Airports, nearby areas may not get 5G services anytime soon

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The Ministry of Civil Aviation has asked telecom companies to create a buffer and safety zone to ensure mitigation measures while implementing C-band 5G spectrum in and around an airport, in view of safety concerns for aircraft operations.

It has asked telcos that in 2,100 metres from both ends of the runway and 910 meters from the central line of the runway, there should not be any base station for the 3.3 GHz-3.67 GHz frequency range.

Also base stations beyond this zone, in a radius of 540 meters, can operate only at lower power limited to 58 dbm of the same band, and telcos should ensure downward tilting of these 5G base stations to an extent that 5G signals do not interfere with radio altimeters.

The move, according to telcos, would essentially mean that they would not be able to give 5G services on the crucial band in and around airports, as well as in most terminals across the country, besides in nearby residential and commercial areas.

This directive by the Directorate General of Civil Aviation (DGCA) has come amid concerns raised globally that the aforementioned 5G band could interfere with aircraft radio altimeters, especially when many aircraft are of old vintage. Radio altimeters measure altitude above the terrain to determine the path of the aircraft, along with GPS. They also help them in low visibility to gauge high rises, mountains, and other obstacles.

But telcos argue that the band that is used by altimeters is 4.2 GHz, and not 3.3-3.67 GHz, which has been auctioned out for 5G services in the country. So there is a gap of 500 MHz and therefore, there is no real chance of any interference, they said. Telcos said they had requested the DGCA to test if there was any interference as was done in some European countries, but the request was not accepted

In the US, the 5G band stretches until 4 GHz, and as a result, there were concerns raised there by airlines about possible interference as altimeters use the 4.2-4.4 GHz frequency range. In Europe, too, countries have allowed flights without enforcing a buffer zone.

A senior executive of a telecom company said: "In Delhi, where there are three runways, the gap between the terminal may not be even 500 metres. So it will not be possible to offer 5G services on this band at these terminals and even outside, and even in smaller airports. This also means, for instance, in Delhi, we won't be able to give 5G services in areas like Vasant Kunj, Aerocity and its hotels, and Mahipalpur, which are all within that buffer zone."

A communication from the wireless planning and co-ordination wing of the Department of Telecommunications sent to Reliance Jio, Bharti Airtel, and Vodafone Idea on Tuesday asks that the telecom service providers take these measures with immediate effect, and notes that these measures will be applicable until the replacement of all old radio altimeter filters is ensured by the DGCA.

It is expected that the DGCA will proactively ensure that this is done in a time-bound manner. The DGCA has said that it would inform DoT as soon as the replacement is completed, so that the restriction is lifted.

THE DIRECTIVES

- DGCA asks telcos to ensure a buffer zone amid fears of C-band 5G interfering with aircraft altimeters
- The move will impact 5G services in commercial and residential locations, and hotels that are near the airport
- Telcos argue that the band that is used by altimeters is 4.2 GHz, and not 3.3-3.67 GHz, which has been auctioned out for 5G services in the country
- DGCA has promised that the restrictions will be removed after the altimeters are replaced in a time-bound manner
- While the US has imposed such a buffer zone, Europe has not