INTERNAL MEMORANDUM

To:	Ruth Martin – CFO
CC:	Anthony Tomai - CIO
From:	Gareth Cook, Infrastructure Project Manager
Date:	9 October 2024
Subject:	**Wi-fi Channel Management Policy – For CEO Sign off**

1. Approval of Wi-fi Channel Management Policy.

Per APAM Standards and Policies Procedures any new Operational Policy requires CEO sign-off.

The purpose of the Wi-fi Channel Management Policy is to set a framework by which APAM governs wireless radio signals throughout the airport. With wireless networks broadcasting throughout the airport, often with multiple networks within proximity of one another, it is essential to regulate the radio frequency environment to ensure optimal performance of each network is achieved. The Policy describes how this is governed and regulated.

2. Reviewed by

- Mark Taylor, Head of Service and Delivery
- Darren Garrett, Infrastructure Project Delivery Manager
- Damien Xenos, Infrastructure Development Manager
- Yoel Rosenbaum, Senior Legal Counsel

Attachments

The below documents have been included for references to support approval:

Attachment 1 – Wi-fi Channel Management Policy
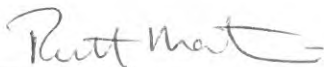
3. Recommendation

Please approve the Wi-fi Channel Management Policy for release on 21 October 2024 under your delegated authority.

Signed:

Anthony Tomai, CIO

Ruth Martin, CFO

MELBOURNE
AIRPORT

Australia Pacific Airports Corporation Limited

Wi-Fi Channel
Management Policy

Issue Date: 9 October 2024

Contents

Document Control

Current Version	V1.0
Responsible Person	Gareth Cook
Owner	Technology - Head of Service and Delivery

1. Purpose

1.1. The purpose of this Wi-Fi Channel Management Policy is to inform tenants within Melbourne Airport in relation to the mandatory modifications they must make with respect to their Wi-Fi network settings to ensure optimal performance of each Wi-Fi network.

A Wi-Fi Channel Management Policy allows for the effective management and distribution of wireless radio frequency channels to tenants throughout Melbourne Airport by avoiding interference and optimising Wi-Fi performance.

Melbourne Airport and the tenants within Melbourne Airport typically broadcast a spectrum of both 5 GHz and 2.4 GHz frequencies. It is important that the use of both wireless spectrums are managed by APAM so that the wireless spectrum does not become unusable by anyone and that each radio frequency is operating optimally. The importance of managing the 5 GHz wireless spectrum (by using this Wi-fi Channel Management Policy wireless governance model) will allow all parties to benefit from a consistent approach to channel allocation and get optimal performance for their customers. With respect to the 2.4 GHz spectrum, management will be in the form of allowable channels, so that each channel used will not experience noise or interference from another tenant broadcasting on their 2.4 Ghz channel.

This Wi-fi Channel Management Policy allocates specific valuable wireless resources to each tenant. Effective wireless governance:

(a) helps allocate and manage available wireless resources efficiently;

(b) minimises interference and optimises performance for all tenants;

(c) ensures fair and equitable access to the wireless spectrum for all tenants;

(d) prevents one tenant from monopolising wireless resources at the expense of others;

(e) helps identify and mitigate interference issues.

(f) improves the overall reliability of each tenant's wireless network; and

(g) contributes to a positive user experience for all tenants.

(h) does not compete with Wi-fi spectrum allocated to public free wi-fi thus improving passenger experience

2.   Scope

The Wi-Fi Channel Management Policy applies to retail tenants across the terminals, forecourts, office buildings and car parks within the Melbourne Airport Precinct.

2.1 Channel Plan for 5 GHz

The 5GHz channel allocation is determined as follows:

