



APT RECOMMENDATION

on

USE OF 5GHz WIRELESS LANS ON BOARD AIRCRAFT

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Approved By

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Summary

The use of 5 GHz Radio LANs (RLANs), also known as Wireless LAN (WLAN), on board aircraft has the potential to bring numerous benefits to the Asia-Pacific aviation industry. Due to the inherently cross-border nature of air traffic, harmonization of the 5 GHz band is necessary if the aviation industry is to benefit from the potential of this new technology.

The Asia Pacific Telecommunity,

considering

- a) that WRC-03 adopted ITU-R Resolution 229 governing usage of 5 GHz RLANs in the bands 5150-5250 MHz, 5250-5350 MHz, and 5470-5725 MHz;
- b) that a common allocation of spectrum by the Administrations in the 5150-5250 MHz, 5250 – 5350 MHz, 5470-5725 MHz and 5725-5825 MHz (ISM) bands will facilitate the harmonised adoption of wireless LAN systems;
- c) that the operation on board aircraft in the band 5725-5825 MHz should ensure protection of specific services in that band in Japan, Korea and China;
- d) that there are specific services operating in 5650-5850 MHz in accordance with No. 5.453 of Radio Regulations in Korea;
- e) that there are weather radars operating in the band 5600-5650 MHz in Australia that require protection;
- f) that various Administrations have allocated or have plans to allocate spectrum in the 5150-5250 MHz, 5250 – 5350 MHz, 5470-5725 MHz, and 5725-5825 MHz bands for RLANs;
- g) that RLAN systems operating in the 5150-5250 MHz, 5250 – 5350 MHz, 5470-5725 MHz, and 5725-5825 MHz bands are readily available;
- h) that Administrations commonly regulate wireless LAN devices through a licence-exempt or class licence regulatory framework;
- i) that several airlines, including airlines based in the Asia-Pacific region, have already been offering internet connectivity to passengers on board aircraft using wireless systems operating in the 2.4 GHz and 5150-5250 MHz band;
- j) that in the near future a number of aircraft manufacturers are planning to install 2.4 and 5 GHz wireless devices on board aircraft;
- k) In Europe, CEPT adopted ECC Decision (04)08 and the European Union (with relevance in the European Economic Area) adopted Decision 2005/513/EC, which recognize that the use inside aircraft of 5 GHz Wireless Access Systems/RLAN devices as being indoor.

- l) In Europe, CEPT Rec. 70-03 allows the use of the band 5725-5875 MHz for unspecified short-range devices, under which RLAN devices could be used;
- m) that in several countries the use of the band 5725-5825 MHz is allowed for use by RLAN devices and that an international organization (CITEL) has recommended technical limits for the deployment of wireless access systems in this band;
- n) that RLAN equipment installed on board aircraft have the potential to greatly increase the efficiency of aircraft operations due to their ability to replace heavy and costly cabling inside aircraft;
- o) that the wireless systems are the key to providing reconfigurability of the cabin interior without the need to re-wire the aircraft;
- p) that wireless systems provide “hot” backup to seat electronic devices when an adjacent data distribution box fails;
- q) that the ubiquitous use of 5 GHz wireless LAN systems on board aircraft could lead to greater efficiency and cost effectiveness for the aviation logistics and supply chain industry;
- r) that the 5 GHz RLAN devices on board aircraft may require certification from the civil aviation authority of the country in which the aircraft is registered; and
- s) that the 5 GHz RLAN devices may be restricted by some Administrations to a maximum mean e.i.r.p of 100 mW.

recommends

1. that the APT members allow the use of 5150-5250 MHz, 5250 – 5350 MHz, and 5470-5725 MHz for use by airborne RLANs consistent with ITU-R Resolution 229 (WRC-03), while ensuring protection of particular services specified in the *considering c* , *d*, and *e*;
2. that the APT members also consider the operation in the band 5725 – 5825 MHz for airborne RLAN applications, while protecting other radio systems operating in this frequency band.