



# UHF RFID Developer Kit (DevKit)

Simplify your RAIN RFID Integration with TallyFlow software and MTI hardware



## DevKit Overview

Exclusively from SDG Systems, we have teamed up with MTI to simplify UHF RFID hardware and software integration. Using the MTI Spitfire 2000 or M.2 RAIN RFID hardware and the TallyFlow client software will enable companies to quickly develop RFID solutions in Rust, C, C#, Python or Java. System Integrators or Solution Providers looking for a higher level of integration can purchase additional software modules to enable Microsoft Azure™ Certified IoT or support for AMQP (using RabbitMQ™) message queue support. An optional web interface for RFID device management may be modified for branding and customer-specific requirements.

In addition to the rapid development platform, the software is supported and tested on a variety of hardware platforms including Windows, Linux and MacOS. The developer kit includes instructions for collecting data using a Raspberry Pi running Ubuntu Core or other Linux operating systems. The hardware developer kits may also be used to create solutions that utilize hardware modules from MTI, including the Spitfire, M200 and M.2.

## Key Features

- Device Application Programming Interface (API) for Rust, C, C#, Python or Java
- Optional modules for Azure and AMQP (using RabbitMQ)
- Optional web interface for RFID device management
- Internal software communication using ZeroMQ for high flexibility
- Source code available
- Support for ShockWatch and Maxdura Thermologger RFID tags
- Prices starting at \$499

## Spitfire 2000 vs M.2 Module

The MTI DevKits can be used in conjunction with the MTI Spitfire 2000 or M.2 modules. A comparison of the two modules are given below.

	Spitfire 2000	M.2
Features	Dense Reader Mode (DRM) Capability • Adjustable Output Power (up to +31.5dBm Max.) • Exceptional Performance and Reliability • Read Range up to 30 feet (9m)	Adjustable Output Power (up to +27dBm Max.) • Exceptional Performance and Reliability
Air-Interface Protocols	EPCglobal Class 1 Gen2 (ISO 18000-63)	EPCglobal Class 1 Gen2 (ISO 18000-63)
Frequency Band	860 - 960 MHz	860 - 960 MHz
Output Power	Adjustable from +10 to +31.5dBm in 0.1dB step	Adjustable from +10 to +27dBm in 0.1dB step
Supply Voltage	3.2~5.25 VDC	3.134~4.4 VDC
Power Consumption	Sleep Mode: 0.07A • Standby mode: 0.25A • Operation mode: 1.6A @ +30dBm ; 1.8A @ +31.5dBm	Operation mode: Typ. 4.5W @ +27dBm
Host Communication Interfaces/Data Rates	UART(TTL): 115.2 kbps • USB 2.0 compliant with full speed (up to 12Mbps) operation	PCIe M.2 interface • USB 2.0
Physical Size	75 mm (L) x 44 mm (W) x 9 mm (H)	42 mm (L) x 30 mm (W) x 2.33 mm (H)
I/O Connections	20 pin FPC connector	75-pin PCIe M.2 Key B
Antenna	Four IPX connectors supporting four monostatic antennas	One IPX 4 connector to support monostatic antenna

## Software Architecture

