

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

Applications of	)	
	)	
MICHAEL FUQUA IN HIS CAPACITY AS RECEIVER FOR THEIA HOLDINGS A, INC.	)	Call Signs: S2986 and _____
	)	
	)	File Nos. SAT-MOD-2026-_____
	)	
To Modify the Theia NGSO System	)	and
	)	
and	)	SAT-LOA-2026-_____
	)	
LTS SYSTEMS II, LLC	)	
	)	
To Construct, Launch, and Operate the	)	
Theia NGSO System, and Waiver	)	
Request to Grant Authority for that	)	
System on a <i>Nunc Pro Tunc</i> Basis	)	

**APPLICATION OF MICHAEL FUQUA IN HIS CAPACITY AS RECEIVER FOR
THEIA HOLDINGS A, INC. TO MODIFY THE THEIA NGSO SYSTEM;**

**APPLICATION OF LTS SYSTEMS II, LLC TO CONSTRUCT, LAUNCH, AND
OPERATE THE THEIA NGSO SYSTEM, AND WAIVER REQUEST TO GRANT
AUTHORITY FOR THAT SYSTEM ON A *NUNC PRO TUNC* BASIS**

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I. INTRODUCTION AND SUMMARY

Michael Fuqua in his capacity as receiver for Theia Holdings A, Inc. (“New Theia”)¹ applies for authority to modify the Theia NGSO satellite system authorized in 2019 to add certain important conditional commitments that are fully supported by New Theia backer LTS Systems II, LLC (“LTS”),² and to add certain frequency bands that were not included in the initial authorization but have become available for NGSO systems.³ LTS, for its part, prophylactically submits its own application to construct, launch, and operate the Theia satellite system as initially authorized, and subject to the same additional conditional commitments. Accompanying LTS’s application is a request for a *nunc pro tunc* waiver allowing the grant of the application as of 2019, and with corresponding priority.

Theia means divine in Greek. When the Commission licensed the Theia system in 2019, now-Chairman Carr rightly celebrated it as “great news for consumers across the country.”⁴ LTS fully shared the Chairman’s view then, continues to believe it to date, and has invested over \$400 million to realize the vision behind the system—advanced remote sensing and broadband capabilities to be offered to industry, government, and consumers.

In fact, the novelistic turns and twists of the Theia saga shine a light on the steadfast willingness of LTS to see an NGSO satellite system and its attendant cornucopia of public

¹ See Radio Station Authorization, Theia Holdings A, Inc. File No. SAT-T/C-20211119-00164 (granted Dec. 7, 2021).

² LTS is a subsidiary of Brevet Capital, whose other affiliate entities invested in the Theia satellite system years ago.

³ *Theia Holdings A, Inc., Request for Authority to Launch and Operate a Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service, Mobile-Satellite Service, and Earth-Exploration Satellite Service*, Memorandum Opinion, Order and Authorization, 34 FCC Rcd. 3526 (2019) (“*Theia Order*”).

⁴ *Id.* at 3550 (Statement of Commissioner Brendan Carr Approving in Part and Concurring in Part).

benefits through to realization. LTS has persevered in its support through thick and thin, despite the mismanagement and fraud that led the entity then controlling the license (“Old Theia”) into receivership.

The Bureau cancelled the license for the Theia system⁵ based on a bond cancellation by a surety that was a blatant violation of receivership law, and LTS has requested reconsideration of this action,⁶ which is warranted in light of, among other reasons, the Commission’s duty to respect bankruptcy and receivership law.⁷ LTS has acquired control over Theia’s assets through that receivership, and has agreed to acquire control over the license upon its reinstatement and approval of the transfer by the Commission.⁸ Upon grant of LTS’s reconsideration petition, New Theia and LTS plan to request the Commission’s approval for that transfer of control. LTS asks the Commission to grant its petition for reconsideration as soon as possible because this is the fastest path for deploying a satellite by March 2027 to preserve Theia’s ITU date priority.

The bands authorized for the Theia system include the 1215-1300 MHz band for Earth-Exploration Satellite Service, and the 10.7-12.7, 12.75-13.25, 14.0-14.5, 17.8-18.6, 18.8-19.4, 19.6-20.2, 27.5-29.1, 29.5-30.0, 37.5-42.0, 47.2-50.2, and 50.4-51.4 GHz bands for broadband Fixed-Satellite Service. New Theia and LTS also propose to use certain frequency bands that

⁵ *Theia Holdings A, Inc., Request for Retroactive Waiver of Surety Bond Requirement for a Non-Geostationary Satellite Orbit System License*, Order, 40 FCC Rcd. 5233 (2025) (“*Cancellation Order*”).

⁶ Petition for Reconsideration of LTS systems, LLC and LTS Systems II, LLC, File Nos. SAT-LOA-20161115-00121 and SAT-AMD-20170301-00029 (Aug. 25, 2025) (“*LTS Petition for Reconsideration*”).

⁷ Letter from Pantelis Michalopoulos, Counsel to Brevet Capital, to Marlene Dortch, FCC, File Nos. SAT-LOA-20161115-00121 and SAT-AMD-20170301-00029, at 3 (June 24, 2026) (“*LTS Letter*”).

⁸ Letter from Christopher Bjornson, Counsel to LTS, to Marlene Dortch, File Nos. SAT-LOA-20161115-00121 and SAT-AMD-20170301-00029, at 1 (Aug. 21, 2025).

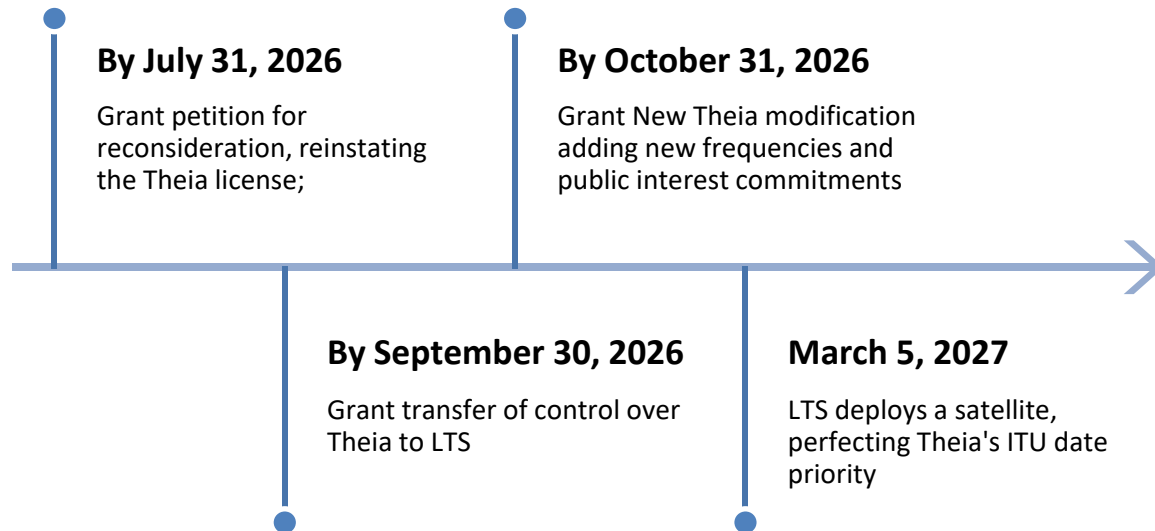
were not originally included in the Theia grant, but have now become available, either in this processing round—namely, the 19.4-19.6 and 29.1-29.5.5 GHz bands, or under waiver—the 42.0-42.5 GHz band.⁹

New Theia, fully backed by LTS, and LTS itself importantly commit to a number of conditions on the grant of LTS’s pending reconsideration petition or the requested *nunc pro tunc* waiver. Upon grant of either, LTS will (1) pay the \$4.34 million owed to the United States related to Theia’s lapsed surety bond; (2) post a new bond; (3) exclude critical technology, software, hardware, and components sourced from foreign adversaries, including the People’s Republic of China, and prioritize trusted U.S. and allied suppliers, DoD-vetted technologies, and security-by-design principles to reduce risks of foreign compromise, espionage, cyber intrusion, and supply-chain disruption; (4) devote up to 30% of the system’s Ku- and Ka-band capacity to offer free, ad-supported broadband to users across the United States, a groundbreaking commitment that will finally pave the path to broadband that is free to U.S. consumers, including in rural areas; (5) allow other licensees in the same bands to use spectrum that the system does not use even when the system is in operation; (6) make the system available for lease to other NGSO licensees and terrestrial carriers alike; and (7) assuming either New Theia’s or LTS’s application is granted by October 2026, bring the network, which the U.S. has duly notified to the ITU, into use by the existing March 2027 milestone. LTS also recommits to abide by the conditions on the original Theia application, including strictly secondary status to U.S. government operations in the 1215-1300 MHz band.

