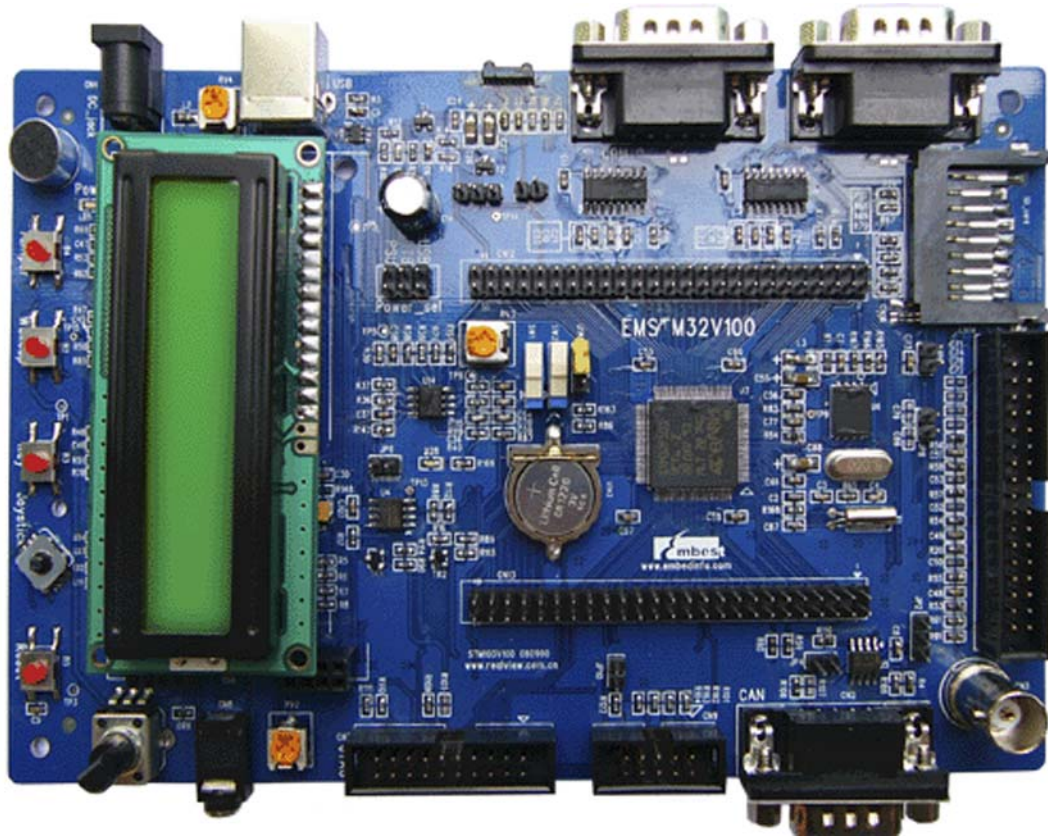


## STM103V100 Evaluation Board

- Evaluation Board for STM32F103VBT6 CORTEX-M3 Microcontroller
- RS232, USB device, CAN, LCD, SD, SmartCard, ADC, IrDA ...
- Plenty of Software Examples, all in source code



STM103V100 Evaluation Board

### Description

The ARM Cortex-M3 processor is the latest generation of ARM processors for embedded systems. It has been developed to provide a low-cost platform that meets the needs of MCU implementation, with a reduced pin count and low-power consumption, while delivering outstanding computational performance and an advanced system response to interrupts. The ARM Cortex-M3 32-bit RISC processor features exceptional code-efficiency, delivering the high-performance expected from an ARM core in the memory size usually associated with 8- and 16-bit devices.

The STM32F103VBT6 microcontroller is among STM32F103xx Performance Line family, which incorporates the high-performance ARM Cortex-M3 32-bit RISC core operating at a 72 MHz frequency, high-speed embedded memories (Flash memory up to 128Kbytes and SRAM up to 20 Kbytes), and an extensive range of enhanced I/Os and peripherals connected to two APB buses. All devices offer two 12-bit ADCs, three general purpose 16-bit timers plus one PWM timer, as well as standard and advanced communication interfaces: up to two I2Cs and SPIs, three UARTs, an USB and a CAN.

