Z-MOBILE: a real time wireless RFID monitoring system ready for positioning & tracking in indoor & outdoor environments

Increase your efficiency in asset tracking, inventory management, security and process visibility with RFID technology
Z-MOBILE is the most innovative solution based on zigbee technology offering a cost-effective, time efficient and scalable solution for wireless monitoring of distributed sensors (WSN) & real time localization applications (RTLS).

Z-MOBILE represents the unique opportunity to take advantage of both options: RTLS and WSN. Users can indeed choose to run one option only and to activate the second one according to their future needs.

**Z-MOBILE, the unique WSN solution ready for RTLS**

Z-MOBILE key advantages:

- A two-solutions system
- Robustness and adapted hardware solutions
- Low deployment costs
- Easy deployment with an intuitive tool kit: friendly detailed map of the areas of safety, security and control, rules and reports to be activated according to the user’s needs
- No cost license for using bandwidth
- Large autonomy
- Open and scalable platform

While existing products have their functionality limits, Multitel’s Z-MOBILE solution offers a complete, adaptative and cost advantageous solution that enables companies to make significant cost savings and to gain in competitiveness.
Z-MOBILE functionalities

- Sensor positioning
- Battery level monitoring in the tag
- Multisensors information gathering
- Data management software: easy access to timestamped data
- Friendly tool for easy deployment: quality network prediction and optimization

Z-MOBILE key applications

- Real Time active mobile assets localization & tracking
- Process analysis and control, inventory & logistics
- Simulation and process optimization: production & logistics
- Data acquisition & management: temperature monitoring along the production line, tracking of pharmaceutical products, identification of medicines, etc.
- Access control for attendance, security & safety
Both
WSN
and
RTLS

**Z-MOBILE WSN**
Real time solution for distributed sensors wireless monitoring

**Z-MOBILE RTLS**
Real time solution for wireless active mobile localization

**Datasheets**

- Z-MOBILE RTLS A015-24-24
  Z-MOBILE REAL TIME LOCATION SYSTEM
- Z-BASE A015-24-24
  2.4 GHz/2.4 GHz Beacon for Z-MOBILE WSN and RTLS
- Z-TAG A015-2400
  2.4 GHz Active Tag for Z-MOBILE WSN and RTLS
- Z-MOBILE WSN015-24-24
  Z-MOBILE Wireless Sensor Network with Localization Capability
## About Multitel

Multitel has a long experience in innovative product development, offering “on demand” technology. With a staff of more than 55 experienced engineers, the Centre is contracting with international companies and local SME’s in the frame of promising innovative projects. Thanks to these collaborations and its strong participation in the European Commission Programs (FP6 and FP7), Multitel became a reliable technology provider for a wide range of industries.

Thanks to its continuous product development, Multitel is constantly taking advantage of its high level innovation activities in electronics, RF, informatics, software development and embedded systems.

The Centre offers a high-performance solution at the cutting edge of the latest technological progress in active & passive RFID, as well as in protocols.
Contact us

Multitel can help you to implement RFID systems in your organization, comparing the benefits of using RFID to other technologies and finding out the most adapted hardware and solution for a specific application.

Contact our sales department:
Phone: +32 65 34 27 19 or +32 65 34 27 22
E-mail: commercial@multitel.be

Parc Initialis / rue Pierre et Marie Curie 2 / B-7000 MONS / BELGIUM
www.multitel.be
Z-BASE A015-24-24
2.4 GHz/2.4 GHz Beacon for Z-MOBILE WSN and RTLS

GENERAL DESCRIPTION

Z-BASE A015-24-24 is a beacon for the Z-MOBILE Real-Time Location System (RTLS), fully compliant with the Z-WSN Platform Specifications.

It implements the Z-RF-POS link based on the IEEE 802.15.4 Radio Frequency Standard working on the 2.4 GHz ISM band for tag communication and localization.

It implements the Z-RF-COM link based on the ZigBee Radio Frequency Standard working on the 2.4 GHz ISM band for communication network.

