Integrated SIM For Secure IoT Innovation

Kigen iSIM adoption playbook for manufacturers

Kigen

The next generation of cellular IoT is here and available

Visit kigen.com/iSIM

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iSIM - Introducing the Integrated SIM

Integrated SIM or iSIM is the next generation of eSIM technology, which moves the SIM functionality into a dedicated space on the System on Chip (SoC), protected by a tamper-resistant element (iTRE) or secure enclave. iSIM consumes up to 70% less power than a discrete SIM and is 98% smaller than eSIM, opening up new forms of ultra-power efficient devices unimaginable before.

iSIM enables network authentication and applicative security for device data. This provides unparalleled innovation opportunities for OEMs and device makers to design more compact and energy-efficient connected devices for a future where sustainability is ever important.

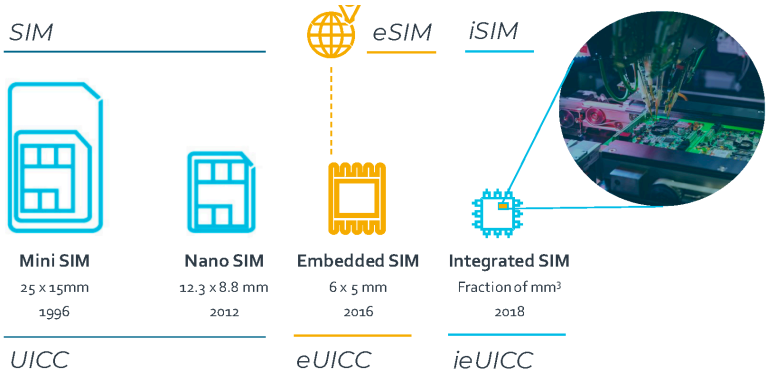
iSIM is projected to take over as the dominant SIM form factor, with the shipments of iSIM-capable devices poised to scale to 7 billion units between 2021 and 2030 - **Counterpoint Research**

Secure Identity

The Internet of Things (IoT) era brings billions of connected devices with more use cases appearing in industries such as smart meters, asset tracking, healthcare and micro mobility. For us to fully realize the economic value of IoT, data from these hyperconnected devices needs to be trusted and relied upon. This requires devices and services that can quickly and securely exchange data. The standards-based SIM technology is the best solution to make that happen — but only if it can be efficiently, flexibly deployed, and managed at scale for IoT.

Both eSIM and iSIM, can remotely provision SIMs while acting as a Root of Trust, which make this possible. Kigen pioneered the iSIM in 2018 to bridge the pressing need for security across IoT devices and to ensure that out-of-the-box connectivity is scalable and accessible to all device makers with support from connectivity service providers. Today, Kigen and partners garner the world's leading iSIM ecosystem focused on supporting OEMs and device makers to take advantage of the benefits of iSIM technology.

Benefits of the Integrated SIM



1.

98% smaller

iSIM is significantly smaller than eSIM, reducing the circuit board footprint and releasing valuable silicon real estate – ideal for ever more compact device form factors.

2.

Supporting New Use-Cases

Integration is an evolutionary step for SIM technology which is unlocking a host of new use-cases in rapidly transforming industries such as utilities, logistics and supply chains.

3.

Lower Bill of Material

Reduces the bill of materials from three to one with the iSIM consolidation of the MCU, radio and iSIM OS.

4.

Industry-Backed

Kigen's iSIM supports the GSMA achieving EAL5+ certification on select chipsets, TCA, and Global Platform standards-based approach, meaning all mobile ecosystem stakeholders can have high confidence in integrated SIM solutions' security, interoperability, and reliability.

5.

Enabling Device Evolution

Integration reduces the number of components to support the development of smaller, thinner devices while optimizing power consumption to increase battery life.