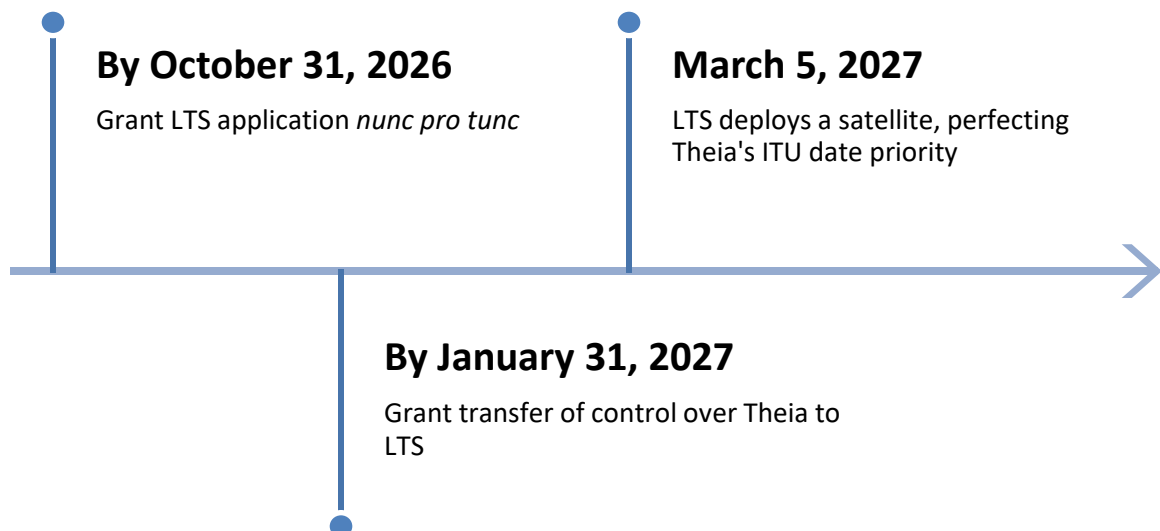
⁹ *Cut-Off Established for Additional NGSO-Like Satellite Systems in the Ku- and Ka-Bands and V-Band*, Public Notice, DA 26-552 (June 5, 2026) (“*June 5, 2026 Processing Round Public Notice*”).

Here is a diagram identifying the two outcomes the Applicants are seeking; both would serve the public interest, the first more efficiently than the second.

First Procedural Path:



Second Procedural Path:



Reinstating the license or granting the requested *nunc pro tunc* waiver would allow LTS, an innocent creditor and backer to Theia, to deliver the public interest benefits and the vision it invested in years ago. It would also usher in a competitive “Goldilocks”: a new competitor that does not tie up or warehouse scarce resources, as any unused spectrum would be available to other competitors even when the Theia system is in operation.

II. BACKGROUND

A. LTS

LTS is an affiliate of Brevet Capital Management, a 27-year-old U.S.-based investment firm operating at the intersection of finance, policy, and innovation.¹⁰ Brevet currently has over \$2 billion in assets under management, and has advised on and structured transactions worth more than \$20 billion. Brevet provides capital certainty and collaboration to companies engaging in research, innovation, national security, and other government sectors. Case in point, Brevet engineered and delivered, over a period of little more than 21 days, the financing for a landmark transaction for the Western Fleet of the U.S. Navy, a deal Wall Street had failed to deliver for over a decade as it grappled with overlapping legal, collateral, and national security complexities.¹¹ Brevet has applied this same disciplined approach across other government adjacent priorities, including military installations, healthcare access, and education.

In line with Brevet’s expertise, Brevet-managed funds became early investors in the American space economy when they financed hundreds of millions of dollars for the Theia

¹⁰ *Brevet Capital*, <https://brevetcapital.com/> (last accessed July 6, 2026).

¹¹ *Brevet Capital Supports Manchester Financial Group’s Development of U.S. Navy’s Southwest Headquarters and Manchester Pacific Gateway Development in San Diego*, Business Wire (Oct. 26, 2020), <https://www.businesswire.com/news/home/20201026005271/en/Brevet-Capital-Supports-Manchester-Financial-Groups-Development-of-U.S.-Navys-Southwest-Headquarters-and-Manchester-Pacific-Gateway-Development-in-San-Diego>.

satellite system. Brevet made these investments due to strong industrial, government, and defense sector demand for satellite broadband and remote sensing capabilities. As explained below, LTS acquired Theia's rights and assets from a receivership imposed by the Southern District of New York following severe mismanagement and fraud that plagued Theia's commercial operations.

B. LTS Acquires Theia Assets from Receivership

Theia was one of the earliest U.S.-licensed NGSO systems that participated in the first modern Ku-/Ka-band and V-band processing rounds.¹² It was a planned 112-satellite constellation and “global remote sensing and communications system capable of obtaining, processing, and delivering remote sensing analytics and broadband connectivity directly to commercial, industrial, and consumer customers via an integrated communications network.”¹³ As designed, Theia could “provide a range of services, including precision agriculture analytics, surveying and monitoring of infrastructure, and real-time geophysical information and first responder support.”¹⁴ The Theia system is intended to accomplish this by “captur[ing] continuous visible and broad infrared video of the entire Earth, near continuous high-resolution hyperspectral and active radar data, and microwave radiometer data and provid[ing] this data to individuals and institutions around the world.”¹⁵ The Commission agreed that the vision behind the Theia system served the public interest and deserved to be realized. In 2019, the Commission authorized Theia to use certain Ku-band, Ka-band, V-band, and EESS frequencies,

¹² See *Cut-Off Established for Additional NGSO-Like Satellite Applications or Petitions for Operations in the 12.75-13.25 GHz, 13.85-14.0 GHz, 18.6-18.8 GHz, 19.3-20.2 GHz, and 29.1-29.5 GHz Bands*, Public Notice, 32 FCC Rcd. 4180, 4183 (2017).

¹³ *Theia Order*, 34 FCC Rcd. at 3527 ¶ 1.

¹⁴ *Id.*

¹⁵ *Id.*

subject to conditions, finding that Theia’s proposed operations would serve the public interest.¹⁶ One of the conditions was a commitment to deploy half of Theia’s constellation by May 9, 2025.¹⁷ Then-Commissioner Brendan Carr celebrated Theia’s authorization as “great news for consumers across the country.”¹⁸

Two years later, the Southern District of New York ordered Theia into a receivership after it failed to pay hundreds of millions in debts owed to Brevet.¹⁹ The Department of Justice also indicted six of Theia’s founders for “a multi-year scheme to defraud investors and lenders out of \$250 million[.]”²⁰ One pled guilty.²¹

Theia had not deployed any satellites when the receivership started and did not deploy any satellites during the receivership.²² Because Brevet-managed funds were senior secured creditors of Theia, Brevet’s affiliate LTS acquired all the rights and assets owned by Theia

¹⁶ *Theia Order*, 34 FCC Rcd. at 3530 ¶ 7. The Commission did not accept Theia’s requests to use the 19.4-19.6, 29.1-29.5, and 42.0-42.5 GHz bands. *Id.* at 3528 ¶ 3 n.15-17.

¹⁷ *Id.* at 3548 ¶ 59b.

¹⁸ *Theia Order*, 34 FCC Rcd. at 3550 (Statement of Commissioner Brendan Carr Approving in Part and Concurring in Part).

¹⁹ Order Appointing Michael Fuqua as Receiver ¶ 9, Dkt. No. 117, *FCS Advisors, LLC v. Theia Group, Inc.*, No. 21-CV-6995 (S.D.N.Y. Nov. 8, 2021).

²⁰ Press Release, U.S. Dep’t of Justice, Off. of Pub. Affairs, Former Principals of Aerospace Start-Up Charged with Fraud and Tax Crimes (Mar. 18, 2025), <https://www.justice.gov/opa/pr/former-principals-aerospace-start-charged-fraud-and-tax-crimes>.

²¹ Press Release, U.S. Attorney’s Off., District of Columbia, Former Executive of Defunct Satellite Start-Up Pleads Guilty in \$250 Million Fraud Case (Jan. 20, 2026), <https://www.justice.gov/usao-dc/pr/former-executive-defunct-satellite-start-pleads-guilty-250-million-fraud-case>.

