

Consultation response form

Question	Your response
Question 1: Do you agree with our proposed additional technical conditions for using 2.6 GHz D2D services in order to protect 2.7-3.1 GHz radars?	Confidential? – N No comments at this stage.
Question 2: Do you have any comments relating to the proposed licence conditions?	Confidential? – N Yes. Ofcom has proposed to authorise the use of mobile service bands used by the UK's mobile network operators (MNOs) by satellite D2D service through variation of the existing MNO licenses¹ ahead of the CEPT harmonised framework. Viasat, Inc. ("Viasat") notes Ofcom's decision that the provision of satellite D2D services in the bands which are already licenced to terrestrial mobile services in the UK <i>"shall not cause or contribute to harmful interference to any wireless telegraphy."</i>² According to Wireless Telegraphy Act 2006³, <i>"interference is harmful if –</i> <i>(a) it creates dangers, or risks of danger, in relation to the functioning of any service provided by means of wireless telegraphy for the purposes of navigation or otherwise for safety purposes; or</i>

¹ See Draft license variation schedule, <https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-1-10-weeks/consultation-enabling-satellite-direct-to-device-services-in-mobile-spectrum-bands/main-documents/draft-d2d-a3-licence-variation-schedule.pdf?v=402571>.

² Id. Section 2.

³ See Wireless Telegraphy Act 2006, <https://www.legislation.gov.uk/ukpga/2006/36/data.pdf>.

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	<i>(b) it degrades, obstructs or repeatedly interrupts anything which is being broadcast or otherwise transmitted—</i> <i>(i) by means of wireless telegraphy;</i> <i>and</i> <i>(ii) in accordance with a wireless telegraphy licence, regulations under section 8(3) or a grant of recognised spectrum access or otherwise lawfully.”</i> We support this very important and fundamental condition. The question of enforcement of this condition, however, might require further elaboration in the license variation conditions and clarification from Ofcom. Section 3 of the draft license variation schedule requires that: <i>“[p]rior to providing the D2D services, the Licensee shall procure (by entering into a contract with the undertaking operating the mobile satellite system) that the undertaking complies with the provisions set out in paragraphs 6 – 13. In the event that this contract terminates for whatever reason, the Licensee shall cease to provide D2D services.”</i> Notably, the MNO does not directly control the operation of the satellite, and the draft license variation schedule does not oblige the undertaking operating the satellite system to immediately cease transmission from satellites or take other measures in situations where interference is caused to other users. Consistent with Ofcom’s approach to non-geostationary (“NGSO”) satellite earth stations, Viasat recommends that Ofcom ensure that an MNO, as the service provider, have the ability to control the satellite system to stop interference to other spectrum users. For example, Ofcom’s NGSO satellite earth stations licensing guidance requires that the <i>“NGSO Network licence should be held by someone who has control over the whole satellite network (including associated user terminals and gateway earth stations).”</i>

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	Section 7 of the draft license variation schedule also requires that: “[t]he D2D services shall operate on a non-interference, non-protection basis. For the avoidance of doubt, this means that the D2D services must not cause undue interference to other authorized uses of radio spectrum and that no claim of protection can be made if interference is received from another authorised device or service.” Viasat requests that Ofcom explicitly provide that this obligation includes protecting Mobile Satellite Service (“MSS”) terminals operating adjacent frequency blocks to the terrestrial mobile service allocations identified for IMT. Viasat does not support the operation of D2D over satellite in IMT spectrum under No. 4.4 of the ITU Radio Regulations (ITU RR). Among other things, it is not clear how that could occur in compliance with co-ordination and sharing procedures, as such services are permitted on a non-interference, non-protection basis only. If Ofcom nevertheless considers allowing such operations under ITU-R RR 4.4, Viasat urges that demonstration of non-interference shall be provided, reviewed, and approved prior to starting operations. Operation under ITU RR No. 4.4 means that interference must not be caused to any station operating in accordance with the Radio Regulations in other countries. Technical studies are required to determine the required limits to ensure that no interference is caused to other users, both within the UK and abroad. In most cases, the entity claiming operation under ITU-R RR 4.4 may not even be aware of the specific services operating in the UK that must be protected.
Question 3: Do you have any comments on our drafting of the Proposed Regulations? Please give reasons supported by evidence for your views.	Confidential? – Y / N No comments at this stage.
Question 4: Do you have any comments relating to any other	Confidential? – N

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matter in this Notice of Proposed Regulations?	Satellite D2D services are already provided in frequency bands allocated to MSS relying on the existing framework in place for these services. Use of MSS spectrum for D2D (1) eliminates need for MNOs to clear valuable terrestrial mobile service spectrum; (2) resolves cross-border coordination challenges; and (3) eliminates exclusion zones near terrestrial coverage areas, proving seamless coverage for a seamless, interference-free user experience. As the MSS D2D ecosystem matures, and as consumer devices increasingly incorporate the capabilities enabled by 3GPP Rel. 17 and subsequent releases as well, Viasat expects that the use cases for its MSS D2D service offerings and technologies will broaden considerably. The L-band and S-band MSS spectrum has already been included in the 3GPP standards for Non-Terrestrial Networks (“NTN”). Viasat provides various other service offerings using MSS spectrum, including for critical governmental services and the European Aviation Network (“EAN”). Some of these MSS bands, <i>i.e.</i> 2170-2200 MHz (space-to-Earth) paired with 1980-2010 MHz (Earth-to-space) and 1518-1559 MHz (space-to-Earth) paired with 1626.5-1660.5 MHz and 1668-1670 MHz (Earth-to-space), are adjacent or nearly adjacent to the terrestrial mobile service bands Ofcom proposed for satellite D2D service, <i>i.e.</i>, the 1452-1492 MHz (“1.4 GHz”) and 1920-1979.7 MHz / 2110.3-2169.7 MHz (“2.1 GHz”). Considering the above and the importance of regulatory certainty to be able to operate interference free, Viasat supports Ofcom’s decision that <i>“some bands, including 1.4 GHz and 2.1 GHz, will require additional technical analysis and will potentially require consultation prior to authorization”</i>⁴. Critically, it is essential that when deciding on any new frequency assignments for new

⁴ See Statement and further consultation: Enabling satellite direct to device services in mobile spectrum bands, Section 3.8, <https://www.ofcom.org.uk/siteassets/resources/documents/consultations/category-1-10-weeks/consultation-enabling-satellite-direct-to-device-services-in-mobile-spectrum-bands/main-documents/statement-and-further-consultation-enabling-satellite-direct-to-device-services-in-mobile-spectrum-bands.pdf?v=402573>.

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	services, it is necessary to ensure protection of existing services and to also provide the ability of the existing service providers using the same or adjacent spectrum to innovate. Further studies are required to determine the limits to protect all adjacent and nearly adjacent band services, including current and advanced land, aero, and maritime MSS operations. If Ofcom decides to open the 1.4 GHz and 2.1 GHz terrestrial mobile service bands for satellite D2D use, Viasat urges Ofcom to include, in Section 9 of the license variation schedule, the necessary conditions to ensure protection of adjacent services including other D2D services using existing MSS allocations in the L and S bands subject to further studies and consultation.

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