

## Get the Xtenna™ Advantage

### Implementing an RFID solution?

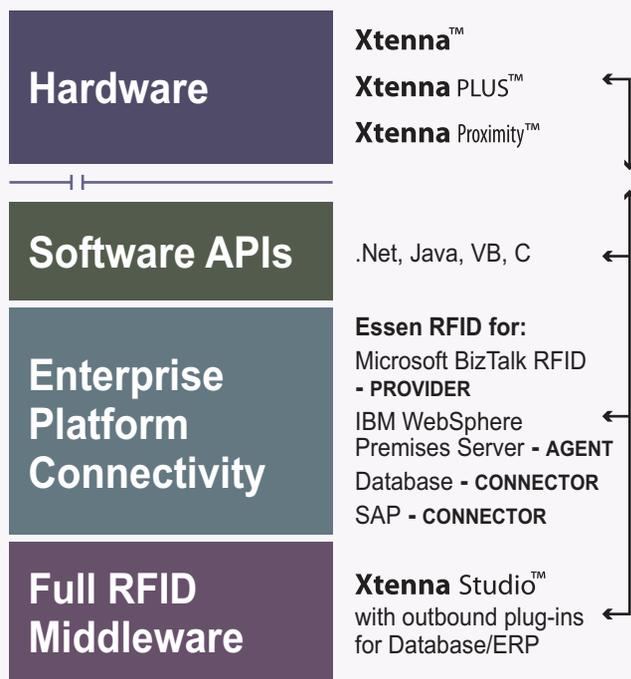
from small start-ups to enterprise level applications – innovative technology for every business

### What makes Essen RFID different?

Bringing ready-to-use RFID integration, Essen's Xtenna™ is a power-extended RF Antenna Reader that offers dual circular UHF long-range RFID antennas, reader and power supply in a single convenient, compact unit. Using innovative technology, Essen RFID overcomes limitations of traditional RFID, giving enhanced performance while saving cost.

- Reads up to 17 meters (55 ft.) as against a traditional read distance of 5-6 meters (16-20 ft.)
- Special RFID tags that read metal, liquids, people on the move, at distances up to 42 meters (140 ft.)
- Seamless connectivity to Microsoft BizTalk RFID and IBM WebSphere Premises Server platforms
- Choice of \*free-license software connectivity through APIs, through existing middleware, or through Essen's own RFID middleware platform – Xtenna Studio™

**Greater performance, lower cost**



### A one-stop solution for all your RFID needs

**Essen RFID and Xtenna™ – integrates, extends, improves, simplifies, fully scalable, saves cost, maximizes value; helps your business take the next step forward.**

## Xtenna™

### Dual Circular Polarized Antennas with Integrated RFID Reader

An innovation that overcomes current RFID shortcomings, extends reach, improves and optimizes operations, and therefore extends functionality beyond existing applications - Essen's Xtenna™ is a ready-to-use integrated RFID device that gives superior performance, is convenient to use, extremely cost-effective and offers faster ROI.

#### Specifications

- Frequency bands - (US/EU/India/Korea/China)
- Device powered through Power-over-Ethernet (PoE)
- TCP/IP based interface - RJ45
- Bi-static antennas with separate receive/transmit lobes
- Firmware upgradable
- Certifications - meets RoHS, MIC, ETSI & FCC standards, IP 54 compliant, IP 65 (optional)

#### Advantages

- Single integrated unit, easily mountable
- Eliminates need for a regular on-site power source
- Simple plug-and-play device
- Overcomes RF limitations
- Only requires inexpensive CAT-6 cable that carries 48V DC power simultaneously along with data, allowing the device to be powered from a distance of upto 330 ft.
- Lossless digital transmission
- Supports Dense Reader Mode
- Remotely manageable

**Provides enterprise level seamless connectivity with Middleware (Microsoft BizTalk RFID, IBM WebSphere Premises Server), Paid/Free Databases (IBM DB2, Oracle, MySQL) and ERP applications (SAP)**

