High Frequency OEM Boards

A number of boards are available for OEMs and System Integrators requiring powerful yet cost-effective capabilities for reading from and writing to high frequency (13.56MHz) tags and smart labels available from Gemplus, OMRON, Philips Semiconductors (I.CODE) and Texas Instruments (Tag-it).

Our MSR OEM boards are specifically intended for integrating within printers. However, low operating current, small size and a number of low power modes (including wake up on external digital command) make this product ideally suited for a range of embedded applications, including hand-held computers Point of Sale terminals and robotics.

A remote antenna arrangement may be used with this board, providing increased immunity to noise, and decreased sensitivity to the presence of metal. This approach also removes the requirement for in-situ tuning, allowing simpler installation and greater separation (up to 1m) between our OEM board and its antenna.

Product Features

- read/write support for 13.56MHz tags and smart labels from Gemplus (FOLIO70), OMRON, Philips Semiconductors (I.CODE) and Texas Instruments (Tag-it)

- supports a wide range of remote antennas

- single supply operation (+5V) at low current

- digital control of board power supply (board on/off)

- low power modes, with board wake up on external digital command and serial activity

- RS232 serial interface (optional TTL interface available)

- easy to program using a powerful serial protocol (which includes optional direct ASCII output of tag code on successful read)

- two software controlled digital outputs for status LEDs (on or off board)

- small board size (approximately 70 x 52 x 13mm), with EMI/RFI screens fitted

- In System Programmability (ISP) provides powerful capabilities for upgrading firmware for enhanced functionality and support of new tag types

Evaluation Pack

An Evaluation Pack is available for users who wish to assess the features and capabilities of this product. This Pack comprises a Communicator board, MS-DOS test software, our API/DLL Library and Microsoft Windows compatible ActiveX control, sample tags and comprehensive documentation, including a selection of Tag Application Notes.

Technical Specifications

Hardware Specifications

Processor	Type	AVR series RISC architecture micro-controller with In System Programming (ISP) capability
	Memory	EEPROM, 16kbytes expandable up to 64kbytes (non-volatile)
Communication Interface	Protocol	Serial, proprietary packet based with CRC
	Structure	9600 baud, 8 data bits, 1 stop bit, no parity (factory fit options available for alternative baud rates)
	Signal	TTL level communications (oem-msr1); RS232, bi-directional (oem-msr2)
External Interface	Connector	10-way male (mating part: Molex 51021-1000)
	Isolation	Tri-state buffer for board isolation on power-down
	Signal Inputs	Power on signal input (TTL input active high) Dedicated wake-up and tag read on digital input (TTL input active low)
	Indicators	Two software controlled LEDs
Power Supply	Input Voltage	+5V +/- 0.2V DC, less than 50mV noise and ripple
	Input Current	150mA
	Start-up	Soft start circuit
Operating Current	Off	<100µA (tri-state isolation)
	Standby	25mA
	Read/Write	125mA
Mechanical	Dimensions	(L) 70.00 x (W) 32.00 x (D) 27.00mm (oem-msr1) (L) 70.00 x (W) 51.50 x (D) 27.00 mm (oem-msr2)
	Weight	19g (oem-msr1); 28g (oem-msr2) - both weights without antenna

Order Codes and Tags Supported

OEM Boards	oem-msr1 oem-msr2	High frequency tags and smart labels from: **Gemplus** (FOLIO70), **OMRON**, **Philips Semiconductors** (I.CODE), **Texas Instruments** (Tag-it)
Evaluation Kits	ev-oem	Includes: oem-msr2 OEM Board; MS-DOS Test Software; RS232 serial protocol description; API/DLL libraries and ActiveX Control; Tag Application Notes and sample tags
Development Kits	sw-sdk	Includes all software tools to enable complete development and testing of software designed to control reader products available from id Systems.

id Systems design and manufacture a wide range of innovative RFID products, both for low (125/134kHz) and high (13.56MHz) frequency tags and smart labels available from leading vendors. Our wide product range provides transparent support for tags from different manufacturers, and includes OEM boards, hand-held readers, interfaces for popular hand-held computers, and fixed position readers. All are supported by powerful development libraries. We also work with partners to customise our core technologies for specific applications.

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