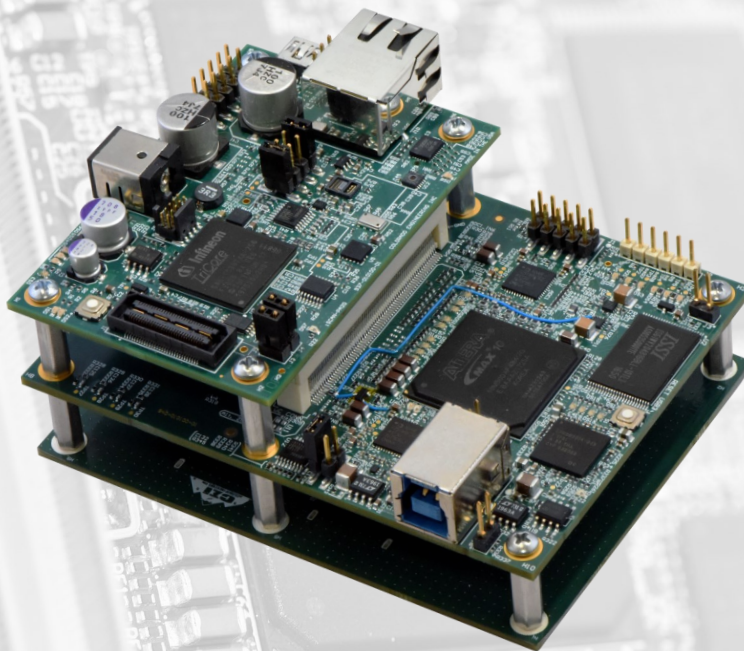
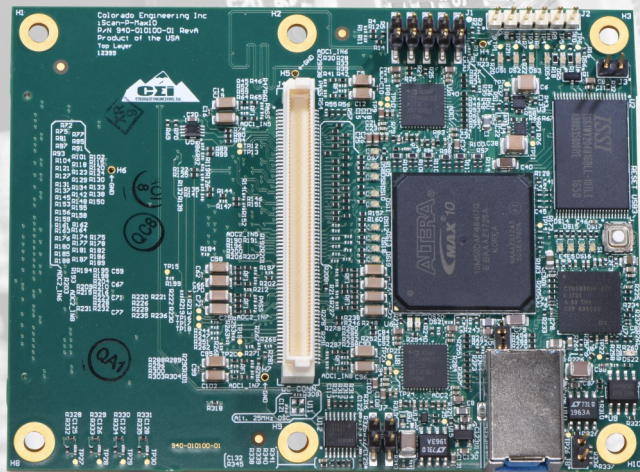


iScan Turbo 1

Expansion Module - Intel Max 10 FPGA

Model Number: iScan-E-M10A



PRODUCT DESCRIPTION

Enhance your application with FPGA processing, increased I/O, data recording, additional sensors and hardware, and more. The iScan Expansion Module was designed to provide you with advanced functionality to bring your prototype to market quickly! Equipped with Intel's Max 10 FPGA, the iScan Turbo 1 provides up to 50K LEs which can be configured to accelerate DSP and processing. Choose the iScan Turbo 1 to add enhanced capabilities to your next radar development platform!

FEATURES

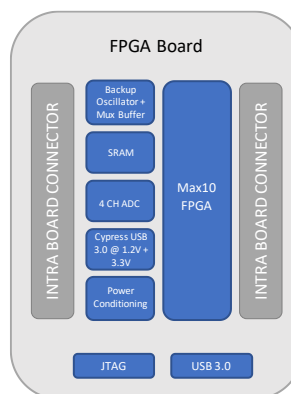
- 3x4" PCB ~0.865" tall
- MAX10 FPGA (10-pin MIPI connector JTAG programming header)
- 32Mb SRAM
- 4-wire SPI header with 3.3V access
- FX3 SuperSpeed USB Controller with USB3 Type-B Connector
- Dual ADCs (ADAR7251 with 16-Bit resolution at 1.2MHz)

APPLICATIONS

- Smart City, Home & Security
- Aviation & Guidance
- Detection & Search
- Target Acquisition & Tracking
- Speed, Range & Angle Measurements



