

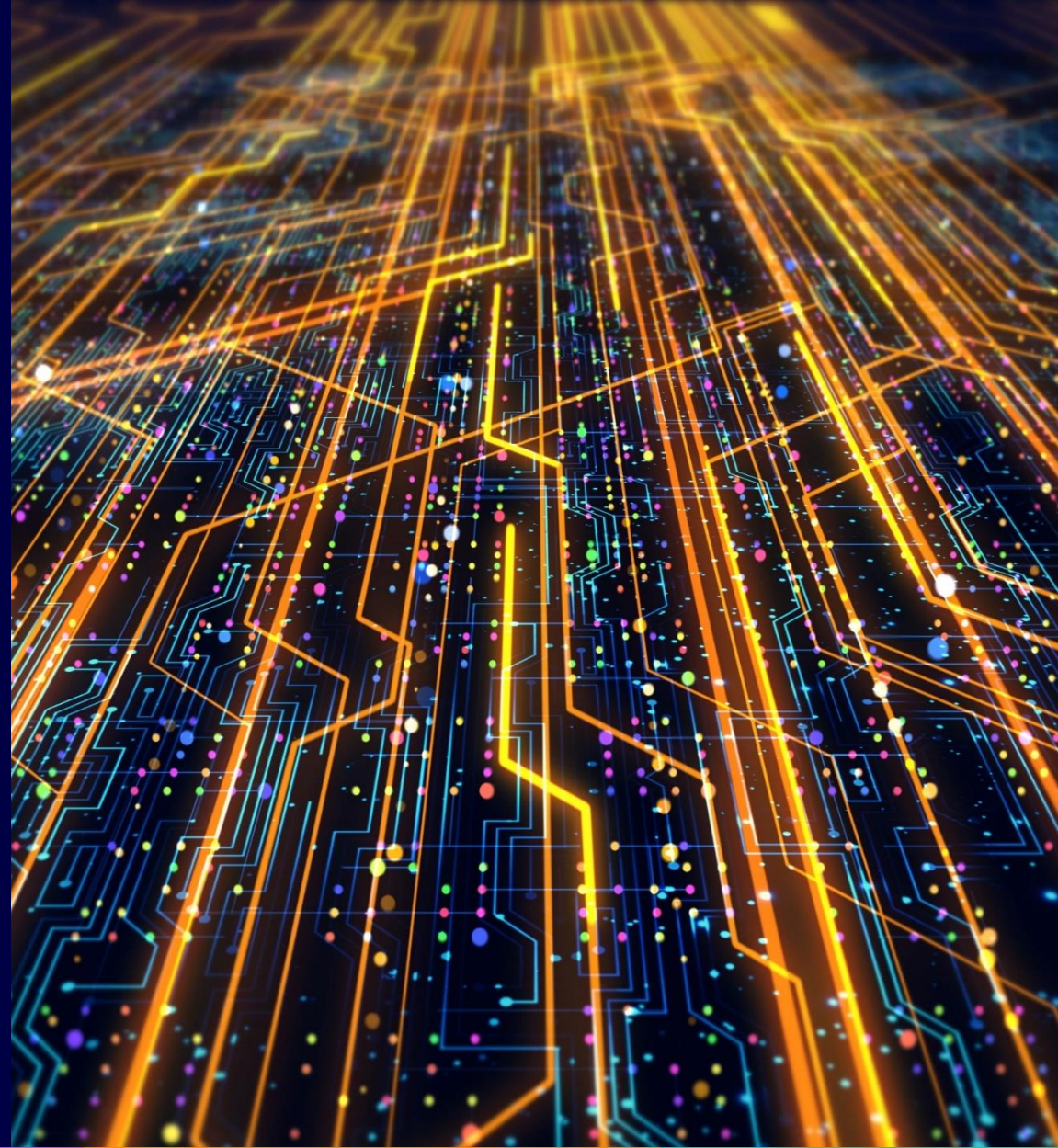


Dynamic Spectrum Access in the UK

Implementation and next steps

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Making better use of the 6 GHz band

Enabling Wi-Fi while protecting future mobile services

5925 – 7125 MHz

Before (Already authorised)

Wi-Fi authorised in the lower 6 GHz band (5925 – 6425 MHz).



July 2026 Decision

A prioritised band split to support both Wi-Fi and mobile

After (From July 2026)

Prioritised band split with mobile in the top 540 MHz. LPI and VLP access extended to 6585 MHz. Wi-Fi can access the band above 6585 MHz but only under AFC control.



