

## **The comments on the Spectrum Roadmap (2020) from Global Technology Company**

### **Comment 1**

In the clause 2.2, there is only mention MNO in this document. We would request to mention for “both MNOs and Regional Operators”.

#### **2.2 Timing for the release of additional IMT spectrum in Myanmar**

- (ii) in overall terms, the total of IMT spectrum needed by **not only** an individual mobile network operator (MNO) **but also a regional operator** and the market in overall terms will significantly rise; and
- (iii) MNO **and Regional Operators** need to have confidence to make long term investments in digital infrastructure in the knowledge that they have sufficient IMT spectrum to support both 4G and 5G service offerings.

### **Comment 2**

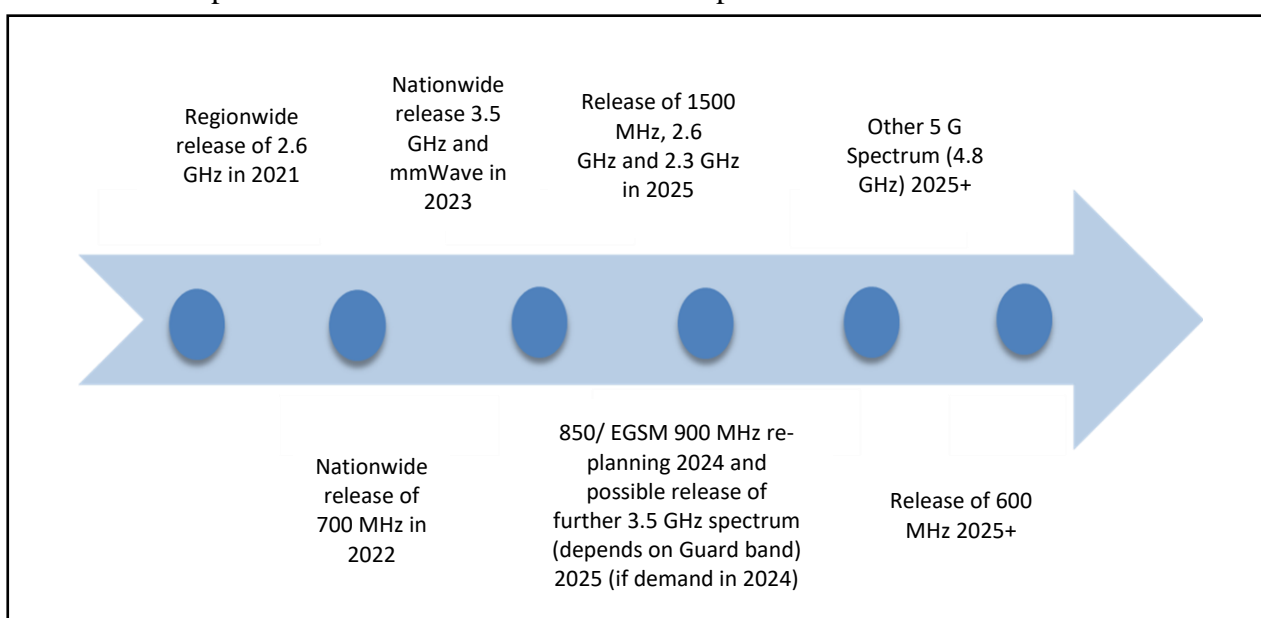
In Exhibit 3,

- For 2.6 GHz, we would like to request to mention how much spectrum MHz considered to release and allow to access to only regional operators who have 2.6 GHz spectrum because of releasing Region-wide.
- We would like to request for regional operators to have a chance to participate in releasing of 700 MHz spectrum.
- We would like to request to amend to the rest of 2.6 GHz are planned to release in 2025 instead of 2023 because the 2.6GHz was released in recent year 2021 and suggest not to release any earlier in order to give earlier bidders greater confidence to make investments and expand the network.
- We also would request to move 2.3 GHz band to be released together with the rest of 2.6 GHz in Year 2025 because they are in the same band.
- The 1500 MHz still have no applicable usage of spectrum. In addition, it might be some co existing interference issue between 1500 and LEO Satellite spectrum in the future so would like to suggest to release in 2025.
- It is so early stage to release mmWave in Year 2021 and 2022. We would request to be released in Year 2023.

