Your response

The UK Space Agency inspires and leads the UK in space to benefit our planet and its people. UK Space Agency is an executive agency, sponsored by the Department for Business, Energy & Industrial Strategy.

The UK Space Agency supports a thriving space sector in the UK, which generates an annual income of £16.5 billion and employs 47,000 people across the country. Our role is to catalyse investment and growth, to deliver missions and capabilities meeting public needs, to advance our understanding of the Universe and champion the power of space to inspire people, offer greener, smarter solutions, and support a sustainable future. Our priorities, which are outlined in the National Space Strategy, include supporting UK launch services, taking a leading role in keeping space sustainable and accessible, delivering new telecommunications, Earth observation, climate science, space science and exploration missions, investing in new innovative technologies, boosting space investment and jobs across the country and inspiring new space customers, investors and the next generation.

Spectrum is key to delivering these priorities. Without assured access to sufficient, appropriate spectrum, new innovative satellite telecommunications services can not be delivered effectively. , Interference, particularly in spectrum used for science, must be avoided as this would put at risk our ability to observe the earth, monitor our climate and explore the solar system and beyond. Similarly, extreme space weather presents a significant threat to our modern society and establishing the regulatory status sensors used for space weather observations will aid in the protection of these sensors against interference.

Space is a global industry and the international regulations will need to adapt to support new-space applications. These innovative technologies will change how spectrum is used and shared. Sector growth should be accommodated, sustainably, into already crowded spectrum with any arising interference risks resolved. Filing and coordination procedures, based on the characteristics of traditional systems, are likely to need updating.

The UK Space Agency therefore welcomes this opportunity to comment on the proposed UK positions against the 2023 World Radio Conference agenda.

Question	Your response
Question 1: Do you agree with the prioritisation of the agenda items, as shown in Annex 5, and if not why?	Confidential? – N Not entirely. The majority of WRC23 agenda impacts space in some way, either as a benefit or as a risk so we need to take a view on what regulatory changes should go ahead, which should not and what constraints may be required. Firstly, as champions for the sector, UKSA naturally prioritises space related items, so our list of priorities will not completely align. That is not to say we disagree widely, in practice we align fairly well, but we would wish to prioritise several space issues more highly than they currently are in Annex 5. Additionally, some high

	priority items that do not involve space, (1.1, 1.5) while important to the UK, are not a high priority for space. Secondly also have an ongoing difficulty with the definition of "UK Priority" because as noted in the consultation, it can equally apply to something we do not want as something we do want. This means it is as much a metric for the effort likely to be required as it is a statement on the desirability of the outcome. Clearly this could result in misunderstandings. While we also consider agenda item 1.2 as a high priority, this because we are concerned about possible negative outcomes for space. We have held discussions with our industry stakeholders and the scientific community. We shared our prioritisation with Ofcom at the start of the cycle. As work has progressed our prioritisation has evolved. For reference our current prioritisation is shown below, noting prioritisation in this sense relates to both the desirability of the outcome that the space sector seeks convolved with the amount of effort we feel the agenda item will need to resolve. Low – 1.1, 1.5, 1.9, 1.10, 1.14, 9.1b Medium – 1.4, 1.6, 1.11, 1.12, 1.13, 1.16, 1.18, 1.19, 9.1d High – 1.2, 1.3, 1.8, 1.15, 1.17, 7, 9.1a, 9.1c, 10
Question 2: What are your views on the continued need to protect global aeronautical and maritime services, in the 4.8 – 4.99 GHz band, under this agenda item?	Confidential? – N This agenda item does not appear to be a space issue and consequently we do not have a strong view. Our interest is in ensuring no consequential adverse impact on space services (FSS, AMS(R)S, RNSS) in the adjacent bands Confidential? – Y We noted the statement "that any decisions the UK might take around domestic or national plans for this band are not wholly predicated upon WRC decisions". Our understanding is this always applies, so we are wondering why this agenda item was singled out. Did we miss something here that might impact space?

