- **eXpressDSP Algorithm Interface Standard (XDAIS) compliant**
- **Supports both Rev2.0 and Rev3.0 versions of C55x**
- **All versions, namely V2, V7, V8, V9, V9 beta odd, and V9 NC supported**
- **Class 4 implementation of WMA decoder supported**
- **Low, medium, and high bit-rates supported**
- **Variable Bit Rate (VBR) mode supported**
- **Maximum of two channels supported**
- **ASF streams supported**
- **Outputs 16-bit PCM samples**
- **8 - 48 kHz output sampling rates and 5 - 384 kbps input bit- rates supported**
- **Digital Rights Management (DRM) not supported**
- **Microsoft Acceptance Test criteria compliant**
- **Validated on TMS320C5505 EVM with Code Composer Studio version 3.3 and Code Generation Tools version 4.3.3**

description

WMA Version9 Decoder is WMA standard decoder that decodes Windows Media Audio files in the Advanced Systems Format (ASF). It is validated on TMS320C5505 with Code Composer Studio version 3.3 and Code Generation Tools version 4.3.3.

PRODUCT PREVIEW

summary of performance

Table 1. Configuration Table

CONFIGURATION	ID
WMA9 Standard Decoder	WMA_DEC_001

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

CONFIGURATION ID	PERFORMANCE STATISTICS (IN MEGA CYCLES PER SEC)[1]		
	TEST DESCRIPTION	AVERAGE	PEAK
WMA_DEC_001	test2_WMA_v8_20kbps_22kHz_2.wma	40.86	57.19
	test1_WMA_v8_32kbps_44kHz_2.wma	28.31	48.48
	test2_WMA_v9_1pCBR_320kbps_48kHz_2.wma	43.88	70.74
	test2_WMA_v9_2pVBR-Bitrate_192kbps_48kHz_2_NC.wma	38.66	58.31
	test2_WMA_v9_2pVBR-Peak128kbps_Avg64kbps_48kHz_2_NC.wma	24.34	41.1
	test2_WMA_v9_1pCBR_128kbps_44kHz_2_NC.WMA	25.40	60.74

[1] Measured, stack, and const tables in DARAM and instance, scratch and program memory in SARAM. Measured Cycles for initial 500 frames.

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

CONFIGURATION ID	MEMORY STATISTICS[2]				
	PROGRAM MEMORY	DATA MEMORY			TOTAL
		INTERNAL[3]	EXTERNAL	STACK	
WMA_DEC_001	32	68.84	Not Used	2	102.84

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

Table 4. Internal Data Memory Split-up

CONFIGURATION ID	DATA MEMORY – INTERNAL[4]		
	SHARED		INSTANCE
	CONSTANTS	SCRATCH	
WMA_DEC_001	34.3	7.82	26.72

[4] All memory requirements are expressed in kilobytes.

notes

- I/O Buffers Output Buffer Size = 8K-bytes.
- Total data memory for N *non pre-emptive* instances =
  Constants + Runtime Tables + Scratch + N*(Instance + I/O buffers + Stack)
- Total data memory for N *pre-emptive* instances =
  Constants + Runtime Tables + N*(Instance + I/O buffers + Stack + Scratch)

references

- Implementation Acceptance test specification, Version 9.00, Revision G. Date: May 19, 2003, Microsoft Corporation.
- An Overview of Windows Media Audio Decoding, WMA Version 7.0, Microsoft Corporation.
- TMS320 DSP Algorithm Standard API Reference

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

ASF	Advanced Systems Format
EVM	Evaluation Module
VBR	Variable Bit Rate
WMA	Windows Media Audio
XDAIS	eXpressDSP Algorithm Interface Standard

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