



# A Consultation Paper on **Proposed Cellular Mobile Spectrum Aggregation Limits**

Inviting public comment and input

December 27, 2024

## INTRODUCTION

- 1 Pursuant to Section 332 of the FSM Telecommunications Act of 2014 (**the Act**), the Telecommunication Regulation Authority (**TRA** or **Authority**) has sole responsibility for licensing the use and the allocation and assignment<sup>1</sup> of the radio frequency spectrum for the provision of communications services in the FSM. No person may use radio frequencies in a manner that is inconsistent with an allocation and assignment of radio frequencies by the TRA under the Act.
- 2 In performing its functions and duties and exercising its powers under Section 332, the TRA shall ensure that radio frequency spectrum is managed and used in a manner that is:
  - a. open, non-discriminatory, competitively neutral, objective and transparent;
  - b. consistent with any applicable international treaties, commitments, recommendations or standards legally binding on the FSM; and
  - c. economically efficient and permits evolution to new technologies and services.
- 3 Pursuant to Schedule 1 of the Spectrum Licensing Rules (**the Rules**), we must issue Cellular Mobile Service Licenses in accordance with the National Table of Frequency Allocations (**the NTFA**) which was adopted on October 26<sup>th</sup>, 2023.
- 4 In the event we receive an application for a license for mobile cellular spectrum, we must issue a Request for Applications to the public, in accordance with section 2(3) of Schedule 1 of the Rules.
- 5 In accordance with section 17(3) of the Rules, a Request for Applications must be published on our website and must:
  - a. identify the blocks or bands of available Radio frequency spectrum for assignment and their expected use;
  - b. set forth the applicable eligibility requirements to obtain a Spectrum License;
  - c. establish aggregation limits in accordance with section 9 [of the Rules], as applicable;
  - d. specify, where applicable, the number of Spectrum Licenses to be assigned;
  - e. establish the timeframe to present applications which shall be at least thirty (30) days after publication;
  - f. reference the application and annual fees attached to the Spectrum License;

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<sup>1</sup> The terms "allocation" and "assignment" are defined in Annex D of the FSM National Table of Frequency Allocations, 2023.

- g. provide a draft of the Spectrum License to be assigned; and
  - h. address such other matters as the Authority may deem appropriate.
- 6 With regard to paragraph 5.c above, we have applied spectrum aggregation limits in the past. In Requests for Applications for spectrum in the 1800MHz band published in January 2024 and for spectrum in the 2100MHz band published in April 2024, we limited the number of blocks available for assignment in the applicable band. In each case, the purpose of the aggregation limit was to “*ensure no one licensee can control more than half of the spectrum*” in the band.
- 7 Our preliminary view is that the existing cellular mobile spectrum aggregation limit policy could be modified in order to be more effective at promoting competition and innovation in the FSM market.
- 8 The purpose of this consultation is to gather and consider public comments, so that we can consider stakeholder views before proposing draft determinations on a policy for cellular mobile spectrum aggregation limits.

#### CONSULTATION FEEDBACK INFORMATION

- 9 The TRA invites written comments and feedback on this consultation document and the attached draft proposed cellular mobile spectrum aggregation limits (**Attachment 2**).
- 10 We have provided a comments form in **Attachment 1** for providing your responses.
- 11 Responses may be submitted in person at TRA’s offices in Pohnpei, or sent to [consultations@tra.fm](mailto:consultations@tra.fm). Responses are due by **January 26, 2025**.
- 12 Submissions will be made public, unless there is a specific request for confidentiality made under Section 322 of the Act.<sup>2</sup>
- 13 We provide a list of consultation questions at the end of this document to help organize responses, and for us to receive feedback on specific issues.
- 14 After receiving feedback, we will publish the submissions and there will be an opportunity for cross-submissions, due two weeks later. Following a review, we will publish our response to submissions and cross-submissions which will state our views and reasons for either making changes or maintaining our initial views.

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<sup>2</sup> See the comments form (Attachment 1) for details.

