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Headline:

JARIET Technologies creates expanded ELECTRA direct RF-sampling ADC/DAC transceiver family based upon their industry leading ELECTRA-MA 64-GSPS product to better serve VHF to Ka-band markets

Body:

JARIET Technologies, a fabless semiconductor company specializing in high performance data converter transceivers, announced an expansion of its flagship ELECTRA-MA product with a much broader ELECTRA family of products, building upon success in multi-antenna electronic warfare and prototyping for 6G cellular communication. The expanded product portfolio is well positioned to address the needs of RADAR, satellite communications, test equipment and quantum computing with optimized offerings from 100 MHz to 36 GHz and increased port density. The ELECTRA platform is making the next generation possible with application-optimized offerings by providing direct RF-sampling from VHF to Ka-band at ADC/DAC sample rates up to 64 GSPS.

The ELECTRA architecture, already well established in the aerospace and defense market, is now being offered as a family of commercially available IC's to enable broader customer access to JARIET's leadership technology in a stand-alone package with an industry standard SERDES data interface. The common architecture and software environment used across the entire ELECTRA family reduces customer development cost and enables faster time to market while addressing multi-function and multi-domain application spaces. The 36 GHz bandwidth enables SDR (software-defined radio) at double the frequency previously possible and with signal instantaneous bandwidth (IBW) up to 6.4-GHz wide per converter. ELECTRA more than triples the clock rate of the nearest competitor's ADC, and more than doubles the nearest DAC. The 10-bit 64 GSPS ADCs deliver 10dB better noise spectral density (NSD) and 17dB better noise figure (NF) at 9.5 GHz than the best 14-bit ADCs.

ELECTRA family product details:

- 2T2R
 - ELECTRA-MA: 64 GSPS, 36 GHz (Ka-band), max 6.4 GHz IBW
 - ELECTRA-MK: 58 GSPS, 22 GHz (K-band), max 2.9 GHz IBW
 - ELECTRA-MX: 51.2 GSPS, 12 GHz (X-band), max 1.28 GHz IBW
 - 25-mm x 25-mm BGA package
- 4T4R
 - ELECTRA-QA: 64 GSPS, 36 GHz (Ka-band), max 6.4 GHz IBW
 - ELECTRA-QK: 58 GSPS, 22 GHz (K-band), max 2.9 GHz IBW
 - ELECTRA-QX: 51.2 GSPS, 12 GHz (X-band), max 1.28 GHz IBW
 - 27-mm x 32-mm BGA package
- RF-sampling ADCs/DACs
- Coarse and fine DUCs/DDCs
- Ultra low-jitter internal clock generation on each transmit/receive pair
- Multi-chip synchronization
- 16 lane 30 Gbps JESD204C SERDES transceivers
- Low power 12nm CMOS process, wafer FAB in the United States

Technology similar to ELECTRA is also available co-packaged with popular FPGAs, as an IP block for integration into your own ASIC and in die form.

JARIET Technologies will be demonstrating ELECTRA at IEEE MTT-S IMS (International Microwave Symposium) in Washington, D.C. June 18-20, 2024.

Evaluation boards and ICs are now available. For more information, visit the [ELECTRA](#) product page, contact JARIET [sales](#) and follow JARIET Technologies on [LinkedIn](#) to stay informed on the latest developments.