



SatCom Law LLC
1317 F St. NW, Suite 400
Washington, D.C. 20004
T 202.599.0975
www.satcomlaw.com

November 2, 2020

FILED ELECTRONICALLY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Sirius XM Radio Inc. Submission Regarding AST&Science Application,
Call Sign S3065, File Nos. SAT-PDR-20200413-00034, SAT-APL-20200727-00088, &
SAT-APL-20201028-00126**

Dear Ms. Dortch:

Sirius XM Radio Inc. ("Sirius XM"), by its attorney, hereby responds to the Public Notice indicating that the above-referenced AST&Science ("AST") application seeking U.S. market access for the proposed SpaceMobile satellite network (the "AST Application") has been accepted for filing.¹

Sirius XM previously entered an appearance in this proceeding due to its concerns regarding the significant impact the AST proposal would have on Sirius XM's Satellite Digital Audio Radio Service ("SDARS") operations that use the 2320-2345 MHz band to provide satellite radio service to tens of millions of U.S. subscribers.² Sirius XM noted that it has worked closely with Wireless Communications Service ("WCS") licensees that hold authorizations for the adjacent spectrum on either side of the SDARS band to coordinate operations in order to prevent harmful emissions that could degrade the quality and reliability of Sirius XM's service.³ Sirius XM's concern arose from aspects of the AST Application indicating that AST might be seeking to use the SDARS spectrum and that AST had expressly requested authority to operate in the WCS spectrum.⁴

Subsequent AST submissions appear to address Sirius XM's concerns. Specifically, in a response to the Sirius XM Letter, AST expressly confirmed that it "does **not** plan to operate on

¹ See Satellite Policy Branch Information, Space Station Applications Accepted for Filing, Report No. SAT-01501 (Oct. 2, 2020) ("Public Notice").

² See Letter of Karis A. Hastings, Counsel for Sirius XM Radio Inc., to Marlene H. Dortch, File Nos. SAT-PDR-20200413-00034 & SAT-APL-20200727-00088 (Sept. 8, 2020) ("Sirius XM Letter").

³ *Id.* at 1.

⁴ *Id.* at 1 & n.1.

2320-2345 MHz.”⁵ Moreover, in a further amendment to the AST Application filed last week, AST stated that “its satellite system will not operate in the U.S. on the WCS (LTE Band 30) frequency band.”⁶

Based on these statements, Sirius XM understands that AST is not seeking authority for operations anywhere within the 2305-2360 MHz frequency range that encompasses the SDARS band and adjacent WCS spectrum. If that understanding is accurate and remains accurate, Sirius XM does not object to the AST Application. If that understanding is not accurate, or if the AST Application is subsequently amended such that it proposes operations in the WCS or SDARS bands, Sirius XM reserves its rights to object to the AST Application as needed.

Please address any questions regarding this matter to the undersigned.

Respectfully submitted,

/s/ Karis A. Hastings

Karis A. Hastings
Counsel for Sirius XM Radio Inc.
karis@satcomlaw.com

Attachment

cc's (via email due to COVID-19):
Abel Avellan, AST&Science
Sallye Clark, Mintz Levin, Counsel to AST&Science
Jay Whaley

⁵ Letter of Sallye Clark, Attorney for AST&Science LLC, to Karis A. Hastings, Counsel for Sirius XM Radio Inc., File Nos. SAT-PDR-20200413-00034 & SAT-APL-20200727-00088 (Oct. 9, 2020) (emphasis in original). Because it appears that AST did not submit this letter into the record in this proceeding, Sirius XM is attaching it here.

⁶ AST& Science, Call Sign S3065, File No. SAT-APL-20201028-00126, Amendment Narrative at 1.

