

AVIAT WTM 5800 10 GBIT/S E-BAND RADIO

The new WTM 5800 E-Band solution from Aviat Networks delivers ultra-high capacity capability operating in the lightly-licensed 80 GHz band, optimized in a compact all-outdoor package. With up to 10 Gbit/s of throughput and support for Fronthaul and Dual-Band applications, the WTM 5800 supports cost-effective, 5G-ready capacity for mobile, fixed and private network operators.

Ultra-High, 5G-Ready Capacity

The WTM 5800 operates in the 80 GHz frequency bands to provide higher capacity, lower inter-site interference, and richer frequency spectrum resources than microwave frequency bands. With these features, the WTM 5800 can be used to construct a backhaul network for densely deployed base stations in a city or to provide large-capacity backhaul links for aggregation sites on a backhaul network. In addition, the WTM 5800 can provide high-bandwidth microwave links to support high speed Ethernet services for private and Enterprise network applications, where-ever optical fiber is too expensive or too difficult to deploy or lease.

Backhaul or Fronthaul Links

WTM 5800 transports up to 10 Gbit/s in 2000 MHz of spectrum, or 20 Gbit/s using 2+0 configuration, and is ideal for base station or aggregation sites on a mobile or private network, or as a substitute for optical fibers to transmit common public radio interface (CPRI) signal between the baseband unit (BBU) and remote radio unit (RRU) in a distributed base station system.

High Performance and Advanced Features

WTM 5800 also supports advanced networking features, thanks to an integrated Carrier Ethernet switch, which supports quality of service (QoS) functions, including traffic classification, traffic policing, congestion avoidance, queue scheduling, and traffic shaping.

Dual Band Support

The WTM 5800 supports dual band configurations, in conjunction with the Aviat WTM 4000 microwave platform. Dual band solutions combine the high capacity support of E-Band millimeter-wave, with the longer reach and higher availability of microwave operating in bands, such as in the 18 and 23 GHz. Dual band links support up to 10 Gbps link capacity for 99% of the time, while up to 1 Gbps of high priority traffic is supported for up to 99.999% availability on the microwave link. The entire solution is realized in a compact outdoor package with a single dual-band antenna.



KEY FEATURES AT A GLANCE

- Operating frequencies from 71-76, 81-86 GHz;
- QPSK to 256QAM Modulation;
- Channel sizes from 250 to 2000 MHz;
- FDD operation;
- Zero-footprint, all-outdoor design;
- 5 user ports, including 1x Optical 10GE Ports, 2x optical 2.5/1GE, 1x Electrical GE Port, 1x PoE Port, direct -48VDC;
- 1x CPRI port, up to CPRI Option 7 line rate;
- SDH/SONET TDM support: 1 x STM-4/OC-12 (622.08 Mbps) or 1 x STM-16/OC-48 (2488.32 Mbps)
- Packet Synchronization options including IEEE 1588v2 and Synchronous Ethernet (SyncE);
- Configurations supported include 1+0 and 2+0;
- FIPS-197 compliant 256-bit AES Encryption;
- Dual Band millimeter-wave and microwave support with Aviat WTM 4000;
- Network Management via Aviat ProVision.

WTM 5800 SPECIFICATIONS

RADIO NETWORKING:

- Frequency Band:
 - 71-76, 81-86 GHz
- Modulation Support:
 - 4, 16, 32, 64, 128, 256 QAM
 - Hitless ACM
- Channel Sizes:
 - 250, 500, 1000, 1500, 2000 MHz
- Capacity Range (Licensed):
 - Up to 9700 Mbit/s (1+0, single channel)
 - Up to 19400 Mbit/s (2+0)
- Configuration Support:
 - 1+0 & 2+0, with optional XPIC

TRANSMITTER SPECIFICATIONS:

- Maximum Tx Power: +17 dBm (at QPSK)
- Frequency Stability: ± 10 ppm
- Power Control: Fixed or Automatic Transmitter Power Control (ATPC):

RECEIVER SPECIFICATIONS:

- Frequency Stability: ± 10 ppm
- Max Receiver Input Level, BER=1x10⁻⁶: -20 dBm
- Max Receiver Input Level (no damage): -5 dBm
- Residual (Background) Bit Error Rate 1x10⁻¹³

INTERFACES:

- Service Types: Ethernet, SDH/SONET, CPRI
- Ethernet: 1 x 10G/2.5G/1G SFP+, 2 x 2.5G/1G SFP+, and 2 x RJ-45 for 1G
- SDH/SONET: 1 x STM-4/OC-12 (622.08 Mbps) or 1 x STM-16/OC-48 (2488.32 Mbps)
- CPRI: 1 x Option 1 to 7 (614.4 Mbps to 9830.4 Mbps)
- 1 x USB/Local Management
- DC Power Supply Input: -48VDC

SYNCHRONIZATION:

- Synchronous Ethernet (SyncE) per ITU-T G.8261, G.8262 and DNU section of G.8264
- Precision Time Protocol (PTP) per IEEE 1588v2 – Transparent and Boundary Clock support

CARRIER ETHERNET (LAYER 2) SERVICES:

- Quality of Service per IEEE 802.1p, DSCP and port based
- Scheduling: 8 queues allowing user configurable Strict Priority or Shaped Deficit Weighted Round Robin (SDWRR)
- MEF compliant traffic policing (two rate, three color scheme)
- VLAN per IEEE 802.1q, up to 4096 VLANs
- Provider Bridge Q-in-Q per IEEE 802.1ad
- Congestion Management: Tail Dropping
- Ethernet Protection: Ring per G.8032, MPLS-TP protection (G.8131 & G.8132)
- Maximum Ethernet frame length: Jumbo packets up to 10,000 bytes
- MAC Layer: Supports MAC Learning, MAC Switching, MAC Ageing
- Multiple Spanning Tree Protocol (MSTP), Rapid Spanning Tree Protocol: (RSTP)
- Link State Propagation: Rapid Link Shutdown (RSP) supports remote port LSP

ELEMENT AND NETWORK MANAGEMENT:

- Web-based (HTTP/HTTPS) embedded management agent; Console Interface (CLI/SSH), IPv6 protocol stack
- SNMP Support: MIB-II enterprise MIB, SNMP V1, V2, V3
- SysLog (RFC 3164, RFC 3195) event support, RADIUS RFC2865 client support
- Ethernet OAM per 802.3ah (Link OAM), 802.1ag (Configuration Fault Management), Y.1731 (Performance Monitoring)
- Loopbacks: Ethernet (per port, per direction), Local Modem Test
- Network Management: Aviat ProVision

MECHANICAL AND ENVIRONMENTAL:

- Operating Temperature: -33oC to +55oC (-27oF to +131oF) per EN 300 019-1-4 Class 4.1
- Humidity: 100% all-weather operation
- Operating Altitude: Up to 4,500m (14,764 ft)
- Water Ingress: NEMA 4X (IP66)
- RoHS & WEEE Compliant
- Power Supply: Dedicated DC Connector or PoE
- Input Voltage range: -40.5V to -57.5V
- Power consumption: 73W (typical)
- Size [h-w-d]: 334 mm x 295 mm x 102 mm
- Weight: 4.4 kg

ANTENNAS OPTIONS:

- Parabolic 30 cm / 44 dBi and 60 cm / 51 dBi (Compliant with ETSI EN 302 217 Class 3)

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