1128 Bluetooth® UHF RFID READER

High performance, Bluetooth® Wireless enabled UHF RFID reader

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Data Collection Performance Like No Other

The TSL® 1128 Bluetooth® UHF RFID reader provides new levels of RFID performance. With its R2000 core and range of interchangeable high-performance antennas, the 1128 performs like no other reader giving the user the highest levels of flexibility currently available in today's market.

Designed to read and write to EPC Class 1 Gen 2 (ISO18000-6C) tags, the 1128 can also be configured with class leading high performance 2D barcode data scanning to bring unparalleled data collection capabilities to any host it is connected to. The 2D imager engine incorporates fast-pulse illumination and fast sensor shutter speeds, delivering outstanding motion tolerance and class leading 1D and 2D data capture.

Platform Independent UHF RFID Reader

Use existing Bluetooth® wireless technology enabled1 host devices including Enterprise Handhelds, Consumer Phones, Touchscreen MP3 players, Tablets and PC's – the 1128 will bring high performance RFID and 2D scanning to all these devices running a wide range of Operating Systems.

AS Easy AS ABC…

The new 1128 Bluetooth® UHF RFID reader incorporates TSL's unique ASCII protocol for faster and easier application development. This sophisticated parameterised ASCII protocol provides the developer a powerful set of commands that carry out multiple actions locally within the reader. This approach enables multiple tag operations executed using simple pre-configured ASCII commands which not only speeds integration of the reader into applications but also abstracts the developer from some of the complexities of the underlying Native API and ultimately results in un-paralleled levels of performance.

A Configuration To Suit Your Application

The choice of host device is yours - from low cost touchscreen MP3 players through to fully featured Enterprise Handheld Terminals. The choice of ergonomic style includes a compact slimline grip through to a comfortable trigger handle for scan intensive RFID and 2D bar code data collection applications.

EPC data can be stored on an optional Micro SD memory card (up to 500 million transponder EPCs on a 32GB card - separate purchase from alternative supplier). This provides the ability to collect and log data even if USB or Bluetooth® communication channels are not available.

Hardware Platform Independence

Operates with wide variety of Bluetooth® wireless technology enabled host devices including touchscreen MP3 players, phones, tablets, Enterprise Handhelds and PC's.

OS Independence

Operates with Android, iOS, Windows 10, 8, 7, Vista, XP, Windows Mobile, Windows CE, and Windows Phone.

Batch Data Collection

Removable high capacity Micro SD data card and real time clock for extended batch data collection independent of host connection.

Flexible Configuration

Unique interchangeable high performance antennas including optional 2D scanning and trigger handle with a range of device specific mounts for holding phones and MP3 players.

High Performance Barcode Scanning

Integrated 2D imaging engine provides class leading barcode scan performance via its unique patent pending fast pulse illumination which delivers outstanding motion tolerance and class leading 1D and 2D data capture.

Specifications

Physical and Environmental Characteristics

Dimensions (LxWxH):	16.0 cm x 7.7 cm x 16.9 cm – Trigger handle. 16.0 cm x 7.7 cm x 9.7 cm – Slimline grip.
Weight:	375 g / 13.2 oz (including battery & trigger handle).
User input:	Trigger button.
User feedback:	Speaker, vibration motor, LED.
Power:	Removable, rechargeable 3.7V, 2400mAh, 8.9Wh Lithium Polymer battery pack.
Minimum operating time[1]:	Light use[2]: 6 hrs Moderate use[3]: 3.5 hrs Heavy use[4]: 1.5 hrs
Enclosure materials:	Polycarbonate.

