

AUSTRALIAN TELECOMMUNICATIONS ALLIANCE SUBMISSION

To: The Australian Communications & Media Authority
Re: New apparatus licensing arrangements for 1800 MHz rail
services

July 2026



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1. AUSTRALIAN TELECOMMUNICATIONS ALLIANCE

The Australian Telecommunications Alliance (ATA) is the peak body of the Australian telecommunications industry. We are the trusted voice at the intersection of industry, government, regulators, and consumers. Through collaboration and leadership, we shape initiatives that grow the Australian telecommunications industry, enhance connectivity for all Australians, and foster the highest standards of business behaviour. ATA now includes the Australian Mobile Telecommunications Association (AMTA), which merged with ATA on 1 July 2026.

For more details, visit www.austelco.org.au and www.amta.org.au.

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2. EXECUTIVE SUMMARY

The Australian Telecommunications Alliance (ATA) appreciates the opportunity to respond to the ACMA's consultation paper on *New apparatus licensing arrangements for 1800 MHz rail services* ("the consultation paper").

We strongly support the ACMA's initiatives to convert the current arrangements for 1800 MHz rail mobile radio (RMR) services in the metro areas from spectrum licensing to apparatus licensing. This will allow the ACMA to consider the long-term use of the band, and ideally a migration of RMR from the 1800 MHz band to the 1.9 GHz band, for which the ACMA recently finalised arrangements.

Generally, we support the ACMA's proposed apparatus licensing arrangements for 1800 MHz RMR, including the use of the existing Public Telecommunications Service (PTS) licence type, the associated licence tax, and RALI MS 34 to define the licensing rules and coordination requirements, with specification of special rules and exemptions for what are referred to in the draft updated RALI as "Rail PTS".

With respect to spectrum licensed base station transmitter (SL BS tx) unwanted emission limits falling into Rail PTS spectrum, ATA members consider the ideal outcome is that the ACMA amends Core Condition 15 in the 1800 MHz sample spectrum licence, such that the limits align with 3GPP Category B Option 2 (CBO2). This does require revisiting the 1800 MHz sample spectrum licence, but it will result in a far more coherent regulatory framework compared to the workaround being proposed by the ACMA via RALI MS 34. In this response, we have worked within the framework proposed by the ACMA, i.e. that any exemptions from the tighter existing limits for unwanted emissions falling within Rail PTS spectrum are in RALI MS 34 and based on coexistence measures.

We support, in principle, the ACMA's proposal to allow greater flexibility in the unwanted emission limits through coexistence measures between spectrum licensees and rail services. However, we do not agree that a minimum separation distance of 5 km between a spectrum licensed base station transmitter and a registered Rail PTS base station is the appropriate coexistence measure.

In its submission to the consultation on *Review of the 850 MHz and 1800 MHz spectrum licence technical frameworks* ("the 850 & 1800 MHz SLTF consultation") AMTA expressed a preference for unwanted emission limits aligning with 3GPP Category B Option 1 (CBO1). However, in light of the concerns raised by rail operators and the current drafting of RALI MS 34, ATA members consider that the adoption of CBO2 is appropriate, noting that these standards were specifically developed to facilitate GSM/LTE network coexistence and that applying the tighter standards in areas where rail and MNO networks operate in close proximity provides a practical solution for all parties.

With the above in mind, ATA's preferred approach is to allow all Non-AAS SL BS tx to operate under unwanted emission limits aligned with 3GPP CBO2. Where a specific Non-AAS SL BS tx is demonstrated to cause interference to (or have the potential to cause interference to) RMR cab radio reception—which we expect to be confined to isolated spots of poor RMR coverage—the identified Non-AAS SL BS tx must comply with Core Condition 15 on the

sample spectrum licence. Identification of a problem could be defined as, for example, I. in the case of interference which can be attributed to unwanted emissions from the SL BS tx nearby, or II. where the Rail PTS licensee has performed an analysis of its network and identified areas of low wanted signal level e.g. below -90 dBm/200kHz, and there are SL BS tx within 0.5 km of those areas.