²² Satellite constellation deployment is not an expected responsibility for a receiver, who is a disinterested neutral appointed to preserve corporate assets. *See Receiver*, Black’s Law Dictionary (11th ed. 2019) (“A disinterested person appointed by a court ... for the protection or collection of property that is the subject of diverse claims (for example, because it belongs to a bankrupt or is otherwise being litigated).”).

through a credit bid approved by the court when the receivership terminated in July 2025 and the receiver started winding down its affairs.²³ But during the four-year-long receivership, LTS lacked any legal right to control, maintain, deploy, or utilize Theia’s assets, including Theia’s satellite license.²⁴ This means that LTS could not deploy *any* satellites under the Theia authorization, let alone the 56 needed to meet Theia’s buildout milestones.²⁵

But by the time LTS finally gained control of Theia’s assets, its buildout milestone had passed, and the Space Bureau had already cancelled Theia’s license due to a lapse of Theia’s surety bond that occurred during the receivership.²⁶ The bond cancellation blatantly violated receivership law,²⁷ and LTS has accordingly filed a petition for reconsideration of the license cancellation that remains pending.²⁸

To date, Brevet has invested over \$400 million in Theia. In short, LTS is an innocent, third-party creditor and investor in Theia that has faced serious consequences for problems it did not cause and did not have the ability to remedy. Despite those obstacles, LTS has stuck with Theia’s dream through thick and thin and is committed to bringing it to life. LTS can cure any previously unmet license requirements, including by making the U.S. Treasury whole for

²³ Final Report of Receiver at 9-10, Dkt. No. 511, *FCS Advisors, LLC v. Theia Group, Inc.*, No. 21-CV-6995 (S.D.N.Y. July 30, 2025).

²⁴ This was true even when Theia’s receiver proposed to sell the Theia rights and assets to Athena-5 Systems Corporation. See Letter from Michael Fuqua, Theia Group, Inc., to Marlene Dortch, FCC, File No. SAT-ASG-20240325-00064 (May 8, 2024).

²⁵ *Theia Order*, 34 FCC Rcd. at 3548 ¶ 59b (“Theia must launch 50 percent of the maximum number of proposed space stations, place them in the assigned orbits, and operate them in accordance with this grant no later than May 9, 2025, and must launch the remaining space stations necessary to complete its authorized service constellation, place them in their assigned orbits, and operate them in accordance with the authorization no later than May 9, 2028.”).

²⁶ *Cancellation Order*, 40 FCC Rcd. at 5234-35 ¶ 5.

²⁷ See LTS Letter at 3.

²⁸ See generally LTS Petition for Reconsideration.

amounts due under the expired bond, and by posting a new bond and investing its expertise and resources in deploying the constellation.

C. Path Forward

As mentioned, LTS has a pending petition for reconsideration of the Bureau's order cancelling the Theia license.²⁹ That petition paves a faster path for reinstatement of Theia's license than both the New Theia modification application or the LTS application submitted here. Both of those must first be accepted for filing and placed on public notice, a months-long process, hence LTS' preference is for the Commission to grant its pending petition for reconsideration, which can happen today. This is especially relevant as time is of the essence for deploying a satellite by March 5, 2027 to preserve the ITU date priority rights obtained by Old Theia, the loss of which would harm U.S. international interests. Upon grant, New Theia will file a transfer of control application designating LTS as the transferee.

After grant of LTS' reconsideration petition, the Commission should then grant the New Theia modification application, to incorporate both the additional commitments made by the applicant and the additional frequencies requested—the 19.4-19.6, 29.1-29.5, and 42.0-42.5 GHz bands. As the table below demonstrates, granting reconsideration plus the New Theia Modification is the most direct and fastest path for making Theia's promise real.

²⁹ *Id.*

Reconsideration + Modification Is the Strongest Path to Public Interest Benefits

Pathway	Timing	New Frequencies?	Relates Back to Cancelled Theia License?
LTS Petition for Reconsideration	Ripe for grant	No; but can be accompanied by New Theia modification	Yes
New Theia Modification	Pending pleading cycle	Yes	Yes
LTS Application	Pending pleading cycle	Yes	Yes, by virtue of the <i>nunc pro tunc</i> waiver request

III. THEIA SYSTEM OVERVIEW

New Theia and LTS propose to advance the Theia system authorized in 2019. They also propose to use the 19.4-19.6, 29.1-29.5, and 42.0-42.5 GHz frequencies, which were not included in the original authorization, but in light of new rules or other changes in Commission policies that open these bands to NGSO systems.³⁰

The Theia LEO constellation is designed to deliver global Earth observation and integrated data, analytics, and communications capabilities.³¹ If authorized, LTS would deliver advanced geospatial temporal intelligence capabilities powered by predictive and prescriptive analytics, with direct applicability to defense, intelligence, homeland security, and contested environment missions of national importance. As part of the business, LTS plans to incorporate

³⁰ Two of these bands—19.4-19.6 and 29.1-29.5 GHz—are included in the processing round. *June 5, 2026 Processing Round Public Notice* at 1. For the 42.0-42.5 GHz—the Commission has granted waivers to other systems permitting their use. Stamp Grant, Logos Space Services, Inc., Call Sign S3210, File Nos. SAT-LOA-20241030-00243 and SAT-AMD-20250328-00084, at Condition 5 (Jan. 30, 2026) (“Logos Space Waiver”).

³¹ See *Theia Order*, 34 FCC Rcd. at 3527 ¶ 1.

a hyperspectral satellite and analytics platform (“HSAP”) with existing commercial and government traction to accelerate capability delivery and strengthen the credibility of the operating platform. LTS would combine the previously licensed orbital infrastructure with proven hyperspectral monitoring and analytics capabilities across defense, homeland security, critical infrastructure, energy, mining, and transportation. Thus, LTS offers a credible and more immediate path to deployment than a greenfield restart, ensuring that previously authorized U.S. capacity is brought into use by an American operator.

Specifically, LTS plans to provide mission critical analytic products to government and commercial users. By incorporating HSAP, LTS would add an operational hyperspectral platform that includes an existing well known Earth observation constellation and analytics environment, a large commercial spectral library, and AI/ML based processing capabilities. The combined platform would support efficient and productive use of the authorized spectrum by enabling near-term applications in methane and liquid leak detection, mineral exploration, infrastructure monitoring, maritime awareness, and defense intelligence missions, all of which directly support warfighter situational awareness, critical infrastructure protection, and U.S. technological leadership in dual use space and wireless capabilities.

Further, LTS has already begun work with Stony Brook University to support research and public benefit applications in remote sensing, environmental science, public safety, climate resilience, and quantum enabled sensing and communications. Stony Brook is home to the Quantum Institute, a research lab “[d]esigned to support interdisciplinary quantum research, across networking, computing, sensing and simulation[.]”³²

³² Press Release, Stony Brook University, *Stony Brook Launches Quantum Institute, Advances Its National Leadership in Quantum Research and Networking* (Mar. 16, 2026),

Stony Brook plans to utilize the system to directly enable next-generation research in areas such as: (a) quantum-enhanced earth observation, improving measurement sensitivity for climate, geological, and environmental systems, (b) space-based quantum entanglement experiments, advancing long-distance quantum correlations and satellite-enabled quantum links, (c) ultra-secure quantum communication protocols, including quantum key distribution and entanglement-based security architectures, (d) high-precision atmospheric and environmental monitoring, leveraging quantum sensors to detect subtle variations in atmospheric composition and behavior, and (e) development of a new advanced internet combining high-bandwidth networks, AI and entanglement-based services. These capabilities could help strengthen US' position as a leader in applied quantum technologies, accelerating scientific discovery while delivering innovations with broad public benefits, from climate resilience to secure communications infrastructure. This collaboration broadens the platform's societal value by linking commercial and national security capabilities with academic research, scientific innovation, and responsible spectrum use. It also supports the drive to maintain and establish U.S. international leadership in sensing and communications technologies of direct relevance to long term defense and national security competitiveness.

A. Theia Constellation and Spectrum Plan

Theia will communicate with user terminals using Ku-band spectrum and with gateway earth stations using Ka-band, V-band, and EESS spectrum. In addition, free space optical (“FSO”) intersatellite links (“ISLs”) will be used by Theia to create a mesh network, and FSO

<https://news.stonybrook.edu/university/stony-brook-launches-quantum-institute-advances-its-national-leadership-in-quantum-research-and-networking/>.

gateway links will be used where feasible and appropriate to connect Theia to the terrestrial network.

The Theia constellation consists of 112 cross-linked LEO satellites (plus eight in-orbit spares) with active and passive remote sensing instrumentation, communications payloads and onboard processing capabilities. It will operate in eight orbital planes of 13 satellites each, connected via FSO inter-satellite links. The satellites will carry active and passive remote sensing instruments, onboard data processing capabilities, payloads for communications in the Ku-band for M2M/IoT and standard user terminals, payloads for communications in the Ka-band for gateway earth stations, and FSO terminals for ISL connectivity among adjacent satellites and possible gateway communications. The remote sensing payload for all satellites includes a visible wavelength and midinfrared wavelength optical fixed-staring system capable of capturing a complete picture of the 120° coverage cone of each satellite (approximately 60° half angle from nadir), continuously. In addition, 52 of the satellites will carry a hyperspectral sensor with 1.2 meter primary, 52 of the satellites will carry an active L-band radar configured both for imaging and soil measurements, and eight of the satellites will carry a passive offset microwave radiometer.

Theia will have the capability of providing global, continuous coverage of the Earth for remote sensing, and machine-to-machine (“M2M”)/IoT, user terminal and gateway communications connectivity. Theia consists of satellites employing active and passive remote sensing and communications payloads, with substantial onboard processing capabilities that are interconnected with FSO ISLs that enable dynamic, cross-constellation routing of data and information. This mesh of satellites enables user traffic and remote sensing data to be transferred

to the ground, as well as user traffic and sensing data originating on ground to be uplinked, using only a limited number of gateway sites.

