

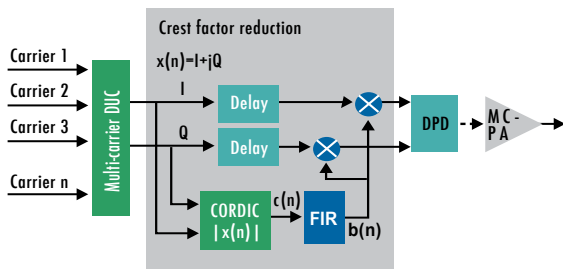
Crest factor reduction reference design

Altera's crest factor reduction (CFR) reference design is the industry's lowest-cost solution to reduce the peak-to-average ratio of signals and improve power amplifier (PA) efficiency.

Features

- Parameterizable design with a DSP Builder-based Simulink interface, enabling tradeoffs between error vector magnitude (EVM) and ACLR.
- Hardware-tested solution for Code Division Multiple Access 2000 (CDMA2000) and W-CDMA signals.
- Up to 5.5 dB peak-to-average ratio (PAR) reduction with 12 percent EVM degradation.
- Consumes only 3,000 LEs and 4 9x9 multipliers.

Peak windowing-based CFR reference design



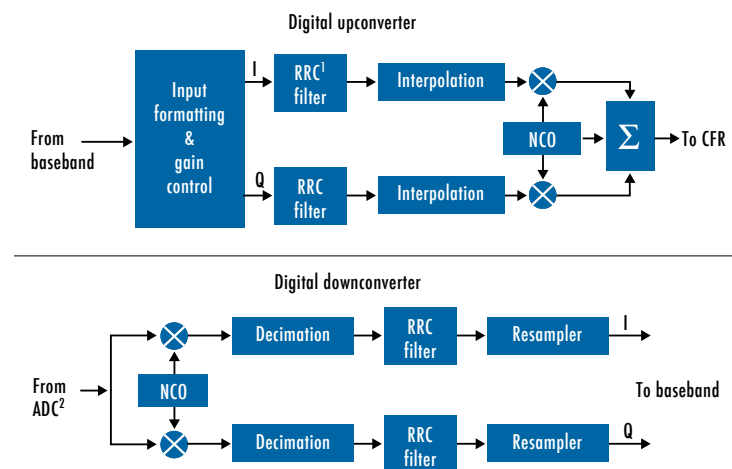
Digital upconverter and downconverter solutions

DSP Builder-based multi-channel and multi-antenna digital upconverter (DUC) and digital downconverter (DDC) reference designs for CDMA2000, WCDMA, and WiMAX systems demonstrate the lowest cost-per-channel implementations with Cyclone® II and Stratix II FPGAs.

Features

- Significantly reduced development time using DSP Builder design methodology and highly parameterizable IP MegaCore® functions.
- Cost effectiveness through multi-channel filter design techniques.
- Support for multiple transmit and receive antenna configurations.
- Support for scalable channel bandwidths.

Altera digital upconverter and downconverter solutions



¹ RRC = Root-raised cosine

² ADC = Analog to digital converter

"Buy" your RF card solution

Complete RF module solutions

Altera's wireless ecosystem partner TelASIC Communications offers carrier-class radio sub-systems (transmit linearizer board, multi-carrier power amplifier (MCPA), and remote radio head hardware platform) to accelerate the development of wireless basestations. The sub-system includes RF-IF conversion, analog-to-digital and digital-to-analog conversion, CFR, DPD, DUC, DDC, and OBSAI or CPRI controllers for air-interface standards including HSDPA/ WCDMA/ LTE, EVDO/ CDMA2000, and WiMAX/ WiBro.

Features

- Frequency-agnostic RF transmit modules.
- PA-agnostic DPD solutions with 38 percent PA efficiency.
- Support for variable channel bandwidths.
- Linearized wide-band signals (e.g. 4-carrier HSDPA (20 MHz) or 2-carrier WiBro)
- Subsystems based on Altera FPGAs, Nios II embedded processors, and HardCopy® structured ASIC technology.

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