ODU 600v2

SPLIT-MOUNT MICROWAVE RADIO OPERATING W/ RAC 70

DATASHEET [ANSI]

Aviat's 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 4096 QAM and 80 MHz channel spacings. This ODU is compatible with Aviat's Eclipse, including backwards compatibility with already deployed hardware and software to facilitate easy introduction to existing networks.

Saving on TCO

The Aviat ODU 600v2 has one of the highest system gain in its class of ODU across frequency bands from 5-38 GHz, enabling high performance operation at higher modulations while minimizing antenna diameter and tower loading.

Old meets new

Interoperable with the Eclipse series of indoor units to facilitate easy upgrade and capacity evolution[1], combined with over-the air (OTA) compatibility with previous Aviat ODU 600 outdoor units to simplify introduction and sparing for existing network deployments.

Flexibility and upgradeability

Ultra-compact for low profile installation, lower shipping costs, with integrated handle, it can be deployed in 1+0 unprotected, 1+1 MHSB (Monitored Hot Standby), 1+1 SD (Space Diversity) or FD Frequency Diversity, and 2+0 (with or without XPIC) configurations.

Possibility to upgrade existing Aviat ODU links using optional adapter kit, without changing the antenna and mount.

Network flexibility is assured with ODU 600v2 - supporting TDM, hybrid and IP networks in a single radio channel with Eclipse indoor unit.

Capacity expansion enabled with up to 80MHz wide channels, XPIC, 4096 QAM modulation and link aggregation.

Designed for high reliability and paired with Strong Security suite – enabling operation in robust and high-security environments.

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Specifications

General		
Frequency Bands		5, L6/U6, FCC7, 7/8, 10.5, 11, 13, 15, 18, 23, 26[5], 32 and 38 GHz
Modulation and Coding Options	Fixed and Adaptive	QPSK, 16, 32, 64, 128, 256, 512, 1024, 2048 and 4096QAM
Channel Sizes Supported		3.75, 5, 10, 14, 20, 25, 28, 30, 40, 50, 56, 60 MHz
Capacity Range	Airlink Capacity	9 - 716 Mbit/s
Configuration Options		NP (1+0) Protected HSB (1+1) Protected HSB w/SD, FD, XPIC

Eclipse Compatibility		
Radio Access Cards (RACs)	RAC 70	

Electrical and Mechanical		
Power	Typical	50W (5-11 GHz), 35W (13-42 GHz)
Size		9 in x 7 in x 2.5 in, 2.7L (230 mm x 180 mm x 75 mm, 2.7L)
Weight		7.94 lb (3.6 kg)

Environmental		
Operating Temperature	Guaranteed Extended	-33° to +55°C (-27° to +131°F) -45° to +65°C (-49° to +149°F)[2]
Humidity	Guaranteed	100%
Altitude	Guaranteed	15,000 ft (4500 m)

Standards Compliance		
EMC		FCC CFR 47, Part 15, ICES-003 EN 301 489-1, EN 301 489-4
Operation		EN 300 019-2-4, Class 4.1 (ODU 600v2)
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, IP66
Lightning Protection		IEC 61000-4-5
Electric Power Substations		IEEE 1613
Security	with Eclipse INUe	FIPS 197 validated (Certificate #C5) FIPS 140-2 validated (Certificate #3558)

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IF Specifications		
IF Frequency	Transmit Receive	311 MHz 126 MHz
IF Cable Length	CNT-400	656 ft (200m)

IF Cable Connector		
IF Cable Connector		N-Type
AGC Monitor Point		BNC
Antenna Port Interface		Direct and Remote Antenna Mount
Polarization, Field Selectable		ODU Polar rotator

RAC 70		
IF Connector		SMA
LED Indicators		2 x Tri-state
Dimensions including Connectors		0.866 in [0.5 RU] x 5.12 in x 10.55 in (22 mm [0.5RU] x 130mm x 268mm)
Weight		<0.88 lb (<0.38Kg)
Power Consumption		13W

Transmitter		
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

Receiver		
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) -30 to -70 dBm (-27° to +131°F) -70 to -90 dBm (-27° to +131°F)	± 3.5dB ± 2.5dB ± 3.5dB

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System	5 GHz	L6/U6 GHz	FCC 7 GHz	7 GHz	8 GHz	10.5 GHz	11 GHz
Frequency Range (GHz)	4.4-4.996	5.925-7.125	6.875-7.125	7.125-7.9	7.7-8.5	10.15-10.68	10.7-11.7
TR-Spacings Supported (MHz)	300, 310, 334	160, 170, 180, 240, 252.04, 266, 340, 345	150	150, 160, 175, 300	300, 310, 360	65	490, 500, 520, 530
Standard	FCC Part 15.407 RSS-247, Issue 2, NTIA red book	FCC Part 101 SRSP 306.4 & 305.9	FCC Part 74 & 101	SRSP 307.1 NTIA Red Book	SRSP 307.7 NTIA Red Book	FCC Part 101 SRSP 310.5	FCC Part 101 SRSP 310.7
Maximum Tuning Range Dependent upon T-R Spacing (MHz)	181	210	50	180	196	10	305
Antenna Waveguide Type	R70 (WR137)	R70 (WR137)	R70 (WR137)	R84 (WR112)	R84 (WR112)	R100 (WR90)	R100 (WR90)

System Cont.	13 GHz	15 GHz	18 GHz	23 GHz	26[5] GHz	32 GHz	38 GHz
Frequency Range (GHz)	12.7-13.15	14.4-15.35	17.7-19.7	21.2-23.6	24.549-26.472	31.8 – 33.4	38.6-40.0
TR-Spacings Supported (MHz)	225	475, 640	1560, 340	1200, 1232	1008	812	700
Standard	FCC Part 74 & 101	SRSP 314.5 NTIA Red Book	FCC Part 101 SRSP 317.8	FCC Part 101 SRSP 321.8 NTIA Red Book	SRSP 325.25 NTIA Red Book	SRSP 331.8	FCC Part 101 SRSP 338.6
Maximum Tuning Range Dependent upon T-R Spacing (MHz)	125	261	440	616	467	407	400
Antenna Waveguide Type	R140 (WR62)	R140 (WR62)	R220 (WR42)	R220 (WR42)	R260 (WR34)	R320 (WR28)	R320 (WR28)

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.