TECHNOLOGY SOLUTIONS UK LTD

1166 *BLUETOOTH*® RUGGED UHF RFID READER

PRELIMINARY SPECIFICATION

A Tough-Enough UHF RFID Reader

TSL's new 1166 *Bluetooth*® Rugged UHF RFID reader provides high performance UHF RFID reading in a tough and rugged form factor. The reader is highly resistant to water, dust and mechanical trauma. A high capacity battery enables non-stop operation of the reader over the full working day. Designed to read and write to EPC Class 1 Gen 2 (ISO18000-6C) tags, the 1166 can also be configured with class leading high performance 2D data scanning to bring unparalleled data collection capabilities to any host it is connected to.

Platform Independence

Use existing *Bluetooth*® wireless technology enabled[1] host devices including Enterprise Handhelds, Consumer Phones, Touchscreen MP3 players, Tablets and PC's – the 1166 will bring high performance RFID and 2D scanning to all these devices running a wide range of Operating Systems.

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

Speedy integration - ASCII 2 Protocol

The new 1166 Rugged *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.

Customise Your Solution

The choice of host device is yours - from low cost touchscreen MP3 players through to fully featured Enterprise Handheld Terminals. Devices can be mounted on top of the reader using an elegant push-lock adapter, enabling a one-piece solution. EPC data can be stored on the on-board micro SD card (at least 25 million Transponder EPCs on a typical 2GB card). This allows logging of all transponder EPC readings and provides the ability to collect data even if USB or *Bluetooth*® communication channels are not available.

Bluetooth®

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 iOS (pending), Windows Mobile, Windows Phone 8, WinCE, Windows 10/8/7/Vista/XP and Android™.

Batch Mode Operation
Real time clock for extended batch data collection independent of host connection. Store millions of tags and barcodes with date and time stamping

High Performance barcode scanning
A range of optional barcode engines can be specified to provide 2D data capture up to 15m

Physical and Environmental Characteristics

Dimensions:	177x94x170 mm (LxWxH)
Weight:	800g (inc. battery)
User input:	Single stage trigger
User feedback:	Speaker, vibration motor, LEDs
Power:	Rechargeable Lithium Ion removeable battery pack (11.25V, 2950mAh, 33.2Wh)
Enclosure materials:	Polycarbonate and TPU (Thermoplastic Polyurethane)

Performance Characteristics

RFID engine:	TSL custom module with embedded Impinj R2000
Communication protocols:	TSL ASCII 2 Protocol (Parameterised ASCII command set) Impinj binary
Memory:	Embedded 2GB internal NAND storage
Compatible Host devices (*Bluetooth*®):	Android, iOS (pending), Windows CE, Windows Phone 8, Windows Mobile 5/6.1/6.5 or Windows 10/8/7/Vista/XP. Host device must have *Bluetooth*® wireless technology functionality
Compatible Host devices (USB):	Any USB host with FTDI VCP driver support (Windows, Linux, Mac, Android)

Environmental

Operating Temp.:	-4°F to 140°F / -20°C to 60°C
Charging Temp.:	41°F to 104°F / 5°C to 40°C
Storage Temp.:	-40°F to 158°F / -40°C to 70°C
Humidity:	5% to 95% non-condensing
Drop Spec:	TBD
Tumble:	TBD
Environmental Sealing:	TBD
Electrostatic Discharge (ESD):	± 15kVdc air discharge; ± 8kVdc contact discharge
MIL-STD 810F:	TBD

RFID Performance

Standards supported:	EPC Class 1 Gen 2 and EPC C1G2 (TBD)
Nominal read range[2]:	Up to 6m
Field:	150-degree forward facing (approx.) measured from front of device
Antenna:	Circularly Polarized
Frequency Range:	EU: 865-868MHz; US: 902-928MHz
Output Power:	10mW to 1 W

Barcode Scanning

2D Imager options include:	Motorola SE4500, Intermec EX25, Honeywell EA31

Motorola Imager Specifications:		
	Sensor Resolution:	752 x 480 pixels
	Field of View:	Horizontal: 40°, Vertical: 25°
	Focal Distance:	SR: 8 in. DL: 5.3 in. HD: 2.9 in.
	Aiming LED (VLD):	655 ±10 nm Laser
	Illumination:	625 ±5 nm LEDs (2x)
	Min. Print Contrast:	Minimum 25%
	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]:	DL Focus	Near	Far
	5 mil Code 39	36 mm	185 mm
	100% UPC	41 mm	305 mm
	5 mil PDF417	71 mm	114 mm