Furthermore, we do not agree with the following aspects of the ACMA's proposed framework:

- unwanted emission limit relaxation being removed for a first-in-time SL BS tx if it ceases to satisfy the coexistence measures, following to the registration of a second-in-time Rail PTS BS;
- maintenance of the existing stringent emission limits, intended to protect GSM-R, in the metro areas of Adelaide (no GSM-R network deployed), Perth (digital radio system is based on LTE), and Brisbane (limited deployment).

We believe that for future deployment and/or expansion of RMR in the 1800 MHz band, rail licensees should take into account that SL BS tx will be compliant with 3GPP CBO2 unwanted emission limits, and should design their networks accordingly to avoid weak coverage spots along railway lines.

Finally, some non-contentious changes to the 1800 MHz sample spectrum licence are requested (including a few corrections that need to be made).

3. ATA SUPPORT FOR GENERAL APPARATUS LICENSING APPROACH FOR 1800 MHZ RMR

- 3.1.1 We strongly support the ACMA's initiatives to convert the current spectrum arrangements for 1800 MHz rail mobile radio (RMR) services in the metro areas from spectrum licensing to apparatus licensing. This will allow the ACMA to consider the long-term use of the band including the potential migration of RMR from the 1800 MHz band to the 1.9 GHz band, for which the ACMA has recently finalised arrangements.
- 3.1.2 Generally, we support the ACMA's proposed apparatus licensing arrangements for 1800 MHz RMR, including the following points:
 - 3.1.3 use of Public Telecommunications Service (PTS) licences, including use of the existing licence tax arrangements;
 - 3.1.4 leveraging the existing RALI MS 34 to define the licensing rules and coordination requirements, but with the specification of special rules and exemptions for what are referred to in RALI MS 34 as "Rail PTS"¹;
 - 3.1.5 additional flexibility for Rail PTS licences (compared to all other non-Rail PTS licences), such that they do not have to comply with the channel plan based on 5 MHz blocks;
 - 3.1.6 application of a different in-band power limit, of 54.5 dBm/30kHz EIRP, to Rail PTS transmitters employing GSM-R (to match existing spectrum licence limits); and
 - 3.1.7 the general principle of an allowance for 1800 MHz spectrum licensed base station transmitters (SL BS tx), to be able to exceed the existing unwanted emission limits (for unwanted emissions falling into Rail PTS spectrum), where these are unlikely to cause interference to RMR services along railway lines.
- 3.1.8 In summary, against the backdrop of already high levels of regulation, we are concerned by an increasing tendency to more, overly prescriptive, or impractical regulation, often accompanied by rushed consultation processes and/or unrealistic implementation timeframes. Policymakers and regulators increasingly fail to resist the impulse of imposing new regulations when reform of existing regulations or other non-regulatory measures would yield a better outcome.

¹ The frequency ranges, areas, and permitted licensees for "Rail PTS" are proposed to be defined in Attachment 6 of RALI MS 34.

4. COEXISTENCE MEASURES

4.1 INITIAL COMMENTS

- 4.1.1 We note the ACMA's view that a SL BS tx is unlikely to cause interference to RMR services if it is at least 5 km from a registered Rail PTS BS. In other words, the ACMA's view is that the "coexistence measures" should consist of a minimum required separation distance of 5 km (between a SL BS tx and a registered Rail PTS BS). While we can support the unwanted emission limit relaxation based on coexistence measures in principle, we do not agree with the ACMA's proposed coexistence measures themselves.
- 4.1.2 Firstly, we wish to reiterate and emphasise that nothing more stringent than 3GPP Category B Option 2 is required to protect adjacent-band GSM-R networks. In AMTA's response to the 850 & 1800 MHz SLTF consultation, we explained that—even though CBO2 limits could be (X-17.3) dB higher than the existing limits for higher system gain values of X dBi, up to a maximum of 5.2 dB higher—it is entirely appropriate for CBO2 limits to be adopted for unwanted emissions falling into Rail PTS spectrum. This view is supported by CEPT Report 80, which concludes that Non-AAS BS that are compliant with the "least restricted technical conditions" (LRTC)—in turn based on ETSI emission masks that are identical to CBO2—will ensure that GSM remains protected. In short, Europe ensures protection of its 1800 MHz GSM-R systems via adoption of unwanted emission limits aligning with CBO2, and therefore there is no reason why anything more stringent than CBO2 should be adopted in Australia.
- 4.1.3 Furthermore, we note that the ACMA is proposing a relaxation all the way up to 3GPP Category B Option 1 (CBO1). However, for simplicity, we are not seeking for the relaxation of Non-AAS transmitter limits, via RALI MS 34, to be any more relaxed than 3GPP CBO2. It follows that we do not require any relaxation for AAS transmitters in RALI MS 34. We believe that this concession should make a review of the ACMA's proposed coexistence measures more amenable to the ACMA.

