Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: Low power licence-exemption limits above 10GHz

To (Ofcom contact): William Webb

Name of respondent: Gregg Levin, (submitted by Steve Odell FWILF member)

Representing (self or organisation/s): BridgeWave Communications Inc

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing	x	Name/contact details/job title	
Whole response		Organisation	
Part of the response		If there is no separate annex, which parts?	

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Name Gregg Levin Signed (if hard copy)

The proposed limits for UWB license-free operation above 10 GHz do not appear to fully consider the nature of point-to-point licensed fixed services operating in the 71-76 GHz and 81-86 GHz band (referred to as “80 GHz” below). The rules for this band are optimized for very wide-band transmissions. Indeed, these transmissions could easily be as wide, or wider, in bandwidth as UWB transmissions are. For example, consider the case of a one-watt transmission in the 80 GHz band that utilizes a 1 GHz channel (a mainstream application in the 80 GHz band). The receive signal level at the receiver end of the link could easily be as low as –60 dBm/GHz, or –90 dBm/MHz, and still be successfully received. Permitting UWB devices to transmit over this same band at an average power as high as –48 dBm/MHz (–18 dBm/GHz) could potentially interfere with the 80 GHz link if the UWB transmitter is directionally near the center of the 80 GHz receiver antenna pattern or if the UWB transmitter is located physically close to the 80 GHz radio (in its antenna’s near field) where the antenna exhibits much less directionality gain protection than it does relative to far-field interferers.

We encourage Ofcom to consider that while UWB systems may have low energy per MHz relative to narrow-band services operating above 10 GHz, licensed 80 GHz wide-band transmissions (occupying up to 4.75 GHz of bandwidth) may have even lower energy per MHz than would be allowed for license-free UWB systems operating in the same band. Indeed, in many cases, licensed 80 GHz services may be more wide-band than UWB systems are, making them highly susceptible to interference from these license-free applications. This is a fundamental contradiction to the basic assumption that UWB devices operate near the noise floor of overlapping licensed services that may be difficult to mitigate due to the typical wide-band operation of 80 GHz systems.