Data security built for the new AI age

Advanced and generative AI is set to supercharge the power of enterprises to harness value in data and cyber defendants alike. Kigen's iSIM offers the ultimate foundation for data to be secured and trustable from the chip to the cloud based on GSMA IoT-SAFE standard for data security.

By integrating the Root of Trust directly into the SoC, iSIM maximizes IoT data security further than any other form of IoT technology. What's more, it's bring industry-leading levels of tamper-proof protection to keep data localized, all the while safeguarding IP and innovation for manufacturers and enterprises. iSIM technology is an indispensable tool for protecting IP for machine learning, AI and advanced use-cases.

Related Resources

< Outlook: ChatGPT and IoT security
< Perspectives: IoT security for intelligence at the edge
< Partnerships: iSIM for Android based ecosystem innovation

Why Kigen?

As a pioneer of the iSIM technology, Kigen iSIM OS is the most widely adopted secure OS for iSIM technology for IoT. All leading IoT module vendors and chipset manufacturers have adopted Kigen's iSIM OS. The leading IoT MNO and MVNOs in all regions are part of Kigen's iSIM connectivity ecosystem.

Did you know?

< 70% lower power *

iSIM can reduce standby power consumption significantly compared to multi-chip designs – a real game changer for devices that must operate on a built-in lifetime battery.

< 13% lower TCO $

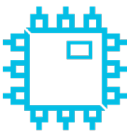
Research shows that across a range of use-cases, iSIM technology contributes to a reduction in total cost of ownership (TCO) compared to eSIM and SIM technologies.

1/* Based on selected configurations using Kigen iSIM OS
2/$ Based on Transforma Insights, "Using eSIM and iSIM will save money for IoT deployments," 2022.

Implementing utlimate secure foundations for your products by Kigen

World leading iSIM OS for IoT

Specifically tuned for the needs of IoT with a lean code size, Kigen iSIM OS can address the most memory-constrained chipsets and modules. On select configurations, Kigen iSIM OS is 70% lower power.



Secure iSIM Blob

The digital bundle uniquely binds the operator subscription to the module and is loaded into the silicon chip's secure enclave. Kigen brings significant experience of supporting commercial iSIM products in volume production with continued investment in processes that support your adoption.

Robust, global connectivity

Kigen's iSIM solution supports a fixed network subscription or a build-once and ship-anywhere model. Network coverage is available through the world's largest MNOs and MVNOs with leading LPWAN network connectivity.

Unparalleled module and chipset ecosystem

From the most mature iSIM platform chipsets to EAL5+ certified security, Kigen offers choice in chipset and module partners suited for high volume manufacturing.

Making cellular manufacturing work for you

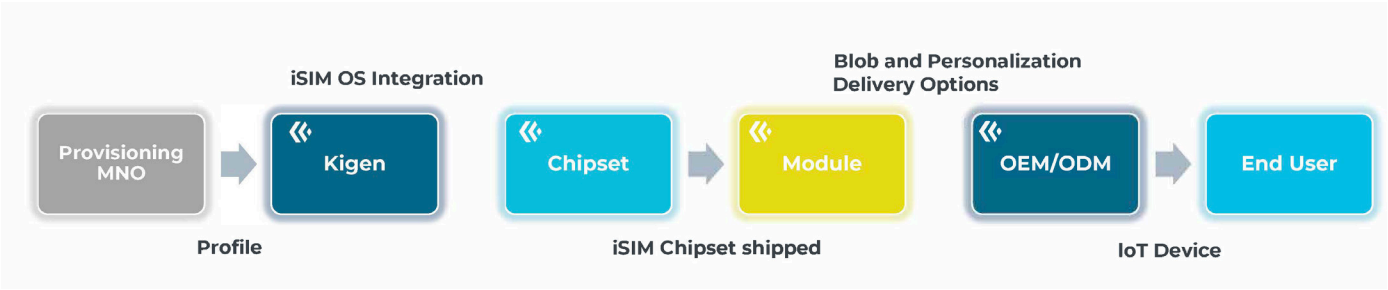
Our in-factory secure provisioning solutions is designed to meet just-in-time, scale, security and throughput needs. Remote provisioning, authentication and subscription management can be streamlined with ready-to-use capability native to iSIM aswell as eSIM technology.