Question 3a: Do you agree that the UK interest in the bands 3 600-3 800 MHz and 3 300-3 400 MHz in Region 2 (North & South Americas) should be limited to any impacts on UK operational use in those areas?	Confidential? – N This relates to satellite C-band and extended C-band. UKSA do not support Ofcom's proposal to not oppose IMT identification. It is important that this spectrum remains viable for satellite services globally. We do not agree that the UK should only consider UK operational use. Our industry needs the UK administration to take a position supporting all our operators' interests. These bands should not be identified for IMT in any region, to ensure the long-term protection of global satellite services in these bands. We understand this may be difficult given previous decisions around national use. We made this point in the earlier consultation around Ofcom's decision to remove all protection of space services from this band within the UK. At that time, we identified a risk that this would mean the UK would find it difficult to continue to support the protection of satellite industry interests elsewhere. Ofcom will nevertheless need to find a way to overcome this difficulty in order to fully support UK space sector interests.
Question 3b: Do you agree that the UK should maintain its objections to changes to the regulatory environment for the band 3300-3400 MHz (in Region 1, Europe, Africa, Middle East), noting UK has interests in use of radar for both ground and airborne operations?	Confidential? – N This is not a space issue. However, the UK NovaSAR satellite is successfully using the adjacent 3 100 – 3 300 MHz secondary EESS (active) allocation. Clearly systems operating in secondary allocations cannot seek protection from adjacent primary services, but mobile is also secondary in 3 300 – 3 400 MHz and we would not wish to see any change in relative status arising from regulatory changes under this agenda item.
Question 3c: What is your view on the use of 6425-7025 & 7025-7125 MHz, and what evidence do you have to support this view? How does that inform your views on a IMT identification in these bands?	Confidential? – N Resolution 245 limits the sharing and compatibility studies under this agenda item to those services allocated on a primary basis. EESS (passive) operates in 6 425 – 7 075 MHz and 7 075 – 7 250 MHz on a secondary basis under footnote 5.458. Although Resolution 245 limits the sharing and compatibility studies under this agenda item to primary services, we support

	studies in WP7C on mitigating the potential negative impacts to sea surface temperature measurements in 6 425 – 7 125 MHz. The 7 GHz band is optimum for these measurements. It is less impacted by other factors like windspeeds. Proposals have been made around finding alternative bands between 4 GHz and 10 GHz, however a change to an alternative band would cause problems to missions under development. Japan and ESA are developing sensors due to launch in 2023 and 2028 respectively. A change to an alternative band could also compromise the consistency of long-term measurement data sets. Any potential identification to IMT in 7 025 – 7 125 MHz should adequately protect and should not impose any additional regulatory or technical constraints on SRS/SOS. Studies show the potential interference from SRS deep space emissions into IMT base station receivers in 7 145 – 7 190 MHz may require large coordination distances. Studies on compatibility between IMT in 7 025 – 7 125 MHz and SOS in 7 100 – 7 155 MHz have not yet completed but may also require significant coordination distances.
Question 3d: What are your thoughts on the current UK view that IMT should not be identified in Region 2 in the band 10-10.5 GHz in order to ensure the protection of the globally operating EESS (active) systems and airborne & vessel mounted radars?	Confidential? – N We support this view. While this may not appear to impact the UK due to being in Region 2, it is of interest because of the need to protect EESS (active) services operating in 10.0 – 10.4 GHz and EESS (passive) services operating in 10.6 – 10.7 GHz. The passive band is extensively used for global climate and sea state measurements and this data feeds into operational weather forecasting and UK have invested in sensors and systems. At WRC-15 the international community recognised the necessity of increasing the bandwidth assigned to SAR in X-Band to up to 1200 MHz (9.2 – 10.4 GHz) to perform acquisition at higher resolution (up to 25-cm resolution). This resolution enables recognition of objects on ground and greatly improved worldwide digital elevation products needed for better modelling hydro-layers and for evaluating safe urban development in the context of climate change. Missions are now being developed to exploit the increased bandwidth made available at WRC15.

