Product Preview- Updated June 22, 2005

Texas Instruments Gen II Strap

Key features:
- EPC™ Gen II- read/write and lock
- 100 % tested straps
- 96 bits EPC user memory
- Innovative printed straps
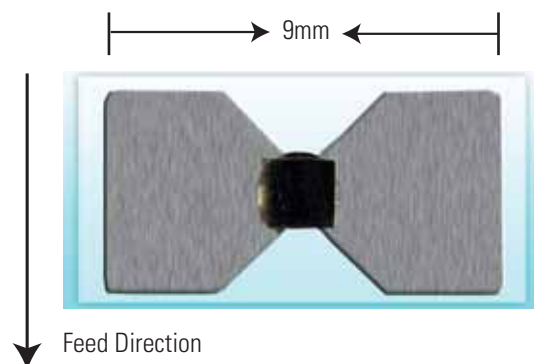- Form factor deigned to enable high speed conversion

Description

Texas Instruments' Gen II Strap features innovative printed designs within an ultra small form factor. Designed for the best ease of integration, the strap is made up of an integrated circuit (IC) and two conducting pads that can be connected to an antenna to enable high speed conversion into inlays, labels, or packaging materials. When applied via high speed strap attachment equipment, the TI Gen II Strap is scalable for high volume production environments.

TI Gen II Strap products are based on the EPCglobal™ Generation II specification with 96 bits of user programmable EPC memory field with Read, Write, and Lock capabilities.

9mm

Feed Direction

Specifications:

Part Number	RX-UHF-STRAP-02
IC Supported Standard	EPC UHF Gen II
IC Operating frequency	860- 960 MHz
EPC Memory	96 bits EPC user programmable
TID Memory	32 bits factory pre-programmed
Data Retention	2 Years at + 25°C
Write/erase cycle	1000 + 25°C
Operating temperature	-40°C to + 65°C
Storage temperature (single)	-40°C to + 85°C
Storage temperature (on reel)	-40°C to + 45°C
Bending radius	15 mm (0.59")
Strap pitch	4.0mm (± 0.5mm)
Width of strap	9.0mm (± 0.25mm)
Material/thickness	75 micron (~2.95 mils) PET substrate
Connection Pad Material	Printed silver ink
Quantity per reel	40K per reel
Reel diameter	0.5" ID; 13" OD

Preliminary

Non-volatile (NVM) EPC User Memory Configuration*:

Memory Bank	Memory Bank Name	Memory Bank Bit Address	Bit Number															
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
01_2	EPC	70_h-$7F_h$	EPC[15:0]															
		60_h-$6F_h$	EPC[31:16]															
		50_h-$5F_h$	EPC[47:32]															
		40_h-$4F_h$	EPC[63:48]															
		30_h-$3F_h$	EPC[79:64]															
		20_h-$2F_h$	EPC[95:80]															
		10_h-$1F_h$	PROTOCOL CONTROL BITS															
		00_h-$0F_h$	CRC-16															
00_2	RESERVED	80_h-$8F_h$	Reserved															
		70_h-$7F_h$	Reserved															
		60_h-$6F_h$	Reserved															
		50_h-$5F_h$	Reserved															
		40_h-$4F_h$	LOCK_BITS[9:0]											KILL	Reserved				
		30_h-$3F_h$	ACCESS PASSWORD[15:0]															
		20_h-$2F_h$	ACCESS PASSWORD[31:16]															
		10_h-$1F_h$	KILL PASSWORD[15:0]															
		00_h-$0F_h$	KILL PASSWORD[31:16]															

* 96 bit read/write/lock EPC user memory configuration according to EPC Gen 2 (v1.0.9)

List of Commands*:

Command	Code	Length (bits)	Supported?	Protection
QueryRep	00	4	Yes	Unique command length
ACK	01	18	Yes	Unique command length
Query	1000	22	Yes	Unique command length and a CRC-5
QueryAdjust	1001	9	Yes	Unique command length
Select	1010	> 44	Yes	CRC-16
Reserved for future use	1011	-	-	-
NAK	11000000	8	Yes	Unique command length
Req_RN	11000001	40	Yes	CRC-16
Read	11000010	> 57	Yes	CRC-16
Write	11000011	> 58	Yes	CRC-16
Kill	11000100	59	Yes	CRC-16
Lock	11000101	60	Yes	CRC-16
Access	11000110	56	Yes	CRC-16
BlockWrite	11000111	> 57	No	CRC-16
BlockErase	11001000	> 57	No	CRC-16

* according to EPC Gen 2 (v1.0.9)

TEXAS INSTRUMENTS