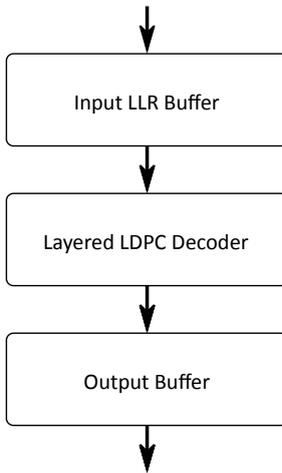


LunaNet LDPC Encoder / Decoder IP Core

IP Core Features

- Rate 1/2
- GNSS, AFS
- Subframe 2/3/4
- Low implementation loss
- Low FPGA resource usage



Key Features

- LunaNet Interoperability Specification (LNIS) Version 1, January 2025:
 - LunaNet Signal-In-Space Recommended Standard (LSIS)
- Supports SF2 and SF3/SF4 LDPC encoding schemes:
 - SF2, Rate = 1/2, (2400, 1200)
 - SF3/4, Rate = 1/2, (1740, 870)
 - Additional SF1 BCH (51, 8) Encoder and Decoder
- Robust architecture
- On-the-fly block type change
- Layered Min-Sum-Offset decoding with low implementation loss
- Decoding early termination mechanism
- Variable number of decoding iterations up to 256

Applications

- Lunar Augmented Navigation Service (LANS)
- Augmented Forward Signal (AFS)
- Lunar Navigation Satellite Systems (LNSS)
- Systems with the need of powerful LDPC Codes

Deliverables

- Encrypted Netlist or Complete RTL Source Code versions
- IP Core testbench scripts and design examples for evaluation boards
- Comprehensive integration guide
- Free 1 year technical support and maintenance updates

Product Options

- IP customization and integration services available on request
- Royalty-free license without quantitative restrictions
- Off-the-shelf Xilinx and Analog Devices evaluation boards support