Optimized 5G NR performance for broad coverage applications with a simple upgrade path to mmWave

The EM9191 module is part of the EM Series offering global 5G connectivity. Designed in an M.2 form factor, the EM9191 is compatible with Sierra Wireless's EM9190 module for a simple upgrade path to mmWave, as well as the EM7690 module to help facilitate the migration and differentiation between 4G LTE and 5G.

This 5G NR Sub-6 GHz embedded module delivers up to 4.5Gbps downlink speed and 660Mbps uplink speed. With automatic 4G and 3G fallback networks and integrated GNSS receiver (GPS, GLONASS, BeiDou, and Galileo satellite systems supported), the EM9191 is applicable to a wide range of IoT applications such as industrial routers, home gateways, industrial and consumer laptops, rugged tablet PCs, video surveillance and digital signage.

Specifications

5G NR	
Category	5G NR Sub-6
Frequency Bands	n1, n2, n3, n5, n7, n8, n12, n20, n25, n28, n38, n40, n41, n48, n66, n71, n77, n78, n79
4G LTE	
Category	Cat-20
Frequency Bands	B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B18, B19, B20, B21, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B46, B48, B66, B71
DATA SPEED	
Peak Download Rate	4.5 Gbps
Peak Upload Rate	660Mbps
LOCATION SERVICES	

DATA SPEED	
Satellite Systems	Galileo, Glonass, GPS, Beidou (Bands: L1 and L5)

EMBEDDED SOFTWARE	
Firmware	Secure boot, Pre-certified firmware
System Drivers	Windows® 10, Linux, Android RIL

INTERFACES	
USB	USB 3.1
PCIe	PCIe generation 3 (or 2), 1 lane

HARDWARE	
Dimensions	30x52x2.38mm
Temperature Range	-30°C / +70°C, -40°C / +85°C

APPROVALS	
Carrier	AT&T (FirstNet), NTT Docomo, T-Mobile, Verizon
Planned Carrier	Telstra
Regulatory	FCC, GCF, IC, PTCRB, EU RED, JATE/Telec

EMBEDDED SIM	
EMBEDDED SIM	Onboard eUICC (Planned)