

Qstar-6X

Overview:

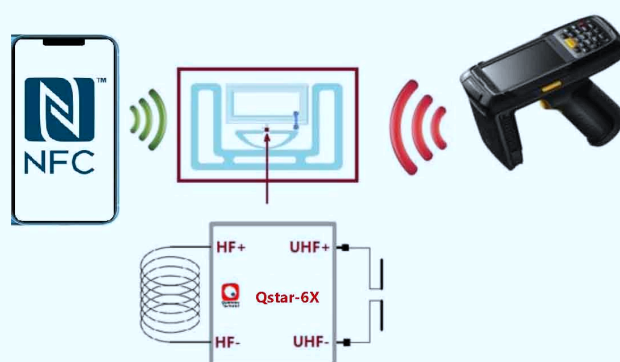
As the first generation of HF&UHF dual frequency tag chip, Qstar-6X brings the revolutionary RFID application experience, Supported by the industry-leading unique encryption algorithm and breakthrough chip physical anti transfer technology, it also supports the security and anti-counterfeiting inspection of iPhone, which could be widely adopted in fields of retailing, anti-counterfeiting, air baggage tagging, logistics, etc. Qstar-6X is designed fully compatible to ISO\IEC18000-6C, EPC Global GEN2 V2 and ISO\IEC 14443 TYPE A, NFC FORUM TYPE 2,featuring 2kbit-user memory in GEN2 shared with HF, special authentication and unparalleled reliability in the harsh environment.

Features

- -19 dBm typical read sensitivity when using UHF RF antenna port
- Industry leading UHF write sensitivity up to -12dBm
- UHF Maximum operation power 20dBm
- HF read magnetic field strength 0.08A/m
- HF minimum write magnetic field strength 0.11A/m
- Working temperature range -40 °C ~ +85 °C
- ISO\IEC18000-6C, EPC Global GEN2 V2 and ISO\IEC 14443 TYPE A, NFC FORUM TYPE 2 compliant
- Up to 2K bits USER memory shared in UHF and HF
- UHF data rate: forward link:40 – 160 kbits/s; reverse link:40 – 640 kbits/s
- Up to 30 years of data retention time in 85°C
- Up to 100K cycles erasable endurance
- Support EAS function (optional)
- Mutual authentication with customized crypto engine (optional)
- Support chip physical anti transfer technology (optional)
- Support BlockPermaLock/BlockWrite
- Support iPhone security verification(optional)
- Support UHF open/short detection (optional)
- Support HF field detection
- ESD: HBM ±2KV

Key Applications

- Anti-counterfeiting(Liquor and luxury)
- IT asset management
- Item Level Tagging (Apparel tagging)
- Air Baggage tagging
- Logistics/supply chain management
- Access Control



Operating conditions & electrical characteristics

Frequency Range	Parameter	Condition	Min	Typ	Max	Notes
UHF	Operation frequency		840MHz		960MHz	
	Data rate		40kbits/s		640kbits/s	
HF	Operation frequency			13.56MHz		
UHF	Read sensitivity			-19dBm		[1] [2]
	Write sensitivity			-12dBm		[1]
	Maximum operation power				20dBm	[1] [2]
	Equivalent input parallel resistance			2.3KOhm		[3] [4]
	Equivalent input parallel capacitance			0.5pF		[3] [4]
HF	Read magnetic field strength			0.08A/m		[5]
	Write magnetic field strength			0.11A/m		
	Equivalent input parallel capacitance			50pF/ 17pF		
	Data Retention	85 °C	30years			
	Endurance		100,000 cycles			

[1] Sensitivity on a 2dBi dipole antenna
 [2] Measure the tag sensitivity using the query command
 [3] At minimum operating power
 [4] Antenna mount parasitic capacitance is excluded.
 [5] with ID-1 size HF antenna

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