

# Marvell PXA1802

Ultimate TD-LTE/TD-HSPA+/EDGE Modem for TD Networks



## PRODUCT OVERVIEW

The Marvell® PXA1802 LTE thin-modem combines Marvell’s leading silicon and cellular expertise to provide the state-of-arts mobile broadband connectivity for multitude of consumer devices, such as, high-performance, low-power smartphones, tablet devices, mobile hotspot devices, and laptops. These devices can be used worldwide since they support global access configurations for TDD-LTE (Time-Division Duplex-Long-Term Evolution), FDD-LTE (Frequency Division Duplex-Long-Term Evolution), TD-SCDMA (Time Division Synchronous Code Division Multiple Access) and EGPRS (Enhanced GPRS). Featuring 40 nanometer (nm) technology, the Marvell PXA1802 integrates all 2G, 3G and 4G mobile broadband modem technologies on a single chip that is fully backward compatible, yet supports current China TD-SCDMA networks and next-generation TDD/FDD networks.

The Marvell PXA1802 is the industry’s first LTE modem chipset to support next-generation LTE standards with Category 4 150Mbps (megabits-per-second) downlink throughput and Release 8 TD-SCDMA HSPA+. The flexible and efficient architecture of the Marvell PXA1802 communication platform allows fast implementation on the latest LTE and TD-SCDMA terminals with minimum cost. With Marvell’s cutting edge cellular technology and seamless wireless connectivity, the new Marvell PXA1802-powered terminals offer ultimate performance for browsing, HD live video, music, 3D gaming, social networking and other bandwidth-hungry mobile applications at an attractive price. In addition, the Marvell PXA1802 communication platform is fully validated via extensive IOT, GCF and field trial testing in TD networks.

## BLOCK DIAGRAM

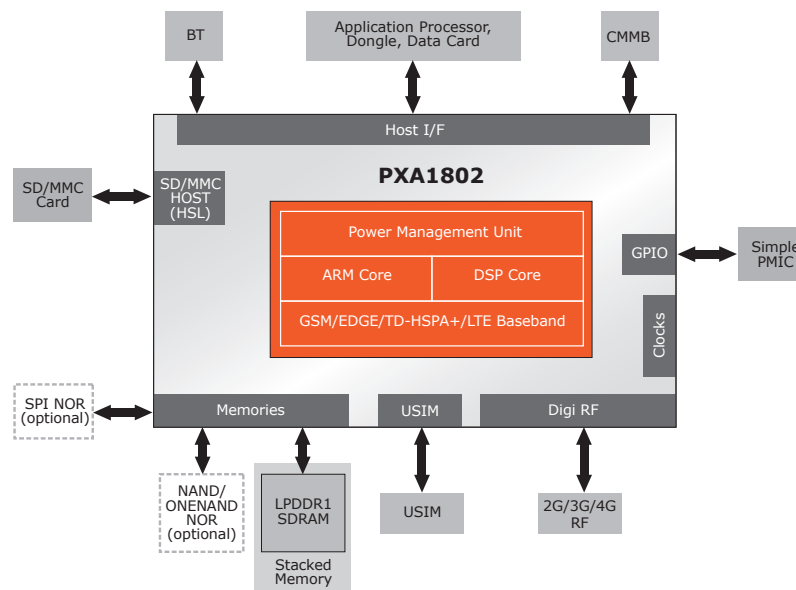


Fig 1. Marvell PXA1802 Platform for Smartphones and Tablets

FEATURES GROUP	FEATURES	DESCRIPTION	
Cellular Network Solution	LTE	<ul style="list-style-type: none"> <li>Release 8/9</li> <li>UE Category 4 Support</li> <li>- 150Mbps DL/50Mbps UL</li> <li>LTE FDD/TDD support</li> </ul>	<ul style="list-style-type: none"> <li>MIMO support</li> <li>Ciphering / Deciphering Support</li> <li>Support all Bandwidth Options</li> <li>Supports Beamforming</li> </ul>
	TD-SCDMA	<ul style="list-style-type: none"> <li>Release 8</li> <li>HSDPA with DLDC: 8.4Mbps</li> <li>HSUPA Category 6</li> </ul>	<ul style="list-style-type: none"> <li>Multi-Carrier: 2 carriers at same time</li> <li>Rx diversity support</li> <li>64QAM support</li> </ul>
	GSM	GSM/GPRS/EGPRS/EGPRS2/EGPRS	
	Protocol Stack	<ul style="list-style-type: none"> <li>Marvell-supported 2G/3G/4G protocol stack</li> <li>- Compliant with world’s leading carrier</li> </ul>	Fully integrated platform solution validated via extensive IOT, GCF and field trial testing
	RF Solution	<ul style="list-style-type: none"> <li>Multi-band LTE support</li> <li>Multi-band 3G support</li> </ul>	<ul style="list-style-type: none"> <li>Quad-band EDGE support</li> <li>DigRF3G/4G support</li> </ul>



## FEATURES GROUP (continued)

FEATURES	DESCRIPTION
<ul style="list-style-type: none"> <li>Modem Processors</li> </ul>	<ul style="list-style-type: none"> <li>Marvell-designed ARM9 with packet processing accelerators</li> <li>L1 Instruction and Data Cache</li> <li>L2 Cache</li> <li>ITCM and DTCM</li> </ul>
<ul style="list-style-type: none"> <li>Multi-radio Platform Capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Modem DSP Core                             <ul style="list-style-type: none"> <li>Micro-Signal Architecture VLIW DSP</li> <li>L1 Instruction and Data Cache</li> <li>Instruction and Data SRAM</li> </ul> </li> <li>3G/WLAN/BT Coexistence                             <ul style="list-style-type: none"> <li>Enables support for IMS, VoIP and other advanced carrier services</li> </ul> </li> </ul>



## APPLICATIONS

Paired with Marvell’s industry-leading application processors, the PXA1802 enables seamless performance with bandwidth-hungry mobile applications and multimedia devices. The PXA1802 comes in data card and dongle form factors to support mobile connectivity for tablets, laptops and smartphone devices.

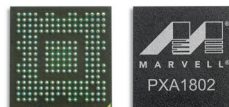


Fig 2. Marvell PXA1802 Chip (not actual size)

**THE MARVELL ADVANTAGE:** Marvell chipsets come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell’s worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

**ABOUT MARVELL:** Marvell is a leader in storage, communications, and consumer silicon solutions. Marvell’s diverse product portfolio includes switching, transceiver, communications controller, processor, wireless, power management, and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, storage, and digital entertainment solutions. For more information, visit our Web site at [www.marvell.com](http://www.marvell.com).



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