Real-world evidence overwhelmingly confirms that C-band spectrum can safely be used for 5G, without causing harmful interference to aviation equipment.

Nearly 40 countries across the globe have already adopted rules and begun launching 5G in the C-band at similar frequencies and the same or similar power levels as U.S. C-band 5G—and in some instances, at closer proximity to aviation operations than 5G will be in the U.S. None of these countries has reported any harmful interference with aviation equipment, despite a flawed study from some aviation industry representatives suggesting that operations at these power levels and separation would have an effect.
After years of study, the FCC auctioned the 3700-3980 MHz band in 2020, with the first Phase (3700-3800 MHz) ready for commercial use later this year. International experience using this mid-band spectrum demonstrates the safe coexistence of wireless and aviation.

Japan. Tens of thousands of 5G base stations have been deployed up to 4100 MHz with just a 100-megahertz guard band on either side of the altimeter band—a quarter of the size of the guard band that will exist with this year’s deployments in the U.S. There are no mitigations in the spectrum overlapping where the U.S. will operate, and there have been no claims of interference despite aviation’s flawed study suggesting that operations at Japan’s power levels would have coexistence impacts.

Australia. Carriers are successfully operating thousands of 5G base stations in the 3475-3700 MHz band, with a maximum 5G power level that is similar to the U.S. Aviation stakeholders are on record saying 5G and aviation can coexist below 4000 MHz.

South Korea. Tens of thousands of 5G sites have been deployed in the 3400-3700 MHz band. There are no mitigations in place and no known reports of interference, despite the aviation report’s suggestion that operations below 3700 MHz would have coexistence impacts.

Europe. The 3400-3800 MHz band is harmonized for 5G, and 5G has been operating in more than 20 countries for up to three years without interference claims—including in the band segment where 5G operations will launch in the U.S. this year (3700-3800 MHz).

France. The French military (ANFR) conducted a trial with a helicopter and an active 5G base station and concluded that “the emission of 5G NR base station had no impact on the operational behavior of the radio altimeter.”

Norway. The Norwegian Communications Authority conducted tests with an active 5G base station on several different aircraft approaching Bergen-Flesland Airport in the 3700-3800 MHz band (the same band where 5G is to be launched first in the United States) which “showed no abnormalities on the radio altimeters during the test.”

United States. The federal government has operated radar systems below 3700 MHz for decades at power levels 10,000x greater than C-band 5G will be, without claims of interference. Federal ground-to-air systems at 4400 MHz (immediately adjacent to aviation operations, with antennas that are pointing up toward aircraft) likewise operate at levels that exceed the safety threshold in the aviation report, yet with no claims of harmful interference.

Aviation Notices. Aviation authorities in France, UAE, Australia, and Canada have each issued public requests for evidence of harmful interference by wireless services with aviation. There have been no known credible reports of interference, despite the fact that some of those advisories have been in effect for many months.

United Kingdom. A study from the UK, which allocated 3400-3800 MHz for 5G, found that 5G systems, “including one deployed at London Heathrow, have apparently been operating without interference being detected.”

South America. In Peru, operators were approved earlier this year to operate 5G immediately. At least half a dozen other countries across South America and Mexico are operating 4G or fixed wireless within the 3300-4200 MHz band without claims of interference to aviation operations, and are planning or have already held spectrum auctions to support 5G deployment.

Asia, Middle East, and North Africa. More than a dozen countries successfully operate wireless across the 3300-3800 MHz band (the same band where 5G is to be launched first in the United States), with no known claims of harmful interference to aviation systems.

The Evidence Overwhelmingly Confirms That C-Band Spectrum Can Safely Be Used for 5G.

Existing real-world deployments and careful study by industry and regulators across the globe all verify that 5G operations in the C-band will not cause harmful interference to aviation equipment operating above 4200 MHz.