



IRU 600

ALL-INDOOR MICROWAVE RADIO

[DATASHEET \[ANSI\]](#)



When you can't sacrifice reliability for high capacities, the Aviat IRU 600 represents the ultimate high performance, reliability, flexibility, and the highest capacity solution for Mission Critical applications. The IRU 600 is the industry's most secure all-indoor radio, with market-leading system gain to enable smaller antennas and lowest TCO.

Highest Power Digital Radio Ever

IRU 600 incorporates the very latest in RF technology to enable break-through RF performance with highest reliability. It's Extra-High Power (EHP) option supports more transmitter power than any alternative solution, extending path distances, unlocking more capacity, and enabling smaller, less expensive antennas to be used to reduce tower related costs.

Highest Capacity

The IRU 600 incorporates the latest features to enable multi-gigabit capacity links, including support for wide channels, 4096QAM modulation, XPIC, ACCP and advanced Layer 1 Link Aggregation for multi-channel bonding, and now 6+11 GHz Multi-Band options, which all result in link capacities that are 3x higher or more than previous product technologies.

Tough, Durable and Secure

The IRU 600 is the most secure microwave radio on the market today and with FIPS 140-2 validation, mission critical networks are always protected. Tough, durable, and dependable, and now, thanks to a new upgrade with the latest in RF technology, IRU 600 is prepared for the data demands of mission critical networks of the future.

Comprehensive platform coverage, including support for FCC, NTIA and ISCED Canada frequency bands, and for all-IP, all-TDM (native or PWE), or hybrid TDM+IP applications.

Ultra-high transmit output power with EHP option, up to +39 dBm, or 5 times more than high power than previous generation products.

Flexible and configurable radio configuration options, including expansion ports to suit every network need and ensure easy future scalability/expansion.



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System Parameters

System	5.8 GHz	L6 / U6 GHz	FCC 7 GHz	7 GHz	8 GHz	10.5 GHz	11 GHz
Frequency Range (GHz)	5.727.5 - 5.847.5	5.925 - 6.425, 6.425 - 6.930	6.875 - 7.125	7.125 - 7.750	7.750 - 8.500	10.500 - 10.680	10.700 - 11.700
TR-Spacings Supported (MHz) Non-standard T-R options supported with spot tuned filters)	≥65	150, 160, 170, 180, 240, 252.04, 266, 340, 345	150	150, 175, 300	300, 360	65	490, 500
Standard Frequency Assignments Supported per Regulatory Plans	FCC Part 15.407 RSS-247, Issue 2	FCC Part 101, SRSP 305.9, SRSP 306.4	FCC Part 74, 101	NTIA Red Book, SRSP 307.1	NTIA Red Book, SRSP 307.7 SRSP 308.2	FCC Part 101, SRSP 310.5	FCC Part 101, SRSP 310.7

General

Frequency Band options	5.8, L6, U6, FCC 7, 7, 8, 10.5 and 11 GHz			
Modulation and Coding Options	Fixed and Adaptive	QPSK, 16, 32, 64, 128, 256, 512, 1024, 2048 and 4096 QAM		
Channel Sizes Supported	3.75, 5, 10, 12.5, 20, 25, 30, 40, 60 and 80 MHz			
Capacity Support	Airlink Capacity Ethernet / IP Throughput Native TDM	8-716 Mbit/s 15-940 Mbit/s 5 to 127 DS1, 2xOC3, 6xDS3		

Electrical and Mechanical

Power Consumption for 1+0 SP/HP unit

Typical dBm (unless stated)	32.0	31.0	29.5	29.0	28.0	25.0	21.0	20.0	TX Muted
5.8 GHz	NA	NA	NA	62W	NA	55W	NA	48W	43W
L6/U6/FCC 7 GHz	62W	NA	NA	NA	NA	55W	NA	48W	43W
7/8 GHz (guaranteed)	NA	62W	NA	NA	58W	NA	54W	NA	43W
10.5/11 GHz	NA	NA	60W	NA	NA	55W	NA	48W	43W

