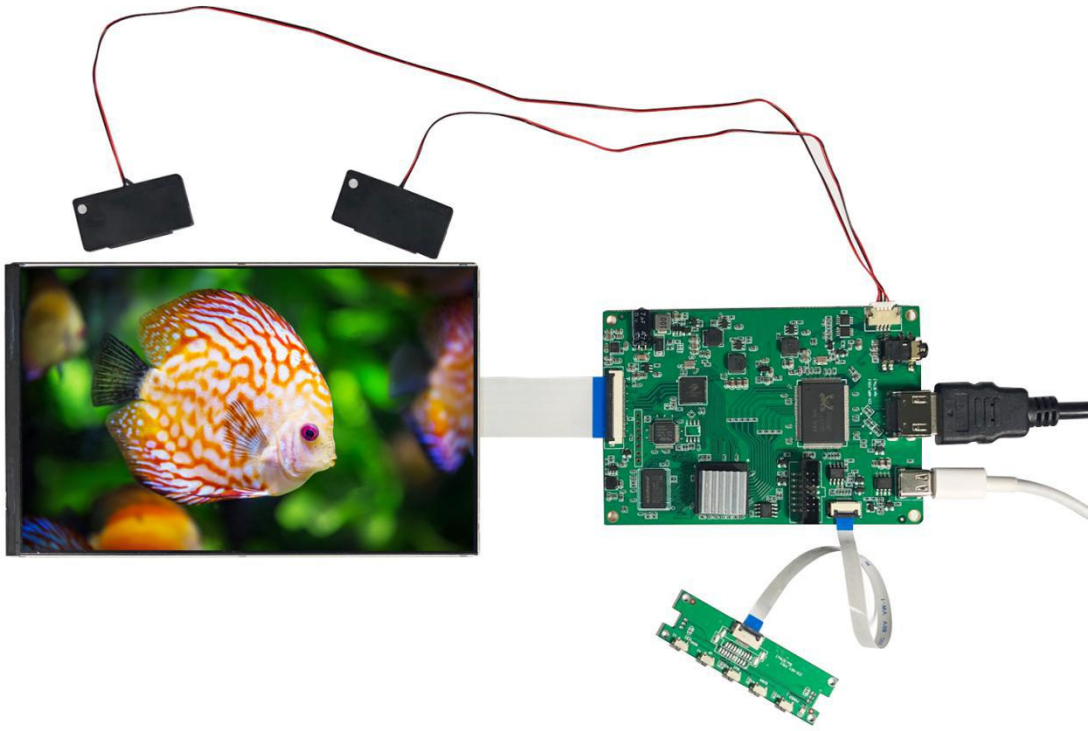
HDMI2MIPI FPGA Develop Kit UserManual



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1. General Descritpion

HDMI2MIPI is a HDMI to MIPI transfer board. On-board RTD2556 chip transform the TMDS input signal to LVDS signal(2chanel 8bit), and then XILINX spartan6 FPGA store and transform the LVDS signal rotate 90 degree to RGB24 signal. Finally, STM32 control the SSD2828 chip transform the RGB24 to MIPI 4 lane signal output to the screen .

You can use it as a signal transformation and signal rotation display solution in a variety of applications. Just plug and play without require any complex programming or setup.

Except for the screen rotation 2D Image acceleration source code not open , we provide many demo codes, such as DDR3 AXI, LVDS to RGB transform,7 inch screen driver, LVDS driver. In addition, we open the fully schematic. It's a valuable development board to help you learn the common screen signal conversion and FPGA programming.

Comes with a 7 inch JDI 1200x1920 Level A+ high quality screen MIPI screen. Support high to 1920x1200/60fps and wider resolutionratio,600x480,720x480,720x576, 800x600, 1024x768, 1280x768, 1280x800, 1280x1024, 1366x768, 1440x900, 1400x1050, 1600x900 1600x1200, 720P, 1080P, 1080i, 1920x1200. Support backlight, Contrast ratio,volume, 1080P Point-to-Point mode setting via the keyboard.

You also can use it as a signal transformation and signal rotation display solution in a variety of applications. Just plug and play without require any complex programming or setup.

2. Features

1. HDMI input to MIPI 4-lane output transfer board, Just plug and play without require any complex programming or setup.

2.Comes with a 7 inch JDI 1200x1920 Level A+ high quality screen MIPI screen, and two speaker.

