Cleared for Takeoff

Detecting and Locating RF Interference Around Airports

Large airports rely on a variety of wireless signals that are distributed across a wide range of frequencies. Successful flights depend on advanced wireless communication systems between the tower and an aircraft, radio navigation systems such as RADAR, and precision landing systems that calculate location data in real-time. Busy airports manage thousands of takeoffs and landings each day with little room for error. Any disruption caused by RF interference can end in disaster.
The Challenge

The proliferation of wireless devices means that interference, whether intentional or accidental, is more common and more difficult to detect. Because of the size of an airport, a single spectrum analyzer does not have the coverage needed to get a reliable view of the spectrum environment. Users in the control tower need a solution that is compact, portable, and remote deployable, allowing it to be placed on a vehicle or networked with other analyzers and deployed for continuous monitoring. Traditional spectrum analyzers that are designed for the lab are too large, too expensive, and not designed for this type of monitoring application.

Airports need to be able to monitor the wireless spectrum and rapidly detect inadvertent or malicious sources of interference, locate the source, and disable it to mitigate the impact on passenger safety.
The ThinkRF R5500 Real-Time Spectrum Analyzer is powerful, versatile, and networked to capture modern signals in complex environments, such as an airport. By deploying multiple units remotely users gain a continuous view of the entire air field. With advanced triggering capabilities, an alarm is sent any time a signal is detected outside of a designated threshold and users are immediately notified of any abnormal, unknown, or disruptive signal.

The compact and portable unit can easily be placed on a truck for advanced drive tests or interference hunting applications around the airport. By integrating the open R5500 analyzer with advanced software applications, such as the leading Keysight 89600 VSA software, users can conduct in-depth analysis and locate the source of the interference.

Benefits of the ThinkRF R5500 Real-Time Spectrum Analyzer

- Purpose built networking capabilities designed for remote deployment and continuous monitoring
- Powerful triggers to alert users of any unknown signal
- Rapid sweep rates of 28 GHz/s to increase the likelihood of detection
- Cost-effective alternative to large and bulky traditional lab spectrum analyzers
The Results

Airports get a complete view of the spectrum and can rapidly respond to any potential interference, whether inadvertent or malicious. By leveraging the ThinkRF R5500 Real-Time Spectrum Analyzer and powerful analysis software, airports keep operations running smoothly and maintain passenger safety at all times.

ABOUT THINKRF

ThinkRF is the leader in software-defined spectrum analysis solutions that monitor, detect and analyze complex waveforms in today’s rapidly evolving wireless landscape. Built on patented technology and quality by design principles, the ThinkRF platform offers greater versatility, better performance and additional capabilities for 5G, monitoring, signals intelligence (SIGINT), technical surveillance countermeasures (TSCM), and test and measurement applications. Aerospace and defense companies, spectrum regulators and wireless communications providers use the remotely deployable, PC-driven and easily-upgraded platform to replace traditional lab equipment for wireless spectrum analysis.

For more information, visit www.thinkrf.com, contact info@thinkrf.com or on Twitter, LinkedIn and YouTube.