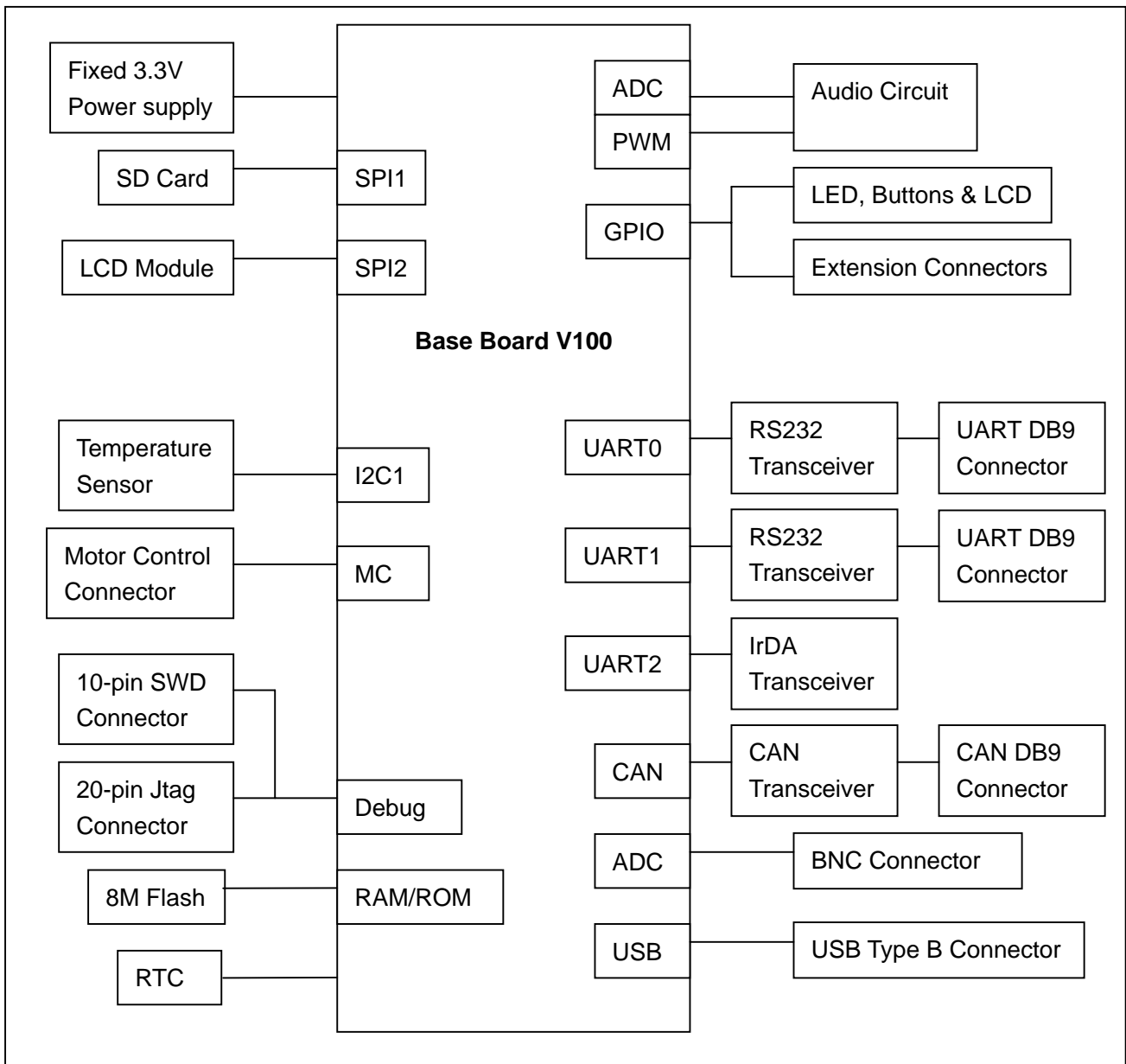
The STM103V100 is an evaluation board for STMicroelectronic's ARM Cortex-M3

