

1128 BLUETOOTH® UHF RFID READER HIGH PERFORMANCE, BLUETOOTH® WIRELESS ENABLED UHF RFID READER

RFID-only Antenna with Slimline Grip

Custom Mount for Datalogic Skorpio X3





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. The 1128 *Bluetooth*[®] UHF RFID reader can also be tethered to a PC using a USB cable.

Extensive software support is available for a wide range of platforms including code samples, demonstration applications and source code.



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.



Trigger Handle and 2D UHF antenna



Modular design

Features:

High Performance *Bluetooth*® Multi-modal Data Capture

UHF RFID and 2D barcode data capture in one integrated *Bluetooth*[®] device.

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

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:	Light use": 9 hrs Moderate use": 5 hrs Heavy use": 2.5 hrs "Light Use: Continuous RFID inventories for 20s of every 120s "Moderate Use: Continuous RFID inventories for 10s of every 30s "Heavy Use: Continuous RFID inventories for 59s of every 60s		
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 (<i>Bluetooth</i> [®]):	Any <i>Bluetooth</i> [®] Host ¹ supporting the Serial Port Profile (SPP) or Human Interface Device (HID) profile (Android, iOS, Linux, Mac, Windows). See <i>Bluetooth</i> [®] Mode Comparison.		
Compatible Host devices (USB):	Any USB host with FTDI VCP driver support (Windows, Linux, Mac, Android).		

-10°C to 40°C (14°F to 104°F).

Less than 1 month at -20°C to +45°C (-4°F

Less than 6 months at -20°C to +35°C (-4°F

500 0.5 metre tumbles at room temperature

± 15kVdc air discharge; ± 8kVdc contact

Meets and exceeds applicable MIL-STD 810F for drop, tumble and sealing.

Multiple drops to concrete: 4 ft./1.2 m ambient, 3ft / 0.9m across the operating

5°C to 40°C (41°F to 104°F).

5% to 85% non-condensing.

temperature range.

(1,000 cycles).

IP54.

discharge.

to 113°F).

to 95°F).

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 Up to 29 dBm (region dependant) + 3.0 dBiC Antenna Power: 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 ³ :	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.	
<i>Bluetooth[®]</i> 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® Range4:	30 m.	
Bluetooth [®] Pairing:	PIN, Simple Secure Pairing, NFC OOB Pairing.	

Compatible Bluetooth® stack required in the Host device

² Tag Read/Write performance is dependent on tag type, items tagged, number of tags in the field and other radio and environmental factors

³Artificial lighting can affect scanning performance

Open field

RFID Performance

Environmental
Operating Temp.:

Charging Temp.: Storage Temp.:

Humidity: Drop Spec:

Tumble:

Sealing:

Environmental

Electrostatic

Discharge (ESD):

MIL-STD 810F:

Standards supported:	EPC Class 1 Gen 2.	
Nominal read range ² :	Up to 5.5 m (18 ft).	
Nominal write range ² :	Up to 2 m (6.5 ft).	

*These specifications only apply to TSL 1128 Readers manufactured from November 2021 onwards, or with antenna serial numbers starting 1128-S2.

Peripherals and Accessories

External interface:	MicroUSB connector for battery charging, and USB connectivity.
USB operating modes:	Tethered for real time data capture in conjunction with SmartWedge software. Download of stored scan data.
Optional charger:	TSL® 2136 4-Slot desktop charger.
Other Accessories:	Adapter mounts are available for a variety of smartphones handheld terminals. Slimline Grip, Trigger Handle. See page 6 for more information.

Regulatory

Regions	EU (CE), USA (FCC), Canada, Australia and more (see page 5 for details)		
FCC ID	S6J1128		
IC	8948A-1128		
EMC	EN 55032:2015 +A11:2020 EN 55035:2017 +A11:2020 47 CFR Part 15B ICES-003:2020 Issue 7		
RF	EN 300 328 V2.2.2 EN 302 208 V3.2.0 EN 301 489-1 V2.2.3 EN 301 489-3 V2.1.1 EN 301 489-17 V3.2.4 47 CFR Part 15C 15.247 RSS-247 Issue 1		
Electrical Safety	IEC 62368-1:2018 EN 62368-1:2020 +A11:2020 UL 62368-1:2019 CAN/CSA C22.2 No. 62368-1:19		
Environmental	2011/65/EU (RoHS 2) Restriction of the use of certain Hazardous Substances in electrical and electronic equipment 2015/863 (RoHS 3) Amendment to Annex II of 2011/65/EU		

Warranty

The TSL[®] 1128 reader is warranted against defects in workmanship and materials for a period of one year (12 months) from date of shipment, provided the product remains unmodified and is operated under normal and proper conditions.

Terms

"Made for iPod," "Made for iPhone," and "Made for iPad" mean that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

iPad, iPhone, iPod and iPod touch are trademarks of Apple Inc., registered in the U.S. and other countries.