## PRINCIPLES FOR AGGREGATION LIMITS

- 15 Section 9 of the Rules permits but does not require the TRA to set aggregation limits on the amount of radio frequency spectrum that may be assigned to or held by a licensee, its parent corporation or other entities within its corporate group. Such limits may be established as a specific amount of radio frequency spectrum or as a percentage of available spectrum in the bands covered, and may apply to one or more radio frequency spectrum bands.
- 16 Under section 9(3) of the Rules, aggregation limits must be aimed at:
- a. promoting competition and innovation in the FSM market; and
  - b. avoiding undue concentration of radio frequency spectrum resources by a licensee or its affiliates.
- 17 We consider that aggregation limits are useful to provide the conditions for effective competition among network operators in the FSM. Aggregation limits:
- a. help ensure no one licensee can secure an unfair advantage over other licensees simply by virtue of the amount of spectrum licensed to it, especially where this has the effect of limiting the amount of spectrum available to competitors;
  - b. can help ensure there is spectrum available to new entrants seeking to enter the FSM market to compete with established network operators; and
  - c. by promoting competition and new entry, help create an environment in which network operators innovate in terms of the networks and services they offer to the public.

## TYPES OF AGGREGATION LIMITS

- 18 There are two types of spectrum aggregation limits, "*in-band*" and "*cross-band*."
- 19 In-band aggregation limits apply to individual radio frequency spectrum bands, such that a licensee who has reached the limit applicable to one band cannot be assigned additional spectrum in that band. However, they can still request spectrum in another band, subject to any limits applicable to that second band. Section 9(2)(d) of the Rules expressly permits the TRA to establish in-band aggregation limits. Advantages of an in-band aggregation limit are that the limit can be tailored to the circumstances applicable to the specific band and that it is relatively simple to administer.
- 20 An example applied in another country is the in-band cap applied by the spectrum regulator in Canada in 2012 to "*promote equitable access to the 2500 MHz spectrum.*"<sup>3</sup> Industry Canada limited licensees to 40 MHz of paired<sup>4</sup> and unpaired 2500MHz band spectrum in

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<sup>3</sup> The 2500MHz band in Canada are the radio frequencies between 2500 MHz and 2690 MHz. This is equivalent to the TD 2600+ band (2496 MHz to 2690 MHz) used in FSM.

<sup>4</sup> Paired spectrum uses different frequencies for uplinks than for downlinks, and therefore requires the assignment of separate spectrum blocks. For clarity, "40 MHz of paired spectrum" is equivalent to 2 blocks of 20 MHz, one used for the uplink and one used for the downlink. This is often expressed as "2 x 20 MHz" or "20 + 20 MHz".

each license area for a period of five years following issuance of a license. This was designed to “ensure that four or more service providers have the opportunity to access the 2500 MHz band” and to “promote the competition of wireless services in this band.”<sup>5</sup>

- 21 Cross-band aggregation limits apply to multiple radio frequency spectrum bands at the same time, such that a licensee’s overall spectrum holdings are taken into account in assessing whether that licensee has a fair and equitable amount of spectrum. Section 9(2)(d) of the Rules expressly permits the TRA to establish cross-band aggregation limits. An advantage of a cross-band aggregation limit is that it allows for more flexible outcomes in spectrum assignment that could promote effective competition. For example, if spectrum in one band is in short supply, the assignment of more spectrum in another band could give the licensee sufficient spectrum to compete effectively, but the overall aggregation limit would ensure sufficient spectrum is available to both licensees.
- 22 An example applied in another country is the now-expired CMRS spectrum aggregation limit established by the FCC in 1994 which limited auction participants to a maximum of 45 MHz of broadband PCS, cellular and SMR spectrum regulated as CMRS in any given geographic area.<sup>6</sup>
- 23 We could also establish sub-limits which would apply to specific spectrum bands or groups of bands, in addition to an overall cross-band aggregation limit. An advantage of this type of approach is that it recognises that some spectrum may have special propagation and other characteristics and cannot be fully compensated for by spectrum in another band, and fair competition may require that competing network operators have equitable access to spectrum in that band. This approach was adopted in the British Virgin Islands in 2011, where the telecommunications regulator established a global cap of 170 MHz (paired) for mobile spectrum, and a sub-cap of 60 MHz (paired) for any mobile spectrum below 1 GHz (in their case, the 700MHz, 850MHz and 900MHz bands).<sup>7</sup>
- 24 Our rules already recognise that some cellular mobile spectrum is more valuable than other cellular mobile spectrum, as the Schedule of Fees Rules applies a higher fee to cellular mobile spectrum below 1 GHz than to cellular mobile spectrum above 1 GHz.
- 25 Whether or not we adopt in-band or cross-band aggregation limits, the limits could be specified either as a specific amount of radio frequency spectrum expressed in MHz, or as a proportion of available spectrum in the bands covered, as permitted by section 9(2)(c) of

