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

March 6, 2020

Our Ref: Reg/PTD/2020(94)
Your Ref: 700-PTD/Sub(7)Resources/1451

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,

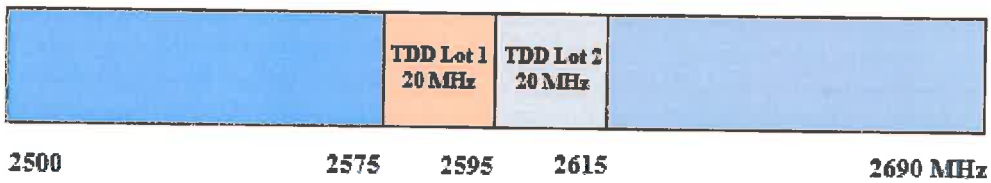
Subject: OML's Comment on Frequency Arrangement in 2.6GHz Spectrum and Network Synchronization for TDD for Myanmar

This letter serves as a response to the above referenced letter in which PTD requested OML to provide comments on the proposed frequency arrangement in 2.6GHz Spectrum and network synchronization for TDD for Myanmar.

OML's general comments on PTD's proposals are set out below.

1. **Current Use of the 2600MHz Spectrum**

The 2600 MHz (2.6 GHz) band is one of the key bands for LTE globally. However, there has been growing interest to utilize this band for 5G.



Source: PTD, Framework for 2.6 GHz Spectrum Auction, October 2016

The auction held in 2016 resulted in the award of three (3) regional licenses to Amara Communications Co. Ltd, Fortune Telecom Co. Ltd and Global Communications Co. Ltd for a 13 - year license term.

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As previously stated in our earlier responses to PTD on the subject, OML believes that PTD should maximize the use of the spectrum by favoring the assignment of vacant spectrum to nationwide licensees while continuing to honour, as far as reasonably possible, current spectrum assignments in the band. In our letter to PTD dated March 2, 2020, we put forward for PTD's consideration a specific proposal as to how this can best be achieved. We continue to maintain our position in this regard.

2. Channeling Plan of the 2600MHz Spectrum

OML has no objection to the allocation of the entire 2600 MHz band for TDD operation (Band 41).

The TDD technology it provides greater spectral efficiency for the emerging data-centric services. Therefore, as the mobile industry continues to grow and mobile data traffic increases exponentially, TDD operation is viewed as a more flexible option than FDD to allow Operators to meet the needs of each individual customer.

3. Network Synchronization Framework

As stated in our previous responses, we are of the firm view that it TDD Network Synchronization among operators would be critical.

Synchronized operation avoids any BS-BS and MS-MS interferences therefore allowing coexistence between adjacent networks without the need for guard bands or additional filters. This operating mode simplifies network deployment because no additional interference mitigation is required. Synchronized operation leads to the selection of a compatible frame structure, which determines a specific DL/UL transmission ratio and frame length which contribute to the network performance (e.g. latency, spectral efficiency, throughput and coverage).[1]

OML recognizes that operators in the same band need to use:

1. A common phase clock reference
2. A compatible frame structure to avoid simultaneous UL/DL transmission

Therefore, we are in agreement with PTD's proposals in this regard.

We add, however, given the requirement for tight synchronization for TDD, PTD should go so far as to impose TDD spectrum licence conditions that give effect to these requirements. This would ensure that TDD spectrum is tightly regulated and controlled to avoid degradation in the throughput.

[1] ECC Report 296, 8 March 2019

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OML would be happy to provide clarification or additional information as to the above or to make ourselves available to discuss this matter further, should PTD consider it appropriate to do so.

Yours truly,

Chris Peirce
Chief Legal and Regulatory Officer