

DESIGNCORE[®] PLATFORM

RS-1843ACW/RS-6843CW mmWAVE RADAR SENSOR



Bring the rich feature set support of mmWave radar into your automotive or industrial sensing application.

Implement one of many different mmWave radar sensing algorithms to measure, detect, and track

The DesignCore[®] platform RS-1843ACW/RS-6843CW mmWave Radar Sensor is simple but feature-rich mmWave radar sensor based on the Texas Instruments AWR1843/IWR6843 RFIC. The AWR1843/IWR6843 has a full radar transceiver with 3 transmitters and 4 receivers, a Hardware Accelerator for processing raw data samples, a C67XX DSP for algorithms, and an ARM processor for decision-making and interfacing. It provides a hardware and software starting point for your design. This sensor's third transmitter enables both azimuth and elevation sensing.

The RS-1843ACW/RS-6843CW provides a CAN-interface for automotive, robotics, and other rugged applications. The RS-1843ACW/RS-6843CW also provides an 802.11 a/b/g/n WiFi communications IoT processor enabling distributed radar sensing.

The RS-1843ACW/RS-6843CW Sensor has CAN, WiFi, USB, I2C, SPI and GPIO interfaces. Many algorithms are available as a basis for a solution for your application.

D3 Engineering supports OEM/ODM customers with embedded system development and customized production modules for radar applications.

FEATURES

- IP67 Enclosure Available
- Integrated PLL, Transmitter, Receiver, Baseband, A2D
- Ultra-Accurate Chirp (Timing) Engine Based on Fractional-N PLL
- USB, I2C, SPI, UART, I/O, Logic Level I/O, JTAG, 2+2 LVDS
- Integrated MIMO Antenna
- 16 Mb QSPI Flash

SPECIFICATIONS

Form Factor	3" x 2" (76.2 x 50.8 mm) circuit card stack with optional rugged enclosure
Voltage Input	+6 to 36V DC
Interfaces	IP67 via waterproof connectors Debug Board Level
	CAN, WiFi, USB-Serial I/O, JTAG I2C, SPI, UART, Logic Level I/O, LVDS
RF Spectrum	76 to 81 GHz (RS-1843ACW) 60 to 64 GHz (RS-6843CW)
Bandwidth	4 GHz
Receive Channels	4
Transmit Channels	3
DSP	600 MHz TI C67XX
Microprocessor	200 MHz TI ARM R4F
Hardware Accelerator	Pre-processing, FFT, Log-Magnitude, and CFAR-CA Coprocessor
Power Options	IP67 via waterproof connector, or USB-C
RS-1843ACW RS-6843CW	*Available Q2 2020 *Available Q2 2020

*This module is currently available as an unlicensed test module. Contact D3 for availability of CE/FCC certified modules.

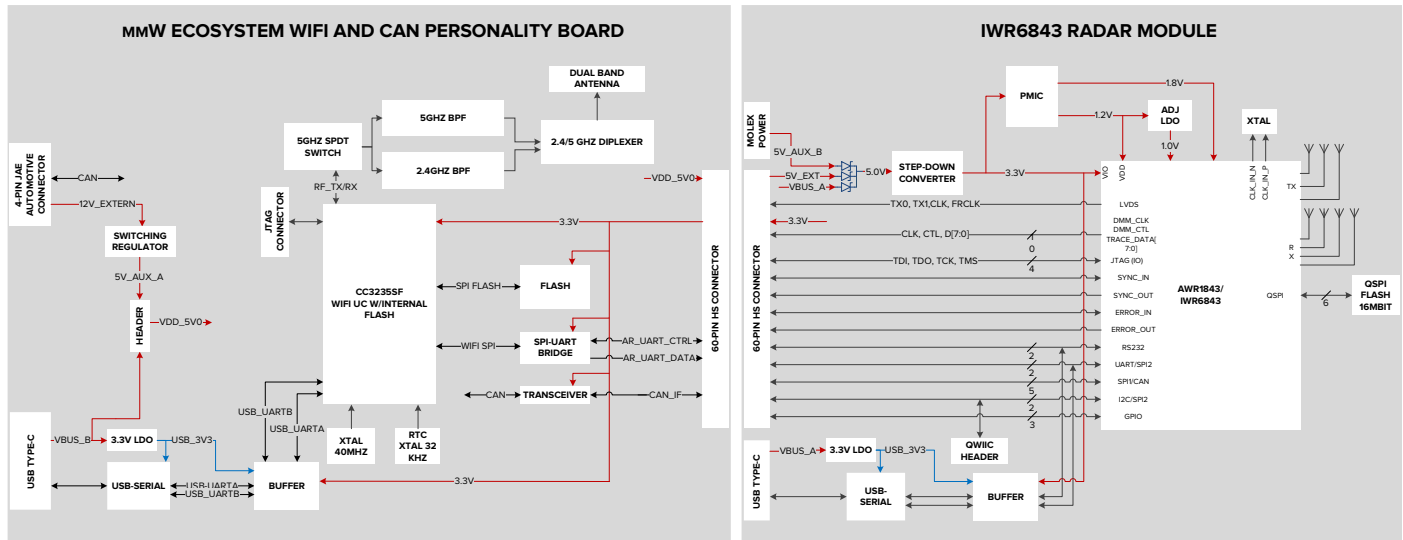
APPLICATIONS

- Stand-Alone mmWave Radar Sensor
- Autonomous Machines
- Edge Sensor Processing
- Automotive ADAS
- Industrial Vehicle Systems
- Robotics



Design Network
Platinum Member

DESIGNCORE® RS-1843ACW/RS-6843CW mmWAVE RADAR SENSOR BLOCK DIAGRAM



LOWER YOUR RISK WITH OUR DESIGNCORE® SOLUTIONS

DesignCore® Solutions are platforms, reference designs, and development tools available from D3 Engineering to lower the risk of your next product development project. They contain tested and reliable hardware, software, algorithms, design documentation, and more. D3 Engineering can quickly work with your team to customize these platforms for your application. They allow you to rapidly move from prototype to design, and then to production. DesignCore Solutions lower risk in three important areas:

- Technical Risk:** DesignCore Solutions are tested and reliable.
- Schedule Risk:** DesignCore Solutions consist of reliable and tested components for your design. Accelerate your time to market by 6-9 months.
- Cost Risk:** DesignCore Solutions have been designed for market specific applications.

The designs have been cost-optimized for:

- DesignCore Platforms** – Hardware and Software starting point for your design. Allows rapid prototyping and customization.
- DesignCore Reference Design** – Application specific hardware and software for popular applications.
- DesignCore Development Kit** – Development tools that can be purchased and used for prototyping and testing.

ORDERING INFORMATION

This sensor is available when you engage D3 Engineering for a systems development project.

- CALL:** 585-429-1550
- EMAIL:** sales@D3Engineering.com
- VISIT:** D3Engineering.com