Bluetooth® wireless technology

Bluetooth®:	*Bluetooth*® Version 2.1 (optional v4.0 / 4.1 BLE)
Bluetooth® Profiles:	SPP and Apple iApp - or - *Bluetooth*® HID (configurable)
Bluetooth® Class:	Class 1
Bluetooth® Range4:	100m
Bluetooth® pairing:	PIN, Simple Secure Pairing, NFC OOB Pairing (TBA)

Peripherals and Accessories

External interface:	8-way sealed connector with gold plated contacts
Bundled accessories:	Battery
Other accessories available:	Docking Station with power and Mini USB cable. Adapter mounts for a variety of smartphones, handheld terminals and touchscreen devices

Regulatory

General:	Approved for use in the US and EU at launch. (Proposed: Canada, Europe, China, Singapore, Taiwan, Korea and Australia)
Electrical Safety:	(Proposed: UL60950-1, CSA C22.2 No. 60950-1, IEC 60950-1, EN 60950-1)
EMI/RFI:	(Proposed: USA: FCC Part 15, Canada: ICES 003 Class B, EU: EN 301 489-3, EN 301 489-1, EN 301 489-17, EN 302-208, EN55022 Class B, EN55024)
Laser Safety:	(Proposed: IEC Class2/FDA Class II in accordance with IEC60825-1/EN60825-1, 21CFR1040.10)

Part Numbers

1166-EX1 (ETSI/Europe) 1166-AX1 (FCC/North America)	1166 *Bluetooth*® Rugged UHF Reader, no imager, includes battery
1166-ES1 (ETSI/Europe) 1166-AS1 (FCC/North America)	1166 *Bluetooth*® Rugged UHF Reader, 2D imager, includes battery
1166-CRD-01-KIT	1166 Docking Station, 65W PSU and Mini USB cable
IEC-1M-UK (UK Plug, 1m) IEC-1.8M-US (US Plug, 1.8m) IEC-1.8M-EU (EU Plug, 1.8m)	1x region-specific mains power cable

WARRANTY

Warranty

The TSL 1166 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.

[1] 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
[3] Artificial lighting can affect scanning performance
[4] Open field

Terms

The *Bluetooth*® word mark and logos are registered trademarks owned by *Bluetooth* SIG, Inc. and any use of such marks by Technology Solutions UK Ltd is under license. Other trademarks and trade names are those of their respective owners.

ABOUT TSL

TSL designs and manufactures both standard and custom embedded, snap on and standalone peripherals for handheld computer terminals. Embedded technologies include:

- RFID - Low Frequency, High Frequency & UHF
- *Bluetooth*® wireless technology
- Contact Smartcard
- Fingerprint Biometrics
- 1D and 2D Barcode Scanning
- Magnetic Card Readers
- OCR-B and ePassport

Utilizing class leading Industrial design, TSL develops products from concept through to high volume manufacture for Blue Chip companies around the world. Using the above technologies TSL develops innovative products in a timely and cost effective manner for a broad range of handheld devices.

CONTACT

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ISO 9001: 2008

ViewSonic®
See the difference®

42" Full HD 1080p Commercial Display

Optimized Entertainment for Hospitality Environments

Versatility and good looks go hand-in-hand in a display destined to shine in any retail, restaurant or other commercial environment. Loaded with control, management and connectivity features, the ViewSonic® CDE4200-L 42" commercial LED display makes it easy to deploy and maintain multiple screens throughout your establishment. From in-room entertainment to eye-catching digital signage to stunning sport coverage, guests will enjoy vibrant multimedia content – while you enjoy the convenience of customizable, automated multi-screen control. Plus, with a sleek, glossy finish, slim bezel and glass stand, it's sure to add appeal to any décor.

