

Creonic provides off-the-shelf IP cores for DVB-GSE encapsulation and decapsulation.

The DVB-GSE encapsulator performs the encapsulation of the network layer packets, also referred to as Protocol Data Units (PDUs), into one or more GSE packets, adding control information and performing integrity checks when necessary. Finally, it places the GSE packets into Baseband Frames (BBFRAMEs), ready for further processing by the Creonic DVB-S2X modulator.

The Creonic DVB-GSE decapsulator performs the decapsulation of BBFRAMEs, containing one or more GSE packets. As a last step, it extracts the PDUs, i.e. the network layer packets, from the GSE packets.

Benefits

- The output of the encapsulator core perfectly matches the Creonic DVB-S2X Modulators.
- The input of the decapsulator core perfectly matches the Creonic DVB-S2/DVB-S2X Decoders.
- Automatic insertion of Frame CRC-32 in the encapsulator.
- Low-power and low-complexity design.
- AXI4-Stream data interfaces for a seamless integration.
- AXI4-Lite interface for configuration and retrieval of status information.
- Available for ASIC and FPGAs (Xilinx, Intel).



Features

- Compliant with ETSI TS 102 606-1 V1.2.1 (2014-07) (DVB-GSE Lite)
- Support for multi-protocol encapsulation (IPv4, IPv6, MPEG, Ethernet, etc.).
- Fragmentation of IP datagrams or other network layer packets over baseband frames (BBFRAMEs) to support ACM.
- Support for single user systems.

Applications

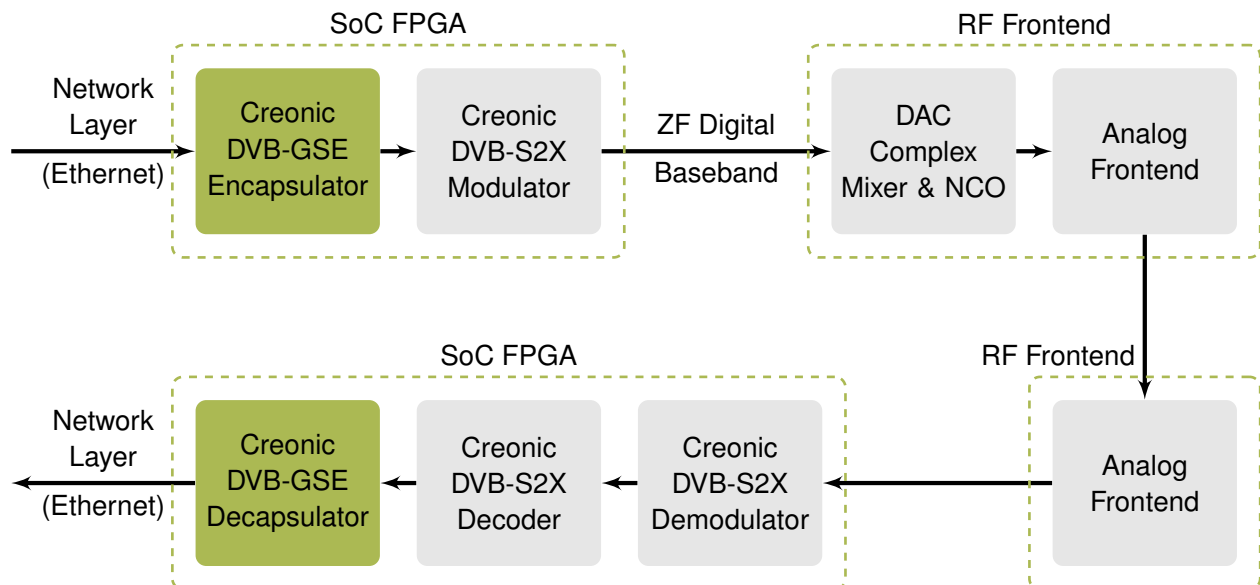
- Applications with the need for encapsulation of IP and other network-layer packets over DVB-S2 or DVB-S2X physical layer frames.

Deliverables

- VHDL source code or synthesized netlist
- HDL simulation models
- Bit-accurate Matlab, C or C++ simulation model
- comprehensive documentation

Application Example

The following shows a typical scenario for usage of the DVB-GSE encapsulator and decapsulator IP cores. The DVB-GSE encapsulator translates frames from the network layer (Ethernet) to BBFRAMES before they are provided to the DVB-S2X modulator. On the receive side, the DVB-GSE decapsulator translates the decoded BBFRAMES back to the network layer.



Related Products

[DVB-S2X Modulator](#)

[DVB-S2X Demodulator](#)

[DVB-S2X LDPC/BCH Decoder](#)

[DVB-S2 LDPC/BCH Decoder](#)

About Creonic

Creonic is an ISO 9001:2015 certified provider of ready-for-use IP cores for several algorithms of communications such as forward error correction (LDPC, Turbo, Polar), modulation, and synchronization. The company offers the richest product portfolio in this field, covering standards like 5G, 4G, DVB-S2X, DVB-RCS2, DOCSIS 3.1, 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 our website at www.creonic.com.

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