



สำนักงานการบินพลเรือนแห่งประเทศไทย  
The Civil Aviation Authority of Thailand

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# GUIDANCE MATERIAL FOR THE EXPANDED USE OF PASSENGER PORTABLE ELECTRONIC DEVICES (PEDs)

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CAAT-GM-AIR-300

Revision: 00

Date: 6 September 2021

Approved by

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Director General

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## ABBREVIATIONS

|       |   |
|-------|---|
| AED   | Automated External Defibrillators                     |
| APMT  | Airborne Patient Medical Telemonitoring               |
| CAAT  | The Civil Aviation of Authority of Thailand           |
| CPAP  | Continuous Positive Airway Pressure                   |
| EASA  | European Union Aviation Safety Agency                 |
| FAA   | Federal Aviation Administration                       |
| GM    | Guidance Material                                     |
| ICAO  | International Civil Aviation Organization             |
| IATA  | International Air Transport Association               |
| M-PED | Medical Portable Electronic Device                    |
| PA    | On-board Announcement                                 |
| PED   | Portable Electronic Device                            |
| POC   | Portable Oxygen Concentrators                         |
| PRAM  | Pre-recorded Announcements                            |
| T-PED | Intentionally Transmitting Portable Electronic Device |

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## 0. INTRODUCTION

### 0.1 Scope and Applicability

This Guidance Material (GM) is applicable to operators who are required to have a passenger portable electronic device (PED) policy in place and wish to expand the use of passenger PEDs. The provisions of this GM are complementary to and do not supersede or replace any associated regulatory requirements.

### 0.2 Purpose

“Expanded use of PEDs” refers to the use of devices across all phases of flight, including during critical phases. The purpose of this GM is to assist operators in implementing the expanded use of PEDs. It addresses the technical considerations associated with aircraft PED tolerability testing, as well as flight operations and cabin safety, crew training and passenger awareness aspects that should be considered as part of the process.

### 0.3 References

- Regulation of The Civil Aviation Authority of Thailand on Air Operator Certificate Requirements (In-Charge Cabin Crew Initial Training and PED sections)
- International Civil Aviation Organization (ICAO) Circular 340, Guidelines for the Expanded Use of Portable Electronic Devices
- The European Aviation Safety Agency (EASA) guidance which can be obtained from [www.easa.europa.eu/document-library/agency-decisions](http://www.easa.europa.eu/document-library/agency-decisions):
  - a) Decision 2014/029/R for Part-CAT
  - b) Decision 2014/030/R for Part-NCC
  - c) Decision 2014/031/R for Part-NCO
  - d) Decision 2014/032/R for Part-SPO
- Federal Aviation Administration (FAA) guidance material which can be obtained from <http://www.faa.gov/about/initiatives/ped>:
  - a) InFO 13010 – Expanding Use of Passenger PED
  - b) InFO 13010 SUP – FAA Aid to Operators for the Expanded Use of PEDs
  - c) Notice 8900.240 – National Policy, Expanded Use of PEDs
- International Air Transport Association (IATA) Guidance on the Expanded Use of Passenger Portable Electronic Devices (PEDs)

### 0.4 Definitions

#### **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.

**Critical phases of flight:**

The period of high workload on the flight deck and includes taxi, take-off, climb, descent, approach, and landing.

**Portable Electronic Device (PED):**

Any lightweight, electrically-powered equipment. These devices are typically consumer electronic devices capable of communication, data processing and utility. Examples range from handheld, lightweight electronic devices such as tablets, e-readers, and smart phones to small devices such as MP3 players and electronic toys.

Note: The definition of PED encompasses both transmitting and non-transmitting PEDs.

**Intentionally Transmitting Portable Electronic Device (T-PED):**

A PED that contains an intentional transmitter, which has some or all of the device’s radio frequency transmitting functions turned on. Intentional transmitters may include devices enabled with cellular technology, wireless radio frequency network devices, and other wireless-enabled devices such as remote-control equipment (which may include toys), two-way radios, cellular/mobile/smart phones and satellite phones.

