Our Ref: ViaSat MCMC PC WRC-23

16 August 2023

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YBhg. Tan Sri Chairman,

PUBLIC CONSULTATION ON PROPOSED MALAYSIA'S POSITIONS FOR WORLD RADIOCOMMUNICATION CONFERENCE 2023 (WRC-23) AGENDA ITEMS.

Above mentioned subject is referred to.

We hereby submit our comments on the proposed Malaysia positions for WRC-23 agenda items. We hope that our thoughts and sentiment on the Malaysian proposal will be beneficial and valuable for the positioning of the Malaysian view for the upcoming WRC-23.

Should you have further queries in relation to this document, please do not hesitate to contact Helida Akashah at c_HelidaAkashah.Kamaruzaman@viasat.com.

Thank you.

Yours faithfully,

For and on behalf of
Viasat Malaysia Sdn. Bhd.

Cristian Gomez
Senior Director
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VIASAT RECOMMENDATIONS FOR WRC-23

VIASAT Malaysia Sdn. Bhd.
16 August 2023

A. Annex III – Template for Response

The MCMC invites comments on proposed Malaysia's Positions for WRC-23 agenda items raised in this PC document.

Please specify your preferred method(s) based on the Report of the CPM23-2. The digital copy of the Report is available at:

https://www.itu.int/pub/R-ACT-CPM-2023

Agenda Item	Comments and Views on Proposed Malaysia's Positions
Fixed, Mobile and Broadcasting Issues	
1.1	Malaysia supports the appropriate measures to address the protection of stations of the aeronautical and maritime mobile services located in international airspace and waters (i.e., outside national territories) operating in the 4800-4990 MHz frequency band, and the implementation of IMT systems in this frequency band, as practicable.
1.2	Malaysia supports the identification of IMT in the 7025-7125 MHz frequency band with appropriate regulatory and technical conditions, taking into account the results of studies to ensure the protection of services to which the frequency band is allocated on a primary basis and in adjacent bands. Malaysia notes that the following frequency bands are being considered for other Regions and would not oppose an IMT identification in those Regions, where relevant: - 3600-3800 MHz and 3300-3400 MHz (Region 2); - 3300-3400 MHz (amend footnote in Region 1); - 6425-7025 MHz (Region 1); and - 10.0-10.5 GHz (Region 2).
1.3	Malaysia notes that this agenda item is a Region 1 issue and supports the APT Preliminary View for this agenda item, as developed at APG23-5, as follows: - A possible upgrade of mobile service to primary allocation in the 3600-3800 MHz frequency band in Region 1 shall protect existing and planned services to which the frequency band is allocated on a primary basis (and in adjacent bands, as appropriate) in Region 3, taking into account the results of sharing and compatibility studies and such upgrading shall not have any adverse effect on the allocation of the existing services and their future development in Region 3.
1.4	Malaysia supports establishing regulatory provisions for the use of HIBS in certain frequency bands below 2.7 GHz already identified for IMT referred to in Resolution **247 (WRC-19)**, provided that the regulatory provisions will ensure protection of the existing services to which the frequency band is allocated on a primary basis, and the adjacent bands, as well as no additional regulatory or technical constraints imposed on the deployment of ground-based IMT systems in those frequency bands.

