

HDMI 4K60Hz Input/Output supports FPGA board iEB-KXU2

Product Information

iEB-KXU2 is an FPGA board with Input/Output supports 4K60Hz. This board supports HDMI2.0 Image input/output interface. Please refer to the below.

Image Input/Output Interface

- Image Input : HDMI2.0 (up to 4K60Hz) x 4 (Non HDCP)
- Image Output : HDMI2.0 (up to 4K60Hz) x 4 (Non HDCP)

Control Interface

- FPGA control : Controlled by SPI from PC via USB (Type-C or Mini-B), or controlled by SPI from an on-board microcontroller (LPC1769: Main control), which is switched by a DIPSW
- FPGA configuration : Download mcs etc. from a PC to the SPI Flash via USB(Micro-B)
- HDMI Tx/Rx control : Controlled by I2C from the on-board microcontroller (LPC1769: HDMI control only)

On-board Devices

- FPGA : AMD Kintex UltraScale XCKU115-2FLVA1517E
Image I/F of FPGA and HDMI Tx/Rx are all LVDS I/F.
- Frame memory : Micron DDR4 x16bit x4pcs up to 2400Mbps
- Serial Flash : Micron 512Mbit Quad SPI 1.8V motion x1pcs
Infineon 512Mbit Quad SPI 3.3V motion x1pcs
Micron 1Gbit Quad SPI 3.3V motion x1pcs (for configuration)
- Microcontroller : NXP LPC1769 x1pcs Control by SPI
(Main control for FPGA) I/F with outside of the board is possible with D-sub (RS-232C).
- Microcontroller : NXP LPC1769 x1pcs Control by I2C
(HDMI Tx/Rx)
- HDMI Rx : ITE IT68052(HDMI2.0 Rx to LVDS) x 4pcs (Non HDCP)
- HDMI Tx : ITE IT6264 (LVDS to HDMI2.0 Tx) x 4pcs (Non HDCP)
- USB I/F : FTDI FT2232H (USB to SPI/I2C/UART converter)
- Clock generator : TI CDCE949 (Connect user clock 4-port with FPGA and control by I2C)

Features

- External PC control (via USB) or, built-in microcontroller control can be selected by DIPSW switching
- In case of control from external PC, use software program WREG2400.exe
- Register level programming possible

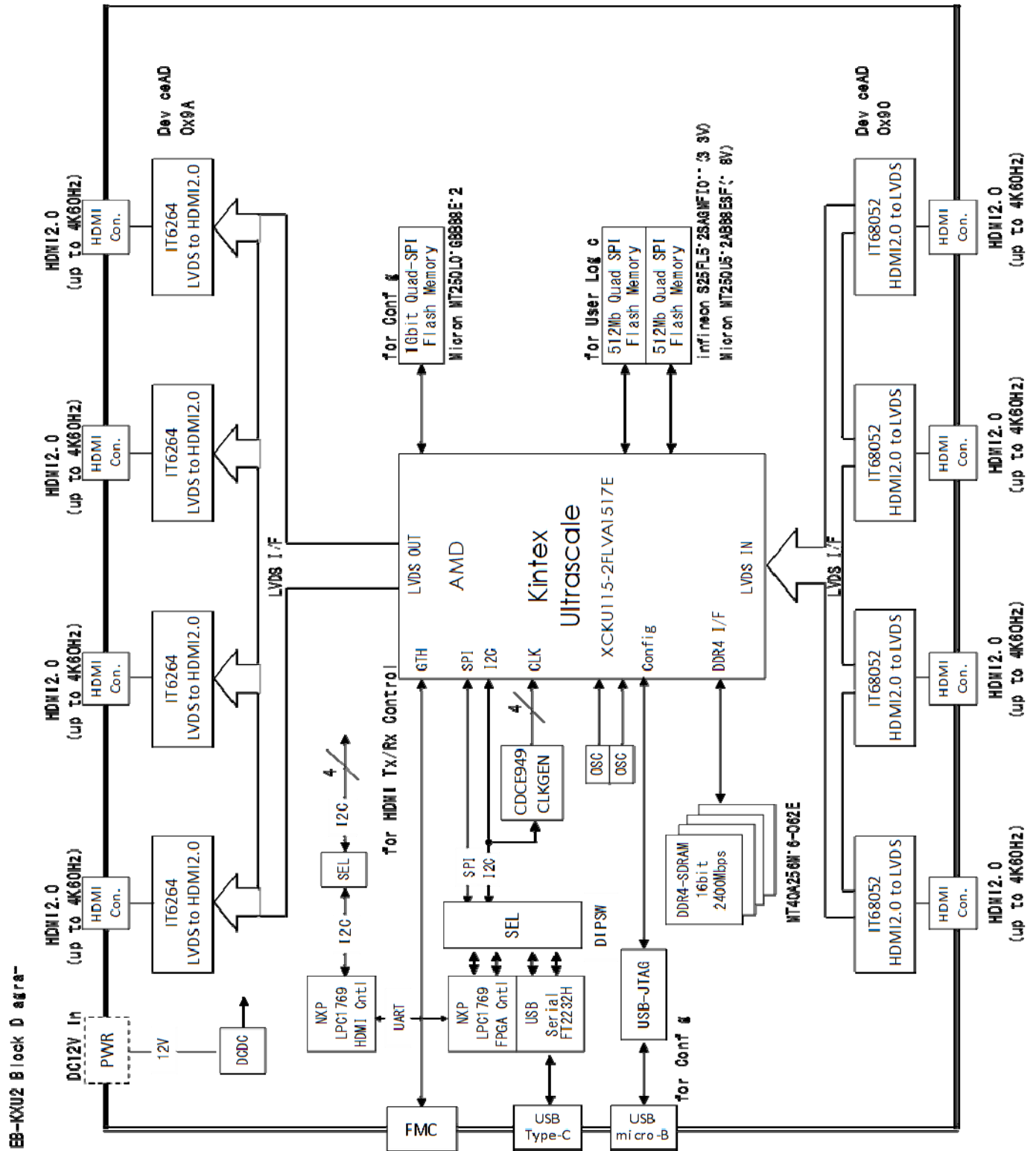
Power Supply : +12V (4A max)

Board Size : 250mm x 250mm

Software Program : WREG2400 (register setting program)



Block Diagram



All i-Chips product names and i-Chips product logos are trademarks or registered trademarks of i-Chips Technology Inc. HDMI, High-Definition Multimedia Interface and HDMI logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and the other countries. AMD, Xilinx, Kintex, and UltraScale are trademarks or registered trademarks of Advanced Micro Devices, Inc. in the United States and the other countries. Other company or product names are trademarks or registered trademarks of their respective companies.