



GSV6502 Product Brief

1 In to 2 Out HDMI 2.1 Splitter with Embedded MCU

General Description

Gscoolink GSV6502 is a high-performance, low-power 1 In to 2 Out HDMI 2.1 to HDMI 2.1 splitter. By integrating enhanced microcontroller based on RISC-V, GSV6502 has created a cost-effective solution that provides time-to-market advantages. GSV6502's HDMI Receiver and HDMI Transmitter supports up to 48Gbps (FRL, 12G/4Lane). The superior architecture of GSV6502 provides economical smaller footprint solutions using QFN88, targeting applications of Consumer and ProAV.

HDMI Receiver Features

- Compliant with HDMI 2.1, HDMI 2.0b, HDMI 1.4b
- Compliant with HDCP 2.2/2.3 and HDCP 1.4 in repeater/receiver mode
- Data rate up to 48Gbps (FRL 12Gbps/4 Lane)
- Programmable Adaptive Equalization
- Support High Dynamic Range (HDR) and Dynamic/Static Metadata
- Support Variable Refresh Rate (VRR), FreeSync, G-Sync
- Support ALLM
- Support Forward Error Correction (FEC)
- Support DSC pass-through for compressed input timing
- Embedded arbitrary EDID (up to 512 bytes)
- 5V tolerance on DDC/HPD pins

HDMI Transmitter Features

- Compliant with HDMI 2.1a, HDMI 2.0b, HDMI 1.4b
- Compliant with HDCP 2.2/2.3 and HDCP 1.4
- Data rate up to 48Gbps (FRL 12Gbps/4 Lane)
- Programmable Voltage Swing, Slew-Rate and Pre-emphasis
- Support AC-coupling on TMDS input/output
- Support Color Space Converter in TMDS mode

- Support HDR (HDR10/HDR10+/Dolby Vision/HLG)
- Support Variable Refresh Rate (VRR), FreeSync, G-Sync
- Support ALLM
- Support DSC encoded stream pass-through from HDMI/DP input
- Hardware CEC Engine for Low Level protocol decoding
- 5V tolerance on DDC/HPD/CEC pins

Pixel Processor Features

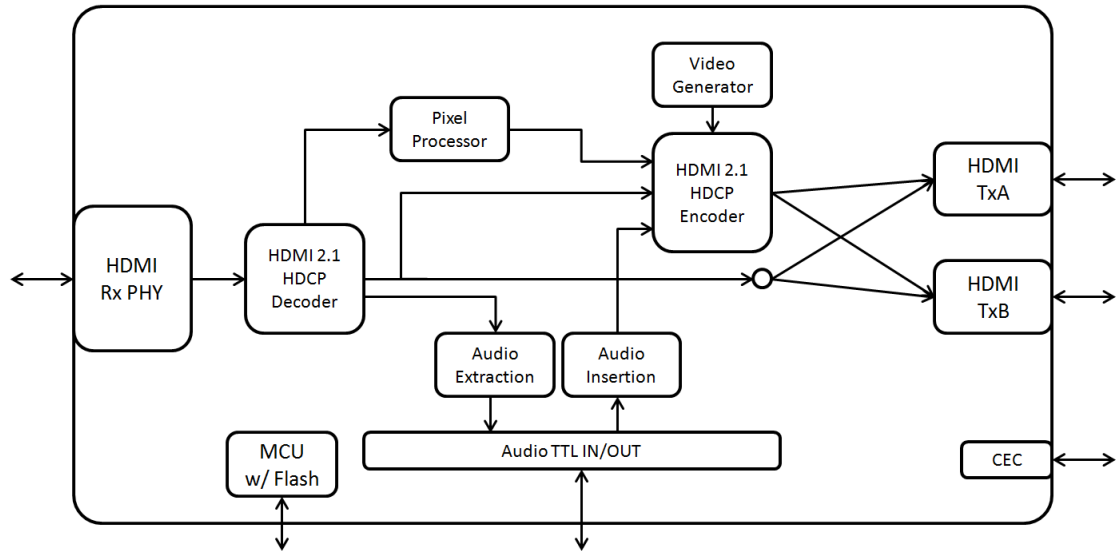
- HDR to SDR conversion for HDR10, HDR10+, HLG and Low Latency DolbyVision
- Color Space conversion
- YCbCr 444-420 timing conversion
- Downscaler with selectable 2/3/4/8/16/32 ratio
- Deinterlacer for interlaced timing

