



## PL3100 Ultra Wideband Chipset

### Whole-Home HDTV and Multimedia Connectivity CWave™ Coax and Wireless Networking Solutions

Today's consumers have embraced the multimedia revolution, filling their homes with entertainment products such as HDTVs, Set-top Boxes, Digital Video Recorders/Players, Media Center PCs, High-end Audio Systems, MP3 Players and High-performance Gaming Devices. This has created a major dilemma for the average consumer who wants to easily connect these device to together on a multimedia home network to access all their content throughout the home.

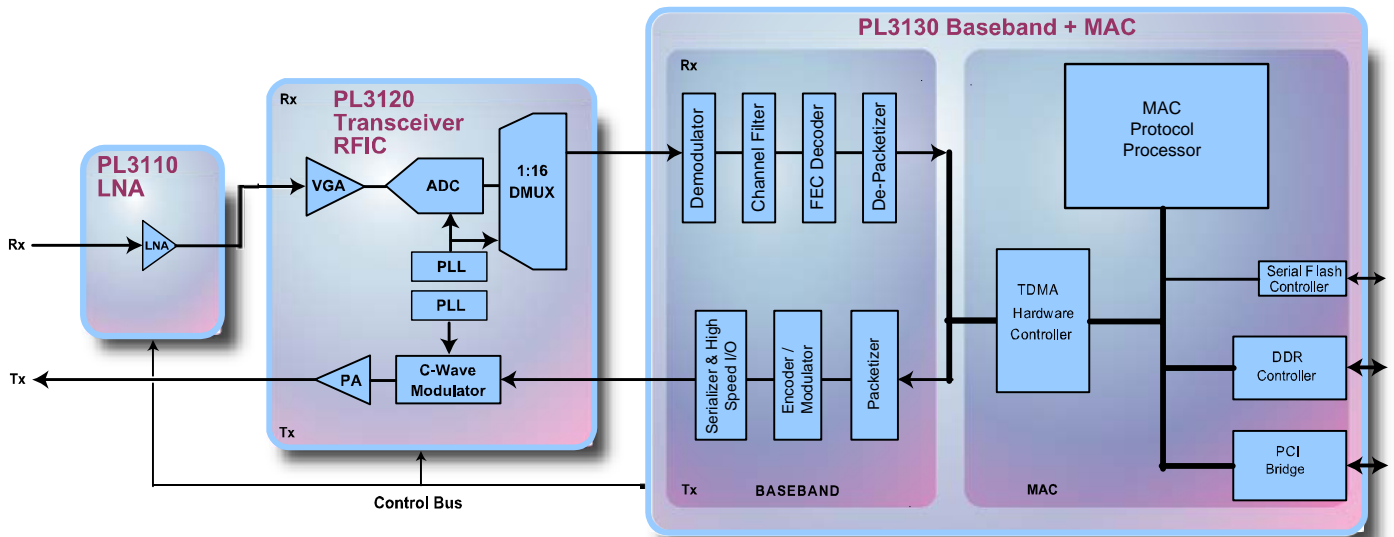
Existing high performance interconnects for these devices, such as Ethernet, 1394 (Firewire®/iLINK®), and HDMI/DVI, are severely limited in streaming real-time High-Definition content from one room to another with the data rate performance and Quality of Service (QoS) needed for broadcast quality video. Until now, the technology and products to enable access to multimedia content throughout the home did not exist.

Enter **Pulse-LINK's CWave® PL3100 Ultra Wideband (UWB) Chipset**, the first whole-home multimedia networking solution for room-to-room distribution of HD multimedia content. CWave facilitates simultaneous operation of both Gigabit Ethernet and 1394 S400 across hundreds of feet of coax, in addition to wireless connectivity of peripheral devices within each room. This three-chip solution, consisting of the PL3130 Baseband+MAC, PL3120 RF Transceiver, and the PL3110 LNA, enables bridge connections between entertainment devices communicating via 1394, Ethernet, or HDMI/DVI transport formats, as well as MPEG-2 or JPEG2000 transport streams. Embed the PL3100 chipset into your products and enable a simple *Whole-Home* solution for sharing HD multimedia content.

#### RICH FEATURE SET

- Data Rates up to 1.35 Gbps
- 1394 over Coax Bridging
- GigE over Coax Bridging
- MAC - 802.15.3b Compliant
- Full Support for QoS Traffic
- Same chipset supports both wired and wireless connectivity
- CWave™ UWB modulation and demodulation
- Advanced Forward Error Correction
- 3-stage Variable Gain Amplifier (VGA)
- Low Noise wideband Amplifier (LNA)
- Coexists with CATV Signaling





CWave™ UWB Chipset, PL3100 Block Diagram

<p>PL3110 LNA</p>	<p>PL3120 Transceiver RFIC</p>	<p>PL3130 Baseband + MAC</p>
<p><b><u>LNA</u></b></p> <ul style="list-style-type: none"> <li>• Low Noise Amplifier</li> <li>• Wideband greater than 1 GHz</li> <li>• Variable Gain Amplifier</li> <li>• Differential Power Amp</li> <li>• Power-Down Mode</li> <li>• Minimum Off-chip Parts</li> </ul>	<p><b><u>RF Transceiver</u></b></p> <ul style="list-style-type: none"> <li>• Integrated Synthesizers</li> <li>• 3-stage VGA at Rx Input</li> <li>• 6-bit DAC for VGA control</li> <li>• Multi Giga-Samples/s ADC</li> <li>• 1:16 DEMUX</li> <li>• CWave RF modulator</li> <li>• Digital Control Output PA</li> <li>• Standby &amp; Sleep Mode Cntl</li> <li>• SPI Control Interface</li> <li>• Substrate &amp; Power Supply Noise Immunity</li> <li>• 25 MHz Input Ref Clock</li> </ul>	<p><b><u>Baseband + Mac</u></b></p> <ul style="list-style-type: none"> <li>• CWave UWB Mod/Demod</li> <li>• User-Select PHY Data Rates             <ul style="list-style-type: none"> <li>◦ 21 Mbps to 675 Mbps</li> </ul> </li> <li>• MAC (802.15.3b compliant) Protocol Processor</li> <li>• Async &amp; Isochronous Data</li> <li>• Full QoS Traffic Support</li> <li>• Hardware Ack and Retransmit</li> <li>• Piconet Coordinator Capable</li> <li>• Advanced FEC</li> <li>• 32-bit PCI Bus Interface</li> <li>• SPI Serial Flash Interface</li> <li>• DDR266 SDRAM Interface</li> </ul>