Kigen's remote SIM provisioning service (RSP) enables network operators to securely manage connectivity over the air. Futureproof investments with leading-edge standards (SM-DP+, chairing IOT RSP standardization at GSMA)

Partnerships to power your success

Today, most leading module makers have announced iSIM modules based on Kigen iSIM OS.

Kigen's established ecosystem partnerships help simplify device manufacturing while delivering cellular security and coverage. We are involved at each stage of iSIM implementation and work closely with MNOs, chipset makers, module makers and OEMs.



Kigen's involvement with ecosystem partners throughout iSIM implementation

In addition to Kigen iSIM OS, our deep partnerships within the module and chipset ecosystem simplify your adoption of iSIM suited to your manufacturing and late-stage personalization needs. As a result, developers can devote more attention to optimizing their overall system implementation, leading to faster, more secure IoT connectivity and iSIM use cases.

The combination of iSIM technology and the advances in Low Power Wide Area (LPWA) networks, such as LTE-M and NB-IoT, is ideal for deployments with low power, low bandwidth requirements. iSIM requires the selection of MNO or MVNO provider by the manufacturer or end customer ahead of manufacture.

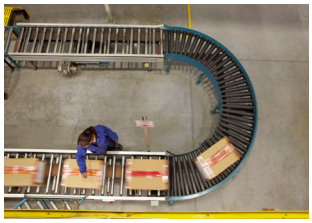
Whether you need a single-network profile or multiple, Kigen's connectivity ecosystem includes the leading MNOs in all key regions and LPWAN connectivity providers across 190 countries. Kigen can also work with your preferred connectivity partner for any hardware featured in this e-book.

Further Resources:
< See the latest in LPWAN networks deployed here.

Unlocking high growth IoT markets with iSIM

Today, most leading module makers have announced iSIM modules based on Kigen iSIM OS.

Combined with reduced size, efficient power usage and high performance, Kigen's iSIM open up countless possibilities for new use-cases.



Asset Tracking and Monitoring

iSIM technology enables connected label solutions offering more visibility over shipments, enhancing customer experience and lower tracking costs.

Smart Energy and Utilities

Utility providers use new devices to offer dynamic pricing, real-time billing and access to connected devices for remote monitoring.

Sustainable Transport

Transport vehicles such as e-bikes offer greener ways to travel and make cities more sustainable.

Smart Fleet Management

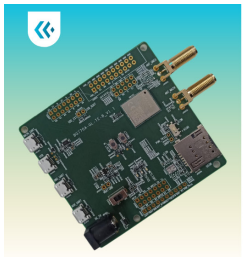
Providers use new devices to offer targeted information or process payments.

Healthcare

Connected health monitoring devices for recurring and predictive treatment of life threatening conditions that commend adherence to strict data requirements, and where space is a premium.

Get started with Kigen iSIM Evaluation Kits and Plaforms!

Discover Kigen iSIM Evaluation Kits: the fastest, simplest track to accelerate your iSIM hardware with the right combination of chip, module and connectivity partner. In conjunction with the world's leading iSIM ecosystems, get access to the best in class dual-band LTE-M and NB-IoT connectivity available today.



Designed as a comprehensive toolkit, available evaluation kits are for device makers to evaluate connected IoT products for scale and subject to business qualification. Unfortunately, these evaluation platforms are not available to the public or for non-commercial use.

Register your interest

Ready to innovate with iSIM?

To realize the opportunity in secure **#FutureofSIM, contact a Kigen expert today.**

Toby Grimshaw
iSIM Solutions Director
linkedin: @tobygrimshaw
email: toby.grimshaw@kigen.com

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