Continued Airworthiness Notification

Subject: Possible interference to radio altimeters from 5G applications.

Date: 14 June 2021

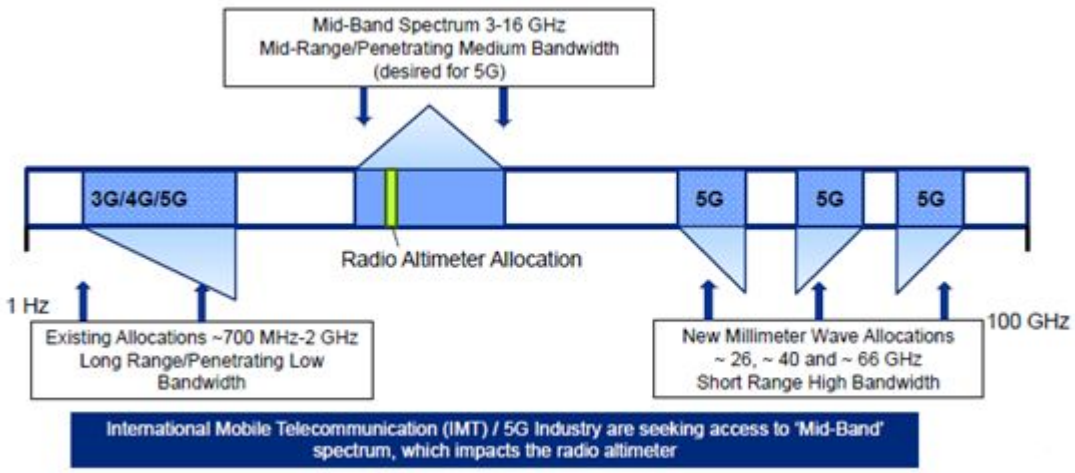
For the attention of: Aircraft Operators

Applicability: Aircraft equipped with radio altimeter (RA).

Purpose: This Continued Airworthiness Notification (CAN) is to provide background information regarding possible interference to radio altimeters from 5G applications.

Details: The radio altimeter (also known as a radar altimeter or a low range radar altimeter) is a critical aircraft safety system used to determine an aircraft's height above terrain. New cellular broadband technologies (such as 5G) may operate in frequency bands close to the radio altimeter frequencies of operation (4.2-4.4 GHz) and consequently cause interference.

The most undesirable outcome of this interference would be the indication of an undetected wrong height given by a radio altimeter. Depending upon operations, equipment model and aircraft type, this kind of error could have a significant adverse impact on flight safety. Other on-board systems using radio altimeter information (such as TAWS) could also be affected. The following diagram depicts the frequency spectrum under discussion.



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Details (Continued):

The International Civil Aviation Organization (ICAO) has received information from several countries and organisations indicating that some radio altimeters will be impacted if high power cellular systems are implemented near the frequency band used by radio altimeters.

Several countries have implemented temporary mitigations on new 5G systems in order to protect radio altimeters while permanent solutions are being devised. In some cases, this has included implementing precautionary zones around airports with restrictions placed on 5G service providers.

Recommendations:

As this is a developing issue and given the status of 5G ground station implementation within Thailand, it is not possible to issue definitive recommendations at this stage. However, CAAT would like to reinforce the following standard practices, and as more information becomes available, this CAN will be updated accordingly:

1. If 5G-compatible portable electronic devices (telephones, tablets, modems, etc.) are carried in the cabin or cockpit, they should be set so that they do not transmit on cellular networks (e.g. flight mode) or turned off.
2. Passengers must be advised to ensure that all electronic devices in checked baggage are turned off.
3. Operators must advise the air traffic service provider in contact with the aircraft of any disturbance to the radio altimeter and report the occurrence in accordance with CAAT Requirement No.22 on Reporting of Civil Aviation Occurrences (available at www.caat.or.th).
4. Air Traffic Service Providers are encouraged to inform their controllers of the possibility of such reports by crews.

Should you have any questions, please contact
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