

November 21, 2025

By Email to CPfrequencesMSS@arcep.fr

Regulatory Authority for Electronic Communications, Posts, and Press Distribution
14, rue Gerty Archimède,
CS 90410
75613 Paris Cedex 12

Re: Response to the Public Consultation – Allocation of frequencies in the 1518-1559 MHz bands, 1610-1660.5 MHz, 1670-1675 MHz and 2483.5-2500 MHz for the operation of mobile satellite services

The GPS Innovation Alliance (“GPSIA”) submits this letter in response to the above-referenced consultation published by Arcep on September 26, 2025.^{1/} GPSIA observes that Arcep’s objective is to achieve optimal use of the Mobile Satellite Service (“MSS”) band. We respectfully urge Arcep to consider the extensive uses of the MSS band by providers of Global Navigation Satellite System (“GNSS”) correction services, which transmit these services over satellite capacity provided by Viasat^{2/} that cover European Union member states, including France. GNSS devices receive and utilize signals in the 1525-1559 MHz MSS downlink band for critical high-precision applications, such as precision agriculture, construction, and automated or assisted guidance of automobiles.

GNSS devices used for high-precision applications rely on both MSS signals in the 1518-1559 MHz band and GNSS signals in the 1559-1610 MHz band to receive augmentation or corrections data services. The data transmitted in the MSS band is used by high-precision receivers using the GNSS band to apply corrections to GNSS receivers’ positioning, navigation, and timing (“PNT”) outputs. A GNSS receiver will report its position on the Earth within a margin of error, as anyone who has tried to meet a driver using uncorrected GNSS on their phone can attest. The errors arise from many sources, including: satellite signal delay and bias (the satellite moves slightly during the signal transmission); satellite clock error (the satellite clock is not precisely synchronized); satellite orbit error (the satellite is not physically at the exact reported location in orbit); ionospheric distortion of the signal (and the ionospheric effects are constantly changing); and tropospheric distortion of the signal (the ionosphere and the troposphere need different compensation based on different mathematical models).

Corrections data service providers, including GPSIA members as well as other international market participants, operate networks of ground stations (referred to as reference

^{1/} Arcep, *Allocation of frequencies in the 1518-1559 MHz bands, 1610-1660.5 MHz, 1670-1675 MHz and 2483.5-2500 MHz for the operation of mobile satellite services*, Public Consultation (Sept. 16, 2025).

^{2/} While the Arcep Consultation refers to Inmarsat, the company was acquired by Viasat. Accordingly, GPSIA refers to the entity as Viasat here.

stations) which collect real-time data by monitoring GNSS satellites. The MSS-delivered data stream is processed in real time, along with data received from GNSS satellites to correct for sources of error in the GNSS signals, to generate a stream of real-time data which is used by a suitably equipped GNSS receiver to produce a far more accurate PNT output than would be produced by simply processing the GNSS observables from even a high quality GNSS receiver. The resulting centimeter-level of resolution is necessary to support critical commercial applications such as precision agriculture, automated control of construction machines, automated guidance of automobiles, and precise navigation of unmanned aerial vehicles.

It is also important to note that for historical, legal, and contractual reasons, high-precision MSS/GNSS receivers are designed to receive the signals across the entire 1525-1559 MHz MSS band in addition to the 1559-1610 MHz GNSS band. Because of international coordination requirements for use of the MSS band, the frequencies used by MSS operators, including Viasat, were subject to change if future international coordination agreements required it.^{3/} MSS operators also reserved the right to change the frequencies on which they transmitted their satellite services if needed to meet business needs. Because of this, MSS providers required that parties using their MSS services be capable of receiving signals anywhere in the applicable downlink frequency range (from 1525-1559 MHz, depending on the region involved), regardless of the frequencies on which they were transmitting at any point in time.^{4/} That requires consideration of the effects of any authorized transmissions in this entire band to assess the potential for harmful interference.

GPSIA further notes that there have been extensive technical studies of the effects of terrestrial transmissions in the MSS band on GNSS receivers in connection with consideration by the U.S. Federal Communications Commission (“FCC”) of proposals to repurpose MSS

^{3/} See *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band*, Notice of Proposed Rulemaking, 16 FCC Rcd 15532, ¶ 13 (2001) (explaining that the administrations governing L-band satellite operators developed and agreed upon a framework to facilitate annual and dynamic spectrum assignment agreements among the operators, to be revisited annually, and that “unlike most international coordinations that create permanent assignments of specific spectrum, the operators’ assignments could change from year to year based on their marketplace needs”); see also *Establishing Rules and Policies for the use of Spectrum for Mobile Satellite Services in the Upper and Lower L-band*, Report and Order, 17 FCC Rcd 2704, ¶¶ 1, 15 (2002) (assigning Motient spectrum in the lower L-band that has been internationally coordinated and stating that the Commission “agree[s] that all satellite licenses are granted subject to the uncertainties of international coordination”).

^{4/} See, e.g., Letter from Catherine Wang, Bingham, Counsel to Deere & Company, to Ms. Marlene H. Dortch, Secretary, FCC, IB Docket No. 11-109, *et al.* (filed Sep. 18, 2014); Letter from Catherine Wang and Tim Bransford, Bingham, Counsel to Deere & Company, to Ms. Marlene H. Dortch, Secretary, FCC, IB Docket No. 11-109, *et al.*, at 2 (filed Oct. 27, 2011) (highlighting that “precision GPS receivers by their nature must be wideband in order to obtain additional navigational data to provide precise measurements, and in addition, augmented receivers are designed to accept signals across the entire L-band in direct response to the requirement of L-Band satellite operators (Inmarsat and LightSquared itself) that earth terminals accommodate the satellite operators’ decision to reassign downlink frequencies within the L-Band based on their own business needs”).

spectrum for terrestrial use,^{5/} which were the subject of a comprehensive report by the U.S. National Telecommunications and Information Administration (“NTIA”).^{6/} The NTIA Report was largely validated by an independent analysis by a panel of the National Academies of Sciences, Medicine, and Engineering in the U.S.^{7/} These results are meaningful to operations proposed for the France because GNSS manufacturers operate on a global basis, and products tested in the United States are generally the same as those used in France.

Should you have any questions about the foregoing, please do not hesitate to contact me.

Very truly yours,

/s/ Lisa Dyer

Lisa Dyer

Executive Director

GPS Innovation Alliance

^{5/} See *LightSquared Technical Working Group Report et al.*, Order and Authorization, 35 FCC Rcd 3772, ¶¶ 9-16 (2020) (describing the terrestrial network Ligado proposed to deploy using its MSS license in conjunction with its ancillary terrestrial component authority).

^{6/} Assessment of Compatibility Between Global Positioning System Receivers and Adjacent Band Base Station and User Equipment Transmitters Technical Memorandum at 9, *attached to*, Letter from Kathy Smith, Chief Counsel, NTIA (filed Dec. 4, 2020) (“NTIA Report”).

^{7/} National Academies of Sciences, Engineering, and Medicine, *Analysis of Potential Interference Issues Related to FCC Order 20-48* (2022), at 58 (2022), <https://nap.nationalacademies.org/catalog/26611/analysis-of-potential-interference-issues-related-to-fcc-order-20-48>.