4.2 PROPOSED ATA SOLUTION

- 4.2.1 With the preceding paragraph in mind, we believe that the limit relaxation should be reversed. Rather than “*relaxation of limits is permitted where coexistence measures are satisfied*”, we believe that it should be “*relaxation of limits is permitted everywhere **unless** there is a problem*”.
- 4.2.2 Due to the FDD configuration in the 1800 MHz band, the dominant interference mechanism associated with SL BS tx unwanted emission limits is from SL BS tx to RMR cab radios on the railway line (not to the Rail PTS BS themselves). ECC Report 313 specifies a maximum acceptable external interference level of -117.7 dBm/200kHz for a minimum guaranteed wanted signal level of -101 dBm, and a target C/(N+I) ratio of 12 dB².
- 4.2.3 It follows that the tolerable unwanted signal level at a cab radio receiver is 11-12 dB below its wanted signal level, for wanted signal levels greater than or equal to -98 dBm/200kHz, and the higher the wanted signal level, the higher the tolerable unwanted signal level. Therefore, any interference experienced by cab radios in practice is where they are receiving low wanted signal levels; and we expect this to only occur in a small percentage of the railway lines served by existing GSM-R rail networks in Sydney and Melbourne.
- 4.2.4 Where interference due to a relaxation in the unwanted emission limits is probable—i.e. “**where there is a problem**”—spectrum licensees are happy to fall back from the ‘relaxed’ 3GPP CBO2 limits, to the current limits specified in Core Condition 15, for Non-AAS transmitters.
- 4.2.5 There are a couple of ways in which problem areas can be identified:
- 4.2.6 (I) interference is reported by the relevant Rail PTS licensee, and where the interference can be attributed to unwanted emissions from a nearby SL BS tx,
- 4.2.7 (II) where the Rail PTS licensee has performed an analysis of its network and identified areas of low wanted signal level e.g. below -90 dBm/200kHz; SL BS tx within X km.
- 4.2.8 Where a particular SL BS tx has been identified as an interferer under the criteria listed in 4.2.6 or 4.2.7 above, it is no longer afforded the relaxation in RALI MS 34, and is required to satisfy the current limits specified in Core Condition 15, for Non-AAS transmitters.
- 4.2.9 Note: For criterion 4.2.7 above, the existing limits protect cab radios receiving down to -97.3 dBm/200kHz—just 3.7 dB above the minimum wanted signal level in ECC Report 313—for the same separation distance. This is based on the fact that CBO2 is 7.3 dB higher than the current emission limits for Non-AAS transmitters with the maximum antenna gain of 22.5 dBi.

4.3 DERIVATION OF X KM RADIUS

- 4.3.1 The vast majority of GSM-R receivers requiring special protection (all in Sydney, Melbourne and Perth) will be more than 1.5 MHz offset from the spectrum licence boundary of 1865 MHz³. For these offsets, 3GPP CBO2 has an emission limit of -13 dBm/MHz conducted per-port (equivalent to -20 dBm/(200kHz) conducted per-port). The GSM-R cab radio gain is max. 5 dBi, with at least 3 dB down for elevation angles lower than about 10 degrees⁴. The maximum considered gain of an antenna system in the 1800 MHz band is 22.5 dBi (as per AMTA’s response to the the 850 & 1800 MHz SLTF consultation).
- 4.3.2 For an unwanted signal level that is C/(N+I)= 12 dB below the minimum planned wanted signal level of -90 dBm/(200kHz) at the receiver input connector, the required path loss is:
- 4.3.3 $PL_{req} = -20 \text{ dBm}/(200\text{kHz}) + 22.5 \text{ dBi} + 2 \text{ dBi} - 6 \text{ dB} - (-102 \text{ dBm}/(200\text{kHz})) = 100.5 \text{ dB}$
- 4.3.4 With the Modified Hata model for a suburban environment ($L_{suburban}$, with the L_{urban} component based on medium, small city; $H_b = 30\text{m}$; $H_m = 4\text{m}$), 100.5 dB is exceeded for a distance of **X = 0.33 km**.

