

Introduction

The Xilinx® LogiCORE™ IP IEEE 802.3bj Reed-Solomon Forward Error Correction (RS-FEC) core implements the RS-FEC sublayer as described in *IEEE 802.3bj-2014*, section 91.

Additional Documentation

A product guide is available for this core. Access to this material may be requested by clicking on this registration link:

www.xilinx.com/member/ieee802-3bj-rs-fec/index.htm

Features

- IEEE 802.3bj-2014 TX and RX
- Low latency design
- Supports 100 Gb/s
- Supports RS(528,514) KR4 and RS(544,514) KP4
- Configuration and status bus
- Selectable AXI4-Lite interface for status output
- Transcode Bypass mode for direct access to RS-FEC encoder/decoder
- CAUI-4 support in Active mode
- CAUI-4 and CAUI-10 support in Bypass mode (KR4 mode only)
- Example reference design demonstrating integrated 100G Ethernet IP with RS-FEC
- ECC RAM option
- Status outputs for monitoring the core and for statistics generation

LogiCORE IP Facts Table	
Core Specifics	
Supported Device Family ⁽¹⁾	UltraScale+™ Virtex® UltraScale™
Supported User Interfaces	AXI4-Lite, Configuration and Status bus
Provided with Core	
Design Files	Encrypted RTL
Example Design	Verilog
Test Bench	Not Provided
Constraints File	Xilinx Constraints File
Simulation Model	Encrypted Verilog
Supported S/W Driver	N/A
Tested Design Flows⁽²⁾	
Design Entry	Vivado® Design Suite
Simulation	For supported simulators, see the Xilinx Design Tools: Release Notes Guide .
Synthesis	Vivado Design Suite
Support	
Provided by Xilinx @ www.xilinx.com/support	

Notes:

1. For a complete list of supported devices, see the Vivado IP catalog.
2. For the supported versions of the tools, see the [Xilinx Design Tools: Release Notes Guide](#).

Overview

The 100G IEEE 802.3bj RS-FEC core implements the OSI layer, RS-FEC, shown shaded in [Figure 1](#).

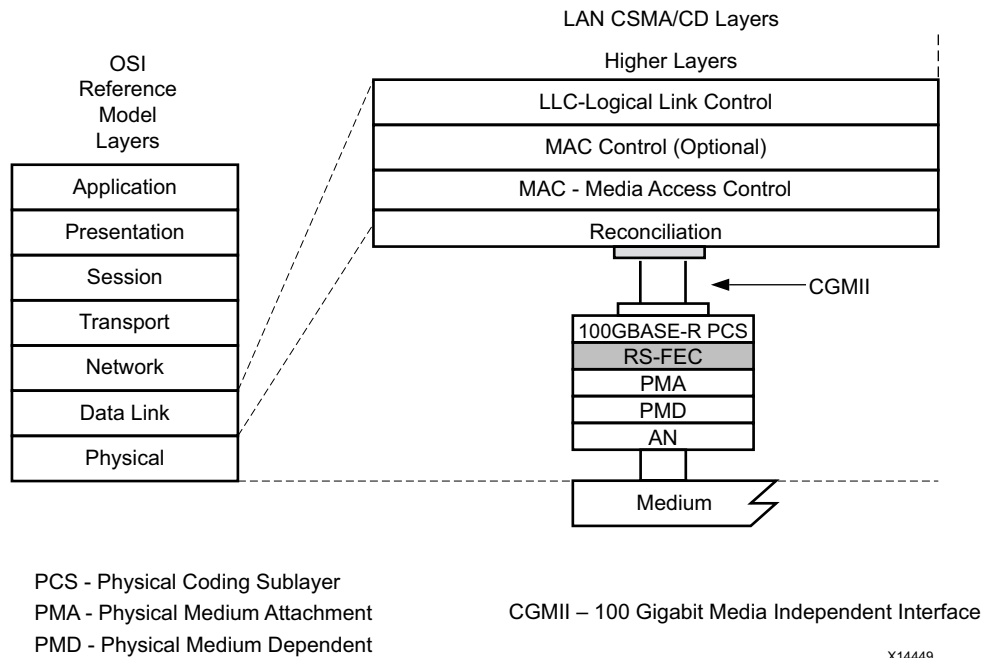


Figure 1: IEEE Std 802.3-2014 Ethernet Model

The RS-FEC layer of *IEEE Std 802.3bj-2014* defines more than just the RS encoder/decoder. It defines several stages of synchronization, alignment, and reordering which are necessary for the layer to communicate with preceding and subsequent layers. The IEEE 802.3-2014 block diagram is shown in [Figure 2](#).

