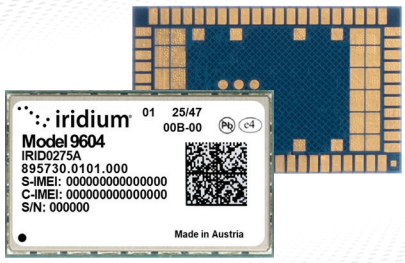
Iridium® 9604

Hybrid LTE-M Cellular + Iridium SBD Satellite + GNSS Module for IoT



The Iridium 9604 offers developers a hybrid connectivity module that combines Iridium's proven Short Burst Data® (SBD®) satellite, LTE-M cellular, and integrated GNSS positioning in a single, compact module.

Simplified Integration

- **Integrated module** combining Iridium SBD satellite, LTE-M cellular, and GNSS in compact SARA form-factor (16 × 26 × 2.4 mm).
- **Cost savings** by eliminating the need for three separate components - satellite modem, cellular modem, and GNSS receiver – and creating one single module.
- **Up to 60% less board space** with shared antenna architecture, dual RF ports for Iridium/GNSS and LTE, and unified power management for streamlined RF design.

Developer Control

- **Complete connectivity strategy control** by implementing your own failover logic without forced automatic switching.
- **Location-aware decision making** with integrated GNSS enabling intelligent routing based on position and coverage.
- **Standard development tools** using familiar AT commands and a development kit with reference designs for rapid prototyping and deployment.

At a Glance

- Form factor: 96-pin LGA (SARA)
- Dimensions: 16 × 26 × 2.4 mm
- Power: 1 µA PSM current
- Connectivity: SBD + LTE-M + GNSS
- Temperature: -40°C to +85°C
- Certifications: FCC, ISED, CE-RED & UKCA
- Conformance: PTCRB, GCF, ITU
- MNO type approval: AT&T with FirstNet

Enterprise Reliability

- **Iridium's Global Low Earth (LEO) network** provides 20+ years SBD heritage with real-time, two-way messaging coverage pole-to-pole.
- **Ultra-low power consumption** with optimized sleep modes across all subsystems.
- **Industrial-grade** qualification with ISO/TS 16949 manufacturing, and AEC-Q104 standards, ensuring secure, resilient connectivity via cellular and satellite networks for harsh environments.

The Iridium 9604 delivers reliable global connectivity through hybrid cellular + satellite architecture in a compact, developer-friendly package. Built on proven u-blox technology, this economical solution provides comprehensive connectivity in just over 400mm² for worldwide IoT applications. Part of Iridium's expanding portfolio, the Iridium 9604 offers developers tailored choices — backed by proven satellite heritage and global partner ecosystem for enterprise-grade performance.

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Mechanical		
	Dimensions	16.0 × 26.0 × 2.4 mm
	Weight	<3g
	Package	96 pin LGA, Surface Mount Device (SMD)
	Form Factor	SARA-compatible
	Board space	400 mm²
Power		
	Power supply	3.8 V nominal, range 3.0 V to 4.5 V
	LTE-M PSM Current	1 µA
	LTE-M eDRX Current	180 µA
	LTE Cat M1 Connected Mode Current (avg)	195 mA (at 23 dBm Tx power)
	Satellite Connected Mode Current (avg)	Rx mode: 118 mA Tx mode (@ 32.2 dBm): 2.5A typical, 2.8A max (1A higher instantaneous peak)
Connectivity		
	LTE-M Technology	3GPP Releases 13 and 14 LTE Cat M1 Half-duplex, 588 kb/s DL, 1200 kb/s UL
	LTE-M Bands	1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 28, 66, 71, 85
	LTE Power Class	23 dBm
	SMS (in LTE mode)	MT/MO PDU/text mode & SMS over SG/NAS
	Satellite Protocol	Short Burst Data (SBD)
	Satellite Message sizes	340 bytes (MO), 270 bytes (MT)
	Satellite Bands	L-band (1616-1626.5 MHz)
	Satellite Tx power	32.2 dBm (max)
	Network Coverage	Global (pole-to-pole)
Positioning		
	GNSS Receiver	Integrated u-blox M10 chip
	GNSS Constellations	GPS, GLONASS, BeiDou, Galileo
	Operation Mode	LTE-concurrent GNSS
	GNSS Antenna Interface	Shared with satellite
Support Products		
	Iridium 9604	Iridium 9604 Development Kit
Software		
	Protocol	Dual stack IPv4 and IPv6, PPP over IPv4 and IPv6, Embedded TCP/IP, UDP/IP, FTP, HTTP, DNS, Embedded MQTT and MQTT-SN, Embedded CoAP and LwM2M, Embedded TLS/DTLS, SIM provisioning (BIP)
	Positioning	GNSS antenna interface shared with satellite Integrated branding M10 chip for LTE-concurrent GNSS (GPS, GLONASS, BeiDou, Galileo)
	Functionalities	CellTime for robust and accurate timing reference, Last gasp, Jamming detection, Antenna detection, SIM detection
	Secure Boot & Updates	Supported
Interfaces		
	Serial	8-wire UART, configurable as 2× 4-wire UART with ring indication, DDC (I2C), USB for diagnostics
	GPIO	Up to 6 GPIOs, configurable
	(U)SIM	Supports 1.8 V and 3.0 V
Environmental		
	Operating temperature	−40 °C to +85 °C
	Storage Temperature	Up to +40 °C / 90% RH
	Compliance	RoHS compliant (lead-free)
Certifications and Approvals		
	Regulatory	FCC, ISED, CE-RED*, UKCA
	Conformance	GCF, PTCRB. ITU GMPCS-MOU
	Cellular MNO Type Approval Available	AT&T with FirstNet
	Satellite Network	Iridium
	Quality Standard	Manufactured in ISO/TS 16949 certified production sites
	Qualification	Based on AEC-Q104

*Includes compliance with RED Directive 2014/53/EU, article 3.3 d/e/f regarding cybersecurity requirements, using ETSI EN 303 645 standard.

Learn More

For general questions and hardware details, please contact us at sales@iridium.com.

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