4.4 COEXISTENCE MEASURES REQUIRED FOR SYDNEY AND MELBOURNE ONLY

- 4.4.1 Notwithstanding the preferred ATA solution presented in section 4.2 above, we submit that either way, the existing, **more stringent unwanted emission limits can only be justified for Sydney and Melbourne**, where extensive rail networks are deployed that include legacy GSM-R elements.
- 4.4.2 To ensure coexistence between two same-area, adjacent-channel mobile networks that both use either 4G/LTE FDD or 5G NR FDD, compliance with unwanted limits based on 3GPP CBO1* is sufficient—there is ample evidence of this in a number of frequency bands. The imposition of more stringent unwanted emission limits (e.g. 3GPP CBO2), is only required because of the existence of more narrow-bandwidth technologies, namely, GSM-R.
- 4.4.3 For this reason, we believe that RALI MS 34 should allow for **relaxation of unwanted emission limits for all SL BS tx within the following metro areas, regardless of distance from a registered Rail PTS BS or railway line:**
- 4.4.4 **Adelaide:** There is no existing RMR network, so it is highly unlikely that a RMR network would be deployed that is based on GSM-R. Any future network (if any) should be based on a more modern technology and should be adequately designed to work with higher unwanted emission limits from an adjacent-channel spectrum-licensed network.
- 4.4.5 **Perth:** We understand that WA is in the process of deploying a modern digital radio system in the 1800 MHz band, based on 4G/LTE, and the Emission Designators on all registrations are either 5M00W7D, 10M0W7D or 15M0W7D. As explained above, adjacent-channel coexistence between two same-area FDD mobile networks, does not require unwanted emission limits any more stringent than 3GPP CBO1*.
- 4.4.6 **Brisbane:** Queensland Rail Ltd (“QLD Rail”) has a limited number of registered base stations, just 34 registrations across 18 sites and there are active plans in place for a 5G network. If GSM-R is still operating then the services should maintain the existing levels of protection.
- 4.4.7 * *Note on references to CBO1 above:* Despite our explanation that nothing more stringent than 3GPP CBO1 is needed for coexistence between two adjacent-channel FDD networks employing either 4G/LTE or 5G NR, we are not seeking relaxation beyond 3GPP CBO2, for simplicity.

² CEPT ECC, Feb 2024, ECC Report 313—*Technical study for co-existence between RMR in the 900 MHz range and other applications in adjacent bands*, available here: <https://docdb.cept.org/download/4406>.

³ **Sydney:** only 9 registrations (at 4 sites) overlapping the lowest 1.5 MHz (1865-1866.5 MHz); **Melbourne:** zero registrations below 1867.5 MHz; **Brisbane:** 19 registrations (at 5 sites) overlapping the lowest 1.5 MHz: these all have Emission Designator 5M00W7D, which indicate that these are 4G/LTE. All the 200 kHz registrations start above this (mostly in 1872.4-1872.6 MHz); **Perth:** digital network based on 4G/LTE.

⁴ From ECC Report 313, Table 5 and Figure 4.

