

Dual-Frequency Card Inlay

Chip combinations & reader interfaces

These three combinations compare documented chip capabilities for design discussion. They are engineering references, not prequalified RFIDAK stock models. The quotation and approved drawing identify the supplied chips, antennas and card construction.

Reference / technology	Chip data	Application & conditions
EM4200 + NTAG213 LF 125 kHz design + HF 13.56 MHz NFC Type 2	EM4200: factory-programmed ROM, variant-dependent. NTAG213: 144 bytes user memory.	Existing LF identification plus an NFC phone-link function. The LF reader needs the selected EM encoding. Store the NFC link as an NDEF record; its overhead uses part of the 144-byte user area. The two ICs have separate identifiers.
EM4200 + MIFARE DESFire EV3 LF 125 kHz design + HF 13.56 MHz ISO/IEC 14443-A	EM4200: factory-programmed ROM. DESFire EV3: 2 / 4 / 8 / 16 kB nonvolatile memory, variant-dependent.	A migration credential for an existing LF system and a separately configured DESFire application. Specify the DESFire memory variant, application files and keys. Sharing one card does not transfer LF permissions to the DESFire system.
NTAG213 + UCODE 8 HF 13.56 MHz NFC Type 2 + UHF EPC Gen2v2	NTAG213: 144 bytes user memory. UCODE 8: 128-bit EPC, 96-bit TID, no separate user memory.	NFC phone interaction plus a UHF identification workflow using an EPC reader. Choose the UHF antenna for the reader's regional band. The NTAG UID and UCODE TID are distinct; a writable EPC can be mapped to the same application record.

Reader identifiers: EM4200 + NTAG213

The EM4200 Manchester 64 version transmits 40 data bits inside a 64-bit frame. The access reader may format or truncate that value before returning a card number. NTAG213 has a separate factory-programmed 7-byte UID and a 144-byte user area for data such as an NDEF link. Writing that link does not rewrite the chip UID or the EM4200 ROM.

An application can associate the returned LF identifier and the NFC identifier or link token with one credential record. That association belongs to the issuing system; these two chips do not automatically share memory, permissions or revocation.

Sources & scope

[EM4200 datasheet](#) EM Microelectronic

[NTAG213 / NTAG215 / NTAG216 datasheet](#) NXP Semiconductors

[MIFARE DESFire EV3 short datasheet](#) NXP Semiconductors

[UCODE 8 / 8m datasheet](#) NXP Semiconductors

This technical reference compares documented components or historical connection methods. It does not establish current availability, tested compatibility of a combined assembly, production dimensions, MOQ or lead time. The order drawing and quotation define the supplied configuration.

[View product photographs, engineering references and configuration inquiry →](#)