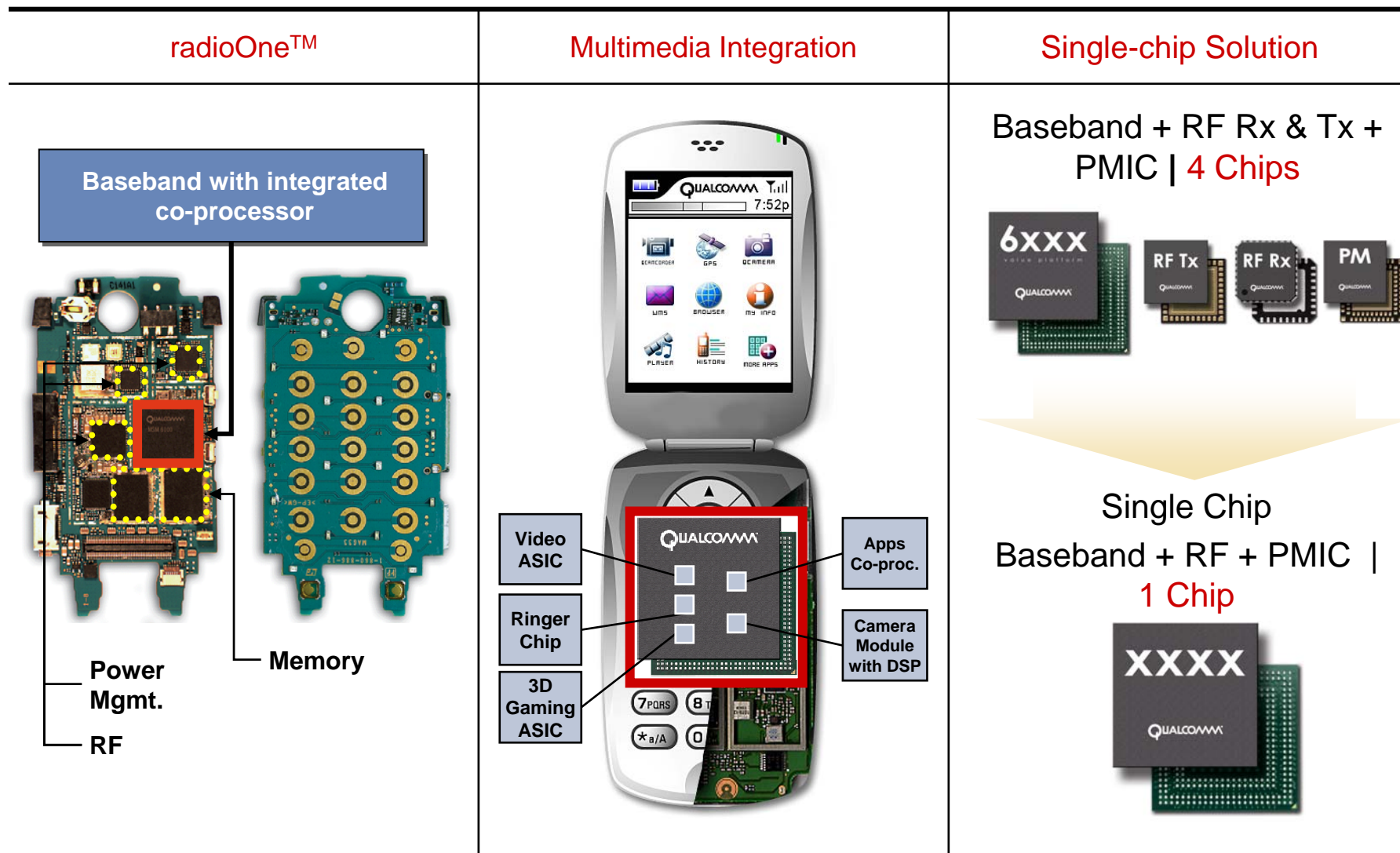


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-  **UMTS Solutions**

QCT's CDMA2000 Segmentation Strategy

	 value Platform QUALCOMM	 multimedia Platform QUALCOMM	 enhanced Platform QUALCOMM	 convergence Platform QUALCOMM
 AUDIO	MP3	MP3/AAC/WMA	MP3/AAC/AAC+/WMA	MP3/AAC/AAC+/WMA
 GRAPHICS	NA	50k Triangles	100k Triangles	3M-4M Triangles
 CAMERA	NA	1-2 MPixel	2-4 MPixel	4-6 MPixel
 VIDEO Record & Playback	Sub QCIF	15 fps QCIF	30 fps CIF	30 fps VGA
 uPROCESSOR	ARM 7 - 50MHz	ARM 9 - 150MHz	ARM 9 - 225 MHz	Dual CPU incl. ARM 11 - 400MHz - 1GHz
 LCD Resolution	sQCIF [128 x 96]	QCIF [176 x 144]	QVGA [320 x 240]	VGA [640 x 480]

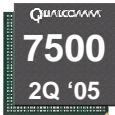
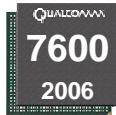


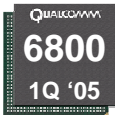



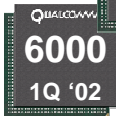

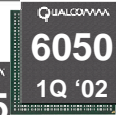
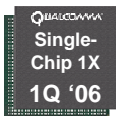