	Several of these have UK industry interest (HRWS, PAZ-2, Kompsat-8) and we have interests in the data from partners missions' in Italy and the US.
Question 4: Do you agree that, where no additional technical limitations are placed on mobile services, the UK can support an upgrading of the mobile allocation, in 3600 - 3800 MHz, from secondary to primary?	Confidential? – N No, for the reasons given in our response to Q3a above around the long-term future protection of satellite services in C-band, we do not agree with a proposed upgrade to primary for the mobile service in 3 600 – 3 800 MHz. We see no reason for the UK to support this as it will have no impact on our national arrangements and can only damage our space sector interests outside the UK. UKSA hope the UK administration will be able to support wider UK interests in the space sector. The contradictory messaging referred to under 4.3.3 is a direct consequence of earlier Ofcom decisions which UKSA opposed at the time, citing the likelihood of these contradictions as a consequence.

Question 5: What are your views on the development of regulatory conditions to facilitate deployment of high altitude IMT base stations in IMT identified bands below 2.7 GHz?	Confidential? – N As Ofcom note, HIBS present an opportunity to extend coverage into areas lacking terrestrial infrastructure. We have studied the bands under consideration and have concerns around potential impact to Metsat and EESS/SRS/SOS that would require regulatory conditions to resolve: • Protecting Metsat systems in 1 695 – 1 710 MHz band, will need links to HIBS in 1 710 – 1 785 MHz to be limited to the uplink direction. • Protecting SRS in 2 110 – 2 120 MHz, and EESS/SRS/SOS in 2 025 – 2 110 MHz, will need HIBS operating in 2 110 – 2 170 MHz to be limited to the downlink direction. Recommendation ITU-R M.1036 does not guarantee this directionality so regulatory changes would be needed.
Question 6: Do you agree that a formal modification to the Radio Regulations is not needed for fixed service applications that use IMT technologies?	Confidential? – N Yes. This agenda item is of concern because many of the FS bands in scope are shared with or are adjacent to space service allocations. This agenda item has the potential to change coexistence conditions and impact multiple services across many frequency bands. We therefore support a no-change position against 9.1.c
Question 7: What are you views on the proposed approach for 470-694 MHz, recognising the national decisions already in place and taken for DTT multiplex licensing in the band, and the additional and supplementary spectrum made available for UK PMSE usage?	Confidential? – N This agenda item does not appear to be a space issue and consequently we do not have a strong view. Our interest is in ensuring no adverse impact on space services in adjacent spectrum.
Question 8: What are your views on the need to establish an international regulatory environment that provides adequate protection of UK fixed links from earth stations in motion, in the band 12.75 – 13.25 GHz, which is also practicable from an enforcement/implementation perspective?	Confidential? – N We support regulatory changes under 1.15 to enable ESIM operation in 12.73 – 13.25 GHz while protecting existing satellite services. We agree with CEPT view that the proposed protection limits are adequate and do not believe additional regulation is necessary to

	protect high availability fixed links sharing the band in the UK which operate with significant margins. The best way to ensure limits are met will be for them to be internationally harmonised. Restricting use in UK would deny UK consumers access to these improved broadband services while in UK airspace and would disadvantage UK service providers intending to offer broadband services to passengers. In addition to the fixed links, EESS (active) operates in the adjacent 13.25 – 13.75 GHz band. Protection of these systems is important as sensors are used operationally for measurements of oceanic wind speed. The current studies in WP4A/WP7C have concluded compatibility is achieved with no additional regulatory provisions needed.
Question 9: Do you agree that the UK continues to support the maritime distance figure for ESIMs that work to non-geostationary satellites and to test the other conditions agreed at WRC-19 for ESIMs working to geostationary satellites to ascertain whether these remain appropriate for non-geostationary satellites?	Confidential? – N UKSA supports extension of the use of the 18 and 28 GHz bands to non-GSO FSS ESIM and encourage Ofcom to support this. We consider this extension to be important to several UK operators who are developing NGSO constellations. We do not comment on the maritime distance limit but note that: • GSO services will need to be protected. • Appropriate out of band limits will be required to protect of EESS (passive) in 18.6 – 18.8 GHz. ITU-R studies indicate that this would require an OOB limit of -126.4 dBW/m^2/200 MHz.
Question 10: What are your views on whether an allocation to inter satellite links is necessary for existing satellite allocated bands and whether this would provide benefits internationally?	Confidential? – N UKSA supports an allocation to the inter-satellite service under agenda item 1.17 with the development of technical conditions and regulatory provisions that should not result in additional constraints to existing FSS applications. The potential beneficiaries of these links have been identified as earth observation and space science missions. Inter-satellite links could overcome the limited time that LEO satellites are in range of ground stations during each orbit.