Ka-band and FSO gateways connect the Theia to the terrestrial network, facilitating global broadband communications, terrestrial distribution of data-intensive remote sensing analytics products and delivery of ground-processed data to end users. Ku-band user terminals connect directly to the Theia constellation to access communications and remote sensing products and services, limited only by the requirement to avoid interference with geostationary (“GSO”) systems or other co-frequency operations (and coordinate with other NGSO systems which are the subject of the Commission’s present processing round). In addition, Ku-band M2M/IoT terminals provide sensor and imagery data to, and receive directives and requests from, the Theia constellation using Ku-band spectrum. Figure 1 below shows the global coverage of the Theia constellation.

Figure 1 – Theia Constellation Global Coverage

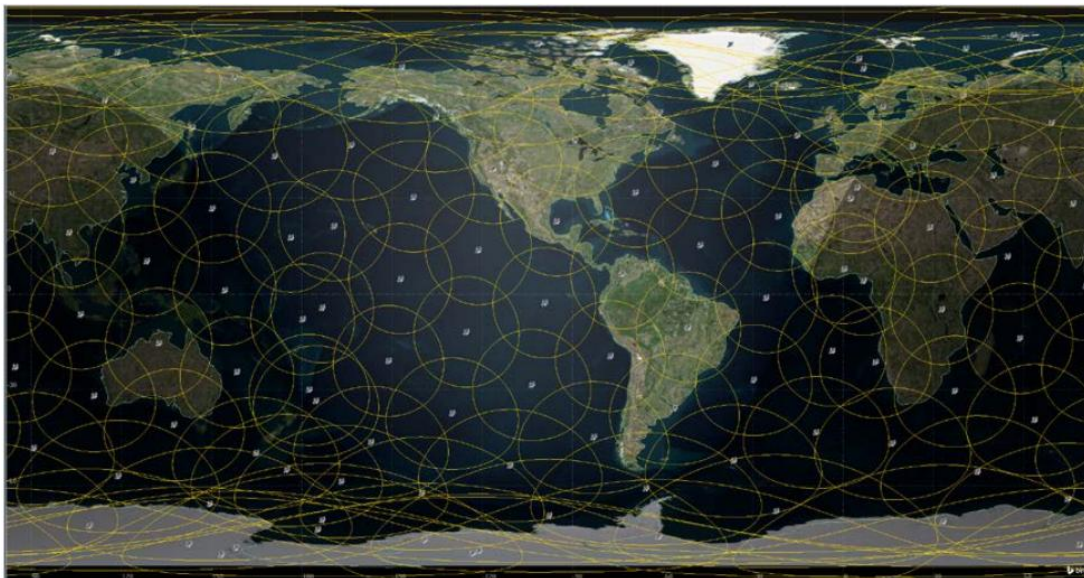


Table 1 summarizes the Theia constellation parameters:

Table 1 – Theia Constellation Parameters

Constellation Parameter	Theia Value
Total Number of On-Orbit Satellites	120
Number of Active On-Orbit Satellites	112
Number of On-Orbit Spares (initial deployment, 750 km storage orbit)	8
Number of Planes	8
Number of Active Satellites per Plane	14
Average Altitude – Active Satellites	800 km
Orbit Type	Sun Synchronous
Inclination	98.6°
Active Service Arc	Satellites will be active over the full 360° of their orbits

LTS seeks access to the following frequency bands for Theia’s operations. LTS will need access to these bands both inside and outside the United States, with waivers requested as appropriate. In bands where NGSO operations are secondary or nonconforming, LTS believes it can operate without causing harmful interference to or needing protection from users with superior spectrum rights. Theia previously received an authorization for all but three of these bands in 2019.³³ Those three bands had previously been deemed unacceptable for filing—but two are now included in this processing round,³⁴ and other operators have accessed the third by waiver.

Remote Sensing	Frequency Band
EESS (active)	1215-1300 MHz

³³ *Theia Order*, 34 FCC Rcd. at 3528 ¶ 3 nn. 15-17.

³⁴ *June 5, 2026 Processing Round Public Notice* at 1.

Gateway Links	Frequency Band
FSS (s-to-E)	17.8-18.3 GHz
FSS (s-to-E)	18.3-18.6 GHz
FSS (s-to-E)	18.8-19.4 GHz
FSS (s-to-E)	19.6-19.7 GHz
FSS (s-to-E)	19.7-20.2 GHz
FSS (E-to-s)	27.5-28.35 GHz
FSS (E-to-s)	28.35-28.6 GHz
FSS (E-to-s)	28.6-29.1 GHz
FSS (E-to-s)	29.5-30.0 GHz
FSS (s-to-E)	37.5-42.0 GHz
FSS (E-to-s)	47.2-48.2 GHz
FSS (E-to-s)	48.2-50.2 GHz
FSS (E-to-s)	50.4-51.4 GHz

User Links	Frequency Band
FSS (s-to-E)	10.7-11.7 GHz
FSS (s-to-E)	11.7-12.2 GHz
FSS (s-to-E)	12.2-12.7 GHz
FSS (E-to-s)	12.75-13.25 GHz
FSS (E-to-s)	14.0-14.5 GHz

Microwave Radiometer (Passive)	Frequency Band
EESS (Passive)	1420-1427 MHz
Space Research (Passive)	1660.5-1668.4 MHz
EESS (Passive)	2655-2690 MHz
EESS (Active)	8.55-8.65 GHz
EESS (Active)	9.3-9.9 GHz
EESS (Passive)	10.6-10.7 GHz

New Theia and LTS request access to the following additional bands:

Gateway Links	Frequency Band
FSS (s-to-E)	19.4-19.6 GHz
FSS (E-to-s)	29.1-29.5 GHz
FSS (s-to-E)	42.0-42.5 GHz

B. Ku-Band User and M2M/IoT Terminals

Theia user terminals will be used at customer sites to access Theia products and services, particularly in areas that lack terrestrial broadband Internet access connectivity. User terminals will operate in Ku-band frequencies and will be available in fixed, transportable and mobility configurations. LTS anticipates deploying ESIMs for applications like communications to operational farm and mining equipment.³⁵ New Theia and LTS also anticipates applying for

³⁵ See 47 C.F.R. § 25.228.

blanket earth station licenses for consumer terminals capable of receiving fixed broadband signals.

Theia will primarily utilize user terminals with 40 cm and 80cm antennas with electronically steered flat panel arrays. Some antennas for lower-rate user terminals will utilize 20 cm antennas. Other user terminals, potentially including larger or smaller antennas but operating within the performance envelope of a routinely authorized VSAT, are also anticipated to be deployed. Except in limited circumstances where they can be site-licensed pursuant to the Commission's rules in the 12.75-13.25 GHz band,³⁶ user terminals will uplink in the 14.0-14.5 GHz band.³⁷ All user terminals will be capable of receiving Ku-band downlink transmissions throughout the 10.7-12.7 GHz band and will be able to operate in some of the bands on an unprotected, non-interference basis.

The user terminals will track Theia satellites during their service period to the user terminal location, and near the end of that service period will repoint and acquire the next serving satellite to ensure continuous connectivity to the Theia space segment. User terminals will ascertain their own locations, the positions of relevant satellites and emissions restrictions (e.g., permissible frequencies and power levels), and thereby will be able to operate without causing interference to other satellites or services. The foregoing capabilities will enable Theia user terminals to provide IP-based broadband connectivity for transmission and receipt of remote sensing analytics information and other data, as well as support general commercial, industrial, and consumer communications needs.

³⁶ *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, First Report and Order and Further Notice of Proposed Rulemaking, 16 FCC Rcd. 4096, 4146 ¶ 122 (2000).

³⁷ *Id.* at 4156 ¶ 151.

M2M/IoT terminals are intended for lower data rate, spread spectrum communications with the Theia constellation. For example, they will be connected to things such as Earth-based sensors, cameras and other instruments to uplink data and video imagery to Theia satellites for onboard processing (including incorporation into deliverable analytics) or forwarding to the terrestrial network for ground-based processing, as appropriate. M2M/IoT terminals may also receive information or directives via the Theia constellation for various purposes. The smaller, lower-cost terminals will uplink in the 12.75-13.25 GHz band (where possible) and the 14.0-14.5 GHz band, depending on the outcome of terminal licensing decisions in individual national jurisdictions.

Although LTS has included technical information regarding representative user terminal operations in this Application to demonstrate their operation with Theia, it has not included specific technical information regarding M2M/IoT terminal operations. Theia will operate with M2M/IoT terminals within the same operational envelope specified in this Application (*e.g.*, PFD and EPFD compliance, etc.). Additional details regarding M2M/IoT and standard user terminal operational characteristics will be included in appropriate earth station applications requesting FCC authority to operate such terminals.

