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.

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.

Key Features

- Operating frequencies L6/U6, FCC7, 7/8, 10.5, 11, 13, 15, 18, 23, 26 and 38 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.

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ODU 600v2 General Specifications

General

Frequency Bands		L6/U6, FCC7, 7/8, 10.5, 11, 13, 15, 18, 23, 26** and 38 GHz
Modulation and Coding Options	Fixed and Adaptive	QPSK, 16, 32, 64, 128, 256, 512, and 1024QAM
Channel Sizes Supported		3.5, 7, 13.75/14, 27.5/28/29.65, 40 and 55/56 MHz
Capacity Range	Airlink Capacity	9 - 436 Mbit/s
Configuration Options		NP(1+0), Protected SB(1+1), Protected SB w/SD, XPIC

CTR Compatibility

CTR 8540 Radio Access Cards (RACs)		RACx1 and RACx2
Indoor Units (IDUs)		CTR 8300

Electrical and Mechanical

Power	Typical	40 Watts (6-11 GHz), <30W (13-42 GHz)
Size		9" x 7" x 2.5", 2.7L 230 mm x 180 mm x 75 mm, 2.7L
Weight		3.6 kg

Environmental

Operating Temperature	Guaranteed	-33° to +55°C (-27° to +131°F)
	Extended	-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 (ODU 600, CTR 8380) EN 300 019-2-3, Class 3.1E (CTR 8540, CTR 8311, CTR 8312)
EMC		EN 301 489-1, EN 301 489-4
Safety		IEC/EN 60950-1, IEC/EN 60950-22, IEC/EN 62368-1
RF Performance		EN 302 217-2

Security

Payload Encryption	Compliance	FIPS 197 AES #4620 (CTR 8300) AES #4621 (CTR 8540)

Connectors

IF Cable connector		N-Type
Antenna port Interface		Direct and Remote Antenna Mount [3]

Transmitter Specifications

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Manual Transmitter Power Control Range		0-25 dB [4]
Automatic Transmitter Power Control	Range	Configurable over the full available manual attenuation range available
Transmitter Mute		> 50 dB

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System

Frequency Band	L6/U6 GHz	7 GHz	8 GHz	10 GHz
Frequency Range (GHz)	5.925-7.110 GHz	7.107-7.900 GHz	7.7-8.5 GHz	10.15-10.68 GHz
TR-Spacings Supported (MHz)	160, 170, 180, 240, 252.04, 340, 345		119, 126, 151.614, 195, 208, 266, 310,311.32, 305.56	350, 65
Maximum Tuning Range (Dependent upon T-R Spacing (MHz))	210	112	196	148
Antenna Waveguide Type	R70 (WR137)	R84 (WR112)	R84 (WR112)	R100 (WR90)
Flange Type	UDR70	UDR84	UDR84	UDR100
Mating Flange Type [5]	PDR70 or CDR70	PDR84 or CDR84	PDR84 or CDR84	PDR100 or CDR100
Frequency Band	**11 GHz**	**13 GHz**	**15 GHz**	**18 GHz**
Frequency Range (GHz)	10.7-11.7 GHz	12.75-13.25 GHz	14.5-15.35 GHz	17.7-19.7 GHz
TR-Spacings Supported (MHz)	490, 530	266	315, 322, 420, 490, 644, 728	1008, 1010, 1092.5, 1120, 1560
Maximum Tuning Range (Dependent upon T-R Spacing (MHz))	305	142	261	605
Antenna Waveguide Type	R100 (WR90)	R140 (WR62)	R140 (WR62)	R220 (WR42)
Flange Type	UDR100	UBR140	UBR140	UBR220
Mating Flange Type [5]	PDR100 or CDR100	PBR140 or CBR140	PBR140 or CBR140	PBR220
Frequency Band	**23 GHz**	**26 GHz**	**28 GHz**	**32 GHz**
Frequency Range (GHz)	21.2-23.6 GHz	24.549-26.472 GHz	27.5-29.5 GHz	31.8-33.4 GHz
TR-Spacings Supported (MHz)	1008,1232	1008	1008	812
Maximum Tuning Range (Dependent upon T-R Spacing (MHz))	616	467	513.5	407
Antenna Waveguide Type	R220 (WR42)	R260 (WR34)	R320 (WR28)	R320 (WR28)
Flange Type	UBR220	UBR260	UBR320	UBR320
Mating Flange Type	PBR220	PBR260	PBR320	PBR320
Frequency Band			**38 GHz**	**42 GHz**
Frequency Range (GHz)			37.0-39.5 GHz	40.5-43.5 GHz
TR-Spacings Supported (MHz)			1260	1500
Maximum Tuning Range (Dependent upon T-R Spacing (MHz))			590	742
Antenna Waveguide Type			R320 (WR28)	R400 (WR22)
Flange Type			UBR320	UG-383/U
Mating Flange Type			PBR320	UG-383/U

Receiver Specifications

Frequency Stability		± 5 ppm
Receiver Overload	BER = $1E^{-6}$	-20 dBm
Residual (Background) Bit Error Rate		Better than $1E^{-13}$

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More Information Notes

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

[2] ATPC is recommended for operation at Extended Temperature ranges. Contact Aviat Networks for more details.

[3] Optional remote mount via flex elliptical waveguide.

[4] The amount of attenuation varies by configuration.

[5] For 6-11GHz mating flanges, you need an adaptor to use a flexible connector; it will not fit on the ODU itself.

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 30ºC, 68 to 86ºF), 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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