- Melbourne Airport will allocate a tenant any one of three channels 36, 40 and 44.
- Channel allocation is based on tenant location with consideration to tenancy proximity.
- Where a tenant has multiple outlets, the tenant will be allocated the same channel for all outlets, to ensure a consistent approach across the airport and ease of implementation.
- Melbourne Airport Technology Team will pre-allocate a channel for each tenant and this information will be captured and managed within the Wi-fi Channel Allocation Register. Where tenancies are empty, and a channel has been allocated to its neighbours, a channel will still be pre-allocated. This will avoid confusion and duplication should a tenant occupy the tenancy and require their own Wi-fi channel.
- The APAM Retail team will be responsible for issuing and managing communications to the tenant IT representatives.
- Each tenant may operate more than one access point, but only on their allocated 5 GHz channel(s).
- Each 5 GHz channel allocation will allow a channel width of 20 MHz. No channel bonding will be allowed.
- The maximum transmit power for any 5 GHz channel will be 14 dBm.
- Each tenant may only use the allocated 5 GHz channel(s) provided and not deviate unless at the direction or with the consent of the Melbourne Airport.
- Tenants may request, from Melbourne Airport, additional 5 GHz channels based on a business case requirement. On written approval from Melbourne Airport, a second or more 5 GHz channel may be allocated to the tenant for the purpose of wireless data communications within the retail space.

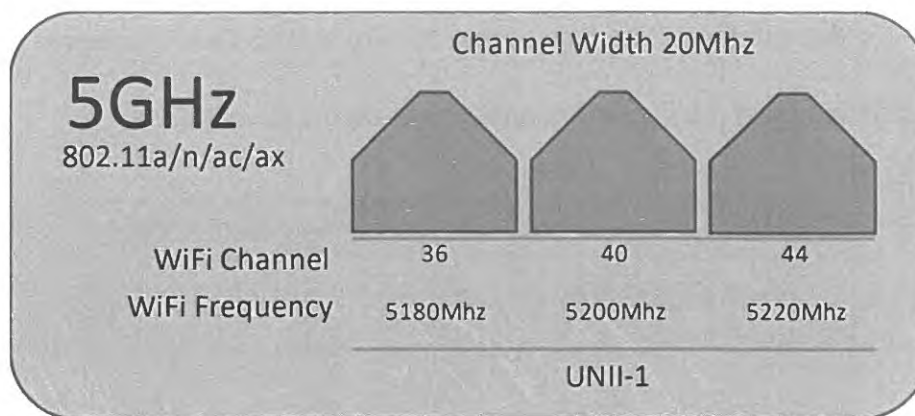- Tenants must not use any other channel other than 36, 40 and/or 44.

Figure 2 Channels reserved for tenant use on 5 GHz

Governing the 5GHz wireless environment will include:

- Melbourne Airport will maintain a record of the allocated 5 GHz channels provided to the tenants. This will be maintained in the Wi-fi Channel Allocation Register.
- Melbourne Airport periodically monitor the 5 GHz wireless environment (through automated and interactive means) to determine whether the tenant is . adhering to the allocations and power levels.
- From time-to-time, Melbourne Airport may request tenants to apply a new or updated channel plan.
- If a tenant believes that they are being impacted by an adjacent tenant using the 5 GHz channel that has been allocated to them, tenants may notify Melbourne Airport of the impact, by notifying the APAM Retail team.
- If necessary, Melbourne Airport may contact any tenant operating outside the 5 GHz channel and request them to revert to the channel Melbourne Airport has allocated.

2.2 Channel plan for 2.4GHz

The 2.4 GHz framework is as follows:

- Melbourne Airport will allow each tenant to use any of the following channels 1, 6 or 11 in 2.4 GHz.
- Upon requesting channel allocation, APAM will not stipulate which channel to use like 5 GHz.
- The channel allocation will be 20 MHz in channel width. No channel bonding will be allowed.
- The maximum transmit power for any 2.4 GHz radio will be 14 dBm.

APAM Wi-Fi Channel Management Policy v1.0

- Using channels outside the 1, 6, and 11, (e.g. using channel 3) will result in degradation of wireless access for all 2.4 GHz client devices in that area.

