



## GSV2201 Product Brief

# DisplayPort 1.4 to HDMI 2.0 Converter with Embedded MCU

### General Description

Gscoolink GSV2201 is a high-performance, low-power, USB Type-C Alternate Mode DisplayPort 1.4 to HDMI 2.0 converter. By integrating enhanced microcontroller, GSV2201 has created a cost-effective solution that provides time-to-market advantages. The DisplayPort Receiver supports up to 32.4Gbps (HBR3, 4-lane) and HDMI Transmitter supports up to 18Gbps (TMDS, 6G3Lane). Integrated Power Delivery 3.0 controller handles Type-C CC interface for USB power management and DisplayPort mode entry. The superior architecture of GSV2201 provides economical smaller footprint solutions using QFN64, targeting applications of Type-C Docking, Type-C dongle and DP to HDMI cable.

### DisplayPort Receiver Features

- Compliant with VESA DisplayPort 1.4a
- Compliant with HDCP 2.2/2.3 and HDCP 1.4
- Support HBR3, HBR2, HBR and RBR (8.1/5.4/2.7/1.62 Gbps)
- Flexible 1/2/4 lane Main-Link configuration
- Programmable Adaptive Equalization
- Support Full-Link Training and No-Link Training
- Support High Dynamic Range (HDR) and Dynamic/Static Metadata
- Support Adaptive Sync/FreeSync
- Support Audio Extraction
- Support Horizontal Blanking Expansion up to 4K@60Hz format
- Support Forward Error Correction (FEC)
- Embedded arbitrary EDID and MCCC
- Support Spread Spectrum Clock (SSC)

### HDMI Transmitter Features

- Compliant with HDMI 2.0b, HDMI 1.4b
- Compliant with HDCP 2.2/2.3 and HDCP 1.4

- Data rate up to 18Gbps (TMDS 6Gbps/3 Lane)
- Programmable Voltage Swing, Slew-Rate and Pre-emphasis
- Support AC-coupling on TMDS
- Support Color Space Converter
- Support HDR (HDR10/HDR10+/Dolby Vision/HLG)
- Support Variable Refresh Rate (VRR)/FreeSync
- Hardware CEC Engine for Low Level protocol decoding
- 5V tolerance on DDC/HPD/CEC pins

### USB Type-C Interface Features

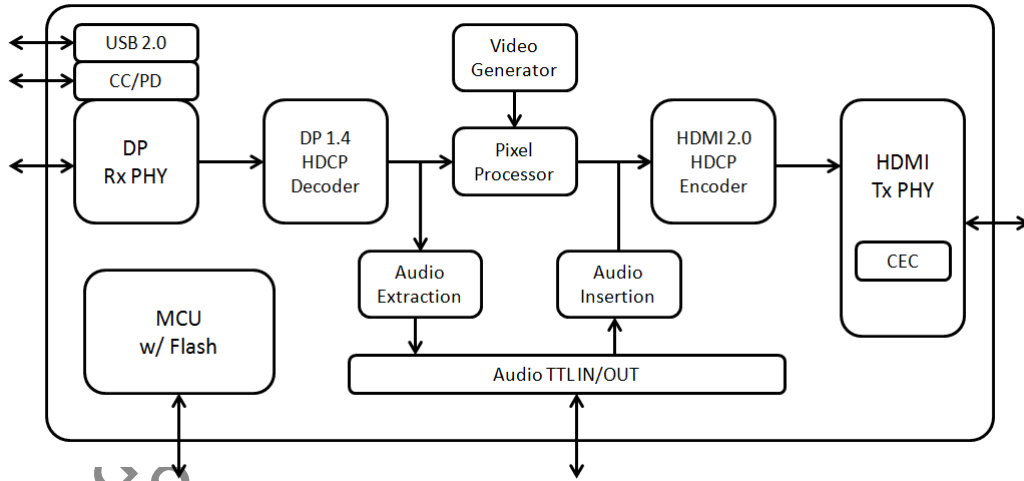
- USB Power Delivery 3.0 Compliant controller
- 3 Configuration Channels (CC) with built-in Rp/Rd resistors
- Dual Role Power Port (DRP)
- Fast Role Swap
- USB 2.0 full-speed billboard enumeration