5. OTHER POINTS OF CONTENTION

5.1 UNWANTED EMISSION LIMIT RELAXATION REMOVED DUE TO SECOND-IN-TIME PTS

- 5.1.1 On page 11 of the consultation paper, the ACMA says “we also proposed that these requirements would be applicable to any rail base stations, existing or future. This will ensure that future rail deployments will be afforded the level of protection provided under renewed spectrum licences as rail networks are expanded. Under this approach, the spectrum licensee may be required to modify the unwanted emission from deployed transmitters due to a new rail base station being licensed (if located within 5 km of the transmitter). We are of the view that spectrum licensees will be able to assess this risk through discussions with the relevant rail licensee given that rail services will be predominately deployed along rail lines”.
- 5.1.2 Essentially, the ACMA’s proposal is that the unwanted emission limit relaxation will be withdrawn for a first-in-time SL BS tx if it no longer satisfies the coexistence measures following registration of a second-in-time Rail PTS BS. **We strongly disagree with this proposal.** Future rail systems should be planned and designed properly, allowing for higher unwanted emissions on SL BS tx, including via closer inter-site spacing of their Rail PTS BS if necessary, or other measures to ensure higher wanted signal levels to their cab radios. This is entirely reasonable considering that Rail PTS licences (and any increase in SL BS tx unwanted emission limits) are still two years from commencement.

5.2 UNBALANCED APPLICATION OF UNWANTED EMISSION LIMITS IN METRO AREAS

- 5.2.1 On page 12 of the consultation paper, the ACMA proposes that the unwanted emission limits applicable to Rail PTS BS tx, for unwanted emissions falling below the lower limit of the PTS licence⁵ should align with 3GPP Category B Option 1. This is indeed reflected in points 1 and 2 of Attachment 5 to RALI MS 34 (and the corresponding Tables 1 and 2). This means that there is a relaxation of unwanted emission limits for Rail PTS BS (for unwanted emissions into spectrum-licensed spectrum), without an equivalent relaxation afforded to SL BS tx (for unwanted emissions into Rail PTS spectrum).
- 5.2.2 On one hand, the ACMA has insisted that stringent and bespoke unwanted emission limits need to continue to apply to SL BS tx, because the interference environment for 1800 MHz RMR cannot change at all—even if ATA’s request for alignment with 3GPP Category B Option 2 is entirely consistent with the European interference management framework to ensure coexistence between 1800 MHz cellular mobile networks (referred to as “MFCN” in Europe) and GSM-R. On the other hand, the ACMA is quite comfortable in relaxing the unwanted emission limits for 1800 MHz RMR and increasing the interference potential into spectrum-licensed spectrum. **We strongly disagree with this proposal, and request the application of equitable unwanted emission limits on both sides of the 1865 MHz (or 1870 MHz in Adelaide) boundary.**
- 5.2.3 In Attachment 5 to RALI MS 34, additional unwanted emission limits should be introduced such that unwanted emission limits for Rail PTS BS tx, for unwanted emissions falling below 1865 MHz (or 1870 MHz in Adelaide), should mirror the unwanted emission limits applied to the SL BS tx immediately below the boundary in the same geographical area. For simplicity we recommend that limits aligning with 3GPP CBO2 for Non-AAS transmitters operating in rail spectrum—for unwanted emissions falling below 1865 MHz (or 1870 MHz in Adelaide)—be applied to Rail PTS licences.

⁵ We understand the “lower limit of the PTS licence” to mean below 1870 MHz in Adelaide and below 1865 MHz in Sydney, Melbourne, Brisbane and Perth. However, we note that the “lower limit of the PTS licence” could also be slightly higher up if the Rail PTS licensee chooses not to license the full 10/15 MHz range, and instead leave a guard band.