Audio Input/Output Features

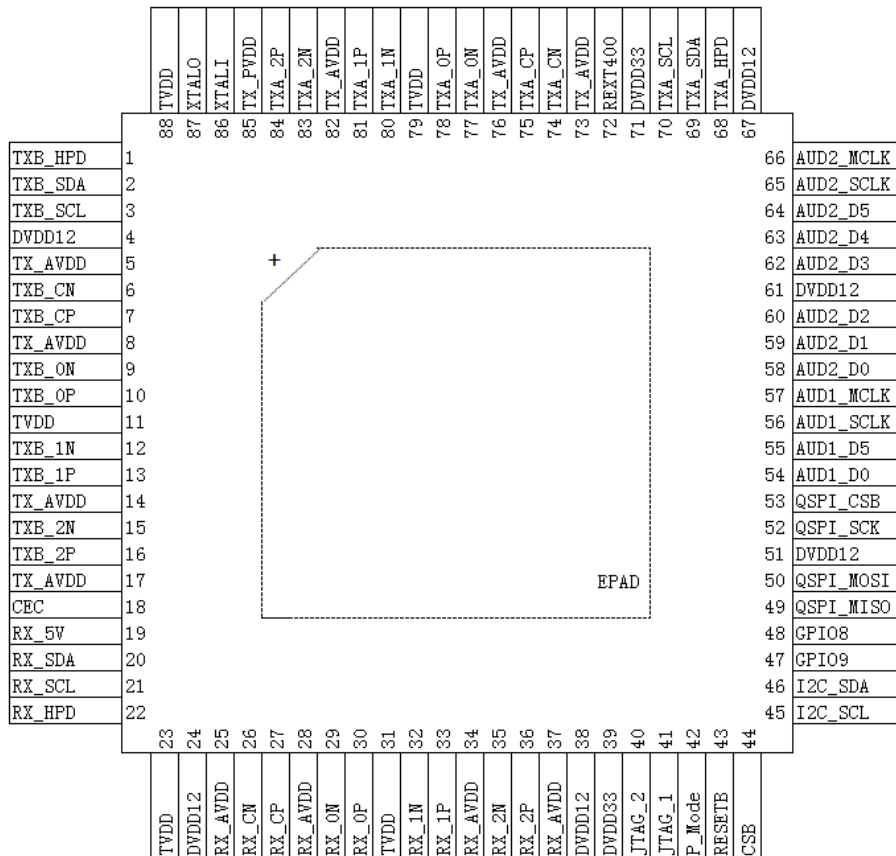
- I2S and SPDIF Audio Extraction from HDMI Rx
- I2S/SPDIF Audio Insertion to HDMI Tx
- SPDIF/I2S/HBR/DSD/TDM Format Supported for Audio Extraction and Insertion
- SPDIF to I2S Conversion using single TTL bus in Bi-direction

System Features

- Optional External MCU (via I2C)/ Internal MCU mode for chip control
- Embedded MCU and External Flash
- External pins of Flash QSPI interface
- External 25MHz Crystal required
- Available Pins for UART/Timer/GPIO
- Temperature Sensor Monitoring Circuit

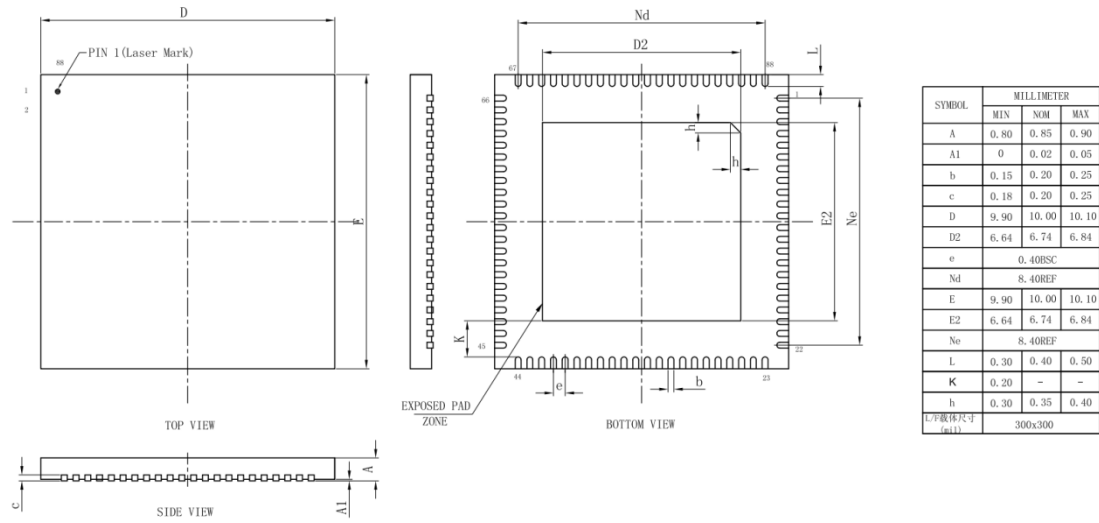


Pin Description



GSV6502 QFN88 Pin Diagram

Package Information



Package Dimensions (QFN88)