



Response to the consultation paper on

Spectrum Roadmap (2020): Facilitate the Sustainable Growth of Industry (Draft)

(November, 2020)

1. Background

- 1.1 Myanmar Ministry of Transport and Communications, Post and Telecommunications Department (PTD) issued Draft of Spectrum Roadmap (2020): Facilitate the Sustainable Growth of Industry in November 2020 for consultation to the Network Facilities Service (Individual), NFS (I), Licensees.

2. General feedback

- 2.1 We appreciate that the PTD has provided an opportunity for the NFS (I) licensees to give feedback on the Spectrum Roadmap (2020).
- 2.2 We noted that PTD's overall view is to release more spectrum for the future Broadband Services in comparative terms and looking to improve connectivity and Myanmar's digital economy. We commend the PTD's efforts to create a competitive market for IMT services and promote innovations in Myanmar by continuing to embrace technology neutrality.
- 2.3 The Spectrum Roadmap (2020) also highlighted the PTD's understanding and recognition of importance of Myanmar consumers' affordable smartphones and other devices limitations with regards to spectrum allocation and to harmonize and time regionally for the spectrum releases.
- 2.4 Overall, we agree and support Spectrum Roadmap as published in the November 2020 draft, however, we would like the PTD to consider the following important concerns and recommendations –
- 2.4.1 We want to recommend that **all future spectrum allocations to be done through auctions** which allows all to participate, and not with fixed price allocation to Mobile Network Operators (MNOs) only, as it does not benefit the country overall by giving with fixed price allocations to the MNOs and does not provide equal

opportunity for NFS (I) licensees. Should the Regulator feel that the auction process created unreasonable prices, PTD can choose to lower the final auction price (e.g., 15% discount to final auction price) if it wants to; thus, providing a cheaper price should not be a reason for doing fixed price allocation.

- 2.4.2 To ensure that NFS (I) licensees can compete fairly, we want to request that the planned **Spectrum allocation auctions of a given year are held at the same time**, i.e., for the 2021 release plan, all releases during the year to be held during one time which will reduce MNOs bidding at all the smaller releases and allows NFS (I) to compete with more options.
- 2.4.3 We noted and welcome the PTD's consideration to release UNII-2C and 6Hz in the future, and we would like to **request release of Band 40 as a priority** given that most mobile phones in the country support Band 40, more so than Band 41. Releasing Band 40 with regional licensing will benefit the country tremendously, particularly, the consumers.
- 2.4.4 With regards to timing of the release:
 - (i) we urge PTD to release UNII-2C as soon as possible;
 - (ii) Band 40 (2300 – 2390 MHz) for an early 2021 release for fixed wireless broadband services;
 - (iii) we welcome 2021 spectrum release, however, VoIP interconnect issues between ISPs and MNOs must be fixed three months prior to the release;
 - (iv) 2022 spectrum release of APT700 (700MHz), C-Band (3.5 GHz), and the release in Band 41 should be deferred until 2023 to allow time for the winners of the 2021 spectrum to roll out and validate the market.
- 2.4.5 Lastly but most importantly, we request that both MNOs and NFS (I) licensees should have equal opportunity in the spectrum release auctions and promote regional auctions for fairness. MNOs traditionally considered cellular spectrum in the frequency below 2,000 MHz and in as recently as five years ago, very few cellular systems have deployed at frequency greater than 2,000 MHz by any well-known global mobile operator. We would like to suggest PTD to leave the options open to both NFS(I) and MNOs for allocating spectrums above 2,000 MHz which are now considered as a capacity spectrum by the 5G industry. NFS (I) cannot bid for any cellular spectrum below 2,000 MHz and thus we would expect relatively less competition with MNOs nationwide in those bands. We would like to suggest PTD to discuss with MNOs and consider nationwide or regional depending on its goal whether to target allocations below or above 2,000 MHz. We would like MNOs to understand that for NFS (I) licensees be allowed to bid for any frequencies above 2,000 MHz nation-wide does not imply that NFS (I) can compete with MNOs as a national operator with that frequency.