The Z-BASE A015-24-24 beacon is compliant with the Z-DCM data communication model. Z-BASE A015-24-24 is therefore a high-performance location-aware wireless sensor network router in both indoor and outdoor environments.

The Z-RF-COM link can be used for full Z-WSN sensors network deployment using standard or custom sensor modules.

KEY FEATURES

- 64 bits Unique ID (UID) for identification
- 4 kB of EEPROM memory for custom data storage
- Up to 50m RF/wireless Z-RF-COM link range, and up to 30m RF/wireless Z-RF-POS link range in indoor environments
- Full ZigBee meshed network for wireless communication
- Robust and high performance localization/positioning capability at the Cell-ID level for active asset tracking
- Cryptographic Secure RF link for data integrity and protection
- 6V DC external power supply
- Coexistence guaranteed with WiFi IEEE 802.11b/g
- Fully compliant Z-WSN, standard and custom sensor modules available

ADVANTAGES

- Fully compatible with the Z-TAG 2400 series
- No specific infrastructure needed
- IEEE 802.15.4/ZigBee RF protocols for best performances and robustness

CERTIFICATIONS

- ETSI EN 300 440 (RF)
- ETSI EN 301 489-1 and -3 (EMC)
- IEC EN 60950-1 (Safety)

HARDWARE ARCHITECTURE
### TYPICAL CHARACTERISTICS AND PERFORMANCES

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>CONDITIONS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Voltage</td>
<td>Vcc</td>
<td></td>
<td>5</td>
<td>12</td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Power Supply Current</td>
<td>Icc</td>
<td></td>
<td>-</td>
<td>75</td>
<td>-</td>
<td>mA</td>
</tr>
<tr>
<td>RF-LINK-POS Frequency Range</td>
<td></td>
<td></td>
<td>2400</td>
<td>2483.5</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>RF-LINK-POS Output Power</td>
<td></td>
<td>At the antenna connector (50Ω)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>dBm</td>
</tr>
<tr>
<td>RF-LINK POS Link Range</td>
<td></td>
<td>Indoor, NLOS</td>
<td>-</td>
<td>10</td>
<td>30</td>
<td>m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outdoor, NLOS</td>
<td>-</td>
<td>30</td>
<td>100</td>
<td>m</td>
</tr>
<tr>
<td>RF-LINK-COM Frequency Range</td>
<td></td>
<td></td>
<td>2400</td>
<td>2483.5</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>RF-LINK-COM Output Power</td>
<td></td>
<td>At the antenna connector (50Ω)</td>
<td>-</td>
<td>10</td>
<td>-</td>
<td>dBm</td>
</tr>
<tr>
<td>RF-LINK-COM Link Range</td>
<td></td>
<td>Indoor, NLOS</td>
<td>-</td>
<td>20</td>
<td>50</td>
<td>m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outdoor, NLOS</td>
<td>-</td>
<td>50</td>
<td>150</td>
<td>m</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td></td>
<td></td>
<td>-40</td>
<td>-</td>
<td>85</td>
<td>°C</td>
</tr>
</tbody>
</table>

**TABLE 1. ELECTRICAL/HARDWARE CHARACTERISTICS**

### Z-GATE A015-24

The Z-GATE A015-24 is a specific Z-BASE beacon used as a ZigBee Coordinator and network gateway to a LAN, or to a computer. Its characteristics are the same as the Z-BASE series without any RF-LINK-POS capability. Only one gateway is needed for each ZigBee subnetwork.

### EXTERNAL ELECTRICAL INTERFACES

**Z-BASE A015-24-24 :**
- DC power jack for 6 VDC power supply
- DB9 female connector for RS232 Serial interface

**Z-GATE A015-24 :**
- DC power jack for 6 VDC power supply
- DB9 female connector for RS232 Serial interface
- RJ45 jack for Ethernet LAN Connectivity

### PHYSICAL DIMENSIONS (mm)

![Physical Dimensions Diagram]

**SIDE VIEW OF BOX**
Z-TAG A015-2400
2.4 GHz Active Tag for Z-MOBILE WSN and RTLS

GENERAL DESCRIPTION

Z-TAG A015-2400 is a small active tag for the Z-MOBILE Real-Time Location System (RTLS).

