

## Annex 3

# Consultation questions

***Q1 Do you agree with Ofcom's proposal to authorise the use of static mobile repeaters intended for indoor use on a licence exempt basis?***

MOD believes that should the Ofcom proposal be taken forward, the same level of regulations should be adopted as that of the FCC repeaters, where consumers have to register the use of the repeaters they intend to operate. However, as alternative approaches already exist, such as MNO-controlled repeaters and greater availability of Wi-Fi calling and off-loading, there is not a clear user requirement for licence exempt repeaters.

***Q2 Do you agree with technical requirements as set out in Table 1 above for licence exempt static mobile phone repeaters intended for indoor use?***

There is no mention in the consultation of what the out-of-band emissions (OOBE) and spurious powers will be limited to apart from the -70dBm/MHz limit when the repeater is in "stand-by mode" (this is the same level adopted by the FCC when the repeater is in "off mode" after five minutes of inactivity). The FCC also state that OOBE should be at least 6dB below the mobile phone emission limits for the supported bands of operation and Ofcom should consider adopting these rules as well.

MOD is concerned that the Ofcom proposal does not clearly define OOBE limits for operating repeaters and does not assess the risk of these unlicensed systems failing to comply with existing coordination requirements within the relevant frequency bands and those adjacent to them. The proposal also does not consider the potential intermodulation products which could occur as the repeaters retransmit multiple user equipment signals as a single signal and vice versa. As the repeaters themselves are power amplifiers, it is reasonable to assume there will be greater noise radiating from the repeaters than from an equivalent in-band UE, which again could increase the risk of IPs. There is no specific mention within the consultation of protection of any sites from the use of repeaters in any existing MNO bands.

MOD also believe that the downlink power limit of 10dBm which Ofcom are proposing to implement (and is in fact 10dB less than that of Wi-Fi) may not be sufficient enough to provide coverage indoors and could drive consumers to purchase illegal repeaters that operate up to 17dBm (which is also the level adopted by the FCC for legal, registered repeaters).

MOD would also like Ofcom to clarify if this proposal is for FDD networks only and not TDD networks.

***Q3 Do you agree with Ofcom's proposal to authorise the use of low gain mobile phone repeaters intended for in-vehicle use on a licence exempt basis?***

It is MOD's understanding that a lot of manufacturers today are installing Wi-Fi in cars already and question whether the use of in-vehicle repeaters is a required solution at present.

***Q4 Do you agree with the technical requirements set out in Table 2 above for licence exempt low gain mobile phone repeaters intended for in-vehicle use?***

MOD has similar concerns as in the response to Q2 with regards to OOB Emissions, intermodulation products, lack of network control of licence exempt devices and inability to police co-existence requirements for unlicensed, non-network controlled devices.