



## GN4124 Master List of Documents & Electronic Files

The complexity of functions for the GN4124 device have produced an array of documentation. To help you navigate the content, this document outlines the basic content contained within the documents and other files on MyGennum.

### Information Note

1. GN4124 Master List of Documents & Electronic Files

Document ID: 52423

This document, which you are now reading, provides a content summary of all the files found on MyGennum.

### Data Sheet

2. GN4124 x4 Lane PCI Express to Local Bus Bridge Data Sheet

Document ID: 48407

This document provides a detailed explanation of the GN4124 device functionality.

It includes:

- ◆ Pin and signal descriptions
- ◆ Electrical characteristics
- ◆ Package & Ordering information

### Family Reference Manual

3. GN412x PCI Express Family Reference Manual

This document covers the detailed functionality of the GN412x chip family.

This document includes details of the following:

- ◆ Overview of ASIC functionality
- ◆ Initialization of ASIC and system settings
- ◆ PCI Express Link
- ◆ Local Bus Interface
- ◆ Interrupts
- ◆ Peripherals: 2-wire interface, GPIO
- ◆ FPGA Configuration Loader (Bitstream Loader)
- ◆ General device applications
- ◆ Internal Register Map

Document ID: 52624

This replaces GN4124 x4 PCI Express to Local Bus Bridge User Manual,

Document ID: 47719.

## Release Notes

### 4. GN4124 Gullwing RDK Release Notes

This document contains a listing of RDK Bill of Materials with documentation and software download instructions. This paper is included in all shipped RDKs.

Document ID: 51338  
Formerly called: Gullwing  
Reference Design Kit for the  
GN4124 Release Notes

## User Guide

### 5. GN4124 Gullwing RDK User Guide

This provides:

- ◆ “Getting Started” instructions for the RDK
- ◆ Hardware Board Settings
- ◆ Software Settings

Document ID: 50932  
Formerly called: Gullwing  
Reference Design Kit for the  
GN4124 User Guide

## Optional Evaluation Boards

These can be attached to this RDK to enhance functionality evaluation.

- Gennum USB Dongle Board, which is used to program the EEPROM

### Deserialzer Evaluation Boards - Associated Documentation

- GS1559 Multi-Rate Deserialzer with Loop-Through Cable Driver Data Sheet (Document ID: 30572)
- GS1559 Reference Design (Document ID: 34990)
- GS1574 HD-LINX® II Adaptive Cable Equalizer Data Sheet (Document ID: 28854) - part of GS1559 Evaluation Board
- GS2960 3Gb/s, HD, SD SDI Receiver Data Sheet (Document ID: 48003)
- EB-GS2960 Evaluation Board User Guide (Document ID: 52136)

### Serializer Evaluation Boards - Associated Documentation

- GS1531 Multi-Rate Serializer Data Sheet (Document ID: 30573)
- GS1531 Reference Design (Document ID: 34991)
- GO1525 Voltage Controlled Oscillator Data Sheet (Document ID: 21969) - part of GS1531 Evaluation Board
- GS2962 3Gb/s, HD, SD Transmitter Data Sheet (Document ID: 48005)
- EB-GS2962 Evaluation Board User Guide (Document ID: 52138)

## Software

6. GN412x RDK Software Files Electronic software executable files
- ◆ GN412x\_RDK\_SW\_x.x\_Linux.tar.gz: Contains the zipped versions of Linux Kernel Mode Driver and includes GenDiag Application for Linux.
  - ◆ GN412x\_RDK\_SW\_x.x\_Windows.exe: Contains the software for GN412x Diagnostics Utility (GenDiag), GN412x EEPROM Utility, GN412x I<sup>2</sup>C Utility and WDM drivers.
  - ◆ GN412x\_RDK\_SW\_x.x\_Release\_Notes.html: Details on version history and notable features, enhancements and changes.
7. GN412x RDK Software Release Notes Electronic file in format of HTML
- This file explains the changes between revisions of the software.

## User Manuals (for Software)

These documents are bundled with the software.