It is fully compliant with the Z-WSN platform specifications and implements the Z-RF-POS link based on the IEEE 802.15.4 Radio Frequency Standard working on the 2.4 GHz ISM band.

Z-TAG A015-2400 contains two active sensors (accelerometer and temperature) compliant with Z-DCM data communication model.

Z-TAG A015-2400 is therefore a high-performance location-aware wireless sensor for active asset identification, tracking and localization in both indoor and outdoor environments.

KEY FEATURES

- 64 bits Unique ID (UID) for identification
- 4 kB of EEPROM memory for custom data storage
- Robust and highly performing localization/positioning capability at the Cell-ID level for active asset tracking
- Up to 30m RF/wireless link range in indoor environments
- Cryptographic Secure RF link for data integrity and protection
- Motion Sensor Activated RF transmissions for optimized autonomy
- 3-axis ±2g accelerometer with a 1.6kHz signal bandwidth in both X and Y axes
- -40 °C to +125 °C temperature sensor with a ±0.5°C precision
- 1000 mAh, 3V Lithium cell power supply giving up to 2 years of autonomy based on application
- Also available as a fully compliant Z-WSN OEM module with a Z-IO electrical interface for system integration.

ADVANTAGES

- Integration of three main traceability features (Active RFID, Localization/Positioning and Sensor Acquisition) in one package
- Low-power architecture design to guarantee high autonomy and low maintenance
- IEEE 802.15.4/ZigBee RF protocols for the best performances-consumption ratio

CERTIFICATIONS

- ETSI EN 300 440 (RF)
- ETSI EN 301 489-1 and -3 (EMC)
- IEC EN 60950-1 (Safety)

HARDWARE ARCHITECTURE
### TYPICAL CHARACTERISTICS AND PERFORMANCES

<table>
<thead>
<tr>
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<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNIT</th>
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<tbody>
<tr>
<td>Power Supply Voltage</td>
<td>Vcc</td>
<td>Sleep Mode</td>
<td>2.7</td>
<td>3</td>
<td>3.6</td>
<td>V</td>
</tr>
<tr>
<td>Power Supply Current</td>
<td>Icc (Sleep)</td>
<td>Active Mode, no RF</td>
<td>-</td>
<td>0.05</td>
<td>-</td>
<td>mA</td>
</tr>
<tr>
<td></td>
<td>Icc (Active)</td>
<td>Active Mode w/ RF (Tx/Rx)</td>
<td>-</td>
<td>2.5</td>
<td>-</td>
<td>mA</td>
</tr>
<tr>
<td>RF Operating Range</td>
<td></td>
<td></td>
<td>2400</td>
<td></td>
<td>2483.5</td>
<td>MHz</td>
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<tr>
<td>RF Output Power</td>
<td></td>
<td>At the antenna connector (50Ω)</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>dBm</td>
</tr>
<tr>
<td>RF Link Range</td>
<td></td>
<td>Indoor, NLOS</td>
<td>-</td>
<td>10</td>
<td>30</td>
<td>m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outdoor, NLOS</td>
<td>-</td>
<td>30</td>
<td>100</td>
<td>m</td>
</tr>
<tr>
<td>Temperature Sensor Range</td>
<td></td>
<td></td>
<td>-40</td>
<td></td>
<td>125</td>
<td>°C</td>
</tr>
<tr>
<td>Temperature Accuracy</td>
<td></td>
<td>TA=+25°C</td>
<td>-2</td>
<td>±0.5</td>
<td>2</td>
<td>°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TA=0°C</td>
<td>-3</td>
<td>±1</td>
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<tr>
<td></td>
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<td>TA=-70°C</td>
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<td>±1</td>
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<td>Accelerometer Measurement Range</td>
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<td>g</td>
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<td>Accelerometer Frequency Response</td>
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<td></td>
<td>1600</td>
<td>Hz</td>
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<tr>
<td></td>
<td></td>
<td>Z axes</td>
<td>0</td>
<td></td>
<td>550</td>
<td>Hz</td>
</tr>
</tbody>
</table>

