

# ISO Card UCODE<sup>®</sup> DNA and MIFARE<sup>®</sup> DESFire<sup>®</sup> EV2

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## CONTACTLESS ISO COMBINATION CARD FOR SECURE UHF AND UHF AND MIFARE<sup>®</sup> APPLICATIONS

- High quality contactless ISO card or prelaminate
- UCODE DNA RAIN UHF for long range applications compliant to EPC C1G2 and ISO18000-6C
- Optional HF (MIFARE DESFire EV2) for access or payment applications
- Cutting-edge crypto functionality for both UHF and HF
- Antenna design prepared for optional contact chip
- Encoding, laser engraving, printing and other card surface options available

ASSA ABLOY's ISO cards with ultra-high frequency (RAIN<sup>®</sup> UHF) technology allow for new use cases, such as hands-free access or parking lot access. In addition, UHF identification badges are especially useful in environments where UHF readers are already installed for other purposes to save reader investment costs.

UCODE DNA based RAIN UHF ISO cards are compliant with EPC global certified UHF Gen2 readers, provide a read range of up to 39 ft (12 m), and cover worldwide UHF frequency ranges in a single tag – ideal for international operations. Along with UHF RFID Gen2 v2 functionality, the UCODE DNA chip provides large user memory, BlockPermalock functionality and advanced privacy protection including two 128-bit AES keys and an AES digital core for cryptographic authentication.

These RAIN UHF cards can be combined with a MIFARE DESFire EV2 IC to address additional HF use cases like

Near Field Communication (NFC), contactless payment schemes, loyalty or access control.

The antenna design has been optimized to foresee additional options like a contact chip or a horizontal punch slot to attach a badge holder without sacrificing RF performance.

Customers can rely on our engineering and manufacturing expertise to deliver the world's most advanced and reliable contactless cards. These cards combine innovative radio frequency identification (RFID) technology with industry-leading knowledge in the production of secure identity materials. Proven processes and automated manufacturing ensure efficient and cost-effective production of high-quality cards.

## SPECIFICATIONS

	ISO Card UCODE DNA or UCODE DNA and MIFARE DESFire EV2
<b>Base Model Number</b>	611401 (UCODE DNA), 612401 (UCODE DNA + MIFARE DESFire EV2 4K)
<b>Dimensions</b>	ISO card: 3.4 x 2.1 x 0.03 in (85.6 x 54 x 0.76 mm)
<b>Material</b>	PVC (default, others on request)
<b>Color</b>	White
<b>Chip Type</b>	UCODE DNA (+ optional MIFARE DESFire EV2 4K)
<b>Memory</b>	UCODE DNA: 224 bit EPC, 3k bit user memory, 96 bit TID MIFARE DESFire: 4KB (optional: 2KB, 8KB)
<b>Operating Frequency</b>	860-960 MHz (Worldwide) + 13.56 MHz (MIFARE)
<b>Standards</b>	RAIN UHF: EPC Class 1 Gen2 v2, ISO 18000-6C MIFARE DESFire EV2: ISO 14443 / NFC Tag Type 4 (if NDEF formatted); ISO 10373, ISO 7816-1
<b>Anti Collision</b>	Yes
<b>CHEMICAL AND MECHANICAL RESISTANCE</b>	
<b>Water IP68</b>	68° F / 20° C (1m, 24h)
<b>Resistances</b>	Acetic acid water, artificial perspiration, carbonated sodium water, ethylene glycol, fuel B, salt mist, salt water, sugared water; humidity 95% at 122° F (50° C) 24 h
<b>Storage Temperature</b>	-31° to +122° F (-35° to +50° C)
<b>Operating Temperature</b>	-31° to +122° F (-35° to +50° C)
<b>Shock / Fatigue Temperature</b>	-31° to +176° F (-35° to +80° C), 50 cycles, 5 min soaking time, 20 sec transition
<b>Force</b>	Dynamic bending and torsion, 4 x 250 bends
<b>Reading Distance</b>	RAIN UHF up to 39 ft / 12 m (2W reader ERP, free space)
<b>Options</b>	Artwork; encoding; laser engraving; magnetic stripe; other contactless-, contact- or memory-chips; signature panel and optical security features ; UHF only cards support an optional horizontal punch slot
<b>Prelaminates</b>	For card manufacturers this technology is alternatively available in form of 410 µm (16 mil) prelaminate

### TECHNOLOGY HIGHLIGHTS:

- High quality, high performance ISO card
- UHF EPC Class 1 Gen2 v2 and ISO 18000-6C
- up to 224 bit EPC number, 3kbit user memory
- Worldwide RAIN UHF frequency coverage
- MIFARE DESFire® EV2 is NFC Tag Type 4 compliant
- Optional 3-Tech LF, HF, UHF
- 128 bit AES crypto key on UCODE DNA

### APPLICATION AREAS:

- Hands free or parking access
- Closed payment systems
- NFC applications
- Access control
- Loyalty schemes



**ASSA ABLOY**