

NFC | RING

PRODUCT DATASHEET

Product Model: Horizon

Product Code: NTAG216-V1-NORMAL-B-BF-B

Updated: 10/01/2016

Approved by: John McLearn

PHYSICAL CHARACTERISTICS

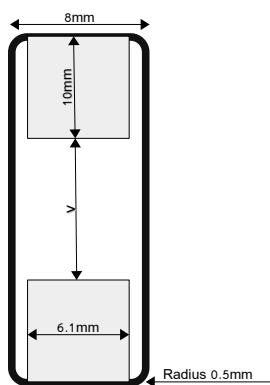
Ring Dimensions

V = Varies on Ring Size

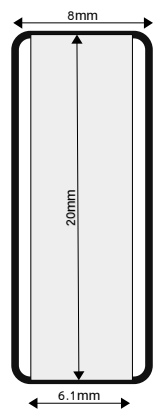
Black = Ring Blank

Gray = Inlay / Antenna

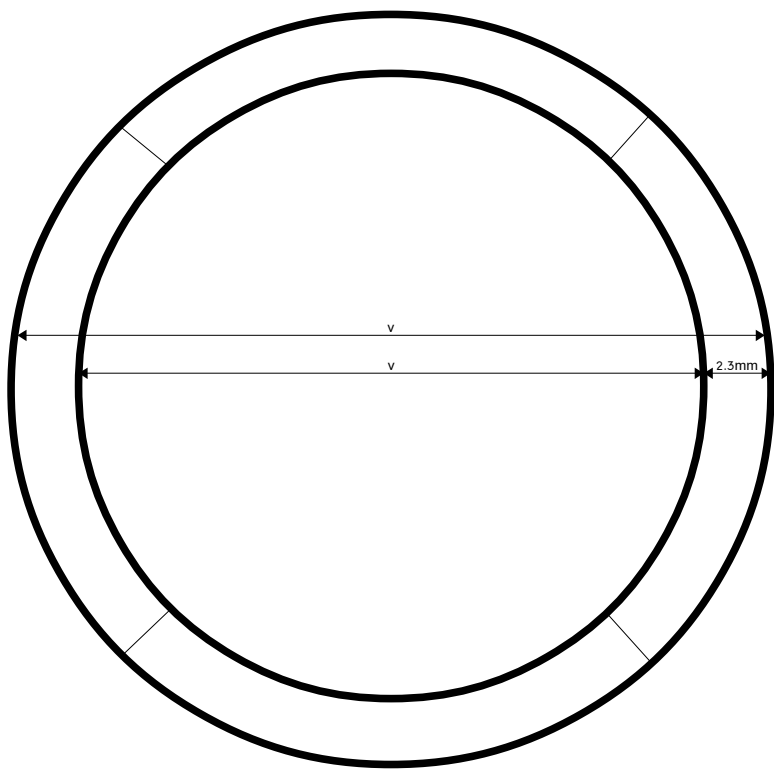
Sides



Top



Front



Available Sizes (United States Sizes)

4.5, 5, 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, 15, 6

Fit style

Comfort Fit: Soft Radius

Materials

Ring Blank: Hypoallergenic Hardened Advanced Ceramic

Inlay cover: Hypoallergenic Epoxy

Colors

Blank: Black

Top Inlay: Black Fiber

Bottom Inlay: Black

Inlay FPCB: Black

Engraving

"NFC Ring" on Bottom

Antenna

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

Tin plated copper

NFC Ring Logo etched on FPCB (Not visible)

IC CHARACTERISTICS

Number of Ics(Integrated Components): 2

IC Manufacturer: NXP Semiconductors

IC Model: NTAG216

Full specifications: http://www.nxp.com/documents/data_sheet/NTAG213_215_216.pdf

Operating Frequency: 13.56Mhz

ISO/IEC: 14443A

User writable space: 888 bytes

Data retention: 10 years

Write endurance: 100,000

IC Type: Sawn Wafer

IC Mount Type: Wire bonded w/ glue

Security

Manufacturer programmed 7-byte UID for each device

Pre-programmed Capability container with one time programmable bits

Field programmable read-only locking function

ECC based originality signature

32-bit password protection to prevent unauthorized memory operations

OPERATING LIMITATIONS

Forces

Can withstand drops onto most surfaces from 5M. Drops onto Ceramic and harder surfaces should be avoided.

Temperatures

Overall recommended temperature maximum exposures:

Min: -20c

Max: 110c

IC Limitation:

Min: -55c

Max: 125c

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: 30mm

Elechouse PN532: 25mm

Samsung SHS-1321: 15mm

Nexus 5: 15mm

ACR122: 20mm

HTC One M8: 5mm