

Industrial Wireless Transceivers

Purpose Built for Flexible, Effective, Robust Wireless Networks

The Aeronaut X2 series are designed to support flexible wireless architectures with licenses to support Multi Hop Repeating, Wireless Redundant Rings, Self-Healing / Self-Forming Mesh Networks, Multi-tier Hybrids on top of the conventional Point to Point and Point to Multipoint topologies.

These enterprise carrier-grade outdoor wireless transceivers offer customers a powerful MIMO HT-OFDM package with up to 3 radios within to support both backhaul as well as wireless access in a single device. The embedded transceiver unit offer customers a great solution for infrastructure video / audio and data transmission applications over long distances covering both LOS or near LOS situational deployments enabling highly flexible deployment scenarios often required for large scale safe / smart city, municipal level or facility wide applications.

Aeronaut X2 series of radios are the most ideal solution for service providers to deliver carrier-grade wireless services to multiple market segments with robust failover features.

Ultra-Low Latency

Latency sensitivity applications such as video streaming benefits the most from Aeronaut X2. Regardless of mesh, ring or multi-hop transmissions, the recorded latency of each hop is approximately 2ms resulting in a total end to end latency of 35ms over 19 hops attaining a respectable 170Mbps TCP/IP throughput in actual field results.

High Spectral Efficiency

This class of industrial wireless transceivers provides an average of 5.2 bps/hz of channel band wide used resulting in the best available throughput in any scenario. This allows smooth wireless transmission of video data packets through challenging landscapes as well as environments which is highly congested with wireless interference without sacrificing valuable bandwidth.



Throughput Aggregation

Aeronaut X2 series supports throughput aggregation. It is able to achieve up to 268 Mbps of TCP/IP throughput for single radio and aggregates up to 320Mbps for 6x6 radios.

Overcomes Line of Sight Restrictions

Aeronaut X2 transceivers overcome very difficult environments by leveraging on unique architecture such as mesh and multi-hop repeating resolving Non-Line of Sight issues. Its innate capability to stabilize frequency at 2ppm enable space diversity and empowers wireless transmission in Near Line of Sight conditions.

With both capabilities, large municipal wireless networks planning and implementation can be achieved easily and flexibly.

Custom Operating Frequencies Available²

Each deployment experiences different difficulties and there is no one product that suits all environments. However, custom Aeronauts are a norm for our clients to request different operating frequencies on top of the standard ISM bands ranging from 433Mhz all the way to 6GHz.

Hazardous Environment Operation¹

ATEX approved models are available on build to order basis for operating in hazardous environments. Its enclosures are built to II 2 GD Ex d IIC standards and have galvanically isolated RF ports for operating safely in oil and gas industries.

Technical Specifications								
RADIO								
Frequency range	2.4GHz & 5GHz							
Radio Power	24 dBm / 250mW							
Modulation	802.11b: BPSK, QPSK, CCK 802.11a/g/n/ac: BPSK, QPSK, 16-QAM; 64-QAM; 256-QAM							
Supported data rates (Mbps):	802.11b: 1, 2, 5.5, 11							
	802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54							
	802.11n: 6.5 to 600 (MCS0 to MCS31)							
	802.11ac: 6.5 to 1,733 (MCS0 to MCS9, NSS = 1 to 4 for VHT20/40/80, NSS = 1 to 2 for VHT160)							
802.11n 2.4GHz MCS Index	HT20				HT40			
	Tx Power (dBm)		Rx Sensitivity (dBm)		Tx Power (dBm)		Rx Sensitivity (dBm)	
MCS 8/16/24	18		-90		18		-88	
MCS 7/15/23/31	17		-71		16		-68	
802.11n 5GHz MCS Index	HT20				HT40			
	Tx Power (dBm)		Rx Sensitivity (dBm)		Tx Power (dBm)		Rx Sensitivity (dBm)	
MCS 8/16/24	18		-88		18		-86	
MCS 7/15/23/31	16		-70		16		-67	
802.11ac 5GHz MCS Index	VHT20		VHT40		VHT80		VHT160	
	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power 1.5 (dBm)	Rx Sensitivity (dBm)
MCS 0	18	-88	18	-86	18	-83	18	-80
MCS 9	13	-63	13	-61	15	-58	14	-55
SECURITY								
Data Encryption	WPA-PSK / WPA2-PSK							
Advanced Security	MAC access control / Disable SSID							
POWER								
Power	48V DC, Power over Ethernet							
Maximum Power Consumption	25W							
Operating temperature	0°C ~ +50°C							
Storage temperature	-40°C ~ +70°C							
Humidity	5% ~ 93% non-condensing							
Rating	Class I, Div 1 Groups, C & D							
Weight	1.8 kg							
MTBF	60,000 hours							
ORDERING INFORMATION								
X2-A624-334-24	ATEX 802.11ac Wave 2 Wireless Access Point							

¹ATEX models are rated II 2 (1) GD Ex d [ja IIC Ga] IIB+H2 T5 Gb for operating in zone 1 hazardous environments. Enquire for other zones.

²Custom operating frequency as well as high power 35dBm / 3W versions (BTO) are available on request.

Dual-Band hazardous area Access Point enclosure

The enclosure is designed to house the Aeronaut X2 series access point for use in hazardous areas. The enclosure, all hardware, and antennas are rated for Class I, Div 1, groups C & D Hazardous Locations. All hardware, mounting plate, antennas and RF cables are provided to make installation of the access point quick and easy.

The enclosure utilizes our proprietary explosion-proof CTX series of antennas, four dual band 2.4GHz/5GHz are included.

Applications

- Pharmaceuticals
- Oil refineries
- Oil & Gas Platforms
- Chemical Plants

Ratings

- Class I, Div 1 Groups, C & D

