

# RFID Linecard

## RFID

RFID (Radio Frequency Identification) has become a widely spread, mature technology for recording data based on standardised protocols working in three frequency ranges:

Low Frequency = 120...134 kHz,  
 High Frequency = 13.56 MHz,  
 Ultra-High Frequency = 0.86...2.4 GHz.

Silica provides a comprehensive portfolio of RFID products like chips for tags and for readers as well as finished packaged products. If you need a custom tag for harsh environments or if you are looking for the best suitable RFID reader to integrate into your product, then Silica can help! Just email your queries to: [rfid@silica.com](mailto:rfid@silica.com)

	Readers ICs			Wafer & ICs			Transponders	
	LF	HF	UHF	LF	HF	UHF	LF	HF
Impinj			•					
NXP	•	•		•	•	•	•	
ST					•	•		
TI	•	•		•	•		•	•

## Product Highlight:

### The Silica Seriz Board for RFID/NFC Applications

Silica Seriz enables easy, fast and secure development of RFID and NFC applications. To migrate existing RFID products to a more secure solution the benefits of NFC can be added to the existing reader at very low additional cost.

More details at: [www.silica.com/seriz](http://www.silica.com/seriz)

## Hardware Features

- NXP PN 512 -13.56 MHz NFC Transceiver
- TDA 8029 Single card reader for supporting SAMs (Security Access Modules)
- G2XM S0T1122- Passive UHF RFID chip for board tracking identification
- Power Amplifier (for additional reading range)
- NXP Cortex M3 LPC1766
- USB Input voltage with rechargeable LI-ION battery
- 2 x 16 LCD display
- Ethernet Port, USB Host port, USB Device port
- JTAG and USB Debug ports



## Software Features

- Software sources ready to be compiled with the new free LPCXpresso IDE from NXP are provided
- Based on simple FreeRTOS kernel
- Supports Mifare Classic, Mifare Ultralight, Mifare Ultralight C, Mifare Desfire, Mifare Plus
- AES/3DES software libraries
- Generic support for protocols ISO 14443a, ISO 14443b, ISO 18092 (NFC peer to peer), Felica
- uIP software stack with Telnet/ Web Server demo
- USB Device stack software with CDC demo
- USB Host stack with FAT16/FAT32 support

Order details	Price
XYZPAYTECSERIZ01	270,- €



## RFID for PCB Tracking Solutions

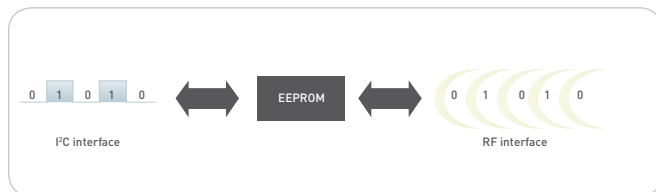
The technology for PCB (Printed Circuit Board) tracking has continually evolved from manual input to the use of linear and 2D barcodes. The next natural step of this evolution is RFID! Implementing RFID for tracking assets has proven to be difficult in the past. The main challenges consisted of the complexity and the size requirements of the antenna needed for tags in LF and HF frequencies. Silica now presents a new innovative solution from

NXP that perfectly fits the needs of PCB Tracking. The novelty of this solution is:

- Very small surface mount package compatible with standard pick and place machines
- Use of the ground plane of the PCB as antenna, reducing the space requirements for the application

## Dual Interface RFID – Merging Two Worlds

Dual Interface RFID products work like a RFID transponder and can be read and written by a standard RFID interrogator, in a passive way with no necessity of powering the device. The novelty is the presence of a bus that enables accessing the data in the transponder.



Beside PCB tracking Dual Interface RFID products enable a whole world of new applications like:

- Wireless parameters/firmware update, even with the device off
  - Configuration of a device for different countries before shipping in the warehouse - with the product already in the box
  - Configuration of product parameters onsite, using a handheld terminal
- Data logger: Download the log of your product using the RFID interface
- Product activation: Buy a product in a store disabled and enable during check-out

Silica offers different solutions working in LF, HF and UHF:



	NXP G2iL+	ST M24LR64	TI TMS37157
Frequency	UHF 840...960 MHz	HF 13.56 MHz	LF 134.2 kHz
RF Protocol	EPCglobal v.1.2.0	ISO 15693	-
Wired Bus	GPIO	I <sup>2</sup> C	SPI
Operating Range	Up to 5 m	Up to 1 m	Up to 1 m
User Memory	16 Bytes	64 kBits	121 Bytes
Factory Programmed Serial Number	64 Bits	64 Bits	32 Bits
Speed (RF)	-	26 kBits/s (read)	8 kBits/s
Protection	32-bits password	Sectors protect 32-bit passwords for both I <sup>2</sup> C and RF access	8 Bits password
Special Features			RF Energy can power external MCU