	Further use cases for these likes may emerge and it is important that new inter-satellite links adopt the same directionality as existing FSS allocations, with the lower satellite taking the place of a station on Earth. Out of band limits will be required to protect of EESS (passive) in 18.6 – 18.8 GHz. ITU-R studies indicate that this would require an OOB limit of -126.4 dBW/m2/200 MHz.
Question 11: What are your views on the need for additional satellite allocations in support of narrowband IoT "M2M" type applications, noting that there remains the continued use of PMSE for wireless cameras in the band 2010 – 2025 MHz?	Confidential? – N UKSA support additional allocations under this agenda item as it would enable new M2M/IOT applications and provide commercial opportunities for UK satellite operators. Any consideration of specific spectrum for narrowband satellite IoT should be backed up by studies that demonstrate compatibility with existing space services including EESS, SOS, SRS and Metsat. Unfortunately, at this time these studies have not been completed which may result in a 'No Change' outcome at WRC23. UKSA have no interest in wireless cameras but consider the use of this spectrum for PMSE is a European matter that in the unlikely event of interference, could be resolved through regional licensing constraints. Existing PMSE use in 2 010 – 2 025 MHz may not present a barrier to supporting wider UK interests and opportunities.
Question 12: What are your views on the proposed approach to this agenda item concerning the fixed satellite service in 17.3-17.7 GHz in Region 2?	Confidential? – N Our initial view, following discussions with industry stakeholders was a successful resolution could open new business opportunities for UK operators providing services in Region 2. The space sector is a global business, and the UK receives benefit from UK industry activities in all three regions. We therefore identified this as 'medium' priority. Noting Ofcom observations that following WRC19 there has not been a strong industry lobby in support of this allocation, we agree this has not emerged as a priority. In the event UK operators were to indicate support, we and we would hope Ofcom will revisit the current neutral position.

Question 13a: On Topic B, what are your views on the post milestone procedures for non-geostationary satellite systems?	Confidential? – N UKSA agree with the proposed position to develop a post milestone procedure, but have concerns around the potential expansion of the scope beyond the frequencies and services identified in Resolution 35 (WRC19).
Question 13b: On Topic L, what are your views on regulatory conditions for Telemetry, Tracking and Command (TT&C) for NGSO in-orbit servicing?	Confidential? – N UKSA support this proposed clarification. The UK National Space Strategy, published in September 2021, identifies new space activities in on-orbit servicing, assembly and manufacture (IOSM) as a priority focus for the UK. We agree such operations can be classed as and operate under the Space Operation Service, but it is usual for some satellites to operate their TT&C in the spacecraft service allocations (e.g. FSS, MSS, BSS EESS, SRS) and we have concerns that changes to rules and procedures intended to address other issue but not inadvertently impact IOSM operations.
Question 13c: What are your views on the remaining topics currently listed for Agenda Item 7?	Confidential? – N At the moment we are following these and support the current UK position in IFPG WG3, noting that AI7 topics can have significant impacts on UK satellite stakeholders. Specifically on Issue A (Tolerances), UKSA supports UK position and to ensure that this will not apply to science services nor inadvertently constrain in-orbit servicing, assembly and manufacturing activities.
Question 14: Noting that any UK position will be developed only after the ITU Plenipotentiary Conference, do you have any comments relating to the use of Article 48 that may be addressed at WRC-23?	Confidential? – N Not at this time. UKSA will take a view, if needed, once the outcome of PP-22 is known.
Question 15: What are your views on the need to establish an international regulatory environment for sub-orbital vehicles, which at the same time does not limit flexibility of	Confidential? – N The UK have prioritised launch from UK soil in the national space strategy. Potentially these facilities could also become important for sub-orbital. We are working closely with the CAA and

