

Doodle Labs Provides Long-Distance Connectivity to Kitty Hawk's Flying Vehicles

K I T T Y H A W K

Kitty Hawk partnered with Doodle Labs to incorporate a broadband data link that enables long-distance streaming video by its futuristic flying vehicles and taxis.

Kitty Hawk is working to make traffic a thing of the past by developing electric, flying vehicles. While Kitty Hawk focuses on the development of the vehicles, they approached Doodle Labs for a wireless link that could support a host of features and applications, including autonomous flight.

Business Challenge

Cora is an air taxi designed and built by Kitty Hawk. It combines electric power, self-piloting software and vertical take-off to pioneer an entirely new way to fly. It rises like a helicopter and flies like a plane, eliminating the need for a runway and creating the possibility of taking off from places like rooftops.

Cora will be a part of a service similar to an airline or a rideshare, which means that constant connectivity is of utmost importance. It operates between 500 ft and 3000 ft above the ground, requiring a high-powered radio to maintain connection.

Just as in a rideshare, the Kitty Hawk team envisions a network of Cora in the sky that coordinate picking up and dropping passengers. Mesh networking, multicast, and low latency become important features to have.

Kitty Hawk is focusing on launching the Cora in New Zealand, but is working with governments around the world to prepare for launch. As such, having the flexibility of operating frequency would make deployment in various markets much easier.



Solution

Doodle Labs developed the Smart Radio family of routers and gateways specifically with Unmanned Aerial Systems (UAS) and robotics in mind. It is a small, lightweight radio that can operate at any frequency from 100 MHz to 4 GHz. Its powerful radio allows a UAS to stream 4K video from 6 miles (10 km) away. Minimal integration efforts were required for the Kitty Hawk team since the Smart Radio utilizes an ethernet interface and has Doodle Labs' proprietary BII software preloaded.

BII (Broadband for Industrial Internet of Things) software has been developed to optimize performance of the radio for UAS applications. Advanced QoS and multimedia traffic prioritizations allow for low latency Command and Control as well as HD video streaming on the same link. Self-healing and self-forming mobile mesh provides the highly-reliable network with redundancy that the Cora requires.

Results



Doodle Labs' Smart Radio provides a communications link for the Cora team to build a vast range of features and systems. With its form-factor compatibility, the Smart Radio can be swapped to operate at any frequency the local government requires.

With a wireless broadband infrastructure set, the Kitty Hawk team is able to focus on building the personal flying vehicle of the future.

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