PRODUCT OVERVIEW

The Marvell® PXA1801L LTE cellular modem combines Marvell’s leading communications and silicon expertise to enable the
design of global cellular devices. The Marvell PXA1801L enables high-performance, low-power cellular devices that can be used
and supported worldwide - including configuration support for Time-Division Duplex-Long-Term Evolution (TDD-LTE) and
Frequency-Division Duplex-Long-Term Evolution (FDD-LTE.)

The Marvell PXA1801L is a pivotal piece in driving next-generation LTE standards via its support of Category 4 speeds, which can
achieve up to 150 megabits-per-second (Mbps) downlink throughput. Featuring 40 nanometer (nm) low-power (LP) technology,
for low-power and low-standby current applications, the Marvell PXA1801L allows devices to easily support most networks
in a small-footprint, low-power design. The Marvell PXA1801L is pin-compatible and has the same hardware and software
architecture as other components in the Marvell PXA1801 family including the Marvell PXA1801 LTE/WCDMA/EGPRS Cellular
Modem and the Marvell PXA1801U WCDMA Cellular Modem.

The flexible and efficient architecture of the Marvell PXA1801L communication platform allows fast implementation on the
latest LTE terminals, with minimum cost. With Marvell’s cellular technology and seamless wireless connectivity, the new Marvell
PXA1801L-powered terminals offer ultimate performance at an attractive price for data modules without an external Host, or
for smartphones and other bandwidth-hungry applications with a companion application processor. The Marvell PXA1801L
communication platform is fully validated via extensive IOT, GCF/PTCRB, and field trial testing on multiple networks.

BLOCK DIAGRAM

![Marvell PXA1801L Platform](image)

SPECIAL FEATURES

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<tr>
<th>FEATURES GROUP</th>
<th>FEATURES</th>
<th>DESCRIPTION</th>
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<tr>
<td>• Cellular Network Solution</td>
<td>• LTE</td>
<td>• Public Warning System (PWS)</td>
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<td>• Self-Organizing Network (SON)</td>
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<td>• Enhanced Cell EDGE Performance</td>
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<td></td>
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<td>• Ciphering/Deciphering support</td>
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<td></td>
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<td>• Supports all bandwidth options</td>
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• Release 9
• LTE FDD & TDD support
• UE Category 4 support 150 Mbps DL/50Mbps UL
• MIMO support
• Dual Layer Beamforming
• LTE positioning
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 (NASDAQ: MRVL) is a global leader in providing complete silicon solutions enabling the digital connected lifestyle. From mobile communications to storage, cloud infrastructure, digital entertainment and in-home content delivery, Marvell’s diverse product portfolio aligns complete platform designs with industry-leading performance, security, reliability and efficiency. At the core of the world’s most powerful consumer, network and enterprise systems, Marvell empowers partners and their customers to always stand at the forefront of innovation, performance and mass appeal. By providing people around the world with mobility and ease of access to services adding value to their social, private and work lives, Marvell is committed to enhancing the human experience. As used herein, the term “Marvell” refers to Marvell Technology Group Ltd. and its subsidiaries.

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<td>Cellular Network Solution (continue)</td>
<td>• Voice</td>
<td>• VoLTE (IMS)</td>
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|                         | • Protocol Stack Compatibility  | • Marvell-supported 4G protocol stack
|                         |                                 | • Compliant with world’s leading carriers
|                         | • RF Solution                   | • Fully integrated platform solution validated via extensive IOT, GCF/PTCRB, and field trial testing
|                         |                                 | • Multi-band LTE support
|                         |                                 | • Multi-band 3G support
|                         |                                 | • DigRF 4G support
| Modern Processors       | • Aux ARM Core                  | • 624 MHz
|                         |                                 | • Marvell-designed ARM v7-compliant
|                         |                                 | • Floating Point Unit (FPU)
|                         |                                 | • L1 Instruction and Data Cache
|                         |                                 | • Used for connectivity management, and as a general purpose CPU
|                         | • Modem ARM Core                | • Marvell-designed ARM v9-compliant with packet processing accelerators
|                         |                                 | • ITCM and DTCM
|                         |                                 | • L1 Instruction and Data Cache
|                         | • Modem DSP Core                | • Micro-Signal Architecture VLIW DSP
|                         |                                 | • Instruction and Data SRAM
|                         |                                 | • L1 Instruction and Data Cache
| Connectivity            | • Interfaces                    | • UART, SSP, HSI, USB2, I2C, USIM, MMC/SDIO, GPIOs
|                         |                                 | • WCI-2 (wireless coexistence interface)
|                         | • Multi-radio Platform Capabilities | • WLAN/BT Coexistence
|                         | • Security                      | • WTM
|                         |                                 | • Secure boot
|                         |                                 | • Root key protection

APPLICATIONS
Standalone or paired with Marvell’s industry-leading application processors, the Marvell PXA1801L enables seamless performance for bandwidth-hungry mobile applications and multimedia devices. The Marvell PXA1801L supports mobile connectivity on LTE networks for a variety of Internet-connected devices including M2M, smartphones, tablets, laptops, set-top-boxes, TVs, and automotive applications.

Fig 2. Marvell PXA1801L SoC (not actual size)