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VIA IBFS

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *AST&Science LLC Petition for Declaratory Ruling Granting Access to the U.S. Market for a Non-U.S. Market for a Non-U.S.-Licensed Non-Geostationary Orbit Satellite Constellation*, Call Sign S3065, IBFS File Nos. SAT-PDR-20200413-00034, SAT-APL-20200727-00088, & File No. SAT-APL-20201028-00126

Dear Ms. Dortch:

AT&T Services, Inc., on behalf of itself and its affiliates (collectively, “AT&T”) is pleased to offer its views on the above-captioned request for U.S. market access authority (the “Petition”) filed by AST&Science LLC (“AST”).¹ AST is developing a promising new satellite technology that holds the potential to help fill network gaps in the few remaining places where terrestrial facilities do not reach, without the need for special satellite phones. As the Petition explains, AST’s satellite constellation will offer a space-based broadband network capable of connecting directly to off-the-shelf user devices and equipment.² Where a customer device cannot connect to a wireless carrier’s terrestrial base station, it could nevertheless access the network via AST’s satellite system. This would allow carriers to extend their coverage in areas where deploying additional infrastructure is logistically difficult or cost prohibitive. It would also help carriers maintain service during emergency situations where terrestrial network infrastructure may be compromised. With the right licensing framework and appropriate technical parameters, AT&T believes AST’s technology could enhance mobile network performance and be a game changer for their customers in those hard to reach areas.

¹ AST&Science LLC Petition for Declaratory Ruling Granting Access to the U.S. Market for a Non-U.S.-Licensed Non-Geostationary Orbit Satellite Constellation, Call Sign S3065, IBFS File No. SAT-PDR-20200413-00034 (filed Apr. 13, 2020) (amended by AST&Science LLC Amendment to Petition for Declaratory Ruling, Call Sign S3065, IBFS File No. SAT-APL-20200727-00088 (filed July 27, 2020)).

² *Id.* at 1-2.

As an initial matter, AT&T notes that AST recently amended its Petition to revise its request for operating authority. As amended, the Petition proposes that AST would seek authority to operate on terrestrial frequencies pursuant to the Wireless Telecommunications Bureau's well-established spectrum leasing policies.³ AT&T agrees that the spectrum leasing framework is the appropriate mechanism for accessing the exclusive-use spectrum of terrestrial licensees. Consistent with the Commission's secondary market policies, once a lease agreement with a terrestrial licensee is reached, AST and the terrestrial licensee would file a FCC Form 608 seeking approval or acceptance of the leasing arrangement.

While AST's technology is promising, its Petition raises several technical issues that may require further analysis and study. AST should provide additional technical evidence demonstrating how terrestrial mobile systems will be protected from interference. Although AST has provided a preliminary analysis of co-channel interference to adjacent area LTE networks, additional studies and information are needed to confirm that co-existence is feasible.⁴

As AST's analysis shows, the separation distance required to protect adjacent area mobile services will necessarily be time-varying as a function of satellite constellation geometry. The Petition does not demonstrate how AST will manage these continually changing separation distances, or how AST can effectively coordinate these complex situations with wireless operators in a non-burdensome way. It is also unclear what satellite resource management and network control functions AST will employ to ensure that adjacent area wireless services are protected in a dynamic mobile interference environment. AST should provide further details on these technical issues so that wireless operators may have confidence that their interference concerns are addressed.

Simulations may also be needed to adequately model the highly dynamic mobile service environment and low Earth orbit (LEO) constellation characteristics. While AST has provided a static interference scenario analysis, a simulation-based statistical analysis would be appropriate to fully characterize the interference impact on mobile services given the time-varying nature of AST's NGSO satellite constellation, as well as the dynamic mobility of wireless users.

Although several technical issues still need to be addressed, AST's technology holds great promise for helping carriers fill network gaps without additional spectrum, terrestrial infrastructure, or specialized end-user equipment. This innovative technology could help carriers deliver seamless mobile broadband connectivity to customers wherever they may be located. AT&T looks forward to working with AST to continue learning about AST's capabilities and evaluating the technical issues raised by the Petition.

³ AST&Science LLC Second Amendment to Petition for Declaratory Ruling, Call Sign S3065, IBFS File No. SAT-APL-20201028-00126 (filed Oct. 28, 2020).

⁴ See Letter from Sallye Clark, Mintz, to Jose P. Albuquerque, Chief, Satellite Division, International Bureau, FCC, Call Sign S3065, IBFS File No. SAT-PDR-20200413-00034 (filed Jul. 6, 2020) ("AST Supplement Letter").

Should any questions arise concerning this letter, please do not hesitate to contact me at (202) 457-2055.

Sincerely,

/s/ Michael P. Goggin

Michael P. Goggin

CERTIFICATE OF SERVICE

I, Kimberly Riddick, hereby certify that, on this second day of November 2020, a copy of the foregoing letter was served by electronic mail* upon:

Sallye Clark

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Laura Stefani

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Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

Counsel for AST&Science LLC

/s/ Kimberly Riddick

* Parties have consented to service via email.