



**THE LOW POWER RADIO ASSOCIATION**

*The Voice of the Short Range Device Industry*

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**Subject :** Comments to IMDA consultation paper on proposed policy frameworks for the allocation of 800 MHz, TDD 1900 MHz and FDD 2100 MHz spectrum bands.

## **COMMENTS OF THE LOW POWER RADIO ASSOCIATION (LPRA)**

The Low Power Radio Association (LPRA) is delighted to make the following comments to the Singapore Info-communications Media Development Authority (IMDA) regarding the “IMDA consultation paper on proposed policy frameworks for the allocation of 800 MHz, TDD 1900 MHz and FDD 2100 MHz spectrum bands”. We appreciate being given the opportunity to make these comments and trust that they will be accepted in the spirit of constructive engagement with which they are meant.

### **Summary of Major Points**

Licence-exempt/Short Range Devices (SRD) comprises an ever more important set of technologies that deliver immense socio-economic to countries. Many studies around the world have highlighted the benefits of such applications, which account for many billions of \$US worldwide.

Sub-GHz spectrum is especially important for delivering applications over wider ranges including in-building and from building to building, because of its excellent propagation characteristics. The amount of spectrum available in Singapore in these bands is small compared to that available in the US, for example, where 26MHz of spectrum is generating very real benefits.

The LPRA is therefore disturbed to note that an appreciable fraction of this valuable spectrum is about to be lost in Singapore.

At this point in the development of the SRD market in Singapore there is a need for more spectrum to be released, not less.

The LPRA urges, therefore, the Singapore regulator to release a further 5MHz spectrum in the 915-920MHz band to counter the loss of the 800-MHz band and encourage the development of a global SRD/licence-exempt band.

## **Statement of Interest**

The Low Power Radio Association (LPRA) exists to represent the interests of the Short Range Devices (SRD) industry. SRD's are used in a wide range of professional and consumer applications as diverse as remote controls for home automation and car key fobs, wireless smoke alarms, RFID tags, medical telemetry and remote environmental monitoring/control systems.

The LPRA is a trade association formally established as a Company Limited by Guarantee. It is managed by an annually elected council and administered by a professional secretariat. To enable individual members to focus attention on their areas of specific interest, the LPRA is organised into industry sectors.

## **Comments**

**Question 1:** *IMDA seeks views on the proposed allocation approach for the 800 MHz spectrum band, in particular:*

*(a) Whether the proposed lot sizes allow for meaningful use of the spectrum or if there are other alternative combinations of spectrum lot sizes that should be considered for efficiency reasons;*

*(b) Whether the proposed spectrum right duration is adequate from a business viability and investment perspective; and*

*(c) The reasons for your views on the above.*

The LPRA has no comment on the specific proposals for cellular technologies, but would like to highlight its concern at the loss of valuable SRD spectrum to make way for these services in this band.

**Question 2:** *IMDA seeks views on the proposed allocation approach for the TDD1900 MHz spectrum band, in particular:*

- (a) Whether there is a need for additional filters if the guard band between FDD and TDD systems is 5 MHz, and the specifications of the required band-pass filter;*
- (b) Whether there are known technical frameworks for the co-existence of LTE-based networks operating in 3GPP band 1 and band 33/39;*
- (c) Whether the proposed lot sizes allow for meaningful use of the spectrum;*
- (d) Whether the proposed spectrum right duration is adequate from a business viability and investment perspective; and*
- (e) The reasons for your views on the above.*

**No comment**

**Question 3:** *IMDA seeks views on the proposed allocation approach for the FDD2100 MHz spectrum band, in particular:*

- (a) Whether the proposed FROR allocation allows existing 3G mobile network operators to serve the needs of their customers or if there are other alternative combinations of FROR allocations that should be considered; and*
- (b) Whether the proposed spectrum right duration is adequate from a business viability and investment perspective; and*
- (c) The reasons for your views on the above.*

**No comment**

**Question 4:** *IMDA welcomes views and comments on the proposed allocation of the spectrum bands in the next allocation exercise, including on the proposed uses and spectrum right durations of the spectrum bands, the proposed “Clock Plus” auction format, the proposed reserve prices as well as the proposed spectrum caps and regulatory obligations to ensure the optimal use of spectrum.*

The LPRA observes the methodology that has been used in order to determine suitable allocation of spectrum. We do not, however, respectfully believe that the benefits of SRDs

have been taken into account in clearing this band for cellular services. Whilst being an effective way of maximizing revenue, spectrum auctions do not account for the benefits that can be delivered by alternative allocations, the 'intrinsic value' of which has been shown in many studies to be greater for SRDs than any other technology grouping.

## **Conclusion**

Licence-exempt/Short Range Devices are an ever more important set of technologies that deliver immense socio-economic to countries. Singapore has a strong installed base, not only in the form of W-Fi connections in the 2.4GHz and 5GHz ranges, but a whole host of technologies including alarms, RFID, medical applications and radio determination. Many studies around the world have highlighted the benefits of such applications, which account for many billions of \$US worldwide.

Sub-GHz spectrum is especially important for delivering applications over wider ranges including in-building and from building to building, because of its excellent propagation characteristics. Use of both the 800-MHz and 900-MHz bands is intense, supplied by applications developed in Europe and the US, respectively. The amount of spectrum available in Singapore in these bands is small compared to that available in the US, for example, where 26MHz of spectrum is generating very real benefits.

The LPRA is therefore disturbed to note that an appreciable fraction of this valuable spectrum is about to be lost in Singapore. This will leave existing users operating illegally – the lifetime of such products is very often over ten years – and mean that the spectrum that the remaining 900MHz spectrum will become overloaded; this at a time when the 800 MHz band – a core SRD band in Europe – has recently been expanded with the release of further spectrum in the 870-876MHz band.

At this point in the development of the SRD market in Singapore there is a need for more spectrum to be released, not less.

Bearing in mind the additional traffic that will be driven to the 900-MHz band, the LPRA observes that the 915-920MHz band appears to be unused. This band is adjacent to the existing 920-925MHz band and overlaps allocations in many parts of the world including the US (902-928MHz), Europe (915-921MHz) and Australia (915-928MHz). The LPRA

urges, therefore, the Singapore regulator to release a further 5MHz spectrum in the 915-920MHz band to counter the loss of the 800-MHz band and encourage the development of a global SRD/licence-exempt band.

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