

CELCOM'S RESPONSE TO PUBLIC CONSULTATION PAPER ON PROPOSED MALAYSIA'S POSITION FOR WRC-19 AGENDA ITEMS (AI)

No.	AI	Proposed Malaysia (MLA) Views and Positions
Working Party 1: Land Mobile and Fixed Services		
1	1.11	Celcom opines that railway transportation contributes to Malaysia's economic and social development. Railway radiocommunication systems between train and trackside ("RSTT") is important for railway traffic control, safety and secured train operations. Hence, we support the Malaysia's view for AI 1.11 i.e. harmonisation of global or regional frequency for RSTT through the development of relevant ITU-R Recommendations and/or Reports and without specifying frequency ranges in the Radio Regulations.
2	1.12	Celcom opines that the Intelligent Transport Systems ("ITS") would be able to assist safe driving and support transportation system efficiency. ITS would also be able to complement the implementation of 5G autonomous car in the near future. Hence, we support the Malaysia's position for AI 1.12 i.e. harmonisation of global or regional frequency for ITS by using ITU-R Recommendation as reference and without specifying frequency ranges in the Radio Regulations - <i>Method C</i> .
3	1.14	Celcom opines that existing high-altitude platform stations ("HAPS") allocation should be fully utilised before designating any possible new HAPS frequency bands. In addition, some of the frequency bands under discussion for AI 1.14 are overlapping with other WRC-19 AIs and 27.9 – 28.2GHz is overlapping with the popular 5G mmWave band (28GHz band). Hence, we support the Malaysia's view for AI 1.14 i.e. existing provisions in the Radio Regulations are sufficient for HAPS applications in this country hence, no change to the Radio Regulations.
Working Party 2: Broadband Applications in the Mobile Service		
4	1.13	The World Bank Group, in its publication titled Malaysia's Digital Economy: A New Driver of Development (in 2018) has stated "ensuring Malaysia's digital infrastructure provides ubiquitous, reliable and ultrafast broadband internet service is key to unlocking the potential of the digital economy". Malaysia requires additional IMT frequency bands for the deployment of world class network quality to support digital economy. Hence, we support the Malaysia's position for AI 1.13 i.e. identification of the terrestrial component of IMT in the following frequency bands: <ul style="list-style-type: none"> a) 24.25 to 27.5 GHz (<i>Method A2 Alternative 2</i>) b) 37 to 40.5 GHz (<i>Method C2 Alternative 2</i>) c) 40.5 to 42.5 GHz (<i>Method D2 Alternative 2</i>) d) 42.5 to 43.5 GHz (<i>Method E2 Alternative 2</i>) e) 47.2 to 50.2 GHz (<i>Method H2 Alternative 2</i>)

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		<p>f) 50.4 to 52.6 GHz (<i>Method 12 Alternative 2</i>) g) 66 to 71 GHz (<i>Method J2 Alternative 2</i>)</p> <p>On another note, we opine that Malaysia should also identify and allocate 3300 – 3800MHz and 27.0 - 29.5GHz bands for IMT in line with the recommendations by 5G Bandwidth Sub-Working Group under the National 5G Task Force. Universiti Teknologi Malaysia (“UTM”) has released a paper in 2017 titled “Perspective on Malaysia Mobile Broadband Development 2020” and stated that by 2020, Malaysia would require additional 307MHz of spectrum in consideration of mobile traffic growth and usage trend:</p> <table border="1" data-bbox="965 582 1093 1724"> <thead> <tr> <th data-bbox="1013 582 1093 952">Country</th> <th data-bbox="1013 952 1093 1120">Current Spectrum (MHz)</th> <th data-bbox="1013 1120 1093 1288">Forecasted Required Spectrum (MHz)</th> <th data-bbox="1013 1288 1093 1456">Spectrum Gap (MHz)</th> <th data-bbox="1013 1456 1093 1724">Period</th> </tr> </thead> <tbody> <tr> <td data-bbox="965 582 1013 952">Malaysia</td> <td data-bbox="965 952 1013 1120">850^{**}</td> <td data-bbox="965 1120 1013 1288">957</td> <td data-bbox="965 1288 1013 1456">307</td> <td data-bbox="965 1456 1013 1724">2015 and 2020</td> </tr> </tbody> </table> <p><small>** 850 MHz is the total spectrum allocated to all MNOs in Malaysia.</small></p> <p>The said two frequency bands are able to address the deficit immediately and also the request beyond 2020 as the bands have gained good traction and global adoption hence providing economies of scale and immediate availability of ecosystem. It would enable the mobile operators to provide good 5G network in terms of coverage and quality.</p>	Country	Current Spectrum (MHz)	Forecasted Required Spectrum (MHz)	Spectrum Gap (MHz)	Period	Malaysia	850 ^{**}	957	307	2015 and 2020
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5	1.16	<p>Celcom opines that RLAN is important and able to complement other fixed and mobile networks at providing affordable and ubiquitous broadband wireless access to the internet. Hence, we support the Malaysia’s position for AI 1.16 i.e.:</p> <p>a) 5150 - 5250MHz: Revision to Resolution 229 (Rev.WRC-12) to enable outdoor radio local area networks (“RLAN”) operations with associated conditions to protect the incumbent services - <i>Method A3</i></p> <p>b) 5250 - 5350MHz, 5350 - 5470MHz and 5850 - 5925MHz: No change to the Radio Regulations - <i>Methods B, C and E respectively</i></p> <p>c) 5725 - 5850MHz: Regional primary mobile service allocation in the band to accommodate RLAN use (bearing in mind that Malaysia already has a mobile primary allocation in accordance with RR No.5.453 in this frequency band).</p>										
6	9.1 (Issue 9.1.1)	<p>Currently, 4 major mobile operators in Malaysia has deployed extensive 3G networks nationwide using 1920 – 1980MHz paired with 2110 – 2170MHz spectrum, with approximately 98% 3G population coverage and close to 40 million broadband subscriptions. We support the Malaysia’s view for AI 9.1 (Issue 9.1.1) i.e.:</p> <p>a) the scope of WRC-19 agenda item 9.1, issue 9.1.1 is limited to the study of possible technical and operational measures to ensure coexistence and compatibility between the terrestrial component of IMT and the satellite component of IMT in the 1980 - 2010MHz and 2170 - 2200MHz frequency bands deployed in</p>										

