AVIAT WTM 3300

ALL OUTDOOR MICROWAVE RADIO URBAN BACKHAUL SIMPLIFIED

Aviat WTM 3300 is the industry's smallest, lightest millimeter radio operating in 70-80 GHz (E-band) frequencies. Unlike many E-band radios which are big, heavy and expensive, the WTM 3300 has an embedded antenna and can deliver link capacities from 200Mbps to 1 Gbps. It is an ideal solution for urban-link deployments such as urban and small cell backhaul, fixed line access and enterprise LAN applications.

INNOVATIVE DESIGN WITH EMBEDDED ANTENNA

WTM 3300 is the first 80 GHz product to feature an 'invisible antenna' design making it 40% smaller, 80% lighter, and up to 40% more energy efficient than other E-band radios. It also means operators can now access more rooftop, wall and street level sites compared to traditional parabolic antenna systems that are often not viable due to technical, environmental or planning restrictions.

Simplify life with "ordinance-friendly" design in a single, easy-to-ship, easy-to-install product that reduces network complexity and delivers consistent service.

LOWEST TCO SOLUTION

WTM 3300 has the lowest total cost of ownership of any E-band radio on the market today and is the lowest cost way to achieve 1Gbps of backhaul capacity. Pay half as much as other solutions up front, and less down the road since you won't need to worry about buying, shipping, and installing separate antennas.

Save Money with the industry's lowest cost option to achieve 1 Gbit/s of link capacity.

ULTRA-HIGH CAPACITY

WTM 3300 offers a unique combination of high system gain, adaptive modulation techniques and capacity scalability from 200 Mbit/s to 1 Gbit/s within a standard 250 MHz channel. Suitable for urban links up to 10km in some regions, the WTM 3300 allows you to meet the capacity needs well into the future.

Safeguard your future, with a radio that can seamlessly scale up to 1 Gbit/s capacity.

MANY URBAN APPLICATIONS

The WTM 3300's sleek design and high capacity makes it ideal for a variety of urban applications including: small cell and macrocell mobile backhaul, fixed line access, enterprise campus deployments, industrial machine-machine communications, and security applications. It maximizes the possible gains operators can realize by using the 80 GHz band and provides an excellent alternative for operators facing the challenge of urban linking in congested radio environments where lower frequencies are scarce or no longer viable.

The WTM 3300 platform is designed according to Carrier Ethernet transport, networking and interoperability standards. Fully compatible with both Aviat Networks and 3rd party switches and routers, the WTM 3300 supports advanced traffic management, security and control features and can be quickly integrated in existing (deployed) IP/MPLS based networks.

KEY FEATURES

- High performance 71-76/81-86 GHz radio terminal with up to 90 dBm of system gain
- Highly scalable 200 Mbit/s to 1 Gbit/s capacity licenses
- Adaptive Modulation - Strong QPSK, QPSK, 16QAM and 64QAM
- Zero-footprint, all-outdoor weatherproof design
- Integrated '"invisible antennas" and 'fast connect ports' generates rapid deployment times and low visual impact
- Low power consumption (<37 W typically) for maximum energy savings
- Full Carrier Ethernet feature set including Quality of Service (QoS), Traffic Policing and Scheduling and VLAN support
- Management support by Aviat Networks ePortal for link/ terminal level access and Provision EMS for pan-network element management

