



## **SAFETY ALERT 01/2014**

**Issued: 17 February 2014**

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**SUBJECT:**

Use of Portable Electronic Devices during Commercial Air Transport Aircraft Operation

**REFERENCE PUBLICATION:**

CAR OPS 1 & CAR OPS 3 EASA OPS AMC and GM

**CATEGORY:**

Recommendation

**REASON:**

To Allow Expansion in use of Non Transmitting Portable Electronic Devices during Commercial Air Transport Aircraft Operation

**APPLICABILITY:**

Commercial Air Transport Operators

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The information contained in this Safety Alert supplements AMC & GM for CAR OPS 1.110 & CAR OPS 3.110

The increasing use of Portable Electronic Devices (PEDs) such as mobile phones, electronic readers, tablet Personal Computers (PCs), laptops, MP3 players etc. in the day to day life has led the GCAA to re-assess the current PED policy.

CAR OPS 1.110 States:

An operator shall not permit any person to use, and take all reasonable measures to ensure that no person does use, on board an aeroplane, a portable electronic device that can adversely affect the performance of the aeroplane's systems and equipment.

CAR OPS 3.110 States:

An operator shall not permit any person to use, and take all reasonable measures to ensure that no person does use, on board a helicopter a portable electronic device that can adversely affect the performance of the helicopter's systems and equipment.



The above regulations mean that there is *per se* no ban on the use of PEDs. However, the operator is required to demonstrate that radio frequency emissions from PEDs do not pose a risk to aircraft systems and equipment and that all hazards are mitigated before allowing the use of PEDs on board.

The definitions of the terms used in this Safety Alert are contained in CAR OPS 1.110 & 3.110 AMC & GM.

It foresees that an operator may allow the use of non-transmitting PEDs during any phase of flight. Non-transmitting PEDs include all devices for which the transmitting functions (e.g. WLAN, mobile phone functions, Bluetooth) are disabled.

This Safety Alert provides short term guidance to operators when intending to expand the use of non-transmitting PEDs, however this document also includes some initial recommendations for T-PEDs.

## 1) General:

Before allowing the expanded use of non-transmitting PEDs on board, Operators are expected to carry out identification of safety hazards entailed by the this expansion, their evaluation and the management of associated risks, including actions to mitigate the risk and verify effectiveness. Apart from the items mentioned in AMC to CAR OPS 1.110 & 3.110, an operator should address in particular the following points:

a) The spurious emissions from PEDs as received by the aircraft antennae can potentially lead to misleading information. It is recommended to address the following points explicitly:

Low visibility operation interference risk, if such operation is foreseen. The GCAA recommends not to allow PED use during those phases unless dedicated mitigation strategies are in place:

- EUROCAE/ED-130 "Guidance for the Use of Portable Electronic Devices (PEDs) On Board Aircraft" provides acceptable processes for assessing and mitigating the "front-door" interference effects.
- RTCA/DO-307 "Aircraft Design and Certification for Portable Electronic Device (PED) Tolerance" Section 4 also addresses the "front-door" interference effects.

Contrary to the industry standards mentioned above, the GCAA recommends to establish the phases of flight as follows:

- Approach and Landing: From Initial Approach Fix (IAF) to visual reference, landing, and after leaving all active runways.
- Taxi to Gate: Begins when the aircraft has crossed all active runways and concludes when the aircraft is parked for passenger unloading.



b) Transmitting PED (T-PED) switched-off / transmitting functions disabled: Passengers are required to switch off the T-PED or to disable its transmitting functions at the start of the flight when the passengers have boarded and all doors have been closed, until a passenger door has been opened at the end of the flight. However use of cellphones may be permitted after an aircraft has left the active runway after landing.

Note: Some aircraft are equipped with systems that enable the use of T-PEDs. The authorization of these systems and the use of T- PEDs in combination with those systems are outside the scope of this Safety Alert.

c) PED stowage should be considered during critical phases of flight and taxiing to prevent possible injuries from projectiles and to allow for egress from the aircraft. The Operators should ensure compliance with CAR OPS 1.110 & CAR OPS 3.110 AMC. The Operators should clearly identify the phases of flight in which PEDs are to be stowed and determine suitable stowage locations, taking into account the PED's size and weight.

d) The passenger briefing is important for providing information to passengers on the safety aspects, such as egress from the aircraft in case of an evacuation, demonstrations of safety and emergency equipment and aircraft systems, etc. It is recommended that PED distraction during the passenger safety briefing is avoided so that passengers' attention concentrates on the safety briefing and crew instructions.

e) The Operators are shall ensure that the communication to passengers should be clear and concise and the following;

1. The operator shall ensure that passengers are given briefings and demonstration relating to safety in a form that facilitates the application of procedures applicable in the event of an emergency; and
2. The operator shall ensure that passengers are provided with a safety briefing card on which picture-type instructions indicate the operations of emergency and exists likely to be used by the passengers.

f) The GCAA recommends that operators provide general information on their PED policy to passengers before the flight. This information should clearly specify at least the following:

- i. Which PEDs can be used/are not to be used throughout the flight/during critical phases of flight and taxiing;
- ii. If, when, and where PEDs are to be stowed during critical phases of flight and taxiing; and
- iii. That the instructions of the crew are to be followed at all times.



