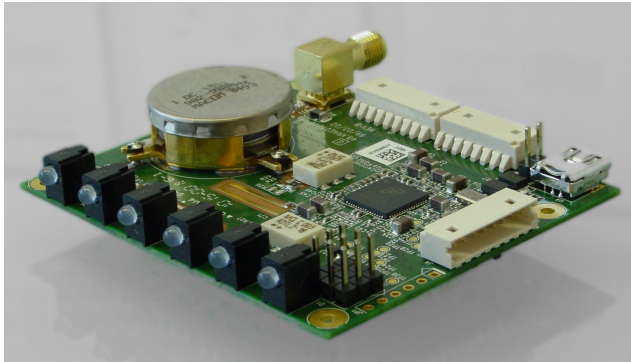




## Product Overview

### *The Insight™ TR-50 RFID Engine*



The TR-50 is a new Gen2 RFID read/write engine that provides advanced RFID capabilities in an extremely small and easy-to-use package.

With an unprecedented level of integration, advanced power control capabilities, excellent performance and a very attractive price point, the TR-50 represents the next step in the evolution of RFID.

Designed with the integrator and OEM in mind, the *Insight™* TR-50 gives you the power and flexibility to add high-performance Gen2 RFID to your embedded system.

The Insight makes integrating Gen2 RFID into your project simple.

## Applications

- Smart Shelves
- Commissioning / Programming Stations
- RFID-Enabled Cabinets
- Point-of-Sale Devices
- Printer-Applicators
- Vending Machines
- Hand-Held devices
- Access Control

## Features

### **Small Size**

Measuring just ~2.75" x 2.4" (7 cm x 6cm) the Insight is easy to fit into your design.

### **Low Power Consumption**

We designed the Insight for battery use. With "instant on" functionality, a low-power sleep mode, and a very efficient RF amplifier scheme, the Insight is the most power efficient RFID engine on the market today.

### **High Performance**

- Up to 190 tags-per-second read rate.
- Over 0.5 Watt power output for long range applications.
- Highly sensitive receiver architecture.
- Dense Reader Mode receiver filtering for good performance in multi-reader environments.
- Extremely low-current IDLE mode for battery use.

### **Designed for Global Operation**

The *Insight™*'s frequency range spans US, China and EU bands allowing you to use just one SKU to make your product ready for world-wide sales.

### **Flexible**

A diverse set of interface options provides you with great flexibility in building your solution:

- Multiple communication interfaces: RS232 or TTL (x2) and USB 2.0
- Multiple Power Options: Power over USB / External 5V DC / Battery

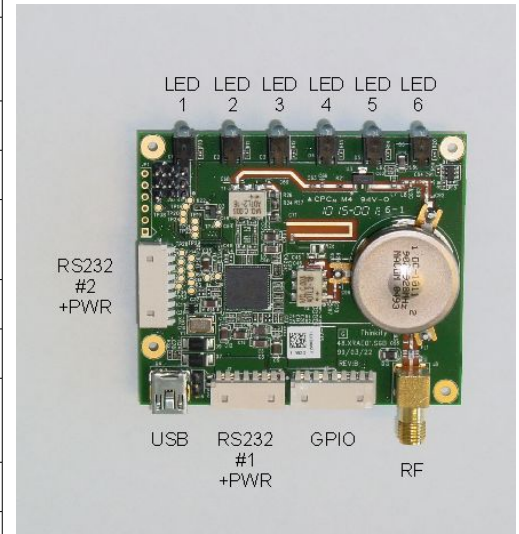
### **Developer-Friendly**

The Insight features a simple and powerful control protocol and well-documented APIs in multiple languages. (Java, Ruby, C and C#)

Units can be configured for autonomous operation; providing data only on external trigger conditions. The API supports device configuration, tag reading and programming (including extended memory areas).

## Technical Specifications

|                              |  |
|------------------------------|--|
| <b>Frequency</b>             | 860~960MHz<br>(Depends on regulatory region)   |
| <b>Physical</b>              | Width: 7 cm, Length: 6cm, Height: 1.1 cm,<br>Weight: 20 g  |
| <b>Regulatory Compliance</b> | FCC 15.247(Pending)<br>RoHS  |
| <b>RFID Protocols</b>        | ISO-18000-6C (EPC Gen2)  |
| <b>Read Rate</b>             | Up to 190 tps (50 tps typical)   |
| <b>Read Range</b>            | Approx. 4m with 6 dBi linearly polarized antenna   |
| <b>Antenna Connection</b>    | One (1) 50 Ohm port, SMA connector   |
| <b>RF Power Output</b>       | 15 to >27 dBm adjustable in 1 dB steps   |
| <b>Host Connections</b>      | USB 2.0<br>RS232 or TTL Level (2 Ports)  |
| <b>GPIO</b>                  | (TTL Level) 2 inputs, 2 outputs  |
| <b>Supply Voltage</b>        | 5V Input or USB Connection   |
| <b>Power consumption</b>     | Typical Power consumption of 500uA in low power IDLE mode.<br>Maximum of 400 mA when running RF full power.                            |
| <b>Six (6) LEDs</b>          | Power, RF Active, Tag Sense, Tag Read, Reserved1, Reserved2<br>Default firmware control of LEDs can be released for user applications. |
| <b>Software SDK</b>          | C, C#, JAVA, RUBY  |



*Thinkify TR-50 RFID Engine*

## About Thinkify



Thinkify, LLC is a wireless technology company specializing in RFID hardware and software products.

Our focus is *embedded* RFID applications. -- Applications where we enable common objects, devices and whole environments to become aware of the world around them. This capability opens up new ways for people and objects to interact, allowing real-time visibility of the *physical* world from the *virtual*.

Thinkify is a privately held company located in Morgan Hill, California.

*Thinkify – Making things think.™*