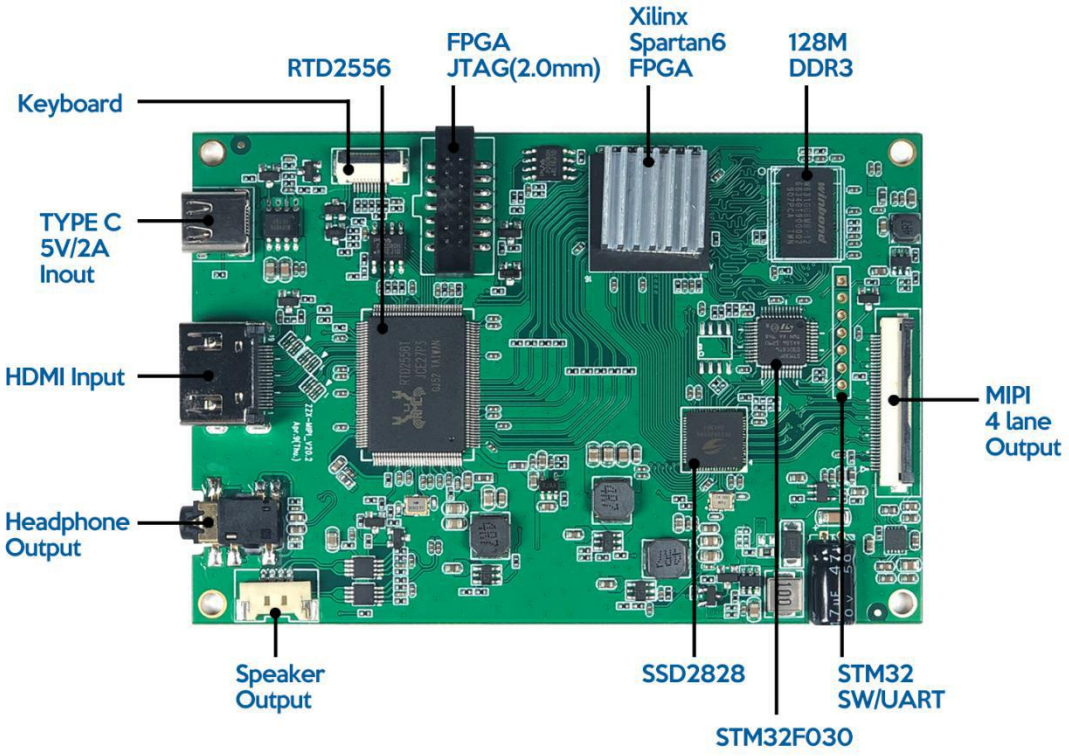
3.Support wider resolutionratio setting , from 600x480 to 1920x1200. Configurable settings: backlight, Contrast ratio,volume, 1080P Point-to-Point mode.

4.Compatible with Raspberry Pi, Jetson Nano, X86 and any single board computer with HDMI interface.

