

Trinidad and Tobago
Civil Aviation Authority



TTCAA Advisory Circular

Subject: USE OF PORTABLE ELECTRONIC DEVICES ONBOARD AIRCRAFT
Reference: TAC-005B
Effective Date: 01-Jul-2019

1. Purpose

TTCAR No.2:77 defines the condition(s) for which portable electronic devices (PED) may be used onboard aircraft.

This TTCAA Advisory Circular (TAC) provides aircraft operators with information and guidance as an acceptable means of compliance with TTCAR No.2:77.

APPROVED BY:

Francis Regis

Director General of Civil Aviation

Signature

10th October 2019.

Date

2. Cancellation

- 2.1 This TAC replaces and supersedes TAC-005A dated April 25, 2005 which is now cancelled.
- 2.2 This update primarily addresses the implementation of the “Expanded Use of PEDs” and the addition of guidance for Medical Portable Electronic Devices (M-PEDs).

3. Related Regulation(s)

TTCAR No. 2:77, TTCAR No.2:77 Schedule 12 Implementing Standards.

4. Definitions

- 4.1 **Portable electronic Device (PED).** Any lightweight, electrically powered equipment. These devices are typically consumer electronic devices capable of communication, data processing and/or utility. Examples range from hand-held, lightweight electronic devices such as tablets, e-readers, and smart phones to small devices such as MP3 players and electronic toys.
- 4.2 **Expanded Use of PEDs** refers to the use of devices across all phases of flight, including during critical phases.
- 4.3 **Airplane mode.** A setting available on many cellular/mobile/smart phones and other electronic devices that, when activated, suspends many of the device's signal transmitting functions, thereby disabling the device's capacity to place or receive calls or use text messaging – while still permitting use of other functions that do not require signal transmission (e.g. games, built-in camera, MP3 player). Airplane mode is also referred to as flight mode, plane safe, or any other non-transmitting mode.
- 4.3 **Medical Portable Electronic Devices (MPED)** are devices medically necessary to support physiological functions, which passengers may use at all times, and do not need to be switched off.

5. Discussion

TTCAR No.2:77 allows for the operation of PEDs which the operator of the aircraft has determined will not interfere with the navigation or communication system of that aircraft. The determination of the effect of a particular device on the navigation and communication system of the aircraft on which it is to be used or operated must, in case of an aircraft operated by the holder of an air operator certificate or other operating certificate, be made by that operator (i.e., certificate holder). In all other cases, a determination must be made by the operator and/or the pilot-in-command (PIC). If at any time during flight, interference is experienced, a record of the devices causing interference should be made, along with the applicable conditions. Use of the device responsible for the interference should then be terminated for the remainder of the flight.

6. Operator’s Requirement for Implementation of PEDs

Operators must address, as a minimum, the following:

- (a) Conduct a safety risk assessment related to the expanded use of PEDs and develop appropriate mitigation for identified risks;
- (b) Develop policies and procedures specific to the use of PEDs, (Expanded use if applicable);

- (c) Develop or revise the approved flight and cabin crew training programs to ensure that crews are:
 - 1. Knowledgeable on the policies and procedures related to the expanded use of PEDs;
 - 2. Aware of their responsibilities in relation to PED usage;
 - 3. Adequately trained; and
 - 4. Proficient in the performance of their duties;
- (d) Provide passengers with supplementary information on the expanded use of PEDs prior to and during the flight; and
- (e) Monitor and follow up on any potential issues associated with the expanded use of PEDs, as part of their safety management systems.

7. Operator's Policy on the Use of PEDs

- 7.1 The operator should establish policies that allow the use of PEDs without adversely affecting operational safety. The goal is to ensure a common understanding among passengers and the operator's personnel regarding the use of devices, including which PEDs are permitted and how they should be handled while passengers are on board the operator's aircraft.
- 7.2 Operators should include the following in their policy:
 - (a) The types of devices and a list of the types that passengers are allowed onboard the aircraft. These could be defined in broad categories such as cellular/mobile/smart phones, e-readers, medical portable electronic devices, tablets; laptop computers etc.;
 - (b) Restrictions/prohibitions of PED use;
 - (c) Specific considerations and/or restrictions regarding certain device capabilities, such as text messaging and voice communications;
 - (d) Stowage and securing of devices, especially during critical phases of flight;
 - (e) Guidelines for crew members on their use of personal and operator issued PEDs (if applicable).
 - (f) Crew reporting and investigation of occurrences or anomalies associated with PED use, including but not limited to, passenger behavior disruption, suspected or confirmed PED interference, and PED or stand-alone battery failure that produced smoke or fire or resulted in abnormal or emergency situations; and
 - (g) The charging of a PED using aircraft power during critical phases of flight.
- 7.3 The operator should have a clear policy when the use of PEDs may be restricted or prohibited so as not to compromise the safety of flight (e.g. Turbulence, CAT II/III operations).
- 7.4 For expanded use, the operator's policy should clearly address phases of flight, noting any differences in the use of PEDS for ground and pre-flight operations, pushback and taxi, take-off, climb, cruise, descent, approach, landing, as well as post-landing and post-flight operations. If the State of destination does not allow the expanded use of PEDs, the operator must have procedures to comply with the necessary restrictions as applicable (e.g. during refueling).