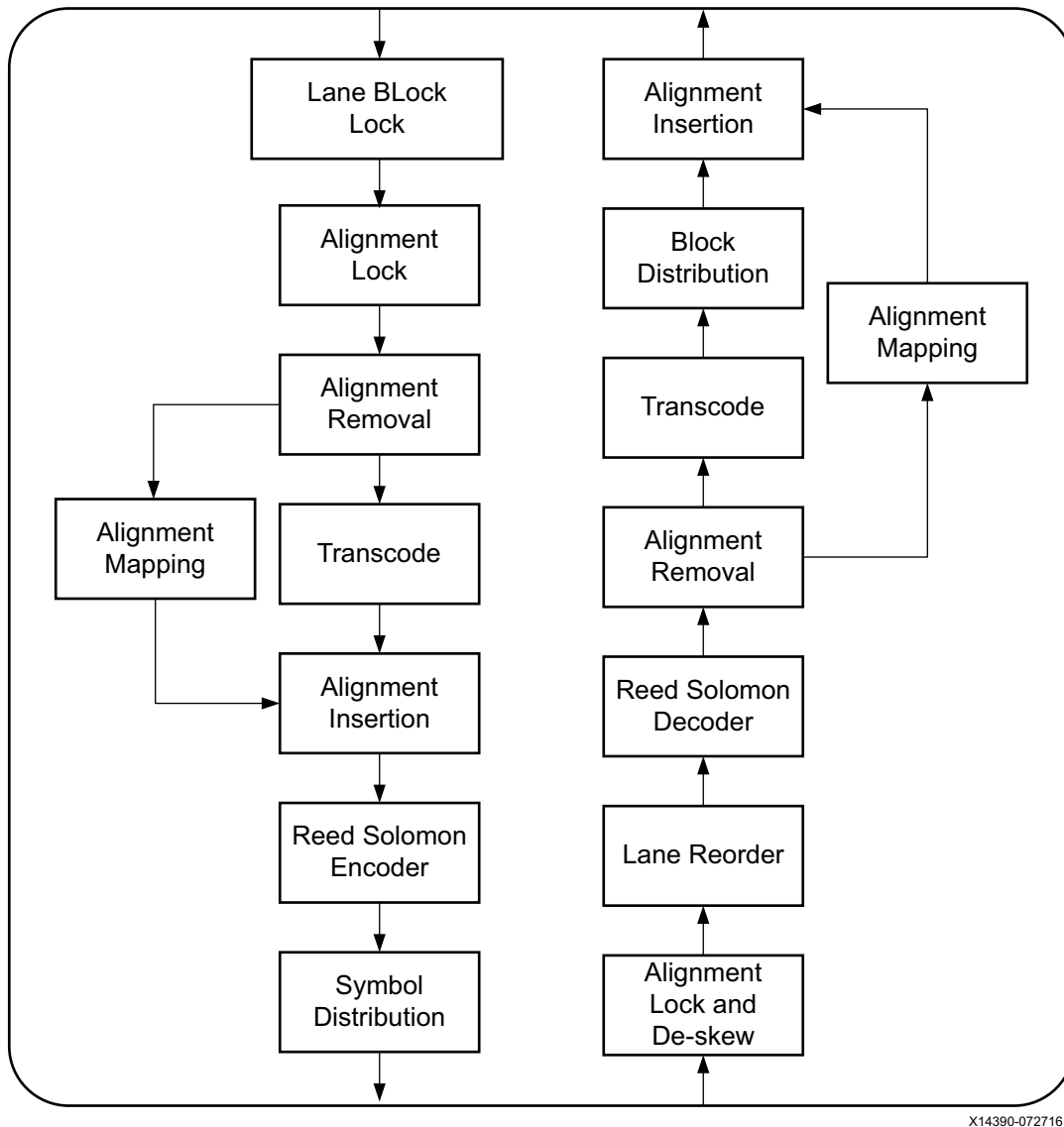


Figure 2: Block Diagram of IEEE802bj RS-FEC Core

Technical Support

Xilinx provides technical support at the [Xilinx Support web page](#) for this LogiCORE™ IP product when used as described in the product documentation. Xilinx cannot guarantee timing, functionality, or support if you do any of the following:

- Implement the solution in devices that are not defined in the documentation.
- Customize the solution beyond that allowed in the product documentation.
- Change any section of the design labeled DO NOT MODIFY.

To contact Xilinx Technical Support, navigate to the [Xilinx Support web page](#).

