

## AVIAT WTM 4800 MULTI-BAND RADIO

### UNIQUE INTEGRATED DUAL TRANSCEIVER DESIGN

The new WTM 4800 from Aviat Networks is a unique and ground-breaking Multi-Band and E-Band solution in a single radio unit, delivering link capacities over a single antenna of up to 20 Gbps. Built on the market leading WTM 4000 all-outdoor platform, the 4800 leverages advanced L2 and L3 IP/MPLS capabilities to deliver ultra-high capacities, with advanced network intelligence in a single, compact solution.

#### The Ultimate 5G Backhaul Solution

The Aviat WTM 4800 solution provides the capacity, intelligence and flexibility that will be needed to meet the massive demands of 5G. The radio can be deployed in a single channel E-band or Multi-Band mode, supporting up to 10 Gbps link capacity, or in dual channel E-Band with up to 20 Gbps, all in a single radio unit, over a single antenna, delivering the absolute lowest TCO solution.

#### Unique Tri-Core Architecture

The power of the WTM 4800 architecture is its unique dual transceiver, tri-core modem design. A single radio unit can accommodate one or two transceivers, along with an E-Band and dual core microwave modem or two E-Band modems.

#### The only Single-Box Multi-Band Radio

With the tri-core design, in addition to an E-Band transceiver, the WTM 4800 can be fitted with a second transceiver operating in standard 18 or 23 GHz microwave bands (other bands could be supported subject to market demand). Multi-Band enables capacities up to 10 Gbps to be supported over much longer distances than standard E-Band (up to 10km), where the microwave path is used as a back-up for high priority traffic when adverse conditions make the E-Band link unavailable. Traffic aggregation and prioritization are all performed seamlessly inside the WTM 4800. Multi-Band configurations are supported with a single dual-feed multi-band antenna to even further lower TCO. WTM 4800 can also support 3+0 applications, with double capacity on the microwave path, thanks to Aviat's unique A2C feature.

#### High Performance and Advanced Features

WTM 4800 incorporates a high capacity 50 Gbps Carrier Ethernet switch, supporting quality of service (QoS) functions, including traffic classification, traffic policing, congestion avoidance, queue scheduling, and traffic shaping, as well as advanced functions such as Ethernet OAM, and Ethernet Ring Protection (ERP). WTM 4800 also supports multiple Synchronization options IEEE 1588v2 (TC & BC) and Synchronous Ethernet (SyncE).

#### Integrated L3 IP/MPLS and SDN Ready

Additional advanced features, such as integrated IP/MPLS networking and NETCONF/YANG management interface for native SDN support and automation of Network deployment and operations, can be added through simple software upgrades, when and as needed.

#### Design Your Links in AviatCloud

Aviat Design, Aviat's cloud-based link planning application, supports WTM 4800 eband and multiband designs. Aviat Design is the industry's first and only integrated multiband link design solution showing combined view of availability and capacity for the link. This enables easy, fast, intuitive E-Band and Multi-Band designs (all specs included, no pathloss files to download or update, easy cloud access). Popular design tools will require 2 separate link calculations for Multi-Band, and will not result in a combined design for the link, making it virtually impossible to understand the expected link performance or capacity or estimate the proper antenna size. Aviat Design is FREE for use at [www.aviatcloud.com](http://www.aviatcloud.com)



#### KEY FEATURES AT A GLANCE

- Operating frequencies from 71-76, 81-86 GHz [E-Band], plus optional 15, 18, 23 GHz [Multi-Band];
- Operating Modes:
  - WTM 4800 Single Channel: 1+0 80 GHz
  - WTM 4800 Multi-Band: 2+0 E-band and Microwave
  - WTM 4800 Dual Channel: 2+0 80 GHz
- QPSK to 256QAM Modulation [E-Band];
- Channel sizes from 250 to 2000 MHz [E-Band];
- FDD operation;
- Zero-footprint, all-outdoor design;
- Single or dual core/transceiver design.
- 4x user traffic ports, with electrical/PoE and optical interface options, including 1/2.5/10 GE;
- Carrier Ethernet: 802.1q & 802.1ad (QinQ) VLAN, STP/MSTP, L2LA (802.1AX), LACP, ERP (G.8032)
- IP/MPLS: IPv4, IPv6, Static and Dynamic IP Routing; MPLS LDP and RSVP-TE; L2 VPN (VPLS, VPWS) & L3 VPN services
- Advanced Traffic Management: L2/ L3 QoS, Ingress Policing, Shaping, Buffering, Multiple Class scheduling, H-QoS
- Advanced Ethernet OAM, including IEEE 802.1ag and ITU-T Y.1731
- Multiple Synchronization options IEEE 1588v2 (TC & BC) and Synchronous Ethernet (SyncE)
- End-to-end Network Management and Craft Interfaces including Aviat ProVision+, NETCONF/YANG & SDN.