spectrum options, and retains international safety considerations?	Ofcom, supporting the development of an appropriate regulatory environment for sub-orbital vehicles. This should not constrain the operation of launch vehicles or sounding rockets and should avoid negative impacts on other services. Having discussed this within SFCG, UKSA considers approach A of Method B in the current Draft CPM text as the preferred option as it is limited to specific frequency bands and will not apply to launch systems operating under the space operations service.
Question 16: Do agree that where the adjacent band compatibility issues are addressed and ICAO coordination processes are not compromised, that the addition of an aeronautical satellite (AMS(R)S) allocation to the band can be supported?	Confidential? – N Yes.
Question 17: Do agree that functions related to international aviation safety are a matter for ICAO? On this basis, and absent any contrary information from ICAO, should the UK support the development of an international spectrum regulatory framework for UA use of FSS that would support efficient use of spectrum?	Confidential? – N No view.
Question 18: Recognising the recent diminishing industry interest in this item relating to possible modification of the aeronautical HF assignment plan, and the general lack of global interest, do you agree that UK move towards a No Change proposal under this agenda item?	Confidential? – N No view.
Question 19: What are your views on the need for additional spectrum, specifically in the 15 and 22 GHz bands, for non-safety aeronautical use?	Confidential? – Y / N We support additional spectrum as long as any regulatory changes made under this agenda item should ensure the protection of the adjacent 22.21-22.5 GHz EESS (passive) allocation. Method C or D in the draft CPM text would allow this as long as the proposed footnote contains appropriate unwanted emission limits. Studies indicate a value of -23dBm / 100 MHz will be required to protect EESS passive in the adjacent band.

Question 20: What are your views on Agenda Item 1.11 and the proposed UK position to support modernisation of GMDSS?	Confidential? – N No view.
Question 21: What are your views on the approach to the review of 1240-1300 MHz, recognising that discussions concerning future satellite navigational needs for the UK are a matter for Government?	Confidential? – N We support the development of appropriate technical conditions on the amateur service to protect RNSS. Harmful interference between RNSS and EESS/SRS (active) in 1215 – 1300 MHz is not expected to be an issue but it is important that any regulatory changes made under this item will not adversely impact EESS/ SRS (active) operations.
Question 22: What are your views on a new spectrum allocation in the 40-50 MHz range to support and enhance climate monitoring, such as, environmental shifts in ice sheets?	Confidential? – N UKSA supports this proposal. Monitoring of ice sheets from space is important in understanding the climate change. As referenced in Resolution 656, these measurements would compliment current measurements at 435 MHz and 1 250 MHz, allowing a greater penetration depth. The sharing and compatibility studies show positive results with a low likelihood of harmful interference.
Question 23: What are your views on upgrading the Space Research Service allocation, from secondary to primary, in the 14.8-15.35 GHz band?	Confidential? – N UKSA supports this proposal which will provide regulatory certainty and enable higher capacity data downlinks from future space science missions. Owing to the lack of operational characteristics for EESS/SRS missions, compatibility with existing EESS (passive) services in the 15.2 – 15.35 GHz band and SRS (passive) services 15.35 – 15.4 GHz band is not considered a priority. Suitable out of band emission limits may be required to protect radio astronomy in the adjacent 15.35 – 15.4 GHz band.
Question 24: What are your views on the potential for defragmentation in this band to facilitate both EESS (passive) use and provide for larger contiguous blocks for fixed & mobile allocations?	Confidential? – N UKSA supports a new primary allocation to EESS (passive) in the 231.5-252 GHz frequency range under AI1.14. This will accommodate requirements for ice cloud measurements and an associated shift of the allocations in this

