CAENRFID

R7104CU

Lepton⁷x4-USB

30dBm 4-Port USB RAIN RFID Reader Module

IMPINJ E710 Reader Chip

IMPINJ CONNECTED
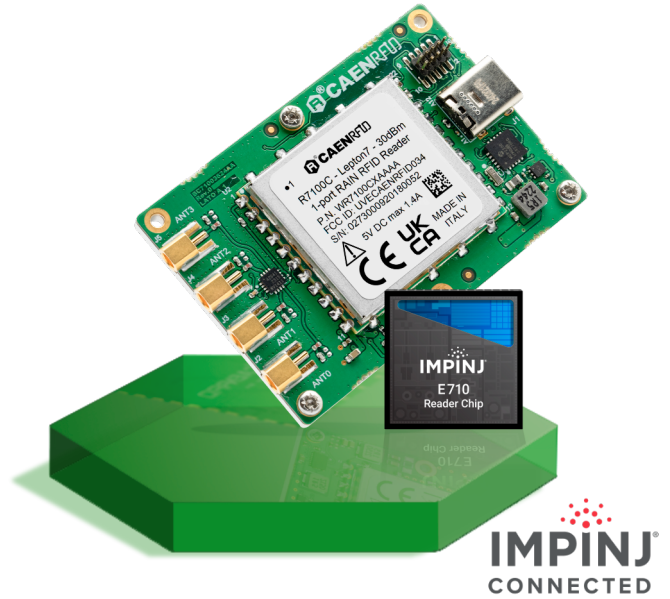
BENEFITS	Ultra compact size	High Sensitivity	USB Type-C connector	IOIOI Serial interface	MMCX antenna connector	Wide voltage range

Features

- *RAIN RFID (UHF EPC Class1 Gen2, ISO 18000-63) compliant*
- *Multiregional support*
- *Ultra compact size*
- *Up to 30 dBm (1 W) output power*
- *4 antenna ports*
- *USB Type-C interface (Virtual COM)*
- *Low power consumption*

Applications

- *High-performance, long-range RAIN RFID readers*
- *Handheld devices*
- *Multiregional label printers and applicators*
- *Points of sale readers*
- *Fixed mount readers for scan tunnels and logistic portals*

Overview

The **Lepton⁷x4-USB** (Model R7104CU), an embedded reader of the easy2read© product line, is an ultra compact reader for low power, high performance RAIN RFID applications.

With programmable output power from 10 dBm to 30 dBm, the reader can detect tags at more than 5 m of distance (depending on antenna and tag dimensions).
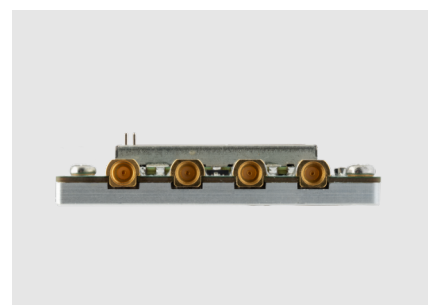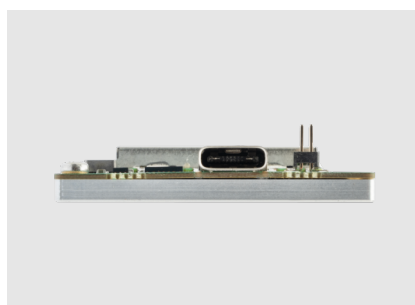
Due to its high power and sensitivity, the module is well suited to design industry-leading, dense tag environment RAIN RFID readers.

The radio frequency core of the module is based on the **Impinj E710** IC that permits to achieve fast reading speed and to be used in dense reader and dense tag environments for top-class rated performances.

The compactness of the device allows to embed the **Lepton⁷x4-USB** inside industrial readers, and other compact form factor devices.

The **Lepton⁷x4-USB** complies with and can operate in both European and US regulatory environments and, thanks to its multiregional capabilities, it's ideal for integration in devices requiring compliance to different geographical regions.

The **Lepton⁷x4-USB** is designed on the basis of the **Lepton⁷** with the aim to facilitate the integration for those who prefer to use connectors instead of automatic manufacturing required by the SMD form factor.

Technical Specification Table

Frequency Range	• 865.600÷867.600 MHz (ETSI EN 302 208 v. 3.3.1) • 902÷928 MHz (FCC part 15.247)
RF Power	Configurable from 10 dBm to 30 dBm (from 10 mW to 1 W) conducted power
RX Sensitivity	• -85 dBm - 10%PER, assuming 20 dB antenna RL @ 30 dBm output
Antenna VSWR Requir.	< 2:1 for optimal performance
Antenna Connectors	4 MMCX jacks
Frequency Tolerance	± 10 ppm over the entire temperature range
Number of Channels	• 4 channels (compliant to ETSI EN 302 208 v. 3.3.1) • 50 hopping channels (compliant to FCC part 15.247)
Standard Compliance	EPC Class 1 Gen 2 - ISO18000-63

Connectivity	• USB Type-C Virtual COM Port
	• Communication parameters:
	  • Baudrate from 9.6 to 921.6 kbps, default 921.6 kbps
	  • Databits: 8
	  • Stopbit: 1
	  • Parity: none
	  • Flow control: none
	• 3.3 V I/O voltage level

I/O Interface	• 4 I/O lines 3.3 V level • Iout = 8 mA max.
Power Supply	• 4.75 ÷ 5.25 V DC
Power Consumption	• 8W max @ RF out = 30 dBm • 80mW in idle mode - Ready to receive commands
Dimensions	• (L)61 x (W)42 x (H)9.1 mm³ /2.40 x 1.65 x 0.36 inches³
Operating Temperature	-20 °C to +70 °C
Weight	34 g

Ordering Options

WR7104CUXAAA	Lepton7x4-USB - 30dBm Reader Mod.

RAIN RFID