ST4SIM solutions for M2M cellular connectivity

STSECURE

M2M industrial & IoT

Growing demand for wireless connectivity applications

Healthcare

Smart home & building

Smart cities

Asset tracking

Utilities & industrial IoT

Connecting everything everywhere

Several connected devices using cellular networks

Prodividing connectivity services wherever you go

- ✓ Always connected
- ✓ Real-time asset management
- ✓ Improved coverage
- ✓ Flexible connectivity

Introducing the SIM & eSIM concept

From the removable SIM to the soldered and interoperable eSIM

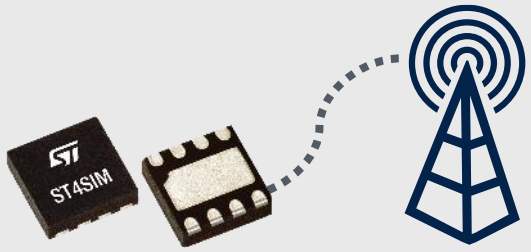
Classical SIM card
Removable

Traditional SIM concept inherited from mobile phone

1 SIM card = 1 operator

Embedded SIM (eSIM)
Soldered

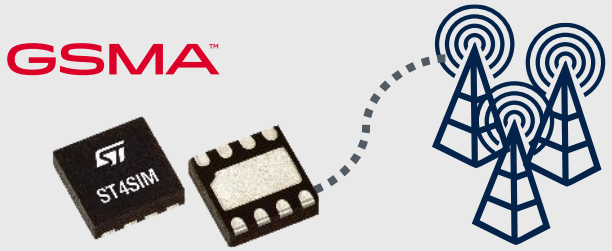
An optimized footprint and reliable package as soldered



1 eSIM = 1 operator

GSMA-certified eSIM
Removable or Soldered

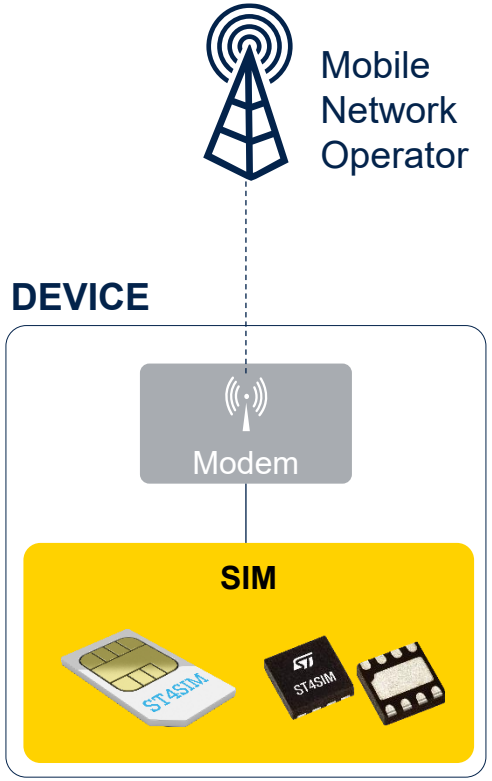
Possibility to change remotely the operator without replacing the SIM



1 eSIM = more operators

Introducing the SIM concept

A component always required to enable cellular connectivity



The **SIM** is

- Statically linked to a single operator
- Requires huge maintenance in case of operator swap
- Owned by operator
- Complex in term of logistic management

- Based on a secure microcontroller hardware
- Stores all information identifying the subscriber and the telecom operator (MNO/MVNO)
- Provides to the modem all features to access the cellular network
- Is available in multiple packages (removable or solderable)
- Is compliant with multiple segments requirements (IoT and Industrial)

