

# System LSI for extremely low-cost 2K Just-TV MN2WS0290

MN2WS0290 contains all the functionality required for global TV solutions on a single chip.

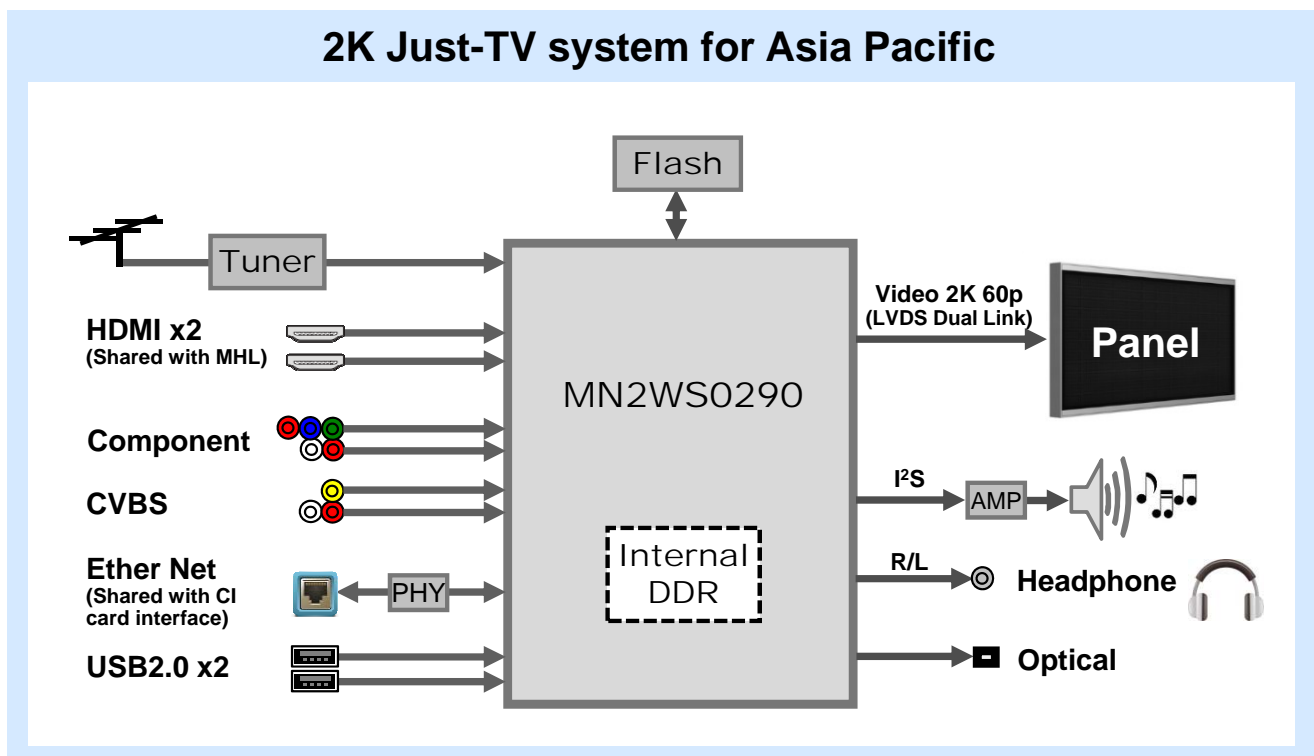
This allow you to build extremely low-cost solutions for 2K Just-TV with connected features.



## ■ Features

- Suitable for extremely low-cost 2K TV solution.
- Integrated DTV demodulator and DDR memory to reduce BOM cost.
- World-wide DTV demodulator and high performance multi-format video decoder.

## ■ Applications



# ■ Specifications

## ■ SoC

- Package: BGA (17x17mm)
- Number of balls: 369
- Ball pitch: 0.8mm
- Power: 1.1/ 1.5/ 3.3V

## ■ Internal DDR memory

- 2-Gbit

## ■ CPU

- Up to 600-MHz operation
- Instruction/ Data caches: 64/ 64-KB
- 2nd cache: 128-KB

## ■ General purpose peripherals

- Timers x17 (WD x1, 16-bit x12, 8-bit x4)
- UART x1
- I<sup>2</sup>C x1
- IC card x1
- NAND flash x1

## ■ Media I/F

- USB2.0 x2-ports
- Ethernet: MAC (100Mbps)  
(shared pin with CI card interface)

## ■ Video I/O

- Analog input: CVBS x1, RGB/ YPbPr x2
- HDMI x2-ports (ver.1.4a)
- MHL x1-port (shared pin with HDMI)
- LVDS x2-link

## ■ Audio I/O

- Analog input: LR x2
- Analog output: LR x1  
(shared pin with Headphone)
- Digital output: I<sup>2</sup>S x1, SPDIF x1

## ■ Graphics processor

- 2D accelerator
- OpenGL ES1.1 compliant

## ■ Standby microcontroller

- 32-bit microcontroller

## ■ Low power consumption

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

## ■ Integrated World-wide DTV Demodulator

- ISDB-T/S
- ATSC / QAM (Cable)
- DVB-T2/T/C (Supports CI/CI+ )

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

- MPEG-1
- MPEG-2 MP@ML
- MPEG-4 AVC (H.264 HP@L4.1)
- WVC-1
- Real Video 8/9/10
- WMV9
- JPEG

## ■ Integrated Audio Processor supports (\*1):

- MPEG-1 Layer 2/3
- MPEG-2 Layer 2/3
- MPEG-2, MPEG-4 AAC
- HE-AAC
- Dolby Digital, Dolby Digital Plus
- DTS
- WMA Standard
- Vorbis
- FLAC
- WAV

## ■ Integrated Video Processor

- Super-resolution

\*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.

'HDMI' is a trademark or registered trademark of HDMI Licensing, LLC.

'Dolby' is a registered trademark of Dolby Laboratories. 'DTS' is a registered trademark of DTS, Inc.