

## Light version of JESD204A interface IP core on XILINX Spartan-6 LXT and NXP DACs

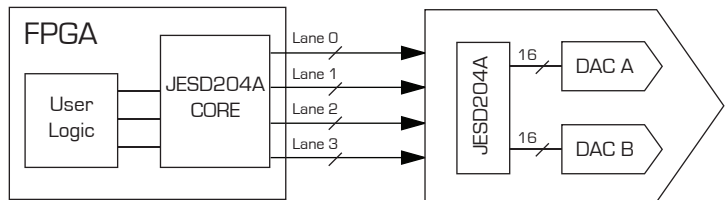
Designed with an intention of minimizing FPGA resources, the IP core is a light version of JESD204A serialized interface between data converters and FPGAs. The core implementation is targeted to a four-lane dual 14-bit DAC running at 125 MSPS.

The core has been tested with NXP DAC1408D650 at 125 MSPS, a dual channel 14-bit Digital-to-Analog Converter (DAC) optimized for high dynamic performances and low power.

### FEATURES:

- \* 4-lane serial JESD204A interface with 1,25 Gb/s rate per lane (optional 2,5 and 3,125 Gb/s) using Spartan-6 LXT GTP transceivers (3,125 Gb/s only with speed grade -3 and -4);
- \* Supported physical and data link layer JESD204A requirements;
- \* LMF = 421 or LMF = 211 support;
- \* Scrambling, character replacement, multiple devices synchronization are not supported in the light version.

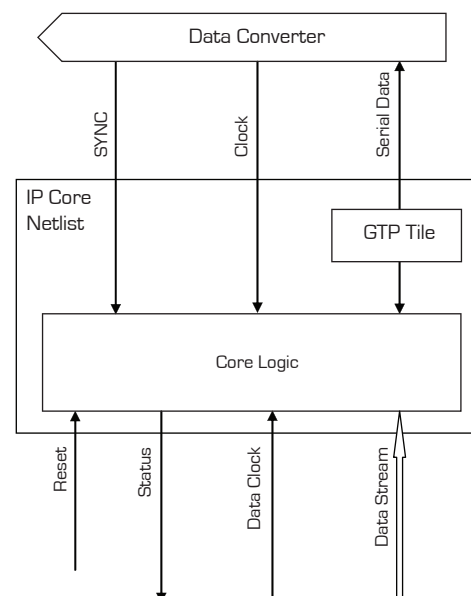
### APPLICATION DIAGRAM:



### INTERFACE SIGNALS:

Name	Direction	Description
<b>Clocks and Resets</b>		
reset	In	IP Core reset and re-init
Refclkp/n	In	Reference clock to transceiver
<b>Transceiver Interface</b>		
TXP[N]_0	Out	Chn0 Serial Data (differential)
TXP[N]_1	Out	Chn1 Serial Data (differential)
<b>Data Interface</b>		
DATA0[15:0]	In	Chn0 Parallel Data
DATA1[15:0]	In	Chn1 Parallel Data
<b>Non-Data Interface</b>		
sync	In	Sync signal, common for all lanes
<b>Control/Status Bits</b>		
FSMrun	In	Synchronization control bit
SyncFSM0State[1:0]	Out	Chn0 Sync FSM state
SyncFSM1State[1:0]	Out	Chn1 Sync FSM state

### CORE ARCHITECTURE:



## SUPPORT:

- \* 3 months technical support
- \* IP core adaptation according to customer's application requirements

## ORDERING INFORMATION:

- \* Product ID: AVQ-SP6DAC;
- \* Please, contact Avateq Corp. for licensing information.