C. Ka-band Gateway Earth Stations

Gateway earth stations will connect the Theia constellation with terrestrial communications networks. Traffic carried by these earth stations will include user traffic that can be delivered using terrestrial backhaul (rather than direct Ku-band connections to user terminals), management and control information for handling user traffic, and TT&C operations. Gateway sites are expected to be located at high latitudes, both to enable contact with many Theia satellites simultaneously and to minimize interference with other users in more congested locations. In addition, because the Theia satellites are interconnected by FSO ISLs, only a small

number of gateway sites will be required to support Theia operations. The specific number and location of gateways will be optimized when the final constellation is authorized by the Commission.

Theia's gateway earth stations will operate in Ka-band frequencies and employ 1.6 m, 3.2 m and 4.8 m equivalent circular aperture sizes, depending on regional climate, regulatory requirements and other factors. Each gateway earth station will employ multiple, steerable antennas to allow make-before-break connectivity with the Theia constellation. Some gateway earth stations will also employ FSO links where feasible and appropriate.

D. Network Operations Centers

Theia's communications links will be managed through several network operations centers ("NOCs"). A global NOC with back-up functionality will coordinate all user traffic operations, set policies and data rates, perform quality of service management, schedule updates, and manage or supervise the management of all gateways and user terminals. Regional and national NOCs will be established as required. The NOCs will be interconnected and connected to gateways through the terrestrial communications network and will use secured, encrypted protocols to ensure data security.

E. Satellite Operations Centers and TT&C Earth Stations

Theia will employ primary and back-up satellite operations centers ("SOCs") to provide 24x7 monitoring and control of Theia satellites throughout all mission phases. Communication between the SOC and satellites occurs in one of two ways. For operational satellites within the Theia constellation, TT&C communications are conducted through the gateway links. For spare satellites and during launch, deployment and transit, as well as deorbit and disposal, TT&C communications are generally conducted using dedicated TT&C sites through the satellites' Ka-band omnidirectional antennas.

The TT&C sites will be located at high latitude to permit access to a larger number of satellites at any one time. The sites will be equipped with multiple 1.6 to 4.8 meter transmit/receive antennas and associated electronics, depending on regional climate, regulatory requirements and other factors. The specific number and location of TT&C earth stations will be optimized when the final constellation is authorized by the Commission.

F. Remote Sensing Matters

Theia previously received a NOAA license that has since been administratively closed.³⁸ LTS will apply for a new NOAA license and will update the Commission on any progress. LTS also reaffirms the June 1, 2018 commitments Theia previously made to resolve GPS interference concerns in the 1215-1300 MHz band.³⁹

G. ITU Matters

LTS has prepared necessary NGSO satellite system Advanced Publication and Request for Coordination filings for submission to the International Telecommunication Union (“ITU”), except for frequencies currently covered by Theia’s active ITU filing—USASAT-NGSO-4. LTS intends to perfect that filing, though time is of the essence. LTS will file the declaration of unconditional acceptance of all consequent ITU cost-recovery responsibility required by 47 C.F.R. § 25.111(d).

LTS also certifies that it will comply with the EPFD limits in 47 C.F.R. § 25.146(a) for its international operations.

³⁸ Letter from Sarah Brothers, NOAA, to Michael Fuqua, Receiver, SUBJECT: Administrative Closure of License to Operate THEIA Satellite Network (Apr. 16, 2026).

³⁹ See Letter from Joseph Fagnoli, Theia, to Marlene Dortch, FCC, File No. SAT-LOA-20161115-00121 (June 1, 2018).

IV. THE MODIFICATION OR *NUNC PRO TUNC* APPLICATION WILL BENEFIT THE PUBLIC INTEREST

As the Commission has already found, the Theia constellation and its advanced global remote sensing and broadband capabilities “will serve the public interest[.]”⁴⁰ The changes requested here—the addition of three bands that have become available to NGSO networks⁴¹ and the additional commitments set forth herein—would only strengthen that conclusion by making Theia more structurally efficient and providing additional spectrum to support remote sensing and broadband operations.

A. Remote Sensing Analytics Advances

Old Theia’s 2016 application explained in detail how the public interest would benefit from the Theia satellite system’s next-generation advances in remote sensing for agriculture, infrastructure, collection of real-time geophysical information, and first responder support.⁴² New Theia and LTS incorporate those benefits, which informed the Commission’s public interest finding, by reference here.⁴³

⁴⁰ *Theia Order*, 34 FCC Rcd. at 3530 ¶ 7.

⁴¹ These bands became available after the International Bureau resolved Iridium’s objections to O3b Limited’s initial proposal to use them—an event that happened after Old Theia had filed its application. *O3b Limited, Request for Modification of U.S. Market Access for O3b Limited’s Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service and in the Mobile-Satellite Service*, Order and Declaratory Ruling, 33 FCC Rcd. 5508, 5517 ¶ 23 (2018) (“We do not think it is reasonable, as Iridium asserts, or in the public interest, to preclude any other users in these bands to ensure Iridium’s possible future deployment of additional feeder link sites.”).

⁴² Application of Theia Holdings A, Inc., File No. SAT-LOA-20161115-00121, Narrative at 22-31 (Nov. 15, 2016).

⁴³ *Theia Order*, 34 FCC Rcd. at 3530 ¶ 7.

B. Theia Promotes the Efficient Use of Spectrum

Granting LTS' application would support the Commission's all-important policy of improving spectrum utilization.⁴⁴ Theia will be the first major commercial satellite constellation to combine direct-to-user communications, substantial onboard processing power, and persistent, global spectral-based remote sensing capabilities into one integrated system. It will also be the first commercial satellite constellation to deploy remote sensing instruments of sufficient size (aperture) and in sufficient number to produce spatial, spectral and temporal data with sufficient fidelity to directly produce useful commercial and industrial analytics. Therefore, Theia's operations would make more efficient use of all the spectrum it requests by adding innovative commercial services to the U.S. economy. But even more specifically, there are no other commercial NGSO systems conducting remote sensing operations in the 1215-1300 MHz band.⁴⁵ Theia will bring commercial NGSO operations to the 1215-1300 MHz band, enhancing availability of services especially the industry, agriculture, and defense customers that LTS intends to serve.

C. Theia Increases Competition

Granting New Theia's modification application or LTS's *nunc pro tunc* application would increase competition by introducing an additional provider of integrated commercial remote sensing services and satellite broadband while simultaneously ensuring that scarce spectrum resources remain available for competing operators. Unlike many spectrum licensing

⁴⁴ See, e.g., *Spectrum Abundance for Weird Space Stuff*, Notice of Proposed Rulemaking, SB Docket No. 26-54, FCC 26-13 ¶ 5 (Mar. 27, 2026).

⁴⁵ NASA's NISAR satellite operates in the band. See *About the NISAR Satellite*, NASA, <https://science.nasa.gov/mission/nisar/about-the-satellite/> (last visited July 6, 2026).

decisions, the Commission need not choose between promoting entry and preserving efficient spectrum utilization. This application advances both objectives.

By combining broadband connectivity with Earth observation, hyperspectral sensing, onboard processing, and advanced analytics, Theia will expand the range of services available to commercial, governmental, industrial, agricultural, and defense customers.

Most importantly, this application presents an unusual competitive benefit because it promotes additional entry without creating the frequent concern that scarce spectrum resources will be unnecessarily warehoused. Here, LTS has voluntarily committed to using only as much spectrum as its operations require and to permit other authorized NGSO operators to utilize spectrum that Theia is not actively using, regardless of the spectrum-sharing mechanism established by Section 25.261(c).⁴⁶ As Theia's customer demand grows, LTS will utilize additional spectrum consistent with that demand. Until then, unused spectrum capacity will remain available for use by other authorized NGSO operators. The result is a competitive "Goldilocks" outcome: the Commission can promote additional market entry while avoiding the inefficient warehousing of scarce spectrum resources.

Competition policy generally favors market entry, innovation, increased output, and the efficient utilization of scarce resources. Consistent with those principles, the Supreme Court has long recognized the competitive importance of preserving access to infrastructure or other inputs that may constrain competition, rather than permitting their unnecessary exclusionary control.⁴⁷

⁴⁶ 47 C.F.R. § 25.251(c).

⁴⁷ See, e.g., *United States v. Terminal R.R. Ass'n*, 224 U.S. 383, 411 (1912) (requiring nondiscriminatory access to a bottleneck transportation facility to prevent control of an important input from excluding competition); *Otter Tail Power Co. v. United States*, 410 U.S. 366, 378 (1973) (holding that a monopolist may not use control over essential transmission infrastructure to impede market entry or foreclose competition).

Although these cases arose in different industries, they embody the same competition principle relevant here: competition is promoted when new entry occurs without unnecessarily restricting rivals' access to scarce inputs. Theia's anti-warehousing commitment promotes both additional market entry and the efficient utilization of spectrum.

