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MCUs

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CAN On-Board Diagnostic Reference Design

CAN-OBD-RD

On-Board Diagnostics (OBD) is an automotive protocol supported by current vehicles to capture and report diagnostic data over a Controller Area Network (CAN) bus. The Silicon Labs CAN OBD Reader Reference Design use the CAN peripheral of the [C8051F502](#) microcontroller (MCU) and interfaces to the OBD-II port in a vehicle to retrieve the diagnostic error codes and status information. The retrieved information can be displayed on a Windows PC using the ToolStick Terminal software application. The reference design firmware can also decode a small subset of status information before displaying the results on the PC. The OBD Reader supports modes 1, 2, and 3 of the OBD-II standard SAE J1979. These modes allow the OBD Reader to access the current to show freeze frame data, and show the stored diagnostic trouble codes. The purpose of the reference design is to demonstrate an automotive Silicon Labs MCU interfacing to a vehicle with a very simple and straightforward design. The MCU communicates with the vehicle u the CAN bus at 500 kbps and does not require an external crystal.



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CAN OBD Reference Design kit includes:

- ToolStick Base Adapter
- ToolStick CAN OBD Daughter Card
- OBD-II Cable
- USB Extension Cable
- Software CD
- Quick Start Guide

