VEEK-MT-SoCKit

1. Overview

* If you're already have a SoCKit board, please check out our _VEEK-MT-SoCKit Upgrade Kit_

The Video and Embedded Evaluation Kit - Multi-touch for SoCKit (VEEK-MT-SoCKit) is a comprehensive design environment with everything embedded developers need to rapidly customize to best suit their specific application. VEEK-MT-SoCKit delivers an integrated platform that includes hardware, design tools, intellectual property (IP) and reference designs for developing embedded software and hardware platform in a wide range of applications.

The VEEK-MT-SoCKit features the SoCKit development board targeting the Cyclone V SoC FPGA, as well as a capacitive LCD multimedia color touch panel which natively supports multi-touch gestures. A 5-megapixel digital image sensor, ambient light sensor, and 3-axis digital accelerometer make up the rich feature-set. The all-in-one embedded solution offered on the VEEK-MT-SoCKit, in combination of the LCD touch panel and digital image module, provides embedded developers an ideal solution for multimedia applications with unparalleled processing performance.

This kit is also preconfigured with an FPGA hardware reference design including several ready-to-run demonstration applications stored on the provided SD card.

2. Specification

- **Company: Terasic**
- **Tel: +886-3-5750880**
- **Fax:+886-3-5726690**
- **Add: 9F., No.176, Sec.2, Gongdao 5th Rd, East Dist, Hsinchu City, 30070. Taiwa**

FPGA Device

- Cyclone V SoC 5CSXFC6D6F31 Device
- Dual-core ARM Cortex-A9 (HPS)
- 110K Programmable Logic Elements
- 5,140 Kbits embedded memory
- 6 Fractional PLLs
- 2 Hard Memory Controllers
- 3.125G Transceivers

Configuration and Debug

- Quad Serial Configuration device – EPCQ256 on FPGA
- On-Board USB Blaster II (micro USB type B connector)

Memory Device

- 1GB (2x256MBx16) DDR3 SDRAM on FPGA
- 1GB (2x256MBx16) DDR3 SDRAM on HPS
- 128MB QSPI Flash on HPS
- Micro SD Card Socket on HPS

Communication

- USB 2.0 OTG (ULPI interface with micro USB type AB connector)
- USB to UART (micro USB type B connector)
- 10/100/1000 Ethernet

Connectors

- One HSMC (8-channel Transceivers, Configurable I/O standards 1.5/1.8/2.5/3.3V)
- One LTC connector (One Serial Peripheral Interface (SPI) Master ,one I2C and one GPIO interface)

Display

- 24-bit VGA DAC
- 128x64 dots LCD Module with Backlight

Audio

- 24-bit CODEC, Line-in, line-out, and microphone-in jacks

Switches, Buttons and LEDs
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- 8 User Keys (FPGA x4 ; HPS x 4)
- 8 User Switches (FPGA x4 ; HPS x 4)
- 8 User LEDs (FPGA x4 ; HPS x 4)
- 2 HPS Reset Buttons (HPS_RSET_n and HPS_WARM_RST_n)

Sensors

- G-Sensor on HPS
- Temperature Sensor on FPGA

Power

- 12V DC input

Capacitive LCD Multi-touch Screen

- 7-inch TFT LCD with pixel resolution of 800*480
- 16 million colors (8-bit RGB)
- LED backlight

5-Megapixel Digital Image Sensor

- 2,592H x 1,944V active pixels with Bayer color arrangement
- Programmable frame rate up to 70FPS (VGA)
- Snapshot-mode mode to take frames on demand
- Simple two-wire serial control interface

Digital Accelerometer

- Up to 13-bit resolution at +/- 16g
- SPI (3- and 4-wire) digital interface
- Flexible interrupts modes

Ambient Light Sensor

- Precise illumination measurement under diverse lighting conditions
- Programmable interrupts
- 16-bit digital output with I2C fast-mode at 400 kHz
- Programmable analog gain and Integration time
- 50/60Hz lighting ripple rejection

3. Kit content

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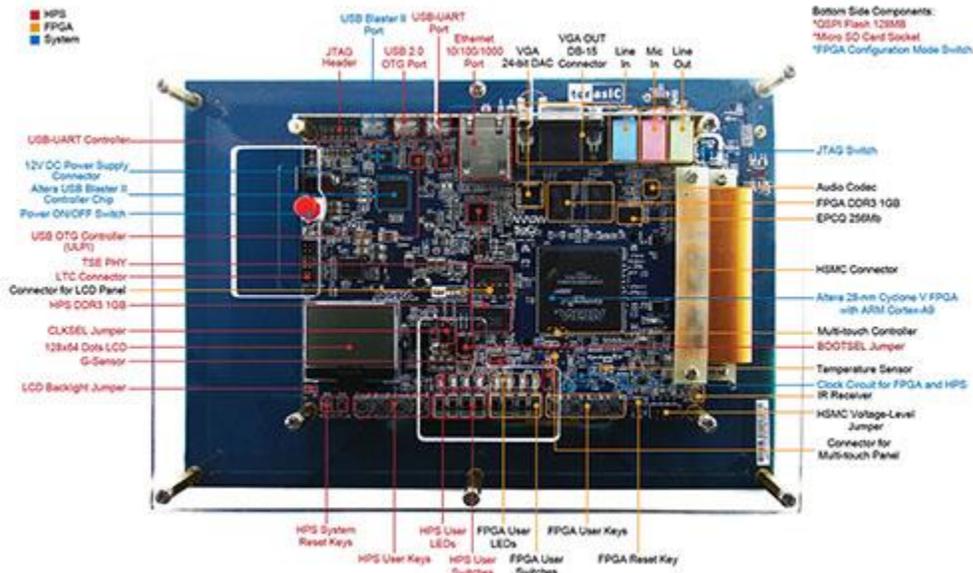- **Add: 9F., No.176, Sec.2, Gongdao 5th Rd, East Dist, Hsinchu City, 30070. Taiwa**

1. VEEK-MT-SoCKit
2. Power DC Adapter 12V
3. SoCKit Quick Start Guide
4. Ethernet Cat 5e Cable
5. Type A to Micro B USB Cable x2
6. 8GB micros sdcard Class 10 with Card Reader
7. Remote Controller

4. Layout

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•Size：223*160*47 mm