

# AD Circus™ Tamper Loop

## Overview

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**Frequency Band**

HF 13.56 MHz

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**Chip**

NXP NTAG213 TT

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**Antenna Dimensions**

20 x 50 mm / 0.79 x 2.0 in

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**International Standard**

ISO 14443A

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**Industry Segments**

Beauty and Personal Care  
Food  
Healthcare

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**Applications**

NFC  
Product Authentication  
Loyalty Programs

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**RoHS**

EU Directive 2011/65/EC and  
Directive (EU) 2015/863

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**REACH**

Regulation (EC) No. 1907/2006



## Tamper detection and authentication at the tap of a smartphone

Our AD Circus™ Tamper Loop tags have been specifically designed for tamper detection and authentication, targeting a wide array of applications in packaged goods for consumer and industrial markets. The tag opens the door to entirely new, NFC-based consumer experience solutions featuring higher security and additional consumer engagement at the point of sale and post-sale.

AD Circus™ Tamper Loop is based on the well-established AD Circus™ product family and comes with a tamper-loop design. This loop enables advanced digital seal functionality for smart packaging and brand protection. It exhibits one of two conditions: a closed loop shows that the packaging is sealed; while an open loop indicates an open package. The tamper detection status can be checked at the tap of a smartphone via a programmed on-chip URL.

Moreover, products can be authenticated at any stage in the supply chain by verifying their digital identity. Even in the case of an open loop, the AD Circus™ Tamper Loop can be read with a smartphone to display a consumer experience specific to an opened package. At any time, it can be exploited for further pre- and post-sales activities.

The small AD Circus™ Tamper Loop is available with NXP's NTAG 213 TT chip that provides additional features compared to the NTAG 213. It offers tamper detection with once-opened status and NXP original signature with an option of a brand-unique signature.

## Technical features

Chip	NXP NTAG213 TT	
User Memory	144 bytes	
Product Code	3006670 / IL-603169	3006671 / IL-603170
Delivery Format	Wet inlay+	Label / sticker
Die-Cut Dimension	24 x 54 mm / 0.95 x 2.1 in	24 x 54 mm / 0.95 x 2.1 in
Inlay Substrate	PET	Material
Face Sheet	Clear PET	Mid-gloss paper
Standard Pitch	60 mm / 2.362 in	60 mm / 2.362 in
Web Width	30 mm / 1.2 in	30 mm / 1.2 in
Core Size	76 mm / 3 in	76 mm / 3 in
Quantity / Reel	2,000 pcs/reel 6,000 pcs/reel	2,000 pcs/reel 6,000 pcs/reel
Operating Temperature	-25 °C to 70 °C / -13 °F to 158 °F	

### Contact information

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**Care and handling:** RFID inlays are sensitive to ESD. Observe standard industry practices relating to electronics / RFID to keep environmental impact and static charge to a minimum.

**Applications:** This product should be tested by the customer / user thoroughly under end use conditions to ensure the product meets the particular requirements. Avery Dennison does not represent that this product is fit for any particular purpose or use. Avery Dennison reserves the right to modify, change, supplement or discontinue product offerings at any time without notice. The information contained herein is believed to be reliable but Avery Dennison makes no representation concerning the accuracy or correctness of the data.

