# Appslite ...innovative solutions to customer challenges

muRata
*Innovator in Electronics*

# RFID - A Smart Choice for Smart Meters

## The Customer's Challenge:

**The Market:**

Telecom / Smart Grid / Smart Meter

**The Application:**

Applications utilizing RFID to maximize the benefits across multiple company departments for their Smart Meter products.

**The engineering hurdles:**

- Product traceability at the PCB level.
- Streamline supply chain management within the manufacturing facility, inventory control and shipping department.
- Implement a secure technology with long-term data retention for each individual meter.
- Simplify method of tracking the meter when installed in the field with the capability of retrieving and updating information.
- Alternative solution to bar coding.


MAGICSTRAP®

## The Murata Solution:

**The Product:**

LXMS31 Series
RFID Module – MAGICSTRAP®
EPC UHF Gen2 Compatible RFID Tag

**Overcoming the hurdles:**

Murata's RFID LXMS31 MAGICSTRAP® solution meets the challenges issued to the engineering team, in addition to the non-line of sight capabilities and the ease of implementing at the PCB level.

**How we did it:**

- Utilizing the LXMS31 prototype evaluation boards, the engineering team was quickly able to determine the location that provided the maximum read distance when the unit was fully assembled.
- Once the best location was confirmed, the PCB was re-designed to permanently accommodate the LXMS31 module.
- Since MAGICSTRAP® utilizes the ground plane as the actual antenna, no additional costs were added to the PCB.
- Mounting the LXMS31 module in production was easy since no speciality handling equipment is required.

## The Product Features:

- EPC Global Gen2 / ISO 18000-6C compatible – UHF frequencies (860 – 960MHz)
- Mounted directly on the PCB using standard pick and place equipment
- Antenna impedance matching function is integrated into MAGICSTRAP®
- Up to 4~5 meter read range is possible
- Antenna patterns/guidelines are available for various sizes of printed circuit boards to meet a wide range of applications
- Design eliminates placement tolerance concerns
- Utilizes ground as antenna – no additional cost
- Memory Capacity – 96 ~ 512bits
- Compact Size (3.2 x 1.6 x 0.55mm)
- RoHS Compliant
- Long-term Data Retention
- ESD protected up to >2kV

**Potential customers in this Industry:**

- Aclara
- Echelon
- Elster
- General Electric Energy
- Itron
- IUSA
- Landis+Gyr
- Sensus Metering Systems
- Silver Spring Networks
- SmartSynch
- Tantalus
- Trilliant Networks



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## More info:

For further information about Murata's RFID solutions, please contact Gerry or your local sales office.

Data sheets and application notes for Murata RFID products can be found at:
**www.murata-northamerica.com/RFID**

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