

MT9980

Flagship 8KTV SoC with powerful AI processor

The MediaTek MT9980 is a high performance SoC for 8KTV's with industry-leading features. Designed for TV manufacturers create highly competitive flagship products, the MT9980 integrates a mix of high performance compute units including, multi-core CPU, GPU, a dedicated AI processing unit (APU) and display controller that can directly drive the 8K display. A hardware-based AV1 video decoder is also included, embracing the latest video compression standard for up to 8K streaming video.

AI Enhancements

The powerful 1.6 TOPS AI processing unit provides AI enhanced features including AI-PQ (picture quality) enhancements. MediaTek's AI-PQ enables real-time recognition during of people and scene types during the video stream, then automatically adjusts color saturation, brightness, sharpness, dynamic motion compensation and picture noise to provide the best quality settings.

As industry leaders in voice assistant devices (VADs), brands can add up to four directional microphones and use our AI voice technologies for integrated voice assistants, allowing users to directly engage with their smart TV, controlling its functions or other home IoT integration.

Great for Movies & Gaming

The MT9980 platform supports HDMI 2.1a up to 48Gbps, providing enough bandwidth to deliver 4K at 120Hz or 8K at 60Hz plus advanced HDR10+ color depth at 4:4:4 chroma. HDMI VRR support enables variable refresh rate panels to match movies or console gaming frame-rates in order to avoid screen tearing. The MT9980 even supports external peripheral add-on so brands can customize the platform for differentiation.

Specifications

CPU Type:

Arm Cortex-A73

CPU Bit:

64-bit

CPU Cores:

Quad (4)

Max CPU Frequency:

1.8GHz

GPU Type:

Arm Mali-G52 MC2

Max GPU Frequency:

800MHz

Memory:

96-bit LPDDR4

Memory Frequency:

Up to 3700MHz

Max Memory:

8.5GB

Demod

Worldwide Demod:

ATSC, DTMB, DVB-T/T2/S/S2/S2X/C/C2, ISDB-T

Display

Max Display Resolution:

3840 x 2160 (4K), 7680 x 4320 (8K)

HDR Standards:

BBC HLG, HDR10 (SMPTE2084), Dolby Vision HDR, Technicolor/Philips HDR (ETSI TS 103 433), HDR10+

Video Decoding:

HEVC: 8K@60Hz, VP9: 8K@30, H.264: 8K@30Hz, AV1: 8K@30Hz, AVS2: 4K@60Hz

Max Refresh Rate:

120Hz

Interfaces

Interfaces:

HDMI 2.0/1.4 with HDCP 2.2, HDMI 2.1a, USB 2.0, USB 3.0, PCI-Express

Audio

Audio Decoding:

Dolby Atmos, DTS Master HD, DTS Virtual X

Microphones:

4X Directional Mic

AI

Integrated AI Processor:

Yes

Max Performance:

1.6TOPS

AI Voice:

Cortex-M4 with DSP

MediaTek Technologies

Unique & Brand Features:

MEMC 4K120Hz, AI-PQ, AI-SR, AI-Voice

MT9686

Premium 4KTV SoC supporting 120Hz refresh rate and integrated AI processor

The MediaTek MT9686 is a premium smart TV SoC targeting high-end 4K displays with fast 120Hz refresh rates. Fast refresh rate displays are ideally suited for use-cases such as console gaming, sports and intense-action entertainment. Designed for TV manufacturers create highly competitive products with global application, the MT9686 integrates a high performance, multi-core CPU, GPU and a dedicated AI processing unit (APU).

AI Enhancements

The high performance AI processing unit provides AI enhanced features including AI-PQ (picture quality) enhancements. MediaTek's AI-PQ enables real-time recognition during of people and scene types during the video stream, then automatically adjusts color saturation, brightness, sharpness, dynamic motion compensation and picture noise to provide the best quality settings.

As industry leaders in voice assistant devices (VADs), brands can add up to four directional microphones and use our AI voice technologies for integrated voice assistants, allowing users to directly engage with their smart TV, controlling its functions or other home IoT integration.

Great for Movies & Gaming

The MT9686 platform supports HDMI 2.1a up to 48Gbps, providing enough bandwidth to deliver 4K at 120Hz with advanced HDR10+ color depth at 4:4:4 chroma. HDMI VRR support enables variable refresh rate panels to match movies or console gaming frame-rates in order to avoid screen tearing.

The platform provides Dolby Atmos and DTS Virtual X surround sound support, comprehensive codec standards including AV1 and AVS2 for streaming video, plus global HDR standards, including preliminary support for China HDR in anticipation of future standard finalization.

