

SPIRIT SBC Codec

The Bluetooth low-complexity, subband codec (SBC) is described in the specification of the Advanced Audio Distribution Profile (A2DP) in appendix B. SBC is an audio coding system specially designed for Bluetooth audio and video applications to obtain high quality audio at medium bit rates with low computational complexity. It uses 4 or 8 subbands, an adaptive bit allocation algorithm, and simple adaptive block PCM quantizers.

SPIRIT SBC codec is implemented according to Bluetooth Advanced Audio Distribution Profile (A2DP) specification - as the only mandatory codec for wireless audio.

Features

- Low CPU load for lower power consumption
- Small memory footprint
- Fully compliant to the Bluetooth specifications
- Near-CD sound quality
- 90 dB signal-to-noise ratio
- 16, 32, 44 kHz sampling rates
- Low latency
- Simple API – facilitates integration to speed up time-to-market

Resource Requirements

PLATFORM	ARM9E/ ARM9		ARM7	
	Decoder	Encoder	Decoder	Encoder
Average MIPS	9 / 15	10.1/ 16.1	21.0	23.1
Program Memory, KB	5.4/ 5.4	8.6/ 8.6	5.4	8.6
Constant Memory, KB	0.5/ 0.5	0.6/ 0.6	0.5	0.6
Persistent Memory, KB	1.4/ 1.4	2.7/ 2.7	1.4	2.7
Scratch, KB	0	0	0	0
Stack, KB	1	1	1	1

MIPS are specified for 44.1 kHz 128 kbps stereo bitstream, MIPS are measured using simulator with 0-W

Benefits

- Longer battery life
- Ideal for resource constrained applications
- Easy integration and fast time-to-market
- High sound quality

Key Features

- Low CPU load
- Small memory footprint
- Simple API
- Fully compliant to the ISO MPEG standard I

Applications

- Wireless audio players
- Wireless headphones
- Mobile handsets
- Bluetooth headsets
- Car audio

Availability

- ARM Call
- TI OMAP Call
- TI C6xx Call
- MIPS Call

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