How AFC makes this work

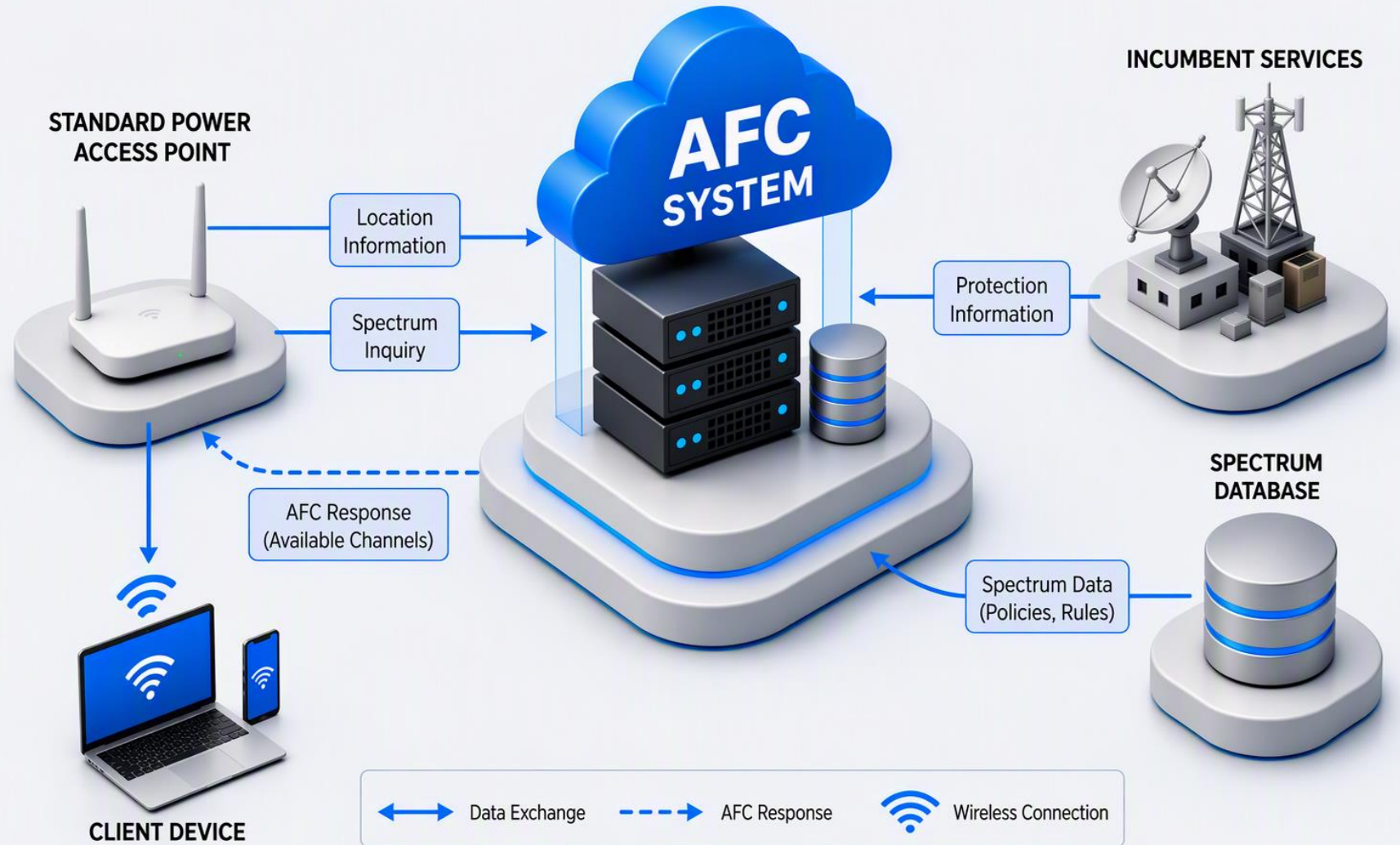
An Automated Frequency Coordination (AFC) database manages AFC Wi-Fi access, helping to protect mobile incumbents while enabling efficient use of spectrum.



