



EXPLORING THE FUTURE OF THE 1.9 GHZ BAND

The Manager

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FSG thanks The ACMA for the opportunity to respond to the “Exploring the future use of the 1880-1920 MHz Band” discussion paper.

FSG supports the replanning of the 1.9 GHz band as the current use of 20 MHz for class licenced DECT and PHS is an inefficient usage of the spectrum as the major usage of these systems is for land line-based phone systems: with microphone and audio systems being a smaller usage.

Land-line based calling is on the decline¹ with only 44% of households having any form of home phone², and only a subset of those would have DECT phones. By extension, the number of home phone calls using DECT to place and receive calls is also in decline. FSG’s intended usage of the newly available spectrum is to offer a mobile service that will substitute the capability of DECT with a service that will operate on a larger range via standard mobile handsets. As such, the provision of spectrum towards class licenced equipment in the 1.9 GHz band should be reduced.

Option 1

FSG would like to propose option 1, with the entire band allocated to Wireless Broadband Services, preferably under the PTS licence type (Figure 1). This would allow for the most efficient and effective usage of the band for the purpose of providing mobile communication services to the community. This would provide the opportunity for public telecommunications services to be offered by smaller carriers that do not have access to vast amounts of spectrum licences with some prospect of being competitive. This may be more suitable an option in regional, where the prevalence of DECT services are even smaller, and the potential for interference to and from the adjacent PTS bands 1 and 3 is lessened (scenario 1 with geographic separation).

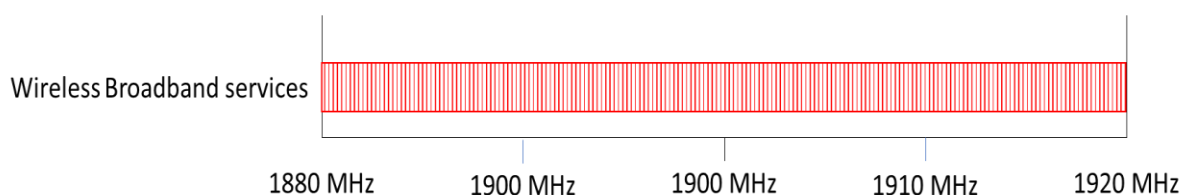


Figure 1 - Figure 16 from the discussion paper

With 40 MHz of bandwidth available, NR band 39 would be able to utilise the spectrum in a very efficient manner, providing a spectral efficiency of ~14.5 b/Hz

¹ Communications Market Report, 2018-19, ACCC.

² Telco consumer experience Australian adults and households: Phone and internet services, Oct 2020, Research ACMA.

Option 2

As a second option, FSG would propose the following configuration, with the middle 30 MHz of the band being allocated towards Public Telecommunication Services (PTS) (Figure 2).

1880	1885	1890	1895	1900	1905	1910	1915
DECT	PTS						DECT

Figure 2 - FSG secondary preference

This option helps reduce interference from and to the adjacent PTS bands in 1800 and 2100; preserving the utility of both the 1.9 GHz and the neighbouring bands by reducing the requirements for co-ordination when considering the RALI that will need to be created/amended for the eventual replanning of the band. The use of these 5 MHz blocks for DECT/class licenced services allows the continued usage of existing equipment at the bottom of the band and allows for expansion of the newer DECT-2020 equipment at both top and bottom of the band, increasing spectrum utility, and allows wireless microphones that may rely upon this spectrum to continue to operate.

Whilst the 1.9 GHz band 39 has had limited international and domestic success as a 4G band, with the shift to 5G the larger channel sizes offered by a potential 30 MHz allows for greater utilisation and more efficient usage of the band.

For the proposed FRMCS system within 1900-1910; it can also be catered for with this allocation plan as the FRMCS system operates under 3GPP release 17 and 18 standards³ and behaves in a similar manner to a mobile network operating under the same standards - it may even be able to be supported by neutral host operators, or on other channels within the same band. However, this would require further investigation.

This rasterization of the band for the most part fits with international intentions, with multiple DECT regions having overlap in one or both proposed blocks without completely obsoleting existing equipment. MulteFire is supported with large more spectrally efficient NR channel bandwidths over what is currently available and the above mentioned FRMCS are also provided utility. FSG is aware of equipment supports the full 30 MHz.

PTS licence type

With the introduction of the PTS licence type, the 1.9 GHz band would more appropriately reflect its primary use, with the use of 3GPP standard equipment operating as both base station and receiver; the remote land stations would be covered by the Cellular Mobile Telecom devices class licence, and the licence cost would reflect more appropriately the number of potential users around the site – the current PTMP licence type is significantly less granular, and contributes towards serving more remote communities with this band commercially unfeasible.

FSG would like to see the 1.9 GHz band primarily allocated towards PTS licences.

PTP links

With the declining use of PTP links (figure 6 from the discussion paper), FSG strongly opposes PTP links being given a primary use of the band in any scenario.

³ UIC, [Future Railway Mobile Communication System](#), UIC