



UCODE G2XM UCODE G2XL

Ultra high frequency smart label ICs

UCODE G2XM and UCODE G2XL are specifically tailored to the requirements of passive intelligent tags and labels. Conforming to the EPCglobal Class1 Gen2 standard, the devices address application areas which demand long operating distances and high anti-collision rates, such as supply chain management and logistics.

General Description

The devices show unsurpassed UHF performance over the entire UHF bandwidth, reliable operation in dense reader environment and long read ranges. UCODE G2X feature an extended 240 bit EPC number and a 64 bit tag identifier, including a 32 bit unique serial number.

UCODE G2XM and UCODE G2XL provide a unique custom command set, such as Electronic Article Surveillance (EAS) for increased theft protection, Read Protect which prevents unauthorized chip memory access and Calibrate, which makes it easier to optimize the reader to tag communication. All custom commands are 32 bit access password protected.

Benefits

- ▶ Long read range due to high chip sensitivity
- ▶ Ease of tag assembly due to high chip input capacitance
- ▶ Consistent performance on different materials
- ▶ Reliable operation in multi-reader environment
- ▶ Theft protection through EAS feature
- ▶ Prevention of unauthorized memory access due to read protection
- ▶ Wide temperature range: -40°C up to +85°C
- ▶ Global use from 840 up to 960MHz

Applications

- ▶ Supply chain management
- ▶ Asset tracking
- ▶ Pallet and case tracking
- ▶ Container identification
- ▶ Item level tagging

Key Features

- ▶ EPCglobal C1G2 1.0.9 certified, compliant to EPCglobal C1G2 1.1.0
- ▶ 512-bit on-chip user memory (available on UCODE G2XM)
- ▶ 240-bit EPC number
- ▶ 64-bit tag identifier, including 32-bit unique serial number
- ▶ EAS (electronic article surveillance) custom command
- ▶ Read Protect custom command
- ▶ Calibrate custom command
- ▶ 32-bit access password, 32-bit kill password
- ▶ Fast data rate:
 - Forward link: 40 - 160 kbits/s
 - Return link: 40 - 640 kbits/s
- ▶ Multi-label operation
 - Europe: 600 tags/s
 - US: 1600 tags/s

Standards Compliance

UCODE G2XM and UCODE G2XL are certified according to EPCglobal Class1 Generation2 Version1.0.9 and conform to EPCglobal Class1 Generation2 Version1.1.0.



Frequency Band

Symbol	Description	Min	Max	Unit
UHF	Frequency Band	840	960	MHz

Electrical Parameter

Description	Typ. value	Unit
Input chip capacitance	0.9	pF
Quality factor	9	
Minimum operating power	- 15	dBm
Interference signal suppression*	- 4	dB

* Modulated jammer, offset to carrier frequency > 1.0 MHz

Ordering information

Part	Ordering number	Delivery type description
UCODE G2XM	SL3ICS1002FUG/V7AF	Bumped and sawn wafer on foil frame carrier (8 inch)
	SL3S1002FTT	SMD package: TSSOP8
	SL3FCS1002FC	Flip chip package: Polymer strap
UCODE G2XL	SL3ICS1202FUG/V7AF	Bumped and sawn wafer on foil frame carrier (8 inch)
	SL3S1202FTT	SMD package: TSSOP8
	SL3FCS1202FC	Flip chip package: Polymer strap

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