

Wireless Telegraphy Licence Exemption - Amending the Wireless Telegraphy (Exemption) Regulations 2003 - Section 4 "Micro" FM Transmitters

The consultation document highlights a single question for this part of the larger consultation proposals: "Question 2) Do you agree with Ofcom's proposals to permit the use of "Micro" FM transmitters in the UK, and to authorise that use by licence exemption?"

My answer is that I do NOT agree.

For entirely understandable reasons Band II (87.5-108 MHz) spectrum has long been the subject of very careful regulation to ensure minimal interference to reception and has been the subject of complex frequency allocation for broadcasters in order to minimise interference throughout the UK. I note the consultation document describes the issue of co and adjacent channel transmissions and the consequential interference issues and seeks to explain that a very low power transmitter may be operated in an area where a specific frequency is "free" from legally allocated broadcast transmissions. Because VHF transmissions may be received in many cases not significantly terrain limited, very large distances are assumed in frequency planning terms between such co and adjacent channel broadcast services.

I believe that in the case of "Micro" FM transmitters they can easily become co or adjacent channel transmissions with respect to any potential receiving site. I therefore understand the concept of a power limitation proposal of "*maximum power of 50nW erp*". I am however very concerned that this will NOT be adequately low enough to minimise interference. For example many houses are situated 10 metres or less from the public highway, with directional antennas where "Micro" FM transmitters could be transmitting co or adjacent channel with a legitimate broadcast service being received that is presently interference free. In effect the "noise floor" would be increased for the duration of such a device transmitting in such localities and listeners may be quite legitimately listening to distant services for their personal purposes that as a result suffer interference.

It is my understanding that certain organisations previously objected to "Micro" FM transmitters operating at the proposed power output, during the CEPT consultation phase on this issue, including the European Broadcasting Union. [See EBU paper. B/EIC 121 Rev.1: SRDs: Relevant Protection Criteria for Terrestrial FM Sound Broadcasting (EBU contribution to CEPT WGs SE24 and SE27)] This would tend to suggest that technically respected opinion confirms my concerns.

In researching this issue I have found further evidence of considerable concern that demonstrates the USA FCC limit of 48dB μ V/m can even be doubted to give adequate protection from interference. [See "A report to NAB regarding study and measurements of Part 15 devices operating in FM Broadcast Band", URL: www.nab.org/xert/corpcomm/NAB_Part15_Study.pdf] Assuming the FCC limit is equivalent to 13 nW (a figure that has been quoted to me in a private communication), it is set significantly lower than the proposed European power limit and yet this report comments that: "Based upon these tests, it is reasonable to conclude that significant interference to licenced FM broadcast stations exists from these devices."

Additionally in the National Public Radio - Washington, DC, 26 July 2006, report on FM Modulator Usage and Emission Levels in the United States [URL: www.nprlabs.org/reports/FMModulatorUsage.pdf] it is made clear that: "a

significant number of these devices are producing levels of emission that could result in objectionable co-channel interference to broadcast services.”

Furthermore in the reports cited it is also suggested that a limited choice of operating frequencies for such “Micro” FM transmitters, is mandated in the USA environment. I have not seen any such limitation within the present OFCOM proposal. However it would potentially be more acceptable to me if these devices were operating only within a few limited frequencies and that these were contained within a protected “sub-band” that is never allocated for licenced broadcast services. This would mean that “Micro” FM transmitters would then simply have to operate on a non-protected basis within the sub-band which itself was outside the carefully allocated main broadcast sub-bands. I might then feel the statement in Section 4.10 (Impact) of the consultation document: *“slight risk of interference to other users of the spectrum”* could be considered acceptably true. I do not therefore yet agree to the statement: *“that authorisation of use subject to the technical restrictions identified will provide adequate mitigation of these risks”* is adequately proven to protect existing users.

I can appreciate that some of my technical assumptions are not fully validated, nevertheless I do not believe these assumptions significantly detract from the key arguments I have presented.

Bev MARKS

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