DVB-C2 (Digital Video Broadcast - Cable 2nd Generation) is an ETSI standard of the second generation for digital data transmission via cable networks. It complements the existing standards DVB-S2 and DVB-T2 for satellite and terrestrial communication and offers a capacity-approaching coding scheme.

The Creonic DVB-C2 IP core integrates the forward error correction as defined by the standard (including LDPC and BCH decoder).

**Benefits**

- Soft-Decision demapper, block deinterleaver, LDPC decoder, BCH decoder, and descrambler included.
- Based on industry-proven design for DVB-S2.
- Low-power and low-complexity design.
- Burst-to-burst on-the-fly configuration.
- Design-time configuration of throughput for optimal resource utilization.
- Faster convergence due to layered LDPC decoder architecture.
- Early stopping criterion for iterative LDPC decoder, saving a considerable amount of energy.
- Configurable amount of LDPC decoding iterations for trading-off throughput and error correction performance.
- Collection of statistic information (number of modified information bits, number of iterations, decode success).
- Available for ASIC and FPGAs (Xilinx, Altera).

**Deliverables**

- VHDL source code or synthesized netlist
- HDL simulation models e.g. for Aldec’s Riviera-PRO
- VHDL or SystemC testbench
- bit-accurate Matlab, C or C++ software model
- software model of corresponding transmitter part
- comprehensive documentation

**Features**

- Compliant with ETSI 302 769 V1.2.1 (2011-04) (DVB-C2)
- Support for short and long blocks (16,200 bits and 64,800 bits)
- Support for decoding of L1 signalling part 2 data
- Support for all modulation schemes (16-QAM, 64-QAM, 256-QAM, 1024-QAM, 4096-QAM)
- Support for all interleaving schemes of all modulation schemes
- Support for all LDPC and BCH codes as defined by the standard

**Applications**

- Digital Video Broadcasting in cable networks
- Further applications with highest demands on forward error correction
- Applications with high signal-to-noise ratios
- Applications with the need for high code rates (2/3 to 9/10)
Related Products

DVB-S2 LDPC/BCH Encoder and Decoder
DVB-RCS2 Turbo Decoder
GEO-Mobile Radio LDPC Decoder
WiMedia 1.5 UWB LDPC Decoder
802.11n/ac LDPC Decoder

About Creonic

Creonic is an ISO 9001:2008 certified provider of ready-for-use IP cores for several algorithms of communications such as forward error correction (LDPC and Turbo coding), synchronization, and MIMO. The product portfolio covers standards like DVB-S2, DVB-RCS2, DVB-C2, WiFi, WiGig, and UWB. The products are applicable for ASIC and FPGA technology and comply with the highest requirements with respect to quality and performance. For more information, please visit www.creonic.com.

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