5.3 SPECTRUM LICENSEES DO NOT HAVE PRIORITY OVER RAIL PTS

- 5.3.1 On page 10 of the consultation paper, the ACMA says “*We propose to modify Section 3.3.2 of RALI MS 34 to make it clear that, if interference occurs between adjacent area PTS and spectrum licensed services, that spectrum licensees would not have priority over rail services provided using a PTS licence*”.
- 5.3.2 We note that the only change proposed in the draft RALI MS 34 is that Advisory Note FA does not apply to Rail PTS licences. RALI MS 34 currently requires Advisory Note FA to all PTS licences located within 100 km of the boundary of, and operating co-channel to, a spectrum licence. Advisory Note FA advises the PTS licensee that it is operating on a no protection basis with respect to any spectrum-licensed transmitter.
- 5.3.3 Notwithstanding the above, we note the following aspects of RALI MS 34, which we understand to apply equally to Rail PTS licences and to all other non-rail PTS licences:
- 5.3.4 (a) Section 3.3.1 of RALI MS 34—Rail PTS BS tx are required to satisfy the device boundary criteria (DBC) in the *Radiocommunications (Unacceptable Levels of Interference — 1800 MHz Band) Determination 2023* (“the ULOI Determination”), with respect to the geographical boundary of a co-channel spectrum licence. Just like all other PTS licences, a proposed PTS BS tx will be considered to not interfere with the spectrum licence area if it satisfies the DBC.
- 5.3.5 (b) Sections 3.3.1 and 3.3.3 of RALI MS 34—Rail PTS mobile devices operate on a “*no interference, no protection*” basis.
- 5.3.6 (c) In section 3.3.2 of RALI MS 34—Rail PTS licensees must accept any in-band interference caused by a registered SL BS tx operating in accordance with its core conditions and registered in accordance with the ULOI (as in force at the time that it was registered).
- 5.3.7 As such, while we have some concern about the statement made on page 10 of the consultation paper, we consider that the change proposed by the ACMA in section 3.3.2 (i.e. that Advisory Note FA does not apply to Rail PTS) is acceptable, **provided no other changes are made to sections 3.3.1 through 3.3.3 of RALI MS 34 (as consulted on)**.
- 5.3.8 There is also a typo in Section 4.8: “*note applicable to rail PTS licences*”.

6. REQUESTED CHANGES TO 1800 MHZ SPECTRUM LICENCE CONDITIONS

6.1 CORRECTIONS (NON-CONTENTIOUS)—ERRONEOUS OFFSET TERMS

- 6.1.1 In Table 3 of the sample spectrum licence for the 1800 MHz band, the ACMA has included the term “-0.05” after the frequency offset, which the ACMA has defined as “ f_{offset} ”: the frequency offset from the licensed block edge to the nearest -3dB point of the measurement filter, as clearly stated in the definition immediately above Table 3. This definition of frequency offset aligns with 3GPP’s term “ Δf ”. In 3GPP, the addition of “-0.05” is only used with “ f_{offset} ”, which is defined in 3GPP as “*Frequency offset of measurement filter centre frequency*”. As the ACMA’s definition of f_{offset} already references the -3dB point of the measurement filter, this adjustment has effectively already been accounted for. Therefore, there is no need (and it is incorrect) to include the term “-0.05”.
- 6.1.2 Accordingly, ATA considers that the following corrections should be made to ensure consistency with the definition of f_{offset} provided above Table 3:
- 6.1.3 (a) the term “-0.05” should be removed from Tables 4, 7 and 8 of the sample spectrum licence;
- 6.1.4 (b) the term “-0.215” should be removed from Table 5 of the sample spectrum licence;
- 6.1.5 (c) the term “-0.05” should be removed from Tables 1 and 2 of Attachment 5 to RALI MS 34; and
- 6.1.6 (d) the term “-0.215” should be removed from Table 3 of Attachment 5 to RALI MS 34.

6.2 CORRECTIONS (NON-CONTENTIOUS)—ALIGNMENT WITH CBO2 IN 1880-1890 MHZ

- 6.2.1 On page 12 of the consultation paper—and in separate email correspondence—the ACMA has indicated that it will adopt unwanted emission limits, for unwanted emissions that fall within 1880-1890 MHz, **that align with 3GPP Category B Option 2 (CBO2).**
- 6.2.2 **Side note:** Core Condition 12 of the sample spectrum licence for the 1800 MHz band applies to AAS upper-band transmitters, for unwanted emissions falling in 1880-1890 MHz. Table 6 of the sample spectrum licence has limits that align exactly with the existing limits in Table 4 of the current 1800 MHz spectrum licences—this was adopted on the basis that the existing limits for AAS transmitters were actually less stringent than CBO2.
- 6.2.3 The limits for Non-AAS upper-band transmitters, for unwanted emissions falling in 1880-1890 MHz, are defined in Core Condition 11 and Table 5 of the sample spectrum licence. These exact same limits appear in Table 3 of Attachment 5 to RALI MS 34. As such, the same limits are proposed to apply above 1880 MHz, to both SL BS tx and to Rail PTS BS tx.
- 6.2.4 However, these limits do not appear to align with 3GPP CBO2 as intended. Leaving aside the first 200 kHz, for which existing limits are maintained, the new limits align with 3GPP CBO2 for offsets between 0.2 and 1 MHz, and for offsets between 1 and 1.5 MHz. However, for offsets greater than (or equal to) 1.5 MHz, the emission limit is -15 dBm/MHz. 3GPP CBO2 has an emission limit of -13 dBm/MHz for offsets greater than (or equal to) 1.5 MHz. **Therefore, ATA requests that the limit in Table 5 of the sample spectrum licence be corrected from -15 dBm/MHz to -13 dBm/MHz, and that the same correction be made accordingly in Table 3 of Attachment 5 to RALI MS 34.**

