DSP Libraries Update - November 2010

IntegrIT have a wide range of highly optimised libraries for Texas Instruments and Analog Devices DSPs and recently launched DSP signal processing libraries for Tensilica DSP cores. Libraries include NatureDSP Math and DSP Signal and APCO P25CAI for SDR applications plus audio codecs for wideband and narrowband VoIP.

Overview

- NatureDSP Signal
- NatureDSP Math
- NatureDSP Signal+ for Tensilica HiFi2 / ConnX D2
- ACPO P25CAI Software Stack for TI DSPs and x86

NatureDSP Signal

Nature DSP Signal library is a collection of signal processing routines needed for implementation of typical algorithms for voice/audio processing. Special memory management optimizes performance and allows designer to utilize efficiently cache or DARAM/SARAM spaces and place most memory consuming blocks into the slow memory. Unique “filter-on-the-fly” feature enables fast filter synthesis in real time.

This library is available in binaries and in source code written on fully portable C-language for: Texas Instruments C54xx, C55xx, C64xx, OMAP, DaVinci, ARM7, ARM9 and ARM9E.

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Another important feature is availability of bit exact library for x86 PC which makes development and simulation of complex DSP algorithms simpler and much more straight forward.

More Information

NatureDSP Math

NatureDSP Math library is a fixed point digital signal processing library. NatureDSP Math efficiently implements accurate fixed point representation of commonly used mathematic routines. NatureDSP Math saves product development time. It utilizes 100% of fixed point DSPs capabilities requiring minimum CPU cycles. The NatureDSP Math library is useful for signal processing algorithms developers and digital communication system designers.

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Supported platforms include Texas Instruments C64/DaVinci, C55, ARM9E/ARM11 and Tensilica HiFi2 and ConnX D2.

More Information

NatureDSP Signal+ for Tensilica HiFi2 / ConnX D2

IntegrIT Nature DSP Signal+ is a collection of signal processing functions needed for implementation of typical digital signal processing functions which effectively utilize 24bits HiFi2 DSP nature. It contains plenty of highly optimized routines for filtering, FFT, matrix, trigonomentic etc. operations.

IntegrIT Nature DSP Signal+ for Tensilica HiFi2 is a collection of signal processing functions needed for implementation of typical digital signal processing algorithms. All functions are manually optimized for ***Tensilica HiFi2 DSP*** utilizing full data bus bandwidth and computing power of the HiFi2.

IntegrIT Nature DSP Signal+ for Tensilica ConnX D2 is a collection of typical digital signal processing algorithms. All functions are manually optimized for ***Tensilica ConnX D2*** DSP utilizing full data bus bandwidth and computing power of the ConnX D2. It outperforms TI's C55xx DSPLIB by 45-65% for FFTs and provides up to 4x acceleration for vector mathematics.

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ACPO P25CAI Software Stack for TI DSPs and x86

IntegrIT APCO P25CAI is a software stack implementing APCO P25 FDMA Common Air Interface. Strictly conformed to TIA-102.BAAA-A specification, IntegrIT APCO P25CAI is an ideal solution for OEM 2-way radio equipment manufacturers. It is scalable to fit in portable and mobile radios as well as base stations and repeaters. Flexible configuration allows conventional and trunking communication. Robust decoding technique provides superior performance in noisy environment. It is optimised and available for Texas Instruments C64/DaVinci and C55 plus x86.

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