RK3288 Multimedia Codec Benchmark

Ver. 1.1

April 11, 2014

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Date	Author	Version	Description
2013.4.02	Jian Huan	1.0	Initial Version
2013.4.11	Jian Huan	1.1	Modify H.264 decoding features

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Notice

All the data involved in this paper will be in accordance with the development progress and possible changes.

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.

[1] Limited by actual memory available

1.2 Image Encoder

JPEG	
Image Codec	JPEG Baseline
Support Image Size	96x32pixels to 8176x8176pixles
Maximum Data Rate[2]	90Mpixels/Second
File Format	JFIF file format 1.02
Remark	

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[2] Ideal case

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

APE Audio	
Audio Codec	APE Ver. 3.95, 3.97, 3.98, 3.99 normal and fast
Channel	2
Bit rate	n.a
Sampling rate	8KHZ~48KHz
File Format	APE
Remark	n.a

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	MAIN, 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

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	1
Bit rate	4.75kbps~12.2Kbps, CBR
Sampling rate	8KHZ
Container	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

DIVX	
Video Codec	DivX 3/4/5/6
Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	38.4Mbps
Remark	● Not support Data Partitioning ● Not support GMC

H.264/AVC	
Video Codec	H.264
Supported Image Size	48x48pixels to 4096x2304pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	100Mbps
Remark	● Support Field Coding ● Support MBAFF ● Support CABAC coding 4K video only

MVC	
Video Codec	H.264 MVC
Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	60fps

Maximum Bit Rate	38.4Mbps
Remark	● Support Stereo High Profile only;

H.265/HEVC

Video Codec	H.265/HEVC
Supported Image Size	64x64pixels to 4096x2304pixels
Maximum Frame Rate	60fps
Maximum Bit Rate	100Mbps
Remark	● Support Main Profile & Main10 Profile; ● Support 10-bit Color decoding; ● Support Tile & Slice;

GOOGLE VP8

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

VC-1

Video Codec	VC-1
Supported Image Size	48x48pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	45Mbps
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+

SORENSON SPARK

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

ON2 VP6

Video Codec	VP6

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

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

3.2 Video Encoder

H.264/AVC	
Video Codec	H.264
Supported Image Size	96x96pixels to 1920x1088pixels
Maximum Frame Rate	30fps
Maximum Bit Rate	20Mbps
Audio Codec	AMR-NB
File Format	MOV, 3GP
Remark	● Not support MBAFF

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[1] Ideal case.