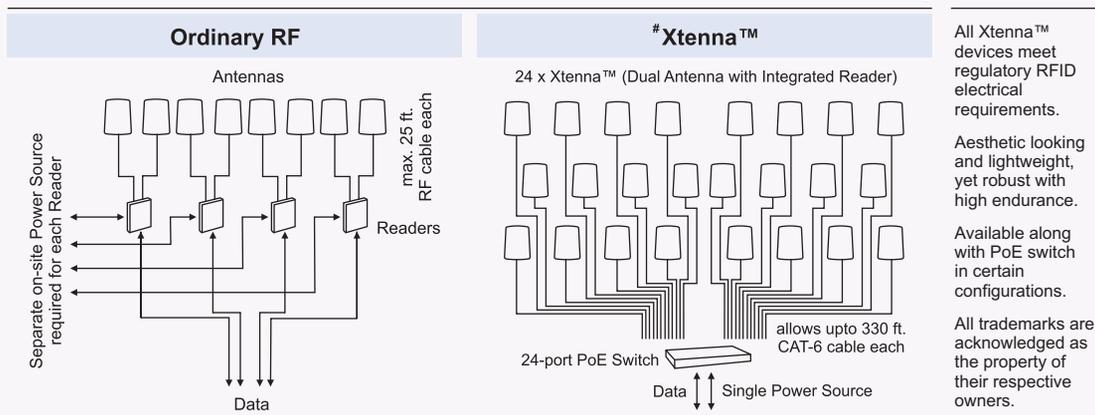


**Longer read range: upto 17 mtrs (a distance of 3 full-size car lengths) using Passive UHF tags**



#### Comparison

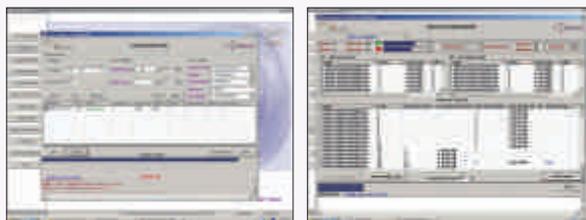
# Patent Pending



## Solutions for Small & Medium Enterprises

### Xtenna™ Toolkit

Consists of the remotely manageable software component of Xtenna™ RFID hardware. Contains various specifications and settings for device setup and management, such as protocol, configuration, region, power output, TCP/IP settings, etc.



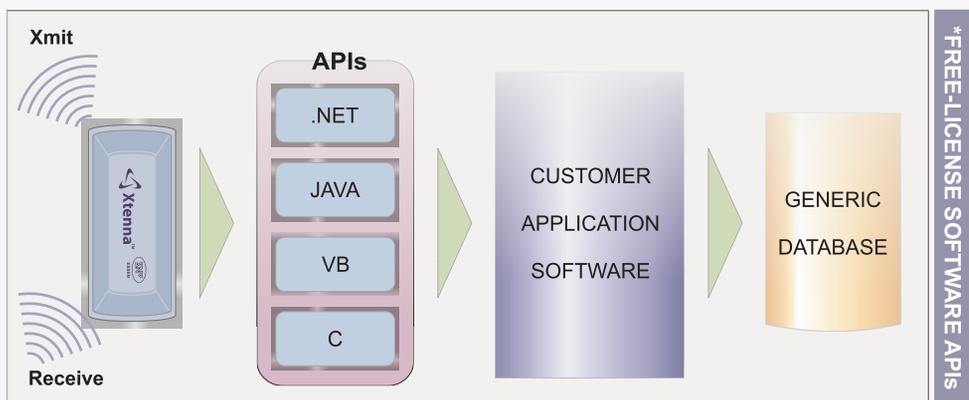
### Software APIs

Integrators that act as an interface between the Xtenna™ RFID hardware device and the front end application.

Available in VB and C (MS Windows), and Java (MS Windows/Linux)

Can also be converted to .NET using VB ActiveX (MS Windows)

Typical usage in smaller customer applications such as **Parking Management**, **Asset Tracking**, etc.



## Solutions for Large Enterprises

### Enterprise Middleware Platform Connectivity

Essen's Xtenna™ range of RFID devices can be easily controlled through enterprise middleware platforms such as Microsoft BizTalk RFID and IBM WebSphere Premises Server, as well as through generic middleware platforms. Essen RFID offers enterprise-wide seamless end-to-end connectivity through **\*FREE-LICENSE** software components (refer to the following paragraph below) that connect and communicate between Xtenna™ RFID hardware, enterprise middleware platforms and the application layer. By enabling connectivity between the RFID device and the middleware on the one hand, and between the middleware and databases/applications on the other, Essen RFID brings all the advantages, benefits and savings of Xtenna™ to existing large-scale deployments such as **Warehouse Management**, **Personnel Tracking**, **Inventory Management**, **Shelf Life Optimization**, **Cold Chain Monitoring**, etc.

