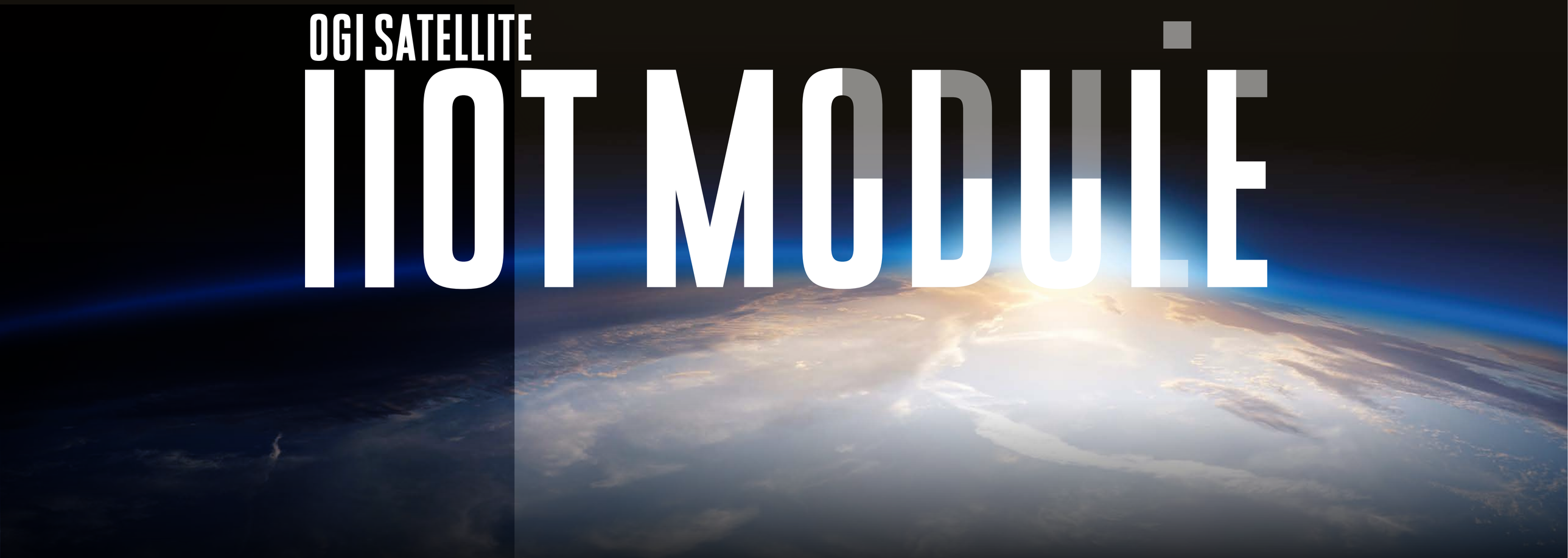
inmarsat

OGI SATELLITE

IIOT MODULE



OGI SATELLITE IIOT MODULE

A module for manufacturers enabling the global Industrial Internet of Things

ORBCOMM's OGi modem is designed for Original Equipment Manufacturers and operates over the Inmarsat satellite network to provide a simple AT command interface to enable event-driven data capture and control for remote assets operating in harsh environments. Its small footprint and low power consumption provides industrial-grade connectivity globally, even where no cellular or wireless networks exist today.

AT commands over a UART interface provide the ability to send and receive messages from your edge microprocessor. Additionally, the built-in GNSS receiver shares a single antenna with the Inmarsat signal to provide location and a precise time reference for embedded applications. A choice of antenna variants allows you to address a wide range of application needs.

Typical applications include remote monitoring, industrial automation, fleet management, telemetry and SCADA.

ABOUT ISATDATA PRO

Inmarsat's IsatData Pro ("IDP") service enables asset management and digital transformation in remote locations around the world, as a primary link for machine-to-machine communication or as a mission-critical backup to wireless networks on the ground. Highly reliable operation on Inmarsat's L-band geostationary satellites combines with fully-acknowledged data delivery for truly robust machine communications.

