Overview

The WISE100 ZigBee 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 WiSE100 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.

Compliant Specifications

IEEE 802.15.4 ZigBee v1.0 (2004) ZigBee PRO draft

RF Characteristics

Outdoor LOS range 450m
TX Power Up to 10 dBm
RX Sensitivity -95 dBm (1% PER)
Frequency ISM 2.405 - 2.480 GHz
Data Rate 250 Kbps

Power Requirements

Supply Voltage 2.7 - 3.6 VDC

TX Current 165 mA (PA)
RX Current 35 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.

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 WISE100 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-WISE100 / IC: 7195A-WISE100"

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
WiSE100, WISE100 RoHS compliant 2.4 GHz module with on board F antenna

Module Connector Specifications

VBRD	1	2	VBRD
GPIO[1]	3	4	GPIO[2]
GPIO[12]	5	6	GPIO[0]
GPIO[3]	7	8	GPIO[11]
GPIO[5]	9	10	GPIO[4]
GPIO[7]	11	12	GPIO[6]
GPIO[9]	13	14	GPIO[8]
RSTB	15	16	GPIO[10]
GND	17	18	GND
SIF_CLK	19	20	SIF_MISO
SIF_MOSI	21	22	SIF_LOADB
GPIO[16]	23	24	GPIO[15]
GPIO[14]	25	26	GPIO[13]
GND	27	28	GND

Connector	Samtec FTSH-114-03
VBRD	3.3 VDC
SPI	GPIO 0,1,2 Up to 920 Kbps
I2C	GPIO 1,2
UART	GPIO 9,10 RS232/485 Up to 115 Kbps
ADC (Analog to Digital)	GPIO 5,4,6,7 0-3.3V, 12 bit resolution
Timers	Two 16 bit general purpose timers and one 16 bit sleep timer
Digital I/O	GPIO 1-17
Wakeup	All GPIOs
Hardware Interrupt	GPIO 8,14,15,16

Module Footprint