
Three response to Ofcom's statement and consultation on 'Improving consumer access to mobile services at 3.6 to 3.8 GHz'

Non-confidential

22 September 2017

This is a non-confidential version. Confidential redactions are marked with [X]



Three.co.uk

1. Three supports Ofcom's decision to make 3.6GHz spectrum available for mobile use as soon as practicable

In October 2016 Ofcom issued a consultation proposing to make the 3.6GHz band available for mobile. In July 2017 Ofcom issued a statement and consultation on the spectrum in this band:

- **The Decision:** make the band available for mobile use as soon as practicable, and award it for future mobile services via award; and
- **The Consultation:** remove current authorisations for fixed links, and do not take registered satellite earth stations with a receive component in the 3.6GHz to 3.8GHz band into account for frequency management, following appropriate notice periods.

Three welcomes Ofcom's decision to make 3.6GHz available for mobile.

It is widely accepted that mobile traffic is growing rapidly; that this growth is forecast to continue; and that more spectrum will be needed for mobile use to meet this demand.

In our consultation response of December 2016, our position was that the 3.6GHz band should be made available for mobile use at the earliest opportunity:

- It is harmonised for mobile use in the EU;
- It had been identified for 5G use with the potential to become a near global band for 5G; and
- It is relatively lightly used compared to other options for spectrum re-purposing for mobile access.

Developments since Three's response have increased our confidence in the widespread use of this band for mobile, including 5G, in the future. Three continues to support Ofcom's decision to make the 3.6GHz band available for mobile services including 5G.

Three supports Ofcom's proposal to serve notice on fixed links and remove protection from satellite earth stations, but there are very clear risks to this plan.

Ofcom is right to propose serving notice on fixed links and removing protection from satellite earth stations

In addition to growing interest in this band for 5G internationally, the 3.4-3.8GHz band is the main band identified for 5G that offers both potential for large blocks of contiguous frequencies and propagation characteristics that allow it to be used for macro cell deployment.

Therefore, the working assumption must be that 3.6GHz will be used intensively for mobile in due course, that the intensity of use will increase over time as

demand continues to grow and that mobile represents the most efficient use of this spectrum.

The key question is whether mobile use can co-exist with existing fixed links and satellite earth stations for the full benefits of mobile use to be achieved. Ofcom's extensive analysis demonstrates that existing users would place significant constraints on mobile under the current coordination approach, namely:

- around 25% of mobile base station sectors across the UK could be affected as a result of the requirement to ensure benchmark spectrum quality for registered band users;
- around 40% of sectors could be affected in the south of England; and
- This figure rises to over 50% of sectors in greater London.¹

Continued use of the band by fixed links and satellite users is therefore inconsistent with Ofcom's objective of increasing consumer access to mobile services in the 3.6GHz band.

But there are very clear risks to the plan put forward by Ofcom

Ofcom proposes a different approach to vacating fixed links and removing protection from satellite users in the 3.6GHz band.

- **Fixed Links** – Ofcom would serve notice (typically at least 5 years) for spectrum management purposes, but aims for users to migrate to alternative frequencies by 1 June 2020 “where possible”;²
- **Satellite Earth Stations** (Permanent Earth Stations PES and Recognised Spectrum Access RSA users) – Ofcom would vary the relevant licences and grants to remove 3.6GHz from the schedule of licensed frequencies in each licence (or grant) with effect from 1 June 2020.³

Three agrees with Ofcom's ambition to remove constraints on mobile use at the earliest opportunity, but we are concerned that it will be very difficult for Ofcom to do so in the timelines set out. The satellite community can be expected to strongly oppose Ofcom's proposal, [✂]

¹ Ofcom (2017), *Improving consumer access to mobile services at 3.6 to 3.8 GHz: Statement and consultation*, dated 28 July 2017, paragraphs 6.22 and 6.23

² *Ibid*, paragraphs 8.4-8.5

³ *Ibid*, paragraphs 8.9

Ofcom must ensure that any proposals for leaving existing satellite users in place do not undermine the benefits underlying its policy decision to make this spectrum more usable for mobile

Despite its aim of making the band available for mobile use, Ofcom sets out its intention of applying localised restrictions in mobile licences:

“[t]o facilitate continued operation of satellite services in the band where possible, we will explore applying localised restrictions in future mobile licences, where these would not have a material impact on mobile deployment. Such conditions would place technical restrictions on a mobile network operator deploying base stations in the immediate vicinity of satellite earth station sites. In general, we would expect these arrangements to apply to relatively small areas. However, we will consider larger areas if these would not have a material impact on mobile deployment.”⁴

This statement is clearly contradictory and at odds with Ofcom's stated objective of making the spectrum available for mobile. Ofcom should only implement localised restrictions as an absolute last resort and only for a short period of time. Any localised restrictions should be subject to a regular review by Ofcom to determine their continued suitability.

⁴ Ofcom (2017), *Improving consumer access to mobile services at 3.6 to 3.8 GHz: Statement and consultation*, dated 28 July 2017, paragraph 1.23