QCT Path Toward Greater Integration



CDMA2000 Chipset Roadmap



Product Name
Engineering Sample Date

	CDMA2000		CDMA2000 + GSM-GPRS			
	1X		1X	1xEV-DO (Rel. 0)	1xEV-DO (Rev. A)	+ UMTS/EDGE/HSDPA
CONVERGENCE PLATFORM Dual CPU On-Chip					 7500 2Q '05	 7600 2006
ENHANCED PLATFORM Enhanced Multimedia & Graphics	 6150 2Q '04			 6550 2Q '04	 6800 1Q '05	
MULTIMEDIA PLATFORM Multimedia & 2D-3D Graphics	 6100 3Q '02		 6300 3Q '02	 6500 2Q '03		
VALUE PLATFORM Integrated gpsOne Voice & Data Voice	 6000 1Q '02	 6025 3Q '03	 6050 1Q '02	 Single-Chip 1X 1Q '06		

Integrated:
 • MSM
 • RTR
 • PMIC

CDMA2000 1xEV-DO Wireless Broadband Expanding Rapidly

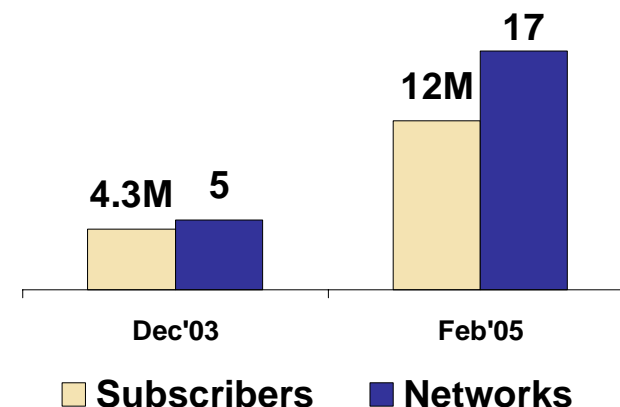
Over 60 Different Commercial Devices, Over 12 Million Subscribers on 17 Networks as of February 2005

New Launches Coming Shortly

North America: ALLTEL, Sprint, Ubiquitel, Bermuda Digital Comm.