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<sup>5</sup> Industry Canada, Policy and Technical Framework – Mobile Broadband Services (MBS) – 700 MHz Band, Broadband Radio Service (BRS) – 2500 MHz Band, SMSE-002-12, March 2012, at paragraphs 262 and ff. <https://ised-isde.canada.ca/site/spectrum-management-telecommunications/en/radiocommunications/mobile-broadband-services-700-mhz/policy-and-technical-framework-mobile-broadband-services-mbs-700-mhz-band-broadband-radio-service>

<sup>6</sup> Federal Communications Commission (FCC), In the matter of Implementation of Sections 3(n) and 332 of the Communications Act (“CMRS Third Report and Order”), GN Docket No. 93-252, 9 FCC Rcd 7988 (1994), at page 8100 and ff. The FCC removed the cap in 2003. Note that the PCS band is not used in the FSM. <https://digital.library.unt.edu/ark:/67531/metadc1884/m1/241/?q=9%20fcc%20rcd%207988>

<sup>7</sup> Telecommunications Regulatory Commission, *Spectrum Management Framework Final Statement including Report on Public Consultation*, October 2011, at pages 57-58. [https://www.trc.vg/wp-content/uploads/2020/12/014\\_BVI-SMF-statement-7Octv1.pdf](https://www.trc.vg/wp-content/uploads/2020/12/014_BVI-SMF-statement-7Octv1.pdf) The Commission subsequently lifted the global cap. See *Commission Spectrum Management Framework 2018 – Final Document*, March 2018. Note that the 850MHz band is not used in the FSM. <https://www.trc.vg/wp-content/uploads/2020/12/SMF-2018-Final-Doc-Post-Consultation-050318-TRK-004.pdf>

the Rules. If a hypothetical spectrum band were to have a total of 45 MHz available, an example of the former approach would be to limit any one licensee to a maximum of 15 MHz, and an example of the latter would be to limit any one licensee to a maximum of 1/3 or 33% of the spectrum available, in that band.

**EXISTING AGGREGATION LIMIT POLICY**

- 26 Our existing spectrum aggregation limit policy is an in-band limit. In Requests for Applications for spectrum in the 1800MHz band published in January 2024 and for spectrum in the 2100MHz band published in April 2024, we limited the number of blocks available for assignment to any one licensee in the applicable band. In each case, the purpose of the aggregation limit was to “ensure no one licensee can control more than half of the spectrum” in the band. This aggregation limit policy promotes competition and innovation in the FSM market and avoids the undue concentration of radio frequency spectrum resources by a licensee or its affiliates, by ensuring that part of any band is available for another licensee and that licensees can obtain an appropriate mix of spectrum below 1 GHz (to provide broad geographic coverage) and above 1 GHz (to provide sufficient capacity and higher speeds).
- 27 We understand that, when rolling out a 5G network, cellular mobile network operators generally seek 100 MHz of bandwidth in order to maximize the benefits and features of 5G technology. Whenever possible, they seek 100 MHz of contiguous spectrum as this allows for more efficient use of the spectrum, but it is also possible to use “carrier aggregation” to combine spectrum two or more bands in order to achieve 100 MHz of bandwidth. Under the our existing in-band spectrum aggregation limit policy, a licensee would be required to use carrier aggregation in order to achieve 100 MHz of bandwidth, as no available cellular mobile spectrum band in the FSM contains 200 MHz or more.

