RK3036 Multimedia Codec Benchmark

Ver. 1.2

November 30, 2015

Index

History

Date	Author	Version	Description
2014.8.04	Jian Huan	1.0	Initial Version
2015.5.14	Herman Chen	1.1	Fix avc/hevc decoder performance
2015.11.30	Herman Chen	1.2	Remove invalid jpeg encoder

Notice

All the data involved in this document will be in accordance with the development progress and possible changes without notice.

The features listed in this document may or may not be present in actual product, and may be subject to the third party licensing requirements.
Please contact Rockchip for actual product feature configurations and licensing requirements.

1. Image

1.1 Image Decoder

JPEG	
Image Codec	JFIF file format 1.02
Support Image Size	48x48pixels to 8176x8176pixles
Container	JPG, JPEG
Remark	(1) Not Support Non-interleaved Scan (2) Software support SRGB JPEG (3) Software support Adobe RGB JPEG

BMP	
Image Codec	BMP
Support Image Size	No Restriction[1]
Container	BMP
Remark	n.a.

GIF	
Image Codec	GIF
Support Image Size	No Restriction
Container	GIF
Remark	n.a.

PNG	
Image Codec	PNG
Support Image Size	No Restriction
Container	PNG
Remark	n.a.

WEBP	
Image Codec	WEBP
Support Image Size	No Restriction
Container	WEBP
Remarks	n.a.

---

[1] Limited by actual memory available

2. Audio

2.1 Audio Decoder

MPEG Audio	
Audio Codec	MPEG1/2/2.5 Audio Layer1/2/3
Channel	2
Bit rate	8kbps~320Kbps, CBR and VBR
Sampling rate	8KHZ~48KHz
File Format	MP1, MP2, MP3
Remark	n.a

Windows Media Audio	
Audio Codec	WMA Version 4,4.1, 7, 8, 9, wmapro
Channel	2
Bit rate	8kbps~320Kbps
Sampling rate	8KHZ~48KHz
File Format	WMA
Remark	Non-support WMA Pro、lossless and MBR

WAV Audio	
Audio Codec	MS-ADPCM, IMA-ADPCM, PCM
Channel	2
Bit rate	n.a
Sampling rate	8KHZ~48KHz
File Format	WAV
Remark	Support 4bit MS-ADPCM,IMA-ADPCM

OGG Audio	
Audio Codec	Q1~ Q10
Channel	2
Bit rate	n.a
Sampling rate	8KHZ~48KHz
File Format	OGG, OGA
Remark	n.a

FLAC Audio	
Audio Codec	Compress Level 0~8
Channel	2
Bit rate	n.a

Sampling rate	8KHZ~48KHz
File Format	FLAC
Remark	n.a

AAC Audio	
Audio Codec	ADIF ,ATDS Header AAC-LC and AAC-HE
Channel	5.1
Bit rate	n.a
Sampling rate	8KHZ~48KHz
File Format	AAC, M4A
Remark	n.a

AMR Audio	
Audio Codec	AMR-NB, AMR-WB
Channel	1
Bit rate	AMR-NB 4.75~12.2kbps@8kHz AMR-WB 6.60~23.85kbps@16kHz
Sampling rate	8KHZ, 16KHz
File Format	3GP
Remarks	n.a

MIDI Audio	
Audio Codec	MIDI Type 0 and 1, DLS version 1 and 2, XMF and Mobile XMF, RTTTL/RTX, OTA, iMelody
Channel	2
Bit rate	n.a
Sampling rate	n.a
File Format	XMF, MXMF, RTTTL, RTX, OTA, IMY
Remarks	n.a

2.2 Audio Encoder

AMR Audio	
Audio Codec	AMR-NB
Channel	2
Bit rate	4.75kbps~12.2Kbps, CBR
Sampling rate	8KHZ
Container	3GPP
Remark	n.a

AAC Audio	
Audio Codec	AAC-ADTS-LC
Channel	2
Bit rate	4.75kbps~60Kbps, CBR
Sampling rate	8KHZ~44.1KHZ
Container	AAC, 3GPP, Mpeg2TS
Remark	n.a

3. Video

3.1 Video Decoder

MPEG-1/2	
Video Codec	MPEG-1/2
Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate[1]	80Mbps
Remark	● Support Field Coding

MPEG-4	
Video Codec	MPEG4
Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	38.4Mbps
Remark	● Not support MS MPEG4 v1/v2/v3 ● Not support GMC

H.264/AVC	
Video Codec	H.264

Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	100Mbps
Remark	● Support Field Coding; ● Support MBAFF

H.265/HEVC

Video Codec	H.265/HEVC
Supported Image Size	64x64pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	50Mbps
Remark	● Support Main Profile; ● Support Tile & Slice;

GOOGLE VP8

Video Codec	VP8
Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	38.4Mbps
Remark	

H.263

Video Codec	H.263
Supported Image Size	SQCIF(128x96), QCIF(176x144), CIF(352x288),4CIF(704x576)
Maximum Frame Rate	30fps
Maximum Bit Rate	38.4Mbps
Remark	● Not support H.263+

MOTION JPEG

Video Codec	MJPEG
Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	38.4Mbps
Remark	

---

1 Ideal case.