32-Bit Multimedia Board

Part Number: TMIK001

A Complete Multimedia Development System

The 32-bit Multimedia Board from mikroElektronika is a compact, all inclusive development board for complete, high quality multimedia development. The board comes packaged with printed user manuals and schematics and a CD full of example projects that are easy to use, and really show the power of the PIC32. The 17+ MB of included code examples are written using Microchip's software stacks, making them easy to port with few modifications. The board has enough power to stream 16-bit color video at 15 frames per second, from an SD Card.

The board contains a 320x240 Touch Screen Panel, 4-way joystick, Microchip's MCP9700A Temperature Sensor, optional MRF24J40MA ZigBee Module, headphone and microphone connectors, RS-232 port, and prototyping pins. The back side reveals the brains of the board – a PIC32MX460F512L device. The back side also includes USB Host and Device connectors, M25P80 Flash device, a 24LC01 Serial EEPROM, External ICD Connector, SD Card Slot, Stereo Codec chip with integrated Headphone driver, and a digital accelerometer. It can be powered by USB or by a user-supplied AC or DC power supply.

Features

What's On Board

- There are headphone and microphone connectors on-board for audio testing.
- Host and Device USB Connectors are available for USB device developing needs.
- On-board MMC(SD) card slot is used testing mass storage and data acquisition applications.
- There is a reset circuit that is connected to the MCLR Pin of the microcontroller.
- PIC32MX460F512L is the 32-bit microcontroller powering the development board.
- On-board 2.4 GHz IEEE 802.15.4 Transceiver Module (optional).
- There is connector on-board for connecting External ICD.
- RS-232 communication with PC or another microcontroller.
- Power supply can be DC or AC. Supervisor circuit enables stable system power supply.
- Show advanced visual messages using TFT Color Display 320x240 with Touch Screen.
- Joystick can be used for handling the on-screen menus or as a generic input device.
- Analog Temperature Sensor MCP9700A for measuring temperature from -40ºC to 125ºC.
- You can measure static or dynamic acceleration with ADXL345 Digital Accelerometer.
- There is M25P80 (8 Mbit Serial Flash Memory) that use SPI interface.
- Store prototype device configuration parameters in 24LC01 Serial EEPROM.
- On-board WM8731SEDS - Stereo Codec with an integrated headphone driver.
- Display LD0, LD1, LD2 and LD3 microcontroller pins states with LE Diodes.
- Prototyping Pins allows the microcontroller to be interfaced with external circuits.

Additional Included

Examples Included

Plenty of examples are included that will show you how to connect the PIC32MX microcontroller easily with other peripheral components or devices when developing your prototype device. Each example contains a detailed description of program operation.

Example for writing primitives on Color Display

USB device and USB host demonstration example

Reading coordinates from Touch Screen

input data from Joystick

Sending and receiving data using UART

Audio Player demonstration example

Example for reading Accelerometer X, Y, Z axes

Reading and writing data to Serial EEPROM

Serial Flash memory reading and writing data example

Example for measuring temperature with temperature sensor

FreeRTOS demonstration example

Sending and receiving data using Wireless communication

Diodes blinking on LD0, LD1, LD2 and LD3

Audio CODEC demonstration example

Demonstration example of using MMC-SD Card (available in Audio Player example)