## EVALUATION SET-UP:

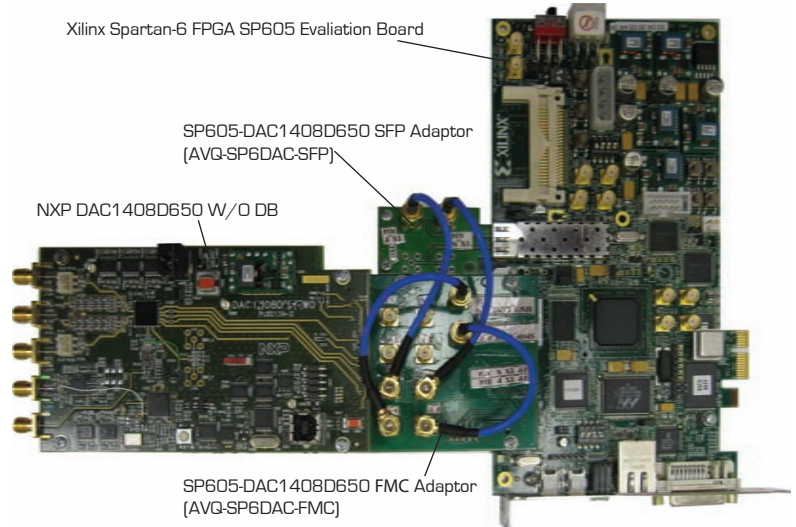
- \* Xilinx Spartan-6 FPGA SP605 Evaluation Kit;
- \* NXP DAC1408D650 W/O DB Data Converter Evaluation Kit;
- \* SP605-DAC1408D650 SFP adaptor board, (Avateq P/N: AVQ-SP6DAC-SFP);
- \* SP605-DAC1408D650 FMC adaptor board, (Avateq P/N: AVQ-SP6DAC-FMC);
- \* Windows XP based GUI.

## RESOURCES:

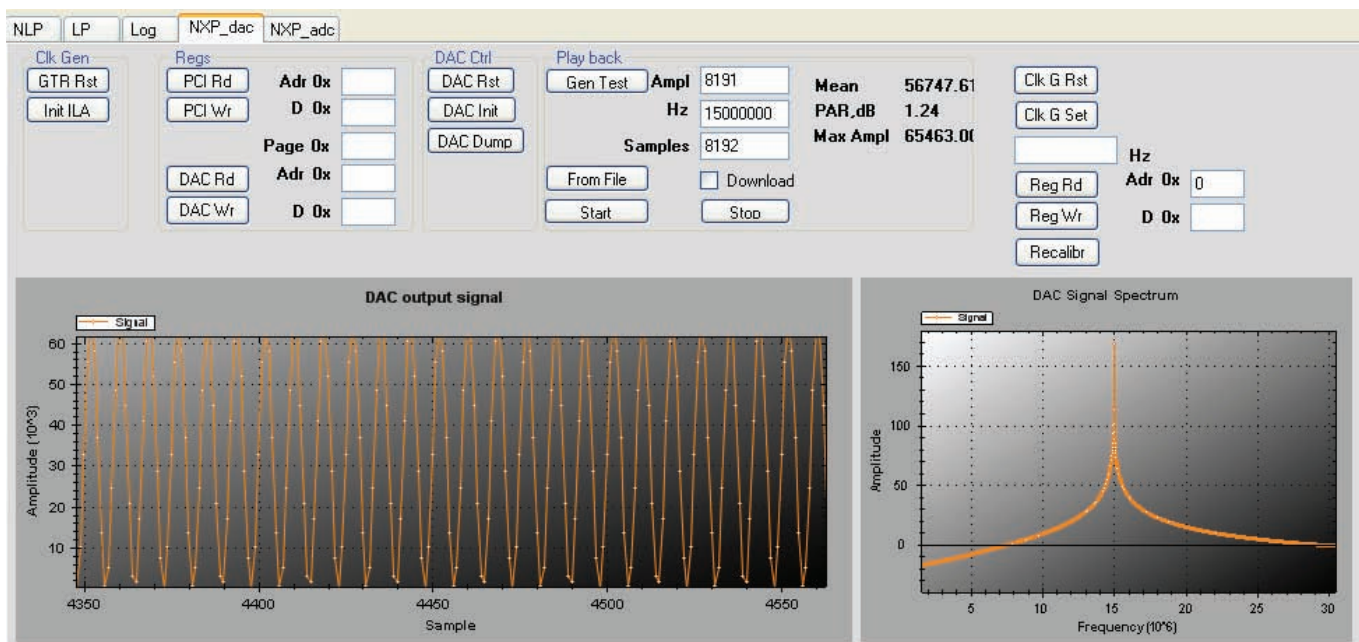
Device Family	Spartan-6 LXT			
Resources				
GTPA1_DUAL	FFs	LUT	BUFG	RAMB16BWER
2	166	78	2	2

## DELIVERABLES:

IP core interface specification and NetList



## GUI SCREENSHOT:



## CONTACT INFORMATION:



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