Guidance Note

Fire Industry Association

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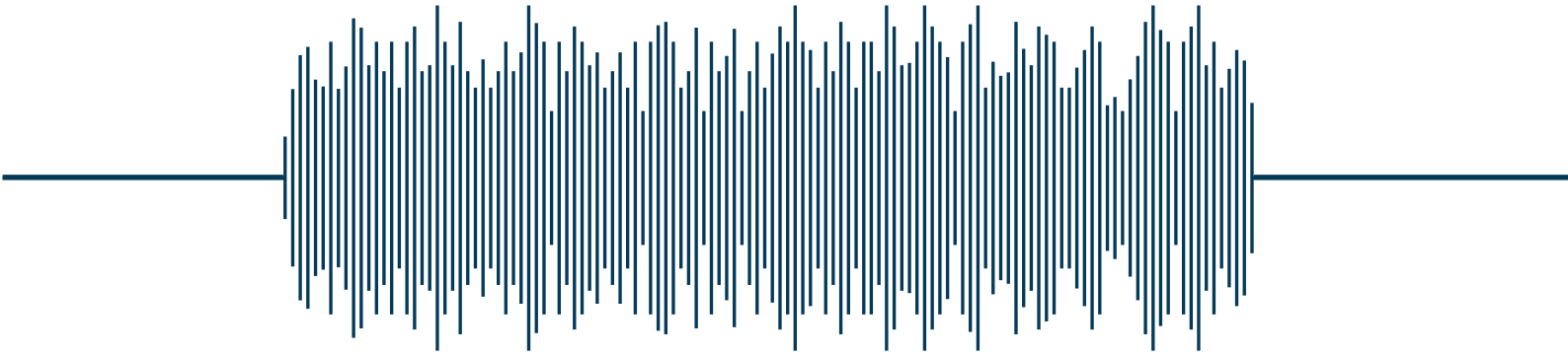

# Guidance on New Short Range Device (SRD) Frequencies

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## 1. INTRODUCTION

This technical communication is intended to advise members of the approval of additional frequency band allocations for use by Short Range Devices (SRDs).

Wireless fire detection and evacuation equipment falls under the category of SRDs and as such may use these new frequencies in those countries where they have been adopted.

As a result, members may see wireless fire detection and evacuation equipment citing and operating on these new frequencies in the near future.

## 2. BACKGROUND

Until recently, the only fully harmonised frequency band for use in Europe including the UK was the 868MHz band (863-870MHz). Different manufacturers will implement their products to utilise and divide up this band in many different ways, but the band was intentionally allocated to ensure systems such as fire systems had an unlicensed but carefully governed band space to ensure the integrity and reliability of radio systems operating there as best as possible.

The use of radio frequency bands is subject to national bodies governance in their respective countries and their use varies significantly based on historical national usage. Consequently, it has always been very challenging to find common spectrum allocations that can be used across many countries without conflicting with existing radio equipment.

In Europe, including currently still the UK, all radio equipment is also subject to the testing and requirements outlined in the Radio Equipment Directive 2014/53/EU.

## 3. NEW FREQUENCIES ADOPTED

The European commission implementing Decision (EU) 2017/1483 of 8 August 2017 adopted the frequency bands 870 - 874.4MHz EU (870-876MHz in the UK) and 915 - 919.4MHz EU (915-921MHz in the UK) for use by Short Range Devices (SRDs) such as RFID, IoT and Machine to Machine products and technologies. This also includes wireless fire equipment.

Traditionally frequencies between 863-870MHz that have been used widely within Europe for wireless fire alarm and evacuation systems remain available for their use. The move to include frequencies in the 915-921MHz range for SRDs helps manufacturers to harmonise products across the world with countries such as USA, Australia, New Zealand and others.

However, the decision by the commission is not yet adopted EU wide as Germany for example already have national frequency interests at 915MHz and so this is unlikely to be adopted there anytime soon. There are also still a small number of other European countries yet to formally adopt the use of these parts of the spectrum, although with the exception of Germany they are eventually expected to do so.

In the UK the use of these frequencies is formally adopted and can be found in the OFCOM document IR 2030 – UK Interface Requirements 2030.

The spectrum usage requirements for these additional frequencies remain mostly equivalent to that in the 863-870MHz band. With a typical maximum effective radiated power limit of 25mW (14dBm) and a duty cycle limit of ≤ 1%, the performance of systems utilising these alternative frequencies will be equivalent to those using the fully harmonised 863-870MHz bands.

Although radio waves do behave differently at different frequencies, it is unlikely that users will see any significant difference in system performance due to the relative proximity of these new frequencies to the existing operating bands. Attention should still be paid however to manufacturers' recommendations and specifications in case of any doubt or differences in declared performance.

Wireless products that operate in these frequencies are still subject to the requirements and associated standards invoked by the Radio Equipment Directive 2014/53/EU and must meet the requirements of the European Norm EN54-25: Fire detection and fire alarm systems Components using radio links.

Products sold and installed in the UK should be in accordance with the code of practice BS5839-1: Fire detection and fire alarm systems for buildings – Part 1: Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises.

## 4. REFERENCES AND APPLICABLE STANDARDS

Radio Equipment Directive 2014/53/EU

IR 2030 – UK Interface Requirements 2030

BS5839-1: Fire detection and fire alarm systems for buildings

EN54-25: Fire detection and fire alarm systems Components using radio links

ERC Recommendation 7030 relating to the use of Short Range Devices



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