Product – Datasheet

UHF Long Range - SDK

iDTRONIC's UHF Long Range Reader/Writer UHF-LR is a high performance reader (R/W), which can reach reading distances of up to 10 meters (depending on tag + antenna configuration). It is based on Intel R1000 transceiver. It can be configured to operate with frequency range of 860–960 MHz, which makes it usable in Europe, US and Japan. The UHF Long Range Reader/Writer UHF-LR has also an integrated 4 channel multiplexer for the direct control of up to 4 antennas. Thanks to the software control of the antenna outputs, it is possible to use it for many different configurations. The maximum RF output power is 2W. The configuration possibilities make it easy to adapt this device to a range of applications.

General features –Reader / Writer:

- Software configurable frequency (860–960MHz)
- Software programmable RF Power (up to 2W RF)
- RF Operating Distance up to 10meters (at 1W RF)
- Field upgradeable firmware via USB port
- Dense Reader Mode
- "Listen before talk" feature
- High sensitivity up to -98dBm
- Anti-Self Jamming (ASJ) Technology option
- Supports ISO18000-6 Part B & C UHF tags (Gen2 + EPC included)
- ETSI + FCC operation
- Drivers for Windows and Linux
- Integrated 4CH Multiplexer for the control of up to 4 antennas

iDTRONIC's UHF long range antenna is a circular polarized high performance device which enables the UHF long range reader to have reading distance up to 10 metres. Through his circular polarized setting, the user will be able to read out the tags in multiple 3D orientations (Subject to local regulations).

General features - Antenna:

- Stable performance
- Circular polarized
- Easy to integrate with UHF-LR Reader
- Able to read out multiple orientated tags
- Operation RF Frequency range of 865 - 956MHz

The iDTRONIC UHF-LR LR SDK is specially configured for developing UHF Long Range applications. It is a complete solution in hard- and software, including software tools with drivers, demo applications and source code. The SDK includes the full set of hardware, which is necessary to start the development of your specific application.

UHF-LR Starter Kit content:

- 1 pc. UHF Long Range Reader / Writer
- 1 pc. UHF Long Range Antenna with circular polarization
- 1 pc. Antenna cable.
- 1 pc. Power supply
- 1 pc. SDK (incl. Manuals; Programming Guide and Software) for Linux and Windows.

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UHF reader specification:

Power supply:	5V – 1,5 Amp (1 Watt TX/RX operation) 400mA (standby mode) 100mA (sleep mode)
Reading range:	up to 10m (tag & antenna configuration dependent)
Status indicators:	Multi-colour LED indicators
Interfaces:	Standard ESD-protected RS232 serial interface USB interface
Output Power:	Software adjustable in 0,1dBm steps
Multi-Reader environment:	Dense Reader Mode (DRM) “Listen Before Talk” Anti-Self Jamming (ASJ Technology (Option))
RF Interface:	4 x SMA (Monostatic)
RF Rating:	Up to 2W (Software programmable)
Supported transponders:	Supports ISO 18000-6 Part B+C UHF tags (incl. Gen2 + EPC)
Receiver sensitivity:	Up to -98dBm
Firmware upgrade:	Firmware upgradeable via USB
Operating frequency:	860 – 960MHz (Software selectable)
Temperature range:	-10℃ up to 60℃
Material:	Robust High Strength & resilient extruded aluminium enclosure
Weight:	200 g
Dimensions:	120 x 105 x 21mm
Software Kit:	Testing Software for Windows XP SDK for Linux and Windows Source code for example applications (Linux and Windows) Scan library with .dll file and .lib file Different user manuals for hard- and software
Developer Support:	Full E-mail and phone support
Software Compatibility:	C# and Microsoft Visual Studio 2005

Antenna specification:

Description:	Plastic + Aluminum with chemical conversion coating (Based)
Frequency:	865 - 956MHz
Dimensions:	190 x 190 x 30 mm
RF Rating:	6W (max)
Weight approx.:	800g
Interface:	1 x SMA connector (N-Type Female)
Operating distance:	Up to 10M @ 1watt (Reader and Tag dependent)
Operating temperature:	-10℃ to +60℃
Gain:	865-870 MHz @ 7 dBic (min) 902-928 MHz @ 7.5 dBic (min) 950-956 MHz @ 6.5 dBic (min)
Polarization:	RHCP
Axial Ratio:	865-870 MHz @ 3 dB (max) 902-928 MHz @ 1.3 dB (max) 950-956 MHz @ 2.5 dB (max)
VSWR:	1,2 : 1 (typ) 1,35 : 1 (max)
3dB beamwidth:	AZ: 74°(typ) EL: 72°(typ)
Front to Back Ratio:	-18dB (max)

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