

M2M CONTROLLERS FOR MACHINE-TO-MACHINE APPLICATIONS



M2M (Machine-To-Machine) over cellular networks is one of the fast growing markets. It allows automated communication between remote machines and central management applications with minimized or dispensed human intervention. Such definition is applicable to a wide range of market segments and as those applications are multiple specific cares must be taken to ensure that M2M controllers provided are able to cope with various and extreme environments.

Optimized in Every Aspect : Robustness, Performances and Flexibility

StarChip® carefully selects the most advanced technologies and IPs available to optimize the design of its M2M Controllers. The result is the SCM family, a complete product portfolio dedicated for M2M applications that fully encompass the requirements of the M2M market thanks to :

- High performance 32-bit CORTUS APS3 Architecture
- Best-in-class Endurance thanks to E³ (ECUBE - Endurance Enhancement Engine)
- Endurance Lifetime Gauge
- Extended temperature range from -40°C to 105°C
- Robust Data Retention (>10 years)
- Optimized DFN8 package compliant with ETSI TS 102.671 MFF2
- Compliant with ETSI TS 102.671: TB-MA-HA-VA-SA-RA-UC
- Optimized cost value chain through Direct purchase from foundries
- Dual silicon sourcing HHGrace and UMC

Design for Harsh Environments

Qualification of the SCM family has been designed to ensure correct operation whatever the system is used in. With products ranging from 360 KB to 1 400 KB Flash, the SCM family has been designed to answer to all types of M2M applications. The SCM M2M family shares the same core platform as the SCF SIM controller family, allowing easy software porting and reuse. Tools are also common between the two families giving to SCF developers an immediate access to the SCM family.

QUALITY

We build quality into every aspect of our business, and extend our commitment to long-term customer satisfaction through a broad array of support services. StarChip® is proud to offer an IC expert team that is fully dedicated to supporting our customers throughout the entire product lifecycle.

ISO 9001:2008 certified

SCM KEY FEATURES

CPU :

High-performance 32-bit CORTUS APS3
Up to 20Mips@20Mhz
Advanced low power modes

Flash Memory :

Fully flash-based with SST SuperFlash
Robust data retention (>15 years)
Ultra-high endurance (ECUBE)

Endurance Lifetime Gauge

Temperature :

Operating Temp. -40°C to 105°C

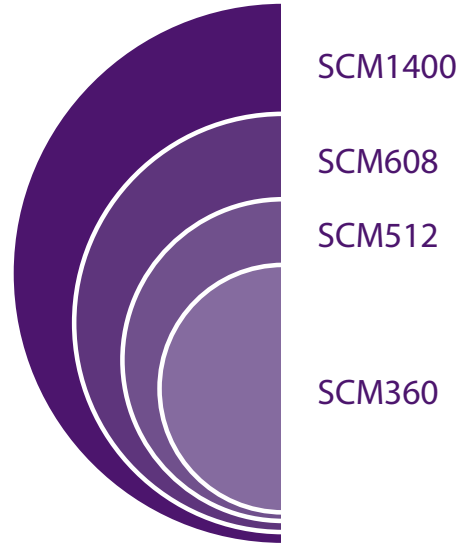
Security :

Secured Memory
TurboSecure Uploading System
High resistance to cloning
Exhaustive traceability
Secure Lifecycle management
Invicte Crypto Engine (SCM1400)
EMVCo / EAL5+ (SCM1400)

Development Tools

StarBox Real-Time Emulator
Complete Development Suite

FULL COMPATIBILITY ACROSS THE FAMILY



PACKAGING

Our M2M controllers can be delivered in wafer form, sawn dies on frame module or standard industrial packages.

M2M CONTROLLERS PRODUCT DETAILS

Part Number	Clock Freq (MHz)	Flash (KB)	RAM (KB)	Interfaces	Crypto	Endurance	Application /Misc	Packaging
SCM360	20	360	13.6	ISO 7816	SW DES, SW AES	500 Kcycles/page	M2M	Wafer form, sawn dice dies on frame, module or MFF2
SCM512	25	512	18	ISO 7816	SW DES, SW AES	500 Kcycles/page	M2M	Wafer form, sawn dice dies on frame, module or MFF2
SCM608	20	608	24	ISO 7816	SW DES, SW AES	500 Kcycles/page	M2M	Wafer form, sawn dice dies on frame, module or MFF2
SCM1400	100	1400	50	ISO 7816, SPI, SWP, I2C, GPIO	HW DES, AES, PKI	1 Mcycles/page	High End SIM NFC eSE/eSIM/ eUICC	Wafer form, sawn dice dies on frame, module or MFF2, QFN20, USON20, WLCSP

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Endurance Enhancement Engine :
Ultra-High endurance at low cost



Global Auto-Immune Architecture



Turbosecure Uploading System



Secure Lifecycle Management

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