

Features

ITU-T J.83 Annex A/C, DVB-C (ETS 300 429)
Compliant baseband transmitter for Cable Modem Termination Systems (CMTS)

- The MVD DVB-C modulator core is delivered for baseband output to be natively connected to AD9789 DAC from Analog Devices but can be used in Intermediate Frequency application (for Analog Devices (AD9744)) or in RF application when respectively connected to our UPSAMPLER or our UP CONVERTER core (for Analog Devices (AD9739A) or Maxim RF DACs (MAX5881)).
- Drop-in module for Spartan-6™, Virtex-6™, Artix-7™, Kintex-7™, Virtex-7™ FPGAs and Zynq™
- Single clock (up to 160 MHz)
- Robust SPI input (discarding incorrect input packets)
- PCR re-stamping
- Programmable symbol rates (up to 7MSymb/s)
- Programmable 16, 32, 64, 128 and 256 QAM Symbol Mapping
- Complex baseband outputs (2 x 8 bits) @ Fsymbol rate
- Fully synthesizable RTL VHDL design (not delivered) for easy customization
- Design delivered as Netlist
- MER > 42dB

Applications

DVB-C may be used in applications related to cable transmission, typically at the cable head end.

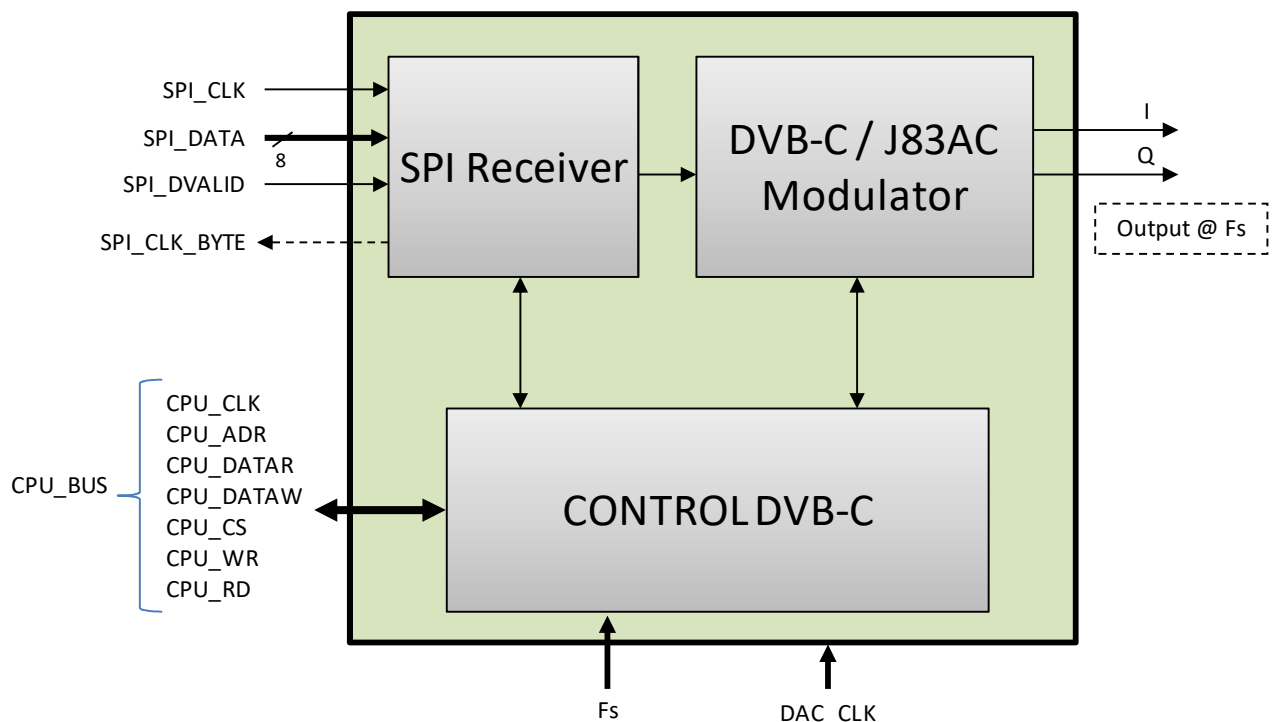
Description

The MVD DVB-C core is a drop-in module that includes the following functions :

- Input data framer from DVB-SPI source (MPEG-TS flow)
- J83AC modulator (Energy dispersal, Reed-Solomon encoder, interleaver, QAM symbol mapper)
- Output for complex DAC (2 x 8 bits)

Companion cores

- ASI receiver core
- DVB remultiplexer core
- Serial Interface for CPU configuration
- I2C Slave Interface core



Resource Utilization

With RRC Filter	Slices	LUTs	BRAMs (18k)	Mults/DSP48	BUFG
Series-6	602	1732	2	4	3
Series-7	602	1732	2	4	3

Without RRC Filter	Slices	LUTs	BRAMs (18k)	Mults/DSP48	BUFG
Series-6	500	1610	2	0	2
Series-7	500	1610	2	0	2

Ordering information and related cores

Parameters	Designation
CPU programmable	MVD_DVBC_J83AC_CPU_NET

VHDL source code : can be delivered as an option under NDA and other specific clauses.

Related cores : Cable Modulator J83B, DVB-S, DVB-T/H, DVB-T2, DVB Remultiplexer and/or ASI interface cores, contact us.

Documentation and support : Datasheet and user's guide. In addition MVD can provide on site or remote coaching.