

15 August 2023

The Chairman

Malaysian Communications and Multimedia Commission

MCMC Tower 1

Jalan Impact, Cyber 6

63000 Cyberjaya

Selangor Darul Ehsan

Malaysia

(Attention: Spectrum Planning and Assignment Division)

Subject: **Response on the Malaysian Communications and Multimedia Commission's Public Consultation on "Proposed Malaysia's Positions for World Radiocommunication Conference 2023 (WRC-23) Agenda Items"**

Dear Tan Sri Mohamad Salim bin Fateh Din,

We are pleased to respond to the Malaysian Communications and Multimedia Commission's (MCMC) ongoing public consultation on "Proposed Malaysia's Positions for World Radiocommunication Conference 2023 (WRC-23) Agenda Items".

Access Partnership commends the MCMC for opening its proposed positions for the upcoming WRC-23 open for public feedback. As the world's preeminent technology public policy consulting firm focused on leading companies to fair tech, we support this move of the MCMC as it promotes transparency in the direction that the country intends to take in one of the most important global policy-setting gatherings in the field of telecommunications. This fosters a participative process that enables Malaysian firms and consumers to have a direct say in the direction of the industry.

In this regard, we are happy to participate in this consultation and present our response there. Specifically, our comment touches upon Agenda Item 10 regarding the next cycle towards WRC-27. We are happy to note that Access Partnership recently launched a white paper on direct-to-handset (D2H) satellite communications. With D2H viewed as one of the primary areas of conversation in the next few years, this study aims to address issues surrounding this new technology, such as spectrum availability, interference risks, and licensing frameworks. A copy of the white paper is enclosed in this submission. Additionally, a copy of our White Paper on the Role of Satellite Communications in Disaster Management is attached for your consideration.

We believe that D2H stands to be a main point of discussion in succeeding WRCs and could be the potential subject of a future agenda item. We elaborate more on our comments below.

Thank you for this opportunity. We remain in your service should you have any questions or clarifications.

Sincerely yours,

Ivan Suarez

Director, Space and Spectrum Policy

Access Partnership

Agenda Item	Comments and Views on Proposed Malaysia's Positions	
Fixed, Mobile and Broadcasting Issues		
1.1	N/A	
1.2	N/A	
1.3	N/A	
1.4	N/A	
1.5	N/A	
9.1(c)	N/A	
RR No. 21.5	N/A	
Aeronautical, Maritime and Amateur Issues		
1.6	N/A	
1.7	N/A	
1.8	N/A	
1.9	N/A	
1.10	N/A	
1.11	N/A	
9.1(b)	N/A	
Res. 427	N/A	
Science Issues		
1.12	N/A	
1.13	N/A	
1.14	N/A	
9.1(a)	N/A	
9.1(d)	N/A	
Res. 655	N/A	
Satellite Issues		
1.15	N/A	
1.16	N/A	
1.17	N/A	
1.18	N/A	
1.19	N/A	
7	Topic A	N/A
	Topic B	N/A
	Topic C	N/A
	Topic D	N/A
	Topic E	N/A
	Topic F	N/A
	Topic G	N/A
	Topic H	N/A
	Topic I	N/A
	Topic J	N/A
Topic K	N/A	
General and Regulatory Issues		
2	N/A	
4	N/A	

8	N/A
10	<p data-bbox="411 271 1390 371"><u>Proposed future agenda item:</u> <i>Allocation of more spectrum resources between the 1 – 5 GHz bands for the purpose of direct-to-handset (D2H) satellite communications.</i></p> <p data-bbox="411 416 539 450"><u>Rationale:</u></p> <p data-bbox="411 488 1390 656">Satellite communications has been a key enabler in the last few decades whenever terrestrial systems cannot reach remote places or cannot operate under dire circumstances. However, the promise of satellite communications is bound to become wider, with new use cases constantly being introduced by operators.</p> <p data-bbox="411 701 1390 981">One of these main developments in satellite communications is the advent of direct-to-handset (D2H) satellite communications. The rapid progress in D2H communications in the past year alone—as evinced by a multitude of operators launching their own projects simultaneously—has indeed opened up exciting new possibilities for better connectivity and improved communication capabilities. By extending coverage to remote and hard-to-reach areas, people who were previously underserved may soon be able to access message, voice, and data services.</p> <p data-bbox="411 1025 1390 1193">D2H technology leverages satellite networks to provide additional connectivity to consumers worldwide. D2H networks can be designed using GSO satellites, NGSO satellites, or a combination of both. A great number of operators have announced different projects that aim to deliver satellite connectivity directly to millions of smartphones around the world.</p> <p data-bbox="411 1238 1390 1552">Currently, projects that are already operational are focused on bridging the connectivity gap during emergencies. This is especially relevant for many jurisdictions in the Asia Pacific region that are constantly being hammered by typhoons and other disasters, resulting in unnecessary casualties and economic damage. Improved connectivity during these critical times would be instrumental not just in minimizing the financial impact of disasters, but also in uplifting the quality of life in the region. Beyond emergency connectivity, future D2H plans may expand to voice and data services, leading to ubiquitous connectivity anywhere in the planet.</p> <p data-bbox="411 1597 1390 2011">However, despite its rosy promise, the future of D2H remains uncertain, with a number of challenges needed to be navigated in order to ensure that its benefits are truly enjoyed by consumers. Apart from an uncertain regulatory framework, one key hurdle is spectrum availability issues. With multiple projects having been rolled out, more MSS spectrum allocation is needed to ensure that unhampered connectivity is delivered. The common approach employed by equipment manufacturers is to partner with existing MSS operators to provide D2H services using frequency bands allocated to MSS. An alternative approach would be to integrate non-terrestrial satellite networks with 5G technology using mobile spectrum, which eliminates the need for handset modifications. Nevertheless, this requires new regulatory policies for satellite spectrum usage and mobile service bands, which can only be addressed and harmonised during the WRC.</p>

Currently, the D2H and other services provided by MSS satellites are using low-frequency bands between 1-3 GHz. The bandwidth available for these services is relatively low, ranging from a few kHz to a few hundred kHz. This bandwidth limitation restricts the data rates that can be used to less than 1 Mbit/s in a single channel. The use of higher frequencies may be necessary for high-speed connections to increase capacity due to more bandwidth availability.

As such, the full rollout of D2H services is hampered by bandwidth availability, which currently limits the services to mostly text messaging. Although voice calls have been demonstrated to work during field tests, D2H services are yet to go beyond text messaging in commercial deployments. The range of services could improve with continued advancement in technology and bandwidth availability. As such, there is a pressing need to allocate more MSS spectrum below 5 GHz to solve this problem of bandwidth availability, thus helping improve the scope of D2H services currently available.

Several countries across various ITU regional groups have already submitted contributions to the Conference Preparatory Meeting (CPM23-2) asking to conduct technical studies to allocate more spectrum to MSS in the frequency bands below 5 GHz at WRC-27, which would be used for the satellite component of IMT.

Given the global nature of MSS, the ideal course of action to take is to consider new global MSS allocation at the ITU level to carefully study the coexistence of MSS with other in-band and adjacent band services, and leading to a full discussion of these issue, including that of allocation, at WRC-27. As such, considering the benefits that D2H could bring to Malaysia and the entire Asia Pacific region in terms of emergency communications and improving overall connectivity, more spectrum resources should be allocated to ensure a full seamless rollout of the service.