	range, which were agreed many years ago to better match current operational requirements. We agree the proposed defragmentation of the band may be beneficial to the fixed and mobile services, providing more contiguous spectrum and an additional 1.2 GHz of bandwidth, but note that in 235-238 GHz, avoiding undue constraints on the fixed and mobile services would require limiting the protection of existing EESS (passive) sensors to limb sounding only.
Question 25: Do you agree that formal international recognition for Space Weather Sensors should be implemented in the Radio Regulations?	Confidential? – N UKSA support this proposal, having worked with Ofcom and the Met Office to facilitate it. We support the UK proposal to make suitable changes in Article 1 and 4 at WRC23 and to seek a future agenda item for WRC27. The risks arising from severe space weather are recognised in the National Risk Register and the importance of space weather forecasting is noted in the Integrated Review, the National Space Strategy and the Sever Space Weather Preparedness Strategy. Currently, spectrum used for operational space weather monitoring is not recognised within the radio regulations.

Question 26: What are your views on the limits proposed to protect EESS (passive) under Agenda Item 9.1 topic d) and do you have any views on which of these limits might be accommodated in the Radio Regulations and how?	Confidential? – N UKSA support the application of limits to ensure the protection of EESS (passive) sensors operating in the 36 – 37 GHz range. UKSA also considers while this protection needs to be effective, it should be proportionate and not overly constrain the operation and growth of non-GSO FSS constellations. ITU studies in WP7C indicate that unwanted emission limits on non-GSO FSS systems in the band 37.5 – 38 GHz will be needed to protect EESS (passive) in 36– 37 GHz. The potential for interference depends on the non-GEO FSS constellation size and on its relative altitude compared to the EESS (passive) sensors, which typically operate between 400 and 1000km. Where FSS satellites are below the EESS satellites, interference may occur into the EESS sensor which looks towards the earth. If the FSS satellite is above the EESS satellite then there may be interference into the EESS sensor's cold calibration channel which looks upwards into space. These limits could take the form of unwanted emission power limits implemented through footnotes to allocations in Article 5. The ITU studies have indicated an unwanted emission power limit of -29 dBW/100MHz in 36 – 37 GHz would be required to protect EESS from non-GSO FSS operating in the 37.5 – 38 GHz band.
Question 27: Do you agree that the formalised time reference in common global use, is not a matter of spectrum regulation?	Confidential? – N No view.
Question 28: Do you have any comments concerning the Standing Agenda Items, where not covered elsewhere in this document?	Confidential? – N No view.
Question 29: Do you have a view on any of the footnotes to which UK is a party?	Confidential? – N No view
Question 30: Are you aware of any specific issues, not covered elsewhere in this document, which are likely to be raised in	Confidential? – N

this part of the Director's Report and of which you think Ofcom should be aware?	
Question 31: Do you have any comments on Agenda Item 9.3 considering Resolution 80?	Confidential? – Y
Question 32: What changes to the Radio Regulations have you identified that would benefit from action at a WRC and why? Do you have any proposals regarding UK positions for future WRC agenda items or suggestions for other agenda items, needing changes to the Radio Regulations, that you would wish to see addressed by a future WRC?	Confidential? – N **Future agenda items already included in the preliminary WRC27 agenda under item 2.** **Agenda Item 2.1** Addresses additional allocations to the radiolocation service and sub-millimetre wave imaging systems in 275-700 GHz. UKSA wishes to emphasise the importance of the protection of existing and future space science use of spectrum in the 275-700 GHz range, identified under footnote 5.565. This should include any changes arising under WRC23 AI 1.14. **Agenda Item 2.2** Proposes introducing aeronautical and maritime Earth stations in Motion (ESIM) in 37.5 39.5 GHz, 40.5-42.5 GHz, 47.2-50.2 GHz and 50.4-51.4 GHz UKSA supports this agenda item, which provides new opportunities for UK operators, but notes appropriate protection of the important space science services also operating within these bands and in adjacent bands should be ensured. **Agenda Item 2.3** addresses potential allocation 43.5-45.5 GHz to the fixed-satellite service. UKSA can support this agenda item if it has the support of UK satellite operators. Protection of adjacent science services **Agenda Items 2.4, 2.5 and 2.7** address the 71-76 GHz and 81-86 GHz bands. 2.4 Addresses Pfd and e.i.r.p. limits in Article 21 2.5 Addresses compatibility between active and passive satellite services 2.7 Addresses non-geostationary FSS feeder links

