



# QorIQ® LS1043A Residential Gateway Reference Design

The QorIQ LS1043A residential gateway reference design (LS1043A-RGW) is a comprehensive OpenWRT-based home router platform that can be leveraged by OEMs and ODMs to significantly shorten their design cycles and reduce time-to-market without compromising on quality or features.

## OVERVIEW

The kit comes with a host of external connectors like 1GbE LAN ports, USB3.0, legacy TDM RJ11 connectors for POTS and an SD Card Slot. The LS1043A-RGW also includes an SFP+ cage which supports 10G, 2.5G or 1G wide area network (WAN) connections via fiber or copper links. An Arduino® shield header is available for prototyping low-power connectivity solutions such as NFC, ZigBee®, BLE or Thread®.

The system is based on the LS1043A communications processor powered by four Arm® Cortex®-A53 cores, and supported by NXP's broadband home router application solution kit (ASK), a production-proven software kit that delivers line-rate networking performance leveraging the LS1043A's hardware packet engine. The LS1043A-RGW offers a high-performance and cost-effective platform that enables customers to meet next-generation performance requirements while accelerating time-to-market.

## FEATURE LIST

### Processor

- ▶ QorIQ LS1043A quad-core processor based on the Cortex-A53 core at 1.6GHz
- ▶ Hardware packet engine supports 10 Gbit/s performance and offloads CPU for value-added applications

### Memory

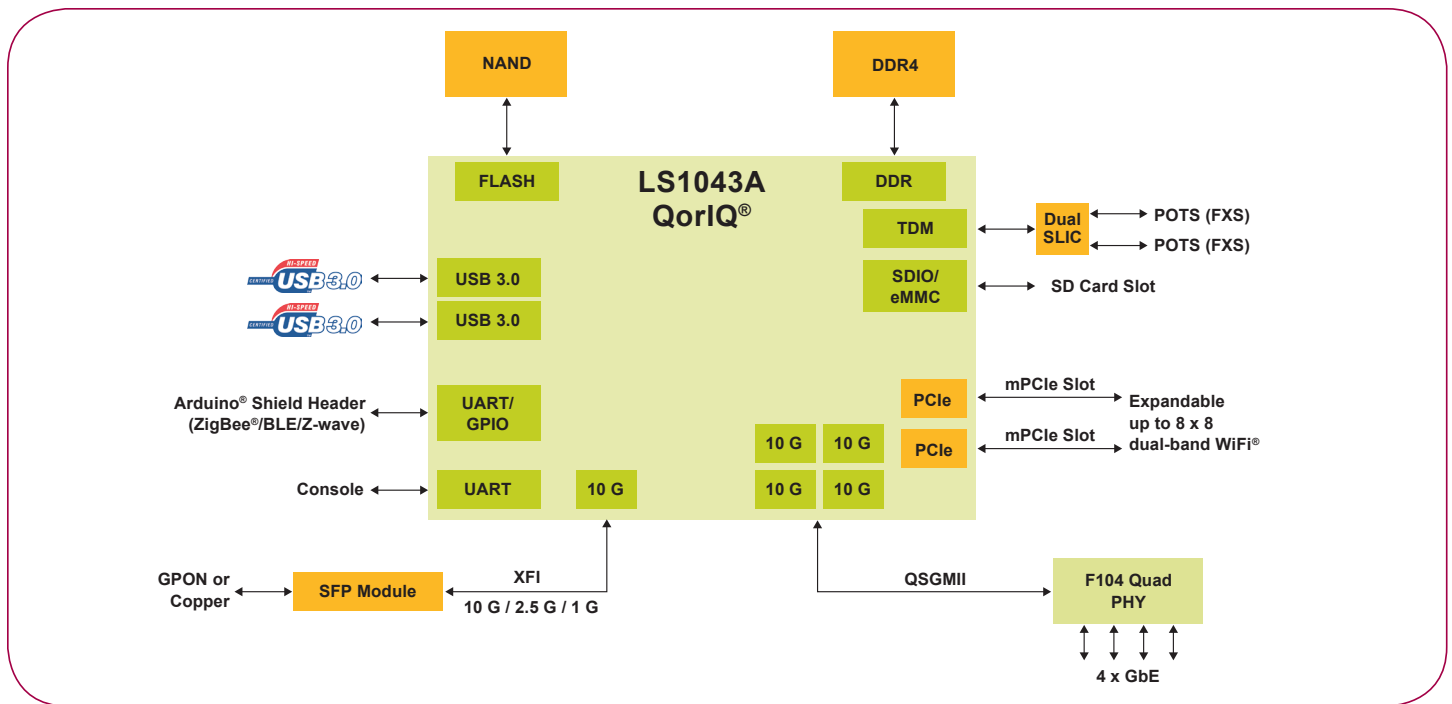
- ▶ 2 GB DDR4 DRAM
  - 32-bit DDR4 bus up to 1600 MT/s
- ▶ 512 MB NAND Flash

### Ethernet

- ▶ SFP+ cage for WAN connection
- ▶ 4 x 1GbE LAN Ports



## QorIQ LS1043A RESIDENTIAL GATEWAY REFERENCE DESIGN BLOCK DIAGRAM



### Basic Peripherals & Interconnect

- ▶ 2 x super-speed USB 3.0
- ▶ 2 x RJ11 for POTS
- ▶ 1 x Micro-USB for console
- ▶ 1 x SD Card slot
- ▶ 2 x mini PCIe
- ▶ Arduino shield header (internal connector)

### Additional Features

- ▶ JTAG for debug
- ▶ Plastic enclosure with 8 internal polymer-embedded antennas
- ▶ Supports mini-PCIe Wi-Fi® modules up to 802.11ac 8 x 8 plus 802.11n 4 x 4 (not included)

### QorIQ LS1043A-RGW BOARD



[www.nxp.com/LS1043A](http://www.nxp.com/LS1043A)

NXP, the NXP logo and QorIQ are trademarks of NXP B.V. are registered trademarks of Arm Limited (or its subsidiaries) in the EU and/or elsewhere. All rights reserved. © 2019 NXP B.V.

Document Number: LS1043ARGWFS REV 1