Digital Signal Processor for 3G Base Stations

Analog Devices unveiled a new DSP for 3G (Third Generation Cellular) base stations equipped with Layer 1 software that together reduce baseband system costs of 3G telecommunications infrastructure equipment by up to 50 percent. ADI's ADSP-TS101S TigerSHARC&regDSP is equipped to address manufacturer's needs for flexibility, high performance, reduced bill of materials cost and added capacity than the traditional hardware approach that relies heavily on DSP plus ASICs (application specific integrated circuits) and FPGAs (field programmable gate arrays).
In addition to high performance and significant bill of materials savings, the new TigerSHARC DSP is the only fully-programmable solution that allows for quick migration between major 3G modes that will be deployed in different regions of the world including WCDMA/UMTS, cdma2000 and TDS-CDMA. As these 3G standards evolve or new base station features are required, a TigerSHARC DSP-based approach provides added flexibility because the intellectual property resides in the software, not in fixed function blocks. The result is fast time-to-market for upgrades or new products.
The TigerSHARC DSP also eliminates the cost of external memory and ASICs or FPGAs. The TigerSHARC DSP is a telecommunications-optimized, programmable device with the processing and data throughput performance to handle both the chip rate and symbol rate tasks required for voice and data channel processing. The ADSP-TS101S is the first TigerSHARC DSP to implement chip-rate and symbol-rate optimized instructions. Analog Devices added these instructions after extensive development with base station customers. With 6 megabits of on-chip memory and direct multiprocessing support, the ADSP-TS101S is available and shipping to base station customers. The ADSP-TS101S is supported by a broad range of third party companies, including Delphi Communication Systems, OSE Systems, PA Consulting Group, Plexus Corporation, Toracomm, and Transtech DSP. ADI offers complete all-air-interfaces base station signal chain solutions, including analog RF and IF signal processing, data conversion, and digital signal processing. ADI's SoftCell&#153 multi-carrier transceiver chipset includes all the key functional blocks for implementing a software radio platform.

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