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TSL® RFID Apps



RFID Explorer www.tsl.com/apps/ rfid-explorer



www.tsl.com/apps/ rfid-tag-finder



RFID Scan Scan Write www.tsl.com/apps/ rfid-scan-scan-write



TSL® Reader Configuration www.tsl.com/apps/tslreader-configuration

EXAMPLE CONFIGURATIONS



1128 PART NUMBER LIST

Countries				Part Numbers	Operating Frequency	
Albania Andorra Austria Belgium Bosnia & Herzegovina Bulgaria Bhutan Croatia Cyprus Czech Republic Denmark Estonia Falkland Islands Finland France French Guiana	Hunga Icelan Ireland Italy Jersey Latvia Liecht Lithua	any e land sey bloupe ary d d d v enstein nia nbourg	Martinique Monaco Montenegro Netherlands Norway Poland Portugal Romania Slovakia Slovenia Spain Sweden Switzerland UAE United Kingdom (UK)	With 2D barcode imager: 1128-EU-BT-UHF-IMG No barcode imager: 1128-EU-BT-UHF-A1	865 – 868 MHz 4 Channels	
United States of An (USA) Guam Guatemala Northern Mariana Is		Canada Ecuador Puerto R	ico	With 2D barcode imager: 1128-US-BT-UHF-IMG No barcode imager: 1128-US-BT-UHF-A1	902 – 928 MHz 50 Channels	
Australia		-		1128-AU-BT-UHF-IMG 1128-AU-BT-UHF-A1	920 – 926 MHz 12 Channels	
Bangladesh				1128-BD-BT-UHF-IMG 1128-BD-BT-UHF-A1	925 – 927 MHz 4 Channels	
Brazil				1128-BR-BT-UHF-IMG 1128-BR-BT-UHF-A1	902 – 907.5, 915 – 928 MHz 50 Channels	
Chile				1128-CL-BT-UHF-IMG 1128-CL-BT-UHF-A1	913 – 919, 925 – 928 MHz 14 Channels, Power Limited: 500mW EIRP Max	
China		1128-CN-BT-UHF-IMG 1128-CN-BT-UHF-A1	920.5 – 924.5 MHz 16 Channels			
Colombia		1128-CO-BT-UHF-IMG 1128-CO-BT-UHF-A1	915 – 928 MHz 24 Channels			
El Salvador				1128-SV-BT-UHF-IMG 1128-SV-BT-UHF-A1	915 – 928 MHz 24 Channels	
Hong Kong				1128-HK-BT-UHF-IMG 1128-HK-BT-UHF-A1	920 – 925 MHz 8 Channels	
India				1128-IN-BT-UHF-IMG 1128-IN-BT-UHF-A1	865 – 867 MHz 3 Channels	
Japan				1128-JP-BT-UHF-IMG 1128-JP-BT-UHF-A1	920 – 925 MHz, 3 Channels Power Limited: 500mW EIRP Max	
Malaysia				1128-MY-BT-UHF-IMG 1128-MY-BT-UHF-A1	919 – 923 MHz 6 Channels	
Peru		1128-PE-BT-UHF-IMG 1128-PE-BT-UHF-A1	916 – 928 MHz 23 Channels			
Singapore (Licence Free)		1128-XS-BT-UHF-IMG 1128-XS-BT-UHF-A1	920 – 925 MHz 8 Channels, Power Limited: 500mW ERP Max			
Singapore (Licence Required)		1128-SG-BT-UHF-IMG 1128-SG-BT-UHF-A1	920 – 925 MHz 8 Channels			
South Korea		1128-KR-BT-UHF-IMG 1128-KR-BT-UHF-A1	917 – 923.5 MHz 6 Channels			
Taiwan		1128-TW-BT-UHF-IMG 1128-TW-BT-UHF-A1	922 – 928 MHz 10 Channels			
Thailand (Licence Required)		1128-TH-BT-UHF-IMG 1128-TH-BT-UHF-A1	920 – 925 MHz 8 Channels			
Vietnam				1128-VN-BT-UHF-IMG 1128-VN-BT-UHF-A1	918 – 923 MHz 8 Channels, Power Limited: 500mW ERP Max	

If you are interested in purchasing for a country/region that is not listed above, please contact enquiries@tsl.com for assistance.

