European Union Aviation Safety Agency

FAQ n.95261

FAQs:

Cargo Tracking Devices

Question:

When using method (ii), what does "multiple modes of redundancy" mean regarding the radio suspension in flight?

Answer:

Multiple modes of redundancy means that the device is designed with a minimum of two independent means to turn it off completely, turn off the cellular or mobile functions, or a combination of both when airborne. These independent methods should use different sources to identify that the aircraft is in flight, for example, a cargo-tracking device may be designed to sense rapid altitude changes and acceleration to determine when to turn off cellular transmissions. Redundant sources of the same information, such as two vertical accelerometers, should not be considered independent.

The different sensors / detection means should be used in a conservative architecture. This means that the radio suspension should be activated if any of the source/means senses that the aircraft is in flight (logical OR gate). Conversely, the radio suspension should not be deactivated unless all sensors/means identify that the aircraft is on ground (logical AND gate).

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Link:

https://www.easa.europa.eu/en/faq/95261