AirSky A2G

Inflight Connectivity for a 5G World
Making high-performance, high-capacity inflight connectivity an affordable reality.

Connectivity is becoming an essential lifeline in our rapidly advancing world. Everyone from pensioners to millennials are dependent on their wireless devices to conduct everyday business, stream entertainment, stay in touch on social media, text, talk and more. Current inflight connectivity solutions have high installation and service costs and do not provide the expected performance required to satisfy current and future demands for connectivity. While satellite systems are the only method to provide connectivity for long overwater routes, they are inherently limited in capacity over dense terminal areas. High traffic corridors contain hundreds of aircraft and thousands of passengers all sharing a single bandwidth-limited, high-latency satellite beam. The result is high equipment and service cost structure with a non-scalable user experience that is simply not acceptable in today’s world of pervasive, low cost, high-performance connectivity.

There is an alternative. The AirSky A2G solution leverages proven high-performance LTE small cell technology to provide a low cost, scalable Direct Air-to-Ground (A2G) inflight connectivity solution.

**WITH AirSky A2G**

- **Spectrum Reuse:** From terrestrial wireless bands and satellite uplink bands possible on a non-interference basis.
- **Support:** For both TDD and FDD in any sub 6GHz band.
- **A2G Ground Networks:** Can be deployed at a fraction of the cost of satellite systems.
- **Scalable Architecture:** Allows densification for higher capacity in high traffic areas & corridors.
- **Low Cost, Lightweight, Certified Airborne Equipment:** With simple installations.
- **Low Latency, High-Speed Performance:** From 60Mbps up to 1Gbps (5G).
- **Supports Commercial, Business and General Aviation.**
HOW IT WORKS

The AirSky network architecture is based on a low cost, widely deployed small cell LTE technology optimized for ATG applications. A single ground station consists of three or six horizontal sectors covering 360 degrees plus one vertical sector overhead. Each sector is configured with a low cost eNodeB and antenna. The ground stations are optimized for cell size of 60-200km. The low cost, small size, and high capacity enable the operator to deploy high density ATG networks in high traffic areas and lower density ATG networks along lower traffic routes. With the combination of satellite and the AirSky A2G network, passengers can enjoy global high-speed connectivity over both water and land.
Direct A2G High-Speed Connectivity to Passengers up to 1500kmh

THE AirSky A2G GROUND NETWORK FEATURES

- **SUB 6GHz CARRIER FREQUENCY RANGE**
- **5MHZ TO 20MHZ CHANNELS**
- **LICENSED OR UNLICENSED SPECTRUM**
- **LAAN AND CARRIER AGGREGATION**
- **SINGLE OR DUAL BAND LTE TDD/FDD DUPLEX**
- **LOW LATENCY 4G DATA RATES IN EXCESS OF 60Gbps**
- **LTE OPTIMIZED FOR EXTENDED RANGE & HIGH SPEED DOPPLER**
- **SOFTWARE UPGRADEABLE TO 5G FOR DATA RATES UP TO 1Gbps**

The SkyLNX airborne radio incorporates the same LTE UE technology in a small 3/8 ATR form factor and a 10” blade antenna. It is simple to install and has zero impact on operational costs.

THE SkyLNX A2G AIRBORNE SYSTEM FEATURES

- **INTERNAL PROCESSOR AND AIRSKY A2G LTE RADIO**
- **SINGLE OR DUAL BLADE ANTENNA CONFIGURATIONS**
- **INTERFACES TO AIRCRAFT SYSTEMS FOR TELEMETRY SUPPORT**
- **ETHERNET CONNECTIVITY FOR COMPATIBILITY WITH EXISTING CABIN WIFI AND IFE SYSTEMS**
- **OPTIONAL CONNECTIVITY OPTIONS INCLUDING LTE AND WIFI WHILE ON THE GROUND**
- **FULL DO160 AND DO178 CERTIFICATION**
It’s expected. Millions of passengers take to the sky every year with the assumption they will have seamless access to the internet while in flight. They demand to surf, stream, socialize and Skype™ on their smart device for a reasonable cost, if not for free, with little to no interruption. Why not? If high-speed internet is easily accessible in the home, office or their favorite bistro it should be just as accessible in the airplane. It should be. But current inflight internet solutions are not up to the task and make the connected aircraft a poor user experience.

Until now.
AirSky A2G is a collaborative partnership between Airspan Networks and Avidyne Corporation.

**Airspan** is a multi-award-winning 4G & 5G wireless densification solution provider. Airspan’s expansive product portfolio includes indoor and outdoor small cells, and all-outdoor, compact Micro and Macro base stations, a variety of user devices and network optimization solutions ranging from Sub 6GHz to mmWave. Learn more about Airspan at [airspan.com](http://airspan.com).

**Avidyne Corporation** is a market leader in the design and manufacturing of integrated avionics systems for general aviation and business aircraft as well as rotorcraft. Avidyne is one of a few companies in the world to have completed an initial LTE A2G certification on an aircraft. Learn more about Avidyne at [avidyne.com](http://avidyne.com).