



PUBLIC CONSULTATION PAPER

**WIRELESS LOCAL AREA NETWORK (WLAN) IN THE 6 GHz
FREQUENCY BAND**

Submission by:

U MOBILE SDN BHD

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U Mobile is pleased to submit our responses to the questions raised in the Public Consultation Paper published on 12 August 2021.

Question	U Mobile Comments
<p>Question 1 MCMC seeks your views and comments on the demand for spectrum for Wi-Fi in the 6 GHz frequency band.</p>	<ul style="list-style-type: none"> • It allows the ability to solve many of the existing Wi-Fi short comings in the 2.4/5 GHz bands. • Wide frequency band for more capacity. • Operation using 160 MHz channels finally practical. • Supports high-speed, high-efficiency networks configured.
<p>Question 2 MCMC seeks your views and comments on the emerging technologies utilising the 6 GHz frequency band.</p>	<ul style="list-style-type: none"> • Part of 6 GHz has been identified for potential IMT band in Region1 under WRC-23 Agenda Item 1.2 (6425-7125 MHz) and 7025-7125 MHz is being studied for the potential global IMT identification due to its propagation characteristics and ability to provide both capacity and coverage. In short, should consider these bands as Malaysia’s future IMT bands. • Besides, 5925-6425 MHz (FSS Uplink) is pairing with 3400-3700 MHz (FSS Downlink) since 3400-3600 MHz has been allocated for IMT-2020. Consequently, 5925-6425 MHz frequency band might be available for frequency band re-assignment. • More frequency band allocation is needed for IMT-2020, to unleash the full potential of the 5G technology. • This mid-band spectrum helps to achieve IMT-2020 vision of 100Mbps Downlink & 50Mbps Uplink everywhere.

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<p>Question 3</p> <p>MCMC seeks your views and comments on the frequency range within the 6 GHz frequency band that could be considered for Wi-Fi under the Class Assignment in Malaysia. Should MCMC consider allowing Wi-Fi to operate in the entire 1200 MHz (5925 MHz to 7125 MHz frequency band) or only in the 500 MHz (5925 MHz to 6425 MHz frequency band)?</p>	<ul style="list-style-type: none"> • Since 6425-7125 MHz band has been identified as potential future IMT bands, any allocation of this band should wait until the outcome of the global studies and WRC-23. • The deployment of Wi-Fi in 6 GHz is very much limited by the underlying fiber network. The usage will be similar to a wireless hotspot for home/enterprise environment with fiber backhaul. • In contrast, if 6GHz is used for 5G NR, the coverage and service availability will not be limited to the underlying fiber network. Instead 5G can even provide fiber-like services where fiber is not available such as FWA. • In summary, U Mobile supports allowing Wi-Fi to operate only in the 500 MHz (5925 MHz to 6425 MHz frequency band)
<p>Question 4</p> <p>MCMC seeks your views and comments on: the coexistence between Wi-Fi and incumbent services (i.e. fixed service and fixed-satellite service); and the potential interference mitigation between these services.</p>	<ul style="list-style-type: none"> • A coexistence study is needed to identify the potential risks so that mitigation techniques can be identified. • Possible mitigation technique are as below: <ul style="list-style-type: none"> – Expand the distance between the interference source and the interfered party. – Reduce the antenna gain in the interference direction. – Reduce transmit power. – Antenna high/down tilt especially between wifi antenna vs FS antenna – Avoid pointing antenna at the same direction as FSS station
<p>Question 5</p> <p>MCMC seeks your views and comments on the potential technical and operational conditions to be imposed if the 6 GHz frequency band is introduced for Wi-Fi under the Class Assignment. Should part of the frequency band be limited to indoor operation? Should standard power devices operating under the Automatic Frequency</p>	<ul style="list-style-type: none"> • We are of the view that the European Union model will be more suitable for Malaysia. WLAN devices in the 5925 MHz to 6425 MHz frequency band can coexist with other services (fixed service and fixed-satellite service) under specified set of conditions/parameters for both outdoor and indoor operations (to be decided

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<p>Coordination (AFC) system be adopted in Malaysia?</p>	<p>after further studies in the Malaysian environment).</p> <ul style="list-style-type: none"> • With the 6GHz band already in use by a variety of incumbent users, operating both fixed and mobile links, a balance must be struck so that WLAN operations can be allowed while providing adequate protection to the incumbent links. • With reference to the adoption of Automatic Frequency Coordination (AFC) to control Standard Power devices, U Mobile's view is it is not required, due to the following reasons: <ul style="list-style-type: none"> – The database coordination is too complex to manage – Incurs unnecessary cost for deploying AFC network management system – To avoid future interference from Standard Power devices to potential future IMT system in 6GHz frequency band, Standard Power devices should not be allowed to operate in Malaysia
<p>Question 6 What other key issues need to be considered in introducing Wi-Fi in the 6 GHz frequency range?</p>	<ul style="list-style-type: none"> • Spectrum harmonization or coordination with neighbouring countries near the borders. • Setup a study group to study the interference impact and the possible mitigation techniques.