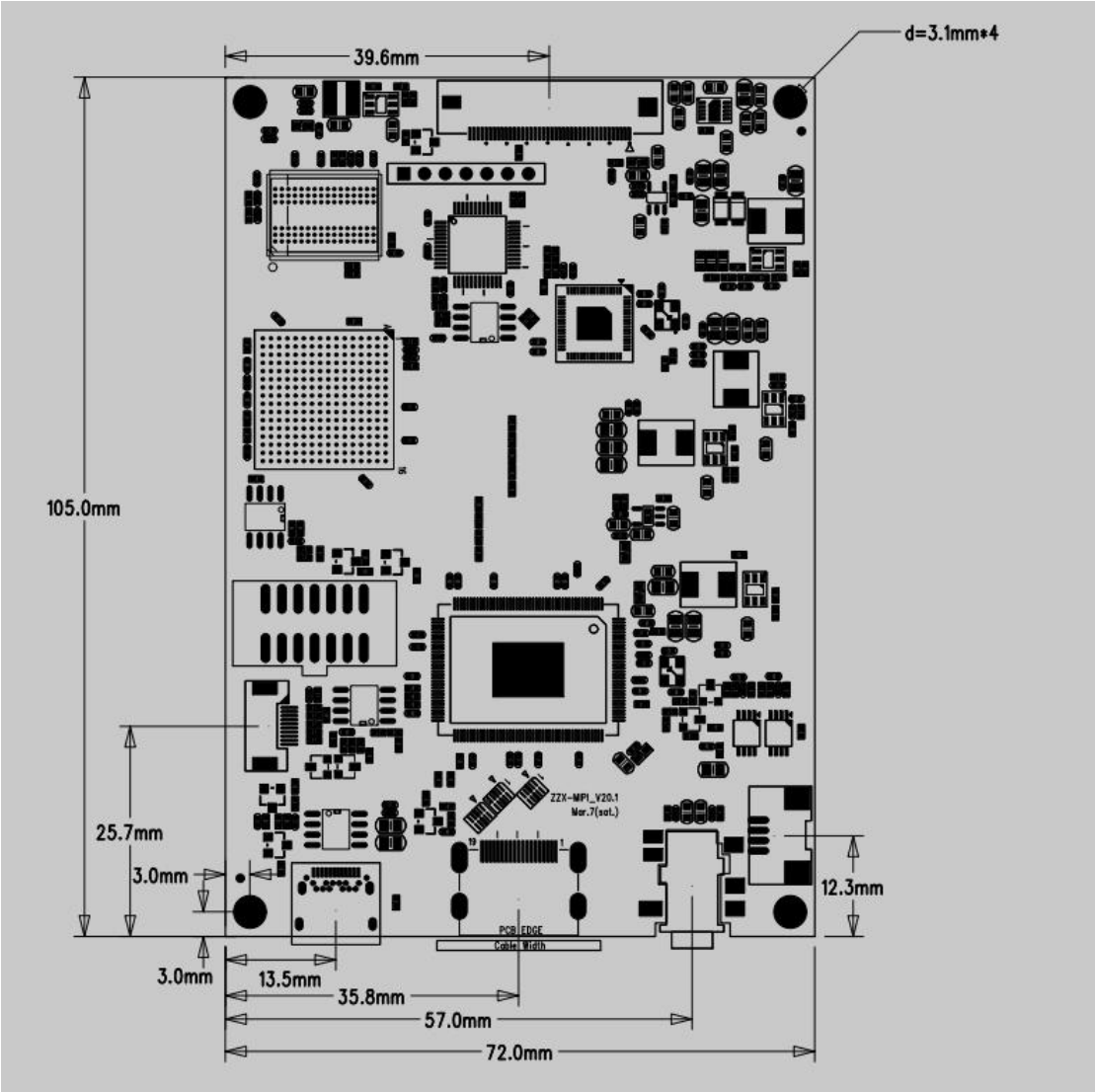
5.Except for the screen rotation 2D Image acceleration source code not open, we provide all source codes and schematic to user. On-board JTAG port for FPGA and STM32.

