Dear Sallyanne Miller,

I am writing on behalf of the UK radio astronomical community, concerning the consultation document on use of licence-exempt spectrum for public telecommunications.

The main points of concern that we have are the following:

1. We study natural radio emissions which reach us at extremely low levels compared with the levels of human-generated tranmissions for telecommunications and other purposes. Thus our work is particularly vulnerabe to interference.

2. We rely critically on good spectrum management by the RA, in order that some frequency bands be kept clear for our work. This can be done by a combination of national planning, frequency assignment and setting of suitable technical standards for transmitters in frequency bands close to, or harmonically related to, those used for radio astronomy.

3. In our experience, licence-exempt devices are difficult to manage in the above way.

4. The bands under consideration in this review include two which are of particular interest to us: 1389-1399MHz and 24.15-24.35GHz.

5. The 1389-1399 MHz frequency band is set aside for CCTV applications, licence-exempt. But there is also a secondary allocation to radio astronomy. Unfortunately the CCTV devices are causing growing interference to our work. We use the frequency band to search for the red-shifted hydrogen line (rest frequency 1420MHz). A whole range of redshifts is simply obliterated by these CCTV transmitters.

6. The frequency band 24.15-24.35 GHz which is allocated to radiolocation among other services, is close to the passive band 23.6-24.0 GHz used for radio astronomy line (ammonia) and continuum measurements. There is a proposal currently before the Radiocommunications Agency to use this frequency band for automobile collision-avoidance radars. The proposed devices, which originate in the USA, use ultra-wide band (UWB) technology. I understand that the emissions cover something like 5GHz. The danger is that the out-of-band emissions from these licence-exempt devices could accumulate sufficiently to make the nearby passive band unusable for radio astronomy. The effects on UK radio astronomy are likely to be far greater than those on US radio observatories, since we have far more automobiles in our vicinity!

I trust that these concerns will be given due consideration in your review. We rely on the RA to protect our frequency bands.

Yours sincerely,

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