Features

ITU-T J.83 Annex B
Compliant baseband transmitter for Cable Modem Termination Systems (CMTS)

- **The MVD cable modulator J83B 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 UPCONVERTER 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**
- **Supports 5.056941 & 5.360537 symbol rates**
- **Programmable 64 and 256 QAM Symbol Mapping**
- **All interleaver modes can be implemented as internal memory**
- **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

Cable modulator J83B may be used in applications related to cable transmission, typically at the cable head end.
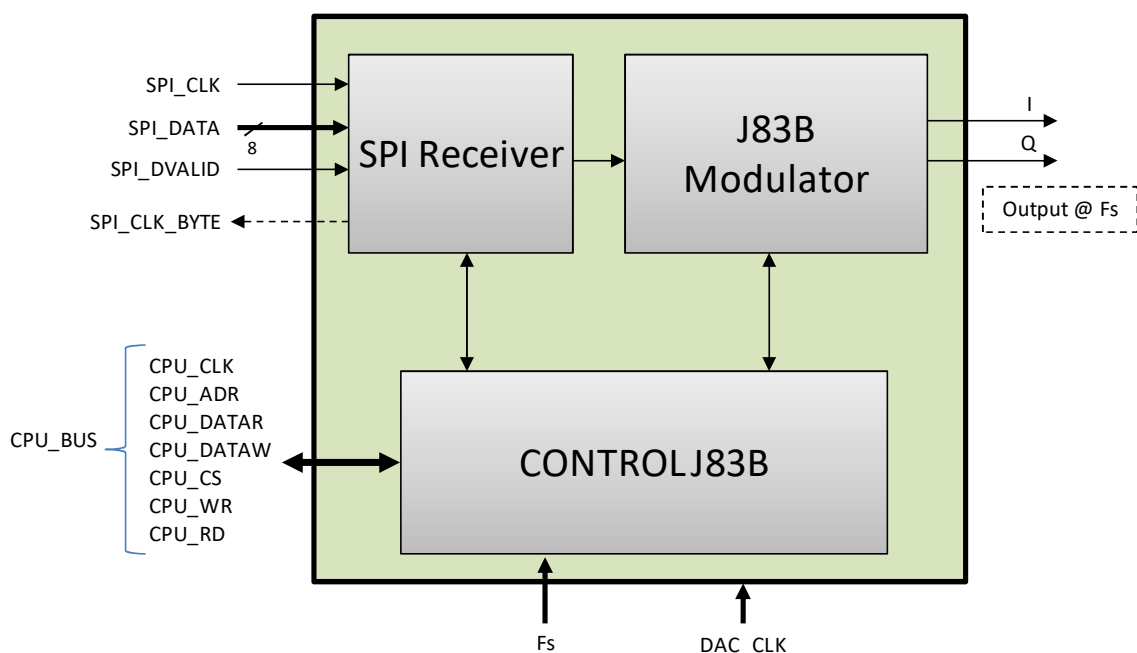
Description

The MVD cable modulator J83B core is a drop-in module that includes the following functions :
- **Input data framer from DVB-SPI source (MPEG-TS flow)**
- **J83B modulator (Checksum, Reed-Solomon encoder, interleaver, Trellis Coded Modulation)**
- **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**

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Product Brief
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Resource Utilization

	Slices	LUTs	BRAMs (18k)	Mults/DSP48	BUFG	Deliverables :
Series-6	640	2300	29	0	2	- **Datasheet**
Series-7	640	2300	29	0	2	- **Netlist for core generation**

Ordering information and related cores

Parameters	Designation
CPU programmable	**MVD CMDLT_J83B_CPU_NET**

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

Related cores : DVB-C, 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.