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1.5	Malaysia notes that this agenda item is a Region 1 issue and supports the APT Preliminary View for this agenda item, as developed at APG23-5, as follows: - The conclusion to be reached on agenda item 1.5 is a Region 1 issue and WRC-23 decisions shall in no way adversely affect Region 3 frequency allocations and existing and future use of the relevant frequency band.
9.1(c)	Malaysia is of the view that this agenda item may be addressed through the revision of the existing ITU-R Recommendation(s), Report(s) and/or Handbook. Should such a revision still not satisfy the requirements of this agenda item, the development of new Recommendation(s), Report(s) and/or Handbook in the ITU-R is supported. **ViaSat Views:** ViaSat is of the view that there should be 'no change' to the Radio Regulations (RR) with regards to this Agenda Item (AI). ViaSat notes that existing ITU documentation i.e., ITU-R F.1401, ITU-R F.1400, F.1763, and F.1499 contains sufficient information for this matter. ViaSat propose to support **A2** and **the suppression of Resolution 175 (*WRC-19*).**
RR No. 21.5	Malaysia notes that ITU-R studies on the applicability of the limit specified in RR No. **21.5** to IMT stations using active antenna systems (AAS) and the verification of RR No. **21.5** regarding the notification of these IMT stations are still ongoing. Malaysia is of the view that the use of total radiated power (TRP) parameter within a reference bandwidth may be considered for the purpose of verification of RR No. **21.5** in the notification of IMT stations that use an antenna that consists of an array of active elements in the 24.45-27.5 GHz frequency range. Malaysia also supports the APT Preliminary View for this topic, as developed at APG23-5, that change to RR No. **21.5** may not be necessary at this stage to address the issues raised in Document 550 of WRC-19.
Aeronautical, Maritime and Amateur Issues	
1.6	Malaysia supports possible spectrum needs for stations on board sub-orbital vehicles, appropriate modification, if any, to the Radio Regulations (RR), excluding any new allocations or changes to the existing allocations in RR Article **5** to accommodate stations on board sub-orbital vehicles to facilitate radiocommunications that support aviation to safely integrate sub-orbital vehicles into airspace and ensure interoperability with international civil aviation. The sub-orbital vehicles shall ensure that it does not affect the existing civil aviation and space launch systems, and not impose any additional

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	constraint on other services or applications operated in the same services. As such, Malaysia is considering **Method B** to address this agenda item.
1.7	Malaysia supports new allocation to the AMS(R)S in the 117.975-137 MHz frequency band, or part thereof, limited to non-geostationary satellite systems and to internationally standardized aeronautical systems while ensuring coexistence with existing services/applications in the same and adjacent frequency bands. As such, Malaysia prefers **Method B** and if necessary, a new WRC-23 Resolution may be developed to address AMS(R)S regulatory framework particularly in addressing the respective roles of ITU and International Civil Aviation Organization (ICAO).
1.8	Due to the complexity of the agenda item, Malaysia is considering **Method A** at this moment. Nevertheless, if all safety issues of the UA CNPC links operated under FSS frequency bands have been resolved at WRC-23, Malaysia may consider **Method B**.
1.9	Malaysia supports modifications to the Radio Regulations (RR) to accommodate digital technologies for aeronautical wideband HF systems, while ensuring compliance with safety requirements and protection of other primary services in the same and adjacent bands, in particular, the existing AM(R)S HF systems. Malaysia is of the view that: - changes to the RR should allow implementation of new digital wideband HF systems taking into account technology neutrality; - digital wideband HF systems operating in the bands allocated to the aeronautical mobile (route) service (AM(R)S) relating to RR Appendix **27** shall be operated in accordance with the ICAO Standards and Recommended Practices (SARPs); and - by enabling this new system, the effectiveness and efficiency throughout the HF band could be improved. As such, Malaysia prefers **Method B** to address this agenda item.
1.10	Malaysia supports new allocation to the AM(OR)S in the 15.4-15.7 GHz frequency band or part thereof, and/or remove the exception to AM(OR)S of the mobile allocation in the 22-22.21 GHz frequency band or part thereof. Malaysia also is of the view that the protection of existing primary services in the 15.4-15.7 GHz and 22-22.21 GHz frequency bands and in the adjacent frequency bands shall be ensured. As such, Malaysia is considering **Method B** and/or **C** or **Method E** to address this agenda item.
1.11	Issue A: Malaysia supports regulatory actions to implement GMDSS modernisation, taking into consideration the consequential amendments by the decision of IMO, as follows: - Removal of narrow band direct printing (NBDP) from the GMDSS;

