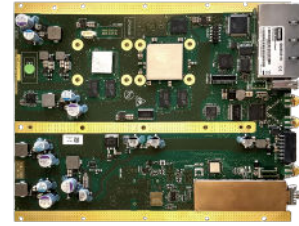# SMB3315 Board Satellite Modem



ST Engineering

The SMB3315 Satellite Modem Board is supported on multiple platforms to cover the widest range of markets and applications. The modem shares a wide range of key features and can be easily mixed in a single satellite network on either Evolution, Velocity or Dialog platform. The modem is extremely flexible as it can leverage several different return waveform technologies across mutiple platforms*:  ATDMA, MF-TDMA, high-rate SCPC and Mx-DMA MRC which seamlessly combines MF-TDMA flexibility with on-demand variable bandwidth allocation of SCPC while guaranteeing the highest efficiency and availability. The SMB3315 also supports wideband operations up to 500 Msps in the forward channel, enabling service providers to set-up any type and size of network on HTS/VTS.

The SMB3315 Board is suitable for integration into highly compact COTM terminals for the government and defense, broadcast and mobility markets.  It offers unprecedented performance in a modem board, supports a broad array of mobility capabilities and is fully equipped to operate on HTS spot beams satellites.

The SMB3315 is also available in a desktop form factor, the MDM3315.

## Markets

- Mobility
- Enterprise
- Cellular backhaul
- Maritime
- Government

## Main Features:

- DVB-S2 (up to 45Msps) / DVB-S2X* (up to 500 Msps) outbound
- Supports DVB-S2X MODCODS up to 64APSK
- Return max rates up to 29 Msps (ATDMA), 64 Msps (SCPC), 25 Msps (Mx-DMA MRC)
- Ideal for both fixed and mobility applications with throughput rates up to 120/48 Mbps
- OpenAMIP and GXT file support for mobility
- Security features with Optional *AES 256 encryption
- ATMEL chip for authentication
- Embedded TCP acceleration, GTP acceleration and header compression

**EVOLUTION**
**VELOCITY**
**DIALOG**

iDIRECT
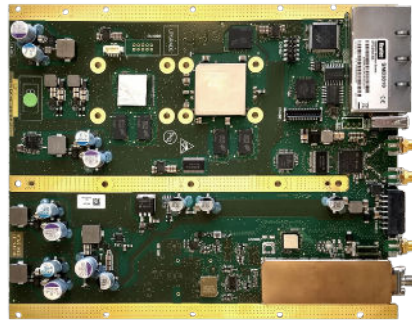
## Network Configuration

| Network Topology | Rx | Tx | | | |
|---|---|---|---|---|---|
| **Dialog** | DVB-S2/DVB-S2X* | MF-TDMA | Mx-DMA HRC | Mx-DMA MRC | SCPC |
| **Modulation** | QPSK, 8PSK, 16APSK, 32APSK, 64APSK (Annex-M) | 4CPM | QPSK, 8PSK 16APSK, 32APSK | QPSK, 8PSK, 16APSK, 32APSK, 64APSK | QPSK, 8PSK, 16APSK, 32APSK, 64APSK |
| **Symbol Rates** | 1 Msps to 480 Msps | Up to 7.6 Msps | Up to 20 Msps | Up to 25 Msps | 1 Msps to 64 Msps |

| | | | | | |
|---|---|---|---|---|---|
| **Velocity** | DVB-S2 | Adaptive TDMA | | | |
| **Modulation** | QPSK, 8PSK, 16APSK, 32APSK | BSPK, QSPK, 8PSK | | | |
| **Symbol Rate** | 1 Msps to 45Msps | Up to 7.5 Msps | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Evolution** | DVB-S2/DVB-S2X | Adaptive TDMA | | | |
| **Modulation** | QPSK, 8PSK, 16APSK, 32APSK, 64APSK | BSPK, QSPK, 8PSK, 16APSK, 32APSK, 64APSK, 16QAM | | | |
| **Symbol Rate** | 1 Msps to 64 Msps | 1 Msps to 29 Msps | | | |

## Modem Interfaces

### Tx Interface

| | |
|---|---|
| Connector | SMA 50 Ohm |
| Frequency range | 950-2400 MHz |
| TX level | -55 dBm to +5 dBm (Dialog) -45 dBm to + 5 dBm (Velocity) |
| BUC power supply | 24V / 4A or 43~44VDC 3.5A software selectable |
| BUC reference | 10/50 MHz |
| BUC reference level | +3 dBm |

### Rx Interface

| | |
|---|---|
| Connector | SMA 50 Ohm |
| Frequency | 950-2150 MHz |
| LNB power supply | 13/18VDC 500mA |
| LNB band selection | 13/18V or 22kHz tone, programmable |
| LNB polarization selection | 13/18 or 22 kHz tone, programmable |

### Data Interface

LAN: Four 10/100/1000 Mbps Ethernet, auto MDI/MDIX

### Management Interface

I/O header, 20 pin connector (includes reset function)

Power & Status signaing connector (14 pin)

**iDIRECT**

*Platform and release dependent*

## Management

### Protocols Supported

UDP, IPv4 & IPv6, ICMP, TCP, IGMPv1, IGMPv2, ARP, DHCP, DNS, NTP, BGP, NAT, Diffserv Marking

### Multilingual Web GUI

*Manage web GUI via configurable management IP address

## Mechanical and Environmental

| | | |
|---|---|---|
| Dimensions | | W 18.2 cm x D 23.5cm x H 2.0 cm (W 7.2 in x D 9.2 in x H 0.79 in) |
| Weight | | 0.4 kg (0.88 lbs) |
| Temp.: | Operating | -25° to +55°C (-13° to +131°F) (subject to adequate heatsinking) |
| | Storage | -40° to +60°C (-40° to +140°F) |
| Operating humidity: | | 5 - 95% non-condensing |

## Power Supply

| | |
|---|---|
| Input Voltage | 24 VDC |
| Power Consumption | <30W |

## Development Kit

CAD drawings & Thermal & Mechanical design guidelines

Electrical interface specification & API description

D0001093 RevA

**ESATCOM INC**