



# **Megawin**

# **MG84FG516 Evaluation**

# **Stick**

## **User Manual**



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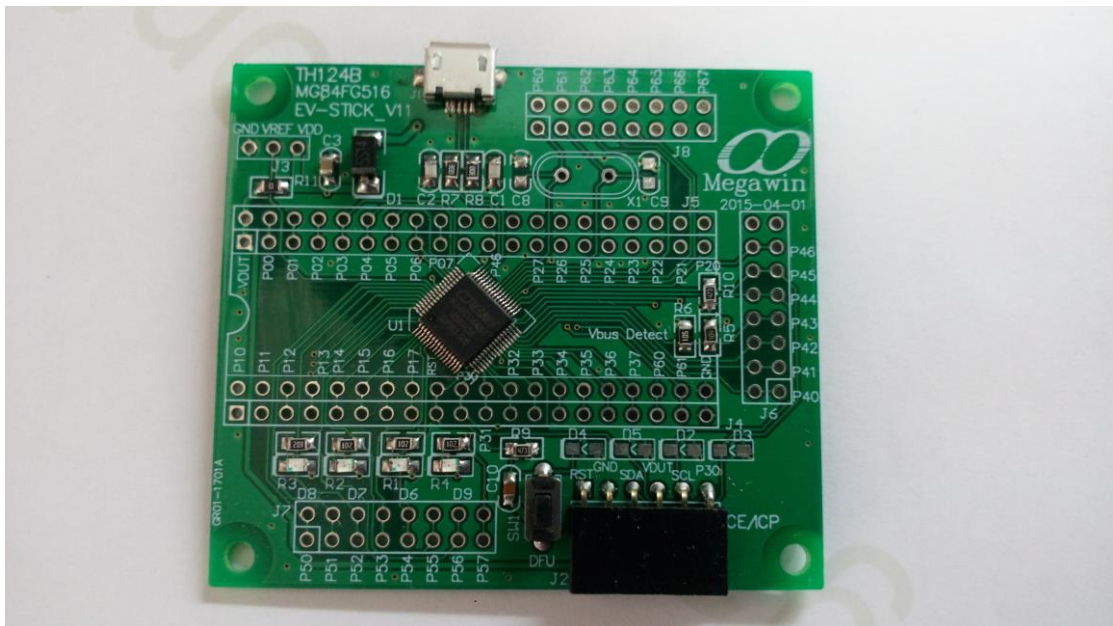


## 1. Introduction

“MG84FG516 Evaluation Stick” is a development tool that Megawin provides for the emulation of user’s application. For this stick, expansion of signal connection and updating of MCU firmware in MG84FG516 has become convenient and easy. Megawin provides complete software environment for this Evaluation Stick so that the users can develop their system application with little effort.

This user manual will introduce the function of “MG84FG516 Evaluation Stick”. It will describe its usage, programming and operation through Megawin Easy USB solution. This solution will enable the user to easily develop his application even if he does not have enough knowledge on USB.

The picture below shows the actual prototype. It includes a USB cable and MG84FG516 Evaluation Stick that will be connected by a socket. The stick provides the data communication, system development, firmware upgrade through USB host without additional peripheral.

