

# SPSDEVRM1-8

## Product Preview

### Smart Passive Sensors™ : SPS UHF Reader Module

The SPS UHF Reader module is designed to enable optimized system performance for applications using ON Semiconductor Smart Passive Sensors powered by Magnus® technology. The SPS reader module is compatible with the UHF EPC global Gen 2 UHF standard. The reader hub supports up to 8 reader antennas connected through standard SMA coaxial connections. RF output power is adjustable from 15 dBm to 30 dBm, and the module supports read rates of up to 100 tags/second and 1 SPS read/second. Maximum achievable read range will depend on antenna selection and application environment.

The module supports UHF frequency bands conforming to FCC, ETSI, China, Japan, and Korea standards which are configurable by the user. The SPS Reader Module comes with APIs that enable users to configure the radio as well as develop custom applications that suit the end application.

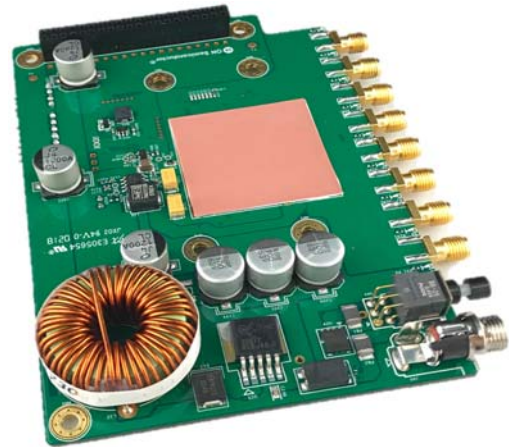
#### Features

- Compatible with EPC Global Gen2 UHF Standard
- Support for FCC, ETSI, China, Japan, and Korea UHF Frequency Bands
- Adjustable RF Output Power up to +30 dBm
- 8 RF Antenna Ports Supported
- UART Programming Interface



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SPS UHF Reader Module

#### ORDERING INFORMATION

Device	Package	Shipping
SPSDEVRM1-8	Box	Box

This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

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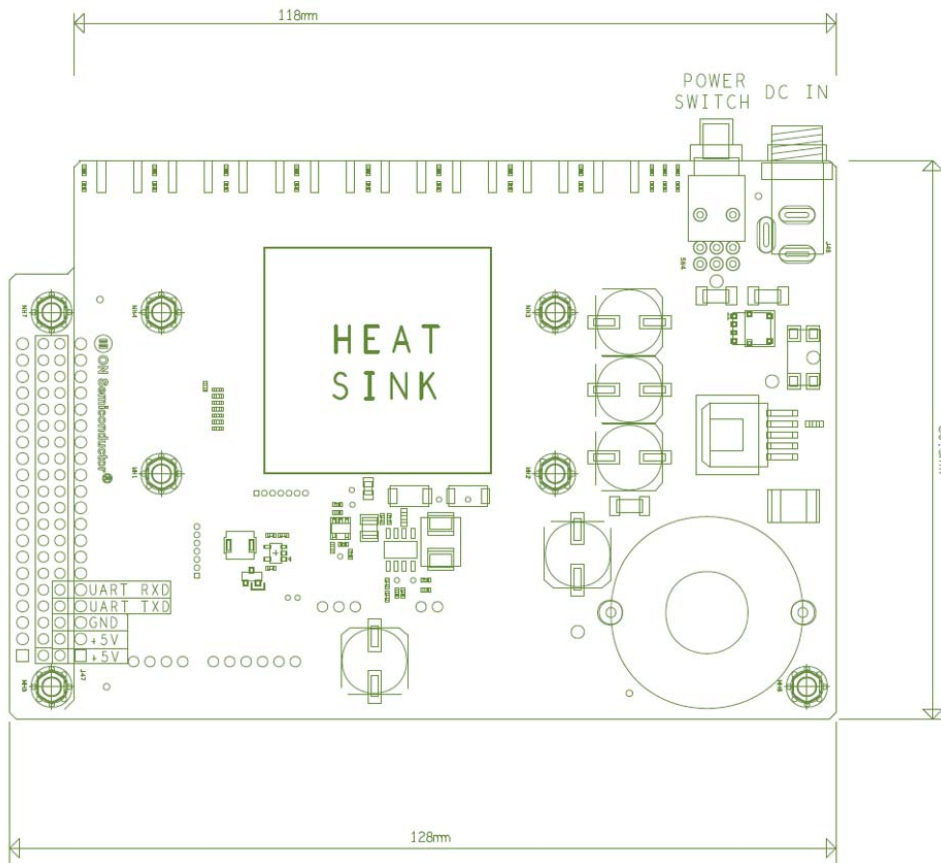


