

Consultation response form

Please complete this form in full and return to 14ghz@ofcom.org.uk.

Consultation title	More spectrum for satellite connectivity – Extending access in the Ku band (14.25-14.5 GHz)
Full name	Robert Massey
Contact phone number	07802 877699 / 020 7292 3979
Representing (delete as appropriate)	Organisation
Organisation name	Royal Astronomical Society
Email address	rmassey@ras.ac.uk

Confidentiality

We ask for your contact details along with your response so that we can engage with you on this consultation. For further information about how Ofcom handles your personal information and your corresponding rights, see [Ofcom's General Privacy Statement](#).

Your details: We will keep your contact number and email address confidential. Is there anything else you want to keep confidential? Delete as appropriate.	Nothing
Your response: Please indicate how much of your response you want to keep confidential. Delete as appropriate.	None
For confidential responses, can Ofcom publish a reference to the contents of your response?	N/A

Your response

Question	Your response
Question 1: Have you identified an alternative use for the 14.25-14.5 GHz band which could lead to greater benefits for consumers and citizens than our proposal to extend satellite ESN authorisations? Please provide evidence to support your comments.	<p><i>Is this response confidential? – N</i></p> <p>No, as the use of the 14.47-14.5 GHz by radio astronomy is identified by OFCOM in the consultation document. We very much welcome the detailed proposals to protect the</p>

	operation of radio observatories and the science of radio astronomy.
Question 2: Do you agree with our proposal to extend access in the 14.25-14.5 GHz band for satellite connectivity, for future broadband, air, sea, energy and transport uses? Please provide evidence to support your comments.	<p><i>Is this response confidential? N</i></p> <p>No comment</p>
Question 3: Do you agree with our proposed protection requirements for a) radio astronomy users of 14.47-14.5 GHz; b) remaining fixed link users (at specified frequencies and locations) and c) Crown users?	<p><i>Is this response confidential? N</i></p> <p>The protection measures proposed for in-band signals, including the 175 km protection zones around radio observatories and the restrictions on the use of the upper 30 MHz of the band by aircraft, seem appropriate and well supported by previous studies and calculations.</p> <p>The RAS welcomes these, including the protection of the Jodrell Bank Observatory and Cambridge sites in the UK at the 'single dish' level, and consideration of the e-MERLIN interferometer network.</p> <p>We note too that all of the e-MERLIN sites except Defford would be equipped with receivers covering 14.25-14.5 GHz once funding becomes available, and that STFC have indicated that this would be a high priority item for future e-MERLIN funding.</p> <p>While e-MERLIN operates <i>primarily</i> as an interferometer, which may reduce the protection threshold, any of the telescopes may be used in single dish mode or they may be used together without correlation.</p> <p>For this reason, it is desirable to protect all sites (except Defford) at the single dish level and once funding is approved for a wider roll-out of receivers we would be keen to achieve such protection.</p>
Question 4: Do you agree with our proposed authorisation approach and draft licence conditions for a) ESN licences, and b) other licensees wishing to take advantage of enhanced satellite connectivity (i.e. aircraft, ships, unmanned aircraft systems).	<p><i>Is this response confidential? N</i></p> <p>No comment</p>
Question 5: Do you have any other comments on our proposals?	<p><i>Is this response confidential? N</i></p> <p>Radio interference from satellite constellations is a significant challenge for radio astronomy,</p>



both in uplink and downlink transmissions. The UK invests in this fundamental science through research grants and capital investment in national and international facilities such as e-MERLIN and the Square Kilometer Array.

It is vital that radio astronomy facilities are able to operate at full capacity, which means affording them adequate protection from radio interference from terrestrial and space-based sources. We therefore recommend that radio astronomy observatories continue to be considered as important radio spectrum users and that this is reflected in future spectrum use proposals.

For our part, the Society will continue to consult (at a minimum) with its satellite constellation working groups and its governing Council, in order to gather the expert input needed to shape our responses to forthcoming consultations.

Please complete this form in full and return to 14ghz@ofcom.org.uk.