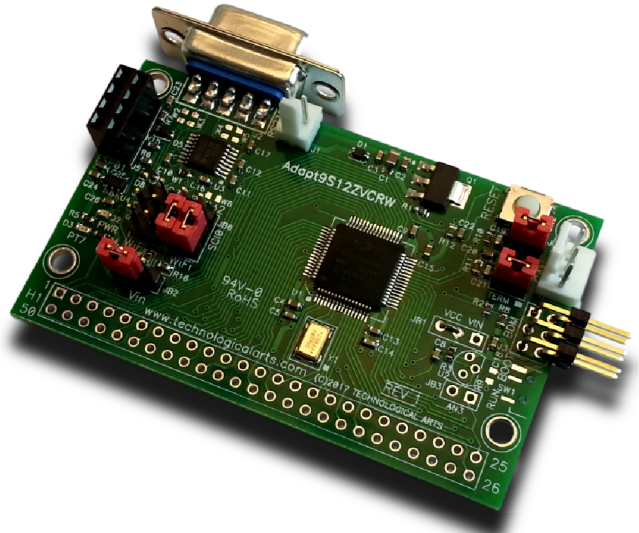


# Adapt9S12ZVCRW MagniV® WiFi-ready Microcontroller Module with RS232 Interface

## Description

Designed primarily for automotive, robotics, mechatronics, and industrial applications, this module implements a fully-functional 16-bit microcontroller circuit in a convenient modular format. Based on the advanced 16-bit Freescale/NXP 9S12ZVCA192 microcontroller, it offers unprecedented power and flexibility for a variety of applications, at a very attractive price. Suitable for educational and OEM applications.

The S12ZVC mixed signal microcontroller integrates a sophisticated S12Z core together with a 12 V to 5 V voltage regulator and a CAN physical layer for automotive and industrial applications such as sensors, actuators, switch panels or other user interfaces.



**Adapt9S12ZVCRW**

## **Module Features**

- high-reliability S12ZVCA192 microcontroller
- compatible with automotive power bus
- integrated high speed CAN transceiver
- RS232 interface circuit on one SCI channel
- WiFi-ready second SCI accepts ESP-01 RF module
- jumper-selectable serial interface assignments
- dedicated on-board 3-V regulator for ESP-01S module
- extended temperature 8 MHz crystal
- standard 6-pin right-angle BDM connector
- compatible with industry-standard BDM pods
- supported by CodeWarrior and Cosmic C compilers
- “Adapt” module form-factor: 2.8”x1.7” (71mm x 43mm)
- 50-pin I/O connector footprint
- choice of 12 connector styles
- pin-compatible with all earlier Adapt modules
- RoHS-compliant
- industrial temperature range (-40C to +85C)
- OEM pricing available for 25+ units