Essen RFID's components for middleware platform connectivity consist of **BizTalk RFID – PROVIDER** and **WebSphere Premises Server – AGENT** for existing enterprise middleware platforms from Microsoft and IBM respectively. Essen also provides a **Database CONNECTOR** and **SAP CONNECTOR** to communicate with databases and ERP applications, and connect the middleware platforms to these enterprise systems. Thereby ensuring seamless end-to-end connectivity between Xtenna™ RFID and existing deployments of middleware and databases/applications, through a single value-enhancing solution.

## For Microsoft BizTalk RFID

### Essen PROVIDER and Essen CONNECTORS

#### \*FREE-LICENSE SOFTWARE COMPONENTS

Performing the function of connecting Xtenna™ hardware devices to Microsoft BizTalk RFID, is Essen RFID's **BizTalk RFID – PROVIDER**. Acting as a device driver that manages and integrates Xtenna™ with enterprise applications through BizTalk RFID, the Provider simplifies the integration process and ensures that there is no device control dependency on the application layer.

This also enables developers to create and build a Custom Event Handler and bind it with other BizTalk processes.

Essen RFID's end-to-end integration is accomplished through Connectors that communicate between BizTalk RFID and the application layer consisting of databases as well as ERP applications such as SAP v4.7/v6.0.

**Essen DB CONNECTOR** exports data to various legacy databases such as Oracle (9i, 10g, 11g), IBM DB2, MS SQL Server v. 2000/2005/2008/Express, as well as open source databases such as MySQL 5.0.

**Essen SAP CONNECTOR** exports data in PML format to SAP's Auto ID Infrastructure.

This allows databases and applications to process data easily without having to allocate resources for functions such as data fetching and Xtenna™ device control.

## For IBM WebSphere Premises Server

### Essen AGENT and Essen CONNECTORS

#### \*FREE-LICENSE SOFTWARE COMPONENTS

Connecting Xtenna™ hardware devices to IBM WebSphere Premises Server, is Essen RFID's **WebSphere Premises Server – AGENT**. Acting as a device driver, the Agent manages and integrates Xtenna™ with the enterprise application layer through the WebSphere Premises Server, in a seamless, simplified process.

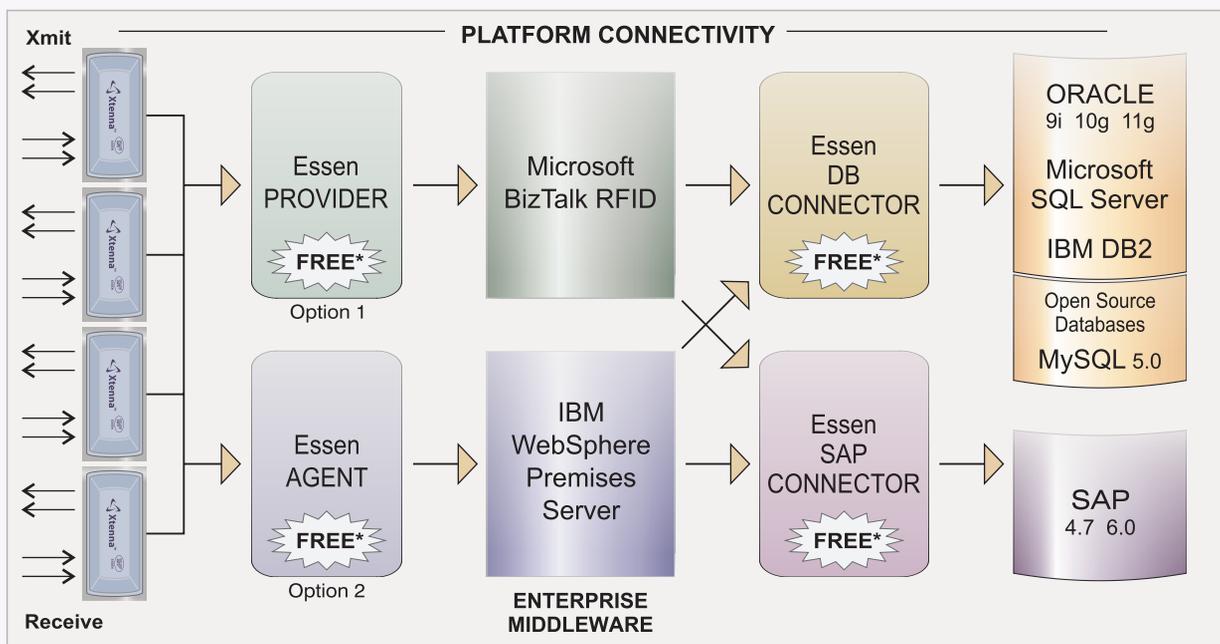
The Essen AGENT is a Java based application, allowing it to be also hosted on Linux platforms, alongside platforms based on standard Windows Server editions.

