

System LSI for high performance 4K-TV system MN2WS03201

MN2WS03201 delivers 4K-TV solutions on a single chip.

By integrated video processing engines and 4K video decoders (HEVC, VP9), it enables high-quality video output and high-speed rich UI (user interface).

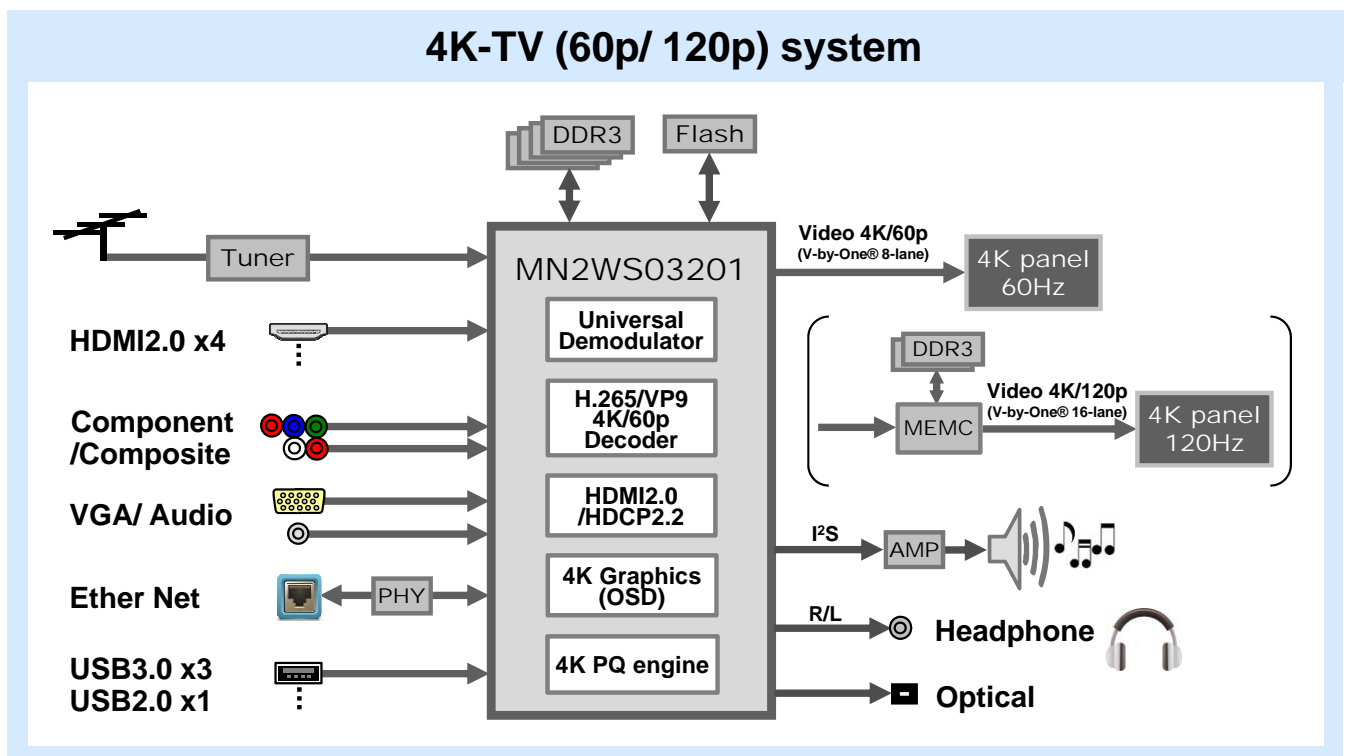
HDMI2.0 (HDCP2.2) input is supported.



■ Features

- Suitable for 4K/60p TV solution.
- High performance processing with quad CPU (ARM® Cortex®-A9 x4) and high speed DDR3-1866 interface.
- Realized quickly responsive UI (User Interface) with original GPU.

■ Applications



■ Specifications

■ SoC

- Package: BGA (31x31mm)
- Number of balls: 1177 (include N.C.)
- Ball pitch: 0.8mm
- Power: 0.9/ 1.1/ 1.5/ 1.8/ 3.3V

■ CPU

- ARM® Cortex®-A9 1.2GHz x4
- Instruction / Data caches: 32 / 32-KB
- 2nd cache: 1.2MB

■ DDR memory

- DDR3-1866 (ch0:32bit, ch1:32bit, ch2:16bit)

■ General purpose peripherals

- Timers x16 (16-bit x12, 8-bit x4)
- UART x4
- SPI x1
- I²C x3
- IC card x2
- NAND flash x1 (SLC)
- eMMC x1 (Version4.4)

■ Media I/F

- USB: 3.0 x3-ports, 2.0 x1-port
- SD card: SDXC x1-port (UHS-1)
- Ethernet: MAC x1-port (10/100/1000Mbps)
*MII, RMII, RGMII-I/F

■ Stream I/F

- Serial TS: In x2, In/Out x3, Out x1
- Parallel TS: In x4, Out x2

■ Video I/O

- Analog input: CVBS x1, RGB/ YPbPr x2
- HDMI x4-ports (ver.2.0) *HDCP2.2
- MHL x1-port (shared pin with HDMI)
- V-by-One® (8-lane for 4K 60Hz panel)

■ Audio I/O

- Analog input: LR x3
- Analog output: LR x2
- Digital input: I²S x1
- Digital output: I²S x1, SPDIF x1

■ Graphics processor

- 2D/ 3D (2Gpixel/s, 133Mpolygons/s)
- OpenGL ES1.1/ 2.0 compliant

■ Standby microcontroller

- 32-bit microcontroller

■ Integrated DTV Demodulator:

- ISDB-T/S
- ATSC / QAM (Cable)
- DVB-T/C (Supports CI/CI+)

■ Integrated high performance Multi-format Video Decoder supports (*1):

- MPEG-1, MPEG-2 MP@HL
- MPEG-4 AVC (H.264 HP@L4.1)
- HEVC (H.265 MP@L5.1 8/10bit)
- VC-1 - DivX (HD, plusHD)
- AVS - VP9
- JPEG (include Motion-JPEG)

■ Integrated Audio Processor supports (*1):

- MPEG-1 Layer 2/3
- MPEG-2 Layer 2/3
- MPEG-2 AAC (SBR)
- Dolby Digital (Plus), Dolby True HD
- DTS, DTS-HD
- WMA 8/9, WMA pro
- Vorbis
- FLAC
- Apple Lossless
- DRA

■ High performance Audio/ Video Encoder

- Real-time H.264 (Full-HD) encoding

■ Integrated Video Processor:

- 2D to 3D Conversion
- Super-resolution
- Picture quality Adjustment for 4K pictures

*1: To use some of these formats, you may have to acquire a license or perform a software development. In addition, some combinations of audio/video formats may have a limitation to use.

For details, please contact our service representative.

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“HDMI” is a trademark or registered trademark of HDMI Licensing, LLC.

“V-by-One” is a trademark of Thine Electronics, Inc.

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