core-based STM32F103VBT6 microcontroller for evaluating or prototyping platform based on the STM32F10x microcontrollers. The device has a complete range of peripherals including full speed USB2.0, CAN2.0A/B compliant interface, two I2C channels, two SPI channels, three USART channels with smartcard support, internal 20KB SRAM and 128KB Flash, JTAG and SWD debugging, motor control connector, SD card socket, etc. The board is provided with plenty of software examples, which can be used in popular Keil MDK environment.

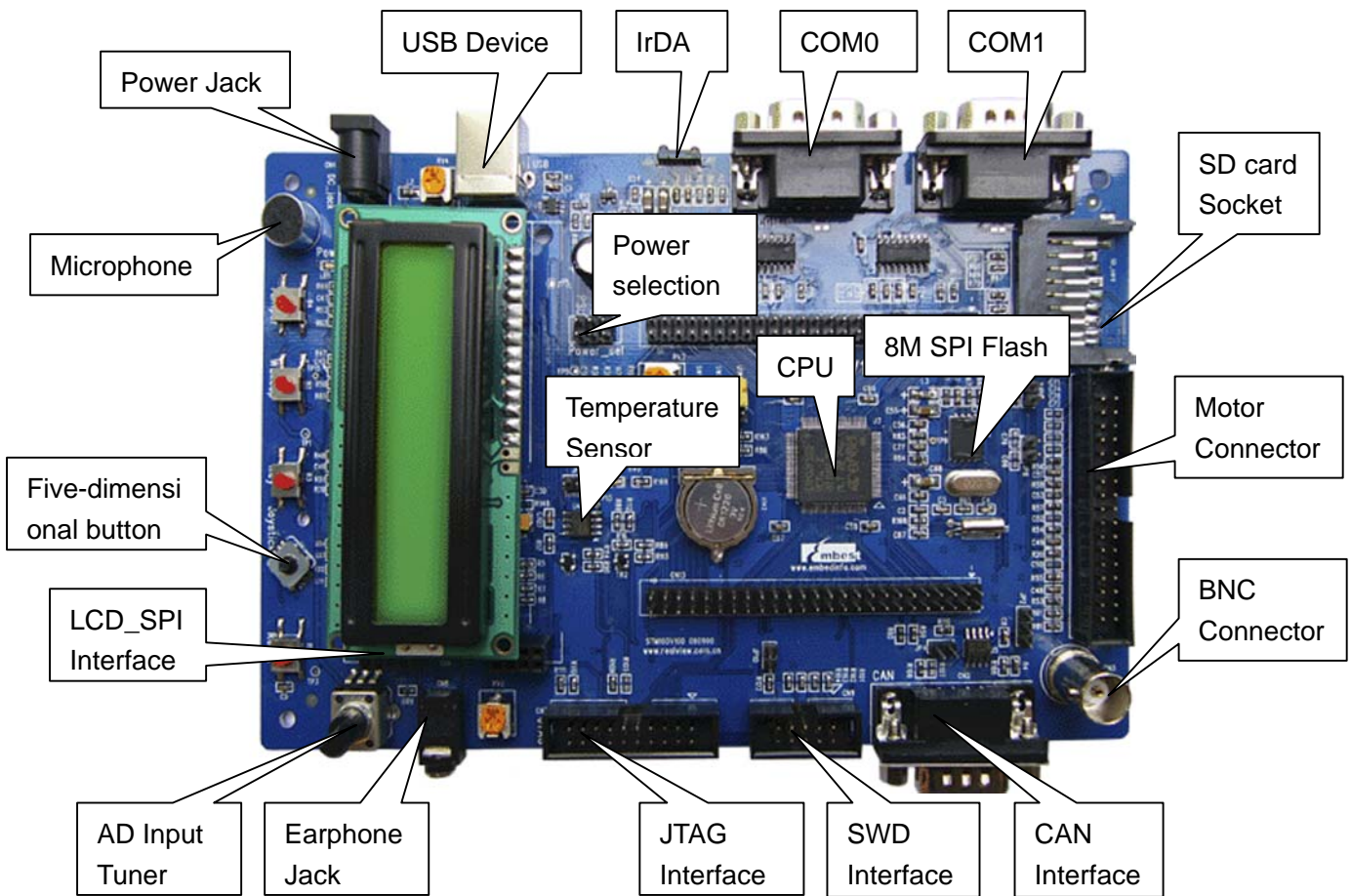
## Hardware Specification

- Dimensions: 172mm x 114mm
- Processor: STM32F103VBT6, compatible with STM32F103V8T6 (100 pins), STM32F103RBT6, STM32F103R8T6, STM32F103C8T6, STM32F103C6T6
- 8Mbyte serial Flash
- RTC with backup battery
- Three 5V Power supply options: USB connector, power jack, led out pin strip
- USB device (USB2.0)
- CAN2.0 interface
- Two RS232 serial ports (one supports RTS/CTS function)
- IrDA transceiver
- LCD interface with 16x2 Character LCD
- SD card socket
- Smart card socket (on the rear of the board)
- One Motor control connector
- One extended temperature sensor
- Audio play/record
- Two debug interfaces options: SWD / JTAG
- Four buttons (Wakeup, Reset, Tamper and User)
- Four LEDs
- Joystick with 4-direction control and selector