ACTIONABLE DATA

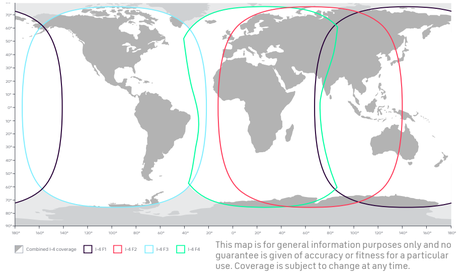
IsatData Pro service is ideally suited to business requirements that can be captured as event-driven, sending the minimum amount of data necessary to make a decision and improve business operations. For example, using only 15 bytes you can send accurate location, speed, heading, date/time of the event and some basic status information. But you can also use larger messages for files or remote configuration.

Inmarsat can help you optimise your data needs to fit your project budget and achieve a rapid return on your IIoT investment

KEY FEATURES AND BENEFITS

- **Highly reliable bi-directional messaging worldwide**
- **Flexible message sizes from bytes to kilobytes**
- **Low latency event-driven communications**
- **Built-in GNSS location/time**
- **Ultra-low power consumption**
- **Wide-range DC power supply**
- **Small footprint enables creative packaging**
- **Simple AT command interface for microcontrollers**

INMARSAT GLOBAL L-BAND NETWORK



SPECIFICATIONS

MECHANICAL

Radio module	Dimensions: 40 x 70 x 10.5 mm; Mass: 20 g
Antenna (unpackaged patch)	Dimensions: 77 x 77 x 15 mm; Mass: 92 g

ENVIRONMENTAL

Operating temperature (°C)	-40C to +85C
Storage temperature (°C)	-40C to +85C

ELECTRICAL

Supply voltage	5 to 15 VDC
Input current (typical @ 5 VDC)	Low power sleep: 2 mA Idle: 23 mA Satellite receive burst: 170 mA GNSS acquisition: 150 mA Satellite transmit burst: 2 A
Serial UART	3.3 VDC CMOS logic level

REGULATORY COMPLIANCE

Inmarsat, IC, FCC 47 CRF Part 25, CE Mark EN 301 426, RoHS

VIBRATION AND SHOCK

MIL-STD-810G sections 514.6, 514.6C-1, 516.6

SAE J1455 section 4.10.4.2

INTEGRATED MULTI-GNSS (GPS / GLONASS / BEIDOU)

Acquisition TTFF	Cold 30s, Hot 1s
Accuracy	2.5m CEP Horizontal
Sensitivity	-147 dBm (Cold Start) / -163 dBm (Tracking)

SATELLITE COMMUNICATIONS

Receive (Rx)	1525.0 to 1559.0 MHz
Transmit (Tx)	1626.5 to 1660.5 MHz
EIRP (maximum)	7 dBW
Elevation angle	Patch antenna: +20 degrees elevation Low elevation antenna: -15 degrees elevation

DEVELOPER RESOURCES

- AT Command documentation
- Software simulator for modem and network
- Open source reference code for AT command interface (Python)
- Hardware specification documentation including integration guidelines
- Secure REST Messaging API
- Core modem message documentation for standard remote operations
- Open source reference library for Messaging API (Node.js)
- Inmarsat Solution Engineering consultancy professional services

DEVELOPER KITS

Developer Kits are available for prototyping and proof of concept.

TYPE APPROVAL

All integrations of the OGi module/antenna must successfully complete Inmarsat Type Approval prior to commercial operation on Inmarsat's network.

FOR MORE INFORMATION

Visit the Inmarsat Developer website

developer.inmarsat.com

While the information in this document has been prepared in good faith, no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability (howsoever arising) is or will be accepted by the Inmarsat group or any of its officers, employees or agents in relation to the adequacy, accuracy, completeness, reasonableness or fitness for purpose of the information in this document. All and any such responsibility and liability is expressly disclaimed and excluded to the maximum extent permitted by applicable law. Coverage as shown on maps is subject to change at any time. INMARSAT is a trademark owned by the International Mobile Satellite Organization, licensed to Inmarsat Global Limited. The Inmarsat LOGO and all other Inmarsat trademarks in this document are owned by Inmarsat Global Limited.
© Inmarsat Global Limited. All rights reserved. IIOT Module. July 2021.