NTAG 210/NTAG 212: NTAG® 21x, NFC Forum Type 2 Tag IC with Multiple User Memory Sizes

NTAG210_NTAG212

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NTAG 210 and NTAG 212 have been developed by NXP® Semiconductors as standard NFC tag ICs to be used in mass-market applications such as retail, gaming, and publishing, in combination with NFC devices or NFC compliant Proximity Coupling Devices. NTAG 210 and NTAG 212 (from now on, generally called NTAG 21x) are designed to fully comply to NFC Forum Type 2 Tag and ISO/IEC14443 Type A specifications.

Target applications include Out-of-Home and print media smart advertisement, SoLoMo applications, product authentication, NFC shelf labels, mobile companion tags.

The mechanical and electrical specifications of NTAG 21x are tailored to meet the requirements of inlay and tag manufacturers.

Contactless energy and data transfer
Communication to NTAG 21x can be established only when the IC is connected to an antenna. Form and specification of the coil are out of the scope of this document.

When NTAG 21x is positioned in the RF field, the high-speed RF communication interface allows the transmission of the data with a baud rate of 106 kbit/s.

Simple deployment and user convenience
NTAG 21x offers specific features designed to improve integration and user convenience:

- The fast read capability allows scanning the complete NDEF message with only one FAST_READ command, thus reducing the overhead in high throughput production environments
- The improved RF performance allows for more flexibility in the choice of shape, dimension, and materials
- The option for 75 µm IC thickness enables the manufacturing of ultrathin tags, for a more convenient integration in e.g. magazines or gaming cards

Security

- Manufacturer programmed 7-byte UID for each device
- Capability container with one-time programmable bits
- Field programmable read-only locking function per page (per 2 pages for the extended memory section)
- ECC based originality signature
- 32-bit password protection to prevent unauthorized memory operations

NFC Forum Tag 2 Type compliance
NTAG 21x IC provides full compliance to the NFC Forum Tag 2 Type technical specification and enables NDEF data structure configurations.

Anticollision
An intelligent anticollision function allows operating more than one tag in the field simultaneously. The anticollision algorithm selects each tag individually and ensures that the execution of a transaction with a selected tag is performed correctly without interference from another tag in the field.

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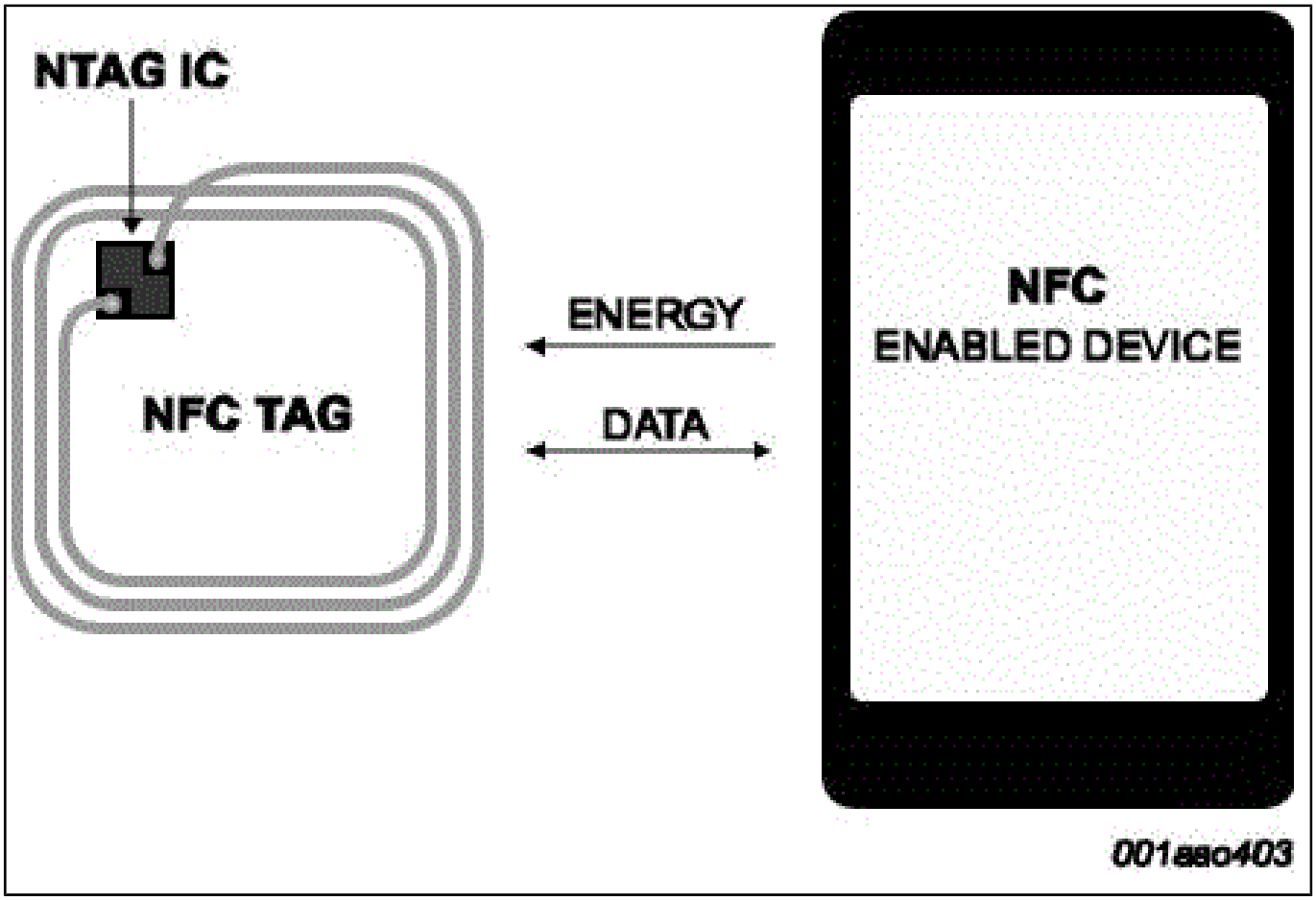
NTAG 213/215/216 Block Diagram Block Diagram



View additional information for NTAG 210/NTAG 212: NTAG® 21x, NFC Forum Type 2 Tag IC with Multiple User Memory Sizes.

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