**Medical Portable Electronic Device (M-PED):**

A portable electronic device such as automated external defibrillators (AED), airborne patient medical telemonitoring (APMT) equipment, portable oxygen concentrators (POC), ventilators, respirators, or continuous positive airway pressure (CPAP) machines.

**Unintentionally Transmitting (Non-transmitting) Portable Electronic Device (PED):**

A portable electronic device that is not equipped with a radio frequency transmitting function or a portable electronic device that has all of the device’s radio frequency transmitting functions turned off or is in airplane mode with the transmitting capability also turned off.

**1. BACKGROUND**

The standard approved use of PEDs on Thai registered aircraft for different phases of flight is as follows:

| Use of Handheld PEDs by Phase of Flight                  |                              |          |       |              |                            |         |         |              |
|--|------------------------------|----------|-------|--------------|----------------------------|---------|---------|--------------|
|  | Critical                     |          |       | Non-Critical | Critical                   |         |         | Non-Critical |
| Phases of Flight   | Taxi-out                     | Take-off | Climb | Cruise       | Approach                   | Landing | Taxi-in | Park         |
| Transmitting PED   | Not Permitted <sup>1,2</sup> |          |       |              |                            |         |         | Permitted    |
| Non-Transmitting PED                                     | Not Permitted <sup>3</sup>   |          |       | Permitted    | Not Permitted <sup>3</sup> |         |         | Permitted    |
| Non-Transmitting with low level of emission <sup>4</sup> | Permitted                    |          |       |              |                            |         |         |              |

<sup>1</sup> May be permitted if the transmitting function of the T-PED is disabled, when the aircraft’s altitude is above 10,000 ft

<sup>2</sup> May be permitted if the corresponding on-board wireless systems has been approved by CAAT

<sup>3</sup> M-PEDs may be permitted if tested to RTCA DO-160

<sup>4</sup> PEDs which pose a very low safety risk and have been shown to generate negligible interference – watches, calculators, heart pacemakers, hearing aids, etc.

## 2. EXPANDED USE OF PEDs

Under the expanded use of PEDs an operator may permit the use of a PED in the following circumstances, if approval has been obtained from CAAT:

| Expanded Use of PEDs by Phase of Flight – Subject to CAAT Approval |   |                                      |
|--|---|--------------------------------------|
|  | Airplane Mode - Disabled  | Airplane Mode – Enabled <sup>5</sup> |
| Taxi out   | No  | Yes                                  |
| Take off   | No  | Yes                                  |
| Cruise   | No<br>Exception: Only on aircraft equipped with WI-FI or an airborne access system and only when crew advises of permission for use | Yes                                  |
| Landing  | No  | Yes                                  |
| Taxi In  | Yes   | Yes                                  |

<sup>5</sup>Includes mobile phone, tablets, bluetooth devices, e-readers when equipped with a transmitting function, electronic games when equipped with a transmitting function, digital media players when equipped with a transmitting function

### 2.1 Technical Aspects

An operator needs to determine that PEDs will not cause interference with the navigation or communications systems of the aircraft. Prior to an operator being permitted to allow the expanded usage of PEDs on-board, thorough technical analysis and tests are required to be conducted in order to obtain CAAT approval. The responsibility for determining if PEDs will cause interference is placed on the airline. A determination of aircraft PED tolerance with respect to passenger PEDs also includes M-PEDs.

### 2.2 Operational Policy and Procedures

The policy should address phases of flight when PED use is permitted, restricted or prohibited, specifically noting any differences in the policy for ground and pre-flight operations, pushback and taxi, take-off, climb, cruise, descent and approach, and landing, as well as post-landing and post-flight operations (including transit).

The operator's policy should also clearly state when the use of PEDs may be restricted or prohibited. The policy may restrict or prohibit the expanded use of PEDs when it can compromise the safety of flight. For example, the in-flight use of any devices that have the potential to interfere with on-board electronic systems and equipment should be prohibited.