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	<p>different countries, in accordance with Resolution 212 (Rev.WRC-15). Regulatory measures or any changes to the Radio Regulations are outside the scope of this issue</p> <p>b) bilateral/ multilateral discussions between different administrations provide greater operational flexibility while ensuring coexistence between the two components of IMT deployed in different countries on the proviso that protection should be accorded to terrestrial component of IMT operating in the adjacent band mentioned above.</p>
7	<p>Celcom opines that Machine Type Communications ("MTC") is very important especially in the era of 5G and beyond. Hence, we support the Malaysia's view for AI 9.1. (Issue 9.1.8) i.e.:</p> <p>a) regulatory action is not required in the Radio Regulations with respect to specific spectrum for the use of narrowband and broadband MTC in the Radio Regulations</p> <p>b) the study of technical and operational aspects including the potential harmonized spectrum usage to support the implementation of narrowband and broadband MTC infrastructures could be further accomplished through the course of the work in ITU-R Study Groups including the development of ITU-R Recommendations, Reports and/or Handbooks, as appropriate</p>
Working Party 3: Satellite Services	
8	<p>1.5 Celcom opines that the 18GHz band is extensively used by fixed services and the 28GHz band has been identified for 5G deployment in Malaysia. Hence, we support the Malaysia's view for AI 1.5 on the deployment of land earth stations in motion ("ESIM") i.e. no deployment of land ESIM in 17.7 - 19.7GHz (space-to-Earth) and 27.5 - 29.5GHz (Earth-to-space) frequency bands. In addition, operation of ESIM, which complies with the mandated operational limits as stated in the new ITU-R Resolution should not release the relevant administrations and operators from their obligation to ensure protection of the existing services operating in 17.7-19.7 GHz and 27.5-29.5 GHz frequency bands.</p>
9	<p>9.1 (Issue 9.1.2) Celcom opines that IMT systems operating in the frequency band 1452 - 1492MHz would be able to deliver mobile broadband applications due to a good balance of capacity and coverage over relatively large areas including inbuilding. In addition, the frequency band 1452 - 1492MHz has been identified for terrestrial IMT in Malaysia whereby various types of IMT deployments are expected in this frequency band. Hence, we support the Malaysia's position for AI 9.1 (Issue 9.1.2) i.e. protection of IMT is required in Regions 1 and 3 - <i>possible action</i> 3.</p>
10	<p>9.1 (Issue 9.1.9) Celcom opines that Malaysia requires additional IMT frequency bands for the deployment of world class network quality to support digital economy. Hence, we support the study currently conducted by Malaysia on the possibility of allocation to IMT in the 51.4 - 52.4GHz frequency band.</p>

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11	10	<p>Celcom applauds MCMC's initiative and supports on ITU-R's studies to determine the spectrum needs for IMT in the spectrum above 24GHz. Such effort would definitely contribute to transform Malaysia into a digital nation. Nevertheless, we opine that it is also necessary to identify additional spectrum from the mid-band (below 24GHz band) for IMT use on a global basis due to its advantage in propagation which is able to address digital divide. These spectrums are crucial for additional capacity for future IMT expansion. Hence, we would like to propose for Malaysia to propose/ support the following bands to be included into the agenda of the next WRC:</p> <ul style="list-style-type: none"> a) to identify 3300 - 3800MHz for IMT b) to consider and study the 6GHz/ 7GHz as potential spectrum band for IMT use