

Orange response to Ofcom consultation: higher power limits for licence exempt devices

Orange welcomes the opportunity to respond to Ofcom's consultation on higher power limits for licence exempt devices.

The consultation is seeking input on the potential effect of increasing the allowable power levels for certain licence exempt devices in certain geographical areas in order to facilitate new services. Ofcom believes that providing enhanced services in rural areas could aid important social goals and improve the quality of life in these areas.

Ofcom believes these benefits could be achieved by:

- If a power increase to 10 Watts at 2.4GHz and to between 4 and 25 Watts at 5 GHz is allowed, and
- A change to setting limits on conducted power and the use of directional antenna were allowed to facilitate point to point links in rural areas.

Ofcom recognises that such changes must guard against interference in areas where higher powers are allowed and the migration of higher power devices to areas where they are not permitted, possibly causing interference.

Ofcom is seeking views on the most appropriate option for consultation and implementation:

1. maximise benefits by allowing higher powers of 10W at 2.4GHz throughout the UK in the band 2450-2483MHz, with no geographical restrictions devices need not be location aware and no registration requirements would be placed on users.
2. minimise risks by restricting higher power operations to hamlets, villages and rural towns. Devices would be required to be location aware and only transmit at higher powers if they were in appropriate areas.
3. a balance between risks and benefits by restricting higher powers to all areas except large and major urban conurbations. To this end, devices would not need to be location aware but a mandatory registration scheme would operate and users would need to adhere to a code which required them to work collaboratively to resolve interference issues.

Co-existence and interference issues

Question 1:

Have all the possible victims of interference been correctly identified and quantified as far as possible?

Answer 1:

Ofcom seems to have considered only WLAN users in the 2.4GHz and 5GHz spectrum range, without any consideration of interference impacting neighbouring users. Existing 3G cellular systems have not been identified as a potential victim of interference. Despite this, Orange has experienced a number of interference cases due to poorly designed and or maintained systems at 2.4GHz causing interference to 3G systems. The impact of such systems would become more widespread should a 10W power limit be allowed in this band

The value of increased power

Question 2:

Have the costs and benefits been correctly captured? In particular, are the costs of interference to WLANs appropriately assessed?

Answer 2:

Orange believes that further consideration of the potential costs as a result of interference on neighbouring spectrum users, as discussed in response to Question 1 should be taken into account.

Specifying geographical areas and power limits

Question 3:

Are there any other mechanisms that could be used to restrict device operation to appropriate areas? Of the schemes set out which should be preferred?

Answer 3:

Ofcom is proposing two options for appropriate licensing of equipment, dependant upon geographic areas:

1. a registration scheme which provides the maximum flexibility but places the onus on users of higher power equipment to deploy it appropriately and resolve any resulting interference, or
2. a requirement for devices to be location aware and control their power accordingly without user intervention.

Orange believes it will be extremely difficult for Ofcom to implement any type of light licensing regime based on geographical areas, notwithstanding the proposals in the consultation document considering a GPS receiver.¹

Question 4:

Should we move from specifying radiated power to specifying conducted power?

Answer 4:

Orange would support the continued specification of radiated power.

Options for the introduction of higher power

Question 5:

For 2.4GHz which of these options do you favour? Are there other viable options that should be considered? Or should regulations be left unchanged?

Answer 5:

Ofcom is proposing three options for increased power at 2.4GHz:

1. maximise benefits (powers up to 10W EIRP throughout the UK)
2. minimise risks (restricted to 10W EIRP to hamlets, villages and rural towns)
3. a balance between the risks and the benefits (restrict to 10W EIRP to all areas except large and major urban conurbations)

¹ Para 5.9

Until further appropriate interference studies are carried out, Orange supports the maintenance of the current power limit in the 2.4GHz band.

Question 6:

For 5GHz should Ofcom increase the power to 4W EIRP at 5.8GHz in accordance with ECC Recommendation and as set out in the draft IR2007? Should Ofcom open the database for public access to facilitate coordination?

Answer 6:

Orange believes that an increase in power to 4W at 5GHz will result in the band becoming interference limited in areas of heavy use more quickly. It is difficult to see how a geographic restriction could be realistically implemented by Ofcom and how this would be communicated to the consumer. Once the power limit has been raised in this 'light licensed, plug and play' environment, the incentive will be for all users to transmit at the new maximum power so as to mitigate increased inbound interference.

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