3. Hardware Description

3.1 Overview

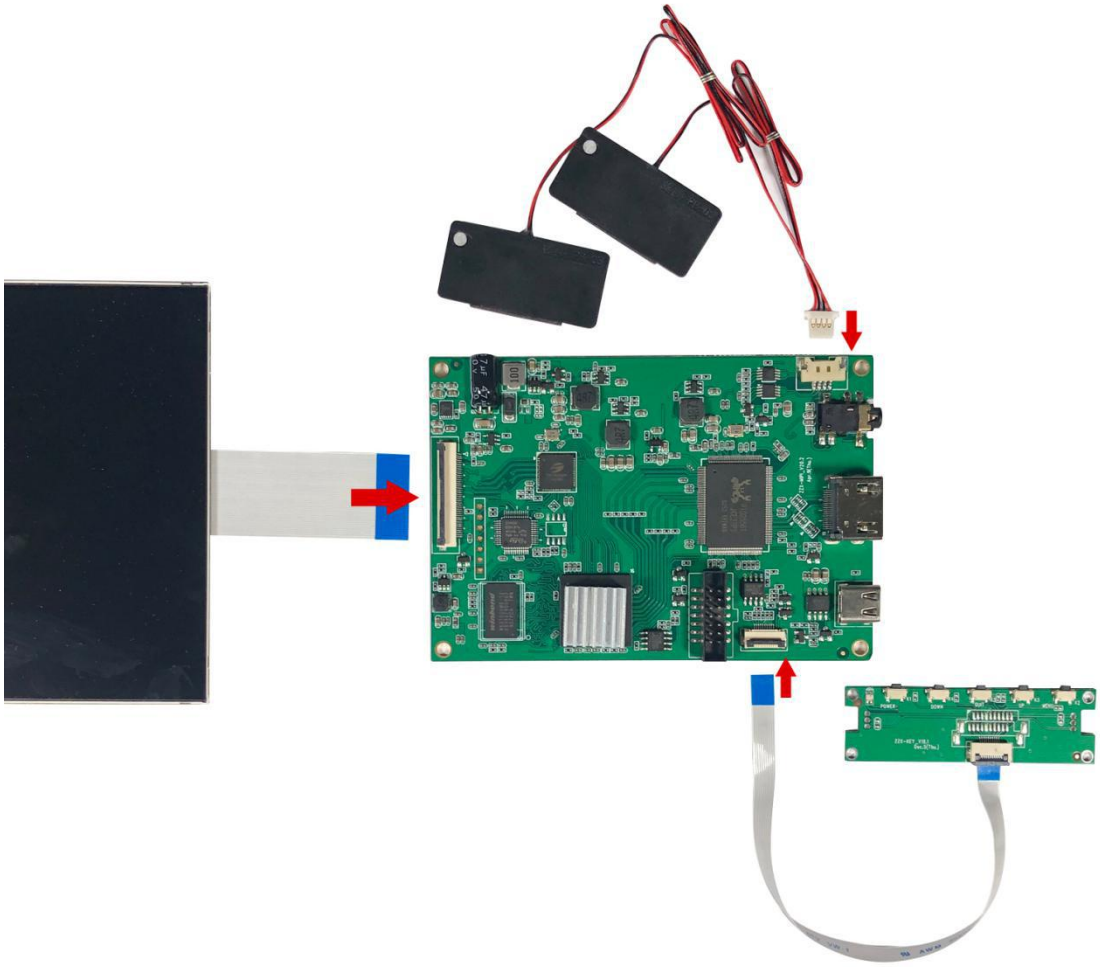


3.2 Dimensional Drawing



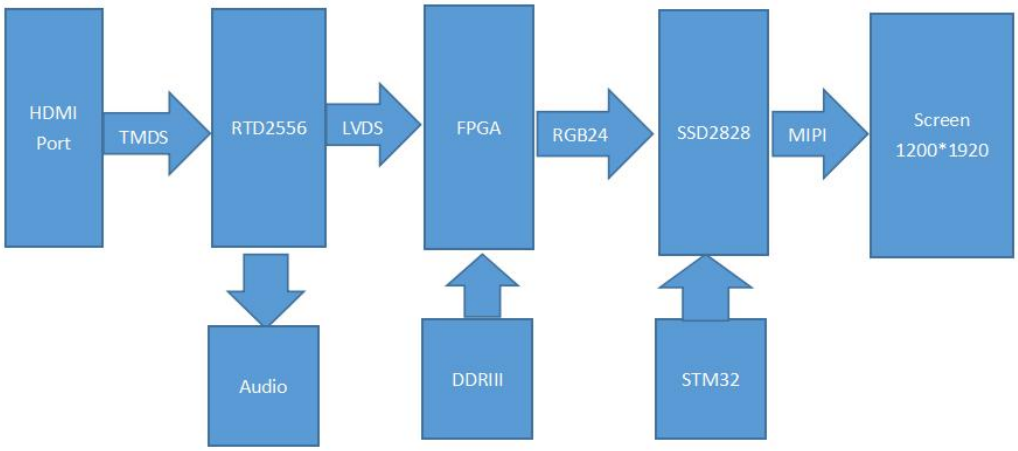
3.3 Wiring

Follow below picture to connect the Screen , Speaker and Keyboard. Be careful the contact face of cable.



4. Software Description

4.1 Software Flow Pattern



4.2 Software Dowan

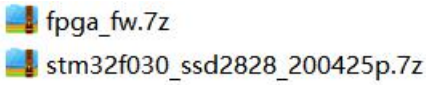
Please e-mail to us to get software download link after purchase.

4.2.1 FPGA Example Codes.

- ddr3_axi_rw
- lvds_rx
- ssd2828_mipi_rgb

Folder	Description	Development Environment
ddr3_axi_rw	DDR3 Memory Read & Write Performance Test	Xilinx ISE 14.7
lvds_rx	LVDS 1:7 display receiver/deserializer	Xilinx ISE 14.7
ssd2828_mipi_rgb	FPGA + SSD2828 RGB pattern display	Xilinx ISE 14.7

4.2.1 Default Program



Folder	Description	Development Environment
fpga_fw.7z	FPGA default programs (Include screen rotation 2D Image acceleration)	Not Open Source
stm32f030_ssd2828_200425p.7z	STM32 codes and project	MDK