

**GOVERNMENT OF INDIA  
MINISTRY OF CIVIL AVIATION  
LOK SABHA  
UNSTARRED QUESTION NO. : 1908  
(To be answered on the 14<sup>th</sup> December 2023)**

**EFFECT OF 5G MOBILE COMMUNICATIONS ON FLIGHT  
OPERATIONS**

**1908. SHRI M.V.V. SATYANARAYANA**

**Will the Minister of CIVIL AVIATION**

**नागर विमानन मंत्री**

**be pleased to state:-**

- (a) whether the Government has conducted any study to assess the effects of 5G network on Airline services in the country;
- (b) if so, the details thereof and if not, the reasons therefor;
- (c) whether the Government has proposed to enable safe and efficient implementation of 5G mobile communications services without interference in civil aviation operations; and
- (d) if so, the details thereof and if not, the reasons therefor?

**ANSWER**

**Minister of State in the Ministry of CIVIL AVIATION**

**नागर विमानन मंत्रालय में राज्य मंत्री**

**(GEN. (DR) V. K. SINGH (RETD))**

---

**(a) & (b) : No, Sir**

**India, is neither the State of Design nor the State of Manufacture of aircraft/ systems/ items of equipment operating in the country. Therefore, Directorate General of Civil Aviation (DGCA) does not have the design details of the aircraft/ equipment and is not in a position to conduct any studies on the potential effect of 5G signals on safe aircraft operations.**

**However, DGCA has reviewed the studies/ actions undertaken by various countries during the launch of 5G on the potential interference of 5G C-band signals on Radio Altimeters installed on the aircraft and risk involved in air travel.**

**The above review has shown that there is a likelihood of interference in the functioning of Radio Altimeter installed on aircraft due to C-band 5G signals which can affect vital aircraft systems and can lead to unsafe aircraft operations especially during landing phase.**

**(c) & (d) : 5G C-band spectrum has the likelihood of interfering with the current Radio Altimeters installed on the aircraft. In order to minimise the interference, manufacturers of Radio Altimeters are working on developing modified Radio Altimeters. World over mitigation measures have been adopted and similar mitigation measures have been mandated in India and accordingly, Telecommunication Service Providers (TSPs) have been advised to ensure the following while placing 5G towers in the vicinity of airports:**

- 1. Establishing safety and buffer zones in the vicinity of airports,**
- 2. Restricting power levels of C-Band 5G transmissions around the airports, and**
- 3. Tilt of 5G base stations to an extent such that the 5G emissions do not interfere with Radio Altimeters.**

\*\*\*\*\*