



Modular Radar Demonstration & Development Platform

Overview

The iScan Radar Series makes rapid prototyping of high performance radar quick and easy. Utilizing a modular architecture, CEI's iScan processor, expansion, and antenna modules can be mixed and matched to create a customized development platform. Equipped with extensive capability, such as MIMO, steerable beams and digital beam forming, iScan provides superior performance for tasks such as range, speed and RCS measurements, target tracking, collision avoidance, occupancy sensing and much more. iScan Antenna Modules are available in 24, 60 and 77GHz options, making the iScan Radar Series an excellent solution for your next application.

Modular and Expandable

CEI's iScan Modular Radar Architecture is designed to get your next radar prototype up and running quickly! The interchangeable antennas, processor and enhancement modules make it easy to customize your development platform. Sold as kits or as individual modules, simply choose your preferred combination of iScan modules, connect them together and get started!

Three basic types of boards comprise the iScan architecture:

- The iScan Edge (Processor Module) acts as the control center for the development platform.
- The optional iScan Turbo (Expansion Module) can be added to provide enhanced processing, sensing, and evaluation capability.
- Antenna Modules include the iScan Prizm (77 GHz) or iScan Omega (24 GHz). These contain the RF transmitter/receiver and a variety of antenna options.

All three module types are designed to be combined so feel free to mix, match and stack!

Custom Solutions Available!

Contact

Sales@ColoradoEngineering.com

CEI Is Proud To Be A Preferred Design Partner For:



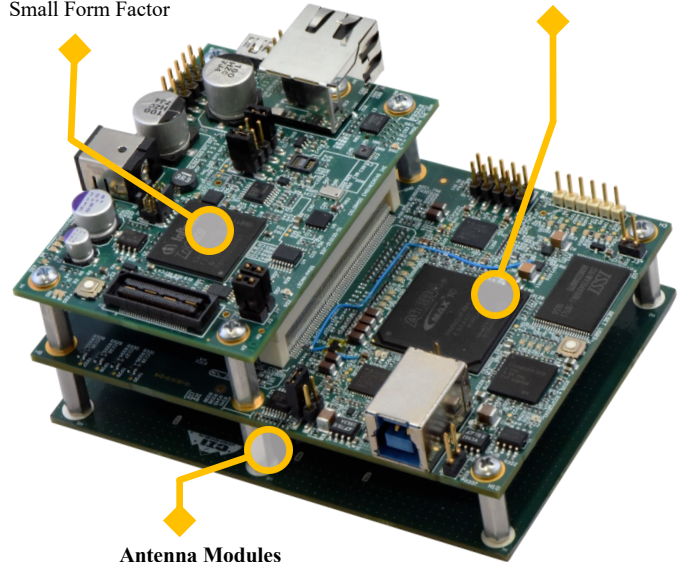
COMPONENTS

Processor Module

- State-of-the-art Radar Processor Options
- I/O: Ethernet, USB, CAN, WiFi, Bluetooth & More!
- On-board Memory
- Small Form Factor

Expansion Module

- Extend Processing Capability with FPGAs, GPUs and ASICs
- I/O Expansion
- Data Recording
- Low-Cost/Customizable Options



Antenna Modules

- 24GHz, 60GHz, 77GHz
- RF Transmitter/Receiver
- Multiple Antenna Modules to Choose From

FEATURES

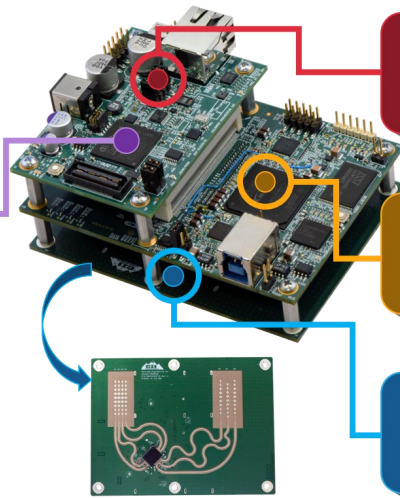
- High Performance Radar Capabilities
- Spatial Measurements
- Small Form Factor
- Multi-modal Sensor Configurations
- Multiple Beam Options
- Advanced Digital Signal Processing
- 24/60/77 GHz Frequencies

APPLICATIONS

- Smart City, Home & Security
- Aviation & Guidance
- Detection & Search
- Target Acquisition & Tracking
- Speed, Range & Angle Measurements
- Collision Avoidance & Assisted Driving & More!

