

### Overview

The WISE100H Wireless Module is the ideal solution for OEMs ready to take their products wireless. Whether you're in the development stage or ready to mass manufacture, the WISE100H will provide the reliable, standards-compliant, guaranteed performance you need.

### Product Highlights

#### **Pin compatible to the Ember EM250 RCM**

Affordably expand your development inventory, or seamlessly transition from development to production with a fully compatible and Ember recommended module.

#### **RF Performance Optimized and Guaranteed**

WiSE250 modules are thoroughly optimized and tested to ensure consistent, superior RF performance.

#### **Small Form Factor**

The WiSE250's minimal size - slightly smaller than the EM250 RCM, makes it easy to integrate into existing enclosures.



### Firmware

We can provide customized firmware on the module for our customers. Please contact us to discuss your application's needs.

### GPIO

17 GPIO connections (with alternate functions) are available on the module. (See the module connector pin-out on reverse.)

### Other Features

RoHS compliant modules available. Industry standard 128 bit AES compliant encryption engine.

### RF Characteristics

Outdoor LOS range 450m  
TX Power Up to 20 dBm  
RX Sensitivity -95 dBm (1% PER)  
Frequency ISM 2.405 - 2.475 GHz  
Data Rate 250 Kbps

### Power Requirements

Supply Voltage 2.7 - 3.6 VDC  
TX Current 165 mA (PA)  
RX Current 56 mA  
Idle / Napping Current 8.5 mA  
Sleep Current 0.6 uA  
Wake Up /Sleep Time 64 ms from/to Sleep < 1 ms from/to Idle / Napping

### Physical Specifications

Operating Temperature -40 to 85 °C / -40 to 185 °F  
Antenna – PCB “F” configuration.

#### **FCC / IC Compliance**

*This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.*

*RF Exposure Warning: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device must be installed in accordance with the provided instructions and must be operated with minimum 20 cm spacing between the antennas and all person's body during wireless mode of operation. Further, this transmitter must not be co-located or operated in conjunction with any other antenna or transmitter*

*Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

#### **When integrating the WISE100H into your own product, you must:**

Use only the provided antenna. Operate the module according to the specifications listed in this data sheet. Include a label clearly visible on the exterior of the product which states:

“Contains FCC ID: VFH-WISE100H / IC: 7195A-WISE100H”

It is mandatory that you consult all FCC and IC documentation for use of a modular approved product, and comply with all listed guidelines and additional testing that may be required.

#### **Ordering Information / Part Numbers**

WiSE100H, WISE100H RoHS compliant 2.4 GHz module with on board F antenna

### Module Connector Specifications

VBRD	1	2	VBRD	Connector	Samtec FTSH-114-03
GPIO[1]	3	4	GPIO[2]	VBRD	3.3 VDC
GPIO[12]	5	6	GPIO[0]	SPI	GPIO 0,1,2 Up to 920 Kbps
GPIO[3]	7	8	GPIO[11]	I2C	GPIO 1,2
GPIO[5]	9	10	GPIO[4]	UART	GPIO 9,10 RS232/485 Up to 115 Kbps
GPIO[7]	11	12	GPIO[6]	ADC (Analog to Digital)	GPIO 5,4,6,7 0-3.3V, 12 bit resolution
GPIO[9]	13	14	GPIO[8]	Timers	Two 16 bit general purpose timers and one 16 bit sleep timer
RSTB	15	16	GPIO[10]	Digital I/O	GPIO 1-17
GND	17	18	GND	Wakeup	All GPIOs
SIF_CLK	19	20	SIF_MISO	Hardware Interrupt	GPIO 8,14,15,16
SIF_MOSI	21	22	SIF_LOADB		
GPIO[16]	23	24	GPIO[15]		
GPIO[14]	25	26	GPIO[13]		
GND	27	28	GND		

### Module Footprint

