JANDS AUDIO LIGHTING STAGING

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February 11, 2022

Comments to ACMA's consultation on "Exploring the future use of the 1880–1920 MHz band"

Dear ACMA Executives and Staff,

Jands Pty Ltd applauds the work of the ACMA and welcomes the opportunity to provide its response to the above-mentioned ACMA's public consultation.

Jands Pty Ltd is a privately owned Australian company founded in 1970. The company manufactures and distributes the world's most recognised brands of Audio, Video, Lighting, Control, and Staging products and services primarily for the entertainment and installation market. Jands is headquartered in Mascot, Sydney and has offices around Australia and New Zealand.

This response focuses primarily on preserving DECT Quality of Service (QoS) for incumbent users in the 1880-1900 MHz band. It is crucial that any new technology in the overall spectrum 1880-1920 should not generate interference to, or disrupt, existing DECT users. However, this response presents an exciting opportunity for DECT, with the introduction of DECT-2020 NR, to bring new applications to the entire 1880 – 1920 MHz spectrum in Australia, with considerable economic and user benefit. The new DECT-2020 NR has been designed to be 100% spectrum-compatible with DECT, meaning this opportunity comes with no co-existence downside. This is in sharp contrast to new technologies that are not compatible with DECT, including 3GPP-based NR technologies, sharing the band and likely causing interference ultimately degrading Quality of Service.

Jands Pty Ltd respectfully provides answers to ACMA's specific questions hereafter:

1. **What is the relevance of the Personal Handy-phone System (PHS), and should this use be retained?**

The PHS system has been superseded by more contemporary mobile/cellular technology. Whilst PHS presents progressively less and less of a co-existence issue for DECT systems if the use of PHS was discontinued, it would solve occasional co-existence issues for existing heavier DECT users such as professional conferencing systems, large call centres, and potential new large-scale users (as outlined below).

2. **What is the interest in the use of new technologies to provide a service?**

DECT-2020 NR: We believe that contemporary evolutions of the DECT technology together with the new upcoming compatible successor to DECT, DECT-2020 NR, present the best

spectrum-efficient use of the 1880-1900 MHz band. By extending this band to 1920 MHz, both DECT and NR+ will bring the opportunity to welcome entirely new large-scale 21st-century applications to Australia. These include Program Making and Special Events (PMSE), Smart Cities and Industrial IoT (Industry 4.0). There is already a continually growing variety of uses of the DECT technology as the attached Annex A shows, many of which operate behind the scenes in professional communication and collaboration systems, helping to deliver crucial services in areas such as Security, Emergency Response & Rescue, Retail (traditional, online, and drive-thru), PMSE, and more generally, Content Production.

PMSE Production Intercom aka 'Talk-Back': The already heavy increase in use of the DECT band by the content production sector (web, theatre, adverts, films, sports, concerts, and general culture) has been caused by the reduction in the 520-694 MHz band available for PMSE Talkback which previously used that spectrum. Remaining spectrum in the 520-694 MHz band where available, is regarded as "clean spectrum" and reserved for radio microphones. Many touring productions use DECT as a universally available class licensed spectrum within Australia.

DECT-2020 NR and PMSE Performance Microphones: The number of radio microphones and In Ear Monitors required for a production varies greatly from a few to more than 150 and the 520-694 MHz band is essential to support such numbers. However, DECT-based microphones have been in use for many years primarily in conference and small events. The new DECT-2020 NR technology has been designed to deliver the higher performance required for microphones used by touring bands, recording studios, theatres, and broadcasting (including electronic news gathering). Places where available spectrum provides the right number of simultaneous talkback and radio microphone channels for the production. The use of DECT-2020 NR for performance microphones would therefore facilitate the ever-increasing demand for wireless microphones in all live & recorded entertainment and media streaming sectors.

i. **How much spectrum is required to provide the service?**

The growth of all the professional applications outlined in Annex A will make very productive/heavy use of the existing 1880-1900 MHz DECT band, but the expansion to 1920 MHz would make new market opportunities enabled by DECT-2020 NR more feasible and would enable an efficient and manageable introduction process to the Australian market.

ii. **What interservice considerations need to be undertaken for the service to be deployed?**

As summarized above, the introduction of DECT-2020 NR comes with no co-existence downside. However, any new (non-DECT) technology would not be defacto compatible with DEC. The compatibility would need to be studied before any new non-DECT technology is introduced either in the same or in adjacent band as DECT.

