

Your response

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<p>Question 1: For future outdoor use of 26 GHz, do you agree that the proposed exclusion zones will provide appropriate protection to the 6 radio astronomy sites? If not please explain your reasons for this providing any supporting evidence.</p>	<p>Confidential? – No</p> <p>No comment</p>
<p>Question 2: For indoor use of 26 GHz, do you agree that additional measures are not needed to protect radio astronomy sites and that we should remove the existing 1 km exclusion zone around Jodrell Bank and Cambridge from the current 26 GHz indoor-only shared access licence product? If not, please explain your reasons for this providing any supporting evidence.</p>	<p>Confidential? – No</p> <p>No comment</p>
<p>Question 3: Do you agree with our proposal to limit the number of 26 GHz base stations in 24.25-25.05 GHz to protect EESS (passive) use at 24 GHz? If not, please explain your reasons for this providing detailed supporting evidence.</p>	<p>Confidential? – No</p> <p>UK Space Agency would like to thank Ofcom for the detailed analysis and opportunity to comment. Our primary concern is that there be no harmful interference to current and future EESS (passive) sensors arising from IMT deployments in adjacent spectrum. Therefore, UK Space Agency consider it important to ensure protection limits are not exceeded and we support Ofcom in taking actions to achieve this.</p> <p>We agree that limiting the number of base stations in order to protect EESS (passive) from their out of band emissions would be beneficial.</p> <p>A cautious and conservative approach is necessary. The measurements made in the passive bands adjacent to 26 GHz are crucial for operational weather forecasting and climate monitoring. Any interference, even at a low level, may compromise the monitoring of long</p>

	<p>term changes in climate. Low level interference introduces subtle measurement errors that may prove difficult to detect. These errors lead to forecast inaccuracies and could open evidence of climate change to challenge. Such interference may also prove extremely difficult to rectify retrospectively.</p> <p>We recall the original UK and CEPT position for WRC19 sought a -42 dBW/200 MHz limit. This limit was already ten times above the level the EO community considered necessary.</p> <p>The WRC19 compromise of -33dBW/200MHz reducing to and -39 dBW/200 MHz by 2027 was not supported by the EESS experts because, even if met, is risked deployments, especially early deployments, rendering future measurement data unusable over land.</p> <p>To address this, immediately post WRC19 we agreed within the UK that the more stringent limits would apply from 2024 rather than 2027. This position was also adopted by CEPT. This will help mitigate the problem to an extent, but given the sensitivity of this data, UK Space Agency would still prefer UK deployments strive to meet the more stringent -42 dBW/200MHz limits from the outset as far as this is possible.</p> <p>In practice this would mean reducing the number of base stations able to deploy in some areas, but we believe this would still allow 5G systems to operate effectively. Further mitigation, including reducing base station maximum radiated power, may also be appropriate.</p>
<p>Question 4: Do you agree with the technical analysis set out in Annex 2? If not, please explain your reasons for this providing detailed supporting evidence.</p>	<p>Confidential? – No</p> <p>We have not been able to verify the assumption that contributions from indoor deployments and from systems operating above 25.05 GHz can be safely neglected. We would like to see these assumptions confirmed by technical experts in ESA and EUMETSAT.</p> <p>UK Space Agency request Ofcom work together with ESA and EUMETSAT to confirm these proposals will be effective in protecting EESS and will support this collaboration.</p>

The presented analysis introduces several factors that together act to further reduce protection against the -39 dBW/200MHz criteria.

UK Space Agency does not support adopting a level of -37 dBW/200 MHz proposed in Annex 2 nor of effectively banking the "2dB margin" by which systems typically exceed the specification as implied in A2.64.

Our reasoning is that this margin is not guaranteed. Similar arguments around equipment in practice always exceeding specifications, were factored into the original argument at WRC19 to reach the agreement on -39 dBW/200MHz. Repeating this would be double counting.

UK Space Agency can only support the assumption of a 4 dB drop for each additional 200 MHz of frequency separation on the condition the OOB emission mask that defines this roll-off is a mandatory requirement. Currently the limits are defined by the level of radiation into the passive band. Systems operating further up the band will already have factored this into their design.

The net result of these assumptions when used in the analysis, presents a significant dilution of the protection necessary to protect critical EESS measurements.

UK Space Agency consider it would be better to take a more conservative approach. Any relaxation should occur only when sufficient operational experience indicates this is justifiable.

We request Ofcom repeat the analysis without adding these additional factors. This will show what the actual impact of adopting a more conservative approach to providing protection would be on IMT deployments.