



Ooredoo Myanmar Limited  
Myanmar Centre Tower 1  
192 Kaba Aye Pagoda Rd.  
Bahan Township  
Yangon  
Republic of the Union of Myanmar

29 December 2020

**Our Ref: Reg/PTD/2020(836)**  
**Your Ref: 700-PTD/Sub(7)Resources/8544**

Posts and Telecommunications Department  
Ministry of Transport and Communications  
Republic of the Union of Myanmar  
Office No (2)  
Nay Pyi Taw  
Myanmar

Attention: Director General

Dear Director General,

**Subject: Comments on Spectrum Roadmap 2020 (Draft)**

This letter serves as a response to the above referenced letter in which PTD requested OML to provide comments on the draft version of the Spectrum Roadmap 2020.

OML's comments on the draft Spectrum Roadmap 2020 are set out below.

**General Comments**

OML supports the proposal by PTD in relation to harmonized spectrum assignment in Myanmar, considering the regional assignments, especially Thailand, Indonesia, and Malaysia. This approach will improve the affordability of smartphones, which is of great benefit for Myanmar consumers. Under the circumstances, OML would like to submit two main general comments as follows:

- 1) OML recognizes that the existing market in Myanmar can further grow 4G in the next couple of years before considering the 5G opportunity. The GSMA intelligence predicts that 5G mobile connection will reach 23% by 2025 while 4G dominates the market with 65% of total connections. Therefore, we strongly recommend that PTD balance the assignment of valuable spectrum with the real demand in Myanmar. This will ensure efficient investment of capital in networks that will offer immediate benefit to the people of Myanmar.

OML recognizes that, access to new services would often spur demand for spectrum in order to offer such services. However, we need to be mindful of the risk of assigned spectrum being underutilized because of low demand.



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- 2) Our general observation is that the proposed release of 2300MHz is not aligned with the regional allocation since this spectrum has already been released in several ASEAN countries. In addition, considering the 4G LTE 2300 MHz capable penetration and fast-tracking, the release of 2300MHz spectrum prior to the 2600MHz will have an immediate impact on existing Myanmar consumers. In this regard, we propose the release of 2300MHz first which will also minimize the risk of reducing the valuation of this spectrum which would be likely if released after the 2600MHz allocation.

This position is based on data from the Invigo report, which indicates that the following bands are supported (out of all handsets, not only 4G):

- 2300MHz, 68% (94% of LTE handsets)
- 2600MHz, 58% (81% of LTE handsets)
- 700MHz, 24% (39% of LTE handsets)
- 5G bands have less than 0.2% device support
- 800MHz band20 has 35% (49% of total handsets) so limited use for 4G at this moment since band20 is for other ITU regions.

### **Specific Comments**

Given the comments above, OML respectfully submits the year-on-year recommendation as set out below.

### **During 2021:**

We recommend PTD to release the 2300MHz band nationwide to MNOs in order to address capacity issues MNOs face due to the exponential traffic growth in 4G. We submit that the Thailand market is a good example to follow where 2300MHz 4G has been launched since 2018. Allocating 2300MHz instead of 2600MHz first will help deliver better 4G results in the short term given higher terminal penetration. Whilst the device ecosystem for 2300MHz for 5G use is still developing, it is likely that this will not be a barrier to deployment when 5G is eventually launched in Myanmar.

PTD indicated in the draft spectrum roadmap paper that 20 MHz in 2300MHz is reserved to allocate for government use and guard band. In this regard, we respectfully request PTD to clarify the available bandwidth in 2300MHz, whether 80MHz or 90MHz, after the reservation for government use.



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### During 2022 to 2023:

We propose PTD to release nationwide remaining capacity layers which can be used for 5G along with 4G using Dynamic Spectrum Sharing:

- 3.5GHz spectrum with a minimum of 120MHz (2 blocks of 60 MHz)
- 2.6GHz spectrum with a minimum of 100MHz (2 blocks of 50 MHz, assuming 100MHz available for MNOs). We do not recommend the regional allocation for 2.6GHz and only if required, it should be given to non-MNOs only.

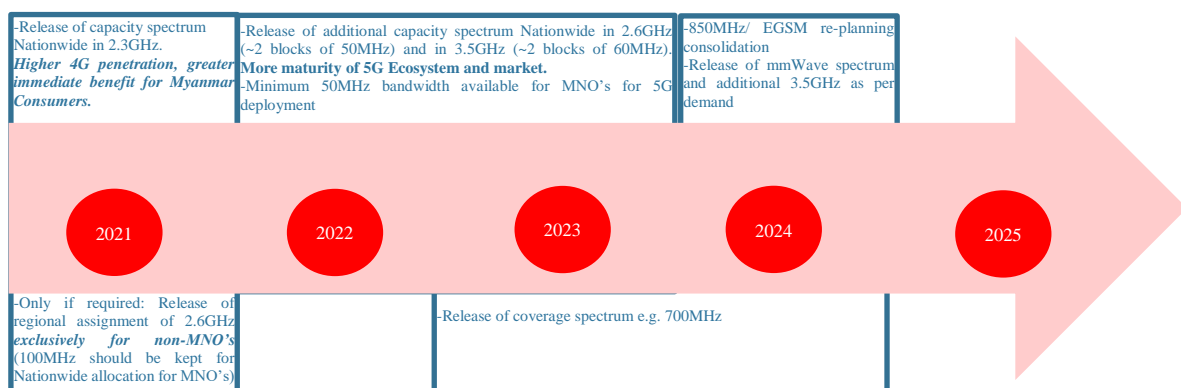
With this approach all MNOs can be allocated either 60MHz of 3.5GHz or 50MHz of 2600MHz ensuring all MNOs can secure at least 50MHz carrier bandwidth to support 5G deployment.

### During 2023 to 2024:

We recommend PTD to release coverage spectrum of 700MHz band. It is envisaged that the ecosystem for 700MHz will have developed by this time, driven by deployment of this band within Thailand earlier (likely 2022).

PTD can assign 28GHz mmWave spectrum with a minimum of 400MHz (4 blocks of 100MHz), which can be used for FWA (non-mobile) or IAB (backhauling), given the support of mmWave in the handsets might be very limited. For example, smartphone models like iPhone, Samsung will only have mmWave support in the USA initially.

Given the reasons and comments set out above, OML proposes the release schedule for available IMT spectrum in Myanmar which is summarized in the following diagram:





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### **Comments on Licence-exempt Bands in the 5 Ghz Band**

OML supports PTD's approach in expanding the license-exempt usage in the 5GHz band. This is in line with the objective of facilitating the introduction of new Broadband Services for Myanmar consumers.

Thank you for the opportunity to comment and we are also as always, willing to make ourselves available to discuss this matter further, should PTD consider it appropriate to do so.

Yours truly,

A handwritten signature in black ink, appearing to be 'Chris Peirce', written over a light blue horizontal line.

**Chris Peirce**  
Chief Legal and Regulatory Officer