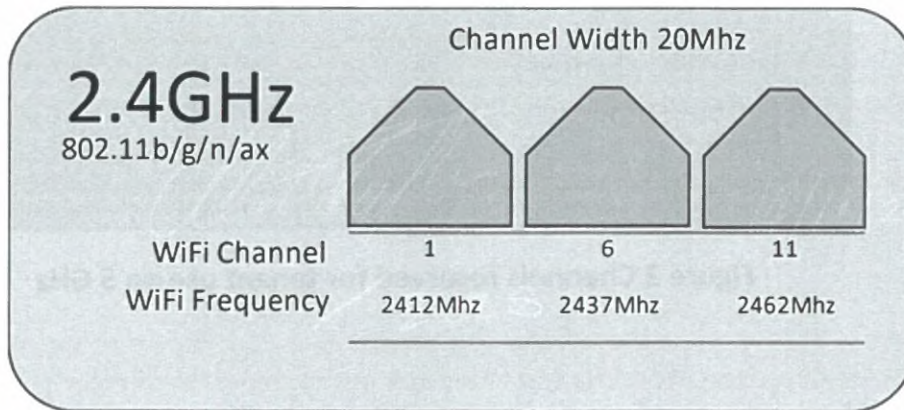Tenants must not use any channel other than 1, 6, and/or 11.

Figure 3 Allowable operating channels on 2.4 GHz

Governing the 2.4 GHz wireless environment will include:

- Melbourne Airport periodically monitor the 2.4 GHz wireless environment (through automated and interactive means) to determine whether the tenant is adhering to the allocations and power levels.
- Melbourne Airport will not provide any service guarantees for wireless services operating on 2.4GHz.
- Melbourne Airport may request tenants to modify their configuration if Melbourne Airport determines that their configuration is highly disruptive to general service on the 2.4 GHz wireless spectrum.
- Melbourne Airport will regulate the 2.4 GHz environment periodically with the same approach previously mentioned for 5 Ghz spectrum.

2.3 Example Channel Allocation Record as kept by APAM for 5 GHz spectrum.

Retailer	Terminal	Location	Category	WAPs	IT Contact	Allocated Channel(s)	Date Allocated
ABC	T2	G23	F&B	1	joeblogs@blogs.com	36	20/01/2024
BCD	T2	G11	Pharmacy	1	joeblogs@blogs.com	40	20/02/2024
QAZ	T2	G2	Newsagent	1	joeblogs@blogs.com	44	21/02/2024
XYZ	T4	G1	Pharmacy	1	joeblogs@blogs.com	36	22/02/2024

3. Definitions

Term	Description
WAP	Wireless Access Point
GHz	Gigahertz, a measure of radio waves
dBm	Decibel-milliwatts, unit of broadcasted power

4. Roles & Responsibilities

4.1 Tenants

Melbourne Airport requests, through the application of this policy, the amendment of each tenants Wi-Fi network to apply the following changes:

    a. amend their wireless settings to their allocated 5 GHz channel - either channel 36, 40 or 44;

    b. tenant may select either channel 1, 6, or 11 on their 2.4GHz radio; and

    c. where power adjustments can be made (tenant WAP model dependent), allocate the maximum transmit power to 14dBm (@80%).

4.2 Melbourne Airport

Melbourne Airport will:

    a. allocate and advise of 5 Ghz channels to individual tenants;

    b. advise of 2.4 GHz allowable channels to individual tenants;

    c. triage queries and investigate channel conflict issues;

    d. update this document from time to time to reflect new policy guidelines including channel management for future wi-fi spectrum and communicating the changes in the policy to tenants; and

    e. reallocate channels and direct tenants to update their IT equipment to ensure geographically collocated tenants enjoy a positive wi-fi experience.
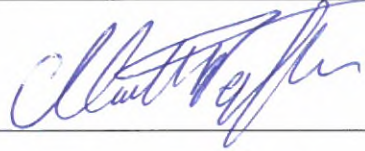
5. Related Documents

Nil

APAM Wi-Fi Channel Management Policy v1.0

Approved by:

Name	Mark Taylor
Position	Head of Service and Delivery
Signature	_[signature]_ **Date:** 14/10/24
Next Review	30 Novemebr 2024 ~~2024~~ 2025

Approved by:

Name	Lorie Argus
Position	CEO
Signature	_[signature]_ **Date:** 15/10/24
Next Review	30 November 2024 ~~2024~~ 2025,

Appendices (if applicable)

N/A

Document history and version control

Version Number	Review Date	Reviewed by	Amendment
V0.1	05/03/24		Initial draft
V1.0	17/05/24	Yoel Rosenbaum	Final amendments based on legal feedback
V1.0	09/09/2024		Re-issued for approval after confirmation of Duplicate SSID issue not required to be included in this document