**CELLULAR MOBILE SPECTRUM IN FSM**

- 28 There are 2 cellular mobile spectrum bands below 1 GHz, and 4 bands above 1 GHz, available for licensing in the FSM, as more fully described in the tables below.

Mobile Bands below 1 GHz		Type	Range (MHz)		Total Bandwidth (MHz)
			Uplink	downlink	
700 APT	B28	FDD <sup>8</sup>	703 – 748	758 – 803	90
900 Extended GSM	B8	FDD	880 – 915	925 – 960	70
<b>Total:</b>					<b>160</b>

- 29 Of the total bandwidth of 160 MHz in these two bands below 1 GHz, 54 MHz have already been assigned to FSM licensees.

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<sup>8</sup> “Frequency Division Duplex.” FDD uses separate frequency bands for the uplink (upstream transmission) and for the downlink (downstream transmission).

Mobile Bands above 1 GHz		Type	Range (MHz)		Total Bandwidth (MHz)
			Uplink	downlink	
1800 DCS	B3	FDD	1710 – 1785	1805 – 1880	150
IMT 2100	B1	FDD	1920 – 1980	2100 – 2170	120
TD 2300	B40	TDD <sup>9</sup>	2300 – 2400		100
TD 2600+	B41	TDD	2496 – 2690		194
<b>Total:</b>					<b>564</b>

- 30 Of the total bandwidth of 564 MHz in these 4 bands above 1 GHz, between 40 MHz and 110 MHz have already been assigned to FSM licensees, depending upon the State.
- 31 We are not considering licensing spectrum in the n78 band (the 3400 MHz to 3800 MHz frequency range) for cellular mobile services at this time as parts of this band are currently being used for satellite and fixed backhaul services. If we do decide to license the n78 band for cellular mobile services, we would do so following a separate consultation process.
- 32 We note that there is significantly more total bandwidth available for cellular mobile services in the cellular mobile spectrum bands above 1 GHz than in those below 1 GHz.
- 33 The cellular mobile spectrum bands above 1 GHz provide moderate geographic cellular mobile coverage and are generally used for providing capacity and supporting higher speeds, and similar services can be provided using each of the bands. However, there are some differences across the four bands in terms of coverage, technologies supported, and availability of handsets (and therefore associated device costs) as set out in the table below, and we do not consider them to be completely interchangeable. Further, the 1800MHz and 2100MHz bands can be used for 2G and 3G services, respectively, in addition to 4G services, while the other bands are limited to 4G services. We therefore consider the 1800MHz and 2100MHz bands to be more valuable to licensees than the other two.

Mobile Bands above 1 GHz		Type	Coverage	Technology Supported				Handset Support
				2G	3G	4G	5G	
1800 DCS	B3	FDD	Medium	✓		✓	✓	Good
IMT 2100	B1	FDD	Medium		✓	✓	✓	Good
TD 2300	B40	TDD	Less			✓	✓	Good in high to medium end phones
TD 2600+	B41	TDD	Less			✓	✓	Good in high to medium end phones

- 34 In general, though, we consider, subject to consultation, that the *existing* in-band spectrum aggregation limits might not be necessary for the cellular mobile spectrum bands above

<sup>9</sup> "Time Division Duplex." TDD uses the same frequency band for both the uplink and the downlink, but different time slots.

1 GHz in order to achieve the objectives of section 9(3) of the Rules. Specifically, *different* spectrum aggregation limits might provide licensees with greater access to spectrum while achieving the objectives of section 9(3) of the Rules. While aggregation limits may not be necessary, TRA will consider the spectrum holding of the licensee when considering any request for new spectrum.