### Audio Input/Output Features

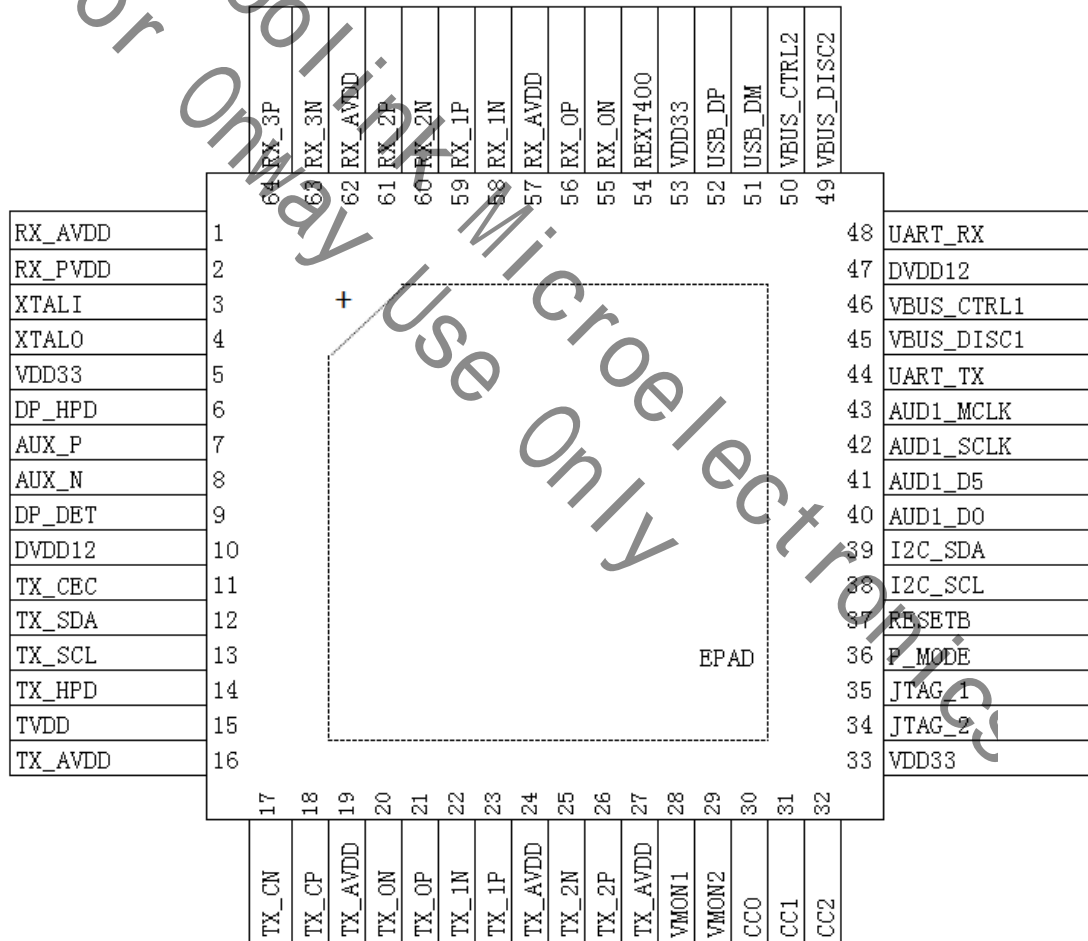
- I2S and SPDIF Audio Extraction from HDMI Rx
- I2S/SPDIF Audio Insertion to HDMI Tx
- SPDIF/I2S/HBR/DSD/TDM Format Supported for Audio Extraction and Insertion
- SPDIF to I2S Conversion using single TTL bus in Bi-direction

### System Features

- Embedded internal MCU
- Optional Internal Flash or External pins of Flash QSPI interface
- External 25MHz Crystal required
- Available Pins for UART/Timer/GPIO
- Temperature Sensor Monitoring Circuit

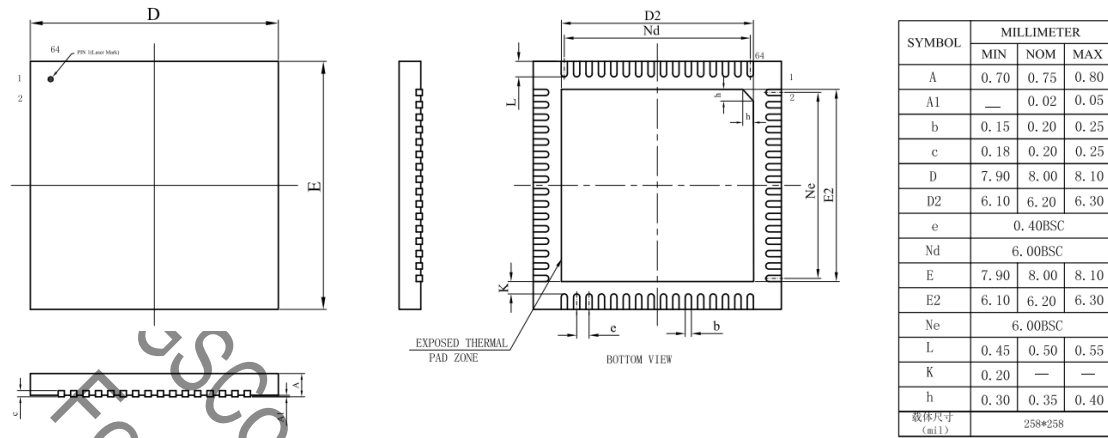


Pin Description



GSV2201 QFN64 Pin Diagram

Package Information



Package Dimensions (QFN64)