D. *Nunc Pro Tunc* Public Interest Commitments

As part of its alternative application, LTS has requested waiver of the Commission's processing round and inter-processing round sharing rules that, if granted, would result in LTS stepping into the shoes of Theia's 2019 authorization as if it had never been cancelled. Upon grant of either LTS's petition for reconsideration or its *nunc pro tunc* waiver, LTS is prepared to make a number of commitments, described below.

Treasury payment and new bond. LTS will make the \$4.34 million payment related to Theia's lapsed surety bond upon grant of New Theia's modification or LTS's *nunc pro tunc* application. New Theia and/or LTS will also post a new surety bond required by Section 25.165.⁴⁸

Spectrum sharing. LTS recognizes that the Theia system will enter an environment with multiple operational NGSOs that have established commercial operations. Because Theia is naturally likely to attract lower demand than those operators when it commences commercial operations, LTS commits to use only as much spectrum as its operations require, regardless of the spectrum allocation formula set forth in Section 25.261(c).

The competitive significance of this commitment is profound. Under the spectrum sharing rules in Section 25.261, NGSO FSS systems are required to "coordinate in good faith the use of commonly authorized frequencies," and if they do not, they may be subject to the

⁴⁸ 47 C.F.R. § 25.165.

spectrum division procedure in Section 25.261(c).⁴⁹ The applicants' commitment goes a crucial step further by allowing other systems to use Theia's unused spectrum *during* its commercial operations regardless of the Section 25.261(c) formula. This means that the system proposes a competitive Goldilocks—both the promise of additional competition and the lack of any risk of tying up resources in a service that has not yet attracted commensurate command.

The need for additional competition in the provision of broadband services is widely recognized, including by existing operators. As SpaceX's Gwynne Shotwell has emphasized, “competition is really good. It's good for people to motivate people, actually.... when you're in front which we clearly are at SpaceX, you know sometimes it's good to have that kind of kick in the pants to move forward and competition does that.”⁵⁰ And when the additional competition does not come at the expense of warehousing risks, the public interest is served not once, but twice.

Rejection of Chinese hardware. Chinese hardware increasingly poses national security and economic risks to the United States.⁵¹ LTS will exclude technology, software, hardware, and critical components sourced from foreign adversaries, including the People's Republic of China, and prioritizes trusted U.S. and allied suppliers, DoD-vetted technologies, and security-by-design principles to reduce risks of foreign compromise, espionage, cyber intrusion, and supply-chain disruption.

⁴⁹ 47 C.F.R. § 25.261(b)-(c).

⁵⁰ *CNBC Transcript: SpaceX President and COO Gwynne Shotwell Speaks with CNBC's Morgan Brennan*, CNBC (June 12, 2026), <https://www.cnbc.com/2026/06/12/cnbc-exclusive-cnbc-transcript-spacex-president-and-coo-gwynne-shotwell-speaks-with-cnbc-morgan-brennan.html>.

⁵¹ *See Protecting Against National Security Threats in Domestic Telecommunications Service*, Notice of Proposed Rulemaking, WC Docket No. 26-82, FCC 26-29 ¶ 3 (May 1, 2026).

Free ad-supported broadband. LTS will offer free, ad-supported broadband on up to 30% of its capacity nationwide in the United States. This offering will increase broadband competition by giving consumers access to a free broadband service that nobody currently provides.

Consumers rack up monthly bills for every single home broadband service offering in the United States. And the federal government has spent *billions* of dollars trying to deliver lower-cost service to rural areas or affordable service to low-income persons with no end in sight. 5G, fixed wireless, and satellite broadband options have increased broadband competition in recent years, but those services all have one thing in common—they still cost the consumer a monthly subscription. The Theia system will bring a new and innovative form of broadband service to market that will put even more downward pricing pressure on existing fixed broadband services. And Theia’s global coverage will allow consumers to access this free service in rural and remote areas that have the fewest service options.

Open platform. LTS agrees to lease its platform to any other NGSO or carrier on a nondiscriminatory basis, subject to availability. This will ensure that LTS’ spectrum is put to its highest and best use in the early stages of commercial operations where demand for LTS’ system is potentially low.

Perfect the USA-NGSO-SAT-4 ITU filing. LTS will make its best efforts to perfect the Theia USA-SAT-NGSO-4 ITU filing by deploying at least one satellite before the filing’s expiration in March 2027. The public interest would benefit from the preservation of a relatively early international priority for a U.S. operator. Though bureau-level precedents have not considered ITU priority under the public interest standard, those precedents derive from a 22-year-old cursory statement of the Bureau that the executive branch “has not identified

maintenance of U.S. priority over orbital locations as a policy goal.”⁵² But the orbits at issue here have become more valuable to national security and the public interest than the orbital locations that were the subject of that statement. More broadly, present day national security depends on a robust and innovative U.S. space industry, making maintenance of Theia’s ITU priority a clear public interest benefit.

V. WAIVER REQUESTS

The Commission may waive its rules for good cause shown.⁵³ The D.C. Circuit has explained that good cause exists when “particular facts would make strict compliance [with a rule] inconsistent with the public interest.”⁵⁴ Consistent with that precedent, the Commission has found good cause to waive rules when “(1) special circumstances warrant a deviation from the general rule, and (2) such deviation better serves the public interest.”⁵⁵ The Commission considers “hardship, equity, or more effective implementation of overall policy” in this determination.⁵⁶

⁵² *VisionStar, Inc., Application for Modification of Authority to Construct, Launch and Operate a Ka-Band Satellite System in the Fixed Satellite Service*, Memorandum Opinion and Order, 19 FCC Rcd. 14820, 14824 ¶ 11 (2004).

⁵³ 47 C.F.R. § 1.3; *Ne. Cellular Tel. Co., L.P. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969).

⁵⁴ *Ne. Cellular*, 897 F.2d at 1166.

⁵⁵ *Space Exploration Holdings, LLC, Request for Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System*, Authorization and Order, DA 26-36 ¶ 8 (2026) (“*V-Band Order*”).

⁵⁶ *Id.*

A. *Nunc Pro Tunc* Processing Round Waivers

1. Waiver of this Processing Round and the Inter-Processing Round Sharing Rules

The circumstances surrounding the original Theia system warrant a total waiver of the processing round and inter-processing round sharing rules.

Under Section 25.157(c) of the Commission’s rules, the filing of an NGSO application triggers a modified processing round for the consideration of competing NGSO applications for the same spectrum.⁵⁷ Sections 25.157(d)-(g) explain how spectrum may be allocated among all successful participants in processing round.⁵⁸ The purpose of the processing round is “to prevent one applicant from unreasonably precluding additional entry by other operators in the requested frequency band.”⁵⁹ In other words, the rule seeks to stop the development of a first-come, first-served system.⁶⁰

Separately, Section 25.261(d) provides in part that “Prior to commencing operations, an NGSO FSS licensee or market access recipient must either certify that it has completed a coordination agreement with any operational NGSO FSS system licensed or granted U.S. market access in an earlier processing round, or submit for Commission approval a compatibility showing which demonstrates by use of a degraded throughput methodology that it will not cause harmful interference to any such system with which coordination has not been completed.”⁶¹

⁵⁷ 47 C.F.R. § 25.157(c)(1).

⁵⁸ 47 C.F.R. § 25.157(d)-(g).

⁵⁹ *Swarm Technologies, Inc., Application for Authority to Deploy and Operate a Non-Voice, Non-Geostationary Lower Earth Orbit Satellite System in the Mobile-Satellite Services*, Memorandum Opinion, Order and Authorization, 34 FCC Rcd. 9469, 9475 ¶ 16 (2019).

⁶⁰ *Amendment of the Commission’s Space Station Licensing rules and Policies*, First Report and Order, 18 FCC Rcd. 10760, 10774-75 ¶ 25 (2003) (“*First Space Station Licensing Order*”).

⁶¹ 47 C.F.R. § 25.261(d).

The purpose of the rule is to “balance ... competing goals of providing regulatory certainty for, and adequate protection of, earlier round systems vis-à-vis later entrants while encouraging new entry and coordination among NGSO FSS operators.”⁶²

The purpose of both rules would not be served here. LTS is neither unreasonably precluding other entities from competing nor tipping the scale against new entrants. Instead, LTS is trying to get a *chance* to construct, launch, and operate the Theia system it invested hundreds of millions of dollars into after severe fraud and mismanagement, a four-year long receivership, and blatant receivership law violations that resulted in the cancellation of Theia’s license have derailed any efforts towards deploying the system.

