SICDI2C

Dual Interface RFID UHF and I²C
with Tamper Detection

SICDI2C is an innovative chip that supports both UHF EPC Gen2V2 and I²C communication protocols.

The chip can operate as either an I²C-master or an I²C-slave.
SICDI2C can power the I²C-slave components, enabling batteryless solution. Also equips with a tamper detection mechanism that provides tamper evidence and anti-counterfeiting capabilities.

Batteryless
Enabling Maintenance-Free Operation

No MCU
Bridging UHF RFID to Digital Sensor Directly

HIGHLIGHT FEATURES

- UHF ISO18000-6C compliant
- EPC Gen2V2 compliant
- Configurable I²C Master/Slave interface
- Bridging UHF RFID to digital sensor without MCU
- Support both Batteryless and BAP* mode
- User memory 8,192-bits
- Tamper detection status
- Programable regulator output voltage 1.4V to 1.9V

APPLICATIONS

- Passive sensor device solution
- Predictive maintenance system
- Cold chain tracking
- Intelligent fleet management
- Inventory visibility and location

DUAL INTERFACE UHF AND I²C WITH TAMPER DETECTION

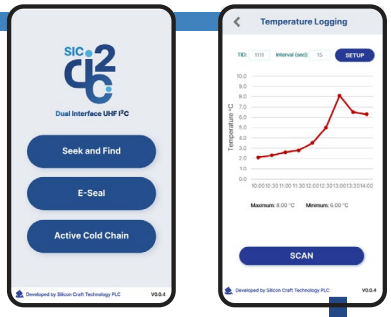
SPECIFICATION TABLE

SPECIFICATIONS	SICDI2C
UHF Interface	
Standard	• UHF ISO18000-6C Compliant • EPC Gen2V2 Compliant
Read Sensitivity	• -20 dBm, -27 dBm with BAP*
Write Sensitivity	• -15 dBm, -27 dBm with BAP*
Optional Command	• Support BlockPermalock • Support BlockWrite 64 bits
I²C Interface	
I²C Mode	Master, Slave
Memory and Security	
EPC Memory [bits]	128
TID Memory [bits]	128
User Memory [bits]	8,192
Access Password [bits]	32
Kill Password [bits]	32
EEPROM Write Cycle [times]	up to 100,000
EEPROM Memory Retention [years]	up to 10
Operating Condition	
Operating Temperature	-40°C to 85°C
External Supply Voltage [External Power Source Mode]	1.4V to 3.6V
Regulated Output Voltage [RF Energy Harvesting Mode]	1.4V to 1.9V
Others	
I/O Function	Tampering Detection
Target Package	• Sawn Wafer 8 inch with Bump • QFN8L

Remark [*]: Battery-Assisted Passive

DEMONSTRATION MATERIALS

- Demo Android Application
- PCB Design and Schematic Diagram



Silicon Craft Technology PLC
40 Thetsaban Rangsan Nua RD., Lat Yao,
Chatuchak, Bangkok 10900 Thailand.

+66 2 589 9991
+66 2 589 8881

info@sic.co.th
www.sic.co.th