Cypress FM4 Graphics Controller MCU Starter Kit

The Cypress S6E2DH series graphics controller MCU starter kit provides an easy to use, cost-effective solution to evaluate an ARM® Cortex®- M4 based microcontroller that incorporates a dedicated hardware graphics engine allowing rich display images. The board comes complete with WQVGA TFT display with a touch sensor and on-board CMSIS-DAP enabling the user to connect directly to a PC and begin development. In addition to the evaluation board, the Cypress solution includes a free-of-charge graphics authoring tool and low-level libraries for the graphics engine.
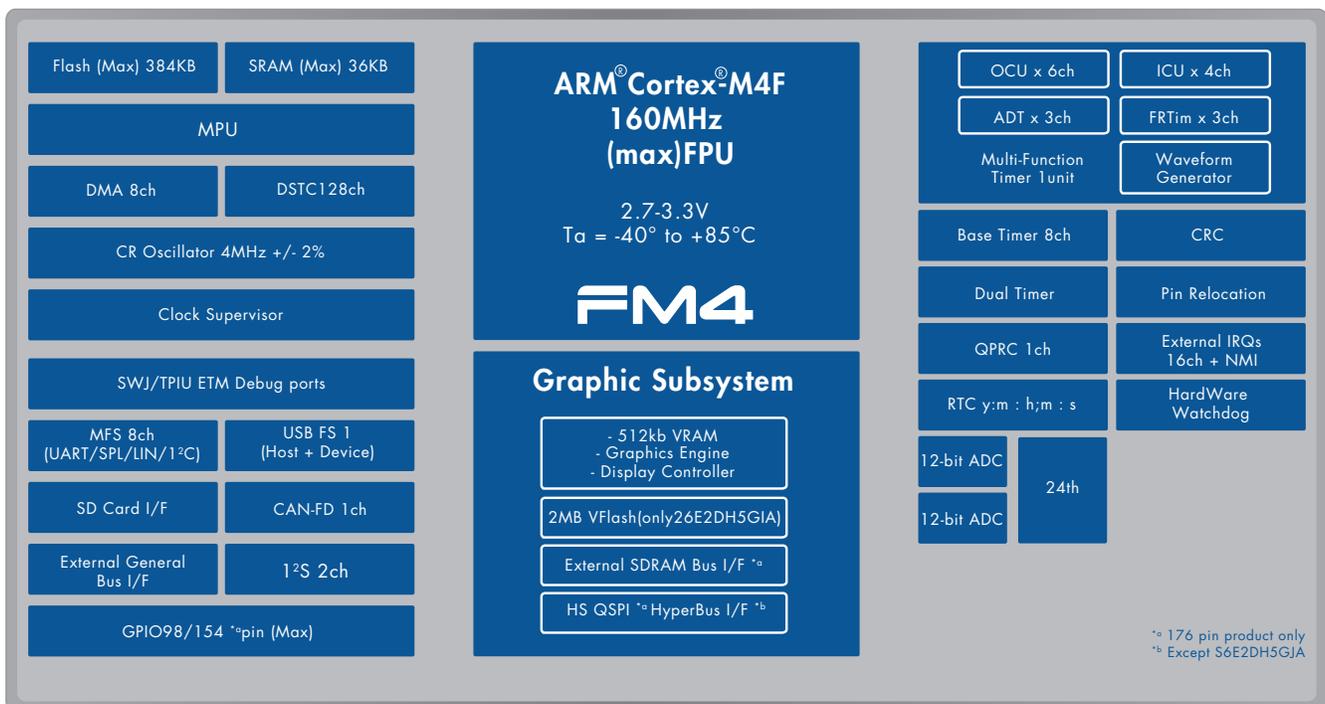
Cypress's S6E2DH MCU is ideal for embedded applications with TFT displays such as home appliances, multi-function printers, industrial equipment, electronic musical instruments and security systems.

