SM311

Features

. 860MHz to 960MHz freq range
. Multi-protocol
. Multi-regional
. 16 dBm output power
. Single antenna port
. Field programmable
. Compact size

Product Overview

The SM311 is a multi-protocol Ultra low cost UHF RFID Reader module. This module is designed for RFID applications with short to mid range requirements. Using highly integrated Reader architecture to ensure minimum component count, the SM311 delivers a competitive cost structure to enable UHF RFID functionality across a spectrum of RFID applications such as basic access control systems to compact handheld RFID Reader designs.

Semi or full customization of the reader module to fit application requirements is possible upon request. Smart ID offers quick design turn around time as all key design functional blocks are readily available in the design libraries.

Range

. Read range is up to 60 cm
  (Antenna dependant)
. Write is 70% of Read range

Protocols

. ISO18000-6C
. ISO18000-6B
. EPC Generation2
. EM Microelectronics-Marin SA

Ordering Information:

Model No	Region
SM311-NA	North America
SM311-EU	Europe
SM311-JP	Japan
SM311-CN	China
SM311-SK	Korea
SM311-TW	Taiwan
SM311-SG	Singapore
SM311-HK	Hong Kong
SM311-MY	Malaysia
SM311-IN	India

Electrical and RF Specifications

Parameter	Min	Typ	Max	Unit
RF Specifications				
Frequency	860		960	MHz
Channel Bandwidth	200		500	KHz
Carrier Frequency Shift		+/-5		ppm
Transmitter power		16		dBm
Antenna output impedance		50		Ohm
Power				
Supply Voltage	5.5	6	9.0	Vdc
Current		0.5		Amp
Current (Idle)		0.06		Amp
Serial Interface				
RS232 Baud rate	9.6		115.2	kbps

Environmental Specifications

Parameter	Min	Typ	Max	Units
Temperature				
Operating	-20		60	d celsius
Storage	-35		85	d celsius
Humidity	0%		90%	

Mechanical Specifications

Size	Values
LxBxH	78 x 50 x 4 mm
Weight	12g
Antenna connector	MMCX Jack Edge Mount
16-pin interfacing connector	Molex P/N: 522971685