- 35 The two cellular mobile spectrum bands below 1 GHz have similar propagation characteristics, in that they provide very broad coverage for cellular networks and are generally used to ensure the network serves a broad geographic area. Because of the broad geographic coverage that they enable, we consider that these two bands are particularly valuable to network operators. Because they are used for different purposes in the network, we do not consider the bands below 1 GHz to be interchangeable with those above 1 GHz.
- 36 We do not consider the two bands below 1 GHz to be interchangeable with each other. The 700 APT band supports 4G (LTE) technology, while the 900 Extended GSM band supports 2G (GSM), 3G and 4G (LTE) technologies. The 900MHz band is particularly important for network operators because it supports all three mobile technologies.

Mobile Bands below 1 GHz		Type	Coverage	Technology Supported				Handset Support
				2G	3G	4G	5G	
700 APT	B28	FDD	Broad			✓	✓	Good
900 Extended GSM	B8	FDD	Broad	✓	✓	✓	✓	Good

- 37 Subject to consultation, therefore, we consider that separate in-band limits continue to be necessary for the cellular mobile spectrum bands below 1 GHz in order to achieve the objectives of section 9(3) of the Rules.

**PROPOSED NEW AGGREGATION LIMITS**

- 38 Our goals in setting new spectrum aggregation limits for cellular mobile spectrum are to:
- a. Create the conditions for effective competition among up to three cellular mobile operators;
  - b. Ensure existing operators have enough spectrum to serve effectively their customers;
  - c. Ensure at least one other national operator has access to the same amount of spectrum as the incumbent cellular mobile operator (i.e. FSMTC);
  - d. Prevent any one operator from monopolizing the most valuable cellular mobile spectrum bands; and
  - e. Maximize the flexibility of operators to choose the spectrum that best serves their commercial needs.



- 39 Consistent with our objectives under Section 303 of the Act to encourage market entry of new licensees to FSM, to provide conditions for effective competition between providers, to extend access to communications services, and to promote the overall development of communications in FSM, we are of the preliminary view, subject to consultation, that we should **continue to establish aggregation limits** on the amount of cellular mobile spectrum that may be assigned to or held by a licensee, its parent corporation or other entities within its corporate group.
- 40 We are of the preliminary view, subject to consultation, that **different limits ought to apply to cellular mobile spectrum bands above 1 GHz than to those below 1 GHz**. This is because the two sets of bands have different propagation characteristics and tend to be used for different purposes by cellular mobile network operators (e.g. coverage vs. capacity). In addition, there is generally more spectrum available for cellular mobile services above 1 GHz than below 1 GHz.

#### ***Below 1 GHz***

- 41 We are of the preliminary view, subject to consultation, that it would be most appropriate in the FSM context to **maintain individual in-band aggregation limits for each of the two existing cellular mobile spectrum bands below 1 GHz** (the 700 APT and the 900 E GSM bands). We consider that the starting point for this aggregation limit should be 40% of each of those two bands (as adjusted according to the discussion below). We note that this limit would be slightly higher than what has already been assigned to FSMTC in those bands.<sup>10</sup>
- 42 40% of the 700MHz band is 36 MHz (2 x 18 MHz) and 40% of the 900 E GSM band is 28 MHz (2 x 14 MHz). A licensee who obtains spectrum in these bands would divide it into one or more channels to operate it. The standards for LTE for those two bands accommodate some channel bandwidths that are less than 2 x 5 MHz. However, the standards for 5G are more limited in this respect and we understand that 2 x 5 MHz is the smallest channel bandwidth common to both bands in both LTE and 5G. We therefore consider that it would be desirable to set the in-band spectrum aggregation limit for these bands at a multiple of 2 x 5 MHz.
- 43 Accordingly, we propose, subject to consultation, to set the spectrum aggregation limit for **the 700 APT band at 40 MHz (2 x 20 MHz)** and to set the spectrum aggregation limit for **the 900 E GSM band at 30 MHz (2 x 15 MHz)**. Licensees and their affiliates would be permitted, but not required, to obtain spectrum in those two bands up to those limits.
- 44 This approach will ensure highly valuable spectrum below 1 GHz is available for up to two new licensees in addition to the incumbent licensee, thereby promoting competition. It would also permit FSMTC to apply for additional spectrum in either of these two bands if desired in order to serve their customers, as well as ensure at least one other new cellular mobile operator could obtain at least as much spectrum as the incumbent mobile operator (FSMTC) and thereby compete on a level playing field. It would also result in no new operator obtaining more spectrum than FSMTC, unless FSMTC chose not to obtain additional spectrum up to the maximum limit. It would be the simplest approach to administer as each band would be considered separately, and it would preclude the possibility under some

