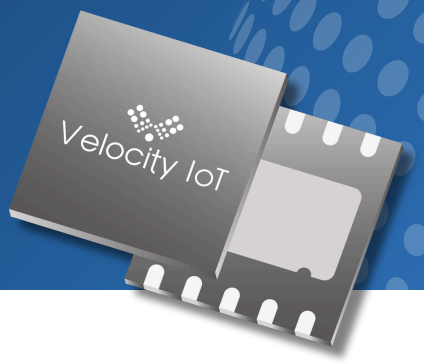
Velocity IoT

VIoT-Flex

MFF2 Datasheet

UICC | Multi-IMSI | Industrial Grade



Product Overview

The Velocity IoT UICC MFF2 embedded SIM is built for demanding IoT environments. Designed to withstand extreme temperatures and deliver high endurance, it combines secure hardware with advanced multi-IMSI technology to enable reliable global connectivity for industrial IoT deployments.

Simplify deployments and eliminate the complexity of managing multiple carrier relationships with a single, scalable connectivity solution built for seamless integration and long-term flexibility.

Highlights

Powered by Velocity IoT's intelligent SIM applet, these features ensure reliable, flexible, and secure multi-network connectivity—while reducing operational complexity.

- **Simplified Global Connectivity:** Access multiple carriers through a single SIM SKU, leveraging a global IMSI library to support seamless deployments while reducing cost and complexity.
- **Autonomous Network Switching:** Automatic failover if carrier or IMSI becomes unavailable.
- **Local Breakout Performance:** High throughput and low latency with local packet gateways
- **Remote SIM Control:** Secure over-the-air (OTA) updates. Remotely update IMSI configurations and SIM settings via SMS or HTTPS.
- **Built-in Flexibility:** Supports 2G, 3G, 4G, LTE-M, NB-IoT, and 5G with the ability to upgrade to emerging technologies like satellite NTN**.**

Technical Specifications

Feature	Specification
Form Factor	MFF2 - 5.0 x 6.0 mm
Grade	Industrial
Contact Layout	8-pin (C1-C8) ISO/IEC 7816 Layout +1

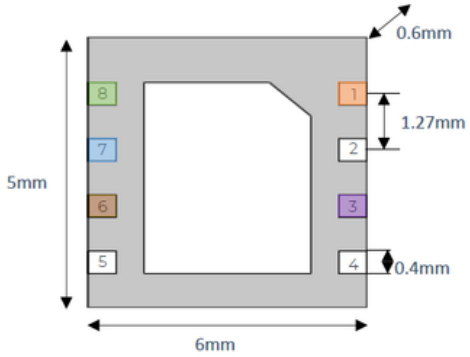
Hardware & Architecture	Detail
Secure Chipset	Infineon SLM17ECB800B
Operating System	Kigen EMu10.35
Memory Capacity	800KB Flash (User (405 KB)+ System)
Write Endurance	1.5M write cycles
Data Retention	10 Years

Electrical & Environmental	Detail
Operating Temperature	-40°C to +105°C (Industrial Grade)
Storage Temperature	-40°C to +105°C (chip level)
ESD Rating	HBM 4 kV (chip level), CDM supported
Operating Voltage	1.62V to 5.5V (Support for Classes A, B, and C)
Communication	ISO/IEC 7816-3, T=0

Organization	Reference Standard
ISO/IEC	7816 Series (Parts 1, 2, and 3)
Oracle Java Card	Java Card 3 Platform Classic Edition v3.0.5
Global Platform	2.3.1 (Amendments A, B, D, E)
ETSI	TS 102 221 (Physical and Logical Characteristics)
3GPP	Release 16 (5G Ready), TS 31.102 (USIM)
Security	Common Criteria EAL4+ (chipset certified)
Regulatory	RoHS and REACH Compliant

