



## 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 with NXP's NTAG 424 DNA IC's work with all NFC-enabled devices and support real-time tag and message authentication based on AES-128 encryption on attack-resistant certified silicon. The Secure Unique NFC (SUN) authentication feature enables authentic, integrity protected and confidential data exchanges between tags and servers.

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

##### Antenna Size

20 mm / 0.78 in

##### Die-cut Size

22 mm / 0.87 in

#### International Standards

- ▶ ISO 14443 A
- ▶ NFC Forum Type 4

#### Application Areas

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

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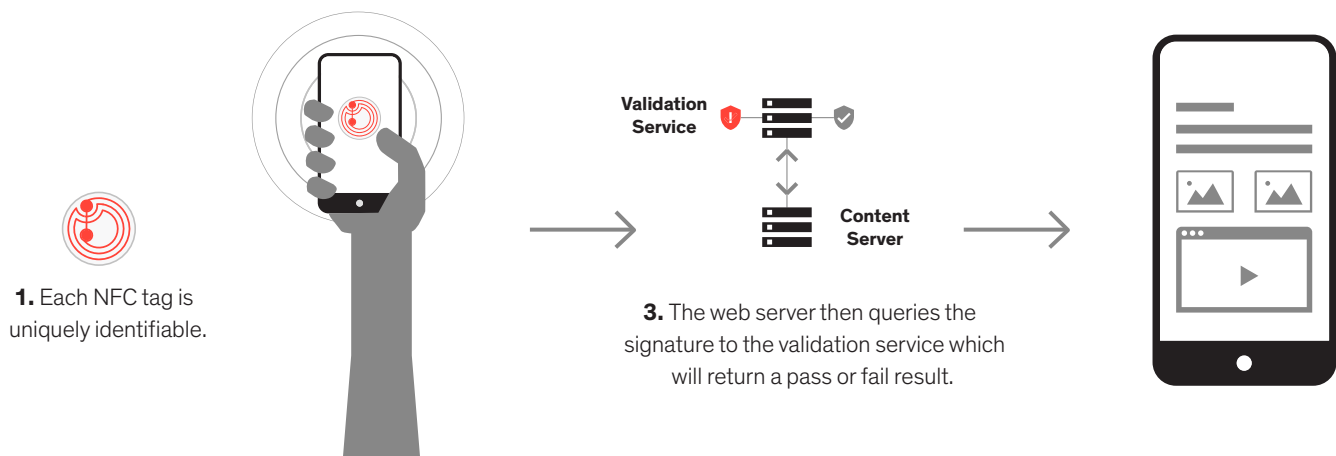
Technical Features			
<b>IC + Memory</b> NXP NTAG424 DNA 416 byte	<b>Size</b>	<b>Format*</b>	<b>Sales Code</b>
	20 mm / 0.787 in 22 mm / 0.866 in	wet flex wet	3007218 3007191
Operating Temperature	-25°C to 70°C / -13°F to 158°F		
Adhesive	Acrylic, water borne adhesive, usage temperature: min. -20°C to 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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