



- eXpressDSP™ Algorithm Interface Standard (XDAIS) compliant
- eXpressDSP Digital Media (XDM) interface compliant
- Validated on the DM6437 EVM
- 16-bit PCM samples as input supported
- Full implementation, that is, Class 4 type of WMA Encoder supported
- Bit-rates from 5 kbps to 192 kbps supported
- Constant bit-rate mode supported
- 8 to 48 kHz output-sampling frequencies supported
- Mono and stereo channels supported
- Advanced System Format (ASF) supported
- Compliant with Microsoft Acceptance Test criteria



description

The WMA Version8 Encoder is eXpressDSP Digital Media (XDM) compliant encoder, which encodes and converts the wave files into Windows Media Audio files in the Advanced Systems Format (ASF).



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summary of performance

Table 1. Configuration Table

CONFIGURATION	ID
ASF Support Library	WMA_ENC_001

Table 2. Cycles Information – Profiled on DM6437 EVM with Code Generation Tools Version 6.0.8

CONFIGURATION ID	PERFORMANCE STATISTICS (IN MEGA CYCLES PER SEC) ¹		
	TEST DESCRIPTION	AVERAGE	PEAK ²
WMA_ENC_001	Test2_44kHz_long.wav (32 kbps)	27.96	47.86
	Test2_44kHz_long.wav (48 kbps)	22.65	43.76
	Test2_44kHz_long.wav (80 kbps)	23.42	45.84
	Test3_44kHz_long.wav (32 kbps)	31.38	44.45

¹ Measured with program memory, stack, and I/O buffers in external memory with default 32K-bytes L1P cache, 16K-bytes L1D cache, and 64K-bytes L2 cache configurations.

² All sections are placed in external memory and code profiled with cache invalidate enabled for input and output buffer.

Table 3. Memory Statistics - Generated with Code Generation Tools Version 6.0.8

CONFIGURATION ID	MEMORY STATISTICS ³				
	PROGRAM MEMORY	DATA MEMORY			TOTAL
		INTERNAL ⁴	EXTERNAL	STACK	
WMA_ENC_001	115.6	0	94.9	1.5	212

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

⁴ Internal memory is not used.

Table 4. Internal Data Memory Split-up

CONFIGURATION ID	DATA MEMORY – INTERNAL ⁵		
	SHARED		INSTANCE
	CONSTANTS	SCRATCH	
WMA_ENC_001	0	0	0

⁵ All memory requirements are expressed in kilobytes

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**Table 5. External Data Memory Split-up**

CONFIGURATION ID	DATA MEMORY – EXTERNAL ⁶		
	SHARED		INSTANCE
	CONSTANTS	SCRATCH	
WMA_ENC_001	44.6	19.3	31

⁶ All memory requirements are expressed in kilobytes

Table 6. Co Processor(s) Memory Statistics

CONFIGURATION ID	SEQ DATA MEMORY	SEQ PROG MEMORY	IMX WORKING MEM	IMX IMG BUF	IMX CMD MEM
WMA_ENC_001	0	0	0	0	0

Note: The encoder does not use co-processors and hence all the values are zero.



notes

- I/O buffers:
 - Input buffer size = 16384 bytes
 - Output buffer size = 10000 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

- WMA Version8 Decoder on C64x+ User Guide (literature number SPRUEZ0)

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
WMA	Windows Media Audio
XDAIS	eXpressDSP Algorithm Interface Standard
XDM	eXpressDSP Digital Media

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