Asia: Hutch Cat, Telkom Indonesia

South America: Bell, Alegro PCS



A Catalyst for Mobile Multimedia -- CDMA2000 1x EV-DO By QUALCOMM

- More than 100 commercial devices available or in design based on MSM6500 and MSM6550
- 1.3 to 4 Megapixel camera capabilities
- High-quality audio and video
- Download and play 3D games



***MSM6500 Handsets
Now in North America***



LG VX-8000

**Samsung
SCH-A890**

**UTStarcom/
Audiovox
CDM8940**



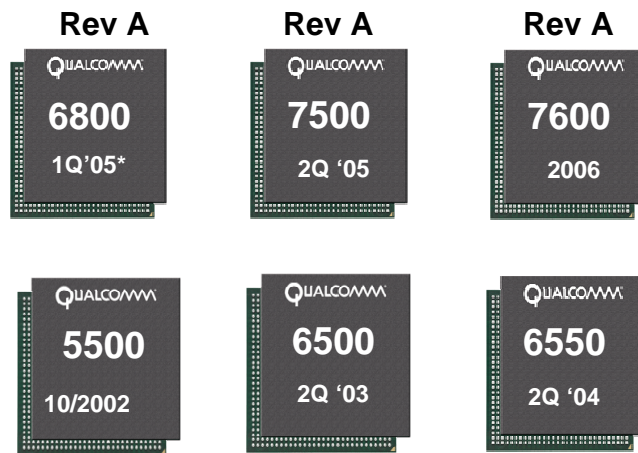
- 30+ design wins
- Supports up to 2.4Mbps
- On track for production in Q1'05
- Multimedia enhancements to improve the DO experience



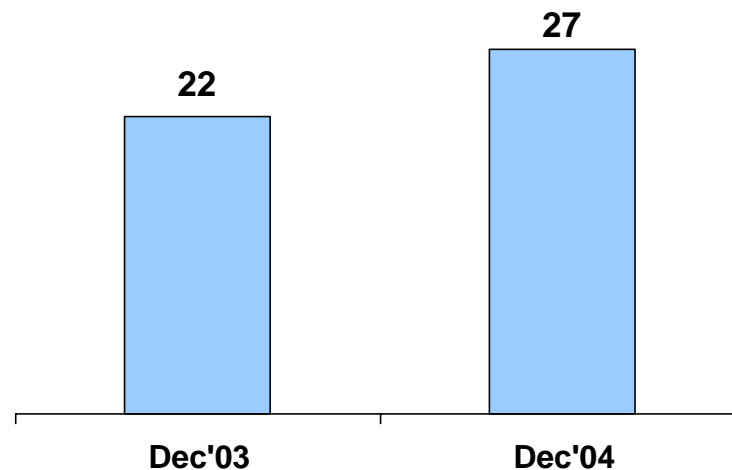
- Strong global interest in CDMA2000 Rev A
- Supports up to 3.1Mbps
- Sampling March 2005
- Supports additional enhancements to today's DO networks

QUALCOMM Supports CDMA2000 1xEV-DO, DOrA

EV-DO QUALCOMM-based Chipset Solutions



EV-DO QUALCOMM Chipset Customer Wins



*Note: Engineering sample dates

Recent EV-DO Announcements

- Verizon Wireless: new EV-DO handsets, and expansion to 32 regional markets
- Sprint-Nextel merger



EV-DO Vendors



CDMA2000 1xEV-DO Roadmap

VoIP

1X-like spectral efficiency/
voice capacity/quality

Video Telephony

Packet Voice and video

Low Latency

30ms

Rev A – Higher Data Rates

3.1 Mbps DL

1.8 Mbps UL

Ave 600-1300 Kbps DL

Next Level
Enhancements

Push To Talk Instant Messaging Instant Multi-media

Audio and video

<750ms PTT

•Quality of Service (QoS)

