

# 6.2 Audio and Video Decoder Specifications

## Audio

| Type                | Codec                                                                               | Channel | Bit rate                                                 | Sampling rate | File Format                     | Remarks                               |
|---------------------|-------------------------------------------------------------------------------------|---------|----------------------------------------------------------|---------------|---------------------------------|---------------------------------------|
| MPEG                | MPEG1/2/2.5 Audio Layer1/2/3                                                        | 2       | 8kbps~320Kbps, CBR and VBR                               | 8KHZ~48KHz    | MP1, MP2, MP3                   | N/A                                   |
| Windows Media Audio | WMA Version 4, 4.1, 7, 8, 9, wmapro                                                 | 2       | 8kbps~320Kbps                                            | 8KHZ~48KHz    | WMA                             | Non-support WMA Pro, lossless and MBR |
| WAV                 | MS-ADPCM, IMA-ADPCM, PCM                                                            | 2       | N/A                                                      | 8KHZ~48KHz    | WAV                             | Support 4bit MS-ADPCM, IMA-ADPCM      |
| OGG                 | Q1~Q10                                                                              | 2       | N/A                                                      | 8KHZ~48KHz    | OGG, OGA                        | N/A                                   |
| FLAC                | Compress Level 0~8                                                                  | 2       | N/A                                                      | 8KHZ~48KHz    | FLAC                            | N/A                                   |
| AAC                 | ADIF, ATDS Header AAC-LC and AAC-HE, AAC-ELD                                        | 5.1     | N/A                                                      | 8KHZ~48KHz    | AAC, M4A                        | N/A                                   |
| AMR                 | AMR-NB, AMR-WB                                                                      | 1       | AMR-NB 4.75~12.2kbps@8kHz<br>AMR-WB 6.60~23.85kbps@16kHz | 8KHZ, 16KHz   | 3GP                             | N/A                                   |
| MIDI                | MIDI Type 0 and 1, DLS version 1 and 2, XMF and Mobile XMF, RTTTL/RTX, OTA, iMelody | 2       | N/A                                                      | N/A           | XMF, MXMF, RTTTL, RTX, OTA, IMY | N/A                                   |

## Video

| Product Model                                                                                                         | Type        | Codec       | Supported Image Size                                       | Maximum Frame Rate    | Maximum Bit Rate (Ideal Case) | File Format                      | Remarks                                                 |
|-----------------------------------------------------------------------------------------------------------------------|-------------|-------------|------------------------------------------------------------|-----------------------|-------------------------------|----------------------------------|---------------------------------------------------------|
| T3, T6, TB3, TB4, TB6, TB8                                                                                            | MPEG-1 /2   | MPEG-1/2    | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 80Mbps                        | DAT, MPG, VOB, TS                | Support Field Coding                                    |
|                                                                                                                       | MPEG-4      | MPEG4       | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 38.4Mbps                      | AVI, MKV, MP4, MOV, 3GP          | Not support MS MPEG4 v1/v2/v3, GMC, DivX3/4/5/6/7.../10 |
|                                                                                                                       | H.264 /AVC  | H.264       | 48×48 pixels~4096×2304 pixels                              | 4K@25fps, 1080P@60fps | 100 Mbps                      | AVI, MKV, MP4, MOV, 3GP, TS, FLV | Support Field Coding, MBAFF                             |
|                                                                                                                       | MVC         | H.264 MVC   | 48×48 pixels~1920×1080 pixels                              | 60fps                 | 38.4Mbps                      | MKV, TS                          | Support Stereo High Profile only                        |
|                                                                                                                       | H.265 /HEVC | H.265 /HEVC | 64×64 pixels~4096×2304 pixels                              | 4K@60fps, 1080P@60fp  | 100 Mbps                      | MKV, MP4, MOV, TS                | Support Main Profile, Tile & Slice                      |
|                                                                                                                       | GOOGLE VP8  | VP8         | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 38.4 Mbps                     | WEBM, MKV                        | N/A                                                     |
|                                                                                                                       | H.263       | H.263       | SQCIF(128×96), QCIF(176×144), CIF(352×288), 4CIF(704×576)  | 30fps                 | 38.4Mbps                      | 3GP, MOV, MP4                    | Not support H.263+                                      |
|                                                                                                                       | VC-1        | VC-1        | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 45Mbps                        | WMV, ASF, TS, MKV, AVI           | N/A                                                     |
|                                                                                                                       | MOTION JPEG | MJPEG       | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 38.4Mbps                      | AVI                              | N/A                                                     |
| T1, T2, T1-4G (Optional 4G), T2-4G (Optional 4G), TB1, TB2, TB1-4G (Optional 4G), TB2-4G (Optional 4G), TCB300, TCC50 | MPEG-1 /2   | MPEG-1/2    | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 80Mbps                        | DAT, MPG, VOB, TS                | Support Field Coding                                    |
|                                                                                                                       | MPEG-4      | MPEG4       | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 38.4Mbps                      | AVI, MKV, MP4, MOV, 3GP          | Not support MS MPEG4 v1/v2/v3, GMC, DivX3/4/5/6/7.../10 |
|                                                                                                                       | H.264 /AVC  | H.264       | 48×48 pixels~1920×1080 pixels                              | 1080P@60fps           | 57.2 Mbps                     | AVI, MKV, MP4, MOV, 3GP, TS, FLV | Support Field Coding, MBAFF                             |
|                                                                                                                       | MVC         | H.264 MVC   | 48×48 pixels~1920×1080 pixels                              | 60fps                 | 38.4Mbps                      | MKV, TS                          | Support Stereo High Profile only                        |
|                                                                                                                       | H.265 /HEVC | H.265 /HEVC | 64×64 pixels~1920×1080 pixels                              | 1080P@60fps           | 57.2 Mbps                     | MKV, MP4, MOV, TS                | Support Main Profile, Tile & Slice                      |
|                                                                                                                       | GOOGLE VP8  | VP8         | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 38.4 Mbps                     | WEBM, MKV                        | N/A                                                     |
|                                                                                                                       | H.263       | H.263       | SQCIF(128×96), QCIF (176×144), CIF(352×288), 4CIF(704×576) | 30fps                 | 38.4Mbps                      | 3GP, MOV, MP4                    | Not support H.263+                                      |
|                                                                                                                       | VC-1        | VC-1        | 48×48 pixels~1920×1080 pixels                              | 30fps                 | 45Mbps                        | WMV, ASF, TS, MKV, AVI           | N/A                                                     |
|                                                                                                                       |             |             |                                                            |                       |                               |                                  |                                                         |