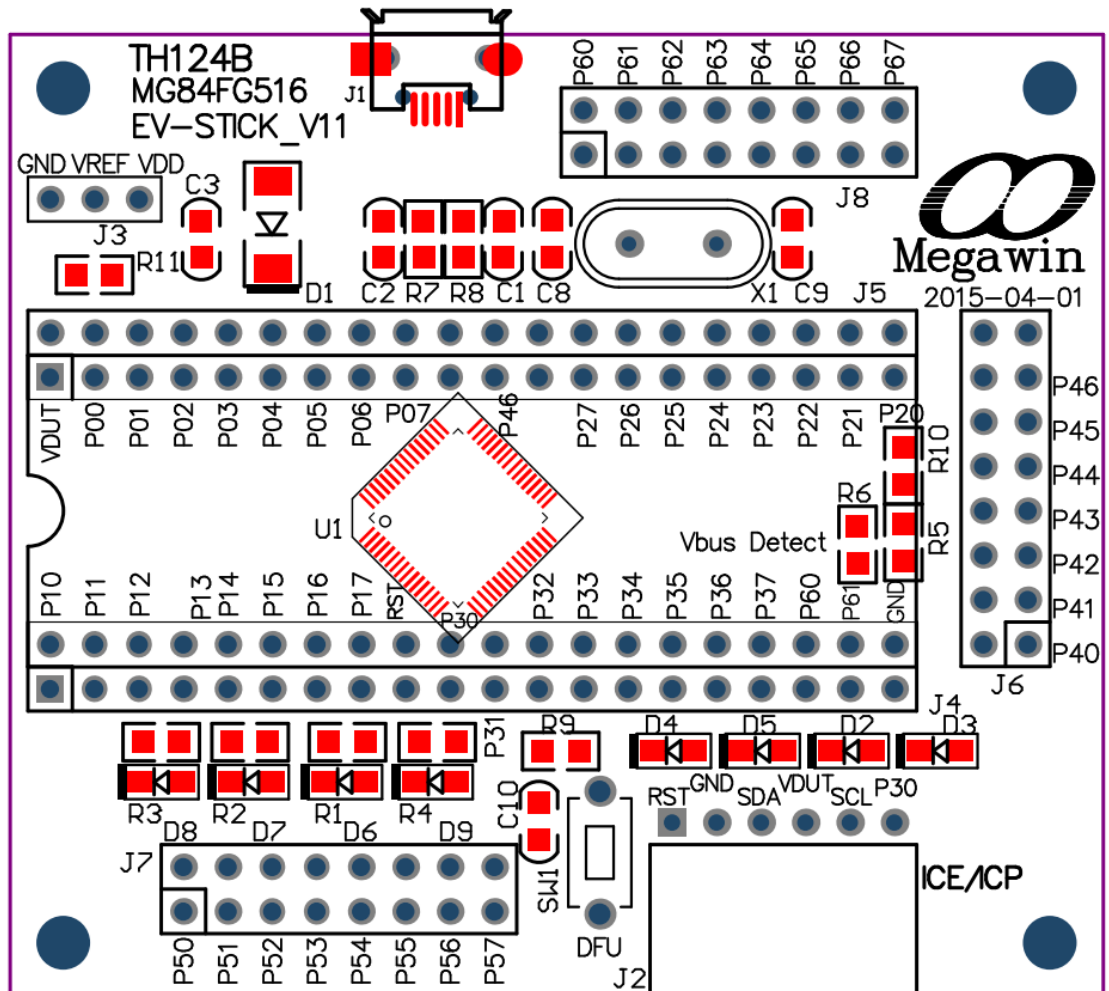




## 2. Functional Block

### 2.1. Functional Block Diagram

The following diagram shows the functional block on MG84FG516 Evaluation Stick.



### 2.2. Functional Block Description

J1: Micro USB connector

J2: ICE and ICP connector

J4&J5: Pseudo device to expand MG84FG516's signal to standard 40-pin PDIP outline.

J6: P4

J7: P5

J8: P6

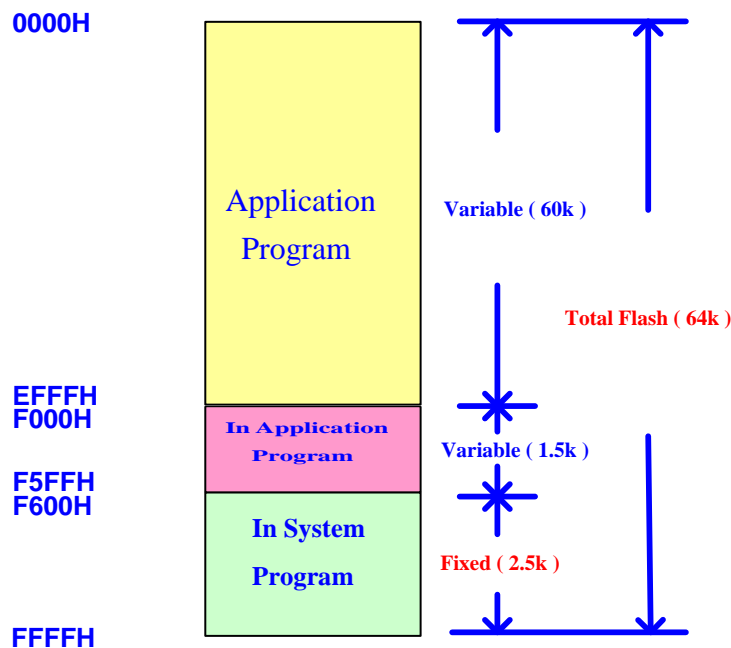
SW1: DFU button

U1: MG84FG516



### 3. MG84FG516 Flash Memory Configuration on Evaluation Stick

#### 3.1. Configuration Block



#### 3.2. Memory Block Definition

3.2.1 The user application program (AP) is the main function program of the mcu as applied by the user. In “MG84FG516 Evaluation Stick”, by default, AP is programmed with EasyPOD sample code for a data loop back test. The source of the sample code is stored in EasyPOD directory. User can refer the source code and modify it to fit his application. User can also upgrade the firmware by using the Megawin provided DFU software tool. Alternatively, he can change the AP code by itself, like EasyCOM. All of the upgrade firmware operations are easy through Megawin DFU software tool.

3.2.2 IAP represents in application program. User can treat this flash memory as an EEPROM. For the “MG84FG516 Evaluation Stick”, by default, IAP memory size has been set at 1.5K bytes; the user however can program the settings to change the size through Megawin 8051 writer U1 or User firmware coding. (IAP access or IAPLB setting flow, can be obtained from Megawin 8051 application note)

3.2.3 ISP represents in system program. For the “MG84FG516 Evaluation Stick”, by



default, it is programmed using the DFU code that Megawin provides. User can push the “DFU Button” to force MG84FG516 to enter DFU mode. This will let the MCU run the ISP code that links the DFU software tool to upgrade the firmware in AP & IAP. Alternatively, MG84FG516 can also enter DFU by MCU soft-reset. For more information on this, please contact Megawin technical support team.

- 3.2.4 Others. If user would like to re-layout the flash memory configuration, put “MG84FG516 Evaluation Stick” onto Megawin 8051 writer U1 directly with ICP socket connection. Then user could configure the flash memory based on his application requirement.



## **4. Signal Connectivity**

MG84FG516 Evaluation Stick provides 3 interfaces for communication connectivity.

These are listed as follows:

### **4.1. USB Signal Connectivity**

J1 is USB cable jack to provide USB signal connectivity. This package bundles a USB cable for user to plug into USB host.

### **4.2. ICE/ICP Signal Connectivity**

J2 is ICE jack for on chip debugger and also for Megawin 8051 writer U1 interface.

### **4.3. GPIO Signal Connectivity**

J4 , J5 is a pseudo device that links the GPIOs of MG84FG516to standard 40-pin PDIP dimension.



## 5. Revision History

Revision	Description	Data
v1.00	Initial version	2011/05/02
v1.01	Update figure	2018/06/07