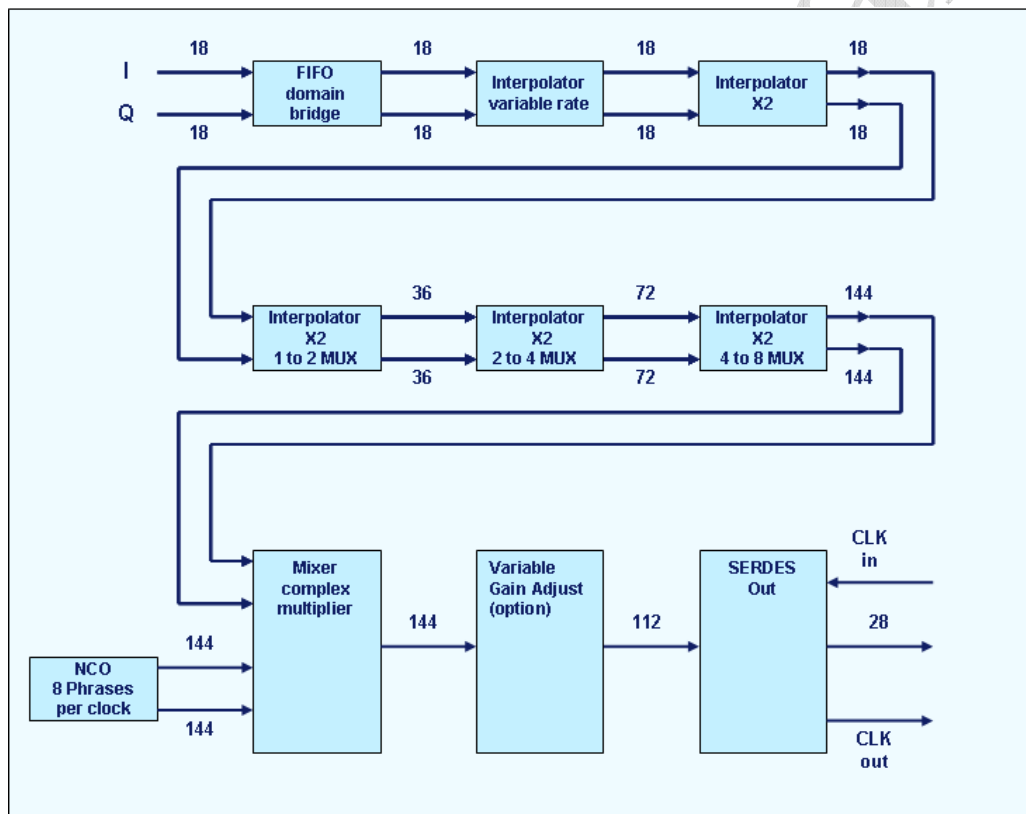


# AixSolve DirectSyntheses Megafunction

With the AixSolve *DirectSyntheses* megafunction it is possible to upconvert directly from IQ into the final band, whereby all modulators are independent in carrier frequency and symbol rate.

Block diagram:



Required resources\*:

Altera	Combined ALUTs*	Memory ALUTs*	ALM*	Dedicated Logic Registers*	Combinational Logic*	M9K*	M144K*	DSP*
1x UpConverter	3361	238	3419	5545	514	2	4	164
8x UpConverter	24001	1336	23554	39358	2313	344	12	484

\* Based on Stratix IV, Arria2GX similar, actual synthesis might vary, project depended

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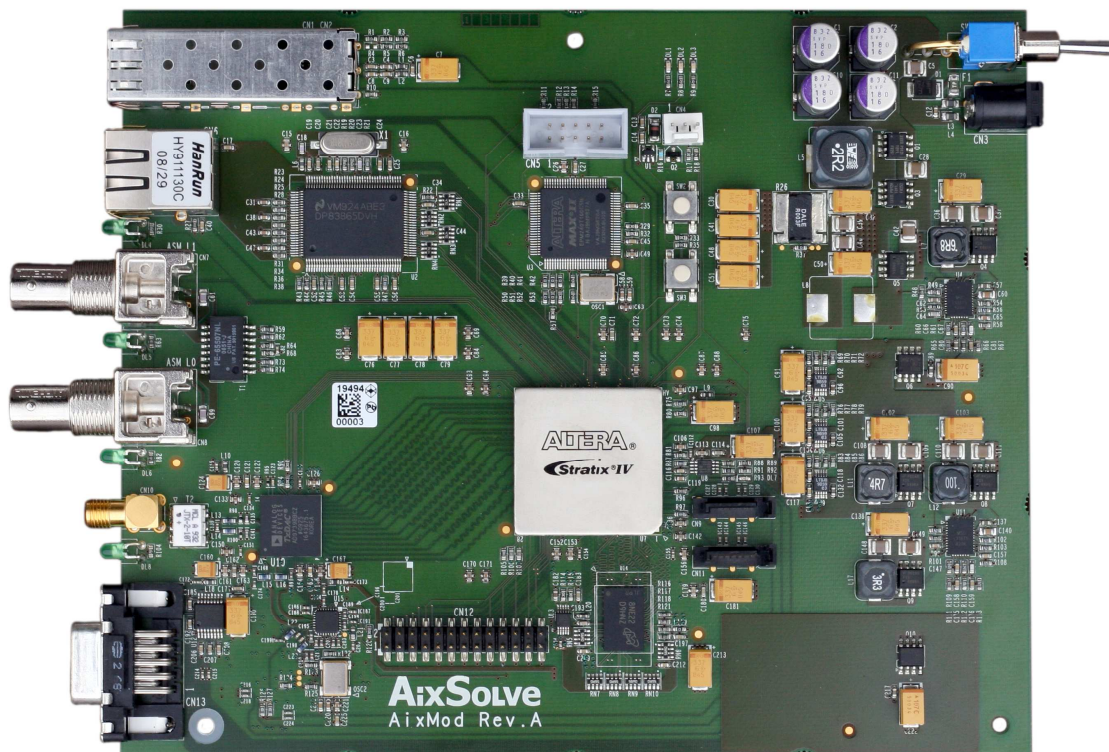
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## Key facts

- Direct Up Conversion into the CAT-TV typical range of 50...900 MHz
- Higher carrier frequencies possible by using 2nd/3rd Nyquist zones
- More than 8 channels for non broadcast quality like inhouse distribution or hotel applications
- Modulators are independent regarding carrier frequency and symbol rate
- All IQ based modulation schemes could be supported
- Example (QAM 64) : MER > 46, SNR > 60

## Related AixSolve product:

AixSolve *DirectUpRef* reference design



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