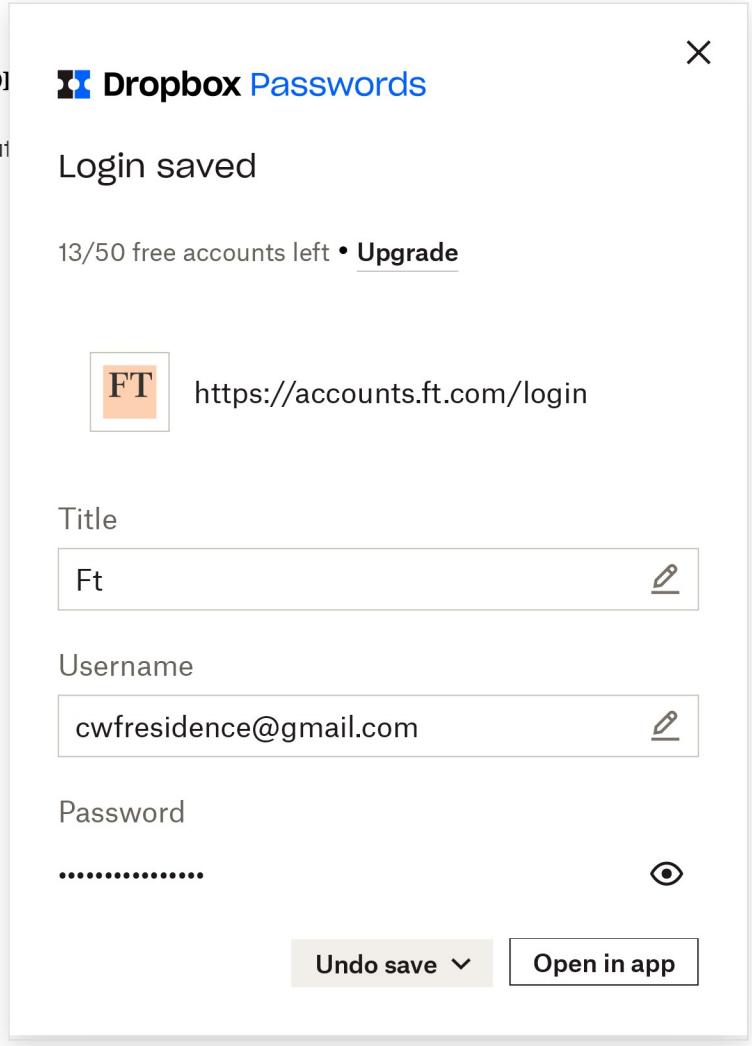
Airlines

Why is 5G wireless service causing pr

Carriers worry over interference with altimeters, but



United Airlines says it is particularly concerned that aircraft altimeters could be 'compromised' by 5G wireless signals © REUTERS

Philip Georgiadis and **Anna Gross** in London and **Steff Chavez** in Chicago
YESTERDAY

The highly technical realms of wireless technology and avionics exploded into a furore in the US this week, after airlines warned of chaos if telecoms groups launched new 5G networks as planned on Wednesday.

5G will offer mobile phone users superfast connections and is expected to hasten the digitisation of many industries. But airlines have raised concerns over potential interference with their instrument systems.

AT&T and Verizon, the telecoms groups, on Tuesday said they had voluntarily agreed to scale back 5G near certain airport runways while pushing ahead with nationwide rollouts. The moves eased the showdown with the airline industry.

But not entirely: several major international airlines cancelled or deployed different aircraft on to a swath of flights into the US on Wednesday morning.

Emirates suspended services to nine US cities including Boston, Chicago and Miami, while Air India and Japan's ANA also cancelled flights.

Others, including British Airways, Cathay Pacific and Korean Air, have switched planes to avoid flying Boeing 777s into some US airports. The wide-body jet is yet to receive certification to land at some airports affected by the 5G rollout.

minor disruptions at some airports due to the remaining 5G restrictions".

How did the US reach this point over 5G technology that already exists in other countries served by airlines? Here are some answers.

Why are airlines worried about 5G in the US?

Airlines warn that the technology could interfere with sensitive equipment, notably altimeters, which use radio frequencies to measure how high an aircraft is flying and provide data to critical equipment including the autopilot. They are particularly crucial for landings in inclement weather.

