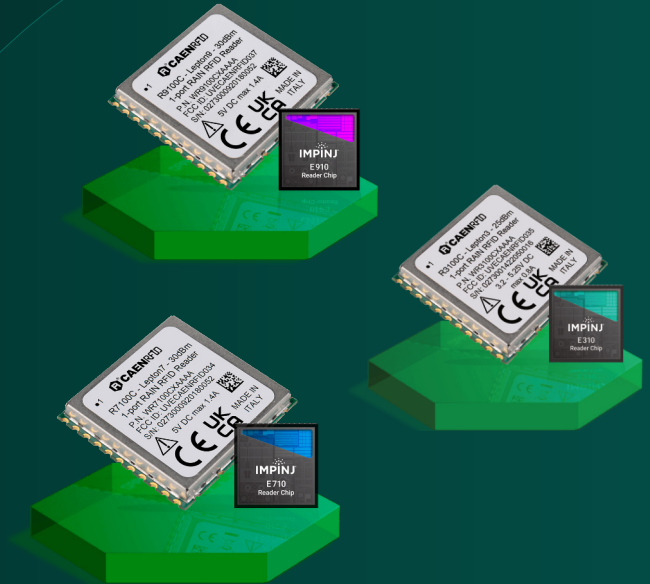


UHF | RAIN - Reader Module CAEN - Lepton^{3,7,9}

- RAIN RFID (UHF EPC Class1 Gen2, ISO 18000-63) compliant
- Up to 30 dBm (1 W) output power
- Ultra compact size
- Serial interface (TTL Levels)
- Low power consumption



UHF | RAIN - RFID Module Core Module

CAEN RFID's Lepton reader modules are embedded readers of the easy2read® product line. These ultra-compact readers are designed for low power, high performance RAIN RFID applications.

With a programmable output power of up to 30 dBm, the readers can detect tags at a distance of more than 10 m (depending on the reader IC, antenna, tag dimensions and environment). The radio frequency core of the modules is based on Impinj's RAIN RFID reader chips (E310, E710 or E910), which enables fast reading speeds and high performance in dense reader and tag environments.

Due to their high sensitivity, the modules are well suited for the development of industry-leading RAIN RFID readers for dense tag environments. The device's compact size and surface-mount technology allow Lepton reader modules to be embedded in small form factor industrial handhelds, smartphone accessories and other compact form factor devices.

The Lepton reader module is compliant and can operate in both European and US regulatory environments, and its multi-regional capabilities make it ideal for integration into devices requiring compliance in different geographical regions. The Lepton reader modules are pin-to-pin compatible with the Impinj RS1000 and RS500 modules, making them a perfect replacement for these devices.

Common Applications

- Handheld devices
- Vehicle mounted readers
- Point of Care
- Point of Sale
- Industrial Automation
- Warehouse & Logistic



TECHNICAL SPECIFICATIONS

Contactless Interface

Operating Frequency	865.600÷867.600 MHz (ETSI EN 302 208 v. 3.3.1) 902÷928 MHz (FCC part 15.247)
Supported Standards	EPC Class 1 Gen 2 - ISO18000-63
RF Power	Lepton ³ : 0 - 25 dBm (1 - 316 mW) Lepton ⁷ : 0 - 30 dBm (1 - 1000 mW) Lepton ⁹ : 0 - 30 dBm (1 - 1000 mW)
RX Sensitivity	Lepton ³ : -72 dBm - 10%PER (@ 20 db antenna & 25 dBm output) Lepton ⁷ : -85 dBm - 10%PER (@ 20 db antenna & 30 dBm output) Lepton ⁹ : -90 dBm - 10%PER (@ 20 db antenna & 30 dBm output)
Antenna VSWR Requirement	< 2:1 for optimal performance
Antenna Connectors	50 Ohm mono-static RF port on a single pin
Sensitivity	± 10 ppm over the entire temperature range
Number of Channels	4 channels (ETSI EN 302 208 V. 3.3.1) 50 hopping channels (FCC part 15.247)
Operation Modes	N/A

Host Interface

Interface	TTL - UART
Protocol	Serial Protocol
Interface Settings:	Baudrate: 9.6 to 921.6 kbps Databits: 8 Stopbit: 1 Parity: none Flow control: none
I/O Level	3.3 V

Physical Characteristics

Dimension	32.0 x 29.0 x 4.1 mm
Weight	5,4 g
Connector Type	32 pin surface mount module (SMT compatible)
IP Protection	N/A
Temperature	-20 °C to +70 °C
Humidity	N/A

Electrical Characteristics

Voltage	3.2 ÷ 5.25 V DC
Consumption	Lepton ³ : 800mA @ 5V RF - Out =25dBm 5 mA in idle mode - Ready to receive commands Lepton ⁷ & Lepton ⁹ : 1.4 A @ 5V - RF Out =30dBm 5 mA in idle mode - Ready to receive commands
I/O Interface	4 I/O lines 3.3V level @ 8 mA max.
LED	N/A

Certifications & Compliances

Certifications	CE, UKCA, FCC, REACH & RoHS
Compliances	RAIN ALLIANCE (ISO18000-63)

Drivers & Support

Supported OS	Works with any OS & µC
Supported Libraries	Visual C, .NET Standard 2.0, Swift, Java & Light C
Tools	Software Development Kit

Part No. / Model

25-RRM-C01-0001-01	Lepton ³ - Impinj E310
25-RRM-C01-0002-01	Lepton ⁷ - Impinj E710
25-RRM-C01-0002-01	Lepton ⁹ - Impinj E910