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	- Introduction of the NAVDAT frequencies in the Appendix **15** of the Radio Regulations; - Implementation of an automatic connection system (ACS) for DSC in MF and HF frequency bands; - Inclusion of AIS SART as homing equipment for survival craft stations; and - Removal of the use of satellite EPIRBs in 1.6 GHz frequency band. As such, Malaysia supports **Method A** and further considering **Alternative A1**. Issue B: Malaysia supports no change to Article **5** of the Radio Regulations. As such, Malaysia supports **Method B**. Issue C: Malaysia supports the introduction of additional GSO satellite systems into the GMDSS, provided that coordination and notification in accordance with the relevant and applicable provisions of Articles **9** and **11** of the Radio Regulations and associated Rules of Procedure need to be completed in order to protect services to which the bands are currently allocated.
9.1(b)	Malaysia supports: - No changes to the Radio Regulations; and - Studies in line with Resolution **774 (WRC-19)** to ensure protection of radionavigation-satellite (space-to-Earth) service receivers while allowing the amateur service and amateur-satellite service (Earth-to-space) to continue operating in the 1240-1300 MHz frequency band, without considering its removal.
Res. 427	Malaysia supports further studies on the relevant Articles of the Radio Regulations and their associated appendices to identify outdated aeronautical provisions, and the development of regulatory texts for updating these provisions, in accordance with Resolution **427 (WRC-19)**.
Science Issues	
1.12	Malaysia supports the establishment of a new secondary allocation to the EESS (active) in the 40-50 MHz frequency band, limited to the operation of spaceborne radar sounder systems, while ensuring protection to incumbent services in the 40-50 MHz frequency band and in the adjacent frequency bands. As such, Malaysia supports **Method A1**.
1.13	Malaysia supports the upgrading of the status of space research service allocation to primary, provided that it does not impose constraints on the current use and future deployment of existing primary services in the same and adjacent frequency bands. However, some studies carried out by ITU-R indicate that the pfd limits identified for SRS do not provide sufficient protection to the incumbent terrestrial services. As such, Malaysia supports **Method B**, which upgrades only SRS (space-to-space) from secondary to primary status

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	and retain the secondary allocation to SRS (space-to-Earth) and SRS (Earth-to-space).
1.14	Malaysia supports the addition of new primary allocations to EESS (passive) in the 239.2-242.2 GHz and 244.2-247.2 GHz frequency bands, and shift of the current FS and MS allocations in the 239.2-241 GHz frequency band to the 235-238 GHz frequency band. As such, Malaysia is in favour of **Method B** for this agenda item.
9.1 (a)	Malaysia supports the recognition and protection of space weather sensors, including identification of space weather sensor systems under an appropriate radiocommunication service and development of a new WRC Resolution on the importance of space weather sensor systems. Furthermore, identification of new allocations and the associated sharing studies need to be included in the new WRC Resolution, taking into account protection of incumbent services to which the band is allocated as well as in the adjacent band.
9.1 (d)	Malaysia supports the protection of EESS (passive) sensors, including cold-sky calibration, in the 36–37 GHz frequency band from non-GSO FSS operations in the 37.5–38 GHz frequency band, with an unwanted emission power density limit, as appropriate, based on the results of ITU-R studies.
Res. 655	Malaysia supports the ITU-R studies called for by Resolution **655 (WRC-15)**, recognizing that the 27th General Conference on Weights and Measures (CGPM) in November 2022 adopted Resolution 4 and decided that the maximum value for the difference (UT1 – _UTC) would be increased. Malaysia is of the view that modification to Resolution **655 (WRC-15)** is necessary to reflect the decision made by CGPM.
Satellite Issues	
1.15	Malaysia supports the development of regulatory framework and technical requirements for the operation of earth stations in motion on board aircraft and vessels communicating with GSO FSS space stations in the 12.75-13.25 GHz frequency band (Earth-to-space) under **Method B**, taking into account the following: - ensuring protection of services currently allocated in the same and adjacent frequency bands; - the provisions of RR Appendix **30B**; and - ensuring no changes or restrictions to the allotment in the Plan, assignments in the List of RR Appendix **30B**, and those recorded in the Master International Frequency Register (MIFR) including the assignments arising from the implementation of Resolution **170 (WRC-19)**. **ViaSat Views:** ViaSat supports the use of appropriate ESIM transmit power densities to ensure that the result does not represent worst case scenario in terms of where the PFD is met. The methodology should also consider fuselage, atmospheric and polarisation losses.