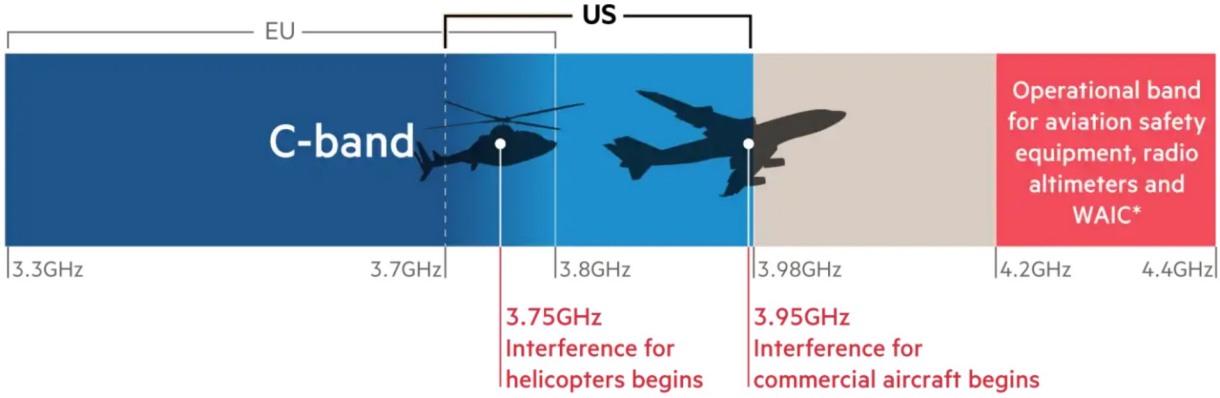
5G networks in the US operate using frequencies in the same radio spectrum, known as the C-band.

The aviation industry believes this is a safety problem. The Federal Aviation Administration has cleared less than half of the domestic commercial aircraft fleet to perform low-visibility landings at many airports where the 5G C-band will be deployed. On January 7 the regulator delineated so-called buffer zones around 50 airports — including those around the hubs of New York City, Chicago, Dallas and Los Angeles — to turn off 5G wireless transmitters close to runways for six months.

Airlines argue these buffer zones do not go far enough, and have called on the government to block 5G masts within two miles of runways at some airports.

Airlines warn 5G signals could interfere with an aircraft's altimeter

The US C-band frequency for 5G is closer to the range used by sensitive instruments onboard aircraft than the EU's



Source: AIA *Wireless avionics intra-communications
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executives wrote in a letter to the FAA and Federal Communications Commission on Monday.

United has said it is particularly concerned about three Boeing planes — the 787, 777 and 737 — whose altimeters it said would be "compromised". Prior to the telecoms companies' announcements on Tuesday afternoon, United and American Airlines said they were preparing to curtail flights if Wednesday's 5G launch went ahead as originally planned.

Ultimately, AT&T said it agreed to "temporarily defer turning on" some 5G towers around "certain airport runways", while Verizon said it would limit its launch "around airports".

Why is this not a problem in other countries?

Many other countries have introduced 5G. A key difference is that the radio frequency band allocated for 5G in the US is closer to the bandwidth used in avionics than in other regions including Europe.

The FAA has also pointed to other differences, including 5G power levels, the tilt of aerials and the placement of aerials in relation to airfields.

The European Union Aviation Safety Agency said it "is not aware of any in-service incidents caused by 5G interference" and that data received from aircraft manufacturers "offers no conclusive evidence for immediate safety concerns".

Concerns over interference have been discussed for years in the US, according to the FAA. Tom Wheeler, a visiting fellow at the Brookings Institution and former chair of the FCC, said confusion over allocating the airwaves showed "a lack of leadership" in Washington.

"The Trump administration had no . . . unified spectrum policy; as a result, policy ended up being made by individual agencies," he wrote in a November blog post.

Joe Biden, US president, hailed AT&T and Verizon on Tuesday for "allow[ing] aviation operations to continue without significant disruption".

Yet pressure remained on the White House to find a long-term solution, as telecoms companies left it unclear how long they would further delay service near airports.

As well, the FAA had not lifted its directives to restrict flights as of Tuesday afternoon. Those directives officially govern aviation operations, said one industry official, and leaving them in place "could lead to cancellations".

An official at the FCC, whose regulatory purview includes the spectrum, said that no other aviation regulator has put in place similar flight restrictions to the FAA.

Jessica Rosenworcel, FCC chair, said in a statement: "The FAA has a process in place to assess altimeter performance in the 5G environment and resolve any remaining concerns. It is essential that the FAA now complete this process with both care and speed."

Additional reporting by Kiran Stacey and James Politi in Washington