IPB-AAC-HE-MD

HE-AAC AUDIO DECODER

Overview

The **HE-AAC Audio Decoder** (IPB-AAC-HE-MD) is a software IP for decoding up to 6 audio channels in real-time. It is designed to run on our IPB-PLAT audio engine platform.

The IPB-AAC-HE-MD software requires an instance of the IPB-PLAT audio engine platform named **IPB-PLAT-31**.

The user can upload the IPB-AAC-HE-MD program using a hardware interface. The program can be configured, run and monitored by means of a configuration, control, and status register file, accessed by the same control interface.

The audio input and output interfaces include a native parallel interface. Other interfaces, such as, I^2S/TDM and SPDIF/AES3 are also available.

Features

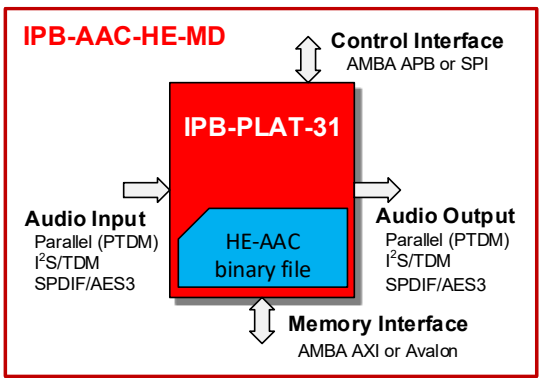
- MPEG2/4 HE-AAC Fraunhofer IIS high quality software which supports ISO/IEC 13818-7, ISO/IEC 14496-3 and Japanese ARIB standard
- Supported channel modes: mono, dual mono, stereo (2.0), 2.1, 3.0, 3.1, 4.0, 5.0, and 5.1
- Supported sampling rates: 8, 16, 22.05, 32, 44, 44.1 and 48 kHz
- Supports multiple audio streams - limited to 6 audio channels in total (e.g. 3 stereo streams)
- Maximum 16-bit output audio resolution
- Requires 7.45 MB of external memory
- Configurable output latency useful to synchronize with other sources (e.g. video)
- Minimum latency: 1 frame assuming burst data input
- Software interface protocol for control, configuration and monitoring
- Parameter change while muting or repeating one frame
- Supported transport types: raw, ADTS, ADIF, LATM, and LOAS
- Real time operation @80 MHz for worst-case settings

Disclaimer: IPbloq reserves the right to modify the current technical specifications without notice

Benefits

- Low operation frequency
- Low power consumption
- Optimizable to fulfill different design specifications

Block Diagram



Implementation Results(1)

Xilinx Spartan-6

LUTs	FFs	DSPs	BRAM 18K
40,300	22,400	33	125

Xilinx Kintex-7

LUTs	FFs	DSPs	BRAM 36K
40,400	22,400	33	78

(1) Implementation results for other FPGAs or ASIC technologies can be provided upon request

Deliverables

- Program binary
- Software manual
- Hardware datasheet
- RTL or FPGA netlist
- Implementation constraints

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