- Multiple QoS concurrent flows
- Selected by user or application

- Gold Multicast
- Platinum Multicast
- High rate media delivery

Release 0





2.4 Mbps DL

153Kbps UL





Ave 300-600 Kbps DL







- Equalizer
- Interference Cancellation
 - Voice/data capacity gains



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-  **WCDMA Solutions**

QCT's WCDMA Segmentation Strategy

				
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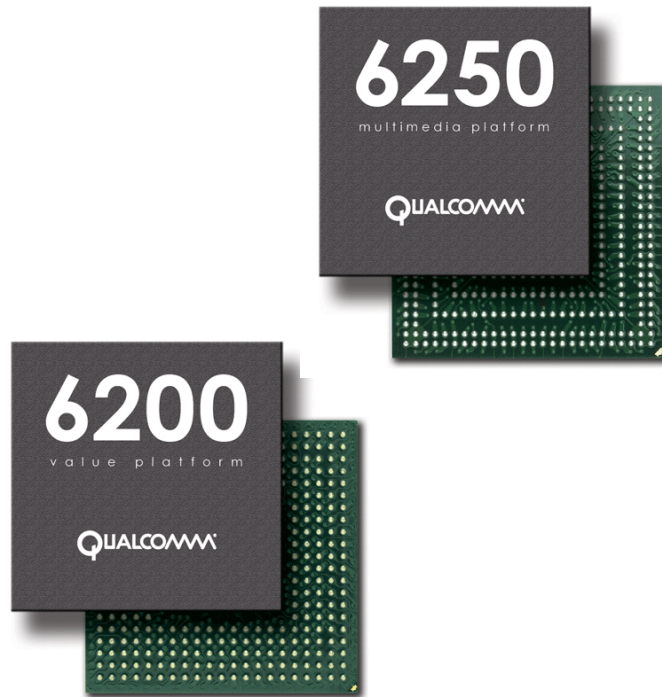
	value Platform	multimedia Platform	enhanced Platform	convergence Platform
 AUDIO	MP3/AAC	MP3/AAC/WMA	MP3/AAC/AAC+/WMA	MP3/AAC/AAC+/WMA
 GRAPHICS	NA	50k Triangles	100k Triangles	3M-4M Triangles
 CAMERA	1.3MPixel	1.3MPixel	2-4 MPixel	4-6 MPixel
 VIDEO Record & Playback	15 fps QCIF	15 fps QVGA	30 fps CIF	30 fps VGA
 uPROCESSOR	ARM 9 - 146MHz	ARM 9 - 180MHz	ARM 9 - 225 MHz	Dual CPU incl. ARM 11 - 400MHz - 1GHz
 LCD Resolution	sQCIF [128 x 96]	QCIF [176 x 144]	QVGA [320 x 240]	VGA [640 x 480]

WCDMA Program Overview

- **Broadest product offering in the industry**
 - Tiered product offering enables OEMs & carriers to deliver the right features for the right market segment
- **The industry's most aggressive schedules for WCDMA/HSDPA**
 - New accelerated schedules to drive fast data rate networks to market sooner
- **Extensive IOT program**
 - Advanced testing programs conducted with infrastructure companies and carriers reduces time to market complex multimedia devices

QCT WCDMA Solutions Launching Globally

Expanding breadth of QCT-based phones and data cards



Carrier launches to date



QUALCOMM-enabled WCDMA Devices

LG

BenQ



S750

MSM6250

Huawei



D208

MSM6250



KW2000

U8150

MSM6200

Novatel



Merlin U530

MSM6200

Option



Mobile
Connect

GlobeTrotter
Fusion

MSM6200

MSM6250

Seiko



VC701SI

MSM6200

Sierra Wireless



850

MSM6275

Sanyo



V-SA701

V801SA

S750

MSM6200

MSM6200

MSM6250

Samsung



SGH-Z105

SGH-Z107

SGH-Z110

Z300

Z500

Z130

MSM6200

MSM6200

MSM6200

MSM6250

MSM6250

MSM6250

A Catalyst for Mobile Multimedia -- HSDPA By QUALCOMM

- Live demonstrations featured at 3GSM, CEBIT and CTIA 2005
- Completion of industry's first end-to-end live HSDPA calls
- Industry's first commercial HSDPA solution



**First HSDPA
calls in
Europe &
North
America**



**Sierra Wireless
Aircard**

Industry Leaders Select MSM6275



Announced Here at CTIA



- Supports up to 3.6Mbps
- Sampling Q4 2005
- Cost-effective solution to expand global reach of HSDPA



- Supports up to 7.2Mbps
- Sampling Q3 2005
- High-speed, feature-rich solution to drive data-intensive applications