3. Release of more IMT Spectrum

- 3.1. We urge PTD's official ratification of the UNII-2C spectrum release as soon as possible so that the industry may receive the clarity it needs to legally import and operate home, and office devices as well as service provider infrastructure equipment using this spectrum. The official release would help manufacturers establish a standard operating country code for Myanmar to assist in enforcing PTD's transmit power and allowed channels guidelines. The additional spectrum release will help boost the capacity to fulfill demands of the growing set of smartphones and Internet of Things devices operating in the License Exempt spectrum. The longer we wait, the more challenging it becomes to update the increasing number of devices operating in the country to adopt the newly established Myanmar country code.
- 3.2. We welcome and appreciate PTD's support in prioritizing the partial release of Band 41 (2.6GHz) in 2021 to encourage non-MNOs to participate in providing fixed broadband services.
- 3.3. We have conducted a recent survey of the most popular and affordable handsets in the market to review their compatibility in Band 40 (2.3GHz) and Band 41 (2.6GHz). We found that there is 1.5x more phones supporting the operations in Band 40 than Band 41. The availability of devices supporting Band 40 makes it compelling to prioritize its release. Therefore, we recommend PTD to **prioritize Band 40 (2300 – 2390 MHz) for an early 2021 release** for fixed wireless broadband services.
- 3.4. We further recommend that **Band 40 to be designate for regional licensing**. Although Band 41 may be redesignated for national licensing, we recommend to defer PTD to defer the decision of regional vs national licensing for Band 41 after the release of Band 40.
- 3.5. Non-MNO winners must be allowed to fully utilize the spectrum to support all innovative broadband services. The issue regarding MNO's cooperation in providing **VoIP interconnect to NFS(I) licensees must be resolved** 3 months before the 2021 spectrum release. We would like PTD to prescribe a deadline and associated fines for MNOs to comply with VoIP interconnect requirements.
- 3.6. Figure below illustrate our proposed band plan for the 2021 release will range between 2300 to 2390 MHz to create 6 lots of 15 MHz operating in TDD mode in each region. We recommend a wider channel of at least 15 MHz that is required to support high speed wireless broadband services within this band. A 10 MHz guard band is conventional and recommended to separate from the 2.4GHz ISM band.

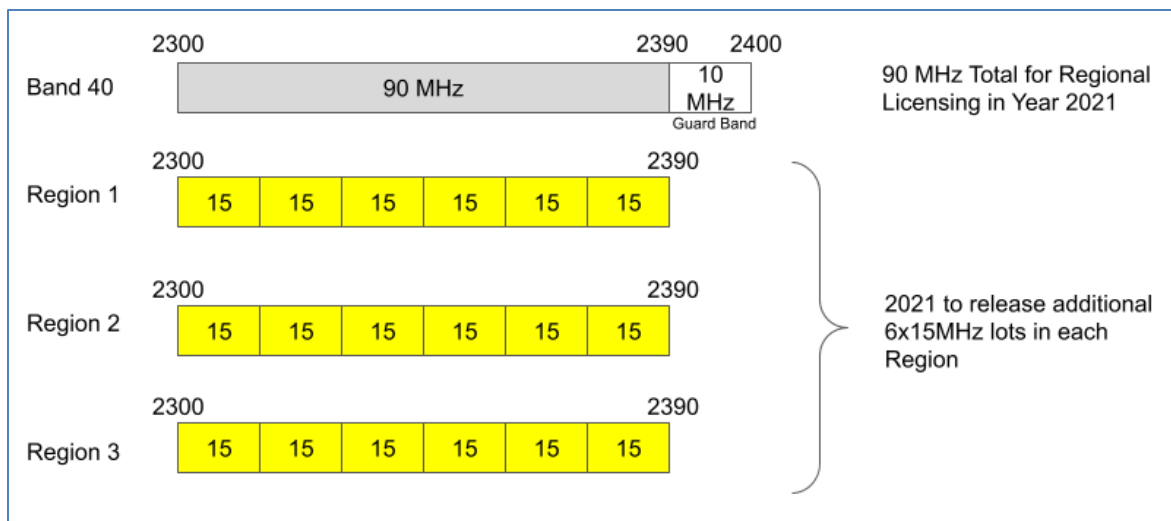


Figure 1

- 3.7 We recommend that **both mobile network operators and NFS(I) licensees be permitted to participate in the bidding of the Band 40 Spectrum release in 2021.** A bidder may bid for lots in any or all three regions and may win up to 2 lots for a total of 40 MHz per region to promote competition. We believe bidders are ready for the 2021 spectrum release and would act according to the market demand. Therefore, a bidder could potentially win licenses in all 3 regions and may operate nationally in 2021.
- 3.8 Specific rollout targets and production service targets with associated penalties need to be set to avoid winners which have no specific technical implementation plan from squatting on the spectrum.
- 3.9 We would like to request the proposed **2022 spectrum release of APT700 (700MHz), C-Band (3.5 GHz), and the release in Band 41 be deferred until 2023.** This is to allow time for the winners of the 2021 spectrum to roll out and validate the market. This in turn allows PTD sufficient time to publish a sequent industrial consultation, collect feedback and make any necessary adjustments to the 2023 release plan to make it successful. The deferral encourages operators to do better, holistic planning instead of frequent releases of several spectrum which tends to be crowded out by large operators.
- 3.10 We agree and support the rest of the Spectrum Roadmap as published in the November 2020 draft.