**TABLE 1. ELECTRICAL/HARDWARE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>DUTY CYCLE</th>
<th>AUTONOMY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positioning/Tracking of personnel in hospitals and working sites (mobility = 8 hours per day)</td>
<td>2.40%</td>
<td>&gt;6 months</td>
</tr>
<tr>
<td>Positioning/Tracking of mobile assets (mobility = 2 hours per day)</td>
<td>2.40%</td>
<td>&gt;12 months</td>
</tr>
<tr>
<td>Low duty cycle tracking of personnel (mobility = 8 hours per day)</td>
<td>0.25%</td>
<td>&gt;24 months</td>
</tr>
<tr>
<td>Intensive Temperature Monitoring of Blood Bags (mobility = 8 hours a day)</td>
<td>4.60%</td>
<td>&gt;3 months</td>
</tr>
</tbody>
</table>

**TABLE 2. TYPICAL AUTONOMY BASED ON COMMON APPLICATIONS**

### ELECTRICAL INTERFACES

The Z-TAG A015-2400 is designed to work as a stand-alone electronic unit/device. But it comes with a Z-IO electrical interface offering the possibility of using the Z-TAG A015-2400 without enclosure as an OEM sub-system to be integrated in other more complex devices.

**Z-IO Connector Pin out**

- (1) VCC (+3.3V)
- (2) SDA (I2C Bus)
- (3) SCL (I2C Bus)
- (4) TCK (JTAG)
- (5) #MCU_RESET
- (6) TDO (JTAG)
- (7) TMS (JTAG)
- (8) RxD (TTL UART)
- (9) TDI (JTAG)
- (10) GND
- (11) TxD (TTL UART)
- (12) SCK (SPI Bus)
- (13) MOSI (SPI Bus)
- (14) MOSI (SPI Bus)
- (15) PWM 1
- (16) PWM 2
- (17) ADC1/INT1
- (18) ADC2/INT2
- (19) ADC3/INT3
- (20) HV_VCC (for extension)

**Row A**

**Row B**

### PHYSICAL DIMENSIONS (mm)

![Physical Dimensions Diagram]
GENERAL DESCRIPTION

Z-MOBILE RTLS is a Real-Time Location System (RTLS) compliant with the Z-MOBILE Wireless Sensor Network (*).

Z-MOBILE RTLS offers a robust and performing localization/positioning capability at the Cell-ID level for active asset tracking (people or objects).

Z-MOBILE provides you with a position up to every two seconds and allows you to access the history of position through a very user friendly engine API.

Z-TAG can be localized by cell-ID. Any tag implementing the Z-RF-POS link specification can be connected and localized in the Z-MOBILE WSN.

Z-MOBILE RTLS could be used in stand-alone for tracking and positioning but it becomes extremely efficient when used together with data management provided by sensors installed on your Z-TAG.

KEY FEATURES

- No calibration for your environment
- Multi-Floor positioning available
- Cells definition for positioning fully customizable
- Accuracy by cells fully customizable
- Deployment tools help you to optimize and prepare the beacon deployment according to accuracy requirements. “On site” deployment time is reduced to power supply connection
- Period of localization for tracking or positioning is user customizable
- Localizations are delivered with a very accurate and useful confidence level
- Cryptographic Secure RF link for data integrity and protection
- Coexistence guaranteed with WiFi IEEE 802.11b/g

ADVANTAGES

- No impact of furniture moving
- No complementary infrastructure needed
- Deployment time reduced
- RTLS compliant with any device implementing Z-DCM
- User Friendly and efficient deployment tools

CERTIFICATIONS

- ETSI EN 300 440 (RF)
- ETSI EN 301 489-1 and -3 (EMC)
- IEC EN 60950-1 (Safety)

(*) see the Z-MOBILE Wireless Sensor Network data sheet for more information).