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<sup>10</sup> FSMTC has been assigned 1/3 of the 700 APT band. FSMTC has also been assigned 12 MHz (paired) of the 900 Extended GSM cellular mobile spectrum band, which is slightly more than 1/3 of that band (1/3 of that band is 11.6667 MHz).

forms of cross-band limits of a licensee focusing its demand on all remaining spectrum in one desirable band and ignoring other less desirable bands, thereby excluding other licensees from that desirable band.

#### **Above 1 GHz**

- 45 We are of the preliminary view, subject to consultation, that it would be most appropriate in the FSM context to establish an overall cross-band aggregation limit for the cellular mobile spectrum bands above 1 GHz. We propose to set the aggregation limit for cellular mobile spectrum above 1 GHz at **190 MHz of bandwidth across the four bands** currently available for assignment to licensees. This represents slightly more than one-third of the 564 MHz total bandwidth currently available above 1 GHz for cellular mobile services and will support up to three competing network operators. We note that no licensee in the FSM currently holds more than 70 MHz of spectrum in the bands above 1 GHz, and therefore that all licensees will be able to apply for additional spectrum up to the proposed limit of 190 MHz.
- 46 This approach will enable licensees to obtain large blocks spectrum, subject to other limits discussed below, to support new and innovative services, as well as sufficient spectrum to support the needs of their existing customer bases. It will also promote competition, by accommodating similar assignments for up to three licensees out of the 564 MHz bandwidth available, and it will avoid undue concentration of radio frequency spectrum resources by a licensee or its affiliates, by ensuring spectrum above 1 GHz is available for up to three licensees. Equally importantly, this approach will give licensees the flexibility, subject to other limits discussed below, to obtain the portfolio of spectrum that best serves their needs and their customers.
- 47 However, as noted in paragraph 33 above, the spectrum bands above 1 GHz are not all equally interchangeable. The 1800MHz and 2100MHz bands in particular are more desirable as they support 2G and 3G technologies, respectively, that the other two do not. As a result, we are of the preliminary view, subject to consultation, that it would be most appropriate in the FSM context to **maintain an in-band aggregation limit for those two spectrum bands**. We consider that the starting point for this in-band aggregation limit should be 40% of each of those two bands (as adjusted according to the discussion below).
- 48 Each of these two bands have less bandwidth available than the proposed cross-band limit of 190 MHz. Without the additional sub-limit, one licensee could monopolize one of the bands and preclude a new operator from acquiring any of the more desirable spectrum. This would put the new operator at a competitive disadvantage and would not be consistent with the TRA's functions and duties under section 332 of the Act. Setting the aggregation limit at 40% of the band will ensure 2 operators will be able to obtain significant amounts of the valuable spectrum in the 1800MHz and 2100MHz bands, but will also ensure up to 3 operators will be able to operate in those two bands.
- 49 40% of the 1800MHz band is 60 MHz (2 x 30 MHz). 40% of the 2100MHz band is 48 MHz (2 x 24 MHz). However, we note that the standards for LTE in the 2100MHz band only accommodate channel bandwidths of 5, 10, 15 or 20 MHz. We therefore consider it necessary to round the proposed aggregation limit up to 50 MHz (2 x 25 MHz). This limit would permit two licensees to obtain up to the maximum of 50 MHz while leaving at least 20 MHz (2 x 10 MHz) for a third operator.