New requirements coming from IoT

Need to ease the SIM/eSIM deployment

Future mainstream

Reprogrammable

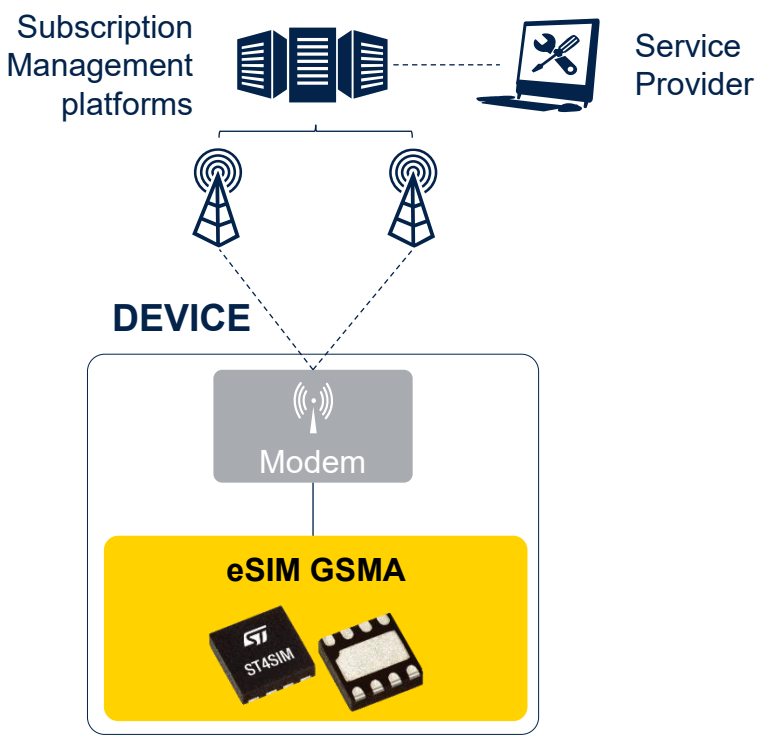
Traditional SIM

Non-reprogrammable

> IoT-enabled product manufacturers would have the ability to build devices with “blank” SIMs that could be activated in the destination country.
>
> This functionality would make for easy equipment connectivity and allow manufacturers to offer new products in new market segments.
>
> **McKinsey & Company**

Introducing the eSIM concept

New standard product pushed by GSMA



GSMA™

The **eSIM**, also known as an embedded UICC (eUICC), is a SIM which:

- Allows to change operator without physical SIM swapping
- Hosts multiple operator profiles – only one at a time is enabled
- Is owned by an OEM
- Is available on different packages (removable or solderable)
- Is compliant with multiple segments (IoT and Industrial)
- Is compatible with LTE, 5G and LPWA(*) networks

(*) RSP not possible under NB-IoT with eUICC M2M (SGP.02) due to the SMS missing

Acceleration of eSIM demand

IoT devices are more and more cellular connected

Growing markets

Healthcare

Metering

Asset Tracking

GSMA eSIM key adoption factors

- Factory-loaded bootstrap allowing out-of-the-box connectivity
- Single SKU eSIM independent from localization
- Optimization for low power consumption
- Interoperable and GSMA-standardized product
- Capability to securely executes sensitive services
- Simplified logistic process

ST4SIM solution overview

Secure cellular connectivity solutions for IoT and Industrial

Wide range of SIM/eSIM solutions
based on Basic, Cryptographic and GSMA SGP.02 / SGP.32 configurations

GSMA eSIM certified and interoperable
with MNOs & Subscription Management platforms

Complete ecosystem
with trusted partners for connectivity & Subscription Management Platforms

Industrial grade solutions (T° & reliability)

Multiple packages format (Card plugin, MFF2, WLCSP)

ST4SIM ecosystem

ST4SIM component

- IoT and Industrial-grade HW
- Multiple form factor
- SIM / eSIM solution configuration
- GSMA eSIM certified and interoperable

+ Pre-loaded connectivity from partners

Telecom Operator

User

Application

Connectivity management

Connectivity platforms

Telecom Operator

Complete GSMA eSIM M2M ecosystem with

- **SM-SR:**
  Subscription Manager Secure Routing

Secure connectivity solutions

Cellular connectivity secure solution Leader

SIM / eSIM for consumer or IoT devices (GP / GSMA-certified)
Proven field quality with 1+ Billion units eSIM shipped to date

Strong reliability and security in Industrial markets

Industrial-grade qualification JEDEC [-40°C / +105°C]
Up to Common Criteria EAL6+ certified solutions

State-of-the-art secure product

State-of-the-art, secure and flexible embedded OS
(including certified cryptographic algorithms)
Java Card applet development (Extended OS features and added services)
Standard involvement
(GSMA / Trusted Connectivity Alliance / Global Platform / 3GPP / ETSI)

ST4SIM solutions takeaways

IoT and industrial-grade solutions

Complete cellular connectivity solution with trusted partners

Interoperability with large panel of partners (platform/MNO)

Our technology starts with You

Find out more at st.com/st4sim