MAIN APPLICATION

Z-MOBILE is suitable for applications like:

- Active asset tracking/positioning in hospitals
- Active asset tracking/positioning in manufacturing sites
- Pallets localization for warehouse management/logistics
- Car positioning in large parking lots
- Intelligent textile data management and localization
- Audiometric data management and localization
- Robot tracking for warehouse
# TYPICAL CHARACTERISTICS AND PERFORMANCES

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>CONDITIONS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cells Size</td>
<td>Rooms</td>
<td>1x1</td>
<td>4x4</td>
<td>30x30</td>
<td>m</td>
</tr>
<tr>
<td>Cells Size</td>
<td>Open Space</td>
<td>3x3</td>
<td>5x5</td>
<td>30x30</td>
<td>m</td>
</tr>
<tr>
<td>Cells OverLap</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>m</td>
</tr>
<tr>
<td>Number of Cells</td>
<td>-</td>
<td>-</td>
<td>65536</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cells Location accuracy</td>
<td>-</td>
<td>85%</td>
<td>95%</td>
<td>100%</td>
<td>-</td>
</tr>
<tr>
<td>Beacons by Cells</td>
<td>Indoor</td>
<td>2</td>
<td>1.5</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Tags by NetWork</td>
<td>-</td>
<td>50</td>
<td>250</td>
<td>1000</td>
<td>-</td>
</tr>
</tbody>
</table>

## TABLE 1. TYPICAL CHARACTERISTICS AND PERFORMANCES

### MIDDLEWARE

Z-MOBILE is delivered with the whole software for WSN data management. You access timestamped data through a simple API.

Z-MOBILE system software is WIN 32 compliant.

### DEPLOYMENT

Z-MOBILE is delivered with user friendly tools for deployment:

- Building maps are managed (wall, partition and their texture concrete, wood, plaster, etc...) in XML format.
- Tools are based on a proprietary RF propagation model that predicts the quality of Z-MOBILE WSN and RTLS, and give room for optimization.
- Deployment tools are delivered as a library to be integrated with users’ applications.

### Z-MOBILE WSN COMPATIBILITY FLOW CHART

- **Z-MOBILE A015-24-24**
- **Z-GATE A015-24**
- **Z-BASE A015-24-24**
- **Z-BASE A015-24-xx**
- **Z-TAG A015-2400**
- **IEEE 802.15.4 2.4 GHz Device**

Compatible with (with/without Z-DCM)

---

Z-MOBILE RTLS A015-24-24 – 2.4 GHz/2.4 GHz Real Time Location System
**Z-MOBILE WSN015-24-24**

**Z-MOBILE Wireless Sensor Network with Localization Capability**

---

### GENERAL DESCRIPTION

Z-MOBILE is a ZigBee Wireless Sensor Network (WSN) with Real-Time Localization (RTLS) capability (*). It implements the Z-RF-COM link based on ZigBee Radio Frequency Standard working on the 2.4 GHz ISM band for communication network.

Z-MOBILE is fully compliant with the Z-DCM data communication model. Any ZigBee compliant device can be connected to the Z-MOBILE WSN system for raw data monitoring. If the Z-DCM Data Communication Model is implemented, ZigBee devices can be fully integrated into the Z-MOBILE WSN.

Z-MOBILE is therefore a high-performance location-aware wireless sensor network for both indoor and outdoor environments. Any tag implementing the Z-RF-POS link specification can be connected and localized in the Z-MOBILE WSN.

### KEY FEATURES

- 64 bits Unique ID for identification
- Up to 50m/100m RF/wireless link range in indoor/outdoor environments with Z-BASE
- Full ZigBee meshed network for wireless communication
- Up to 30m/50m for RF/wireless link range in indoor/outdoor environments with Z-TAG
- Cryptographic Secure RF link for data integrity and protection
- Coexistence guaranteed with WiFi IEEE 802.11b/g
- Robust and highly performing localization/positioning capability at the Cell-ID level for active asset tracking
- Integrated Z-RF-COM and Z-RF-POS quality management tools
- Integrated self-test and diagnostic infrastructure tools

(*) see the Z-MOBILE Real Time Location data sheet for more information.

