

Aviat ODU 600v2

The Aviat ODU 600v2 is a next generation, universal Outdoor Unit (ODU) for split-mount applications, incorporating latest ASIC technology to combine ultra-small size and weight with smooth evolution to ultra-high capacity by supporting up to 4096QAM and 80 MHz channel spacings.

ODU 600v2 is compatible with Aviat Eclipse and CTR indoor platforms, including backwards compatibility with already deployed hardware and software to facilitate easy introduction to existing networks.



Key Features

- Operating frequencies 5, L6/U6, 7/8, 10.5, 11, 13, 15, 18, 23, 26, 38 and 42 GHz.
- High throughput per T/R, per polarization:
 - Typically 716 Mbit/s data
 - Up to 127xDS1
- Flexible Power Mode (FPM) for software selectable standard or optional high power mode.
- Transport options- Carrier Ethernet, PDH/SDH/SONET or Hybrid (mixed-mode Carrier Ethernet + PDH/SDH/SONET), IP/MPLS, in a single radio channel (dependent on indoor unit).
- Up to 4096QAM, with ACM (dependent on indoor unit/RAC).
- Channel size support from 3.75 to 80 MHz, dependent on indoor unit/RAC.
- Wide diplexer tuning range to minimize spares holding, simplify ordering and inventory.
- Configurations supported include:
 - 1+0 NP
 - 1+1 MHSB
 - 1+1 MHSB SD
 - 2+0
 - 2+0 XPIC.
- Ultra-compact: 230 x 180 x 75mm, 2.7 L, all frequency bands.

Highlights

- Next generation, universal ODU to support software defined base and high power modes in a single ODU with Aviat's unique Flexible Power Mode (FPM) capability.
- Highest system gain in its class of ODU across frequency bands from 6-38 GHz, enabling high performance operation at higher modulations while minimizing antenna diameter and tower loading.
- Future-proof, high capacity support - 4096QAM and 80 MHz ready, enabling Gigabit link speeds in a single ODU.
- Interoperable and backwards compatible with the Eclipse and CTR 8000 series indoor units to facilitate easy upgrade and capacity evolution ^[1].
- Over-the air (OTA) compatible with previous Aviat ODU 600 outdoor units to simplify introduction and sparing for existing network deployments ^[1].
- Ultra-compact for low profile installation, lower shipping costs, with integrated handle
- Can be deployed in 1+0 unprotected, 1+1 MHSB (Monitored Hot Standby), 1+1 SD (Space Diversity) and 2+0 (with or without XPIC) configurations.
- Upgrade existing Aviat ODU links using optional adapter kit, without changing the antenna and mount.

General Specifications

General

Frequency Bands	5, L6/U6, 7/8, 10.5, 11, 13, 15, 18, 23, 26, 38 and 42 GHz	
Modulation and Coding Options	Fixed and Adaptive	QPSK, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096 QAM
Channel Sizes Supported	3.5, 3.75, 5, 7, 10, 13.75/14, 20, 25, 27.5/28/29.65[1], 30, 40, 50, 55/56, 60, 80 MHz	
Capacity Range	Airlink Capacity Ethernet / IP Throughput (with IFG/PA Suppression)	typically 715 Mbps typically 940 Mbps
Configuration Options	NP(1+0), Protected SB(1+1), Protected SB w/SD, XPIC	

Electrical and Mechanical

Power	Typical	50W (6-11GHz), 35W (13-42GHz)
Size	9 in x 7 in x 2.5 in, 2.7L 230 mm x 180 mm x 75 mm, 2.7L	
Weight	3.6 kg	

Environmental

Operating Temperature	Guaranteed Extended	-33° to +55°C (-27° to +131°F) -50° to +65°C [2]
Humidity	Guaranteed	100%
Altitude	Guaranteed	4500 M (15,000 ft)

Standards Compliance

Operation	EN 300-019-2-4, Class 4.1	
EMC	FCC Part 15, ICES-003	
Safety	UL/EN/IEC 60950-1, UL/EN/IEC 60950-22	
RF Performance	EN 302 - 217-2, FCC Part 101, NTIA, EN 301 489-1, EN 301 489-4	
Electric Power Substations	IEEE 1613, Class 2	

IF Specifications

IF Frequency	Transmit Receive	311 MHz 126 MHz
IF Cable Length	4 GHz 7/8 GHz	40 Meters/131 ft (max) 307 Meters/1000 ft (max) limitations apply

Interfaces

DC Power Connector	N-Type	
IF Cable connector	SMA	
Test Point	RSSI Monitoring Point TX Monitoring Port	Test Points female SMA female
Antenna port Interface	Standard EIA rectangular waveguide	
Polarization	Vertical (standard) or Horizontal	

