Seamlessly Transition to 5G with the EM8695 5G RedCap Module.

The Semtech EM8695 5G RedCap module delivers efficient, cost-effective, and future-proof 5G connectivity tailored for mid-range IoT applications, including wearable, wireless industrial sensors, video surveillance, asset tracking and mid-speed computing devices.

Supporting 5G NR Sub-6 with 4G fallback, it achieves data rates of up to 223 Mbps downlink and 123 Mbps uplink, making it ideal for applications that require 5G longevity without the performance or cost of 5G eMBB hardware.

Built on the future-proof 3GPP Release 17 standard, it provides scalable, long-term compatibility with evolving IoT platforms. Its simplified design, featuring fewer antennas than traditional 5G modules reduces complexity and lowers development costs, making deployment easier and more accessible. With up to 65% lower power consumption compared to LTE Cat-4 modules, the EM8695 is an energy-efficient choice for battery-operated devices. Backed by Semtech's proven leadership in cellular technology and reliable global support, the EM8695 5G RedCap module provides reliable and innovative connectivity for next-generation IoT deployments.



5G RedCap

Provides 5G longevity with optimized performance, streamlined design, and lower development costs, tailored for mid-tier IoT applications

Global Coverage

Worldwide coverage on a single module with industry and mobile network certifications to get you to market faster

Industrial-Grade

Tested for harsh environments and extreme temperatures

Location Services

Integrated GNSS receiver enables tracking and location-based services with dual L1 and L5 bands for increased accuracy

Enhanced Coverage

Dual SIM single standby (DSSS) switches between networks quickly to stay connected

Secure Boot

Prevents unauthorized code on the target to keep your connectivity secure

Energy Efficiency

Reduces power use by up to 65% compared to LTE Cat-4 modules

Optional eSIM

Embedded SIM to simplify and add flexibility to IoT deployments

Seamless 5G Upgrade

Pin compatible with our existing 4G modules. Supporting USB 2.0 interface

EM8695 5G RedCap Module Specifications

5G NR	
Category	5G NR Sub-6
Frequency Bands	n1, 2, 3, 5, 7, 8, 12, 13, 14, 18, 20, 25, 26, 28, 30, 38, 40, 41, 48, 66, 70, 71, 77, 78, 79
4G LTE	
Category	LTE
Frequency Bands	B1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 28, 30, 34, 38, 39, 40, 41, 42, 43, 48, 66, 70, 71
Data Speed	
Peak Download Rate	Up to 223 Mbps
Peak Upload Rate	Up to 123 Mbps
Location Services	
Satellite Systems	GNSS L1, L5 (GPS, Glonass, Galileo, BeiDou)

Embedded Software	
Firmware	Secure boot, pre-certified firmware
System Drivers	Windows 10, Windows 11, Linux Driver, Android RIL
INTERFACES	

Embedded Software	
USB	USB 2.0
GPIO	Yes
Tx ON Indicator	Yes
SIM Interface 1.8V/3V	Yes

HARDWARE	
CF3 Form Factor	M.2
Dimensions	30×42 mm
Temperature Range	-30°C to +70°C (operating class A) -40°C to +85°C (operating class B)

APPROVALS	
Carrier	AT&T (FirstNet)*, Verizon*, T-Mobile*, Telstra*, DoCoMo*, SoftBank*, KDDI*
Regulatory	FCC*, IC*, GCF*, JATE/Telec*, NCC*, PTCRB*, EU RED*

* pending

EMBEDDED SIM	
EMBEDDED SIM	Optional