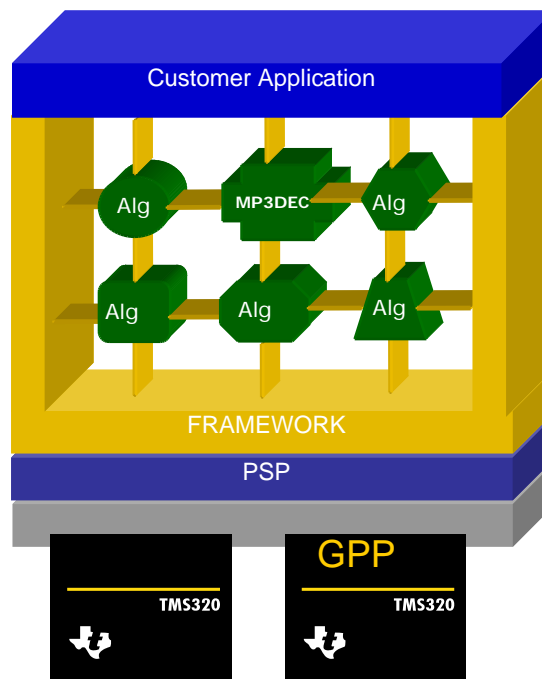


- eXpressDSP Algorithm Interface Standard (XDAIS) compliant
- Validated on the TMS320C5505 EVM
- Supports both REV2 and REV3 core of C55x.
- ISO/IEC 11172-3 Layer 3 compliant streams supported
- Variable Bit Rate (VBR) and Constant Bit Rate (CBR) modes supported. VBR encoding provides a higher overall sound quality with smaller file size.
- Bit-rates from 8 to 320 kbps supported
- Mono, stereo, and dual channel input streams supported
- 16-bit raw Pulse Code Modulation (PCM) samples supported. If two channels of audio data are produced, the output can be either in interleaved or block format.
- Layer 3 decoder is compliant with the following standards:
 - ISO/IEC 11172-3 (MPEG 1) (48 KHz, 44.1 KHz, and 32 KHz)
 - ISO/IEC 13818-3 (MPEG 2) (24 KHz, 22.05 KHz, and 16 KHz)
 - MPEG 2.5 extension (12 KHz, 11.025 KHz, and 8 KHz) sampling rates
- Layer 1 and 2 streams are not supported.
- Free format streams not supported



description

MP3 is one of the most popular audio compression standards across wide spectrum of application ranging from portable player, cell phones, music systems, internet, and so on.

PRODUCT PREVIEW



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summary of performance

Table 1. Configuration Table

CONFIGURATION	ID
MP3_REV3	MP3_DEC_001

Table 2. Cycles Information¹ – Profiled on TMS320C5505 EVM with Code Generation Tools Version 4.3.3

CONFIGURATION ID	PERFORMANCE STATISTICS (IN MEGA CYCLES PER SEC) ²		
	TEST DESCRIPTION	AVERAGE	PEAK
MP3_DEC_001	MJ44khz128kbps.mp3, 44.1 kHz – 128 kbps stereo	14.23	19.3

¹ Measured with data memory, stack, and I/O buffers in DARAM and program section in SARAM.

² Average and Peak MCPS may vary by + or – 5%.

Table 3. Memory Statistics - Generated with Code Generation Tools Version 4.3.3

CONFIGURATION ID	MEMORY STATISTICS ^{3, 4}				
	PROGRAM MEMORY	DATA MEMORY			TOTAL
		INTERNAL	EXTERNAL	STACK	
MP3_DEC_001	19.34	32.04	Not used	2	53.38

³ All memory requirements are expressed in kilobytes (1K-byte = 1024 bytes).

⁴ Does not include I/O buffers.

Table 4. Internal Data Memory Split-up

CONFIGURATION ID	DATA MEMORY – INTERNAL ⁵		
	SHARED		INSTANCE ⁶
	CONSTANTS	SCRATCH	
MP3_DEC_001	13.6	9.0	9.44

⁵ All memory requirements are expressed in kilobytes.

⁶ Does not include I/O buffers.

**notes**

- I/O buffers:
 - Input buffer size = 2880 bytes
 - Output buffer size = 2304 bytes
- Total data memory for N non pre-emptive instances = Constants + Run-time Tables + Scratch + N*(Instance + I/O buffers + Stack)
- Total data memory for N pre-emptive Instances = Constants + Run-time Tables + N*(Instance + I/O buffers + Stack + Scratch)

references

- ISO/IEC IS 11172-3 Information Technology -- Coding of Moving Pictures and Associated Audio for Digital Storage Media at up to about 1.5 Mbps -- Part 3: Audio
- ISO/IEC IS 13818-3 Information Technology -- Generic Coding of Moving Pictures and Associated Audio Information -- Part 3: Audio
- *MP3 Decoder C55x User's Guide*

glossary

Constants	Elements that go into .const memory section
Scratch	Memory space that can be reused across different instances of the algorithm
Shared	Sum of Constants and Scratch
Instance	Persistent-memory that contains persistent information - allocated for each instance of the algorithm

acronyms

CBR	Constant Bit Rate
EVM	Evaluation Module
Kbps	Kilo bits per second
kHz	Kilo Hertz
MP3	MPEG1 Layer 3
MPEG	Moving Pictures Experts Group
PCM	Pulse Code Modulation
VBR	Variable Bit Rate
XDAIS	eXpressDSP Algorithm Interface Standard

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