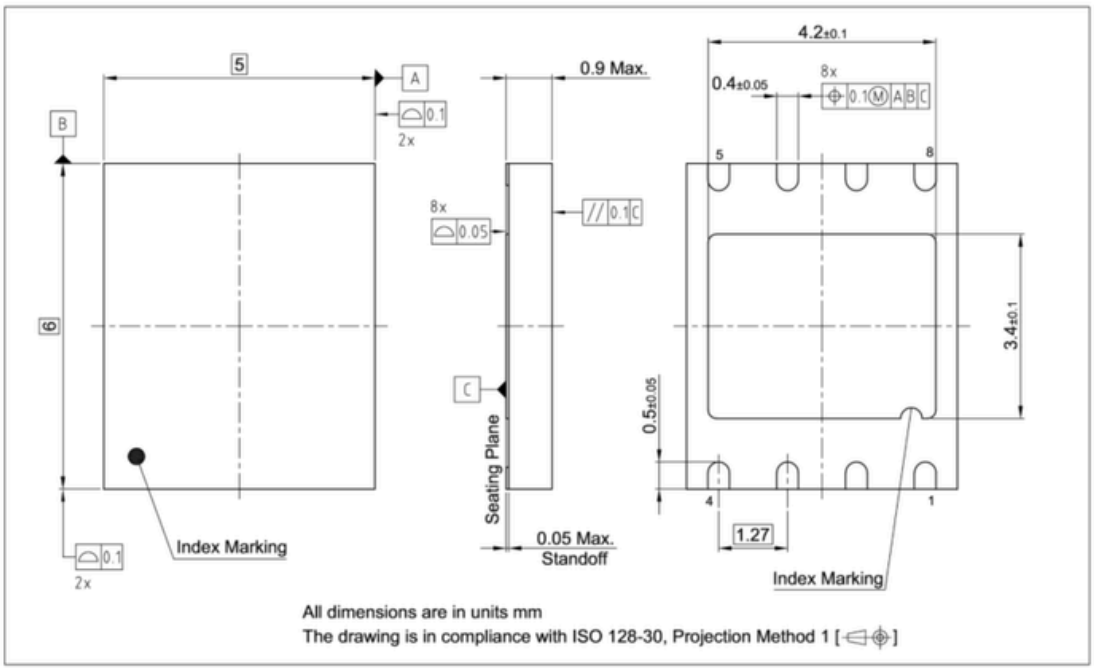
Mechanical & Package Information

Chip Pinout

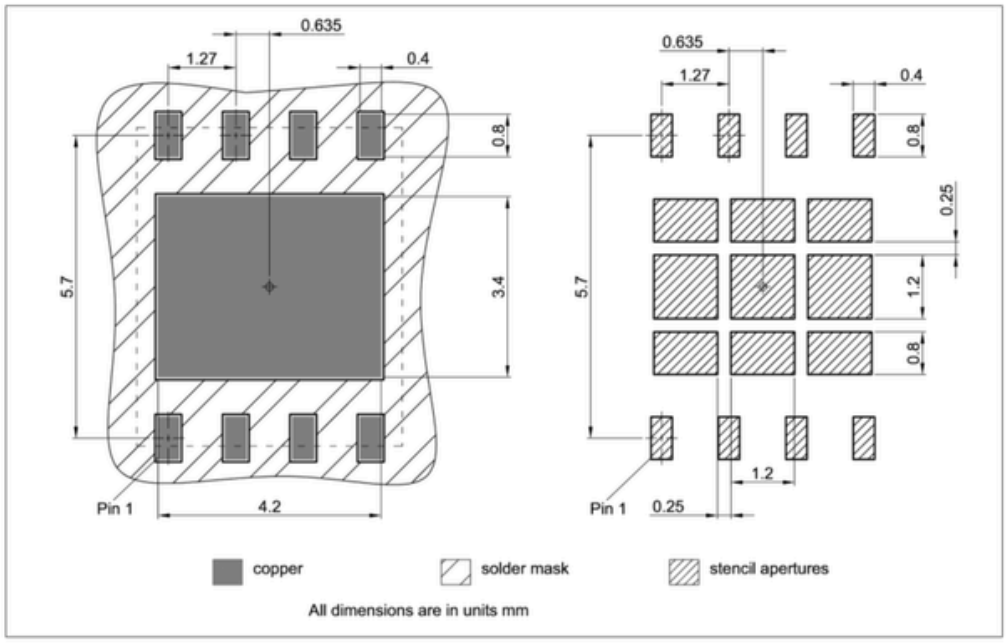


Pin Definition:
- #1 – Vss
- #2 – n/c
- #3 – I/O
- #4 – n/c
- #5 – n/c
- #6 – CLK
- #7 – RST
- #8 – Vcc

