

Wireless Industry Doubles Down on 5G and Aviation Safety



Many countries around the world are already deploying wireless networks in the bands from 3300-4200 MHz ... There have not yet been proven reports of harmful interference due to wireless broadband operations internationally.”

— Federal Aviation
Administration

The U.S. wireless industry has voluntarily agreed to a broad set of precautionary measures to ensure safe flights and rapid 5G deployment, directly addressing the FAA’s concerns. The industry has offered to implement this temporary set of measures for six months on top of the FCC’s existing rules, clearing the path for the launch of commercial wireless services. 5G deployments are successfully occurring in the C-Band without harmful interference in dozens of countries that have no precautionary measures in place to specifically protect aviation operations. There is no evidence that the U.S. cannot safely deploy 5G in the C-Band under the rules the FCC adopted in February 2020 after many years of study. These additional safety-driven commitments should put aviation concerns to rest.

C-Band Spectrum Is Key to Continued U.S. 5G Success

C-Band spectrum is located in the mid-band frequency range, which provides the high capacity and broad geographic coverage needed to serve suburban and rural America and which will enable 5G to drive technological innovation and economic growth. Boston Consulting Group projects 5G will add 4.5 million new jobs and \$1.5 trillion to the U.S. economy by 2030. Ensuring the C-Band is swiftly made available for 5G is critical to our economy, as every six-month delay in rollout decreases these benefits by \$25 billion. Recognizing the potential of 5G to fuel economic growth, create jobs, and drive innovation, nearly 40 nations have already deployed in the C-Band to promote 5G in their countries.

C-Band Licensees’ Recent Voluntary Commitments Provide Significant Additional Protections Beyond What Real-World Deployments Demonstrate Are Needed

In order to alleviate any safety concerns, wireless licensees launching C-Band first in the United States voluntarily deferred commercial launch of their C-Band deployments by 30 days and provided access to 5G deployment information to federal regulators.

Despite the lack of evidence that any additional measures are needed, out of an abundance of caution, wireless licensees launching C-Band first in the United States have also agreed on a temporary basis to adopt precautionary measures to provide additional protection at airports, heliports, and nationwide—and in the spirit of cooperation and good faith, licensees have further volunteered to temporarily adopt C-Band radio exclusion zones that match those already in use in France, where U.S. aircraft currently fly daily with full FAA approval.

To address the aviation community’s concerns, the U.S. wireless industry has offered the following temporary measures:

- Protections at Public Airports. The U.S. wireless licensees agreed to voluntarily limit base station power for 5G operations in the 3700-3800 MHz band near public use airports with paved runways—specifically, licensees have offered to reduce C-band signal levels by at least 10 times on the runway or during the last mile of final approach and the first mile after takeoff. This is on top of compliance with existing regulatory limits for deployments around airports.

158,000x

The amount the authorized power in numerous countries exceeds what the aviation industry claims is “safe.”



These technical mitigations represent one of the most comprehensive efforts in the world to safeguard aviation technologies.”

— Federal Communications Commission

- Protections at Public Heliports. The U.S. wireless licensees agreed to voluntarily limit 5G deployment in the 3700-3800 MHz band near public heliports to control signal levels near takeoff and landing areas for medevac and other helicopter missions. This step was taken despite the helicopter industry’s recent proposal that simple equipment mitigation steps could be taken to address any potential concerns around helicopter safety.
- Nationwide Power Limits. The U.S wireless licensees voluntarily committed to the first-of-its-kind nationwide limit on signal levels above the horizon, in addition to confirming compliance with existing FCC rules. This additional step, which provides even greater protection to in-flight operations and further ensures no interference to landing aircraft, further demonstrates the U.S. wireless industry’s commitment to allaying any lingering concerns.

The licensees also committed to continued engagement with the FCC, FAA, and other stakeholders as 5G is launched in the C-Band.

C-Band Coexistence Was Studied in the U.S. and Internationally for Over a Decade

The voluntary steps taken by wireless licensees provide further safeguards for aviation safety beyond the requirements adopted by the FCC after years of study and the real-world operating record in the nearly 40 countries where 5G has already been successfully and safely deployed.

The FCC recognized the tremendous value of mid-band spectrum and auctioned 280 megahertz of the C-Band in December 2020 after concluding that C-Band 5G can operate without causing harmful interference to aviation devices. This followed three years of analysis, input from aviation and spectrum experts, and consultation with other federal agencies, along with 17 years of international study.

This decision is reinforced by real-world deployments and testing across the globe. The FCC also put strong safeguards in place to further ensure coexistence with 5G and its neighbors, including at least 220 megahertz of spectrum separating 5G from aviation operations—double what leaders in the aviation industry called for—and 400 megahertz from the deployments scheduled for imminent launch.

A single study on which the aviation industry bases its claims regarding coexistence between C-Band 5G in the U.S. has been fully debunked, and rightly so: if its predictions were correct, 5G deployments in dozens of countries, as well as CBRS operations in the U.S., would be causing harmful interference to thousands of aircraft every day. Yet no harmful interference has been documented, and targeted testing with aviation operations in numerous countries has provided further support for the ability of these services to safely coexist.

Dozens of Countries Have Launched 5G in the C-Band—With No Precautionary Measures and No Interference

Hundreds of thousands of 5G base stations in nearly 40 countries are deployed in the C-Band today, including in the 100-megahertz segment (3700-3800 MHz) where C-Band 5G will launch in the U.S. starting in January. Many of these countries allow 5G operations at power levels even higher than permitted under the FCC’s rules, and the vast majority have not adopted any precautionary measures regarding coexistence with aviation operations. The FAA recently confirmed that there are no reported incidents of harmful interference despite millions of passengers flying in these nations every year. U.S. airlines fly daily and safely to these nations.



Coupled with protections already put in place by the FCC and the lack of harmful interference to aviation operations in dozens of countries today, the U.S. wireless industry’s voluntary steps to address aviation community concerns provide a clear path forward for the introduction of 5G services in the C-Band without further delay.