Completing the integration process, Essen RFID also offers Connectors that communicate between IBM WebSphere Premises Server and the application layer consisting of databases and ERP applications such as SAP v4.7/v6.0.

**Essen DB CONNECTOR** exports data to various legacy databases such as Oracle (9i, 10g, 11g), IBM DB2, MS SQL Server v. 2000/2005/2008/Express, as well as open source databases such as MySQL 5.0.

**Essen SAP CONNECTOR** exports data in PML format to SAP's Auto ID Infrastructure.

Databases and applications can therefore process data easily by leaving functions such as data fetching and Xtenna™ device control entirely to the Connector.



\* Conditions Apply

## For Generic Middleware Platforms

An enterprise having its own existing proprietary middleware platform can also be supported by Essen RFID's Xtenna™ devices. To facilitate this process, the enterprise will have to get its middleware platform integrated with Essen RFID hardware in order to enable seamless end-to-end connectivity.

## Enterprise Level Solutions for SMEs

### Essen's Full RFID Middleware Platform

A complete one-stop solution, Essen RFID's **Xtenna Studio™** is a low cost, high performance RFID middleware platform that provides enterprise-level, fully scalable RFID functionality to Small & Medium Enterprises. A full-featured package with zero license fee costs\*, lesser disk space utilization and faster processing times coupled with remote management capabilities, Xtenna Studio™ is the smart choice for companies seeking to survive, grow and prosper in a tough business environment. Whether mandated to move towards RFID or striving for competitive advantage, innovative technology incorporated in the Xtenna Studio™ platform gives SME organizations a headstart through efficient deployment and faster ROI on their RFID investments.

#### Features

Xtenna Studio™ is an enterprise level RFID middleware that manages the flow of RFID data from Xtenna™ to the application layer. It has been designed to be a robust, scalable and easy to configure middleware platform that can be easily maintained.

Xtenna Studio™ is a full-scale \*free license RFID middleware platform. Licensing of other RFID middleware platforms is not required.

Xtenna Studio™ performs functions such as providing connectivity, data routing and data transformation with other systems. Data routing helps manage different input for different enterprise applications.

**Xtenna Studio™ has the native ability to administer Xtenna™ RFID devices remotely. Seamless operation and remote monitoring of mission critical functions can be easily done through mailing and SMS alerts, by custom level plug-ins.**

**Xtenna Studio™ provides flexibility to clients to integrate any application with plug-ins that they can create in exportable formats such as XML, CSV, XLS, etc. Custom plug-ins for enterprise applications such as SAP, and databases such as Oracle, MS SQL Server, etc. can also be built by client companies on their own.**

Xtenna Studio™ can be easily integrated with existing server environments. It can seamlessly provide data to key Enterprise level servers such as IBM WebSphere server and Microsoft BizTalk server, by exporting data in XML format via http port or message queuing.