3. **Are services still using DECT or are they transitioning to DECT-2020 NR?**

Currently, all services mentioned (and summarized in Annex A) are using DECT and its recent new standard “DECT Evolution.” It is expected that many applications that would not benefit substantially more from DECT-2020 NR, compared to DECT, (especially cordless phones, some enterprise communication systems, and some intercoms etc.) will not initially transition to DECT-2020 NR but others will. This gradual transition is facilitated by the mandated spectrum-compatibility between DECT and DECT-2020 NR allowing both technologies to co-exist in the longer-term

4. **Are there any applicable coexistence scenarios not identified? Are there any scenarios that are unlikely to be achievable (and hence the associated planning scenario should be discounted), or are there any that are readily achieved?**

Use of the MultiFire or 3GPP LTE and 5G wireless broadband systems in the 1800-1900 MHz band is not compatible with DECT technology. For example, currently CEPT SE7 is finalizing a report where the use of government drones employing 4G/LTE was proposed in the 1880-1900 MHz band, and results of the study clearly shows no compatibility, with unacceptable degradation of DECT systems being likely.

If any 3GPP 4G/LTE and 5G technologies are considered for the adjacent 1900-1920 MHz band in Australia, similar compatibility studies should be conducted.

If FRMCS is considered for the 1900-1910 MHz band, consideration of the CEPT report is suggested to ensure compatibility with DECT.

5. **What are possible planning scenarios and industry views on the overall future use of the 1.9 GHz band and its services:**

Use of DECT and DECT-2020 NR would not require any changes in the 1880-1900 MHz band. If the band was extended to 1920 MHz, as mentioned above, this would provide new spectrum-compatible opportunities with an existing ‘off-the-shelf’ set of standards guaranteeing a very high level of spectrum sharing and spectral efficiency. As mobile operators extend their footprint in more and more frequency bands, the spectrum available to professional stand-alone wireless-enabled services continues to shrink creating a need to secure spectrum for the long term in order to operate. These services summarized here and in Annex A, provide very high value to the national culture, businesses, industry growth and overall prosperity of the economy.

i. **How much spectrum is required (distinguishing between the minimum viable and desirable) to provide the service?**

A minimum of 20 MHz is desirable and ideally 40 MHz for DECT and its evolution.

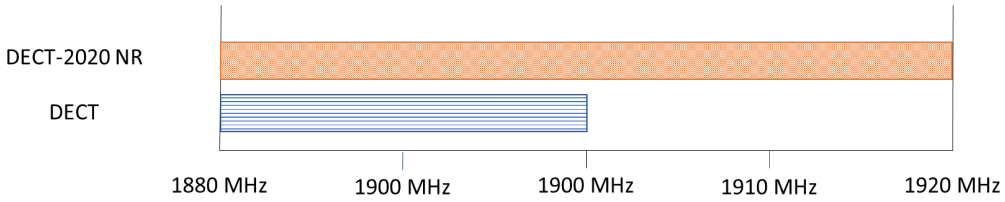
ii. **Is there a clear geographical delineation – for example, metropolitan or regional – for the service?**

No: DECT and DECT-2020 NR can be used in almost any scenario whether a farm, or a hospital. As well as numerous ad hoc uses for things like sports, film, and other content creation in a compatible manner.

iii. **Is there or will there be equipment readily available for the service?**

Yes: DECT and DECT Evolution are available and currently embedded in various products and services. DECT-2020 NR silicon is expected in 2022. Products and services will follow shortly afterwards.

In summary, we believe that the most efficient use of the spectrum is what ACMA describes in Figure 15 with the whole band being used by DECT services:



Please contact the undersigned if you have any questions.

Respectfully submitted,

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Annex A

DECT for professional Applications – The DECT Forum.