A balanced approach: more Wi-Fi use, with protection for mobile services

AFC system overview

- 1 Geolocation and operating parameters
- 2 Device registration
- 3 Authentication
- 4 Spectrum inquiry
- 5 AFC calculations**
- 6 Available frequencies and power limits
- 7 Wi-Fi transmissions

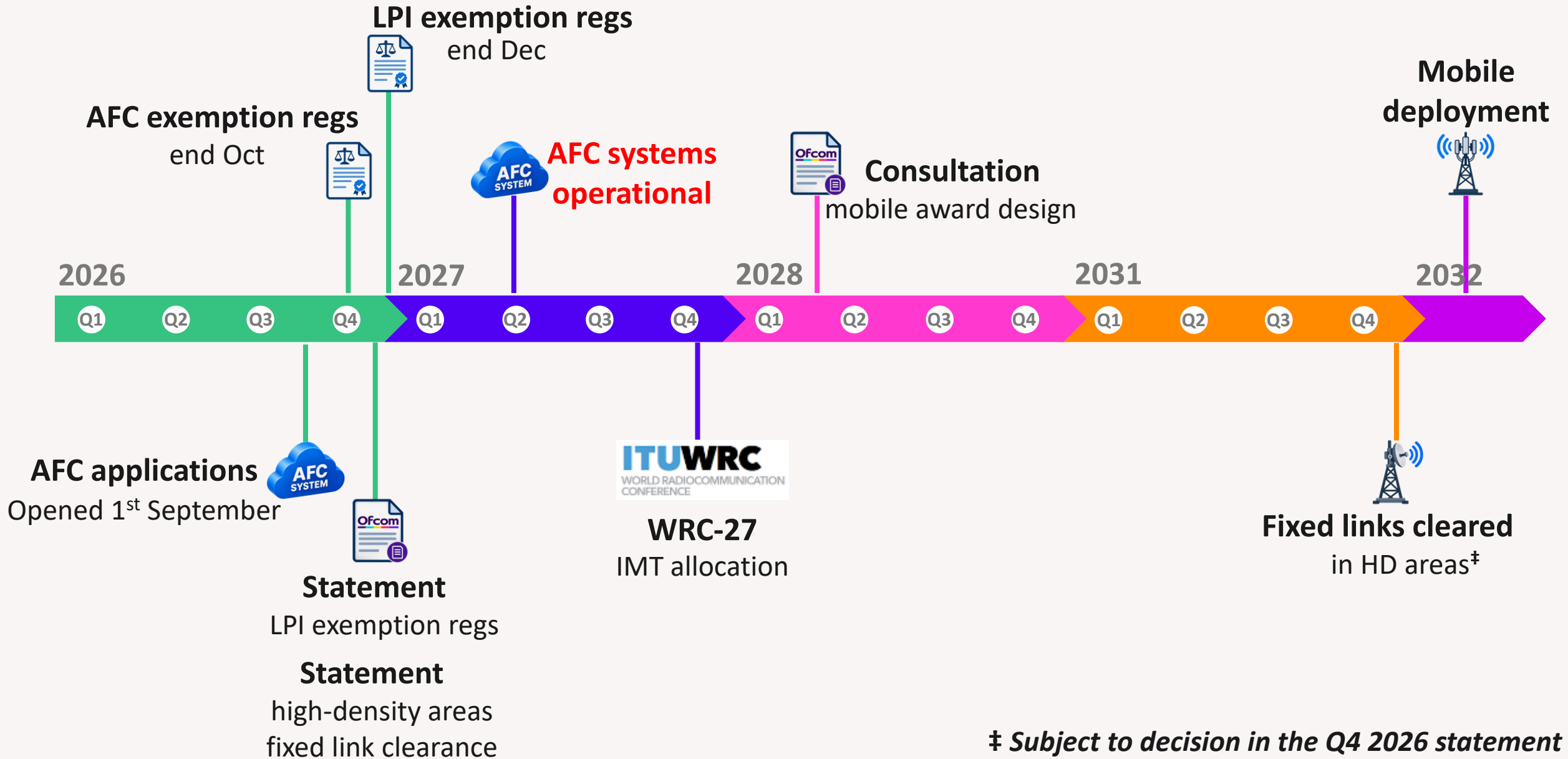


Key differences to FCC AFC requirements



	Ofcom requirement	FCC requirement
Min. coordination radius	100km	N/A
Propagation	Rec. ITU-R P.452-18 50m resolution terrain & clutter	Free space $\leq 30\text{m}$ WINNER II $> 30\text{m}$ to 1km ITM + clutter $> 1\text{km}$
Fixed link criterion	$I/N \leq -10\text{ dB}$, 20% time	$I/N = -6\text{ dB}$
Radio Astronomy criterion	$I = -159\text{ dBm}/50\text{ kHz}$, 50% time 6 RAS sites	Radio line-of-sight exclusion zone
Building entry loss	14 dB for indoor-only devices	Waiver allows 6 dB (under review)
Security assurance	ISO/IEC 27001 or SOC 2 Type II requirement for service providers AFC-device and secure data requirements	Adequate security, secure AFC-device comms, database/data alteration controls
Enforcement	Denied devices / channels / geographic location	FCC enforcement instructions. Discontinue in designated areas

Timeline



Looking ahead

Could mobile-signal sensing improve Wi-Fi access in Upper 6 GHz?