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Power Consumption for 1+0 EHP unit											
Typical dBm (unless stated)	37.5	36.0	35.0	34.0	33.0	32.0	27.5	27.0	26.0	25.0	TX Muted
L6 GHz	113W	NA	NA	95W	NA	85W	77W	NA	NA	NA	46W
U6/FCC 7 GHz	119W	NA	NA	102W	NA	90W	80W	NA	NA	NA	46W
7 GHz	NA	116 W	NA	NA	99 W	NA	NA	NA	87W	NA	43W
8 GHz	NA	NA	116 W	NA	NA	99W	NA	NA	NA	87W	43W
11 GHz	NA	NA	NA	NA	97W	NA	NA	87W	NA	NA	46W

Size / Weight (1+1 configuration)	SP/HP units	EHP units	
ACU+Chassis+2RFU (includes waveguide terminator)	2RU 3.5 in x 19 in x 16.25 in (88 mm x 482 mm x 412 mm)	32.5 lb (14.7 kg)	33.9 lb (15.4 kg)
Chassis+2 RFU	2RU 3.5 in x 19 in x 12 in (88 mm x 482 mm x 304 mm)	28.0 lb (12.7 kg)	29.5 lb (13.4 kg)

Antenna Interface	5.8/L6/U6/FCC 7 GHz	7/8 GHz	10.5/11 GHz
ACU Main / Expansion Antenna Port Interface	CMR-137	CMR-112	UG 39
Extension Kit Antenna Port Interface (near top of rack)	CPR-137G	CPR-112G	CPR-90G

Environmental	
Operating Temperature	Guaranteed -10° to +55° C (14° to +131° F)
Humidity	0 to 95%, non-condensing
Altitude	15,000 ft (4,500 m) AMSL

Standards Compliance	
EMC	FCC CFR 47, Part15, ICES-003
Operation, Storage, Transportation	EN 300 019, Class 3.2 EN 300 019, Class 1.2 EN 300 019, Class 2.3
Safety	UL 62368-1 CAN/CSA C22.2 No. 62368-1-14
Electric Power Substations [1]	IEEE 1613
Radio Frequency	FCC Part 15.407, ISED RSS-247, Issue 2 (5.8 GHz only), FCC CFR47, Part 101, ISED Canada's SRSPs (L6 to 11GHz)
NEBS [2]	GR-1089-CORE,GR-63-CORE
Security (with INUe)	FIPS 197 validated (Certificate #C5) FIPS 140-2 validated (Certificate #4187)
DoDIN APL Certification (with INUe)	APLITS Tracking Number: 2032201

IF Specifications	
IF Frequency	Transmit/Receive 311 MHz/126MHz

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IF Specifications		
IF Cable Length		1000 ft (300 m) max (limitation apply)
Test Point	RSSI Monitoring Point [3] TX Monitoring Port	Test Points female SMA female

Emission Designators	MHz									
	3.75	5	10	12.5	20	25	30	40	60	80
QPSK	3M75G7W	5M00G7W	10M0G7W	12M5G7W	20M0G7W	25M0G7W	30M0G7W	40M0G7W	60M0G7W	80M0G7W
QAM	3M75D7W	5M00D7W	10M0D7W	12M5D7W	20M0D7W	25M0D7W	30M0D7W	40M0D7W	60M0D7W	80M0D7W

Transmitter Specifications		
Transmit Power Tolerance		-0 +1 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 (Refer to TX Power Specifications) Resolution: 0.1 dB
Automatic Transmitter Power Control	Range Resolution / Speed	Configurable over full available manual attenuation range 0.1 dB steps / 6 dB per second
Synthesizer Resolution		5 KHz
Channel Selection		By softwarecontrol withintuning range of RFU
Transmitter Mute		> 50 dB

Receiver Specifications		
Receiver Source		Synthesized
Frequency Stability		±5 ppm
Receiver Overload	BER = 1E-6 No damage	-22 dBm 0 dBm

EHP L6 and U6 unpaired frequencies usage: see the Eclipse User Manual – for “Small non-standard T/R spacings”.

- [1] Complies with the exception of clause 3.1.1 (operational temperature range) and clause 10 (device cooling).
- [2] IRU 600v4 complies in all areas except for R9-16 and R10-5, GR-1089-CORE. INU complies in all areas except for R10-5, GR-1089-CORE and R4-34, O4-35, O4-36, GR-63-CORE.
- [3] RSSI accuracy applies when there is no potential interferer signal present within +/- 10MHz of the Rx. Frequency.

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.

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