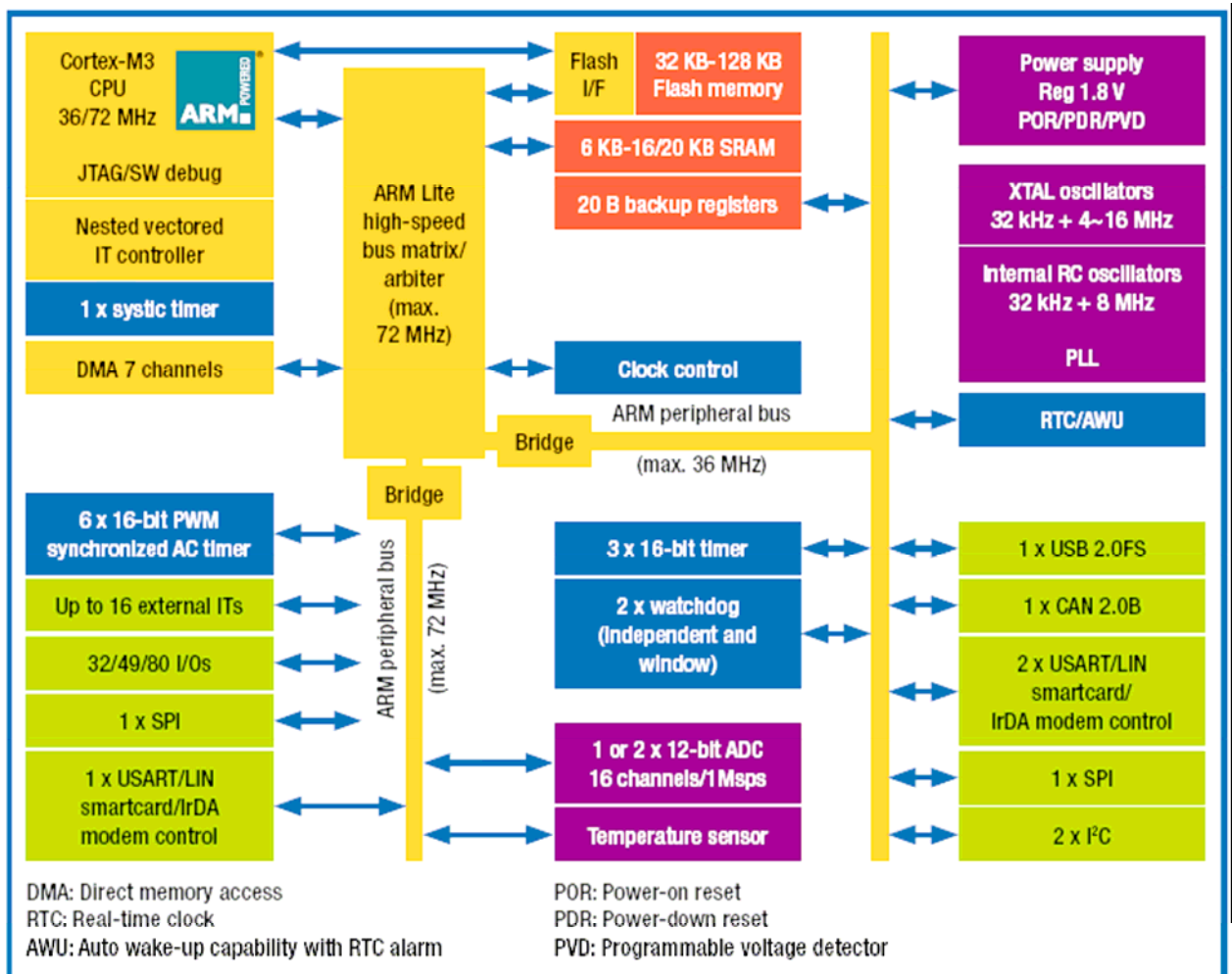
## STM103V100 Function Block Diagram



## Interface Introduction



## STM32F10x Block Diagram



## Device Summary (STM32F103xx Performance Line)

Peripheral		STM32F103Cx		STM32F103Rx			STM32F103Vx	
Flash - Kbytes		32	64	32	64	128	64	128
SRAM - Kbytes		10	20	10	20		20	
Timers	General purpose	2	3	2	3		3	
	Advanced Control	1		1			1	
Communication	SPI	1	2	1	2		2	
	I <sup>2</sup> C	1	2	1	2		2	
	USART	2	3	2	3		3	
	USB	1	1	1	1		1	
	CAN	1	1	1	1		1	
GPIOs		32		49			80	
12-bit synchronized ADC Number of channels		2 10 channels		2 16 channels				
CPU frequency		72 MHz						
Operating Voltage		2.0 to 3.6 V						
Operating Temp.		-40 to +85 °C / -40 to +105 °C						
Packages		LQFP48		LQFP64			LQFP100, BGA100	

## Software Examples

Embest Provides plenty of software examples for this STM103V100 evaluation board, all in source code. These software examples can be debugged under the popular Keil MDK environments. The structure of the directories is as below:

Directory	Content
MDK	All source codes under MDK environment
BASIC Examples	
