

# NFC | RING

## PRODUCT DATASHEET

Product Model: Signature

Product Code: NTAG203-V1-NORMAL-T-B-T

Updated: 07/01/2016

Approved by: John McLear

# PHYSICAL CHARACTERISTICS

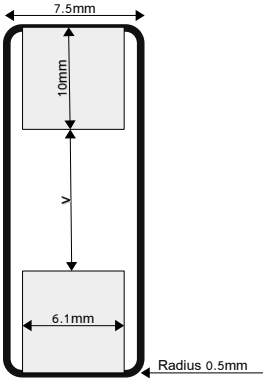
## Ring Dimensions

*V = Varies on Ring Size*

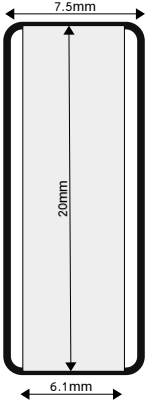
*Black = Ring Blank*

*Gray = Inlay / Antenna*

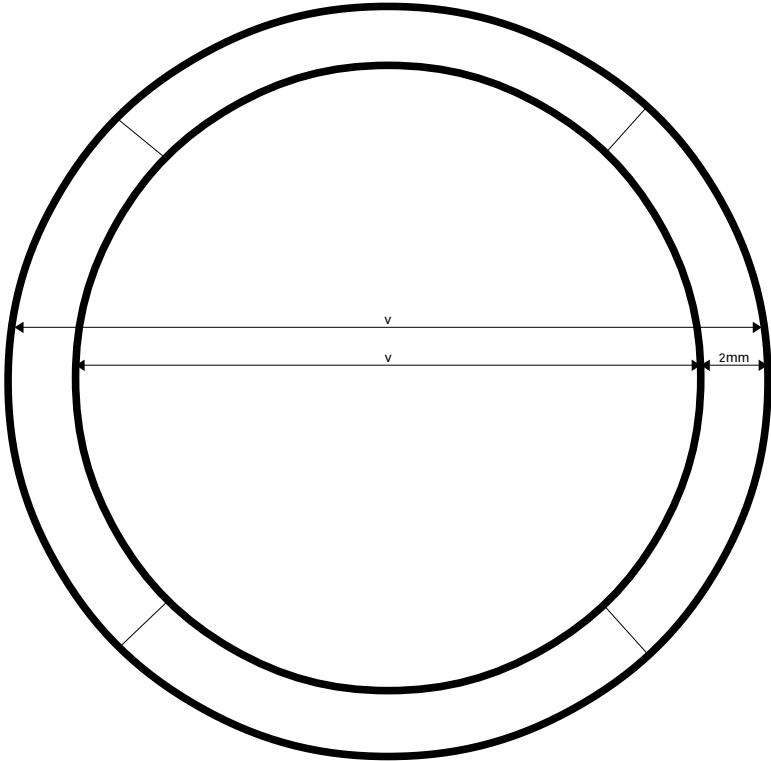
### Sides



### Top



### Front



## Available Sizes (United States Sizes)

4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16

## Fit style

Comfort Fit: Soft Radius

## Materials

Ring Blank: Hypoallergenic Titanium

Inlay cover: Hypoallergenic Epoxy

## Colors

Blank: Silver Titanium

Top Inlay: Black

Bottom Inlay: Transparent

Inlay FPCB: Gold Yellow

## Engraving

None

## Antenna

2 of 20mm x 6mm Curved on FPCB (Flexible Printed Circuit Board)

Tin plated copper

NFC Ring Logo etched on FPCB

# IC CHARACTERISTICS

Number of Ics(Integrated Components): 2

IC Manufacturer: NXP Semiconductors

IC Model: NTAG203

Full specifications: [http://www.nxp.com/documents/short\\_data\\_sheet/NTAG203\\_SDS.pdf](http://www.nxp.com/documents/short_data_sheet/NTAG203_SDS.pdf)

Operating Frequency: 13.56Mhz

ISO/IEC: 14443A

User writable space: 144 bytes

Data retention: 5 years

Write endurance: 10,000

IC Type: Sawn Wafer

IC Mount Type: Wire bonded w/ glue

## Security

Anti-cloning support by unique 7-byte serial number for each device.

32-bit user programmable OTP(One Time Programmable) area.

Field programmable read-only locking function per page for first 512 bits.

Read-only locking per block for rest of memory.

# OPERATING LIMITATIONS

## Forces

Can withstand drops onto all surfaces from 5M

## Temperatures

Overall recommended temperature maximum exposures:

Min: -20c

Max: 110c

### IC Limitation:

Min: -55c

Max: 70c (note that the IC is protected by Epoxy and a heat resistant glue)

### Epoxy Limitation:

Min: -20c

Max: 110c

### Blank Limitation:

Min: -85c

Max: 1668c

## Water resistance

### IP66

Protected from Total dust ingress

Protected from high pressure washer jets from any direction

# PATENTS AND LEGAL

Patents:

US 2015/0042450-A1: Covers:

Inserting NFC inlays in a Ring Embodiment (Both metallic and ceramic)  
Using Hand Gestures to perform different tasks with a Ring including unlocking a phone and sharing contact information  
Interacting between a Ring and an access control system

Current Licensees:

Visa Collab Inc  
Mastercard Inc  
DangerousThings Inc

Trademarks:

“NFC Ring” is a registered Trademark of McLear Ltd

# BEHAVIORAL CHARACTERISTICS

## Operating Range

Keyduino Nano: 4mm

Elechouse PN532: 3mm

Samsung SHS-1321: 2mm

Nexus 5: 2mm

ACR122: 1mm

HTC One M8: 1mm