



Qstar-7X(71/73/73-V)

Overview:

Qstar-7X is an Internet of things (IOT) RFID chip that conforms to EPC global Gen 2 protocol. This RFID chip has excellent read sensitivity and write sensitivity. In addition to supporting single port antenna port, it can also support dual-differential antenna ports which can enable compact Omni-directional tags and improve item-level read reliability.

Features

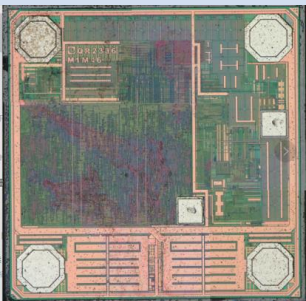
- Read sensitivity up to -21dBm (Sensitivity on a dipole antenna)
- Write sensitivity up to -17dBm (Sensitivity on a dipole antenna)
- Storage temperature range: -55°C ~ +125°C
- Operating temperature (Toper): -40°C to +85°C
- EPC global Gen 2V2 and ISO 18000-6C
- EPC Bank: 528 bits (Maximum, Include 16 bit CRC and 16bit PC, details check Memory Map)
- TID Bank: 96 bits
- Reserved Bank: 64 bits
- User: 512 bits (Maximum, details check Memory Map)
- Block write (1 word or 2 word)
- Block erase (1 word or 2 word)
- Block Perma Lock function (Block size is 4 words)
- Support single port antenna port
- Support dual-differential antenna ports
- Flexible memory architecture between EPC & USER
- Automatic antenna tuning

Operating Conditions & Electrical Characteristics

Parameters	Conditions	Min	Typ	Max	Unit
Air Interface Characteristics					
Operating Frequency	Supported Frequency Range	840	-	960	MHz
Read Sensitivity	Normal Read	-	-21[1]	-	dBm
Write Sensitivity	Normal Write, Block Write	-	-17[1]	-	dBm
Maximum operating power	The max power that the chip receives, under which the chip could work properly.	-	-	20	dBm
Equivalent input parallel resistance	At minimum input power	-	5000	-	Ω
Equivalent input parallel capacitance	At minimum input power	-	0.83	-	pF
Memory Characteristics					
Data retention	Temperature 27°C	-	50	-	year
Endurance		-	100,000	-	cycle

Key Applications

- Item Level Tagging (Apparel tagging)
- Logistics/supply chain management
- Retailing tagging
- Tobacco Identifying
- Stuff/Vehicle Access Control
- Air baggage tagging
- Pallet/Case tracking
- Anti-counterfeit
- Power Company Asset Management
- Medical Health
- Library Management
- Automobile Tire Management
- Jewelry Management



Chip

Memory Map

Bank	Address	Description	Memory	Bits		
				71	73	73-V
TID	00h-5Fh	TID	ROM-NVM	96	96	96
EPC	00h-0Fh	CRC-16	RAM	16	16	16
	10h-1Fh	PC	NVM	16	16	16
	20h-23Fh	EPC	NVM	496	128	96-496
Reserved	00h-1Fh	Kill password	NVM	32	32	32
	20h-3Fh	Access password	NVM	32	32	32
USER	00h-20Fh	USER bank	NVM	128	512	64-512

[1] Sensitivity on a 2.1 db Gain dipole antenna.