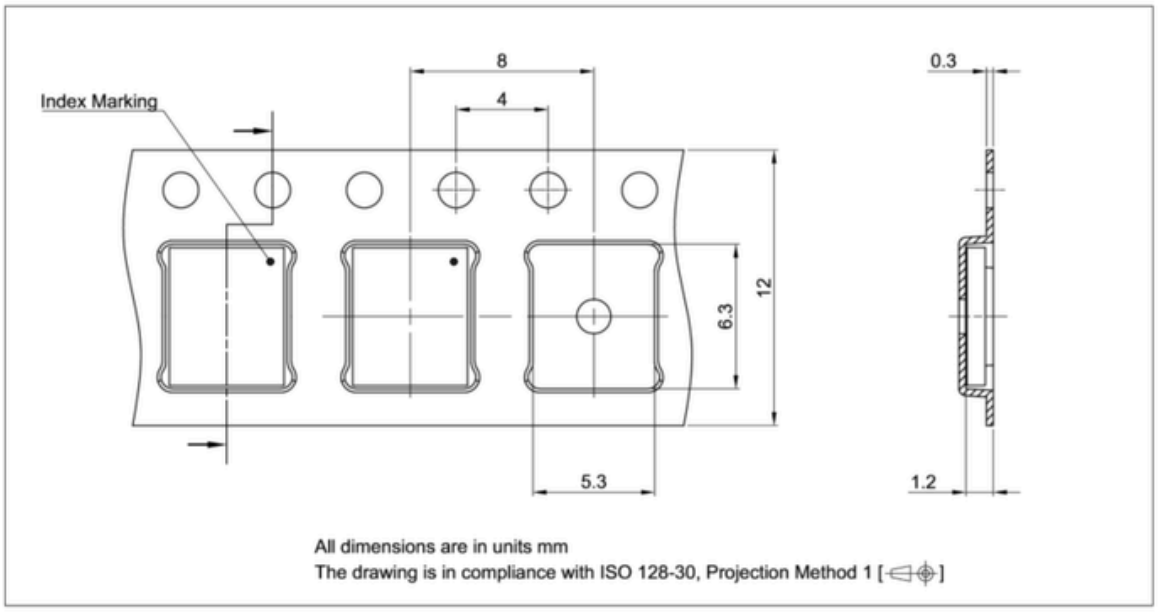
Package Outline



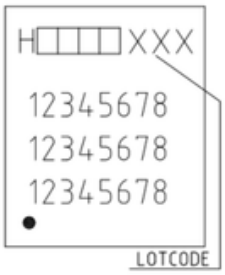
Package Footprint

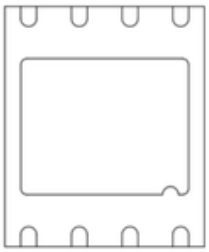


Tape & Reel Packaging



Sample Marking Pattern





The dot indicates pin 01 for the chip. The “lot code” and “serial number” are defined and inserted during fabrication.

The following table describes the sample marking pattern:

Indicator	Description
H□□□□	Engineering samples: “HE<YWW>”: • Halogen-free • Engineering Sample • <Y>: 2nd digit of production year • <WW>: production week (calendar week) Qualified production parts: “H<YYWW>”: • Halogen-free • <YY>: production year • <WW>: production week (calendar week)
XXX	Lot code, defined and inserted during fabrication, issued by the packaging site

Ordering Information

SKU	Description
VIOT-1SIM-MFF2-NA	Coverage North America (Available on Digi-Key)
VIOT-1SIM-MFF2-GL	Global Coverage (Available on Digi-Key)
VIOT-1SIM-MFF2	Custom Order

Sales: sales@velocityiot.com
Support: support@velocityiot.com