The GCAA recommends to the operator to use uniform information in terms of terminology to avoid passenger confusion.

It is the GCAA's endeavor to harmonies PED policies as much as possible to avoid passenger confusion. However, it is generally expected that, as each operator rolls out his process, the PED policies will become increasingly different. The information to passengers should therefore reflect the specific boundaries set by the individual airline policy.

g) Operators should reflect their changed procedures in the operations manual and brief or train flight crew, cabin crew and technical crew before an expanded use of PEDs is implemented.

Such procedures and crew members briefing or training should specify:

- i. PEDs that can/cannot be used on-board;
- ii. At which times PEDs are to be switched-off, can be turned on, or can be in non-transmitting mode;
- iii. At which times PEDs can/cannot be used;
- iv. If, when, where, and how PEDs are to be stowed;
- v. To which aircraft/fleet this policy applies;
- vi. Continuous update on the PED market development as far as it concerns the operator's PED policy.

The expanded use of PEDs should be reflected in the normal, abnormal and emergency procedures for flight crew, cabin crew and technical crew. The procedures should include instructions on how to recognize, respond to and report suspected or confirmed PED interference events. The procedures should clearly specify the cabin crew responsibilities and procedures concerning the use of PEDs, taking into account that cabin crew will not be able to physically check the transmission status of each PED carried by passengers and will not be able to move around the cabin during certain phases of flight to enforce the operator's procedures. The operator should assess and address crew resource management and workload issues for all crew members, including passenger information and handling.

h) To monitor the application of the expanded use of PEDs, it is recommended that Operators should report PED events to the GCAA. Such events could be linked to suspected or confirmed PED interference, passenger handling, smoke or fire caused by a PED.

i) It becomes more and more difficult to distinguish between devices being transmitting, having transmitting functions disabled, or being non-transmitting at all. Therefore, the GCAA recommends to commercial air transport operators to evaluate their aircraft as being T-PED resistant, considering the most commonly used transmitting technologies, or to clearly communicate to passengers that T-PED use is still restricted.



## 2) Transmitting PEDs:

CAR OPS 1.110 & 3.110 AMC & GM provides a way for Operators to allow the use of transmitting PEDs (T-PEDs) such as mobile phones, WLAN or Bluetooth devices, during non-critical phases of flight, excluding taxiing, if the aircraft is certified accordingly, e.g. as PED tolerant, phone tolerant, having WLAN installations, etc.

a) The GCAA considers that the method of basing T-PED assessment purely on the aircraft HIRF (High Intensive Radiated Fields) compatibility leaves the risk of several aircraft system malfunctions, as the HIRF certification does not cover all aircraft systems using appropriate radiation levels when considering on-board transmissions. The GCAA therefore recommends performing the additional assessment as described in EUROCAE ED-130 Section 4 and related annexes. Effects known to result from transmitting devices and having operational consequences are not sufficiently addressed when using HIRF compliance only.

b) EUROCAE ED-130 provides processes for assessing and mitigating both the “back-door” interference effects caused by T-PED transmissions as well as the “front door” interference effects of spurious emissions from all PEDs. As alternative method to EUROCAE ED-130, the GCAA would accept the use of RTCA/DO-307, Chapter 3 and 4, which can be applied during aircraft development for PED tolerance certification or followed subsequently to demonstrate PED tolerance.

The GCAA reminds to consider the applicable telecommunication regulations before allowing the use of transmitting functions on-board aircraft.

In any aircraft within the Operator’s fleet are equipped with a certificated onboard system that permits use of PEDs or T- PEDs, an assessment of the Aircraft Flight Manual (AFM) should be undertaken to ensure expanded PED use does not contradicts any normal / abnormal procedures or limitations. Any identified change to the AFM should follow the usual approval process. The use of such systems and interfacing T-PEDs is not expanded by this Safety Alert, although use of interfacing T-PEDs once their transmitting function has been disabled might be considered.

The Operators may seek the assistance of airport Operators for the display of safety notices at the aircraft boarding points reminding passengers to switch off cellphones and other transmitting devices.