8. Recommended Procedures for the Operation of PEDs Onboard Aircraft

- 8.1 If an operator allows the use of PEDs onboard his aircraft, procedures should be established and spelled out clearly to control their use during passenger-carrying operations. The procedures, when used in conjunction with an operator's program, should provide the following:

- (a) **PEDs prohibited from use onboard the aircraft.** Cabin crew should monitor the cabin to check that prohibited PEDs are not in use during flight. Examples of these unauthorized PEDs may be those classified as intentional radiators or transmitters such as remote-control devices for toys, two-way radios or satellite phones.
- (b) **Aircraft fitted with wireless services.** The operator should develop specific procedures regarding their use. These procedures may include shutdown of the system in the event of any abnormal or emergency situation;
- (c) **Procedures in the event of turbulence.** The operator should verify existing turbulence procedures to ensure that they include considerations on the use, stowage and securing of PEDs, as well as the associated cabin crew announcements and cabin checks;
- (d) **Stowage and Security of Devices.** There is an important distinction that needs to be made between “stowing” and “securing” PEDs. If a PED is “stowed”, it must be placed into an approved carry-on stowage location. These locations have been designed and certified to comply with the requirements for retention of articles of mass during emergency landings. Approved carry-on stowage locations have specific weight and size limitations. When a PED is “secured”, it is restrained by a method which may not have been certified for retention of articles of mass to the emergency landing load limits. The following elements identify several considerations for inclusion in an operator’s policy for stowing and securing PEDs (including any Medical Portable Electronic Devices [M-PEDs] Operators have included in their carry-on baggage programs and/or personal items policies).
 - 1. Large PEDs (such as full-size laptops) must be safely stowed in an approved carry-on stowage location, and not present an undue hazard in the event of severe turbulence, crash forces or emergency egress. Larger PEDs are those the operator has determined weigh more than 2 pounds or are of a size that would impede egress.
 - 2. Small PEDs must be secured (not loose) during surface movement, take-off, descent, approach and landing. Passengers should secure small PEDs on their person by placing them in an armband or garment pocket. Passengers may also secure small PEDs by placing them in the seat pocket. PEDs should not be left unsecured in an adjacent empty seat. Passengers can hold small PEDs as a means to secure, but this method is not preferable.
 - 3. Seat back pockets generally are designed to hold a maximum of 3 pounds. The passenger safety card, magazines, other literature and air sickness bag account for approximately 1 pound. When an operator conducts a safety risk assessment to determine an acceptable weight limit for the seat pocket, these items should be taken into account. As a general “rule of thumb”, small PEDs and other personal items placed in the seat back pocket should not exceed a total of 2 pounds and not protrude to the point of impending egress.
 - 4. One method of passenger safety communication is to define size parameters of small PEDs which could be safely secured in the seat pocket. Because some large laptops and other devices weigh less than 2 pounds but would be too large to be secured within the seat pocket adoption of language similar to the following may help eliminate conflict or confusion, e.g. small PEDs are defined as devices that do not exceed the following maximum dimensions (width, height and depth) and weight.
 - 5. PED cords or accessories must not impede emergency egress.
- (e) **PED modes of operation when to be used or not to be used.** The operator of the aircraft must make the determination of the effects of a particular PED on the navigation and communication systems of the aircraft on which it is to be operated. The operation of a PED is prohibited, unless the device is

specifically proven to be accepted and clearly identified during the departure briefing and written material provided to the passengers. Such permitted devices must also be documented in the Operations Manual. The use of all other PEDs is prohibited, unless the operator determines that the operation of that device will not interfere with the communication or navigation system of the aircraft on which it is to be operated.

- (f) **Safety Information to passengers.** The following information on the use of PEDs, particularly expanded use, must be communicated to passengers prior to departure.
1. A concise summary on the use of PEDs for the phases of flight and mode of use permitted.
 2. Overview of devices allowed.
 3. Times when devices may not be used.
 4. Proper stowing and securing of devices and times when this should be done;
- (g) **Procedures for reporting instances of suspected and confirmed interferences.** The operator should establish procedures to terminate the operation of PEDs for suspected interference from onboard electronic systems and equipment. Where interference is suspected, the following guidelines should be applied:
1. Passenger(s) instructed to terminate the use of their PEDs;
 2. Flight crew notified when all PEDs are no longer in use;
 3. If interference has not ceased, cabin crew should check for passengers' compliance with further instructions to discontinue using devices/turn off devices for the remainder of the flight;
 4. If interference has ceased, the use of PED(s) suspected of creating interference must be prohibited.
 5. Once suspected device(s) has been identified, the resumption of use of non-suspect device(s) must be communicated to the flight crew.
 6. Report with at least the following information must be filed.
 - i. Flight Information (Location, Time, Altitude etc.)
 - ii. Description of Interference
 - iii. Crew response action
 - iv. PED identification (if determined)
 - v. User identification (if determined)
 - vi. Any additional pertinent information
- Note:** *Operators are encouraged to develop a form or equivalent means of documenting reports for the purpose of collecting data specific to events of suspected or confirmed interference caused by PEDs onboard aircraft.*
- (h) **Medical Portable Electronic Devices (M-PEDs).** Although M-PEDs have safely been in use for decades during all phases of flight, Operators are encouraged to include M-PEDs in their safety risk assessment policies and procedures similar to that of other PEDs described earlier. Proper stowage and securing of larger M-PEDs that may need to remain on during all phases of flight should also be addressed. Small M-PEDs must be secured during surface movement, takeoff, descent, approach, and landing; passengers should secure small M-PEDs on their person in an armband or garment pocket.
- (i) **Manufacturers' Test Criteria for PEDs.** Operators should use manufacturers' information, when provided, with each device that informs the consumer of the conditions and limitations associated with its use onboard aircraft. Environmental Conditions and Test Procedures for Airborne Equipment may be obtained online from <http://www.rtca.org>.

- 9. Other related PED material.**
- (a) ICAO Cir 340
 - (b) FAA InFO 13010
 - (c) FAA InFO 13010 SUP
 - (d) FAA AC 91.21
 - (e) Transport Canada Advisory Circular (AC) No. 700-005