



High Speed Signal Converters

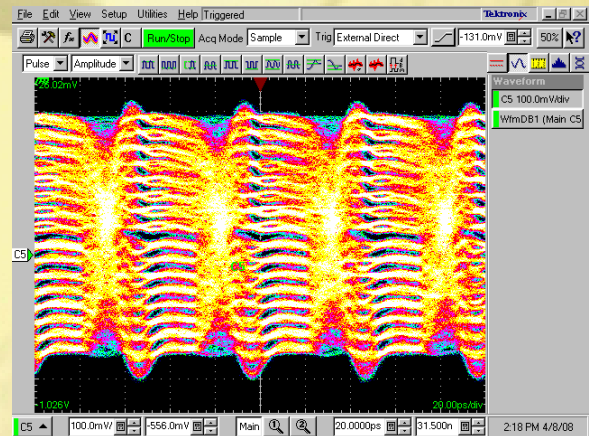
25 GS/s Digital-to-Analog Converter (DAC) Demonstrator

Preliminary Data Sheet

Demonstrator Key Data

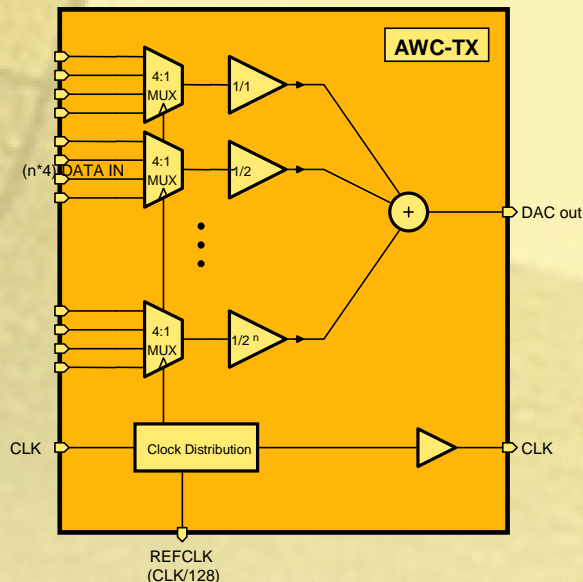
Conversion rate:	dc to 25 GS/s
Resolution	
physical:	6 bit
effective:	> 4 bit @ 20 GS/s
Rise/Fall time (20/80):	< 15 ps
Output Amplitude (full scale)	
into external 50 Ohm (ac or dc coupled)	
single ended:	800 mVpp
differential:	1600 mVpp
Power Supply:	
-5V (0.2A) / -3.3 V (4.2A) / +3.3 V (0.1A)	
total:	15 W
Termination (on-chip)	50 Ohm

The 25 GS/s DAC is a demonstrator IC to show the inherent performance and functional capability of that modular approach. The demonstrator is available as an evaluation board.



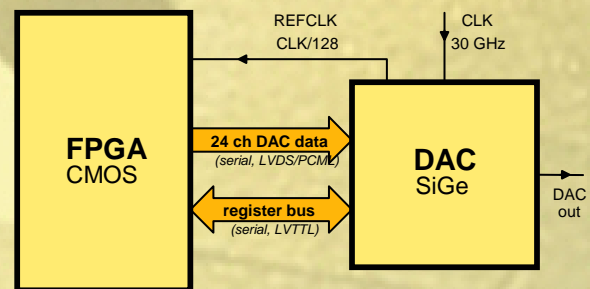
The picture above shows a PAM-16 signal at 20 GS/s.

Demonstrator Block Diagram



VEGA converters are single-chip SiGe solutions, with a scalable open architecture for direct conversion between analog and digital domain (ADC, DAC) that allow for sampling rates in excess of 25 GS/s. They are built from library modules that allow for quick adoption of application specific requirements.

Application Example: FPGA-Interface



Data transfer from FPGA/CMOS will be through 24 serial lines (LVDS) running at $f_{\text{sample}}/4$, i.e. 6.25 Gb/s for 25 GS/s (6 bit * 1:4 mux => 24 signals). The FPGA interface carries raw data only, i.e. no line coding etc. A synchronization circuit on the Vega DAC can be used to align the channels.

In addition, a register bus (LVTTTL, serial) is required for configuring the D/A converter.

Further Information

Can be obtained via email:
vega-info@micram.com

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