Specifications

Processors

CPU Type:

Arm Cortex-A73

CPU Bit:

64-bit

CPU Cores:

Quad (4)

Max CPU Frequency:

1.4GHz

GPU Type:

Arm Mali-G52 2EE MC1

Demod

Worldwide Demod:

ATSC, DTMB, DVB-T/T2/S/S2/S2X/C/C2, ISDB-T

Display

Max Display Resolution:

3840 x 2160 (4K)

HDR Standards:

BBC HLG, HDR10 (SMPTE2084), Dolby Vision HDR, Technicolor/Philips HDR (ETSI TS 103 33), HDR10+, China HDR (Preliminary Support)

Video Encoding:

H.264

Video Decoding:

AV1, AVS2, HEVC, VP9, H.264, SHVC 4K60@10bit

Max Refresh Rate:

120Hz

Interfaces

Interfaces:

HDMI 2.0/1.4 with HDCP 2.2, HDMI 2.1a, USB 2.0

Audio

Audio Decoding:

Dolby Atmos, DTS Virtual X

Microphones:

4X Directional Mic

AI

Integrated AI Processor:

Yes

Max Performance:

1.0TOPS

AI Voice:

Cortex-M4 with DSP

MediaTek Technologies

Unique & Brand Features:

MEMC 4K120Hz, AI-PQ, AI-SR, AI-Voice

MT9685

Premium 4KTV SoC with MEMC, advanced PQ engine, AV1 decoding, HDMI 2.1a support and global HDR

The MediaTek MT9685 is a high performance smart TV SoC with MEMC capability targeting modern 4K60 HDR displays. Designed for TV manufacturers create highly competitive products with global application, the MT9685 integrates a high performance, multi-core CPU, wide memory bus, modern GPU, and an advanced picture quality enhancement engine.

AI Enhancements

MediaTek's AI-PQ (picture quality) & AI-AQ (audio quality) technologies work together to automatically improve picture and audio quality by real-time video optimization.

As industry leaders in voice assistant devices (VADs), our AI voice technologies and up to four directional microphones allow brands to integrated voice assistants directly into their smart TVs, allowing users to engage directly to control the TV or other home IoT integration.

Great for Entertainment

The MT9685 platform supports up to three HDMI 2.1a compliant ports, Dolby Atmos and DTS Virtual X surround sound support, comprehensive codec standards including AV1 and AVS2 for streaming video, plus global HDR standards, including preliminary support for China HDR in anticipation of future standard finalization.

Specifications

Processors

CPU Type:

Arm Cortex-A55

CPU Bit:

64-bit

CPU Cores:

Quad (4)

Max CPU Frequency:

1.5GHz

GPU Type:

Arm Mali-G52 2EE MC1

Memory:

64b DDR3

Max Memory:

2GB

Demod

Worldwide Demod:

ATSC, DTMB, DVB-T/T2/S/S2/S2X/C/C2, ISDB-T

Display

Max Display Resolution:

3840 x 2160 (4K)

HDR Standards:

BBC HLG, HDR10 (SMPTE2084), Dolby Vision HDR, Technicolor/Philips HDR (ETSI TS 103 433), HDR10+, China HDR (Preliminary Support)

Video Encoding:

H.264

Video Decoding:

AV1, AVS2, HEVC, VP9, H.264, SHVC 4K60@10bit

Interfaces

Interfaces:

HDMI 2.0/1.4 with HDCP 2.2, HDMI 2.1a, USB 2.0,

Audio

Audio Decoding:

Dolby Atmos, DTS Virtual X

Microphones:

4X Directional Mic

MediaTek Technologies

Unique & Brand Features:

4K60 MEMC, AI-PQ, AI-AQ, AI-Voice, SDR to HDR, Scene Detection

MT9675

High performance 4KTV SoC with HDMI 2.1a support, global HDR, AV1 & AVS2 decoders.

The MediaTek MT9675 is a high performance smart TV SoC with comprehensive features targeting modern 4K HDR displays. Designed for TV manufacturers create highly competitive products with global application, the MT9675 integrates a high performance, multi-core CPU and modern GPU.

AI Enhancements

MediaTek's AI-PQ (picture quality) & AI-AQ (audio quality) technologies work together to automatically improve picture and audio quality by real-time video optimization.

As industry leaders in voice assistant devices (VADs), our AI voice technologies and up to four directional microphones allow brands to integrated voice assistants directly into their smart TVs, allowing users to engage directly to control the TV or other home IoT integration.

Great for Entertainment

The MT9675 platform supports up to three HDMI 2.1a compliant ports, Dolby Atmos surround sound support, comprehensive codec standards including AV1 and AVS2 for streaming video, plus global HDR standards, including preliminary support for China HDR in anticipation of future standard finalization.

Specifications

Processors

CPU Type:

Arm Cortex-A53

CPU Bit:

64-bit

CPU Cores:

Quad (4)

Max CPU Frequency:

1.5GHz

GPU Type:

Arm Mali-G52 2EE MC1

Memory:

48b DDR3

Max Memory:

2GB

Demod

Worldwide Demod:

ATSC, DTMB, DVB-T/T2/S/S2/S2X/C/C2, ISDB-T

Display

Max Display Resolution:

3840 x 2160 (4K)

HDR Standards:

BBC HLG, HDR10 (SMPTE2084), Dolby Vision HDR, Technicolor/Philips HDR (ETSI TS 103 33), HDR10+, China HDR (Preliminary Support)

Video Encoding:

H.264

Video Decoding:

AV1, AVS2, HEVC, VP9, H.264, SHVC 4K60@10bit

Max Refresh Rate:

60Hz

Interfaces

Interfaces:

HDMI 2.0/1.4 with HDCP 2.2, HDMI 2.1a, USB 2.0,

Audio

Audio Decoding:

Dolby Atmos,

Microphones:

4X Directional Mic

MediaTek Technologies

Unique & Brand Features:

AI-PQ, AI-AQ, AI-Voice