



## CIRCUS™ PRO

### Taking Secure Product Authentication to Higher Levels

Smartrac's CIRCUS™ NFC inlays have become synonymous with superior performance for demanding product brands, retailers and industrial companies. CIRCUS PRO complements the CIRCUS product family with advanced encryption that enables a highly secure product authentication. By embedding it into or attaching it to physical products, brand owners can turn their products into secure digital platforms, delivering unmatched value during the product lifetime from point of manufacture, through the supply chain, distribution channels, point of sales, customer usage phase, to reselling and recycling. Key applications are counterfeit and diversion protection as well as exclusive content and rewards for consumer engagement and customer loyalty programs.

CIRCUS PRO available with either NXP's NTAG424 DNA or Smartrac's OTP chip with specific cryptography algorithms and a choice of memory options, work with all NFC-enabled devices and support real-time tag and message authentication.

CIRCUS PRO is compliant with ISO 9001:2015 Quality Management and ISO 14001:2015 Environmental Management. This ensures a reliable and state-of-the-art product that meets a variety of application needs.

#### Overview

##### Operating Frequency

13.56 MHz

##### Integrated Circuit (IC)

NXP NTAG424 DNA  
Smartrac OTP

##### Antenna Size

20 mm / 0.78 in

##### Die-cut Size

22 mm / 0.87 in

#### International Standards

- ▶ ISO 14443 A
- ▶ NFC Forum Type 4 (NTAG424 DNA)
- ▶ NFC Forum Type 2 (Smartrac OTP)

#### Application Areas

- ▶ Highly Secure Product Authentication
- ▶ Brand Protection
- ▶ Consumer Engagement
- ▶ Customer Loyalty Programs
- ▶ Protected Content Distribution

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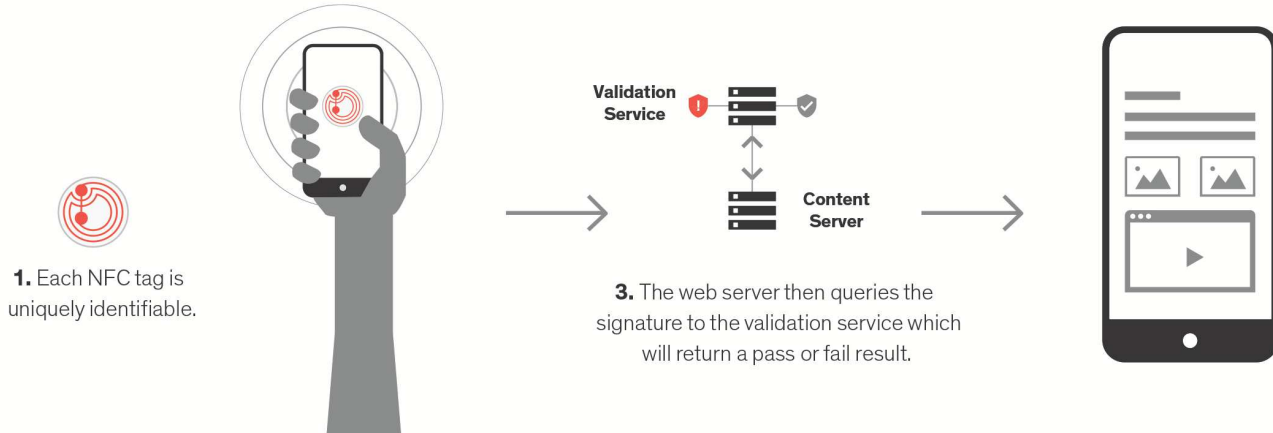
Technical Features			
<b>IC + Memory</b>	<b>Size</b>	<b>Format*</b>	<b>Sales Code</b>
NXP NTAG424 DNA	20 mm / 0.787 in	wet	3007218
416 byte	22 mm / 0.866 in	flex wet	3007191
Smartrac OTP	20 mm / 0.787 in	wet	3007207
208 byte	22 mm / 0.866 in	flex wet	3007219
Operating Temperature	-25°C to 70°C / -13°F to 158°F		
Adhesive	Acrylic, water borne adhesive, usage temperature: min. -20°C to 80°C / min. -4°F to 176°F		
Shelf Life	+20 °C, 50 % RH / 68 °F, 50 % RH - minimum 2 years from the date of manufacturing		

\* Additional product configurations are available upon request.

## How does Secure Authentication work?

2. When a user taps the NFC tag, it creates a unique URL including a signature that is sent to the content web server.

4. Upon a pass result the user is served up secure content that cannot be shared by copying the URL.



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