

APPENDIX E: SHOW COMPLIANCE STANDARD FOR INACCESSIBLE PEDS IN FLIGHT

In the case of PEDs that operate in the cabin or cargo areas of the aircraft and are not accessible by passengers or crewmembers during flight operation, PED manufacturers should provide satisfactory test data and documentation to operators for the determination on whether additional aircraft testing is needed.

Devices that are often not accessible during flight operations include but are not limited to: embedded medical devices; data collection and monitoring devices; asset tracking and inventory management; and other PEDs that often include connectivity (cellular, Wi-Fi⁴⁰, Bluetooth⁴¹, and radio frequency). For the purposes of this section, inaccessible PEDs do not include devices stowed by passengers in carry-on baggage intended for personal use.

The following satisfactory test data and operational characteristics should be provided by the PED manufacturer to show PED compliance and safety without the need for operator led electromagnetic compatibility testing:

- (1) Satisfactory test report from a properly accredited, independent laboratory for RTCA DO-160, Section 21 categories H radiated emissions testing. This testing must include the PED configured with any peripheral probes or other attachments that would be used during flight operation;
- (2) PED operational characteristics with automated and prolonged radio suspension in flight must include multiple modes of redundancy (“automatic airplane mode”) or verification that no radio transmitter is used;
- (3) Report containing the operational description, technical specifications, product label, and images of the PED and any peripheral attachments;
- (4) Failure Mode and Effects Analysis report (FMEA) of the PED and any peripheral attachments; and
- (5) Declaration of stringent design and production controls in place during PED manufacturing.

⁴⁰ Wi-Fi is defined as "wireless local area network (WLAN) products that are based on the Institute of Electrical and Electronics Engineers' (IEEE) 802.11 standards". Wi-Fi is a trademark of the Wi-Fi Alliance.

⁴¹ Bluetooth is managed by the Bluetooth Special Interest Group (SIG). The SIG is the body that oversees the development of Bluetooth standards and the licensing of the Bluetooth technologies and trademarks to manufacturers. The SIG is a privately held, not-for-profit trade association founded in September 1998.