



Response to ACMA consultation paper on Proposal to remake the Public Safety and Emergency Response Class Licence

Hypha Solutions Pty Ltd would like to submit the following paper in response to the consultation paper issued in June 2023 on the remaking of the Public Safety and Emergency Response Class License.

Hypha Solutions is a wholly Australian owned Company and are the manufacturers of hardware used to created adhock mesh networks as well as several other communications and technology solutions.

The HyphaMesh product is designed to work within the 4.9GHz Public Safety and Emergency Service spectrum, and it used by a number of these agencies across Australia and the USA.

The consultation paper poses several questions to inform the consultation process, and the Hypha's answers to these questions are shown below.

Question 1

Is the class licence still needed? Why or why not?

The class license seems to operate very effectively, and provides a simple way for the Public Safety and Emergency Service agencies to quickly establish temporary or adhock networks to support their operations.

Our customers make significant use of the class license through the use of our mesh communications technology, and it provides them with the ability to extend their data networks beyond the coverage of traditional networks without the need for specific apparatus licenses.

As such, the continuation of this class license is still required

Question 2

Is the class licence operating effectively and efficiently? Why or why not?

In its current form the class license does operate effectively and efficiently with no issues reported by our customers to date.

There may be a need to introduce some form of spectrum management should cellular services be permitted to operate within this spectrum however as the increased unmanaged use could result in interference issues that do not exist under the current model.

Question 3

How are PSBs currently using the class licence? Are the current authorised services fit-for-purpose?



PSB's are presently using the class license for the creation of ad-hoc MANET networks to dynamically support the day to day operations as well as supporting disaster response operations.

These networks are used in a variety of ways including supporting live video streaming from aircraft and drones, to extending cellular and satellite networks beyond the normal range of wifi and other technologies and the use of portable devices to create local networks to support voice and data applications.

The current authorised services are fit for purpose, with more devices and applications coming into this market segment supporting the needs of PSB's each year.

Question 4

Is the current class licensing model fit-for-purpose? Why or why not? How would any interference protection or hybrid class / apparatus licensing arrangements work?

Coordination between the PSB's on the use of the class license spectrum is not currently undertaken as there has not been any reported interference issues under the current model, however adoption of a model whereby a single coordinator of the spectrum using a coordinator for each State to provide for proper spectrum management within a State jurisdiction as well as providing for a mechanism for interstate operations is suggested.

PSB's now have access to more affordable equipment that enables them to make use of the spectrum, and as such the chances of interference increase.

Having a coordination mechanism in place before interference becomes a problem would be preferable to PSB's trying to manage these issues during an emergency.

As an example, in NSW the Telco Authority manages the allocation of shared radio talkgroups for emergency allocation to agencies during emergency events.

The allocation of 4.9GHz channels under the class license could be managed in a similar way to ensure interference does not occur.

Question 5

Should specific provisions for cellular mobile technologies be included in the class licence? Why or why not?

Hypha supports the addition of 3GPP compliant cellular technologies being permitted to operate under the class license, however, cautions that doing so without proper spectrum management could result in significant interference issues during major events where multiple PSB's from within a State or from other States may converge.



Question 6

Are the proposed emission mask, power limit and EIRP limit for cellular mobile BS appropriate? Does emission mask P, in conjunction with other proposed measures, sufficiently mitigate the risk of adjacent channel interference to other devices authorised under the class licence?

The risk of in band interference from other PSB's remains our primary concern, which will be further exacerbated with the addition of cellular services within the allocated channels.

Again, the coordination between agencies is presently non-existent, so application of emission mask P is not considered sufficient to mitigate in band interference.

Question 7

Are the proposed emission mask, power limit and EIRP limit for cellular mobile user equipment appropriate?

The proposed emission mask, power limit and EIRP limits for cellular services seem appropriate.

Question 8

Are the emission masks, power limits and EIRP limits for existing services appropriate?

The existing emission masks and EIRP levels are very restrictive and do not easily allow for devices such as portable transmitters.

It is recommended that these emission masks and EIRP level be reviewed with a view to potentially adding additional categories to cater for additional transmitter and service types and in turn to provide greater flexibility in end user devices.

Question 9

Do the technical parameters proposed in the draft class licence restrict the use of any other technologies required by PSBs?

The proposed technical parameters appear to provide sufficient scope for the technologies available now and into the near future for use by PSB's considering the previous comments on emission masks and EIRP levels.



Question 10

Do the current definitions of 'public safety bodies' and 'public safety or emergency response function' remain fit-for-purpose? Do the authorisation arrangements for other bodies remain appropriate? Why or why not?

Recent events in Australia where equipment designed to be used under this class license have shown that it is fit for purpose for the currently listed PSB's, however there is a need to expand the definition of a PSB to allow for other essential services to operate equipment under this class license.

The bush fires in 2019-2020 and the subsequent flooding events saw a number of agencies not previously considered Public Safety or Emergency Services take on a mission critical role in provision of the safety of citizens as well as supporting the Emergency Services.

Agencies such as energy authorities have become critical in emergency events to ensure the safety of first responders as well as ensuring the timely restoration of power services which in turn allow for the restoration of communications networks

Consideration should be given to adding energy and water providers to the list of authorised PSB's.

Question 11

Is the 6-month limit for fixed point-to-point services appropriate? Why or why not? Does the 6-month limit prevent deployments of networks aligned with the purpose of the class licence?

Yes the 6 month limit for fixed point to point services is appropriate.

The short-term nature of the class license ensures that the spectrum is used as needed by PSB's during the execution of their duties for short term events.

Typically, these events would last less than 6 months, however a provision could be added to allow for longer if required to deal with a specific incident or event that lasts longer than the 6 month limit.

Having a longer limit for regular operations is not appropriate as it could encourage inappropriate use of the spectrum for long term fixed services for which it was not intended.

Question 12

Which channel plan should be adopted in the class licence? Why?

Channelling Plan B would be the most appropriate to provide contiguous channels to support high bandwidth applications which are become more important to PSB's operational needs.



Question 13

Are the current interference protection measures for radio astronomy sites fit-for-purpose? Are the proposed protection measures from cellular mobile BS and user equipment appropriate?

The proposed interference protection measures as listed in the draft document appear to be sufficient to protect the nominated radio astronomy sites.