Features

- Cypress FM4 S6E2DH MCU
- CMSIS-DAP JTAG adapter
- USB-Device (Type-B connector)
- WQVGA TFT Panel with touch
- 512MB Spansion HyperFlash™ memory for image storage
- 128MB SDRAM for external VRAM
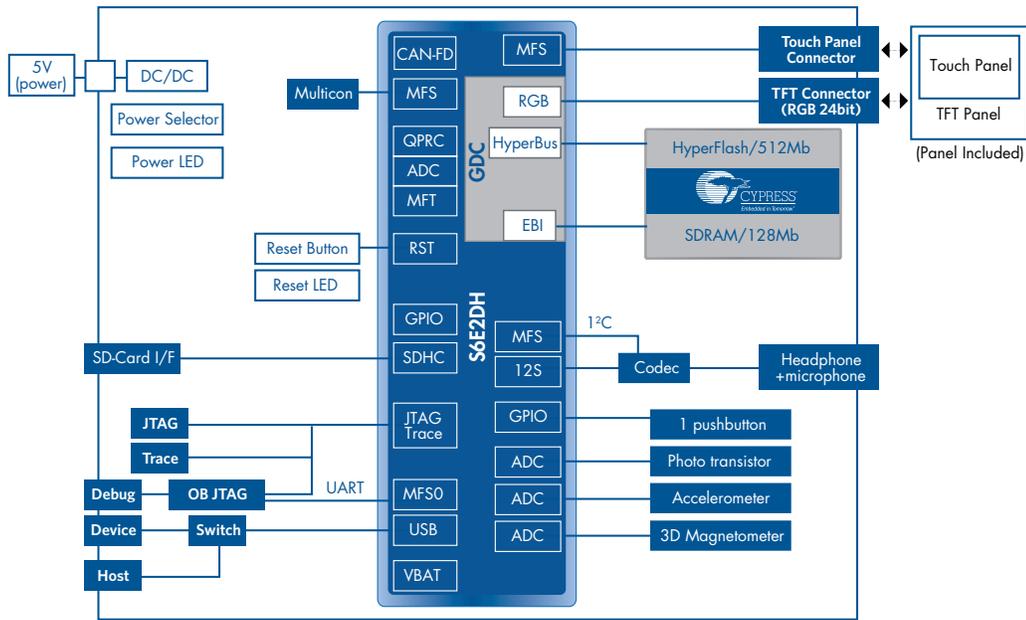- I^2S connection to codec
- SD card interface

Part number: FM4-176L-S6E2DH

MCU block diagram / features

Flash (Max) 384KB	SRAM (Max) 36KB
MPU	
DMA 8ch	DSTC128ch
CR Oscillator 4MHz +/- 2%	
Clock Supervisor	
SWJ/TPIU ETM Debug ports	
MFS 8ch (UART/SPL/LIN/1²C)	USB FS 1 (Host + Device)
SD Card I/F	CAN-FD 1ch
External General Bus I/F	1²S 2ch
GPIO98/154 *ᵃpin (Max)	

ARM® Cortex®-M4F 160MHz (max)FPU

2.7-3.3V
Ta = -40° to +85°C

FM4

Graphic Subsystem

- 512kb VRAM
- Graphics Engine
- Display Controller

2MB VFlash(only26E2DH5GIA)

External SDRAM Bus I/F *ᵃ

HS QSPI *ᵃ HyperBus I/F *ᵇ

OCU x 6ch	ICU x 4ch
ADT x 3ch	FRTim x 3ch
Multi-Function Timer 1unit	Waveform Generator
Base Timer 8ch	CRC
Dual Timer	Pin Relocation
QPRC 1ch	External IRQs 16ch + NMI
RTC y:m : h;m : s	HardWare Watchdog
12-bit ADC	24th
12-bit ADC	

*ᵃ 176 pin product only
*ᵇ Except S6E2DH5GJA

Starter kit block diagram

Development environment / evaluation board

Graphics Software Development environment

GDC Software Architecture

StarterKit

Development Tools
ARM (KEIL) / IAR SYSTEMS
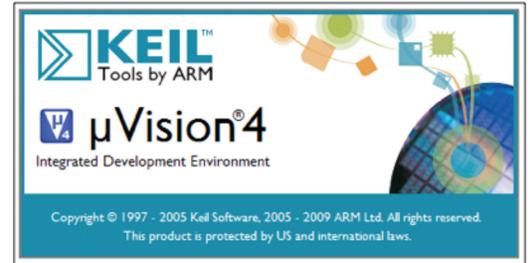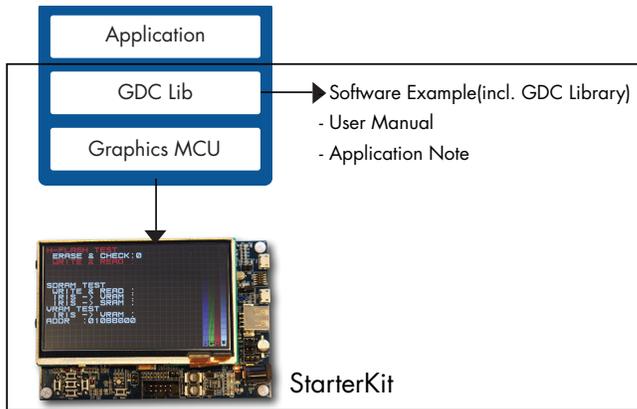
Note: This document may be revised by subsequent versions or modifications due to changes in technical specifications.