|                     |             |                  |                                 |                            |          |                                             |                                      |
|---------------------|-------------|------------------|---------------------------------|----------------------------|----------|---------------------------------------------|--------------------------------------|
|                     | MOTION JPEG | MJPEG            | 48×48 pixels~1920×1080 pixels   | 30fps                      | 38.4Mbps | AVI                                         | N/A                                  |
| LCD Player (RK3288) | H.264 /AVC  | avc/h264 /H.264  | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MKV, MP4, MOV, 3GP, TS, FLV, M2TS, M4V | The highest image quality is HP 5.2. |
|                     | mpeg-1/2    | mpeg-1/2         | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MPG, MPEG, DAT, TS, VOB, MKV           | The highest image quality is MP.     |
|                     | GOOGLE VP8  | vp8, V_VP8       | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | MKV, WEBM                                   | N/A                                  |
|                     | H.263       | h263/H.263       | 176×144 pixels~720×576 pixels   | 576P@24fps                 | 10Mbps   | 3GP, MOV, MP4                               | Support for H.263+                   |
|                     | AVS         | AVS              | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MKV, MOV, MP4                          | N/A                                  |
|                     | VC-1        | VC-1             | 176×144 pixels~1920×1088 pixels | 1080P@30fps                | 10Mbps   | AVI, MKV, WMV, ASF                          | N/A                                  |
|                     | MOTION JPEG | mjpeg            | 176×144 pixels~1920×1088 pixels | 1080P@30fps                | 10Mbps   | AVI                                         | N/A                                  |
|                     | MPEG-4      | MPEG4            | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MKV, MOV, MP4                          | No support for MS MPEG-4 1/2, GMC    |
|                     | H.265 /HEVC | hevc/h265 /H.265 | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | MKV, MOV, MP4                               | N/A                                  |
| LCD Player (RK3399) | H.264 /AVC  | avc/h264 /H.264  | 176×144 pixels~4096×2160 pixels | 1080P@60fps, 4K x 2K@30fps | 10Mbps   | AVI, MKV, MP4, MOV, 3GP, TS, FLV, M2TS, M4V | The highest image quality is HP 5.2. |
|                     | mpeg-1/2    | mpeg-1/2         | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MPG, MPEG, DAT, TS, VOB, MKV           | The highest image quality is MP.     |
|                     | GOOGLE VP9  | vp9, V_VP9       | 176×144 pixels~4096×2160 pixels | 4K x 2K@60fps              | 10Mbps   | MKV, WEBM                                   | N/A                                  |
|                     | GOOGLE VP8  | vp8, V_VP8       | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | MKV, WEBM                                   | N/A                                  |
|                     | H.263       | h263/H.263       | 176×144 pixels~720×576 pixels   | 576P@24fps                 | 10Mbps   | 3GP, MOV, MP4                               | No support for H.263+                |
|                     | AVS         | AVS              | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MKV, MOV, MP4                          | N/A                                  |
|                     | VC-1        | VC-1             | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MKV, WMV, ASF                          | N/A                                  |
|                     | MOTION JPEG | mjpeg            | 176×144 pixels~1920×1088 pixels | 1080P@30fps                | 10Mbps   | AVI                                         | N/A                                  |
|                     | MPEG-4      | MPEG4            | 176×144 pixels~1920×1088 pixels | 1080P@60fps                | 10Mbps   | AVI, MKV, MOV, MP4                          | No support for MS MPEG-4 1/2, GMC    |
|                     | H.265 /HEVC | hevc/h265 /H.265 | 176×144 pixels~4096×2160 pixels | 4K x 2K@60fps              | 10Mbps   | MKV, MOV, MP4                               | N/A                                  |

**Note:**

- Output data format is YUV420 semi-planar, and YUV400(monochrome) is also supported for H.264.
- Due to the copyrights of Dolby and DivX, the LCD player does not support AC3 encoded audio streams (video playback has no sound) and DivX5 encoding.