Licensing and Ordering Information

License Checkers

If the IP requires a license key, the key must be verified. The Vivado® design tools have several license checkpoints for gating licensed IP through the flow. If the license check succeeds, the IP can continue generation. Otherwise, generation halts with error. License checkpoints are enforced by the following tools:

- Vivado Synthesis
- Vivado Implementation
- write_bitstream (Tcl command)

IMPORTANT: IP license level is ignored at checkpoints. The test confirms a valid license exists. It does not check IP license level.

License Type

This Xilinx® LogiCORE™ IP module is provided under the terms of the [Xilinx Core License Agreement](#). The module is shipped as part of the Vivado® Design Suite. For full access to all core functionalities in simulation and in hardware, you must purchase a license for the core. Contact your [local Xilinx sales representative](#) for information about pricing and availability.

For more information, visit the IEEE 802.3bj Reed-Solomon Forward Error Correction [web page](#).

Information about other Xilinx LogiCORE IP modules is available at the [Xilinx Intellectual Property](#) page. For information on pricing and availability of other Xilinx LogiCORE IP modules and tools, contact your [local Xilinx sales representative](#).

Evaluation

A full system hardware evaluation license is available for this core. The evaluation version of the core operates in the same way as the full version for several hours, dependent on clock frequency. Operation is then disabled and the data output does not change. If you notice this behavior in hardware, it probably means you are using an evaluation version of the core. The Xilinx tools warn that an evaluation license is being used during netlist implementation. If a full license is installed for the core to run on hardware, delete the old files and recreate the core from new.

Revision History

The following table shows the revision history for this document:

Date	Version	Revision
04/04/2018	2.0	Aligned to Product Guide (PG197) updates.
10/05/2016	1.0	Aligned to Product Guide (PG197) updates.
04/01/2015	1.0	Initial Xilinx release.

Please Read: Important Legal Notices

The information disclosed to you hereunder (the "Materials") is provided solely for the selection and use of Xilinx products. To the maximum extent permitted by applicable law: (1) Materials are made available "AS IS" and with all faults, Xilinx hereby DISCLAIMS ALL WARRANTIES AND CONDITIONS, EXPRESS, IMPLIED, OR STATUTORY, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, OR FITNESS FOR ANY PARTICULAR PURPOSE; and (2) Xilinx shall not be liable (whether in contract or tort, including negligence, or under any other theory of liability) for any loss or damage of any kind or nature related to, arising under, or in connection with, the Materials (including your use of the Materials), including for any direct, indirect, special, incidental, or consequential loss or damage (including loss of data, profits, goodwill, or any type of loss or damage suffered as a result of any action brought by a third party) even if such damage or loss was reasonably foreseeable or Xilinx had been advised of the possibility of the same. Xilinx assumes no obligation to correct any errors contained in the Materials or to notify you of updates to the Materials or to product specifications. You may not reproduce, modify, distribute, or publicly display the Materials without prior written consent. Certain products are subject to the terms and conditions of Xilinx's limited warranty, please refer to Xilinx's Terms of Sale which can be viewed at <http://www.xilinx.com/legal.htm#tos>; IP cores may be subject to warranty and support terms contained in a license issued to you by Xilinx. Xilinx products are not designed or intended to be fail-safe or for use in any application requiring fail-safe performance; you assume sole risk and liability for use of Xilinx products in such critical applications, please refer to Xilinx's Terms of Sale which can be viewed at <http://www.xilinx.com/legal.htm#tos>.

AUTOMOTIVE APPLICATIONS DISCLAIMER

AUTOMOTIVE PRODUCTS (IDENTIFIED AS "XA" IN THE PART NUMBER) ARE NOT WARRANTED FOR USE IN THE DEPLOYMENT OF AIRBAGS OR FOR USE IN APPLICATIONS THAT AFFECT CONTROL OF A VEHICLE ("SAFETY APPLICATION") UNLESS THERE IS A SAFETY CONCEPT OR REDUNDANCY FEATURE CONSISTENT WITH THE ISO 26262 AUTOMOTIVE SAFETY STANDARD ("SAFETY DESIGN"). CUSTOMER SHALL, PRIOR TO USING OR DISTRIBUTING ANY SYSTEMS THAT INCORPORATE PRODUCTS, THOROUGHLY TEST SUCH SYSTEMS FOR SAFETY PURPOSES. USE OF PRODUCTS IN A SAFETY APPLICATION WITHOUT A SAFETY DESIGN IS FULLY AT THE RISK OF CUSTOMER, SUBJECT ONLY TO APPLICABLE LAWS AND REGULATIONS GOVERNING LIMITATIONS ON PRODUCT LIABILITY.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru