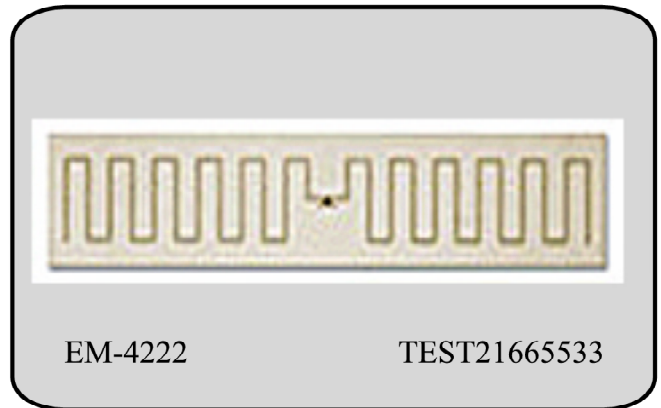


# EM-4222 Windshield Sticker Tag

## Product Profile

The EM4222 is used in passive UHF read-only transponder applications. It is powered up by an RF beam transmitted by the reader, which is received and rectified to generate a supply voltage for the chip. A preprogrammed code is transmitted to the reader by varying the amount of energy that is reflected back to the reader. It implements a robust and fast anti-collision protocol. The chip is frequency independent and is to be used for RF coupled applications. A reading range from 2m to 10m and reading rates up to 120 tags/second can be achieved, depending upon the system configuration. The Tag Talk First (TTF) protocol enables very simple reader implementation. The EM-4222 Windshield Sticker Tag is suitable for a wide variety of automatic vehicle identification (AVI) transportation applications, including electronic tolling, electronic vehicle registration, mCommerce, parking, and security access applications.



EM-4222 Windshield Sticker Tag (shown actual size)

## Features

- Factory programmed 64 bit unique ID number
- High data rate: Up to 256 kbit/s
- Frequency independent: Typically used at 869 MHz, 902 - 928 MHz, 2.45 GHz
- On-chip oscillator
- On-chip rectifier
- Low voltage operation - down to 1.0 V
- Low power consumption
- Cost effective
- 40 to +85°C operating temperature range
- Available in die form

## Typical Applications

The EM4222 is ideal for applications where long range, high-speed item identification is required:

- Supply chain management (SCM)
- Tracking and tracing
- Access control
- Asset control
- Licensing
- Auto-tolling
- Animal tagging
- Sports event timing

## Specifications

**Data Rate**  
Read 8 bytes of data from a tag in less than 10ms

**Anti-collision Protocol**  
Efficient, binary tree-type anti-collision algorithm

**Maximum Read Range**  
3.7m to 5m with licensed reader EM-6143

**Service Life**  
Capable of unlimited reads and more than 100,000 write transactions

**Mounting Surface**  
Attached by a semi-permanent adhesive to interior of a nonmetallic windshield 4.82 to 5.84mm in thickness

**Dimensions**  
Size : 85mm x 54mm x 0.1mm Thick

**Vibration Tolerance**  
5 G, 1/2 sine pulse, 10ms duration, 3 axes

**Polarization**  
Linear, horizontal

**Humidity**  
95% condensing