Performance Characteristics

RFID engine:	TSL® custom module with embedded Impinj R2000.
Communication protocols:	TSL® ASCII 2.0 parameterised command set Impinj binary.
Memory:	Optional Micro SD card (maximum 32GB capacity supported). Up to 500 million date and time stamped EPCs can be stored on a 32GB Micro SD card (separate purchase from alternative supplier).
Compatible Host devices (Bluetooth®):	Any Bluetooth® Host[5] supporting the Serial Port Profile (SPP) or Human Interface Device (HID) profile (Android, iOS, Linux, Mac, Windows).
Compatible Host devices (USB):	Any USB host with FTDI VCP driver support (Windows, Linux, Mac, Android).

Environmental

Operating Temp.:	-10°C to 40°C (14°F to 104°F).
Charging Temp.:	5°C to 40°C (41°F to 104°F).
Storage Temp.:	Less than 1 month at -20°C to +45°C (-4°F to 113°F). Less than 6 months at -20°C to +35°C (-4°F to 95°F).
Humidity:	5% to 85% non-condensing.
Drop Spec:	Multiple drops to concrete: 4 ft./1.2 m ambient, 3ft / 0.9m across the operating temperature range.
Tumble:	500 0.5 metre tumbles at room temperature (1,000 cycles).
Environmental Sealing:	IP54.
Electrostatic Discharge (ESD):	± 15kVdc air discharge; ± 8kVdc contact discharge.
MIL-STD 810F:	Meets and exceeds applicable MIL-STD 810F for drop, tumble and sealing.

RFID Performance

Standards supported:	EPC Class 1 Gen 2.
Nominal read range[6]:	Up to 5.5 m (18 ft).
Nominal write range[6]:	Up to 2 m (6.5 ft).
Field:	150-degree forward facing (approx.) measured from front of device.

Antenna:	Detachable, Circularly Polarized with optional 2D scanner.
Frequency Range:	EU: 865-868MHz; US: 902-928MHz. See Page 5 for other regions.
Maximum Output Power:	Up to 29 dBm (region dependent) + 3.0 dBiC Antenna
Antenna options:	High Performance CP. High Performance CP with 2D Imager.

Barcode Scanning

Optional 2D Barcode Engine:	Optional TSL® custom 2D Barcode Scan Engine module.
Sensor Resolution:	1280 x 960 pixels, rolling shutter
Field of View:	Horizontal: 44.5°, vertical: 33.5°
Focal Distance:	From front of engine: 15.24 cm (6 in.)
Aiming LED:	Green LED
Illumination:	1 warm white LED
Symbologies Supported:	1D: All major codes 2D: PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode Postal Codes: US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX).

Ranges[7]:

Barcode	Near	Far
5 mil Code 39	6.1 cm	24.1 cm
5 mil Code 128	7.1 cm	22.9 cm
6.67 mil PDF 417	6.1 cm	20.3 cm
10 mil DataMatrix	7.4 cm	21.6 cm
100% UPCA	4.6 cm	49.5 cm
15 mil QR	3.0 cm	29.2 cm
20 mil QR	3.0 cm	35.6 cm

Communication

Bluetooth®:	Bluetooth® Version 2.1.
Bluetooth® Frequency Range:	2.4 - 2.4835 GHz.
Bluetooth® Profiles:	SPP Profile, HID Profile, Apple iAP.
Bluetooth® Power:	Class 2.
Bluetooth® TX Power:	3 dBm.
Bluetooth® Range[8]:	30 m.
Bluetooth® Pairing:	PIN, Simple Secure Pairing, NFC OOB Pairing.

[1] Minimum operating time figures are based on new units that have been stored, charged and operated within the stated Environmental Specifications. Units stored over 3 months must be recharged every 3 months. Number of transponders in the environment affects minimum operating time.

[2] Light Use: Continuous RFID inventories for 20s of every 120s

[3] Moderate Use: Continuous RFID inventories for 10s of every 30s

[4] Heavy Use: Continuous RFID inventories for 59s of every 60s

[5] Compatible Bluetooth® stack required in the Host device

[6] Tag Read/Write performance is dependent on tag type, items tagged, number of tags in the field and other radio and environmental factors

[7] Artificial lighting can affect scanning performance

[8] Open field

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