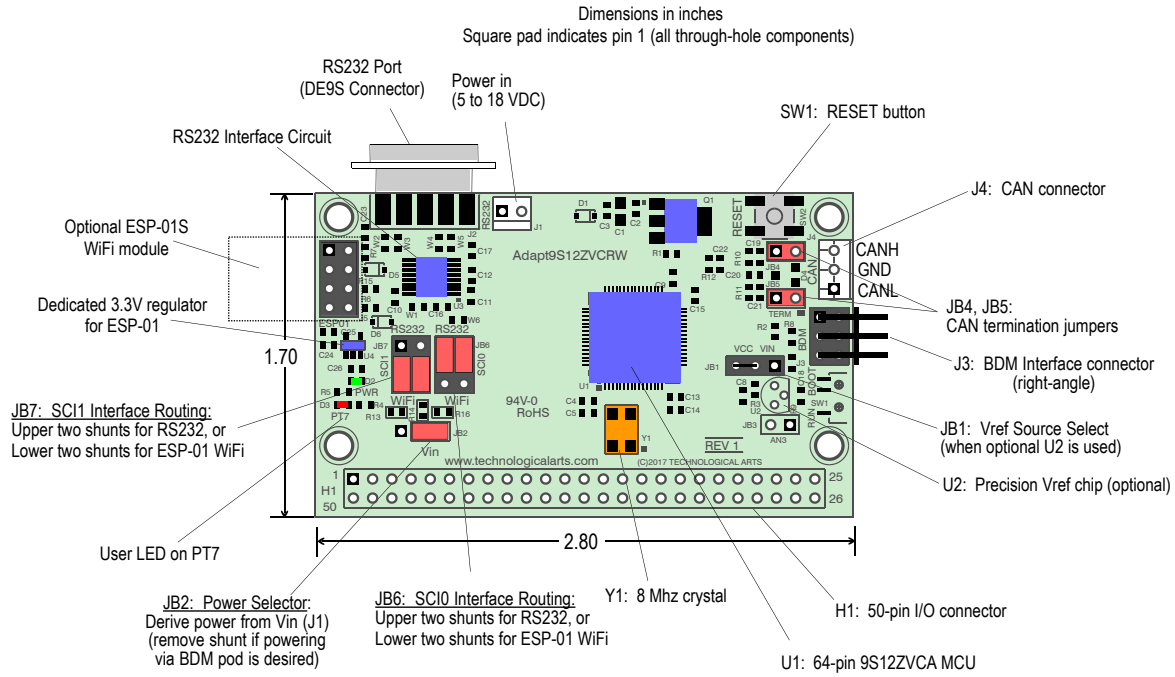
## **S12ZVCA192 MCU Features**

- powerful S12Z core with linear addressing
- 192K ECC Flash memory
- 2K ECC EEPROM
- 12K ECC RAM
- high-speed CAN physical layer
- integrated 5V regulator
- 2 high-voltage inputs
- 4-channel open-drain GPIO
- SCI, SPI, IIC
- 4 + 4 16-bit timers (20ns resolution)
- 4 + 3 16-bit PWM channels (20 ns resolution)
- 12-bit ADC channels
- 8-bit DAC
- 2 Analog Compare (ACMP) with rail-to-rail inputs
- Key Wakeup interrupt capability on most pins
- internal 1 MHz oscillator
- up to 32MHz bus speed via PLL
- low-power modes



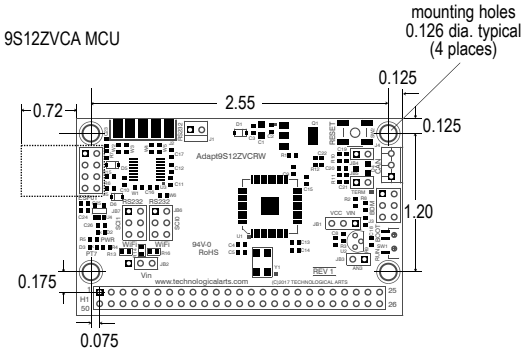
[www.TechnologicalArts.com](http://www.TechnologicalArts.com)

# Adapt9S12ZVCRW Module Features and Pin Configuration



**H1 Pin Assignments**

PIN #	NAME	PIN #	NAME
1	PS0/KWS0/MISO0	50	GND
2	PS1/KWS1/MOSI0	49	GND
3	PS2/KWS2/SCK0/IRQ*	48	PS4/KWS4/MISO1/RXD1/IOC0_3
4	PS3/KWS3/SS0*/XIRQ*	47	VCC
5	PS5/KWS5/MOSI1/TXD1/IOC0_2	46	PS7/KWS7/SS1*/SENT_TX/IOC0_0
6	PT7/IOC0_7/ECLK	45	PS6/KWS6/SCK1
7	PT6/IOC0_6	44	RESET*
8	PT5/IOC0_5	43	PP0/KWP0/PWM0_1
9	PT4/IOC0_4	42	PP1/KWP1/PWM0_3
10	PT3/IOC1_3	41	PP2/KWP2/PWM0_5
11	PT2/IOC1_2	40	PP3/KWP3/PWM0_7
12	PT1/IOC1_1	39	PP4/KWP4/PWM1_1
13	PT0/IOC1_0	38	PP5/KWP5/PWM1_3
14	PAD11/KWAD11/AN11	37	PP6/KWP6/PWM1_5
15	PAD10/KWAD10/AN10	36	PP7/KWP7/PWM1_7
16	PAD9/KWAD9/AN9/AMP	35	PL0/KWL0
17	PAD8/KWAD8/AN8/AMPM	34	PL1/KWL1
18	PAD12/KWAD12/AN12	33	PE0/EXTAL
19	PAD13/KWAD13/AN13	32	PE1/XTAL
20	PAD14/KWAD14/AN14	31	GND
21	PAD15/KWAD15/AN15	30	VRH
22	PAD0/KWAD0/AN0/ACMP0_0	29	PAD4/KWAD4/AN4/ACMP1_1
23	PAD1/KWAD1/AN1/ACMP0_1	28	PAD5/KWAD5/AN5/ACMP01
24	PAD2/KWAD2/AN2/ACMP00	27	PAD6/KWAD6/AN6/DACU
25	PAD3/KWAD3/AN3/VRH_0/ACMP1_0	26	PAD7/KWAD7/AN7/AMPP



**Order Codes:**

AD9S12ZVCRW-□  
(append H1 connector option code - see drawings, below)  
USBDMILT programming/debugging pod

**Standard Connector Options for H1 (use "NC" for no connector)**

