



## OMSAT201 SPECIFICATION

### 1 Physical

#### Dimensions

OMSAT201 transceiver 112 mm x 45.75 mm (diameter x height)

#### Weight

OMSAT201 transceiver 350g

Shipping weight 1.80kg (with all items supplied in carton)

### 2 Environmental

#### Temperature

OMSAT201 transceiver -40C to +70C (requires special cable below -25C)

#### Marine

Climatic, Shock & Vibration EN60945: 2002 (SAT-201 transceiver above decks)

#### Ingress Protection Rating

OMSAT201 transceiver IP66 (when interface connector is correctly mated)

### 3 Power Supply Requirements

**Supply Voltage** 10V to 32V 'smoothed' DC

#### Power Consumption (typical @ 12V)

Sleep 0.5mW

Receive (incl. GPS) 1.5W

Transmit 6W

### 4 Compass Safe Distance

#### Complies with EN60945: 20002 Clause 11.2

To OMSAT201 transceiver 10.5 cm

### 5 Communication

#### 5.1 Frequency Range

**Transmit** 1626.5 MHz to 1660.5 MHz

**Receive** 1525.0 MHz to 1559.0 MHz

**GPS** 1575.42 ± 1.0 MHz

## 5.2 Elevation Angle

|              |           |
|--------------|-----------|
| <b>Range</b> | 0° to 90° |
|--------------|-----------|

## 5.3 Transmitter

|                          |                                   |
|--------------------------|-----------------------------------|
| <b>EIRP</b>              | 0 - 9dBW                          |
| <b>Modulation</b>        | 2 level FSK, 256Hz tone spacing   |
| <b>Tx burst duration</b> | 8s (Global Beam)                  |
| <b>User data rate</b>    | ~10 bits per second (Global beam) |
| <b>Message length</b>    | Up to 84 bits per burst           |

## 5.4 Receiver

|                       |                                   |
|-----------------------|-----------------------------------|
| <b>G/T</b>            | $\geq -25\text{dB/K}$ at EL = 30° |
| <b>Modulation</b>     | 32-ary FSK, 20Hz tone spacing     |
| <b>User data rate</b> | ~9 bits per second                |
| <b>Message length</b> | Up to 1000 bits                   |

## 5.5 GPS

|                                    |   |
|------------------------------------|---|
| <b>Channels</b>                    | 12                                      |
| <b>Time To First Fix (Typical)</b> |   |
| Cold start                         | 45s                                     |
| Hot start                          | <8s (GPS was off for less than 2 hours) |
| <b>Accuracy (SA Off)</b>           |   |
| Position (CEP, 2D)                 | 4m (Typical)                            |
| <b>Altitude</b>                    | maximum 18000m                          |
| <b>Dynamic capability</b>          |   |
| Velocity                           | maximum 515m/s                          |
| Acceleration                       | $\leq 4g$                               |
| <b>Maximum update rate</b>         | 1s                                      |

## 5.6 Control & Monitoring

|                            |                           |
|----------------------------|---------------------------|
| <b>Interface</b>           | Asynchronous serial RS232 |
| <b>Baud rate</b>           | 9600 bps                  |
| Parity/data bits/stop bits | N,8,1                     |

## 6. OMSAT201 Regulatory and Type Approval Information

### 6.1 European Compliance

The equipment is designed, tested and declared to conform to the following European directives and standards:



1999/5/EC (CE mark - R&TTE) [includes directives 89/336/EEC (EMC) and 73/23/EEC (LVD)]

Relevant Standards:

EN301 489-20 v1.2.1(2002-11)  
EN 60950-1:2001  
ETSI EN 301 426 v1.2.1(2001-10)  
ETSI EN 301 489-1 v1.4.1

EMC Testing  
Electrical Safety (R&TTE)  
Radio Approval



95/54/EC ('e' mark)

Relevant standard (as applied to a vehicular environment):

EN 301 489-1 v1.2.1. (2002-11)

**Maritime standards :**

EN60945 :2002 Maritime Navigation and communication equipment and systems,  
including EN60529 :1999 Ingress Protection classification

The Declaration of Conformity can be found in Section **Error! Reference source not found.**

## 6.2 INMARSAT Type Approval

The OMSAT201 (SAT-201) has been certified for operation on the Inmarsat Network (Inmarsat Certificate Number DST002).

## 6.3 Compass Safe Distance

To OMSAT201 transceiver: 10.5 cm

Below Decks Unit meets FCC Part 15 Class A. For SAT-201

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