## WTM 4800 SPECIFICATIONS

### RADIO NETWORKING:

- Frequency Band:
  - E-Band: 71-76, 81-86 GHz
  - Microwave: 15, 18, 23 GHz
- Modulation Support:
  - E-Band: 4, 16, 32, 64, 128, 256 QAM
  - Microwave: 4 to 4096QAM
  - Hitless ACM
- Channel Sizes:
  - E-Band: 250, 500, 750, 1000, 1500, 2000 MHz
  - Microwave: 7 to 112 MHz
- Capacity Ranges:
  - Up to 10,000 Mbit/s (1+0, single channel)
  - Up to 10,000 Mbit/s (2+0, Multi-Band)
  - Up to 10,000 Mbit/s (2+0, XPIC)
  - Up to 20,000 Mbit/s (2+0, dual channel)
- Configuration Support:
  - 1+0 & 2+0, with optional XPIC (E-Band only)
- Bandwidth Acceleration:
  - Inter-Frame Gap and Pre-Amble Suppression
- AES256 Payload Encryption

### TRANSMITTER SPECIFICATIONS (E-BAND):

- Maximum Tx Power: +16.5 dBm (at QPSK)
- Frequency Stability:  $\pm 10$  ppm
- Power Control: Fixed or Automatic Transmitter Power Control (ATPC)

### RECEIVER SPECIFICATIONS (E-BAND):

- Frequency Stability:  $\pm 10$  ppm
- Max Receiver Input Level, BER=1x10<sup>-6</sup>: -20 dBm
- Max Receiver Input Level (no damage): -5 dBm
- Residual (Background) Bit Error Rate: 1x10<sup>-13</sup>

### INTERFACES:

- 2x 10/100/1000Base-T (RJ-45) fixed ports (one port optional PoE)
- 2x optional SFP ports – 1, 2.5 or 10 GB SFP+
- DC Power Supply Input, +24/-48VDC (SELV), wide-mouth
- Console Maintenance Ports (USB)
- Receive Signal Indicator: dual voltmeter pins

### SYNCHRONIZATION:

- Internal Stratum-3 clock
- Synchronous Ethernet (ITU-T G.8262)
- ESMC/SSM (ITU-T G.8264)
- Precision Time Protocol (IEEE 1588v2) – TC & BC

### Disclaimer:

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### CARRIER ETHERNET (LAYER 2) SERVICES:

- Switch capability: 50 Gbps non-blocking
- QoS: 8 COS, Scheduling, Policing, Storm Control, Shaping
- QoS mapping: PCP (802.1p), DSCP, H-QoS
- VLANs (IEEE 802.1Q) and Q-in-Q (IEEE 802.1ad)
- Rapid and multiple spanning tree protocols (RSTP, MSTP)
- L2 Link Aggregation (802.1AX)
- Ethernet Ring Protection (G.8032v2)
- Ethernet OAM (IEEE 802.1ag, ITU-T Y.1731)
- Congestion Avoidance: RED and WRED
- Jumbo frames to 10k bytes

### IP/MPLS (LAYER 3) SERVICES:

- IPv4 and IPv6
- Unicast and multicast routing
- IS-IS, OSPF, OSPFv3 & BGP
- Label Distribution Protocol (LDP)
- RSVP-TE
- L2 VPN (VPLS, VPWS) & L3 VPN
- LSP Protection with BFD
- VRF & LSP Ping and Traceroute

### ELEMENT AND NETWORK MANAGEMENT:

- Local Configuration via CLI or Web GUI
- Aviat ProVision+ EMS
- RMON1, RMON2, and port mirroring
- NETCONF/YANG
- SNMP v2c / v3 MIB support (read)
- HTTPS, SSH & TACACS+ client
- SNTPv4, embedded real time clock

### STANDARDS COMPLIANCE:

- EMC: EN 301 489-1, EN 301 489-4
- Operation: EN 300 019 Class 4.1
- Safety: IEC/EN 60950-1, IEC/EN 60950-22
- RF Performance: EN 302 217-2-2
- Water Ingress: IEC 60529, IPX6
- Lightning Protection (internal): IEC-61000-4-5, Cl. 5

### MECHANICAL AND ENVIRONMENTAL:

- Operating Temperature: -40° to +55°C
- Extended Temperature: -45° to +65°C
- Humidity: 0 to 100%, non-condensing
- Altitude: 5,000 meters
- Input voltage: +24/-48 VDC (SELV), nominal
- Input voltage range: +/-18 to +/- 72 VDC
- Power over Ethernet: PoE++ (proprietary)
- Power consumption: 65W (WTM 4800)
- Size (h-w-d): 295mm x 270mm x 95mm (WTM 4800)
- Weight: 5.5 kg (WTM 4800)