### ADVANTAGES

- The Z-RF-COM link specification integrates full ZigBee mesh network protocols for wireless sensor network security and availability
- Low level compatibility with any ZigBee Device
- No specific infrastructure needed
- User friendly and efficient deployment tools

### CERTIFICATIONS

- ETSI EN 300 440 (RF)
- ETSI EN 301 489-1 and -3 (EMC)
- IEC EN 60950-1 (Safety)

### MAIN APPLICATIONS

Z-MOBILE is suitable for applications like:

- Active asset tracking/positioning in hospitals and manufacturing sites
- Pallets localization for warehouse management/logistics
- Car positioning in large parking lots
- Intelligent textile data management and localization
- Audiometric data management and localization

### DATA COMMUNICATION MODEL (Z-DCM)

The Z-DCM data communication model is an open framework for any ZigBee device integration into the Z-MOBILE WSN system, and for any transceivers implementing the Z-RF-POS link specification.

It manages, for instance:

- Positioning Data (*
- Tags battery level
- Temperature
- Resistivity
TYPICAL CHARACTERISTICS AND PERFORMANCES

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>CONDITIONS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF-LINK-COM Frequency Range</td>
<td>2400</td>
<td>2483.5</td>
<td>MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RF-LINK COM Link Range</td>
<td>Indoor</td>
<td>30</td>
<td>50</td>
<td>m</td>
<td></td>
</tr>
<tr>
<td>RF-LINK COM Link Range</td>
<td>Outdoor</td>
<td>50</td>
<td>100</td>
<td>m</td>
<td></td>
</tr>
<tr>
<td>Number of Sub Networks</td>
<td></td>
<td>-</td>
<td>65536</td>
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<tr>
<td>Number of Network Hops</td>
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<td>10</td>
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<td>Number of Nodes (Beacons)</td>
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<tr>
<td>Data Rate</td>
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<td>-</td>
<td>250</td>
<td>kbps</td>
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<tr>
<td>RF-LINK-POS Frequency Range</td>
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<td>2483.5</td>
<td>MHz</td>
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<td></td>
</tr>
<tr>
<td>RF-LINK POS Link Range</td>
<td>Indoor</td>
<td>15</td>
<td>30</td>
<td>m</td>
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</tr>
<tr>
<td>RF-LINK POS Link Range</td>
<td>Outdoor</td>
<td>30</td>
<td>100</td>
<td>m</td>
<td></td>
</tr>
<tr>
<td>Number of Tags per Network</td>
<td></td>
<td>50</td>
<td>250</td>
<td>1000</td>
<td>-</td>
</tr>
</tbody>
</table>

**TABLE 1. TYPICAL CHARACTERISTICS AND PERFORMANCES**

MIDDLEWARE

Z-MOBILE is delivered with whole software for WSN data management. You access timestamped data through a simple API.

The Z-MOBILE System Software is WIN 32 compliant.

The Z-MOBILE middleware is composed of:
- Bundle of WIN32 APIs
- Data fusion and position engine
- SQL database
- Configuration and management tools
- Deployment tools

DEPLOYMENT

Z-MOBILE is delivered with user friendly tools for deployment:
- Building maps are managed (wall, partition and their texture concrete, wood, plaster, etc...) in XML format.
- Tools are based on a proprietary RF propagation model that predicts the quality of Z-MOBILE WSN and RTLS, and give help for optimization.
- Deployment tools are delivered as a library to be integrated with users’ applications.

Z-MOBILE WSN COMPATIBILITY FLOW CHART

Z-MOBILE A015-24-24

Z-GATE A015-24

Z-BASE A015-24-24

Z-BASE A015-24-xx

ZigBee Device

WSN/RTLS

Z-TAG A015-2400

IEEE 802.15.4 2.4 GHz Device

Compatible with (with/without Z-DCM)