1128 PART NUMBER LIST

Accessories	Part Number
Charging and Docking	
Docking Cradle Kit for 1128 UHF RFID Reader	1128-CRD-02-KIT
4-Slot Battery Charger Kit	2136-01-4WMS-CHG
Spare Battery for 1128/2128 UHF Reader	1128-00-BA-2000
Grip handles	
Slimline Grip attachment.	1128-SLG
Holsters	
Belt Holster for 1128 Slimline Grip	1128-HOLST-01-SLG
Belt Holster for 1128/2128 with Trigger Handle	1128-HOLST-01-TRG
Slide-on Mounts	
iPad Mini (1 st gen) Mount	1128-MNT-IPADMINI
iPad Mini (4 th gen) Mount	1128-MNT-IPADMINI4
iPad Air (2 nd gen) Mount	1128-MNT-IPADAIR2
iPhone 4 Mount	1128-MNT-IPHN4G
iPhone 5 Mount	1128-MNT-IPHN5G
iPhone 6 (4.7") Mount	1128-MNT-IPHN6G
iPhone 6 Plus (5.5") Mount	1128-MNT-IPHN6PLUS
iPhone 7 (4.7") Mount	1128-MNT-IPHN7G
iPhone 7 Plus (5.5") Mount	1128-MNT-IPHN7PLUS
iPhone 8 (4.7") Mount	1128-MNT-IPHN8G
iPhone 8 Plus (5.5") Mount	1128-MNT-IPHN8PLUS
iPhone 11 Mount	1128-MNT-IPHN-11
iPhone 11 Pro Mount	1128-MNT-IPHN-11-PRO
iPhone 11 Pro Max Mount	1128-MNT-IPHN-11-PRO- MAX
iPhone 12 Mount	1128-MNT-IPHN-12
iPhone 12 Mini Mount	1128-MNT-IPHN12-MINI
iPhone 12 Pro Max Mount	1128-MNT-IPHN12-PRO- MAX
iPhone 13 Mount	1128-MNT-IPHN-13
iPhone 13 Mini Mount	1128-MNT-IPHN13-MINI
iPhone 13 Pro Mount	1128-MNT-IPHN13-PRO
iPhone 13 Pro Max Mount	1128-MNT-IPHN13-PRO- MAX
iPhone X (5.8") Mount	1128-MNT-IPHN-X
iPhone XR Mount	1128-MNT-IPHN-XR
iPhone XS Mount	1128-MNT-IPHN-XS
iPhone XS Max Mount	1128-MNT-IPHN-XS-MAX
iPod touch (4 th gen) Mount	1128-MNT-IPOD4G
iPod touch (5 th gen) Mount	1128-MNT-IPOD5G
iPod touch (6 th gen) Mount	1128-MNT-IPOD6G
iPod touch (7 th gen) Mount	1128-MNT-IPOD7G
Galaxy Nexus Mount	1128-MNT-NEXUS
Motorola MC2100 Mount*	1128-MNT-MC2100*
Motorola MC40 Mount*	1128-MNT-MC40*

Motorola MC45 Mount*	1128-MNT-MC45*
Moto G (1 st gen) Mount	1128-MNT-MOTOG
Moto G (2 nd gen) Mount	1128-MNT-MOTO-G-GEN2
Moto G (3 rd gen) Mount	1128-MNT-MOTO-G-GEN3
Moto G (5 th gen) Mount	1128-MNT-MOTO-G-GEN5
Motorola ES400 Mount*	1128-MNT-ES400
Motorola TC55 Mount*	1128-MNT-TC55-01*
Samsung Galaxy J5 Mount	1128-MNT-GALAXY-J5
Samsung Galaxy S4 Mount	1128-MNT-GALAXY-S4
Samsung Galaxy S5 Mount	1128-MNT-GALAXY-S5
Samsung Galaxy S7 Mount	1128-MNT-GALAXY-S7
Nokia 1520 Mount	1128-MNT-NK1520
1128 Slide-on Pop-Loq® Mount Adapter	1128-PL

* Currently available in SLS RP materials only. Other handheld device mounts available by special request (volume dependent).

ABOUT

ABOUT TSL®



Technology Solutions UK Ltd (TSL[®]), part of HID Global, is a leading manufacturer of high performance mobile RFID readers used to identify and track products, assets, data or personnel.

For over two decades, TSL[®] has delivered innovative data capture solutions to Fortune 500 companies around the world using a global network of distributors and system integrators. Specialist in-house teams design all aspects of the finished products and software ecosystems, including electronics, firmware, application development tools, RF design and injection mould tooling.

TSL® is an ISO 9001:2015 certified company.



ISO 9001: 2015

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ABOUT HID GLOBAL



HID Global powers the trusted identities of the world's people, places and things. We make it possible for people to transact safely, work productively and travel freely. Our trusted identity solutions give **people** convenient access to physical and digital **places** and connect **things** that can be identified, verified and tracked digitally. Millions of people around the world use HID products and services to navigate their everyday lives, and billions of things are connected through HID technology. We work with governments, educational institutions, hospitals, financial institutions, industrial businesses and some of the most innovative companies on the planet. Headquartered in Austin, Texas, HID Global has over 4,000 employees worldwide and operates international offices that support more than 100 countries. HID Global is an ASSA ABLOY Group brand.

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