**No license fee costs\*:  
does not require any license fees,  
nor require any per CPU license fee**

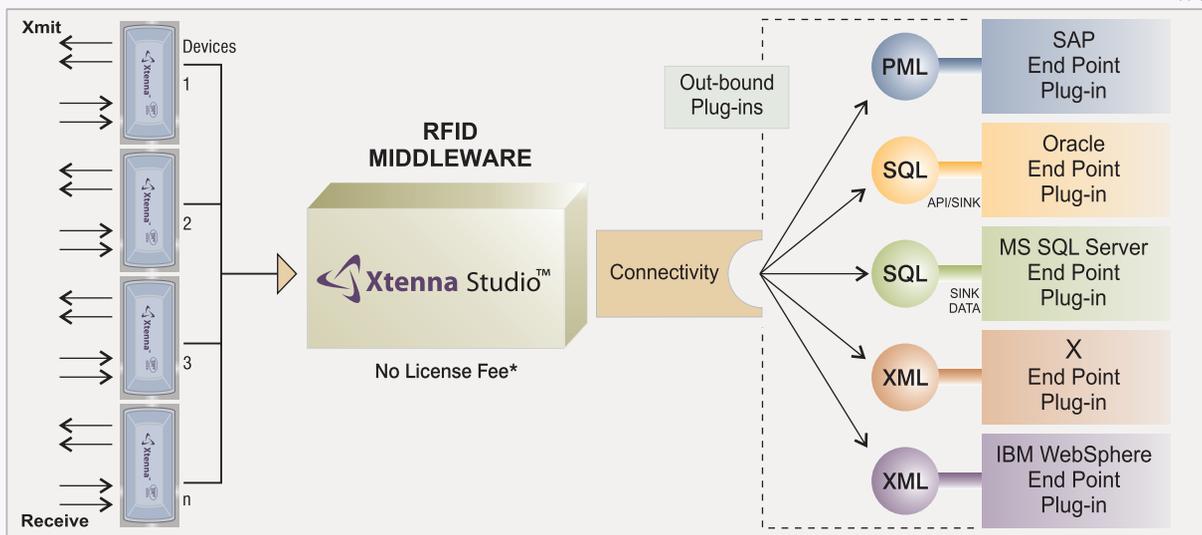
**Supports Windows platform:  
Windows XP/Vista  
Windows Server 2003/2008**

**Faster processing time,  
optimum disk space utilization**

**Remote diagnostics / management:  
remote control of device  
remote upgradability  
add devices, channels, packages  
trigger alerts to Admin**

**Connectivity plug-ins available:  
for databases  
for ERP applications**

\* Conditions Apply



## High Performance RFID Tags

### Essen's Special RFID Tags for longer read distances

Essen RFID also offers superior RFID Tags that have been specially devised to be read at longer distances. These special Tags outperform regular Passive RFID Tags through long-distance reads that enable quick item clearance, thereby improving overall operational efficiency. Essen RFID Tags are available in four specialized varieties, each customized for specific read objectives. From tracking people on the move, to vehicle access, to liquid containers and metallic objects, to bulk cartons and pallets - Essen RFID Tags provide full value for money, through higher performance, better reliability and greater efficiency.



### Xtenna™ – Technical Specifications

		European Standard Xtenna™ - DCP867A	US FCC Standard Xtenna™ - DCP915A
Antenna P/N	Frequency Band	865-870 Mhz	902-928 Mhz
	Gain	9.0 dBic (typ)	
	Polarization	RH+LH	
	AZ/EL BW	62° / 66°	60° / 72°
	Port to Port Isolation	-40 dB (typ)	
	VSWR 50 Ohm Impedance	1.4:1 (max)	1.5:1 (max)
	Sidelobe Level	-12 dB (max)	
	Axial Ratio Level	3.0 dB (typ)	
Max. Input Power		4 Watts	
Integrated Reader	Frequency Band	865-870 Mhz	902-928 Mhz
	RFID Tag and Protocol Support	EPC Generation 2 R/W, Full Anti-Collision, DRM	
	RF Max Power Output	30 dbm +/- 1.0 dB	
	RF Min Power Output	5 dbm +/- 1.0 dB	
	Flash Memory	256 Kb	
	RAM	64 Kb	
	Firmware	Upgradable	
	Regulatory	Meets RoHS, MIC, ETSI and FCC Regulations	
General	Interface	Ethernet - RJ45	
	Dimensions	497x215x62 mm	
	Weight	2.5 Kg (typ)	

Essen reserves the right to modify specifications without notice.

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#### PERSONNA™

For tracking people  
**Read distance: 55 ft.**  
**Tag size: 90mm x 59mm x 2mm**  
**Card carried on person**

#### PARKA™

For vehicle tracking  
**Read distance: 80 ft.**  
**Tag size: 155mm x 85mm x 3mm**  
**Mounted inside car windshield**

#### GENERA™

For cartons, cases, pallets, etc.  
**Read distance: 140 ft.**  
**Tag size: 148mm x 88mm x 1.3mm**  
**Adhesive affixing**

#### METALLICA™

For metal casings, hardware, etc.  
**Read distance: 40 ft.**  
**Tag size: 175mm x 85mm x 3mm**  
**Adhesive affixing**

*Note: All distances in free air.  
 Optimized for Xtenna™*

**Essen's innovative Xtenna™ based RFID devices and solutions that break the price/value trade-off. Cost-effective, yet world-class. Get the Xtenna™ Advantage.**