FAQ – Integrated SIM

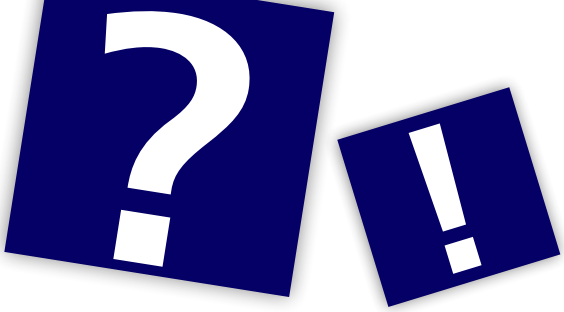
Everything you wanted to know about the Integrated SIM

FAQ by Sony Semiconductor IL and Giesecke+Devrient (G+D)

SIM technology has been used for decades to verify customers on a mobile network or while upgrading an existing phone. Advancements in SIM technology become all the more important as we move closer to a world of increasingly connected people, devices, and machines on the Internet of Things (IoT). Advancements in the traditional SIM led to the embedded SIM (eSIM) technology and its further evolution is the Integrated SIM or integrated Universal Integrated Circuit Card (iUICC). Compared to the traditional SIM and eSIM, the Integrated SIM is no longer a separate hardware in the device. The iUICC combines the baseband module with the SIM within a System on a Chip (SoC). The Integrated SIM has several advantages: a small footprint, low power consumption and cost efficiency. Further, it allows for process optimization for IoT device manufacturers and more.

This document answers the most frequently asked questions about the Integrated SIM.

QUESTIONS	ANSWERS
What benefits does the Integrated SIM bring a cellular IoT device vendor?	This all-in-one technology breakthrough allows IoT device vendors to offer smaller and more power-efficient solutions to drive the massive growth in the IoT market.
Which LTE IoT standards are supported by the existing ALT125x solution?	Sony's low power cellular IoT chipset family ALT125x supports NB-IoT & CAT-M in addition, 2G is available in specific modules.
How does the system achieve this high level of security?	G+D's leading SIM software runs on an isolated secure element hardware integrated inside the Sony (Altair) chip and adheres to G+D's strict security assessment standards.
Does the Integrated SIM support Multi-IMSI solutions?	Yes, it can support Multi-IMSI applications.
How many MNOs have approved it?	The Integrated SIM is already acknowledged and approved by multiple global Tier-1 MNOs and MVNOs, including press announcements by AT&T, LGU+, and others. The onboarding of additional Tier-1 operators is in progress.
Is the service activation/provisioning on the network the same (profile setup) as with a traditional SIM?	Yes, the activation of the Integrated SIM is the same as with traditional SIM cards.
Can the MNO be changed after the initial Integrated SIM profile setup and especially after device deployment?	Currently not. The Integrated SIM is compliant with ETSI/3GPP and therefore only remote file administration is supported, e.g. changing profile content. In its next phases, the iUICC may evolve to comply with upcoming GSMA standards.
Is the Integrated SIM, like Sony's ALT125x, cheaper than eSIM solutions?	The Integrated SIM in the ALT125x enables greater cost reduction compared to a standard eSIM solution. From a total-cost-of-ownership perspective, it is not only the cost advantage of the iUICC but also the savings to be realized as a result of the smaller BOM, the size reduction, there being no need for a tray for the plug-in SIM, significantly less handling and lower processing costs for discrete SIM cards.
Are there any shared resources (e.g. memory) between the Integrated SIM and the modem chipset?	All resources are statically assigned to Integrated SIM and securely assessed to be protected against change.



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Is the Integrated SIM envisioned just for IoT devices with low bandwidth ("slow" data transfer) or also for devices with high throughput like phones and modems?	The Integrated SIM is suitable for any cellular device. As for IoT, the Integrated SIM based on the ALT1250 chipset can be used in the R14 LTE CAT-M/NB-IoT and 2G network and the ALT1255 chipset can be used in the R14 NB-IoT and 2G network as a fallback.
Is the Integrated SIM compliant with GSMA standards?	The Integrated SIM is compliant with ETSI/3GPP. In its next phases, the Integrated SIM may evolve to comply with upcoming GSMA standards.
What is the level of commercial readiness worldwide? In markets like India, there are local government regulations. For example, we cannot have the Integrated SIM personalized outside India as we cannot send Integrated SIM/eSIM data outside the country; and any data personalization on the Integrated SIM and the module has to be done within India.	The Integrated SIM is commercially deployed. Personalization can be done anywhere, including India. Sony and G+D can support and introduce the process.
What's the timing for enabling the Integrated SIM to support 5G NR for mobile devices?	The Integrated SIM based on the ALT1250 chipset is used in IoT devices targeting LTE CAT-M/NB-IoT. The same Integrated SIM will be used in the next-generation chipset with 5G NR capabilities.
Will there be a specific set of IMEI+IMSI+ICCID even before module/device production?	Yes, a specific set of data is pre-generated and bundled with the secure operating system and is provisioned during the module or device manufacturing process.
Will there be a few different PINs of the chipset with the Integrated SIM and without? Or will all Sony chipsets starting with the ALT125x come with an iUICC?	The PNs with an Integrated SIM are ALT1250ST, ALT1250SB, and ALT1255SB.
Are OTA services supported with iUICC?	OTA services such as remote file management are supported.
Will there be a chipset API to switch from the Integrated SIM to the external SIM interface?	There is an AT command to switch from the Integrated SIM to the external SIM I/O.
When will we see the Integrated SIM in the automotive sector?	The ALT1250/ALT1255 chipsets are qualified for industrial grade applications and are being commercially used in automotive aftermarket applications. At the moment, there is no plan for AEC-Q qualification.

Please contact us if you have any further questions.

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