6.3 PROVISIONS FOR WIDEBAND AMPLIFIERS

- 6.3.1 If changes are to be made to the sample spectrum licence for the 1800 MHz band anyway—as requested in the above subsections 6.1 and 6.2 of this ATA response—we would also request that the provisions for wideband amplifiers be revised. In this regard, we point to our comments in response to the ACMA's consultation paper on the 2.5 GHz band SLTF.

6.4 SLIGHT INCREASE IN OOA LIMITS

- 6.4.1 Core condition 29(a) specifies an in-band emission limit—referred to as an “out-of-area” (OOA) limit—of +50 dBm/5MHz for transmitters located in metro areas. There are radios that exceed this limit that spectrum licensees wish to deploy. ATA requests that this be increased by at least 1 dB for now, but looking forward—and noting the long licence tenure for spectrum licences—ideally there would be a 3 dB increase to +53 dBm/5MHz (and then there would be a single OOA limit for transmitters located both inside and outside of metro areas). Given that the dominant interference mechanism being considered is unwanted emissions falling within Rail PTS spectrum, rather than receiver blocking, we see no reason not to allow this power increase.

6.5 ALIGNMENT OF CORE CONDITION 15 WITH 3GPP CBO2

- 6.5.1 In the response to this paper, we have focussed on working within the framework proposed by the ACMA: that any exemptions from the tighter existing limits for unwanted emissions falling within Rail PTS spectrum are in RALI MS 34 and based on coexistence measures. While we appreciate the proposal to provide spectrum licensees with some added flexibility, we think that this is a messy workaround, and that the “tail is wagging the dog”: the ACMA’s processes and deadlines are dictating the outcome, rather than aiming for the optimum spectrum management conditions. In this regard, we believe that the ACMA should simply amend the 1800 MHz sample spectrum licence such that Core Condition 15 for Non-AAS transmitters, for unwanted emissions falling into Rail PTS spectrum, to align with 3GPP CBO2. This does require revisiting the 1800 MHz sample spectrum licence, but it will result in a much neater framework compared to the workaround being proposed via RALI MS 34.
- 6.5.2 We note that the ACMA adopted 3GPP CBO1 limits for unwanted emissions falling within 1795-1880 MHz, applied at the edges of the licensed frequency block, which is what was requested in the AMTA submission to the ACMA’s previous consultation (on 850 MHz & 1800 MHz SLTFs). However, noting:
- 6.5.3 (a) the above request to align with 3GPP CBO2, for Non-AAS SL BS tx and unwanted emissions falling within Rail PTS spectrum above the 1865/1870 MHz boundary,
- 6.5.4 (b) another request in this response for Rail PTS BS tx and their unwanted emissions falling into spectrum licensed spectrum below the 1865/1870 MHz boundary to align with 3GPP CBO2,
- 6.5.5 (c) the fact that the ACMA has also imposed limits aligning with CBO2 at the 1880 MHz boundary,
- 6.5.6 we suggest that the 1800 MHz sample licence could be greatly simplified by simply applying 3GPP CBO2 limits at the edges of the licensed frequency block. Such a blanket adoption of unwanted emission limits aligning with CBO2 would mean that the ACMA could replace Core Conditions 9 through 16 (**eight** separate conditions) with just **two** Core Conditions: one for Non-AAS upper-band transmitters, and one for AAS upper-band transmitters.

Ends