WCDMA MSM Roadmap

Product Name
XXXX
Engineering Sample Date
XQ'0X
Color border
Denotes pin out
and software
compatibility

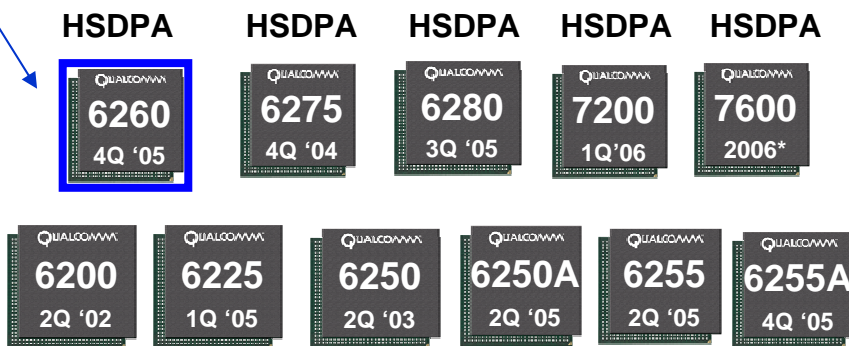
	WCDMA (UMTS)			
	GSM/GPRS	EDGE	HSDPA	HSUPA
CONVERGENCE PLATFORM Dual CPU On-Chip				7200 1Q'06
ENHANCED PLATFORM Enhanced Multimedia & Graphics	RFR/RTR6250 + RFR6220 (Tri-band)			
MULTIMEDIA PLATFORM Multimedia & 2D-3D Graphics	RFR/RTR6250 6250 2Q '03	6250A 2Q '05	6255 2Q '05	6255A 2Q '05
VALUE PLATFORM Voice & Data Voice	6225 1Q '05		6275 4Q '04	6280 3Q '05

RFR/RTR6275 RFCMOS

QUALCOMM Supports WCDMA, HSDPA

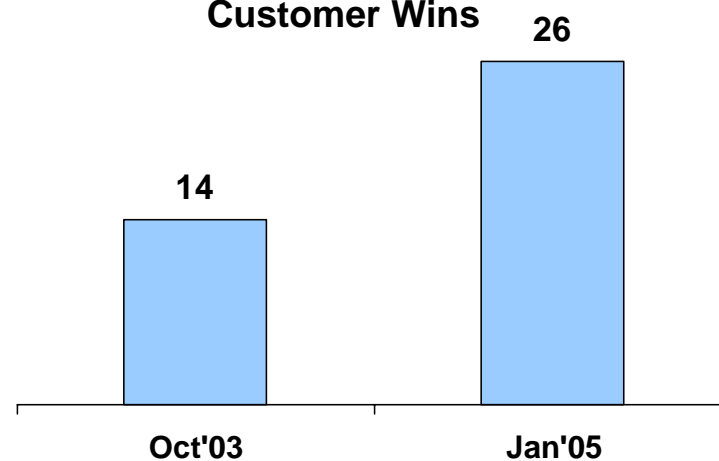
WCDMA QUALCOMM-based Chipset Solutions

Just announced



*Note: Engineering sample dates

WCDMA QUALCOMM Chipset Customer Wins



Top 6 Global Handset Vendors by Market Share

- Nokia
- Motorola
- Samsung**
- Siemens**
- Sony Ericsson
- LG**

3 of the top 6 vendors are QUALCOMM WCDMA customers

16 Announced Customers



What does the future Hold?



LISTEN TO YOUR FAVORITE BAND • TAKE A PHOTO • SHOOT A MOVIE
• SEND A VIDEO • PLAY 3D GAMES • FIND A RESTAURANT

A large, centered version of the Qualcomm CDMA Technologies logo. It consists of a large, bold, black 'Q' icon on the left, followed by the word 'QUALCOMM' in a bold, black, sans-serif font. Below 'QUALCOMM' is the text 'CDMA Technologies' in a smaller, black, sans-serif font. A registered trademark symbol (®) is located at the top right of the 'M' in 'QUALCOMM'.