	UKSA considers if either AI 2.4 or AI 2.7 is included on the WRC27 agenda then AI 2.5 would also need to be included to take into account the protection of the EESS (passive) allocation in 86-92 GHz which is extensively used for climate remote sensing applications. Noting the increased interest in the use of bands above 71 GHz by active services, UKSA supports extending the scope of AI 2.5 to extend Resolution 750 to include additional unwanted emission limits applicable to passive bands above 71 GHz. Although WRC19 modified Resolution 750 to introduce limits for 86-92 GHz these limits only apply to the fixed service. **Agenda Item 2.6** (Recognition of space weather sensors) UKSA supports as a priority a WRC27 agenda item covering appropriate recognition and protection of space weather sensors, which provide data critical to mitigating the impacts of space weather. This is a continuation of the work under WRC23 AI 9.1, which can not make regulatory changes. **Agenda Item 2.8** addresses space-to-space links for the mobile-satellite service around 1.6 GHz and 2.5 GHz. UKSA supports this agenda item as it will enable new applications and make better use of existing MSS allocations. However the bands under consideration still need to be finalised in order to limit the scope. **Agenda Item 2.9** addresses additional allocations to the mobile service in 1300-1350 MHz UKSA do not support the inclusion of this agenda item. This band is allocated to the Radionavigation Satellite Service on a primary basis and is also used by terrestrial radar and for radio astronomy. Studies in WRC15 indicated sharing with IMT was not feasible and it is likely the same conclusion will be drawn for sharing with the Land Mobile Service. However, if this agenda item does go ahead, UKSA would wish to emphasis the importance of protecting existing and future RNSS services and

	EESS Active services operating in 1250-1300MHz **Agenda Item 2.10** addresses VHF maritime frequencies UKSA has no view. This is not related to space services. **Agenda Item 2.11** proposes a new EESS (Earth-to-space) allocation in 22.55-23.15 GHz. UKSA supports this agenda item which addresses a lack of EESS uplink capacity. **Agenda Item 2.12** addresses UHF IMT No view. This is not a space issue. **Agenda Item 2.13** addresses narrowband mobile-satellite systems in the range 1.5-5 GHz. UKSA supports this proposal, which will support IOT satellite applications, as long as the range of bands under consideration is appropriately limited. **Future agenda items not included in the preliminary WRC27 agenda.** **Agenda Item [Lunar surface spectrum allocations]** UKSA are working with partner space agencies through the Space Frequency Coordination Group (SFCG) in a possible future agenda item addressing possible allocations for lunar surface-to-surface radiocommunication. Regulation here will become increasingly important as we return to the moon. **Agenda Item [Sea Surface Temperatures 4-10 GHz]** As noted in our response against Question 3c, regulatory action may be needed to identify alternative frequencies in the 4-10 GHz range in order to mitigate the potential negative impact on EESS (passive) sea surface temperature measurements around 7 GHz arising from a IMT identification under WRC23 AI 1.2.

	3.2.2 IMT 2030 and beyond The UK Space Agency are concerned by recent proposals for an agenda item on IMT identification covering wide frequency ranges e.g. 7-24 GHz. This agenda item is far too wide in scope and would create an enormous amount of work in addressing compatibility with the many services operating in this range.
Question 33: What are your views on the use of IMT stations that use antennas that consists of an array of active elements, in bands shared with satellite services?	Confidential? – N We support the UK position that limits should be based on the power radiated by the entire antenna. We do not support any reduction in the protection afforded to satellite services under this agenda item.

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