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	ViaSat is also of the view that the regulatory and technical framework for the operation of ESIMs in Ku Band also should not accord any competitive advantage to non-GSO operators in this band as compared to GSO operators in the Ka Band.
1.16	Malaysia supports the development of regulatory framework and operational conditions to facilitate the use of A-ESIM and M-ESIM communicating with non-GSO FSS space stations in the 17.7-18.6 GHz, 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) frequency bands under **Method B**, while ensuring protection of existing services including the terrestrial stations, GSO FSS networks and other services operating in the same and adjacent frequency bands. **ViaSat Views:** ViaSat is of the view that non-GSO ESIMs must comply with current EPFD limits for the protection of GSO systems and any discussions regarding future GSO in-band limits to protect EESS (passive) in 18.6-18.8 GHz should be carefully assessed.
1.17	Malaysia supports no change to the 11.7-12.7 GHz frequency band as the studies conducted did not support use of the band for space-to-space links. In addition, Malaysia supports the development of a regulatory framework to enable viable space-to-space operations (between both GSO and non-GSO service provider space stations and associated user non-GSO space stations) within the FSS allocation in the 18.1-18.6 GHz, 18.8-20.2 GHz (space-to-Earth) and 27.5-30 GHz (Earth-to-space) frequency bands, or parts thereof, while ensuring protection of, and not imposing additional constraint to the existing services in the same and adjacent frequency bands. Malaysia is also of the view that the introduction of space-to-space transmissions must ensure the same level of protection for GSO and non-GSO as currently provided in the Radio Regulations and must not impose new constraints on GSO networks and non-GSO systems to protect the inter-satellite links from interference. Considering the above, Malaysia is considering **Method B** to satisfy this agenda item. **ViaSat Views:** ViaSat concurs with the Malaysian position of favoring **Method B** especially in the operation of satellite-to-satellite links within the cone of coverage. Unnecessary restrictions of satellite-to-satellite links should be avoided. Non-GSO systems must not transmit towards GSO or other non-GSO satellites when it is within the 900-1290 km altitude range. It is noted that a number of unfounded claims of non-GSO satellite receiver hardware damage are to be rejected.
1.18	Considering the required studies under WRC-23 agenda item 1.18 was not fully completed and noting that this is a Region 1 and 2 issue, Malaysia is of the view that any possible regulatory actions and

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	allocation in Region 1 and Region 2 should not cause unacceptable interference and impose adverse impact on existing services in Region 3 in the identified frequency bands and the adjacent frequency bands.
1.19	Malaysia supports possible allocation to the FSS in Region 2 in the 17.3-17.7 GHz frequency band (space-to-Earth) while ensuring protection to existing allocations and services in the same and adjacent frequency bands in Region 3. Malaysia is of the view that the additional allocation to Region 2 shall protect the receiving space stations operating under RR Appendix **30A**. **ViaSat Views:** ViaSat views are aligned with the Malaysian position to support **Method B** to add new primary FSS (space-Earth) allocation in Region 2 in frequency band 17.3-17.7 GHz but at the same time ensuring non-GSO systems neither cause unacceptable interference nor claim protection from GSO networks under Article 22.