Emission Designators

	50 MHz	10 MHz	20 MHz	30 MHz	40 MHz	50 MHz	60 MHz	80 MHz
QPSK	5M0G7W	10M0G7W	20M0G7W	30M0G7W	40M0G7W	50M0G7W	60M0G7W	80M0G7W
QAM	5M0D7W	10M0D7W	20M0D7W	30M0D7W	40M0D7W	50M0D7W	60M0D7W	80M0D7W

Transmitter/Receiver Specifications

General Transmitter Specifications

Transmit Power Tolerance		-0 +1 dB		
Transmitter Source		Synthesized		
Frequency Stability		± 5 ppm		
Manual Transmitter Power Control Range ^[2]		4 GHz	7 GHz MP	7 GHz EHP
QPSK		17.0 dB	20.0 dB	20.0 dB
16 QAM		17.0 dB	19.0 dB	20.0 dB
32 QAM		17.0 dB	19.0 dB	20.0 dB
64 QAM		17.0 dB	17.5 dB	20.0 dB
128 QAM		17.0 dB	17.5 dB	20.0 dB
256 QAM		17.0 dB	17.5 dB	20.0 dB
512 QAM		14.0 dB	17.0 dB	20.0 dB
1024 QAM		14.0 dB	16.5 dB	19.0 dB
2048 QAM			15.5 dB	18.0 dB
4096 QAM			14.5 dB	17.0 dB
			8 GHz MP	8 GHz EHP
QPSK			20.0 dB	20.0 dB
16 QAM			19.0 dB	20.0 dB
32 QAM			19.0 dB	20.0 dB
64 QAM			18.0 dB	20.0 dB
128 QAM			18.0 dB	20.0 dB
256 QAM			18.0 dB	20.0 dB
512 QAM			17.5 dB	20.0 dB
1024 QAM			17.0 dB	19.5 dB
2048 QAM			16.0 dB	18.0 dB
4096 QAM			15.0 dB	17.0 dB
Automatic Transmitter Power Control	Range	Configurable over full available manual attenuation range		
	Resolution / Speed	0.5 dB steps (4 GHz), 0.1 dB steps (7/8 GHz) / 6 dB per second		
Synthesizer Resolution	Transmitter Mute			
Channel Selection		4 GHz	50 KHz	
		7/8 GHz	5 KHz	
By software control within tuning range of RFU				> 50 dB

Receiver Specifications

Frequency Stability		± 5 ppm
Receiver Overload/Max Receiver Input Level	BER=1x10 ⁻⁶ /BER=1x10 ⁻³	-15 dBm / 0 dBm
Residual (Background) Bit Error Rate		1x10 ⁻¹³

Part Number	AVIAT Parts and Accessories
AE1011-100	PTP Licensed Microwave 1+0 Complete Hop Gigabit 100 Kit
AE1010-100	PTP Licensed Microwave 1+0 Single Terminal Gigabit 100 Kit
AE1011-200	PTP Licensed Microwave 1+0 Complete Hop Gigabit 200 Kit
AE1010-200	PTP Licensed Microwave 1+0 Single Terminal Gigabit 200 Kit
AE1011-400	PTP Licensed Microwave 1+0 Complete Hop Gigabit 400 Kit
AE1010-400	PTP Licensed Microwave 1+0 Single Terminal Gigabit 400 Kit
AE1011-800	PTP Licensed Microwave 1+0 Complete Hop Gigabit 800 Kit
AE1010-800	PTP Licensed Microwave 1+0 Single Terminal Gigabit 800 Kit
AE10-HPODU-V1	PTP Licensed Microwave High Power ODU
AE10-SPODU-V1	PTP Licensed Microwave Standard Power ODU
AE10-RMIDU-A	PTP Licensed Microwave Rack Mount IDU
AE10-OMIDU-1	PTP Licensed Microwave Outdoor Mount IDU Single IF
AE10-OMIDU-2	PTP Licensed Microwave Outdoor Mount IDU Dual IF
AE10-RAC-1	PTP Licensed Microwave Single IF Card
AE10-RAC-2	PTP Licensed Microwave Dual IF Card
AE10-PWR-1	PTP Licensed Microwave Single Power Input Module
AE10-PWR-2	PTP Licensed Microwave Dual Power Input Module
AE10-GSM	PTP Licensed Microwave Gigabit Switch Module
AE10-ACM	PTP Licensed Microwave Adaptive Module
AE10-HPM	PTP Licensed Microwave Flexible Power Module

More Information Notes

[1] Minimum SW version and configuration rules may apply. Please check with Aviat Networks for details.

[2] The amount of attenuation varies by configuration.

Disclaimer:

This material is for informational purposes only and does not constitute a legal obligation to deliver any product, feature or functionality and should not be relied upon in making purchasing decisions. All specifications are guaranteed values, at room temperature (20 to 30°C, 68 to 86°F), referenced to the ACU antenna port (including ACU losses) unless otherwise stated, and are subject to change without notice. The development, release and timing of any features or functionality described for our products is at Aviat Networks' sole discretion. For details of availability, please contact your Aviat Networks Sales Representative.

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