



Question # 1: Do you agree

a.) *With the proposal shown in figure 1 to combine the existing 57-59 GHz band with the new 59-64 GHz band for fixed Wireless systems?*

HXI response

HXI, LLC agrees with the plan as proposed with only a minor exception/clarification. Since its inception in the late 1990's thousands of Gigalink systems operating in the FCC Part 15.255 unlicensed band have been deployed with very few interference problems. Similarly, several Gigalink systems complying with MPT (Japan) unlicensed rules in the low power 59-66GHz allocation have also been deployed interference free. This direct experience validates Ofcom's predictions and summary of section 2.8.

Our only concern relates to the term "*Fixed Wireless Systems*" and by definition its possible prohibition of 60GHz operation for portable, unlicensed applications.

As an example, HXI recently received FCC Part 15.255 equipment type certification for our HDTV-Link product operating in the 57-64GHz spectrum. Our HDTV system transports (2) independent channels of uncompressed SMPTE292M video each requiring 1.4835Gbps throughput.

This system is used for production video applications where laying cable or fiber is impossible or prohibitively expensive. Likely uses include temporary deployments at sporting events, concert presentations or during on-site film production.

The portability of this system allows videographers to flexibly deploy but by definition is not a fixed application. We recommend that Ofcom include verbiage in its allocation rules to address these types of portable applications.

Reference Sagentia document "Spectrum planning for the London 2012 Olympic Games and Paralympic Games" prepared for Ofcom, Ref OF014, Version 2

In the case of our HDTV-Link product interference with other same frequency devices is minimized by reducing TX power ($\leq +6\text{dBm}$) and using a lower (35dBi) gain antenna. The 5° beam width of our lower gain antenna also simplifies alignment during use. Perhaps, Ofcom could apply a more stringent maximum transmit power for portable use applications.

Summary of HXI response to question 1, a

Agree but consider provisions for temporary or portable use with further restrictions on transmitter power.

HXI, LLC
22 Parkridge Road
Haverhill, MA 01835
USA
(978) 521 7304
www.hxi.com

Question # 1 (Continued)

b. that the CEPT channel plan given in ECC/REC/(09)01 should not be mandated with the exception of two 100 MHz guard bands at the band ends to protect adjacent users? and that a flexible band structure is appropriate for facilitating access to the 57 – 64 GHz band?

HXI Response

In general and based on our deployment experience, HXI favors a wide-open channel plan for the 57-64GHz band. A single, wide band, contiguous allocation provides for the maximum adoption of this band using lower complexity, less expensive technology. It is also our opinion that the signal propagation attributes in the “Oxygen Absorption” spectrum make band edge guard bands unnecessary. However, even with guard bands applied increasing the available unlicensed spectrum to a full 6.8GHz wide will accommodate most future and current applications.

Summary of response to question 1, b

Agree but also feel that guard bands are unnecessary to protect adjacent users.

***Question 2:** Do you agree that a maximum EIRP limit of 55dBm together with a maximum transmitter output power limit of 10dBm are the minimum technical conditions required to allow flexible use of this band by FWS while maintaining adequate protection of other services?*

HXI Response

HXI agrees that limiting both transmitter power and antenna gain (by virtue of setting a 55dBm EIRP limit) should effectively protect other service by confining radiated signals to a relatively small operational area. In addition, the section 2.12 provision setting a minimum antenna gain of 30dBi will preclude deployment of wide-beam systems more likely to cause interference issues.

Summary of HXI response to Question 2

HXI agrees that the combination of 10mW maximum transmit power, 55dBm maximum EIRP and minimum antenna gain of 30dBi will control radiation and effectively limit interference with other services. We also feel that these are more easily tested and enforceable parameters than applying near field power density calculations.



Question 3: *Do you agree with a license exempt approach for the 60 GHz band?*

HXI Response

HXI strongly agrees with the proposed strategy of applying license exempt rules to a contiguous band from 57-64 GHz (with or without band edge guard bands). The success of FCC Part 15.255 unlicensed rules has validated the oxygen absorption spectrum for high capacity, interference-free, point to point data links at range of up to 1KM. The physical attributes of this spectrum are sufficient to preclude interference with other services.

HXI Response Summary to Question 3

Yes

Closing Statement

As the Pioneer of 60GHz commercial systems, HXI supports Ofcom's proposal for liberalizing 60GHz operation under its jurisdiction. FCC and MPT success has clearly demonstrated that this spectrum is ideal for point to point, high data capacity communications at ranges of up to 1KM.

MMW RF links have also demonstrated superior all weather availability when compared to competing FSO systems especially where fog is prevalent. Adopting the liberalized rules as proposed will benefit Ofcom's constituency by providing a reliable and affordable method of high capacity connectivity without the risk of interfering with other services.