

Reed Solomon Encoder and Decoder FEC IP Core From Global IP Core

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information symbols, the Encoder appends 2T parity symbols to the input message in order to form the encoded codeword. The Reed Solomon Decoder receives an $(N=K+2T)$ codeword, and it can locate and correct up to 8 possible symbol errors or up to 14 erasures. Both of the Encoder and the Decoder support any input timing pattern, in case of the Encoder; the output timing pattern will be the same as the input. In case of the Decoder; the output timing pattern is fully controlled in order to support any desired pattern by the user. The Reed Solomon Decoder keeps track of corrected errors. Input codewords with more than 8 errors are regarded as uncorrectable, and are flagged. The Implementation of Reed Solomon IP Core targets very low latency, high speed, and low gate count with a simple interface for easy integration on SoC applications.

Features include:

- High performance Reed Solomon IP Core (Encoder and Decoder)
- Supports error and erasure decoding
- Parameterized codeword length
- Code generator polynomial: $(x + \lambda^0)(x + \lambda^1)(x + \lambda^2) \dots (x + \lambda^{15})$
- Field generator polynomial: $x^8 + x^4 + x^3 + x^2 + 1$
- The core supports any input or output timing pattern

IP Deliverables:

- Synthesizable Verilog
- System Model (Matlab) and documentation
- Verilog Testbenches
- Documentation
- FPGA testing environment

The Reed Solomon IP Core is coded in Verilog-2001. No third-party Intellectual properties are contained in this product.

Please contact us for a Product Brief (PB) at info@global-ipc.com or check out our product portfolio at www.global-ipc.com

About Global IP Core Sales

Global IP Core Sales® was founded in 2021 and provides state-of-the-art IP Cores for the Semiconductor market. The majority of our products are silicon proven and can be seamlessly implemented into FPGA and ASIC technologies. Global IP Core Sales® will assist you with your IP Core and integration needs. Our mission is to grow your bottom line.