Figure 1. Assembly drawing of module, top side

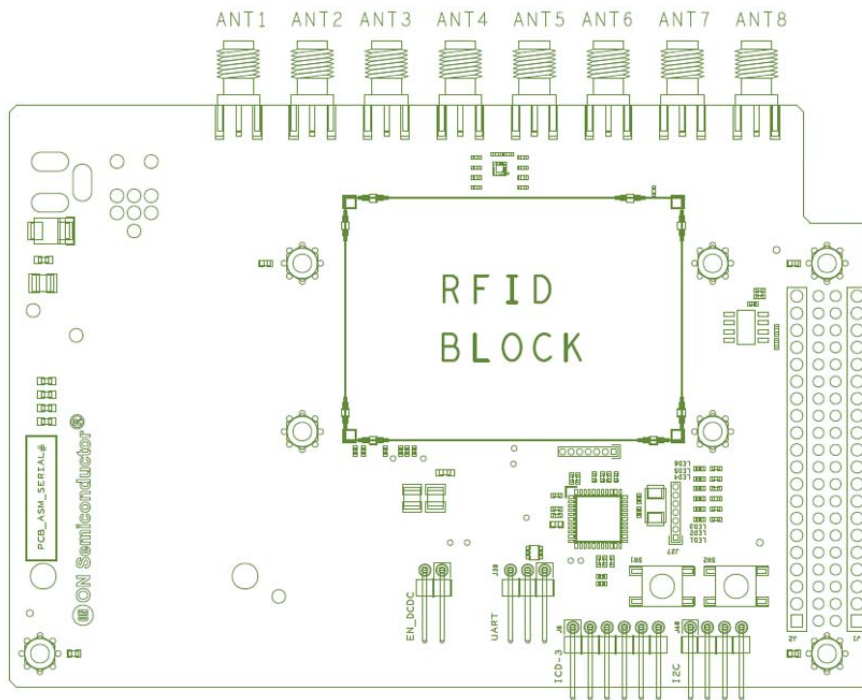


Figure 2. Assembly drawing of module, bottom side

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## SPS UHF READER INFORMATION

The SPSDEVRM1-8 is a reader module platform for Smart Passive Sensors. APIs are available that can be used to develop custom applications to read, analyze, and report data from SPS tags. Details on the functionality and performance of the reader module are provided below.

### Software Functionality

The reader module has a built in Radio API that communicates with the host processor through the UART interface on the reader module platform. This Radio API provides low level configuration and control of the reader module platform. In addition, there is a REST API that that can be ported to and run on the host processor. This REST API provides an easy to use high level interface for setting up the reader module platform and reading tag data from any custom application.


**Table 1. READER SPECIFICATIONS**

<b>Standard Compatibility</b>	EPC Global Gen2 UHF	ISO 18000-6C with DRM ISO 18000-6B (optional)
<b>Operating Frequency</b>	FCC ETSI	902-928 Mhz 865-868 MHz
<b>RF Output Power</b>	15 dBm to 30 dBm	
<b>RF Antenna Ports</b>	8	SMA 50 $\Omega$ connection
<b>VSWR</b>	1.1	
<b>Connectivity</b>	UART	
<b>Read Rate</b>	100 tags/second	
<b>SPS Sensor Read Rate</b>	1 sensor read/second	
<b>Max Receive Sensitivity</b>	-62 dBm	
<b>Power Supply Requirements</b>	7.5 V-40.0 V DC, 15W	1.7/4.0mm connector (DC Power)
<b>Standby Power Consumption</b>	0.250W	
<b>Storage Temperature</b>	-40°C to +85°C	
<b>Dimensions</b>	12.8 cm x 8.6 cm x 2.0 cm	
<b>Weight</b>	0.9 kg	

### NOTE:

1. RF output power adjustable through provided user software. User is responsible to ensure that appropriate antenna is selected to remain compatible with maximum system RF output power according to local regulations.

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