

Licence Exemption of Wireless Telegraphy Devices: second consultation

Question 1): Do you agree with Ofcom's proposal to extend the current 10.577 to 10.597 GHz radio-determination allocation to 10.575 to 10.6 GHz?

As a successful and technically advanced UK based manufacturer and supplier of electronic security equipment and systems, we have designed and supplied many millions of dual technology intruder alarm detectors into the European market over the past 20 years. These detectors use a combination of Passive Infra-red and microwave Doppler technologies to ensure a high level of immunity to false alarms in domestic, commercial and industrial installations, whilst providing the level of sensitivity required to reliably detect genuine intrusions. More than 50% of our production has been supplied into the UK market and for these products the microwave part currently operates in the 10.675 GHz to 10.699 GHz band as designated in IR2030 – UK Interface Requirements.

A typical commercial or industrial security equipment installation consists of at least 5 dual technology detectors, some of which can be installed in close proximity to each other (for example on opposite sides of a partition wall projecting into adjacent offices) where experience has shown the benefit in operating adjacent detectors at different frequencies within the allowed band, as part of a strategy to avoid interference between adjacent detectors. This is a common strategy for other suppliers.

Although the transmission frequency of all the microwave detectors we produce is stabilised with the use of a dielectric resonator, the frequency of individual detectors varies with temperature and installation (as would be expected) and experience shows that a spacing of 7 – 8 MHz is required between adjacent detectors to avoid the potential for mutual interference in all circumstances.

I can confirm that we anticipate no degradation in the primary performance characteristics of our intruder alarm detectors as a consequence of changing their operation from the current 10.675 to 10.699 GHz allocation to the proposed 10.575 to 10.6 GHz allocation. The increased bandwidth of this proposed allocation will enable us to continue to offer products that are sufficiently spaced in frequency to avoid mutual interference problems. However, our concerns about the potential for interference from outdoor traffic light detectors as raised previously and restated below remain. We will be able to satisfactorily manage the changeover to the new allocation within the 18 month period proposed by OFCOM.

The product we will manufacture for the UK market will still be unique and different from the product we manufacture for use in other parts of the EU or the world. This has adverse implications both in terms of manufacturing cost and the cost of obtaining and maintaining EN approval of the products and we therefore wish to restate the other comments made in response to the initial consultation:-

- 1) Our preference remains for the allocation of 10.5 to 10.55 GHz band for this application to bring the UK into line with the many other EU countries that specify this allocation, including Holland, Belgium, Spain and Italy – the major installers of this type of equipment. Such a change would simplify our product offering, allowing us to be more competitive in Europe and to offer lower costs to UK consumers.
- 2) The current 10.577 to 10.597 GHz band has not been widely explored for use by security equipment (by us or other suppliers) because of the potential for interference from outdoor traffic light detectors that have historically used this band employing high gain, narrow beam antennas. Since many of these systems are portable, they can be deployed at short notice, posing the potential for intermittent interference problems and potentially could be used as an intentional “jammer”. The proposed allocation of 10.575 to 10.6 GHz will still be subject to the same concerns.
- 3) All major EU countries offer a minimum bandwidth of 40 MHz in the 10 GHz region for this application, with many offering considerably more. Available frequency bands above or below this range suffer from a number of problems that currently preclude their widespread use for security applications (see below).
- 4) The 2.4 GHz ISM band is no longer suitable for security equipment, because of the proliferation of Wi-Fi and Bluetooth equipment (amongst others) in this band. Moving to this band would not be secure
- 5) The 24 GHz ISM band provides inadequate performance at an increased cost and although this situation is likely to change in the next decade, for the near future 10GHz will remain the band of choice for an acceptable combination of cost & performance.

In summary we can (subject to the concern raised above) migrate our products to the proposed 10.575 to 10.6 GHz allocation within the timescale proposed by OFCOM with no adverse effect on their primary performance characteristics. However, in the longer term we request that additional spectrum in the 10 GHz region harmonised with other major EU countries be made available in the UK, to maintain our performance and competitiveness.