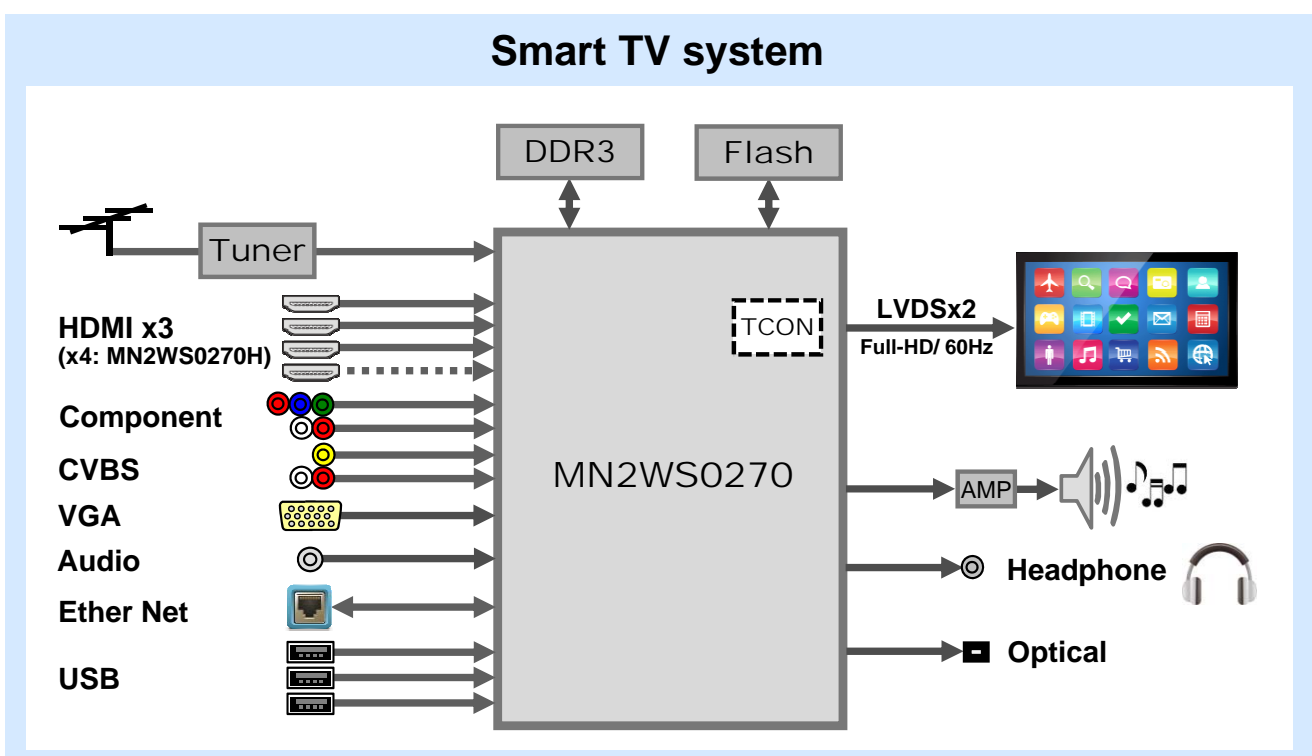socionext™
for better quality of experience

System LSI for world-wide Smart TV system
MN2WS0270E/ H (Standard/ High-performance type)

■Features

- Suitable for standard Smart TV solution
- Integrated flexible TCON and Ethernet-PHY to reduce BOM cost
- Integrated high performance CPU (ARM® Cortex®-A9) and GPU

■Applications

Smart TV system

- DDR3
- Flash
- Tuner
- HDMI x3 (x4: MN2WS0270H)
- Component
- CVBS
- VGA
- Audio
- Ether Net
- USB
- MN2WS0270
- TCON
- LVDSx2 Full-HD/ 60Hz
- AMP
- Headphone
- Optical

■ Specifications

Left Column

■ SoC
- Package: BGA (21x21mm)
- Number of balls: 526
- Ball pitch: 0.8mm
- Power: 1.1/ 1.5/ 3.3V

■ CPU
- ARM® Cortex®-A9
- Up to 600-MHz operation
  (Up to 800-MHz: MN2WS0270H)
- Instruction / Data caches: 32 / 32-KB

■ UniPhier® processor (IPP3)
- Up to 600-MHz operation
- Instruction / Data caches: 64 / 64-KB

■ General purpose peripherals
- Timers x17 (WD x1, 16-bit x12, 8-bit x4)
- UART x6
- SPI x1
- I^{2}C x4
- IC card x2
- NAND flash x1
- eMMC flash x1

■ Media I/F
- USB2.0 x3-ports
- SD/SDIO x1-port

■ Video I/O
- Analog input: CVBS x1, RGB/YPbPr/YC x3
- HDMI x3-ports (ver.1.4a)
  (4-ports: MN2WS0270H)
- LVDS x2-links (LVDS, mini-LVDS)

■ Audio I/O
- Analog input: Stereo x4
- Digital input: I^{2}S x1, SPDIF x1
- Analog output: Stereo x1, HP x1
- Digital output: I^{2}S x2, SPDIF x1

■ Graphics processor
- 2D/3D accelerator
- OpenGL ES1.1 compliant
  (OpenGL ES1.1/2.0: MN2WS0270H)

■ Standby microcontroller
- 32-bit microcontroller

Right Column

■ Low power consumption
- Power voltage control technology
- Low power in standby-mode

■ Integrated World-wide 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
- MPEG-4 AVC (H.264)
- VC-1
- DivX 3/4/5/6
- AVS
- Real Video 8/9/10
- VP8
- JPEG

■ Integrated Audio Processor supports (*1)
- MPEG-1 Layer 2/3
- MPEG-2 Layer 2/3
- MPEG-2 AAC (SBR)
- Dolby Digital, Dolby Digital Plus
- DTS, DTS-HD
- WMA 8/9, WMA pro
- Vorbis
- FLAC
- G.726
- WAV, IMA-ADPCM
- DRA
- LPCM

■ Integrated Video Processor
- 3D processor with 2D-to-3D converter
- High quality IP convertor and Noise reducer
- Super-resolution

■ Memory subsystem
- DDR3 (1333Mbps)
- 2 channels, 16-bit width of each channel

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*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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