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7	**Topic A**	Malaysia supports the implementation of possible tolerances for certain orbital characteristics of non-GSO space stations of the fixed-satellite, mobile-satellite, or broadcasting-satellite services, that are not too stringent to allow proper deployment of the systems. **ViaSat Views:** ViaSat is of the view that tolerances should be narrow enough such that no single non-GSO system unduly consumes large portions of orbital resources which are supposed to be shared amongst other non-GSO systems. Similar to the Malaysian position, ViaSat favors **Method 2, Option A** in the CPM report that proposes a new WRC-23 Resolution of introducing non-GSO orbital tolerances for FSS/BSS/MSS non-GSO systems. ViaSat proposes for the apogee and perigee tolerance to be **+/- 5 km with, an inclination tolerance of +/- 0.1 degree.**
	Topic B	Malaysia supports **Method B2** for the development of post-milestone procedures to permit some operational flexibility in the maintenance of the non-GSO system while keeping reasonable alignment over time between the number of capable non-GSO system satellites deployed for a system, and the number notified in the MIFR.
	Topic C	Malaysia supports development of regulatory provisions in addressing the shortcomings and other issues with respect to the protection of GSO MSS networks from non-GSO systems, by extending the concept of RR No. 22.2 to GSO MSS with respect to non-GSO systems in the 7250-7750 MHz (space-to-Earth), 7900-8025 MHz (Earth-to-space), 20.2-21.2 GHz (space-to-Earth) and 30-31 GHz (Earth-to-space) frequency bands. **ViaSat Views:** ViaSat agrees with the Malaysian position to undertake **Method C2** to ensure the continued protection of GSO MSS systems especially at 30-31 GHz and 20.2-21.2 GHz frequency bands.
	Topic D	D1: Malaysia supports the modification to Appendix 1 to Annex 4 of RR Appendix **30B** to reflect the values of the minimum orbital separation as adopted by WRC-19. D2: Malaysia supports the modification of RR Appendix **4** to support the implementation of agreed revisions to the Recommendation ITU-R S.1503-3, including new data elements and modified data items.

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		ViaSat Views: ViaSat also concur with the Malaysian position to support the modification of RR Appendix 4. But, only if the Recommendation ITU-R S.1503-3 are done favorably, including closing the worst-case geometry loophole. If no agreement/consensus is reached on this item, the Agenda Item should be suppressed with no change to the RR. D3: Malaysia supports the addition of footnotes to the Radio Regulations providing a formal reminder of the deadline for informing the Bureau of completion of BIU/BBIU in cases not subject to RR No. **11.47** or RR Appendices **30/30A** § 5.2.7 or RR Appendix **30B** § 8.16, as applicable, and for bringing into use or bringing back into use initiated to be sent by the Bureau to the notifying administration.
	Topic E	Malaysia supports possible amendments to RR Appendix **30B** to better facilitate any new ITU Member States to obtain a national allotment by reconsidering the priority between the Article 7 requests and the application of Article 6 for additional systems.
	Topic F	Malaysia supports development of appropriate regulatory measure for facilitation of equitable feeder-link/uplink spectrum access while taking into consideration existing assignment and allotments in RR Appendices **30A** and **30B**. Malaysia further supports the development of a procedure that allows exclusion of the territory of an administration from the feeder-link service area of a satellite network of other administrations when requested.
	Topic G	Malaysia supports regulatory corrections and clarifications related to the implementation of the methodology contained in Resolution **770 (WRC-19)** before it can be consistently applied.
	Topic H	Malaysia supports the enhancement of the protection of Appendices **30/30A** in Regions 1 and 3 and Appendix **30B** for networks in the Plan and the List. Malaysia also supports reasonable solution in ensuring the reference situation is not degraded due to the concept of "implicit agreement" in AP**30/30A** and **30B**.
	Topic I	Malaysia supports the development of a regulatory solution based on specific agreement to allow an administration suffering from low reference protection margin for its national allotment under Appendix **30B** due to agreements under § _6.15 to retrieve adequate reference protection margin.
	Topic J	Malaysia supports possible modifications to Resolution **76 (Rev.WRC-15)** to introduce the concept of "consultation process/meetings" to collaboratively determine whether the aggregate interference levels in Tables 1A to 1D of the Resolution are exceeded.