MODULAR ARCHITECTURE

- Built for IoT**
- Digi Xbee Socket
 - WiFi, BLE, 3G, 4G LTE
 - Digi Xbee Socket
 - WiFi, BLE, 3G, LTE & MORE!
 - I2C Sensors
 - Temperature
 - Humidity
 - Barometric Pressure
 - Ambient Light
 - Proximity
 - Accelerometer
 - Gyroscope
 - Smoke Detector
 - Microphone



Antenna Face

01 Processor Modules

Choose from state-of-the-art, commercial, industrial and automotive processors and microcontrollers that meet your application's needs.

02 Expansion Modules

Expansion Modules provide enhanced capability such as FPGA processing, increased I/O, data recording, additional sensors and hardware.

03 Antenna Modules

Select from a variety of antenna options including long, medium and short range, switchable, MIMO, and much more.

Antenna Modules

Name/Model Number	Options
iScan Prizm 1 iScan-A-RXS8160-6610-D	<ul style="list-style-type: none"> • Frequency: 77GHz • XCVR: Infineon 77GHz Chipset • FoV: ±33° AZ, ±5° EL
iScan Prizm 2 iScan-A-TEF8102-24103610-D	<ul style="list-style-type: none"> • Frequency: 77GHz • XCVR: NXP TEF 8102 FMCW • FoV: (7x4 Center) ±12° Az, ±5° El (7x3 Outer) ±18° Az, ±5° El
iScan Omega 1 iScan-A-ADF5901-5904-7316-F	<ul style="list-style-type: none"> • Frequency: 24GHz • XCVR: ADI 5901TX / 5904RX • FoV: ±36.5° AZ, ±8° EL
iScan Omega 2 iScan-A-BGT24-9010-S	<ul style="list-style-type: none"> • Frequency: 24GHz • XCVR: Infineon BGT24MTR11 (24GHz) • FoV: 3x ±30° AZ, ±5° EL (Switchable and Fixed Beam Solutions)

Expansion Modules

Name/Model Number	Configurations
iScan Turbo 1 iScan-E-M10	<ul style="list-style-type: none"> • Processor: Intel Max 10 FPGA • I/O: USB 3.0 Type-A • Other: 4-ch ADC
iScan Turbo 2 iScan-E-TK1 (In Development)	<ul style="list-style-type: none"> • Processor: NVIDIA Tegra K1 • Features: H.264, HDMI, 1 USB 2.0, USB 3.0, X4 PCIe Gen2, Onboard IMU and much more!

Development Kits

Name/Model Number	Configurations
iScan Phantom iScan-K-RXS8160-A2G or iScan-K-RXS8160-A2G-M10	<ul style="list-style-type: none"> • Processor Module: Infineon Aurix™ TC39xx • Antenna Module: Infineon 77GHz Chipset • Expansion Module: Intel Max 10 FPGA (optional)
RDk-S32R274	<ul style="list-style-type: none"> • Processor Module: NXP S32R274 • Antenna Module: NXP TEF8102 FMCW XCVR

Processor Modules

Name/Model Number	Configurations
iScan Edge 1 iScan-P-A2G	<ul style="list-style-type: none"> • Processor: Aurix™TC39xx • On-board Sensors: IMU, Temperature, Humidity, Pressure, Light, Optical, Smoke Detector
iScan Edge 2 iScan-P-4700	<ul style="list-style-type: none"> • Processor: Infineon XMC4700 • On-board Sensors: Temperature, Humidity, Barometric Pressure, Ambient Light/Proximity, Accelerometer, Gyroscope, Smoke Detection & Microphone • Digi Xbee Socket: WiFi, LTE, Bluetooth & More
iScan Edge 3 iScan-P-S32R274	<ul style="list-style-type: none"> • Processor: NXP S32R274 • On-board Sensors: Temperature, IMU, Light/Proximity, Barometer, Humidity, Smoke, Microphone