SM311 Preliminary

Board diagram labeled IME_SmartID_V3SR_Jan2007. Dimensions: 78.0 mm width, 50.0 mm height. Left edge segments: 14.0 mm, 22.0 mm, 14.0 mm. Pin labels: GND, Vcc, Vcc, GND, B_Tx, Y_Rx, GND, In1, In2, Out1, Out2, GND, LBT_LED, Sen_LED, RFon_LED, Pon_LED.
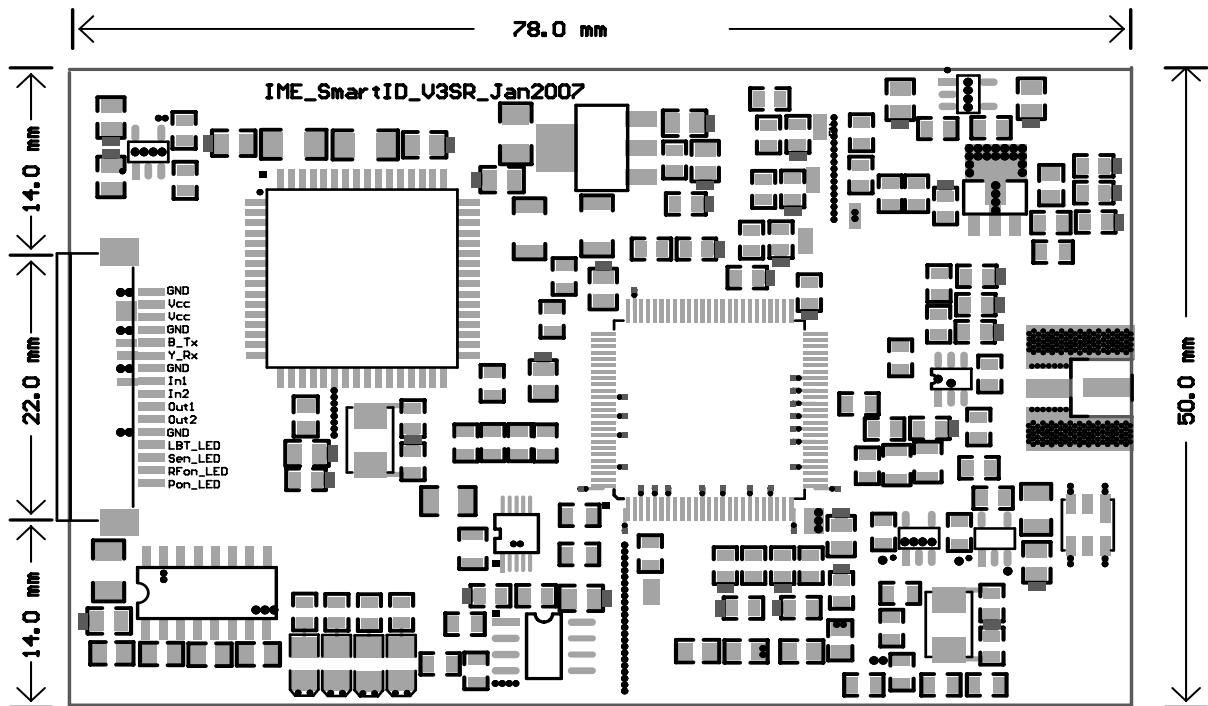
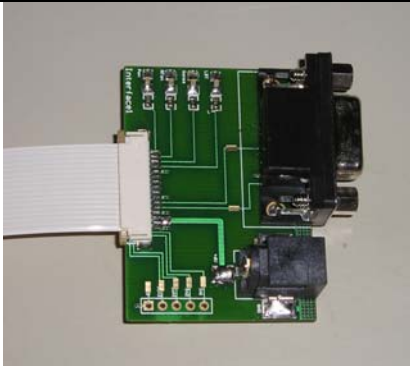| MMCX - Female	Description
Pin 1	GND
Pin 2	Vcc (5.5 to 9.0 V)
Pin 3	Vcc (5.5 to 9.0 V)
Pin 4	GND
Pin 5	RS232 (Tx to computer)
Pin 6	RS232 (Rx from computer)
Pin 7	GND
Pin 8	Input 1 (Active Low Reader enable)
Pin 9	Input 2 (To be defined)
Pin 10	Output 1 (To be defined)
Pin 11	Output 2 (To be defined)
Pin 12	GND
Pin 13	LBT_LED (To be connected to external LED)
Pin 14	Sense_LED (To be connected to external LED)
Pin 15	RF_On_LED (To be connected to external LED)
Pin 16	Pon_LED (To be connected to external LED)

Note:

1. Pins 1 to 7 are used to set the Reader in operational mode.

2. Pins 8 to 16 are optional

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Accessories Available

S/No.	Accessories	Comments

1.	
	Mobile adapter with cable
		SP-MA
		Adapter PCB comes with:
		- RS232 connector
		- Power supply connector
		-16-pin Molex connector.
		   Part no: 522071685 (Manufacturer: Molex)
		-15.2 cm Molex cable
		   Part no: 982670321 (Manufacturer: Molex)

2.	 Power Adapter	**SP-6V** - Variable Universal power adapter. - 3v to 7V.
3	 Extension Plug	**SA-PLUG** - SMA Male to MMCX Plug - Cable RG316 (length 10cm)

Precaution - Electrostatic Discharge (ESD) Sensitive Device
Electrostatic charges as high as 4000 Volts can easily accumulate on the human body and test equipments. ESD discharge to the reader module can result in permanent damage. To protect against ESD damage, proper ESD protection such as grounded wrist straps and work surfaces must be used.

Note: Other localized frequencies available upon request.

Note: Specifications subject to change without notice.

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