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		ViaSat Views: While ViaSat recognizes the Malaysian position supporting the concept of "consultation process/meetings" to collaboratively determine whether the aggregate interference levels are exceeded, ViaSat considers that **Method J3** is a more comprehensive approach as the concept of "consultation process/meetings" are set with a specific Terms of Reference that includes a provision to treat multiple filings of the non-GSO system as a single system and allows active participation of GSO network operators.
	Topic K	Malaysia supports **Method K2** for the modification to Resolution **553 (Rev.WRC-15)** to remove certain restrictions in the Resolution that could prevent administrations from effectively using the Resolution.
General and Regulatory Issues		
2	Malaysia supports the examination and review of ITU-R Recommendations incorporated by reference in the Radio Regulations and, where appropriate, the updating of these references in accordance with Resolution **27 (Rev.WRC-19)**. Malaysia also has no objections regarding the updating of the most recent version of Recommendation ITU-R M.585 on "Assignment and use of identities in the maritime mobile service" (Recommendation ITU-R M.585-9) in the relevant references in the Radio Regulations.	
4	In accordance with the principle and intent of Resolution **95 (Rev.WRC-19)**, Malaysia supports modification or suppression, as appropriate, the Resolutions and Recommendations contained in Volume 3 of the Radio Regulations to ensure Resolutions and Recommendations of past WRCs remain relevant and kept up to date. **ViaSat Views:** ViaSat also supports the modification or suppression, as appropriate, the Resolutions and Recommendation contained in Volume 3 of the RR to ensure it is relevant and kept up to date. ViaSat would also like to take this opportunity to highlight and prevent possible misuse of Resolution 85 which may allow non-GSOs to submit new elements/input parameters which may bypass Recommendation S.1503 EPFD verification process *(i.e., parameters not approved by ITU SG 4 for inclusion in a revision of ITU-R S.1503 should not be accepted)* If Resolution 85 is proposed to be updated, the application of it should be limited to cases where changes in Recommendation S.1503 have been approved by ITU SG 4 but not yet implemented in a software tool. If the above limited application is not acceptable then ViaSat supports suppression of this Resolution as per the original intent of the Resolution.	

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8	Malaysia supports the principles and intent of Resolution **26 (Rev.WRC-19)** for administrations to remove their country footnotes or their country names associated with specific footnotes of the Table of Frequency Allocations in Article **5** of the Radio Regulations when no longer required. Malaysia does not intend to modify any footnotes where Malaysia's name has been included in footnotes at previous conferences.
10	Malaysia is of the view that proposals for agenda item 10 could be supported, subject to further studies and taking into account the potential coexistence with, and protection of the incumbent services. **ViaSat Views:** ViaSat rejects any proposals to modify Article 22, noting that APG23-5 received such proposal from one proponent and APG23-5 decided to not support such proposal and to not carry forward this topic. It is noted that WP4A also rejected such proposal. To ensure opportunities for competition and innovation, it is required that a known interference environment is maintained. To date, a huge amount of investment has been undertaken for existing as well as planned Ku and Ka band GSO-based networks and services relying on the existing EPFD framework as depicted in Article 22. Article 22 framework does not in any way "overprotect" Ku and Ka band GSO networks from non-GSO interference. In fact, the FCC found that the Article 22 provision that constrain non-GSO interference in actuality "*were not developed with the most advanced modern GSO systems in mind*".[1] Thus, ViaSat is opposed to any non-GSO efforts to seek new WRC-27 Agenda Item on Article 22 (EPFD limits).

[1] *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters,* 32 FCC Rcd 7809, ¶ 35 (2017).