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 [5] 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

Eclipse Compatibility

Radio Access Cards (RACs)		RAC 60 and RAC 70

Electrical and Mechanical

Power	Typical	50 Watts (6-11 GHz), 35W (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	-40° to +65°C (-40° to +149°F)[2]
Humidity	Guaranteed	100%
Altitude	Guaranteed	4500 M (15,000 ft)

Standards Compliance

EMC		FCC CFR 47, Part 15, ICES-003
Operation		EN 300 019-2-4, Class 4.1 (ODU 600)
EMC		EN 301 489-1, EN 301 489-4
Safety		UL 60950-1, UL 60950-22, UL 62368-1
RF Performance	All federal frequencies	FCC CFR 47, Part 101 Manual of Regulations for Federal Radio Frequency Management
Water Ingress		IEC 60529, IPX6
Lightning Protection		Internal, compliant to IEC 61000-4-5, Class 5
Electric power substations		IEEE 1613
Security	with Eclipse INUe	FIPS 197 validated (Certificate #C5) FIPS 140-2 validated (Certificate #3558)

IF Specifications

IF Frequency	Transmit	311 MHz
	Receive	126 MHz
IF Cable Length	CNT-400	300 Meters

IF Cable Connector

IF Cable connector		N-Type
AGC monitor point		BNC
Antenna port Interface		Direct and Remote Antenna Mount
Polarization, field selectable		ODU Rotation

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RAC 70

IF Connector	SMA
LED Indicators	2 x Tri-state
Dimensions inc Connectors	22mm(0.5RU) x 130mm x 268mm
Weight	<0.38Kg
Power Consumption	13 Watts

Transmitter Specifications

Transmitter Specifications

Transmit Power Tolerance	6-26 GHz [5] 38 GHz	± 2.0 dB ± 2.5 dB
Transmitter Source		Synthesized
Frequency Stability		± 5 ppm
Manual Transmitter Power Control Range		Configurable in 0.1 dB steps from min to max power levels [4] (Refer Tx Power Specifications)
Automatic Transmitter Power Control	Range Resolution / Speed	Configurable over the full available manual attenuation range available 0.1 dB steps / 6 dB per second
Synthesizer Resolution		250 kHz
Transmitter Mute		> 50 dB

System

Frequency Band	L6/U6 GHz	FCC 7 GHz	7 GHz	8 GHz
Frequency Range (GHz)	5.925-7.125 GHz	6.875-7.125 GHz	7.125-7.9 GHz	7.7-8.5 GHz
TR-Spacings Supported (MHz)	160, 170, 180, 240, 252.04, 266, 340, 345	150	150, 160, 175, 300	300, 310, 360
Standard	FCC Part 101 SRSP 306.4 & 305.9	FCC Part 74 & 101	SRSP 307.1 NTIA Red Book	SRSP 307.7 NTIA Red Book
Maximum Tuning Range (Dependent upon T-R Spacing (MHz))	210	50	180	196
Antenna Waveguide Type	R70 (WR137)	R70 (WR137)	R84 (WR112)	R84 (WR112)
Frequency Band	**10.5 GHz**	**11 GHz**	**13 GHz**	**15 GHz**
Frequency Range (GHz)	10.5-10.68 GHz	10.7-11.7 GHz	12.7-13.15 GHz	14.4-15.35 GHz
TR-Spacings Supported (MHz)	65	490, 500, 520, 530	225	475, 640
Standard	FCC Part 101 SRSP 310.5	FCC Part 101 SRSP 310.7	FCC Part 74 & 101	SRSP 314.5 NTIA Red Book
Maximum Tuning Range (Dependent upon T-R Spacing (MHz))	10	305	125	261
Antenna Waveguide Type	R100 (WR90)	R100 (WR90)	R140 (WR62)	R140 (WR62)
Frequency Band	**18 GHz**	**23 GHz**	**26 GHz [4]**	**38 GHz**
Frequency Range (GHz)	17.7-19.7 GHz	21.2-23.6 GHz	24.549-26.472 GHz	38.6-40.0 GHz
TR-Spacings Supported (MHz)	1560, 340	1200, 1232	1008	700
Standard	FCC Part 101 SRSP 317.8	FCC Part 101 SRSP 321.8 NTIA Red Book	SRSP 325.25 NTIA Red Book	FCC Part 101 SRSP 338.6
Maximum Tuning Range (Dependent upon T-R Spacing (MHz))	440	616	467	400

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System

Antenna Waveguide Type	R220 (WR42)	R220 (WR42)	R260 (WR34)	R320 (WR28)

Receiver Specifications

Receiver Source		Synthesized
Frequency Stability		± 5 ppm
Receiver Overload	BER = $1E^{-6}$	-20 dBm
Residual (Background) Bit Error Rate		Better than $1E^{-13}$
RSSI Accuracy [3]	-20 to -30 dBm (-27° to +131°F)	± 3.5dB
	-30 to -70 dBm (-27° to +131°F)	± 2.5dB
	-70 to -90 dBm (-27° to +131°F)	± 3.5dB

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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] RSSI accuracy applies when there is no potential interferer signal present within +/- 28MHz of the Rx. Frequency.

[4] The amount of attenuation varies by configuration.

[5] ODU 600v2 is not ISED certified for 24.25 - 24.45GHz/25.05- 25.25GHz and is not available for sale and use in Canada.

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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