-- USART	UART test program
-- FLASH	FLASH (Read-write) test program
-- DMA	DMA test program
-- CAN	CAN test program
-- SYSTICK	ADC test program
-- DEBUG	LED test program, test GPIO
-- ADC	ADC test program
-- GPIO	GPIO test program
-- EXTI	Power management test program
-- RCC	RCC test program
-- RTC	RTC test program
-- WWDG	Watchdog test program

-- BKP	Backup register test program
-- TIM	
-- TIM1	
-- NVIC	
-- SPI	
-- IWDG	
-- IrDA_Transmit	Transmit data sent by joystick through IrDA
-- IrDA_Receive	Receive data sent by IrDA
-- PWR	
-- LCD_1620	
-- LCD_SPI_char	
-- LCD_SPI_picture	
-- SD_card	
-- CortexM3	
-- Tsensor	
-- USB (Audio_Speaker)	
-- USB (JoystickMouse)	
-- USB (Mass_Storage)	
-- USB (Device_Firmware_Upgrade)	

## Order Information

Order No.	Evl_STM103R100
Item	STM103R100 Evaluation Board
CD-ROM	<ul style="list-style-type: none"> <li>● Software examples</li> <li>● User manual</li> </ul>
Others	<ul style="list-style-type: none"> <li>● 1 Serial cable</li> <li>● 1 USB cable (Host to Device)</li> </ul>



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