And prospective entrants have not been constrained by any entry from Theia. The five applicants included in this processing round so far all applied to construct, launch, and operate NGSO constellations *before* the Space Bureau cancelled Theia’s license. So multiple operators were comfortable jumping into the market knowing they may have to coordinate with Theia. The Commission should continue to honor its Commission’s longstanding policy of protecting innocent third party creditors, including investors in the all-important U.S. space economy.⁶³

Moreover, this waiver would support the public interest. In exchange for *nunc pro tunc* treatment, LTS commits to: (1) pay the \$4.34 million owed to the United States related to Theia’s lapsed surety bond; (2) post a new bond; (3) exclude critical technology, software, hardware, and components sourced from foreign adversaries, including the People’s Republic of China, and prioritize trusted U.S. and allied suppliers, DoD-vetted technologies, and security-by-

⁶² *Revising Spectrum Sharing Rules for Non-Geostationary Orbit, Fixed-Satellite Service Systems*, Second Report and Order and Order on Reconsideration, 39 FCC Rcd 12656, 12661 ¶ 9 (2024).

⁶³ *LaRose v. FCC*, 494 F.2d 1145, 1146 n.2 (D.C. Cir. 1974).

design principles to reduce risks of foreign compromise, espionage, cyber intrusion, and supply-chain disruption; (4) devote up to 30% of the system’s Ku- and Ka-band capacity to offer free, ad-supported broadband to users across the United States, a groundbreaking commitment that will finally pave the path to broadband that is free to U.S. consumers, including in rural areas; (5) allow other licensees in the same bands to use spectrum that the system does not use even when the system is in operation; (6) make the system available for lease to other NGSO licensees and terrestrial carriers alike; and (7) assuming either New Theia’s or LTS’s application is granted by October 31 2026, bring the network, which the U.S. has duly notified to the ITU, into use by the existing March 2027 milestone. The Commission should waive both LTS’ participation in this processing round and the need to coordinate with earlier systems, and restore Theia’s first-round status *nunc pro tunc*.

2. Waiver of the Processing Round Rules for the 1215-1300 MHz and 42.0-42.5 GHz Bands

Regardless, LTS requests the same waiver of the processing round rules with respect to the 1215-1300 MHz band that Theia received in 2019, in addition to a waiver for the 42.0-42.5 GHz band. Neither band is part of the processing round here.⁶⁴ The Space Bureau has previously found special circumstances for waiving a processing round when proposed NGSO operations “could coexist with existing users of the band and would not preclude other operators’ use of the band in the future[.]”⁶⁵

For the 1215-1300 MHz band, Theia received a processing round waiver for exactly that reason in 2019. As the Commission found back then, “Theia’s proposed EESS operations will

⁶⁴ See June 5, 2026 Processing Round Public Notice.

⁶⁵ *V-Band Order* ¶ 13 (citing *Space Exploration Holdings, LLC, Requests for Orbital Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System*, Order and Authorization, 39 FCC Rcd. 2159, 2164-66 ¶¶ 10-13 (2024) (“*E-band Order*”)).

be able to share spectrum with other EESS systems by time sharing its transmissions over the same geographic area, and thus will not preclude future operators from providing EESS in these frequency bands.”⁶⁶ This finding aligned with five earlier Bureau-level decisions concluding the same.⁶⁷ Because the same is true today, the same result should follow. Theia remains the only commercial NGSO constellation to have ever received an authorization in the 1215-1300 MHz band. LTS is unaware of other commercial NGSO operations in the band. Accordingly, nothing since 2019 has altered the prospects for sharing the band. Theia will be able to use these frequencies without causing harmful interference, will actively work with the Department of War and other agencies to address any interference concerns, and will painstakingly observe the band’s secondary status.

As described below, Theia will also be able to use the 42.0-42.5 GHz bands without causing harmful interference to other operators.

B. Individual Customer Prohibition in 37.5-40.0 GHz (47 C.F.R. § 25.202(a)(1)(ii))

LTS requests the same waiver of Section 25.202(a)(1)(ii) that Theia received in 2019.⁶⁸ Section 25.202(a)(1)(ii) explains that “[u]se of the 37.5-40 GHz band by the FSS (space-to-Earth) is limited to individually licensed earth stations” and that “Earth stations in this band must not be ubiquitously deployed and must not be used to serve individual consumers.”⁶⁹ As the Commission explained when granting this waiver for Theia in 2019, “the context of the prohibition on serving individual consumers is in relation to small, ubiquitously deployed earth

⁶⁶ *Theia Order*, 34 FCC Rcd. at 3532 ¶ 14.

⁶⁷ *Id.* at n.47 (collecting decisions).

⁶⁸ *Theia Order*, 34 FCC Rcd. at 3537 ¶ 30.

⁶⁹ 47 C.F.R. § 25.202(a)(1)(ii).

stations, not large individually-licensed earth station facilities as proposed by Theia, even if used to serve a single customer.”⁷⁰ Earth stations that LTS will deploy in this band are gateways and individually licensed gateway-like terminals for individual industrial and corporate customers (e.g., an agricultural corporation seeking remote sensing services). Thus, a waiver is warranted again.

C. Section 25.146(c) EPFD ITU Finding

LTS requests waiver of Section 25.146(c) of the Commission’s rules, 47 C.F.R. § 25.146(c), to permit operation of its NGSO FSS system prior to receiving the International Telecommunication Union (“ITU”) finding required by this rule. Such a waiver is consistent with Commission precedent, would further the public interest by allowing Theia to expeditiously deploy and provide next-generation connectivity to customers across the globe, and has been implicitly endorsed by the Commission’s new NGSO-GSO spectrum sharing framework.

Section 25.146(c) of the Commission’s rules requires that NGSO FSS applicants receive a “favorable” or “qualified favorable” finding from the ITU regarding their compliance with the ITU’s Article 22 EPFD limits, and communicate that finding to the Commission, prior to initiating service. But as the Commission has found, waiver of this requirement is appropriate where the ITU’s timeframe for reviewing EPFD compliance would “deter [the] start of operations”⁷¹ and the waiver would “enable faster deployment ... and accelerate [] efforts to

⁷⁰ *Theia Order*, 34 FCC Rcd. at 3537 ¶ 30.

⁷¹ *Space Exploration Holdings, LLC, Request for Modification*, Order and Authorization, 34 FCC Rcd. 2526, 2536 ¶ 28 (2019); *see also Space Exploration Holdings, LLC, Request for Modification*, Order and Authorization and Order on Reconsideration, 36 FCC Rcd. 7995, 8021 ¶ 41 (2021) (upholding grant of waiver of Section 25.146(c)); *Space Exploration Holdings, LLC, Request for Orbital Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System*, Order and Authorization, 37 FCC Rcd. 14882, 14905 ¶ 32 (2022).

close the digital divide with low-latency, high speed broadband connectivity.”⁷² Waiver of Section 25.146(c) would similarly enable the efficient deployment of the Theia NGSO system that is poised to revolutionize the fields of satellite communications and remote sensing and analytics.

LTS’s request is further bolstered by the new NGSO-GSO spectrum sharing regime that the Commission adopted earlier this year. The Commission has concluded, with respect to domestic operations, that the ITU’s Article 22 EPFD limits are “needlessly prescriptive, outdated, and overprotective of GSO operations.”⁷³ Under the Commission’s modernized NGSO-GSO spectrum sharing framework, the Article 22 EPFD limits have now been replaced with a “performance-based” regime grounded in good-faith coordination between system operators.⁷⁴ The new compliance process adopted by the Commission is, of course, “different from what new applicants would need to submit to the ITU to certify compliance” with the Article 22 EPFD limits,⁷⁵ rendering Section 25.146(c)’s requirement to receive an ITU finding as part of the Commission’s application process unnecessary. So a waiver of this rule is justified.

⁷² *Kuiper Systems LLC Request for Modification of the Authorization for the Kuiper NGSO Satellite System*, Order and Authorization, 39 FCC Rcd. 3987, 3993 ¶ 11 (2024); *see also id.* at 3994 ¶ 13 (“[T]he sooner [Kuiper] begins deploying and operating its satellites, the sooner it will be capable of providing service. Delaying deployment and operations until after it has received an ITU finding on its combined filing will only delay the provision of competitive broadband service even further.”).

⁷³ *Modernizing Spectrum Sharing for Satellite Broadband*, Report and Order, SB Docket No. 25-157; FCC 26-26 ¶ 48 (May 1, 2026).

⁷⁴ *Id.* ¶ 3.

⁷⁵ *Id.* at Appendix D ¶ 20.

D. Table of Frequency Allocations

1. 19.4-19.6 GHz

Section 2.106 of the Commission's rules limits FSS use of the 19.3-19.7 GHz band (space-to-earth) to feeder links for Mobile-Satellite Systems ("MSS") systems. The Theia system supports Ku-band Earth-stations-in-motion ("ESIMs").⁷⁶ There is no logical reason why feeder links for ESIM operations should be excluded from a band allocated to feeder links for MSS operations.

To the extent the Commission concludes otherwise, LTS requests a waiver to use the 19.4-19.6 GHz band for limited gateway receive operations. The Bureau has recently granted SpaceX a waiver to operate FSS user links on an unprotected and non-interference basis to MSS feeder link operations.⁷⁷ Likewise, the Bureau has granted Amazon Leo a similar waiver.⁷⁸ LTS would operate under the same conditions.