### Exhibit 3: Proposed Release Schedule of additional Spectrum

- Part (xx)MHz of 2.6 GHz and mmWave spectrum are is considered to release as Region-wide in 2021 and, both NFS(I) Licensees who have 2.6 GHz spectrum and MNOs can access to those bands.
- Capacity spectrum (namely the 2.3 GHz (n40) and mmWave), 120 MHz of 3.5 GHz spectrum (namely 3400 to 3520 MHz, with a conservative guard band at this time of 105 MHz with existing satellite service) and Coverage spectrum (namely the 700MHz (n28)) including spectrum capable of being used for the deployment of 5G services has been prioritized for release in 2022. This spectrum will be very useful in urban areas,<sup>4</sup> can substitute for traditional fixed line services and will provide certainty to MNOs and Regional Spectrum Operators to make network and infrastructure investment for future 5G services;
- Coverage spectrum (namely the 700 MHz band (n28)) has been timed for 2022 following the likely regional release and usage of this band in a number of ASEAN markets, namely Thailand (2021 tentatively) and Vietnam (2021 tentatively). The launch of APT 700 services in these other ASEAN markets will greatly accelerate the availability of affordable Band 28 smartphones and other devices in Myanmar. In addition, the release of this IMT band in 2022 will allow the MNOs who successfully secure this spectrum to decide whether to deploy 4G and/or 5G services in this band;
- 120 MHz of 3.5 GHz spectrum (namely 3400 to 3520 MHz, with a conservative guard band at this time of 105 MHz with existing satellite service) and mm Wave spectrum could be release in 2023.
- 1500 MHz band, and the rest of 2.6 GHz (n41) and 2.3 GHz are planned to release in 2025 2023 (will release in 2022 if demand);
- Further 3.5 GHz spectrum could be released post 2024 following the likely determination of the optimal guard band in the C-Band given studies now being

### Exhibit 3: Proposed Release Schedule of additional Spectrum



### **Comment 3**

In the clause 2.3 (a), we would like to request to mention how much spectrum MHz will plan to be released. Please allow to access to only regional operators who NFS(I) Licensees because of releasing Region-wide. In the clause 2.3(b), please mention how much spectrum MHz will be allocated as Nationwide and who can access it.

It is so early stage to release mmWave in Year 2021 so we would request to be released in Year 2023.

#### **2.3 Regionwide release of 2.6 GHz and mmWave Spectrum in 2021**

With the demand of the industry, PTD is considering to release 2.6 GHz and mmWave spectrum as follow:

- (a) Part (xx) MHz of 2.6 GHz and mmWave spectrum are is considered to release as Region-wide in 2021 and, both NFS(I) Licensees and MNOs can access to this band auction.
- (b) The rest (xx) MHz of 2.6 GHz spectrum will be allocated as Nationwide in 2025 2023.

### **Comment 4**

In the clause 2.5, the rest of 2.6 GHz could be released in 2025 same as 3.5 GHz spectrum in order to earlier bidders greater confidence to make investments.

#### **2.5 Other proposed spectrum releases in 2023 and beyond**

As detailed in section 2.2 above the PTD envisages that:

- If there is demand then further capacity band spectrum (namely the 1500 MHz, the rest of 2.6 GHz as mentioned in 2.3 (b) and 4.8 GHz spectrum) could be offered to the market in 2023 and 2025 respectively. In addition, further 3.5 GHz spectrum and the rest of 2.6 GHz could be released in 2025 (and will not be released any earlier in order to give earlier bidders greater confidence to make investments)

### **Comment 5**

In the clause 3, there was describe, the 2.6 GHz band is an excellent alternative 5G band. In the last 3 years, 2.6 GHz defined in Band 38 and it was auctioned based on Region wide, so we expected that we could get additional spectrum in 2.6 GHz with fair price in the near future. Now in this spectrum roadmap described as “2.6 GHz band is an excellent alternative 5G band” so we would be face to get enough spectrum and without getting enough spectrum it will lead to the difficulties in the fulfillment of the coverage commitment and it will make less confidence for the investment.

### **3. THE SPECIAL CASE OF THE CHANGE OF BAND PLAN FOR THE 2.6 GHz BAND**

In markets like Myanmar where the pioneer 5G spectrum band (ie 3.5 GHz) is not fully available in the near term because it is currently allocated to satellite services, the 2.6 GHz band is an excellent alternative 5G band.

### **Comment 6**

In the Clause 3(b) and exhibit 6, we would like to suggest to set the proposed band plan would be 10 MHz each instead of 5 MHz each for the purpose of spectrum efficiency.

### **Comment 7**

In clause 4. We would request not only release the whole 5 GHz band and 6 GHz band also the V-band spectrum at 60 GHz band (57-71 GHz) with the following supports:

- The 60 GHz band creates new opportunities for innovative services because of its unique characteristics that combine wide bandwidth channels and small wavelength with low latency
- the 60 GHz band (57-71 GHz) is attracting investment in a range of WiGig-based technologies (IEEE 802.11ad and 802.11ay)
- For Myanmar to address “continuing challenges in the deployment of fixed network infrastructure” and to help the government expediently, achieve its digital economy goals through improved connectivity.