

# airFiber® 24 HD

## Best-in-Class Performance and Range

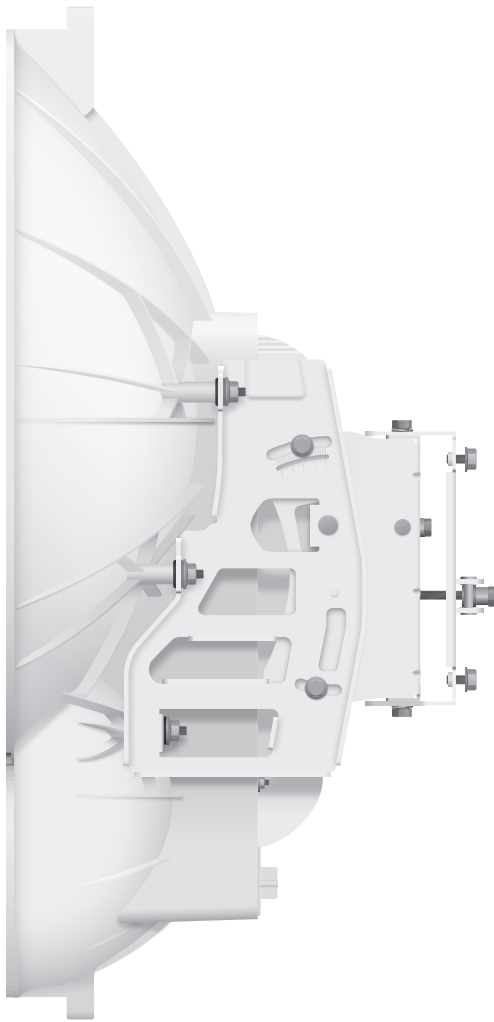
Our INVICTUS custom silicon dramatically improves wireless performance. The AF-24HD model supports the dense modulation rates, up to 256QAM, that are required for high data rates, up to 2 Gbps.

The airFiber AF-24/AF-24HD features the most powerful automatic compensation for path loss degradation due to rain fade, so it provides the best range among 24 GHz products and allows for constellation threshold extension.

## Robust Mechanical Assembly

An independent lab has tested the airFiber mechanical assembly to meet MIL-STD-810G, a rigorous United States MIL-STD (Military Standard) that defines a variety of challenging environmental conditions.

The mechanical assembly has also undergone vibration testing using an extended version of IEC 60068-2-6, an environmental standard of the IEC (International Electrotechnical Commission).



Side



Back

**2 Gbps**

*Real Data Throughput*

**((24 GHz))**

*License-Free*

**20+ km**

*Extreme Range*

**HDD**  
TDD FDD

# Specifications

airFiber AF-24HD	
Operating Frequency	24.05 – 24.25 GHz
Dimensions	
Radio	593 x 768 x 370 mm (23.35 x 30.24 x 14.57")
Box	796 x 696 x 49.5 mm (31.34 x 27.40 x 1.95")
Weight	
Radio (Mount Included)	17.3 kg (38.14 lb)
Box	25.5 kg (56.22 lb)
Max. Power Consumption	50W
Power Supply	50V, 1.2A PoE GigE Adapter (Included)
Power Method	Passive Power over Ethernet
Supported Voltage Range	+42 to +58VDC, -48VDC
Certifications	CE, FCC, IC
Wind Loading	770 N @ 200 km/hr (170 lbf @ 125 mph)
Wind Survivability	200 km/hr (125 mph)
Mounting	Pole Mount Kit (Included)
Operating Temperature	-40 to 55° C (-40 to 131° F)
LEDs	(8) Status LEDs: Data Port Speed Data Port Link/Activity Configuration Port Speed Configuration Port Link/Activity GPS Synchronization Modulation Mode Master/Slave RF Status (1) Two-Digit LED Display Calibrated in dBm
<b>Interface</b>	
Data Port	(1) 10/100/1000 Ethernet Port
Configuration Port	(1) 10/100 Ethernet Port
Auxiliary Port	(1) RJ-12, Alignment Tone Port
<b>System</b>	
Maximum Throughput	2 Gbps
Maximum Range	20+ km
Packets per Second	1+ Million
Packets per Second	> 1 Million
Encryption	128-Bit AES
Uplink/Downlink Ratio	50% Fixed
Latency	
Full Duplex Mode	< 200 $\mu$ s at Full Throughput
Half Duplex Mode	< 2 ms at Full Throughput
MTU (Maximum Transmission Unit)	Up to 9600

airFiber AF-24HD Receive Sensitivity			
Modulation	Sensitivity	FDD Capacity*	TDD Capacity*
256QAM	-60 dBm	2000 Mbps	1024 Mbps
64QAM	-66 dBm	1500 Mbps	760 Mbps
16QAM	-72 dBm	1000 Mbps	507 Mbps
QPSK MIMO	-78 dBm	500 Mbps	253 Mbps
QPSK SISO	-80 dBm	250 Mbps	127 Mbps
1/4x QPSK SISO	-87 dBm	62.5 Mbps	31.7 Mbps

\* FDD = (2) 100 MHz channels and TDD = (1) 100 MHz channel

airFiber AF-24HD Radio Frequency	
GPS	GPS Clock Synchronization
Transceiver	
EIRP	~33 dBm (FCC/IC), ~20 dBm (CE), ~40 dBm (Other Regions)
Frequency Accuracy	±2.5 ppm without GPS Synchronization ±0.2 ppm with GPS Synchronization
Channel Bandwidth	100 MHz
Operating Channels	24.1 GHz, 24.2 GHz
Modulation	256QAM MIMO 64QAM MIMO 16QAM MIMO QPSK MIMO QPSK SISO ¼x QPSK SISO
Integrated Split Antenna	
TX Gain	33 dBi
RX Gain	40 dBi
Beamwidth	< 3.5°
Front-to-Back Ratio	70 dB
Polarity	Dual-Slant Polarization
Cross-Polarity Isolation	> 28 dB

airFiber AF-24HD Capacity (Mbps)		
Rate	Modulation	100 MHz Channel Width*
8x	256 QAM MIMO	2000.0
6x	64 QAM MIMO	1500.0
4x	16 QAM MIMO	1000.0
2x	QPSK MIMO	500.0
1x	QPSK SISO	250.0
¼x	¼ QPSK SISO	62.5

\* Aggregated capacity in Full-Duplex mode



Specifications are subject to change. Ubiquiti products are sold with a limited warranty described at: [www.ubnt.com/support/warranty](http://www.ubnt.com/support/warranty)  
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