8. GN412x Diagnostic Utility (GenDiag) User Manual Document ID: 51406  
Formerly called: Gennum  
Diagnostic Utility (GenDiag) User  
Guide
- This provides the explanation of the diagnostic tests that this software program does to exercise the GN412x functionality.
9. GN412x EEPROM Utility User Manual Document ID: 51359  
Formerly called: Gennum  
EEPROM Utility User Guide
- This describes the operation of the Gennum EEPROM Utility software, and how it can be used to modify the contents of an EEPROM on boards such as the Gullwing RDK board.
- This requires the optional hardware component of the Gennum USB Dongle Board.
10. GN412x I2C Utility User Manual Document ID: 51402  
Formerly called: Gennum I2C  
Utility User Guide
- This explains to the user how to access the PCI Express bridge device internal configuration registers through I<sup>2</sup>C interface.
- This requires the optional hardware component of the Gennum USB Dongle Board.

## Hardware

11. GN412x Gullwing Rev C Design Files Electronic hardware design files
- Included in this package are the following files:
- ◆ Gullwing-C.pdf <- GN4124 RDK0.9 schematics in pdf format
  - ◆ Gullwing-C\_Allegro.zip <- GN4124 RDK0.9 PCB layout/Cadence Allegro design database V15.x
  - ◆ Gullwing-C\_Fabmaster.zip <- Fabmaster Outputs
  - ◆ Gullwing-C\_OrCAD.zip <- GN4124 RDK0.9 schematics in OrCAD format
  - ◆ Gullwing-C\_Reports.zip <- PDF Drawings, Pick-n-Place, Netlist, BOM list, etc.
  - ◆ Gullwing-C\_RS274x.zip <- Manufacturing database in RS274x format

## FPGA IP

### 12. GN412x Gullwing RDK FPGA Programming Files

Electronic programming files

Provides the firmware layer required by the various FPGAs, such as Altera or Xilinx, to be used in the GN4121 Gullwing-x1 RDK system.

Sample programming has been created for Pinto (Video Capture) and Lambo (GenDiag Application) projects for this RDK, which are explained in detail within the [GN412x FPGA IP Hardware Design Guide](#).

## Design Guides

### 13. GN412x FPGA IP Hardware Design Guide

Document ID: 51860

Formerly called: GN4124 FPGA IP Hardware User Guide

This details the Gennum FPGA IP and how to attach user application code. It is intended for intermediate hardware/software architects and designers who have general FPGA and HDL experience. This document references the GN4124 Gullwing RDK, as an example.

- ◆ IP Overview
- ◆ Interface Descriptions
- ◆ Description & Explanation of Source Code and Directories
- ◆ Description & Explanation of FPGA Project
- ◆ Samples of Register Mapping

### 14. GN412x RDK Software Design Guide

Document ID: 51859

Formerly called: GN4124 RDK Software User Guide

This identifies the steps required for software development on a system that utilizes the GN412x PCI Express endpoint device. The GN412x Gullwing RDK hardware and the demo application, GenDiag, are reference throughout this document.

- ◆ General Overview of Software Development on GN412x
- ◆ GN412x RDK Software on Windows XP
- ◆ Design of GenDiag Application
- ◆ Guideline to GN4124 Hardware Initialization

### 15. GN412x FlexDMA Sequencer Design Guide

Document ID: 52179

Formerly called: Gennum FlexDMA Sequencer User Manual

This describes the operation of the VDMA Sequencer FPGA IP.

- ◆ VDMA Sequencer
- ◆ VDMA Architecture

## Other Files

### 16. GN412x Reliability Report Rev .x

### 17. IBIS Model

Electronic file

This is the IBIS file for the GN412x device family.

### 18. Readme for RDK

Text file

This provides the changes made to the RDK since the last official release.

### 19. GS4911B Data Sheet

Document ID: 36655

This is the GS4911B Data Sheet, which is part of the RDK board design.

## Revision History

Version	ECR	Date	Changes and / or Modifications
2	152263	July 2009	Corrections to <b>FPGA IP</b> .
1	151918	June 2009	Made more inclusive to all the files found on MyGennum.
0	151736	April 2009	New document.

### DOCUMENT IDENTIFICATION INFORMATION NOTE

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