Matters related to cabin safety need to be considered and should be risk assessed as applicable to each respective operation and as per phases of flight. These include, but are not limited to:

- Requirement to switch-off, or place in Airplane Mode, the PED with the Wi-Fi functionality also turned off once all passengers have boarded and doors are closed
- Permission for handheld PEDs of appropriate size in Airplane Mode during the critical phases of flight and the securing of these devices





## 2.4 Other Considerations

Additional procedures and policies should also be considered for crewmembers on handling:

- Passenger care and response - techniques that may be used to handle passengers that are using their devices in a disruptive or unsafe way (e.g. use of speakers versus headphones, loud voice communications, etc.)
- Non-routine, abnormal and emergency procedures – including, but not limited to, a PED/Lithium battery fire or smoke incident
- As per pilot-in-command authority

## 2.5 Cabin Safety “To-Do” List

When preparing for an expanded use of PEDs, consideration should be given to the following:

- Updating of relevant safety manuals with the applicable procedures and issuance of a safety bulletin to cabin crew
- Updating the manual demonstration announcements
- Assessing and addressing crew resource management and workload issues for all crew members, including passenger information and passenger handling
- Reflecting any changes in the on-board announcements (PAs) and pre-recorded announcements (PRAM)
- Updating of the commercial website to reflect the changes for PED
- Communicating information to passengers on the expanded use of PEDs on-board via text message, as a reminder during electronic check-in, etc
- Updating of applicable ground personnel manuals to reflect the changes for PED
- Producing new passenger safety card
- Producing new safety video graphics and text (if applicable)
- Communicating to passengers via PA or the safety video on how to stow their devices on-board, to prevent crushing incidents
- Communicating to passengers via PA or the safety video on when to safely charge a device
- Update the IFE and Airshow, as applicable
- Initiating a campaign to both crew and passengers highlighting the main changes to the policy, including the definition of Airplane Mode, how to recognize a transmitting PED etc., using various mediums (paper or electronic) - training, posters, podcasts, and publications, etc.;
- Implementing awareness sessions for cabin crew on handling PED compliance

## 2.6 Cabin Crew Training

Cabin crew training should include training on the operator’s policy and procedures for the use of PEDs.

Initial Training should include:

- Operator’s policy and how to apply it
- The various types of devices and classes of technologies that may be encountered and how to apply their use on-board as per the operator’s PED policy and procedures
- Typical indicators identifying operating modes (i.e. Airplane Mode)
- Awareness of the potential impact on aircraft systems from improper use of PEDs
- Ability to recognise and respond to possible PED interference

Recurrent Training should include:

- Any revisions to the operator’s policy and how to apply it
- Recent examples of known occurrences or interference with aircraft systems, if any
- New devices or technologies a cabin crew member may encounter, particularly those new technologies that may be prohibited for use on-board

## 2.7 Prohibited at All Times

The following are prohibited at all times and are not included in any expanded use of PEDs approval:

- AM/FM transmitters and receivers (including televisions, radios)
- Two-way communication devices (unless the transmitting function is disabled)
- Remote-control devices (passenger-owned)
- Personal air purifiers (unless the operator determines them to be safe and their policy permits for use on board)
- Electronic simulated smoking devices (cigarettes, pipes, cigars)
- Large heavy electronic power
- Wireless mouse
- VHF scanner receivers
- Portable television sets
- Radio controlled toys
- Two-way transmitters such as walkie-talkies, amateur radios
- Citizen Band (CB) radios
- 49 MHz transmitters

## 3. CAAT APPROVAL FOR THE EXPANDED USE OF PEDs

CAAT may grant an approval for the expanded use of PEDs upon an application being made by the operator with the submission of the following documents:

- i) A report of the safety risk assessment and required certification tests, as necessary, conducted on the tolerance of the aircraft to radio PED frequency interference to ascertain that the use of the PEDs in the required mode will not interfere with the performance of the navigation or communications systems of the aircraft
- ii) The appropriate manuals containing written procedures that include the following:
  - a. Assignment of responsibilities to crew members for ensuring the safe use of PEDs and the appropriate actions for PED firefighting
  - b. Procedures to isolate or prohibit the use of PEDs should interference from PEDs be suspected or is ascertained
  - c. Required training of the crew members

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