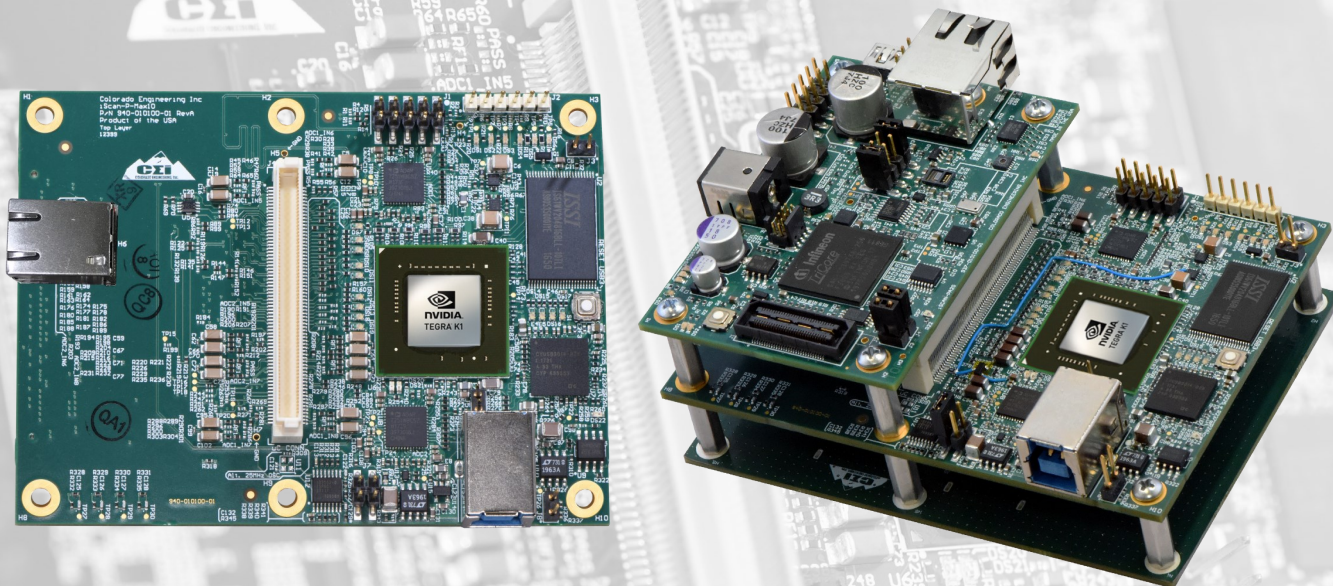


iScan Turbo 2

Expansion Module-TK1

Model Number: iScan-E-TK1



PRODUCT DESCRIPTION

From deeply embedded applications like rear obstacle collision avoidance systems, Advanced Driver Assist Systems (ADAS), medical devices, traffic monitoring, and security systems to less rugged applications like facial recognition stations, UAV and quadcopters, the iScan Turbo 2 has the computing power to handle demanding applications.

The iScan Turbo 2 is rich in I/O. Dual CSI-2, USB 2.0, USB 3.0, Ethernet, and GPIO are all available to integrate with your favorite sensor. We even have pre-integrated options for EO, active IR, passive IR, 24 GHz radar, 60 GHz radar, 77 GHz radar, 4G LTE, WiFi, Bluetooth®, CANBus, MIL-STD 1553 and many other sensors. iScan Turbo 2 can run a wide range of analytics. From shopping to traffic to video analytics, the iScan Turbo 2 runs standard CUDA and Linux to allow you to use your favorite software packages. IoT, M2M, deep learning, smart city and smart traffic ready today!

Custom Solutions Available!

Are you looking for custom hardware, software, sensor or mechanical design support? Colorado Engineering Inc. (CEI) has been developing world class technology since 1990. Please contact Sales@ColoradoEngineering.com to find out how we can help you be successful with your next design project!

