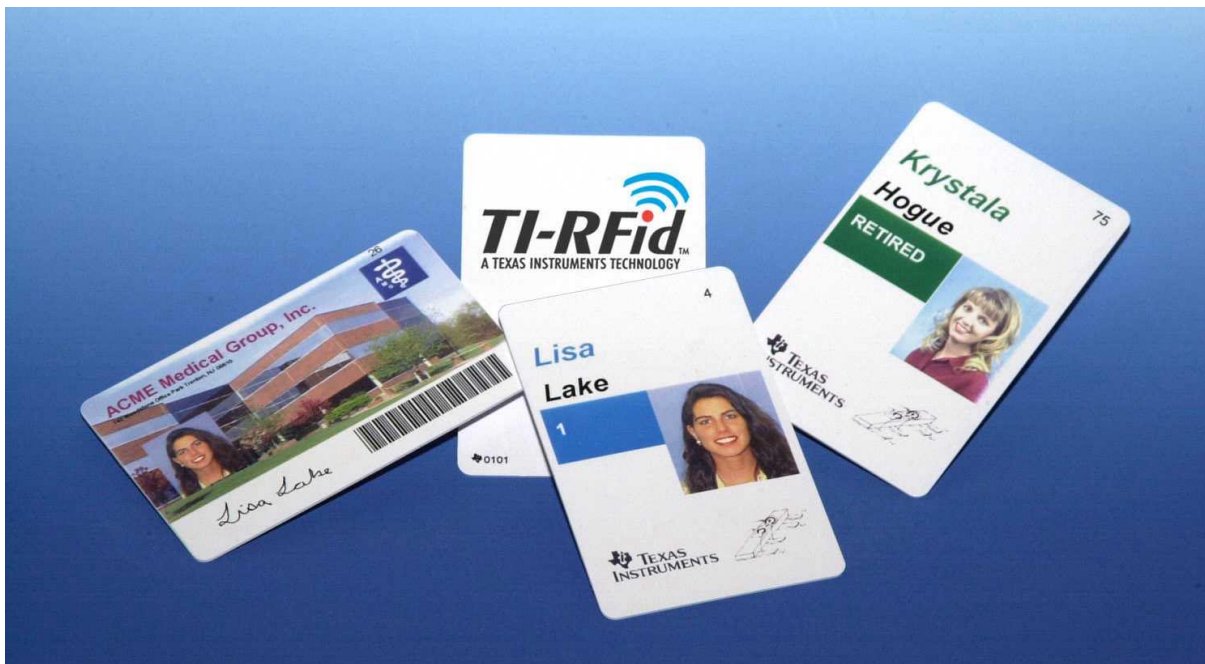


## 13.56 MHz Vicinity Transponder Badge

The Vicinity Transponder Badge from Texas Instruments is compliant with the ISO/IEC 15693 global standard for contactless integrated circuit cards that allows interoperability of products from multiple manufacturers operating at 13.56MHz. The badge is based on TI's Tag-it™ Smart Label technology. With a user memory of 2K bits organized in 64 blocks, the 13.56 MHz badge enables advanced solutions for the access control market. The enhanced data capacity makes it easy to handle new solutions such as biometrics authentication and advanced levels of encryption. Data written and stored on the badge, independent from a host system, means that employees carry vital information like authorization codes, certification or emergency medical histories. With TI's factory-programmed ID code, it is virtually impossible to forge or duplicate a badge, providing the assurance that no two cards – or people – anywhere in the world will be misidentified. Yet with in-the-field programmability, additional data like time stamps or new identification and access codes can be created and updated on-the-fly. The badge can be easily customized and personalized using standard dye sublimation thermal transfer printers. Where the card needs to be used with a clip, a hole can be punched in the specified area (see drawing). Additional options include magnetic stripe, Custom data programming, and hole punching will be available.

**Key features:**

- ISO/IEC 15693 compliant
- 13.56MHz Operating Frequency
- Read/Write capability with data locking option
- 2k bit user memory
- Simultaneous Identification

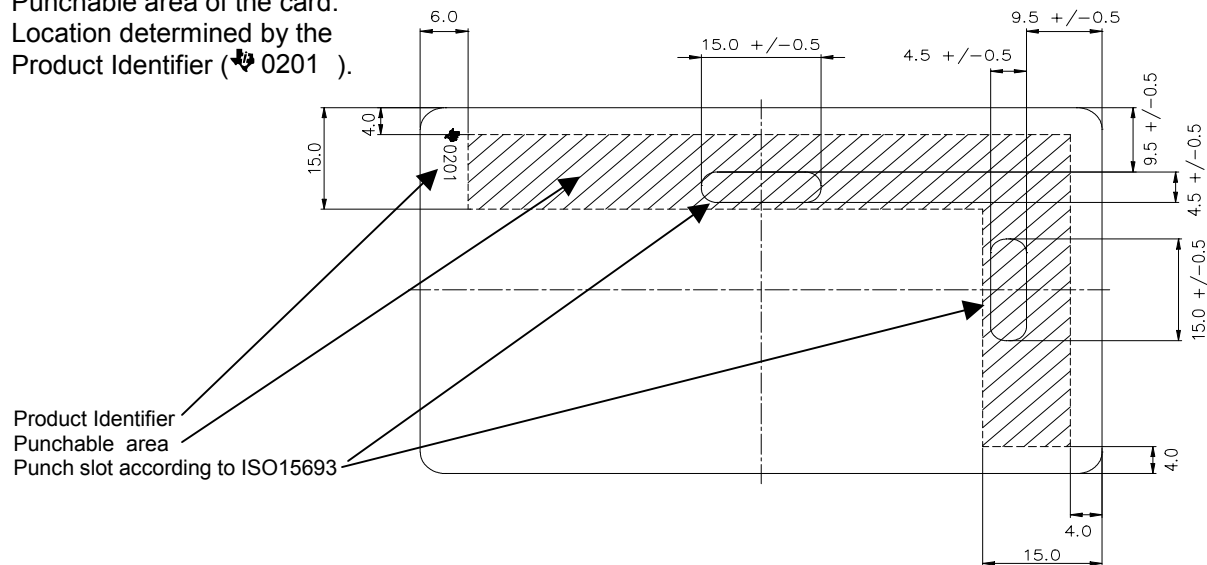


(Print examples)

