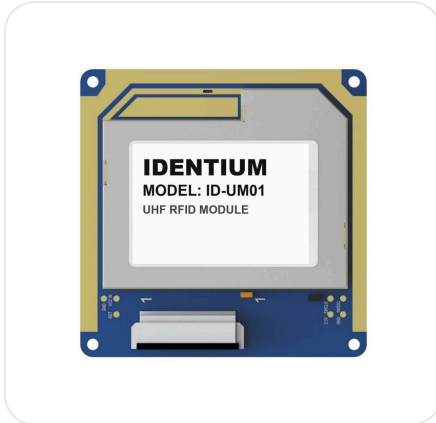




UHF RFID Module with Integrated Ceramic Antenna ID-UM01 (E310, UART)

Model ID-UM01 · Brand: Identium



A 45.5 mm square UHF RFID reader module with its 2.5 dBi ceramic antenna built in, for engineers embedding UHF reading in handheld terminals, desktop encoders, kiosks and portable devices. E310 chip, 5–33 dBm output, over 350 tags/s peak, UART and GPIO.

KEY FEATURES

- **Works with Identium ReaderSense — desktop configuration, live inventory, AISense tuning and Auto Mode HTTP POST; SDKs for Windows, Linux and Android**
- **Integrated 2.5 dBi ceramic antenna: no external antenna, cable or RF connector needed**
- **E310 chip, EPC Gen2; over 350 tags/s peak, RSSI and phase per tag, 1,000-tag buffer**
- 5–33 dBm in 1 dB steps (30 dBm max on the India build); over 4 m read range, depending on the tag and surroundings
- UART 9600–921600 bps and 2 in / 2 out GPIO on a 12-pin FPC; optional 5-pin harness
- Covers 860–960 MHz, including India's 865–868 MHz band; band confirmed with your order
- Works with Identium ReaderSense; SDKs for Windows, Linux and Android, with C, C#.NET and Java APIs

APPLICATIONS

Handheld RFID terminals

Desktop tag encoders

All-in-one readers

RFID kiosks

Portable devices

Warehousing and logistics

Production lines

Inspection stations

SPECIFICATIONS

Model	ID-UM01
Type	UHF RFID reader module with integrated antenna, for embedding in your own device
Chip	Impinj E310
Processor	ARM Cortex-M4 (32-bit) with FPU, MPU and DSP, up to 200 MHz, 512 KB flash

Protocol	EPCglobal UHF Class 1 Gen 2 (ISO 18000-6C)
Frequency	Hardware covers 860–960 MHz, which includes India's 865–868 MHz band; one regional profile active at a time, preset before dispatch or set by command; confirm the band with your order
Regional profiles	India 865–868 MHz, Europe 865–868 MHz, North America 902–928 MHz, China 920–925 MHz, Vietnam 918–923 MHz, Japan 916–921 MHz, Korea 917–921 MHz, open 860–960 MHz; others within 860–960 MHz on request
Frequency step	250 / 500 kHz; frequency error ± 10 ppm at 25 °C
Operating mode	Fixed frequency or frequency hopping, selectable
Output power	5–33 dBm (± 1 dB), adjustable in 1 dB steps; 30 dBm maximum on the regional builds for India, Europe, the US, Japan, Korea and Vietnam
Power flatness	± 1 dB; accuracy –2 to 0 dB
Receive sensitivity	–73 dBm at 10 % BER
Adjacent channel leakage	–45 dB (1st adjacent), –65 dB (2nd adjacent)
Spurious emissions (conducted)	–60 dBm 2nd harmonic, –50 dBm 3rd harmonic
Antenna	Integrated ceramic patch, 2.5 dBi; no external antenna, cable or connector needed
Read range	Over 4 m with the integrated antenna; depends on the tag and its surroundings
Peak inventory rate	Over 350 tags/s
Tag buffer	1,000 tags at 96-bit EPC
Tag data	RSSI and phase per tag; temperature-tag inventory supported
Measurement accuracy	Tag RSSI ± 3 dB and phase $\pm 5^\circ$ at –60 dBm; module temperature ± 4 °C
Interface	UART (TTL), 9600–921600 bps; default 115200 bps, 8N1
GPIO	2 inputs and 2 outputs, 3.3 V TTL
Connectors	12-pin FFC/FPC, 1.0 mm pitch, bottom-contact drawer type (full interface); 5-pin harness connector, 1.25 mm pitch, optional (power and UART only)
12-pin FPC pinout	1 VCC, 2 VCC, 3 GND, 4 GND, 5 EN, 6 OUT2, 7 IN1, 8 IN2, 9 RXD, 10 TXD, 11 RST (active low), 12 OUT1
5-pin harness pinout	1 GND, 2 EN, 3 RXD, 4 TXD, 5 VCC
Enable (EN)	HIGH = active; LOW = power-down; drive EN high to run, don't leave it unconnected

Start-up	About 100 ms after power-up; commands sent earlier are not answered
SDK	Windows, Linux and Android SDKs; C, C#/.NET and Java APIs
Desktop software	Works with Identium ReaderSense: configuration, live inventory, AISense tuning, Auto Mode HTTP POST
Supply voltage	3.6–5.25 V DC
Consumption, peak	6.5 W (1.3 A at 5 V) at 33 dBm; 5 W at 30 dBm
Consumption, standby	0.85 W normal standby; 0.03 W low-power standby
Power-down	0.25 mW
Dimensions	45.5 × 45.5 × 9.3 mm (L × W × H)
Mounting	4 × Ø1.8 mm mounting holes
Weight	39.2 g
PCB	FR4, gold plated
Shield	Stainless steel
Cooling	External heat sink, air cooled
ESD	±2 kV contact discharge at the antenna port (IEC 61000-4-2 level 1)
Operating temperature	–25 °C to +65 °C
Storage temperature	–40 °C to +85 °C
Humidity	5–95 % RH, non-condensing at +25 °C