GENERAL SPECIFICATIONS

GENERAL				
Frequency band	Licensed		71-76 and 81-86 GHz FDD	
Modulation options	Adaptive[1]		Strong QPSK [1], QPSK, 16 QAM, 64 QAM	
	Fixed		Strong QPSK [1], QPSK, 16 QAM[1][2], 64 QAM[1][2]	
Error Correction			Convolution Turbo Coding (CTC)	
Radio channel size			250 MHz	
Capacity range	Ethernet/IP throughput L1/1518 byte		200-1000 Mbps[1]	
Configurations	All Outdoor		1+0 NP	
INTERFACES				
Traffic and management connector			RJ45 or RJ45 PoE (100/1000 BaseT)	
Direct Power Feed			-48 VDC, 2 mm[2] (14 AWG) shielded twin cable	
Local Maintenance and Commissioning (LMC) Interface			3.5 mm stereo jack	
RF SPECIFICATIONS				
Transmitter/receiver source			Synthesized	
Frequency stability			± 10 ppm	
Transmitter mute			< -50 dBm	
Rx Max Input Level			0 dB (No damage); -30 dB (Operational)	
Residual (Background) Bit Error Rate			Better than 10^{-13}	
RSSI Accuracy (RSSI measured at LMC port)			0-35 °C (32-95 °F) ± 3, max ± 4 dB	
Output Power@antenna port	Strong QPSK/ QPSK/16QAM/64QAM		14 [1]/14/13/10 dBm[3]	
Receiver Threshold, BER = 10^{-6}, in dBm	Strong QPSK/ QPSK/16QAM/64QAM		-76 [1]/-73/-69/-60 dBm[3]	
CARRIER ETHERNET & IP				
QoS[1]	Transmission Queues		8[1]	
	Scheduling for priority queues		Selectable Strict Priority (SP), Weighted Round Robin (WRR), Hybrid[1]	
	Classification		IEEE 802.1p QoS/CoS bits[1]	
VLAN			VLAN filtering[1]	
			Management traffic segregation by VLAN	
CONFIGURATION MANAGEMENT				
Protocol			SNMP v2c	
Secure Management Features	Secure WEB access		HTTPS and CLI (SSH) using TLSv1	
Interface, electrical			Ethernet 100/1000 BaseT	
Performance monitoring			RMON counters, ITU-T Rec. G.826[1]	
Element management	EM Network		Aviat Networks ProVision®	
	EM Local, Browser-based		CLI / ePortal	
STANDARDS COMPLIANCE INTERNATIONAL				
EMI/EMC			EN 301 489-1, EN 301 489-4, ICES-003	
Operation	Storage		EN 300 019, Part 2-1, Class 1.2	
	Transportation		EN 300 019, Part 2-2, Class 2.3	
	Stationary use		EN 300 019, Part 2-4, Class 4.1	
Safety			EN 60950-1, IEC 60950-1, EN 60950-22, IEC 60950-22	
RF performance			EN 302 217-3	
Lightning protection			Surge 5 kV - 10/700 microsec ITU-T k.45 for Ethernet Cable, IEC61000-4-5 class 5	
RoHS / WEEE compliance			2002/96/EC, 2011/65/EU	
STANDARDS COMPLIANCE ANSI				
EMC			FCC CFR 47, Part 15	
Safety			UL 60950-1, UL 60950-22	
RF performance			FCC CFR 47, Part 101	
ELECTRICAL AND MECHANICAL		**WTM 3305P, WTM 3305**	**WTM 3310P, WTM 3310**	**WTM 3315P, WTM 3315**
Size/Weight		250 x 250 x 43 mm / 2.4 kg	280 x 280 x 84 mm / 3.5 kg	280 x 280 x 81 mm / 3.5 kg
		9.8 x 9.8 x 2.0 in / 5.3 lbs	11.0 x 11.0 x 3.1 in / 7.7 lbs	11.0 x 11.0 x 3.1 in / 7.7 lbs
Power	Typical	36 W	36 W	36 W
ANTENNA				
Antenna mount		UG-387/U for external direct mount antenna	Embedded flat high gain antenna	Embedded flat high gain antenna
Antenna gain		NA	38 dBi	43 dBi
ENVIRONMENTAL				
Operating temperature			Guranteed: -33 °C to 55 °C (-27.4 °F to 131 °F), Extended: -50 °C to 70 °C (-58 °F to 158 °F)	
Humidity			100%	
Altitude			Up to 4500 m (14,763 ft)	
Degree of Protection			IP66	

[1] Preliminary, software version 1.1 or version 1.2
[2] Available as evaluation feature in Ver. 1.0.
[3] Typical values are shown, for guaranteed values (over time and operational range), reduce transmitter power output and receiver sensitivity values by 3 dB.

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ISO 9001 - ISO 14001
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CE0682