Key Features:

Full HD 1080p resolution, 350-nits brightness, 3000:1 contrast ratio

6.5ms response time

RS232 with IR pass-through for simplified management of display settings

HDMI CEC pass-through for content management on multiple devices

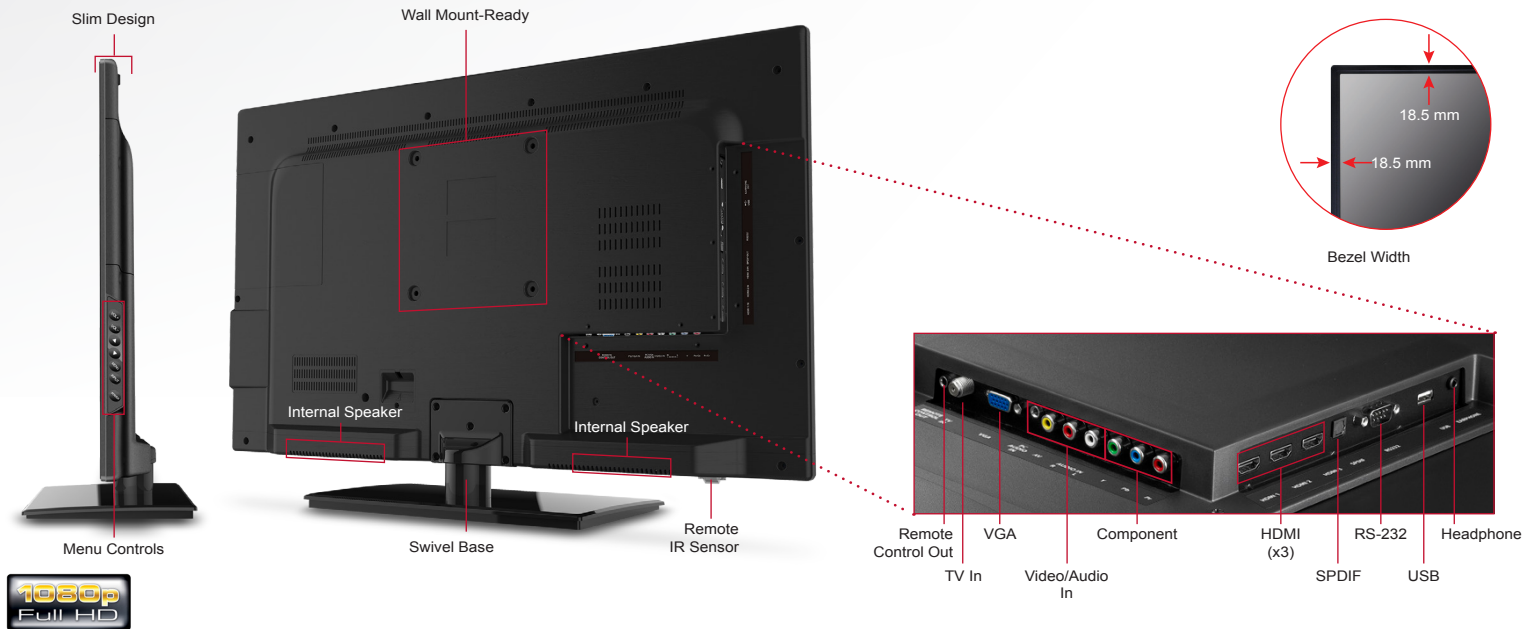**HDMI (x3), VGA, Composite, and YPbPr for versatile connectivity**

Designed for:

Hospitality

Retail

Business

ViewSonic®
See the difference®

42" Full HD 1080p Commercial Display

CDE4200-L

Slim Design

Wall Mount-Ready

18.5 mm

18.5 mm

Bezel Width

Internal Speaker

Internal Speaker

Menu Controls

Swivel Base

Remote IR Sensor

Remote Control Out

VGA

Component

HDMI (x3)

RS-232

Headphone

TV In

Video/Audio In

SPDIF

USB

1080p Full HD

Specifications

PANEL		
	Type	42" color TFT active matrix wide LCD with WLED Backlight
	Display Area	36.6" horizontal x 20.6" vertical; 42" diagonal
	Optimum Resolution	1920x1080
	Contrast Ratio	3000:1 (typ)
	Viewing Angles	170º horizontal, 170º vertical
	Response Time	6.5ms
	Light Source	Long life, 30,000 hrs. (typ)
	Brightness	350 cd/m²
	Aspect Ratio	16:9
	Panel Surface	Anti-glare, Hard coating 3H

INPUT		
	Video Input	HDMI, component, VGA, CVBS
	Control Input/Output	RS232, RJ45
	USB 2.0	JPEG, MP3