CEI is proud to be a design partner for:



FEATURES

NVIDIA Tegra K1

- 192 CUDA cores
- NVIDIA Kepler
- H.264
- HDMI
- 1 USB 2.0
- USB 3.0
- 10/100/1000 ethernet
- X4 PCIe gen2
- Dual CSI-2 ports
- Onboard IMU

Software

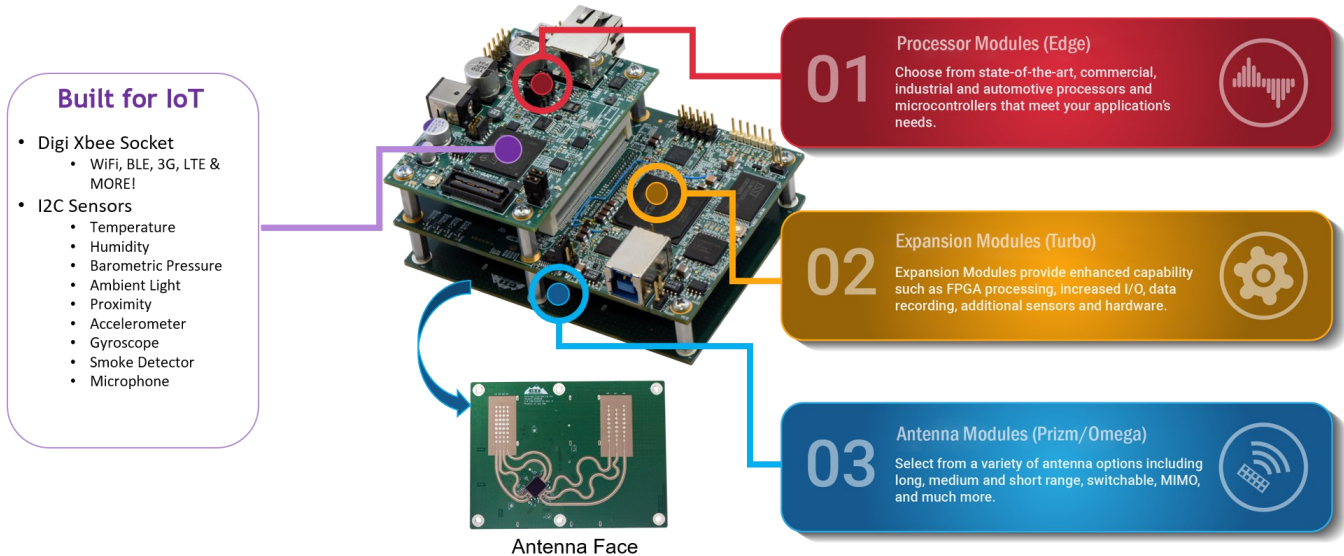
- Linux OS
- NVIDIA CUDA
- OpenCV
- OpenCX
- Caffe
- Theano
- Torch
- cuDNN, cuBLAS, etc
- C/C++
- Python & PyCUDA

APPLICATIONS

- Internet of Things (IoT)
- Machine to Machine (M2M)
- Smart city
- Traffic monitoring
- Advanced Driver Assistance Systems (ADAS)
- Sensor fusion
- Constant False Alarm Rate (CFAR)
- SAR processing
- OpenCV & OpenVX
- Home security
- Tattoo recognition
- Face detection
- Perimeter detection
- Gunshot detection
- Situational Awareness 360 (SA360)

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	<ul style="list-style-type: none"> • Processor: AurixTMTC39xx • 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
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
iScan Edge 4 iScan-P-STM32F4	<ul style="list-style-type: none"> • 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	<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 (<i>In Development</i>)	<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!

Antenna Modules

Name/Model Number	Features
iScan Prizm 1 iScan-A-RXS8160-6610-D	<ul style="list-style-type: none"> • Frequency: 77 GHz • XCVR: Infineon 77GHz Chipset • FoV: ±33° AZ, ±5° EL
iScan Prizm 2 iScan-A-TEF8102-24103610-D	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Frequency: 24 GHz • XCVR: ADI 5901TX / 5904RX • FoV: ±36.5° AZ, ±8° EL
iScan Omega 2 iScan-A-ADF5901/04-2526-D	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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