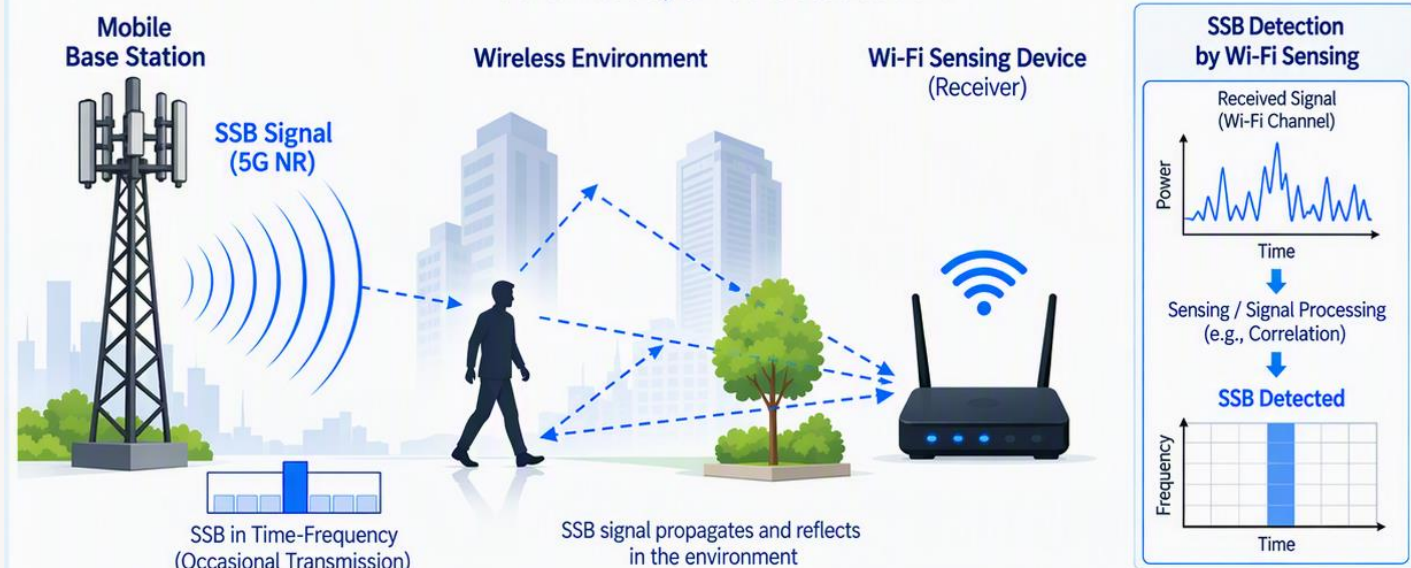
- AFC may restrict Wi-Fi access in high-density areas where mobile deploys in future, **but**:
- Some locations or channels within HD areas may support continued Wi-Fi access
- Some indoor locations could offer additional sharing opportunities, subject to demonstrated protection of mobile receivers

Industry challenge

- Could cross-technology sensing, such as detecting mobile SSBs, support additional sharing alongside AFC?
- Can industry establish detection mechanisms, performance and failure behaviour?
- Can Ofcom support a pathway to implementation?

Wi-Fi Sensing of Mobile Base Station SSB Signal

Wi-Fi devices can passively detect and sense the SSB (Synchronization Signal Block) transmitted by a mobile base station.



Key benefits of IMT-aware Wi-Fi sensing


Passive
(no cooperation with base station)


Improved spectrum sharing
More efficient and dynamic use of 6 GHz


Faster interference avoidance
Quick detection and response to IMT activity


Network-assisted positioning and validation
Use IMT signals (e.g. SSB) for location and AP validation

From rules-based sharing today ...

-  Geolocation + rules
-  AFC databases
-  Denied locations and channels
-  Conservative protection margins

Effective, but based primarily on database assumptions and static rules.

... to smarter, sensing-enhanced sharing in future

-  Geolocation
-  AFC
-  Real-time IMT sensing
-  Dynamic interference prediction
-  Spatial sharing
-  Automated spectrum optimisation

IMT-aware Wi-Fi sensing provides additional confidence that sharing decisions are based on actual radio conditions rather than solely on database assumptions.

Combining AFC and real-time IMT sensing enables more efficient, fair and confident sharing of 6 GHz spectrum.

From static protection to dynamic, data-driven coexistence.



Thank you!

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Collaboration

Excellence

Agility

Empowerment

Respect