Part Number	RI-TH1-CB2A
Supported Standard	ISO 15693
Operating frequency	13.56 MHz
Typ. required activation field strength to read (at +25°C)	99 dBμA/m
Typ. required activation field strength to write (at +25°C)	102 dBμA/m
Factory programmed Read Only Number	64 bits
Memory (user programmable)	2k bits organized in 64 x 32-bit blocks
Typical programming cycles (at +25°C)	100,000
Data retention time (at +25°C)	> 10 years
Simultaneous Identification of Tags	Up to 50 tags per second (reader/antenna dependent)
Dimensions	85.6 mm x 54 mm x 0.76mm (according ISO 7810)
Weight	5 grams
Case material	PVC (Polyvinylchloride), white
Product Identifier (0201)	3mm from the edge, TI Logo + 4 digit number (2 mm x 8 mm)
Surface finish	Glossy
Printability	Dye Sublimation Thermal Transfer, Silkscreen, Tampon
Mechanical Stability (Bending, Torsion)	According to ISO 10373
Operating temperature	-25°C to +50°C (according to ISO7810)
Storage temperature	-25°C to +50°C (according to ISO 7810)
Packing quantity	250 unit

Note: For highest possible read-out coverage we recommend to operate readers at a modulation depth of 20% or higher

Punchable area of the card.  
Location determined by the  
Product Identifier (0201).



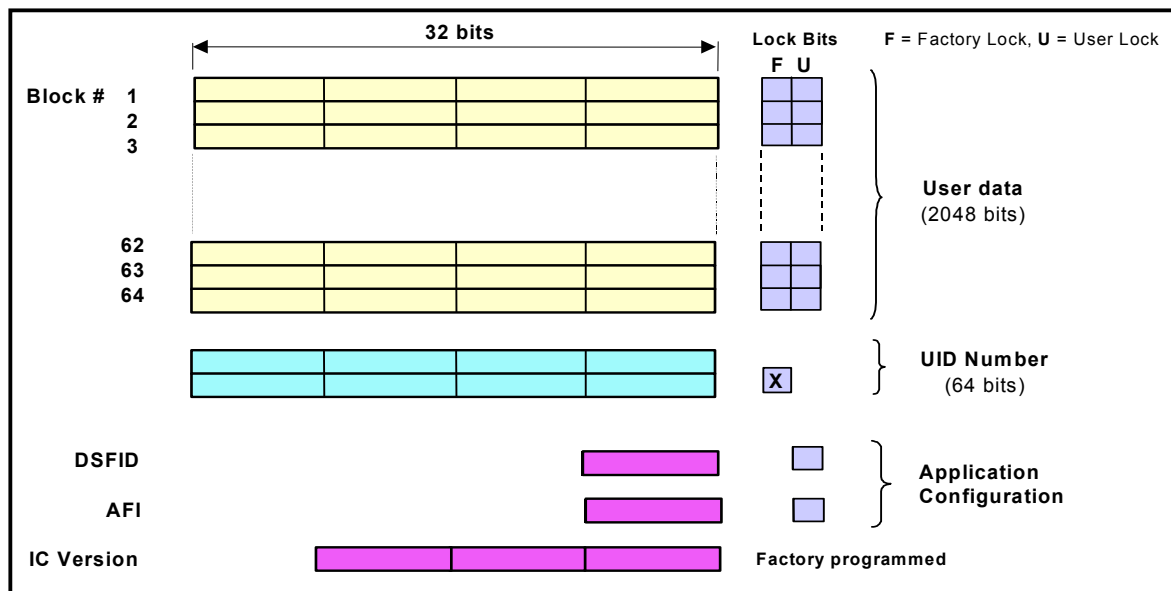
For more information, contact the sales office or distributor nearest you. This contact information can be found on our web site at: <http://www.ti-rfid.com>

## Supported Command Set

Request	Request Code	Request Mode				
		Inventory	Addressed	Non-Addressed	Select	AFI
<b>ISO 15693 Mandatory and Optional Commands</b>						
Inventory	0x01	✓	-	-	-	✓
Stay Quiet	0x02	-	✓	-	-	-
Read_Single_Block	0x20	✓	✓	✓	✓	✓
Write_Single_Block	0x21	-	✓	✓	✓	-
Lock_Block	0x22	-	✓	✓	✓	-
Read_Multi_Blocks	0x23	✓	✓	✓	✓	✓
Write_Multi_Blocks	0x24	-	-	-	-	-
Select Tag	0x25	-	✓	-	-	-
Reset to Ready	0x26	-	✓	✓	✓	-
Write_AFI	0x27	-	✓	✓	✓	-
Lock_AFI	0x28	-	✓	✓	✓	-
Write_DSFD	0x29	-	✓	✓	✓	-
Lock_DSFD	0x2A	-	✓	✓	✓	-
Get_System_info	0x2B	✓	✓	✓	✓	✓
Get_M_Blks_Sec_St	0x2C	✓	✓	✓	✓	✓
<b>TI Custom Commands</b>						
Write_2_Blocks	0xA2	-	✓	✓	✓	-
Lock_2_Blocks	0xA3	-	✓	✓	✓	-

✓: Implemented  
 -: Not applicable

## Memory Organization



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