This waiver is appropriate because there is little or no risk of interference from Theia gateway receive operations in the 19.4-19.6 band. As demonstrated in the Technical Narrative, Theia's Ka-band gateway operations would comply with the relevant PFD limits and protect GSO operations. Theia will accommodate all Federal operations in the band, including those contemplated in note US334(b) to the US Table of Allocations. Finally, LTS believes that even on a non-conforming unprotected, non-interference basis, it will be possible to site and operate

⁷⁶ See 47 C.F.R. § 25.228

⁷⁷ Space Exploration Holdings, LLC, ICFS File Nos. SAT-LOA-20200526-00055, SAT-AMD-20210818-00105, SAT-AMD-20221216-00175, SAT-AMD-20241017-00228, SAT-MOD-20241011-00224, at Condition 3(d)-(e) (granted Jan. 9, 2026) ("*SpaceX Jan. 2026 Grant*").

⁷⁸ Kuiper Systems LLC, ICFS Files Nos. SAT-LOA-20211104-00145, SAT-AMD-20250311-00068, at Condition 2(b)-(c) (granted Feb. 10, 2026) ("*Kuiper Feb. 2026 Grant*").

the gateways in a manner that fully protects existing and future feeder link operations in the band.

2. 29.1-29.5 GHz.

The U.S. Table of Allocations and Section 25.202 permits use of the entire 29.1-29.5 GHz band for feeder links for MSS systems on a primary basis.⁷⁹ In the 29.1-29.25 GHz portion of this band, that allocation is co-primary with the Local Multipoint Distribution Service (“LMDS”).⁸⁰ In the 29.25-29.5 GHz portion of this band, that allocation is co-primary with GSO FSS service.⁸¹ Throughout the entire band, NGSO FSS operations are otherwise considered non-conforming.

As noted above, Theia intends to communicate with ESIMs in the Ku-band. As a result, use of the 29.1-29.5 GHz band for gateways (i.e., feeder links) to support ESIMs can be considered a conforming use of the band. Granting Theia authority to access the 29.1-29.5 GHz band for limited gateway operations to support such operations, as well as other Theia functions, would be consistent with permitted uses of the band.

Nonetheless, Theia requests a waiver of the Table of Allocations and Section 25.202(a) of the Commission’s rules to the extent required for Theia to use the 29.1-29.5 GHz band on a non-conforming basis for gateway operations that support non-ESIM applications. Access to this band for a limited number of gateway earth stations in remote areas can be effectively coordinated with existing and future feeder link earth stations for MSS systems, and will have no

⁷⁹ 47 C.F.R. § 2.106 (n. NG166)

⁸⁰ 47 C.F.R. § 2.106.

⁸¹ *Id.*

adverse impact on other co-frequency operations such as LMDS links. Additionally, there is little or no potential for interference to GSO FSS systems in the 29.25-29.5 GHz band.

Thus, gateway operations can be permitted in the 29.1-29.5 GHz band, in part on a conforming basis. To the extent that gateway operations in this band are authorized on a non-conforming basis only: (1) Theia will not claim protection from conforming uses of the spectrum and agrees to accept any harmful interference from other services while operating on an unprotected, non-conforming basis; and (2) Theia will immediately suspend gateway uplink operations in this band if it is determined that such operations are causing harmful interference to any lawfully authorized radio stations in the 29.1-29.5 GHz band operating in conformance with the Commission's rules.

Similar to the 19.4-19.6 GHz band, the Bureau recently granted SpaceX a waiver to operate FSS user links on an unprotected and non-interference basis to MSS feeder link operations.⁸² LTS proposes to operate under these same conditions, as described above.

3. 42.0-42.5 GHz

The U.S. Table of Frequency Allocations provides that the 42.0-42.5 GHz band is allocated as a non-Federal only band for FS and mobile use on a co-primary basis.⁸³ Although the band is allocated internationally for FSS, the U.S. Table does not contain a corresponding domestic FSS allocation. Theia and LTS request a waiver to permit limited gateway and other high-capacity earth station receive operations in the United States on a non-conforming basis in the 42.0-42.5 GHz band. As discussed below, there is no potential for interference to terrestrial services from Theia's limited satellite downlink transmissions. Theia and LTS agree to accept

⁸² See SpaceX Jan. 2026 Grant at Condition 3(d)-(e).

⁸³ See 47 C.F.R. § 2.106.

any harmful interference from these services while operating on a non-conforming, unprotected basis and to comply with PFD limits in ITU 5.551H, the same terms on which the Space Bureau recently granted Logos Space a waiver to operate FSS downlinks in this band.⁸⁴

Theia and LTS seeks a waiver of Sections 2.106 and 25.202(a)(1) to permit it to use the 42.0-42.5 GHz band for individually licensed, gateway and gateway-like earth stations for downlinks from Theia spacecraft, consistent with the ITU Radio Regulations. Theia will rely on a small number of these earth stations to receive Earth observation data. The earth stations will be limited in number because each Theia satellite has only two antennas that can support two small spot beams for V-band or Ka-band downlink communications. The large volume of Earth observation data Theia will generate necessitates additional V-band downlink spectrum, including access to this band, to transmit these data to the terrestrial network or enterprise/government customers.

In the *Spectrum Frontiers Order*,⁸⁵ the Commission deleted the existing allocations for broadcasting and BSS service in this band from the U.S. Table of Frequency Allocations and declined to add an FSS allocation, citing the “ubiquitous nature” of broadcasting and BSS services and the attendant potential for interference with radioastronomy in the adjacent 42.5-43.5 GHz band, as well as future terrestrial 5G services.⁸⁶

The interference concerns associated with the ubiquity of broadcasting and BSS service are fully mitigated in this case because Theia plans only a small number of individually licensed earth stations at fixed locations, not a ubiquitous deployment. Because the gateway and

⁸⁴ Logos Space Waiver at Condition 5.

⁸⁵ *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 8014, 8144 ¶¶ 367-68 (2016).

⁸⁶ *Id.* at 8144 ¶ 367.

gateway-like terminals have high discrimination, they can tolerate potential interference from terrestrial operations far better than small user terminals required for ubiquitous consumer services. Additionally, these larger earth stations can be sited in remote locations and still perform their essential functions. Thus, Theia's limited, receive earth station operations in this band can be accommodated in the United States. Furthermore, Theia could operate successfully in accord with the PFD limits applicable to FSS operations in the 42.0-42.5 GHz band that were adopted to protect radioastronomy services in the adjacent 42.5-43.5 GHz band.⁸⁷

The requested waiver is indistinguishable from the one the Space Bureau recently granted when it allowed Logos Space's to use the 42.0-42.5 GHz band for FSS downlinks on an unprotected and non-interference basis.⁸⁸ That waiver requires Logos Space to "not cause harmful interference to operators in the RAS in the adjacent 42.5-43.5 GHz band" and to "comply with the equivalent PFD (EPFD) limits in accordance with ITU 5.551H."⁸⁹ But most notably, it also required Logos Space to "coordinate with all current and future operators in the 42.0-42.5 GHz band,"⁹⁰ indicating that Bureau contemplates granting future waivers for limited operations like Theia's proposed operations here. Theia can operate under the same terms in Logos Space's waiver. And the fact that Theia's operations will be for a limited number of gateways, rather than the more ubiquitous user terminals that Logos Space operates, means even less potential for interference in this case.

⁸⁷ See 47 C.F.R. §§ 2.106, 25.202(a)(1) (citing ITU-R Resolution 743). Resolution 743 resolves, inter alia, that an administration that plans to operate an NGSO FSS system in the 42.0-42.5 GHz band shall take all practicable steps to avoid exceeding the PFD value of -246 dB(W/m²) in any 500 kHz for any NGSO system in the 42.5-42.77 GHz band, for more than 2 percent of the time, at the site of a radioastronomy station registered as a single-dish radio telescope in Region 2.

⁸⁸ Logos Space Waiver at Condition 5.

⁸⁹ *Id.* at Condition 5(i)-(ii).

⁹⁰ *Id.* at Condition 5(i).

Regardless of the Commission's decision on the requested waiver, Theia requests that the Commission include the 42.0-42.5 GHz band in Theia's license for use outside the United States. This band has been allocated internationally for FSS use and Theia will operate in the band subject to the frequency allocations and associated regulatory requirements of foreign nations in which Theia may operate.

VI. CONCLUSION

With the dust now settled on the receivership, New Theia and LTS are prepared to make the Theia vision a reality. The Commission should grant New Theia's modification application and/or LTS's application, and do so on a *nunc pro tunc* basis, so that LTS can get the job done.

Respectfully submitted,

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CERTIFICATION

I, Mei-Li da Silva Vint, certify under penalty of perjury that the foregoing modification application and NGSO application and attachments thereto are true and correct to the best of my knowledge.

/s/ Mei-Li da Silva Vint
Executed on July 6, 2026