



# Multi-Technology Dual High Frequency Cards



## AVAILABLE IN iCLASS®/MIFARE® CLASSIC COMBINATION AND iCLASS/MIFARE DESFIRE® EV1 COMBINATION

- **Ideal Migration Solution** - Mutual use of 13.56 MHz read/write iCLASS, MIFARE® Classic and MIFARE DESFire EV1 contactless smart card technologies
- **Wide Variety of Applications** - Physical access control, biometrics, secure computer/network authentication, time and attendance, vending and more
- **ISO Standard Thickness** - Use with all direct imaging and thermal transfer printers
- **Security** - Upgradable to next generation iCLASS® SE™ platform: iCLASS SE, SIO-Enabled for MIFARE and MIFARE DESFire EV1

For customers looking to support multiple technologies with a single card or migrate from existing card technology to a more secure solution, dual high frequency Genuine HID™ card products deliver an ideal solution and migration path. These affordable and durable card products enable more flexibility than ever before through the mutual use of 13.56 MHz read/write iCLASS, MIFARE Classic or MIFARE DESFire EV1 contactless smart card technologies for credential-based applications.

available contact chips, or customers can select HID's off-the-shelf Crescendo® multi-technology smart card, providing strong authentication options with logical access systems.

As with all Genuine HID card products, dual high frequency cards are part of the broadest product line of trusted, fully interoperable secure identity solutions in the market and come with guaranteed compatibility with HID Global reader lines and a lifetime warranty.



*Card configurations are also available with an embeddable contact chip module to support logical access.*

In addition to the two high frequency technology options, all cards are available with HID Prox or magnetic stripe technology to provide the widest range of backwards compatibility with existing systems. HID Global can also embed a wide range of commercially



### iCLASS\*

- 13.56 MHz read/write contactless smart card provides high speed, reliable communications with high data integrity, ensuring high security with mutual authentication, encrypted data transfer and 64-bit diversified keys for read/write capabilities
- Card data is protected by triple DES encryption
- Meets ISO 15693 standards for contactless communications
- 32 Kb standard (2 Kb available with 1 KB MIFARE only)

### MIFARE\* Classic

- MIFARE Classic offers fast and convenient transactions and is used worldwide for access control, cashless vending and public transportation applications
- MIFARE Application Directory (MAD) allows flexible programming of additional applications to the MIFARE Classic card
- MIFARE Classic technology uses a mutual authentication and data encryption with a 32 or 56 bit serial number
- 1 KB or 4 KB Standard options available (1 KB available with 2 Kb iCLASS only)

### MIFARE\* DESFire\* EV1

- MIFARE DESFire EV1 is based on open global standards for security, and is interoperable with existing MIFARE DESFire infrastructures\*
- Transaction times are less than 100 milliseconds for a typical secure ticketing transaction
- MIFARE DESFire EV1 is fully compliant with ISO 14443A 1-4, and has been awarded CC EAL 4+ for card security
- 8 KB of dynamic memory is arranged in easy-to-define application folders and data files Includes a test reader, test cards and documentation to speed the development process
- 56 bit serial number

\* MIFARE DESFire EV1 is not compatible with the PIV read application used with a DESFire 0.6 card

## SPECIFICATIONS

	Dual HF Technologies (iCLASS, MIFARE Classic, or MIFARE DESFire EV1)	Dual HF Technologies (iCLASS, MIFARE Classic, or MIFARE DESFire EV1) - Embeddable	Dual HF Technologies (iCLASS, MIFARE Classic, or MIFARE DESFire EV1) with Prox	Dual HF Technologies (iCLASS, MIFARE Classic, or MIFARE DESFire EV1) with Prox - Embeddable
<b>Base Part Number*</b>	PVC - 232 PET/PVC - 242	PET/PVC - 243	PVC - 252 PET/PVC - 262	PET/PVC - 263
<b>Typical Maximum Read Range</b>	iCLASS 2Kb/32Kb: 2 - 3" • MIFARE Classic 1KB/4KB: 1 - 3" MIFARE DESFire EV1 8KB: 1 - 2" • HID Proximity: 2 - 5"			
<b>Dimensions</b>	2.127" x 3.375" x 0.033" max (5.40 x 8.57 x 0.084 cm)			
<b>Construction</b>	100% PVC (232) 60% PET/40% PVC (242)	60% PET/40% PVC	100% PVC (232) 60% PET/40% PVC (242)	60% PET/40% PVC
<b>Operating Temperature</b>	-40° to 158° F (-40° to 70° C)			
<b>Weight</b>	0.24 oz (6.8g)	0.28 oz (7.9g)	0.24 oz (6.8g)	0.28 oz (7.9g)
<b>Memory Size/ Application Areas</b>	iCLASS: 2 Kb with 2 application areas or 32 Kb with (16k/2 and 16k/1) or (16k/16 and 16k/1) MIFARE Classic: 1 KB (8Kb) arranged in 12 sectors or 4 KB (32Kb) arranged in 40 sectors MIFARE DESFire EV1: 8 KB arranged in up to 28 applications, with up to 32 files per application			
<b>Write Endurance</b>	Min 100,000 cycles			
<b>Data Retention</b>	Min 10 years			
<b>HID Proximity</b>	No	No	Yes	Yes
<b>Contact Smart Chip Embeddable</b>	No	Yes	No	Yes
<b>Magnetic Stripe</b>	Optional			
<b>Printable</b>	Yes (white/white card)			
<b>Standard HID Artwork</b>	Optional			
<b>Slot Punch</b>	Not Available (Dual HF cards do not allow a slot punch)			
<b>Visual Security Options</b>	Optional			
<b>Additional Security Options</b>	Corporate 1000, iCLASS Elite (iCLASS only)			
<b>Warranty</b>	Lifetime	Lifetime (Card body only)	Lifetime	Lifetime (Card body only)



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2018-03-20-hid-dual-hf-cards-ds-en PLT-00177

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