AUDIO OUTPUT	Speakers	Internal 10-watt (x2), SPDIF optical

INPUT SIGNAL	TV/Video Comp	480i, 480p, 720p, 1080i, 1080p

CONNECTOR		
	Analog	15-pin mini D-sub (VGA), RCA Audio In, headphone out
	Digital	HDMI (x3), YPbPr, CVBS, SPDIF, USB
	Power	3-pin plug

CONTROLS		
	Panel	Menu, VOL -/+, Down/Up, Input, Power
	Picture	Picture Mode, Brightness, Contrast, Color, Tint, Sharpness, Backlight, Screen Size, Auto Adjust, H. Position, V.Position, Clock, Phase, Color Temperature, Dynamic Contrast, Film Mode, Noise Reduction, MPEG Noise Reduction
	Sound	Sound Setting, Digital Audio Output, Equalizer Setting, SRS Setting
	Parental	Lock Parent Control, V-Chip, Movie Rating, English Rating, French Rating, Block UnRated Show, Change Password, Keypad Lock, Source Lock, System Lock

CONTROLS (CONT.)		
	Setup	Closed Caption, Menu Language, Clock, OSD Transparency, Time Zone, Auto Clock, Setup Time, Day of Week, Daylight Saving Time, Time Format, OSD Timer
	Others	Blue Back, No Signal Power Off, No Operation Power Off, All Reset, Audio Only, Display ID, Usage Monitor

ERGONOMICS	Swivel	-15º to +15º

POWER		
	Voltage	AC 100-240V (universal), 50-60Hz
	Consumption	59W (typ)

OPERATING CONDITIONS		
	Temperature	32-104ºF (0–40ºC)
	Humidity	20-80% (non-condensing)

DIMENSIONS (W x H x D)		
	Physical With Stand	38.4 x 24.6 x 8.2 in. / 974.2 x 626 x 210 mm
	Physical Without Stand	38.4 x 22.3 x 2.5 in. / 974.2 x 567 x 64.4 mm
	Packaging	47.2 x 27.6 x 5.6 in. / 1200 x 700 x 143 mm

BEZEL DIMENSIONS		
	Left/Right	18.5mm / 18.5mm
	Top/Bottom	18.5mm / 18.5mm

WEIGHT		
	Net Without Stand	35.4 lbs / 16.1 kg
	Net With Stand	29.2 lbs / 13.3 kg
	Gross	34.0 lbs / 15.4 kg

WALL MOUNT	VESA Compatible®	200 x 200 mm

REGULATIONS		FCC, CE, UL, RoHS

RECYCLE/DISPOSAL		Please dispose of in accordance with local, state, or federal laws

WARRANTY		Three-year limited warranty on parts, labor and backlight

Optional Accessories

Wall Mount.. WMK-013

What's in the box?

CDE4200-L display, power cable, remote control with batteries, swivel base, User Guide, Quick Start Guide

HDMI® HIGH DEFINITION MULTIMEDIA INTERFACE

SRS® TruSurround HD

TUV NORD ISO 9001 - 2008

TUV NORD ISO 14001 - 2004

ViewSonic Corporation's QMS & EMS have been registered to ISO 9001 & ISO 14001, respectively, by TUV NORD.

www.viewsonic.com

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We Rent & Sell All Types Of Barcode Equipment

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Some brands we carry

About us
- Legacy Technology Services is a leading nationwide provider of mobile computing, barcode, printers and point of sale equipment and services.

- For over a decade, thousands of clients across North America have trusted us to provide equipment from leading manufacturers backed by the services to support them.

Latest Hardware from top manufacturers
- Legacy handles virtually every major manufacturer of mobile computing, barcoding and point of sale equipment.

Expert Repair and Maintenance services
- Legacy is one of the best repair facilities in North America

Discontinued product sourcing
- They don't make it anymore? Our inventory also includes manufacturer close-outs and discontinued equipment to support our clients legacy infrastructure.

Trade-in and Disposal services
- That old equipment laying around your facility may still have some value. Legacy routinely purchases equipment from our clients around the globe.
  - Data destruction
  - Hardware disposal
  - Auditing services

Dedicated client account team
- Dedicated, highly trained account managers are here to answer all your questions and provide top notch service.

Equipment rental services
- Sometimes renting is a better solution, Legacy's huge rental inventory provides the equipment you need for temporary needs and projects.

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