

Arqiva response to consultation on Licence-Exempt spectrum use in the 2400 MHz band

About Arqiva

Arqiva is the communications infrastructure and media services company operating at the heart of the broadcast and mobile communications industry and at the forefront of network solutions and services in an increasingly digital world. Arqiva provides much of the infrastructure behind television, radio and wireless communications in the UK and has a growing presence in Ireland, mainland Europe and the USA.

The company supports cellular, wireless broadband, video, voice and data solutions for public and private sector customers.

Arqiva is a founder member and shareholder of Freeview (Arqiva broadcasts all six Freeview multiplexes and is the licensed operator of two of them) and was a key launch technology partner for Freesat. We own Connect TV, the first company to launch a live IP streaming channel on Freeview. Arqiva is also the licensed operator of the Digital One - the national commercial DAB digital radio multiplex.

Arqiva operates shared radio sites throughout the UK and Ireland including masts, towers and rooftops from under 30 to over 300 metres tall as well as a number of international satellite teleports.

Our major customers include the BBC, ITV, Channel 4, Channel 5, BSkyB, Classic FM, the four UK mobile operators, the Metropolitan Police, Airwave and the RNLI.

Of most relevance to this call for input, in 2012 Arqiva entered the WiFi market. Arqiva WiFi's network has since grown rapidly and now has over 20,000 access points deployed (with many thousands more contracted for imminent deployment) and provides WiFi for 28 airports (including specifically for 56 business airline lounges), 1200 hotels, 75 motorway service stations and 54 marinas.

There are already more than 3 million WiFi user sessions to our network every month.

Arqiva WiFi has also won the council contracts to provide public WiFi for the London Boroughs of Camden, Hammersmith & Fulham, Hounslow, Islington, and Wandsworth.

Arqiva is owned by a consortium of long-term investors and has its headquarters in Hampshire, with major UK offices in London, Buckinghamshire and Yorkshire.

Response

28 years after the famous FCC decision which paved the way for today's WiFi, its enormous success has changed the *de facto* status of unlicensed spectrum, which otherwise is typically occupied by a range of low-value uses on a non-interference, non-protection basis.

WiFi is used extensively for private use and to support a growing range of business uses, including critical users such as hospitals.

In recent years the explosive increase in consumer use of WiFi has both provided an essential data offload facility for cellular networks, and also provided competitive pressure for those same networks.

For some consumers on modest means, only WiFi hotspots enable them to be part of today's connected society, a society where the Government has adopted a "digital first" policy which reinforces the essential nature for many of WiFi.

The vast majority of tablets have no cellular data plan attached.

As in many other countries, many foreign visitors rely on WiFi to bypass exorbitant cellular data roaming charges.

WiFi's location has spread extensively from being in most homes, to becoming a standard offering (as a free or "freemium" service) in coffee shops, airports, hotels, shopping centres etc.

Arqiva and other hotspot providers are now deploying WiFi on urban street furniture, and while WiFi is offered on deep London Underground stations, mobile is not.

Within homes WiFi is the connection of choice for millions of connected TVs.

In a range of rural areas WiFi is used to provide wireless broadband where reliable fixed broadband of sufficient downlink speed isn't available, yet no licensed wireless broadband is available either.

Arqiva recognises that the rights of users of licensed spectrum will always be considered before those of unlicensed spectrum, and that for many uses of licence-exempt spectrum a non-interference, non-protection status continues to be appropriate. But the sheer ubiquity of WiFi, the reliance placed upon it by so many, and the economic activity WiFi underpins, means that WiFi is an unlicensed use like no other.

In communications terms, WiFi really is the goose that laid the golden egg. Interference from 2.3 GHz LTE could inflict considerable damage across a wide range of consumers, interference which many of them would be unable to identify or know how to mitigate.

While there is alternative WiFi spectrum available at 5 GHz, even if the market greatly increased the number and range of devices able to use it, the shorter range and reduced ability of that spectrum to pass through walls invalidates it as a substitute for 2.4 GHz for many users.

Arqiva would strongly suggest that the release to the market of 2.3 GHz should have the highest regard to adjacent WiFi use, seeking to minimise the potential for outgoing interference into WiFi to be generated.

Given that the value to the economy of 2.4 GHz WiFi is greater than that expected to be generated by 2.3 GHz LTE, and that there are also a range of additional lower-value uses made of 2.4 GHz, Arqiva believes that Ofcom shouldn't facilitate the release of 2.3 GHz until they have fully satisfied themselves - and WiFi operators and users - that all reasonable steps have been taken to minimise the potential for harmful interference. That could require withholding some of the spectrum which the MOD hopes to release.