FPGA Design
Solutions Network
Platinum

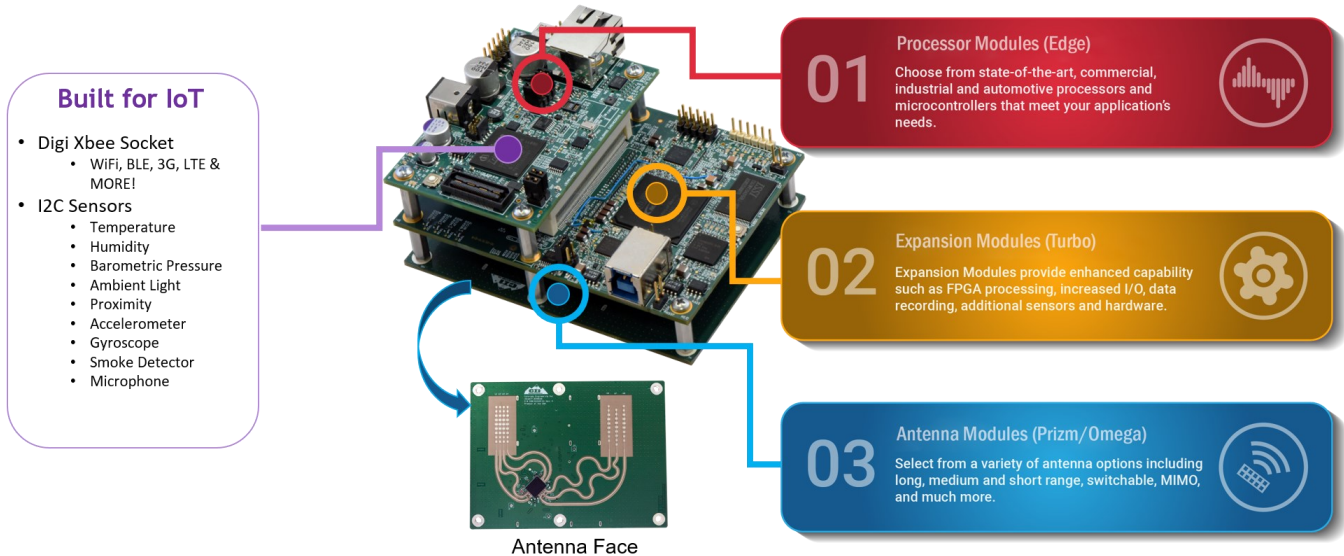


The iScan Turbo 1 block diagram to the left shows the board layout and list of features available.

Need a custom design? Colorado Engineering Inc. has over 15 years experience developing world class solutions. Contact sales@coloradoengineering.com to see how CEI can help you be successful with your next design project!

iScan MODULAR RADAR ARCHITECTURE

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.



Processor Modules

Name/Model Number	Features
iScan Edge 1 iScan-P-A2G	• Processor: AurixTMTC39xx • On-board Sensors: IMU, Temperature, Humidity, Pressure, Light, Optical, Smoke Detector
iScan Edge 2 iScan-P-4700	• Processor: Infineon XMC4700 • On-board Sensors: Temperature, Humidity, Barometric Pressure, Ambient Light/Proximity, Accelerometer, Gyroscope, Smoke Detection & Microphone • Digi Xbee Socket: WiFi, LTE, Bluetooth
iScan Edge 3 iScan-P-S32R274	• Processor: NXP S32R274 • On-board Sensors: Temperature, IMU, Light/Proximity, Barometer, Humidity, Smoke, Microphone
iScan Edge 4 iScan-P-STM32F4	• Processor: ST Micro STM32F407 • On-board Sensors: Humidity, Barometric Pressure, Accelerometer & Gyroscope, Temperature, Smoke Detector, Ambient/Light Proximity

Expansion Modules

Name/Model Number	Features
iScan Turbo 1 iScan-E-M10	• Processor: Intel Max 10 FPGA • I/O: USB 3.0 Type-A • Other: 4-ch ADC
iScan Turbo 2 iScan-E-TK1 (<i>In Development</i>)	• Processor: NVIDIA Tegra K1 • Features: H.264, HDMI, 1 USB 2.0, USB 3.0, X4 PCIe Gen2, Onboard IMU and much more!

Antenna Modules

Name/Model Number	Features
iScan Prizm 1 iScan-A-RXS8160-6610-D	• Frequency: 77 GHz • XCVR: Infineon 77GHz Chipset • FoV: ±33° AZ, ±5° EL
iScan Prizm 2 iScan-A-TEF8102-24103610-D	• Frequency: 77 GHz • 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	• Frequency: 24 GHz • XCVR: ADI 5901TX / 5904RX • FoV: ±36.5° AZ, ±8° EL
iScan Omega 2 iScan-A-ADF5901/04-2526-D	• Frequency: 24 GHz • XCVR: ADI 5901TX / 5904RX • FoV: ±12.6° AZ, ±13° EL

iScan Development Kits

Name/Model Number	Configurations
iScan Phantom iScan-K-RXS8160-A2G	• Processor Module - iScan Edge 1: Infineon AurixTMTC39xx microcontroller • Antenna Module - iScan Prizm 1: Infineon 77 GHz MMIC RXS8160
iScan Phantom with Turbo 1 Expansion Module iScan-K-RXS8160-A2G-M10	• Processor Module - iScan Edge 1: Infineon AurixTMTC39xx microcontroller • Antenna Module - iScan Prizm 1: Infineon 77 GHz MMIC RXS8160 • Expansion Module (optional) - iScan Turbo 1: Intel Max 10 FPGA
iScan Panther with Turbo 1 Expansion Module iScan-K-ADF5901/04-STM32F4-M10	• Processor Module - iScan Edge 4: NXP S32R274 microcontroller • Antenna/XCVR Module - iScan Omega 2: ADI 24 GHz 5901TX / 5904RX • Expansion Module - iScan Turbo 1: Intel Max 10 FPGA