Sallye Clark
202 434 7405
sclark@mintz.com



MINTZ

701 Pennsylvania Avenue, NW
Suite 900
Washington, DC 20004
202 434 7300
mintz.com

October 9, 2020

Karis A. Hastings
SatCom Law LLC
1317 F Street, NW
Suite 400
Washington, DC 20004

Re: AST&Science LLC – Call Sign S3065
IBFS File Nos. SAT-PDR-20200413-00034 and SAT-APL-20200727-00088

Dear Karis,

We are responding to your letter of September 8, 2020 which enters an appearance in the above-captioned AST&Science LLC (“AST”) market access proceeding on behalf of Sirius XM Radio Inc. (“Sirius XM”).

Your letter noted several concerns about AST’s Petition for Declaratory Ruling (“PDR”). One is the idea that AST plans to operate on Sirius XM’s SDARS frequency band (*i.e.*, 2320-2345 MHz). Please note that AST does **not** plan to operate on 2320-2345 MHz. While the Schedule S that was filed provided information regarding the SpaceMobile constellation’s transmission capabilities, the PDR and subsequent filings make clear that AST is only seeking authority to operate SpaceMobile on spectrum bands above and below the SDARS band. In AST’s PDR, it explained that user terminals would operate only on frequencies authorized to AST’s partner operators, in frequency bands authorized to the wireless services.^{1/} In a subsequent response to the International Bureau, AST provided clarification that it “intends to operate in the U.S. on the PCS (LTE Band 2), AWS-1 (LTE Band 4), AWS-3 (LTE Band 66) and WCS (LTE Band 30) frequency bands. [This] would allow SpaceMobile to receive (uplink) on the portions of 1710-1780, 1850-1910, and 2305-2320 MHz and transmit (downlink) on the portions of 1930-1990, 2110-2180, and 2350-2360 MHz that correspond with a carrier’s authorized channels within any particular band.”^{2/} And in the Amendment filed to the PDR, AST stated that it “seeks to have SpaceMobile receive (uplink) on 1710-1780, 1850-1910, and 2305-2320 MHz and

^{1/} Petition for Declaratory Ruling at 4, 6, 8 and n.24, IBFS File No. SAT-PDR-20200413-00034.

^{2/} Letter to Jose Albuquerque, Chief, Satellite Division, Federal Communications Commission from Sallye Clark and Laura Stefani, Attorneys for AST&Science LLC, IBFS File No. SAT-PDR-20200413-00034 (filed July 6, 2020).

transmit (downlink) on 1930-1990, 2110-2180, and 2350-2360 MHz.”^{3/} AST has not sought authority to operate on 2330-2345 MHz, and does not intend to do so.

The other issue that you raised concerns the possibility of interference into the SDARS band, presumably in the form of out-of-band emissions (“OOBE”) from AST’s SpaceMobile operations in the adjacent bands. SpaceMobile uses on-board Digital Pre-Distortion to linearize the SSPAs in the antenna such that the Adjacent Channel Leakage Ratio (ACLR) will be less than -45 dB, which ensures that any potential out-of-band interference will be at least 20 dB below the noise floor.^{4/} Therefore, SpaceMobile will not cause any harmful interference to Sirius XM’s operations in the SDARS band. We would be happy to arrange a discussion with AST’s engineers on this point if Sirius XM believes that would be necessary after review of AST’s technical information that is in the record.

Of course, we would be glad to discuss these issues or any other aspect of AST’s PDR with you if that would be helpful. Feel free to contact me with any questions or concerns. Best wishes.

Sincerely,


Sallye Clark

Sallye Clark
Attorney for AST&Science LLC

^{3/} Legal Narrative to IBFS File No. SAT-APL-20200727-00088. A Supplement to this Amendment later clarified that AST sought to operate on 2345-2360 MHz, rather than the 2350-2360 MHz inadvertently stated.

^{4/} See Letter to Jose P. Albuquerque, Chief, Satellite Division, International Bureau, Federal Communications Commission from Sallye Clark, Attorney for AST&Science LLC, IBFS File Nos. SAT-PDR-20200413-00034 and SAT-APL-20200727-00088 (filed July 6, 2020).