- 50 Accordingly, we propose, subject to consultation, to set the spectrum aggregation limit for **the 1800MHz band at 60 MHz (2 x 30 MHz)** and to set the spectrum aggregation limit for **the 2100MHz band at 50 MHz (2 x 25 MHz)**. Licensees and their affiliates would be permitted, but not required, to obtain spectrum in those two bands up to those limits.
- 51 We note that iBoom has been licensed to use 70 MHz (2 x 35 MHz) of spectrum in the 1800MHz band in Yap State, which amounts to 46.7% of that band. We propose to “grandfather” iBoom’s existing assignment in the 1800MHz band in Yap State. iBoom would be subject to the proposed sub-limits in the event iBoom were to request spectrum in another State.
- 52 We consider the other two bands above 1 GHz that are available for cellular mobile services, the TD 2300 band and the TD 2600+ band, to be primarily used for 5G services. As a result, our objective to ensure licensees can secure large bandwidths outweighs our concern to support up to 3 operators within a particular band. Accordingly, we propose, subject to consultation, to set a collective spectrum aggregation limit for **the TD 2300 band and for the TD 2600+ band at 100 MHz**. Licensees and their affiliates would be permitted, but not required, to obtain spectrum in either of those two bands up to those limits.
- 53 This proposed limit for the TD 2300 and TD 2600+ bands would provide licensees the large bandwidths of spectrum that are necessary to support new technologies and innovative services, such as 5G. While in principle it would permit one licensee to obtain the entire TD 2300 band, the proposed cross-band limit of 190 MHz would ensure at least part of the TD 2600+ band would be available to other licensees, and this in-band limit could support up to three licensees across the two bands.

#### *Other Matters*

- 54 We will review these cellular mobile spectrum aggregation limits in the event we allocate additional spectrum bands to cellular mobile services.
- 55 We consider, subject to consultation, that **each of the spectrum aggregation limits discussed above should apply separately to spectrum in each State**. A licensee and its affiliates that have reached an applicable limit in one State would be eligible to obtain spectrum up to that limit in another State. Conversely, a licensee and its affiliates should not be permitted to exceed a limit in one State on the grounds that they have been licensed to use less than the applicable limit in another State. We consider that this approach is consistent with the preferred approach stated in the Rules for assignment of cellular mobile spectrum on a national basis.
- 56 We note that market conditions change over time and we consider that this policy should be reviewed from time to time to make sure it continues to serve the objectives of the Act and, if necessary, to modify it. However, we also consider that this policy should be given enough time to have an effect in the market. Accordingly, we propose to that we review this spectrum aggregation limit policy after it has been in effect for at least 5 years.
- 57 We note that, when the TRA assigns cellular mobile spectrum in a given spectrum band to a State-specific operator outside of Pohnpei State, the effect of the aggregation limit would be that some spectrum in that band might not be available for assignment within Pohnpei State by virtue of sections 2(4)(f) and 2(4)(g) of Schedule 1 of the Rules. This is because

cellular mobile spectrum in Pohnpei State can only be assigned to national licensees, and assignment of that spectrum to a national licensee in Pohnpei State could result in the national licensee being assigned more than the applicable limit of the relevant band. If this scenario were to occur, we would consult on whether we should modify the aggregation limit in Pohnpei State, in order to promote the effective and efficient use of the radio frequency spectrum in accordance with Section 303(h) of the Act.

## CONSULTATION QUESTIONS

58 We provide here the relevant consultation questions for respondents' consideration below. When answering a question, please explain your reasoning in detail, and describe in particular how your views are consistent with the TRA's duties as described in paragraph 2 of this Consultation Paper.

