

International airlines suspend some US flights over 5G issue

Q1 Why is 5G rollout in the USA a problem for airlines?

Mobile phone companies in the United States of America (US) have rolled-out 5G services, which operate in the 3.7 – 3.98 GHz range on the spectrum, known as C-band. When deployed close to airports (within a 2-mile radius), the C-band has the potential to interfere with the proper working of crucial instruments of aircrafts, which operate in the 4.2 – 4.4 GHz range. Any interference in such instruments could compromise the safe landing of aircrafts, especially during poor weather conditions. Aircraft manufacturers have expressed concerns over the situation, as a substantial portion of the operating fleet of airlines may be forced to be indefinitely grounded, as crucial instruments of select aircrafts would become unusable.

Notably, such instruments are reportedly prevalent in many popular aircraft models, such as Boeing 777, 787, 737, among others. These models are used by major US and international airlines, like United Airlines, Emirates Airways, Air India, Nippon Airways, Japan Airlines, among others. Accordingly, US airlines have cautioned that C-band 5G services near airports could disrupt up to 4% of daily flights.

Q2 5G service make flights unsafe, is this report true?

The issue of allocating 5G C-band has been an ongoing debate for some time. The U.S. Federal Aviation Administration (FAA) has been working with mobile phone companies like AT&T and Verizon, to ensure that 5G spectrum in the 3.7 – 3.98 GHz range and aviation safety can co-exist, in light of the possible interference with instruments such as altimeters of select aircraft models, which operate in the 4.2-4.4 GHz range.

Altimeters measure how far above the ground an airplane is travelling, and are also used to facilitate automated aircraft landings. They also help in detecting dangerous wind currents.

Accordingly, the FAA recognises that such interference may hamper low-visibility operations. It also recognised that 5G interference could also prevent engine and braking systems from transitioning to landing mode, which could prevent an aircraft from stopping on the runway.

While the FAA has cleared an estimated 45% of the US commercial airplane fleet, to perform low-visibility landings at many airports where 5G 3.7 – 3.98 GHz will be deployed, the list did not include many large airports.

Accordingly, as an interim measure, mobile phone companies have agreed to create buffer zones around 50 airports in the US, for six months to reduce interference risks. Few companies have also assured of not using spectrum that is closer to the higher band for several years.

Q3 Do you think 5G technology could interfere with some sensitive instruments of the aircraft or disrupt planes' navigation system?

Q4 Are there other countries facing similar issue and how they are planning to handle/ handling this issue?

Mobile network companies have argued that C-band 5G has been deployed in about forty other countries without risks of aviation interference. However, it is to be noted that most countries have set lower 5G frequencies than the US. For instance, the European Union (EU) in 2019 set standards of 3.4-3.8 GHz range, and South Korea of 3.42-3.7 GHz.

Accordingly, the European Union Aviation Safety Agency (EASA), had claimed that the issue of aviation inference was specific to US airspace, and no risks were identified in Europe. However, the interference risks in the US have led to flights being rescheduled and/ or cancelled from different parts of the world. For instance, many flights from India have been curtailed in the past few days. Alternatively, few airlines, such as from Singapore, have changed the aircraft models flying to the US.

To overcome the situation, in the short-term, mobile network companies have agreed to temporarily defer turning on few wireless towers located near key airports, to avert disruption of flights. It has been argued that in the long term, the FAA would need to clear and certify aircraft altimeters of a substantial number of US commercial aircraft fleet to operate near 5G base stations where the C-band will be deployed.

Q5 Will this also have an impact on Indian aviation industry?

The Federation of Indian Pilots (FIP), with a strength of 6,000 pilots, had expressed aviation safety concerns over possible interference of 5G wireless signals with aircraft equipment.

Accordingly, since the past few days, Indian Airlines had been contemplating on whether or not to allow international flights landing in the US, in light of the possible aviation risks posed by the 5G 3.7 – 3.98 GHz range, deployed close to their airports. Most recently, Air India curtailed some of its flights to New York, Chicago and San Francisco, which used the Boeing 777 aircraft model. These may continue to be curtailed, or would have to change the aircraft type, to continue operations to select destinations in the US.

While Indian carriers wait for safety assurance from FAA and aircraft manufacturers, India's aviation regulator, Director General of Civil Aviation (DGCA) continues to monitor the situation, and work with airlines to resolve the issue.

Q6 How do you see 5G rollout in India, its impact and concerns?

5G in India, is set to offer various benefits to consumers and businesses alike. However, concerns such as this one pertaining to the aviation industry remain to be adequately addressed.

India has currently earmarked 3.3 – 3.6 GHz range for 5G, and many Indian telecom operators are using lower bands at the moment for offering 4G. However, it is to be noted that some mobile manufacturers are bringing out products capable of supporting 5G upto 4.2 GHz.

This may cause similar problems in India. Accordingly, the Telecom Regulatory Authority of India (TRAI), and Department of Telecommunications (DoT) must take cognisance of the prevailing situation in the aviation industry, and take appropriate measures to avoid India also facing similar issues in future.

References

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- Handsets supporting all 5G frequencies may cost more, available [here](#)