- a. Do you agree that we should maintain aggregation limits on the amount of cellular mobile spectrum that any one licensee and its affiliates can be granted?
- b. Do you agree that we should establish different aggregation limits for cellular mobile spectrum bands below 1 GHz than for those above 1 GHz?
- c. Do you agree that we should set individual in-band aggregation limits for each of the two cellular mobile spectrum bands *below* 1 GHz at
  - i. 40 MHz (2 x 20 MHz) for the 700 APT band; and
  - ii. 30 MHz (2 x 15 MHz) for the 900 E GSM band?
- d. Do you agree that we should set a cross-band aggregation limit of 190 MHz of bandwidth for the cellular mobile spectrum bands *above* 1 GHz?
- e. Do you agree that we should set individual in-band aggregation limits for the 1800MHz and 2100MHz bands at:
  - i. 60 MHz (3 x 30 MHz) for the 1800MHz band; and
  - ii. 50 MHz (2 x 25 MHz) for the 2100MHz band;to apply in addition to the cross-band aggregation limit for cellular mobile spectrum bands above 1 GHz?
- f. Do you agree that we should set individual in-band aggregation limits of 100 MHz of the applicable band for the TD 2300 and TD 2600+ bands, to apply in addition to the cross-band aggregation limit for cellular mobile spectrum bands above 1 GHz?
- g. Do you agree that each of the spectrum aggregation limits should apply separately in each State?

## **ANNEX**

- 1 Attachment 1: Comments Form
- 2 Attachment 2: Proposed Spectrum Aggregation Policy

# Attachment 1 - Comments Form



## Feedback on Consultation Paper: Proposed Cellular Mobile Spectrum Licensing Framework

### Information of commenting party

Full name	
Organization	
Phone number	
Email	
Is confidential information being submitted?	Y/N (Specify below)

### Comments

	Comment	Proposed changes	Confidentiality <sup>11</sup>
<i>Paragraph Number or Section of Consultation Document, or Consultation Question, that Comment Pertains To</i>	<i>Please describe comments on specific section or question. Please be as detailed as possible and explain why you hold your views and what the potential impact of the Authority's proposals would be</i>	<i>Please suggest an alternative to the proposal(s) (if applicable)</i>	<i>If confidential, please explain reasons for confidentiality request</i>
<i>(Insert rows as needed)</i>			

Please complete this form in full and submit to [consultations@tra.fm](mailto:consultations@tra.fm) or in person before **January 26, 2025** to:

Takuro Akinaga  
Chief Executive  
FSM Telecommunication Regulatory Authority  
KSP Building, 2<sup>nd</sup> Floor  
Main Street, Kolonia  
Pohnpei FM 96941, Federated States of Micronesia

<sup>11</sup> Confidentiality requests are managed under the rules set out in Section 322 of the Telecommunications Act. Respondents should clearly mark which information is claimed as being confidential and should provide reasons of what commercial harm will result should the information be published. Respondents who make a request for confidentiality should also provide a redacted copy of their submission, with all confidential information removed, that the TRA may publish.

## Attachment 2 – Proposed Spectrum Aggregation Policy

Subject to the Spectrum Licensing Rules,

- 1 A licensee, its parent corporation or other entities within its corporate group may apply for a license to use cellular mobile spectrum up to the following limits for each of the following spectrum bands:

<b>Spectrum Band</b>		<b>Aggregation Limit</b>
700 APT	maximum of	40 MHz (2 x 20 MHz)
900 E GSM	maximum of	30 MHz (2 x 15 MHz)
1800 DCS	maximum of	60 MHz (2 x 30 MHz)
IMT 2100	maximum of	50 MHz (2 x 25 MHz)
TD 2300	maximum of	100 MHz
TD 2600+	maximum of	100 MHz

- 2 A licensee, its parent corporation or other entities within its corporate group may apply for a license to use cellular mobile spectrum *above* 1 GHz up to a maximum of 190 MHz across all applicable bands (the 1800MHz, 2100MHz, TD 2300 and TD 2600+ bands), subject to the applicable in-band aggregation limits.
- 3 These aggregation limits apply separately in each State.