Approved by OMB
3060–0678

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FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	FCC Use Only

APPLICANT INFORMATION
Enter a description of this application to identify it on the main menu:
Modification of Terrestrial Rights Associated with AMSC–1

1–8. Legal Name of Applicant

Name:	LightSquared Subsidiary LLC, Debtor–in–Possession	**Phone Number:**	703–390–2001
DBA Name:		**Fax Number:**	
Street:	10802 Parkridge Boulevard	**E–Mail:**	jeff.carlisle@lightsquared.com
City:	Reston	**State:**	VA
Country:	USA	**Zipcode:**	20191 –
Attention:	Mr Jeffrey J Carlisle		

9–16. Name of Contact Representative

Name:	Jeffrey J. Carlisle	**Phone Number:**	703–390–2001
Company:	LightSquared Subsidiary LLC, Debtor–in–Possession	**Fax Number:**	
Street:	10802 Parkridge Boulevard	**E–Mail:**	jeff.carlisle@lightsquared.com
City:	Reston	**State:**	VA
Country:	USA	**Zipcode:**	20191–
Attention:	Jeffrey J. Carlisle	**Relationship:**	Same

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b. ○ a1. Earth Station ◉ a2. Space Station	(N/A) b1. Application for License of New Station (N/A) b2. Application for Registration of New Domestic Receive–Only Station ○ b3. Amendment to a Pending Application ◉ b4. Modification of License or Registration b5. Assignment of License or Registration b6. Transfer of Control of License or Registration ○ b7. Notification of Minor Modification (N/A) b8. Application for License of New Receive–Only Station Using Non–U.S. Licensed Satellite (N/A) b9. Letter of Intent to Use Non–U.S. Licensed Satellite to Provide Service in the United States (N/A) b10. Other (Please specify) (N/A) b11. Application for Earth Station to Access a Non–U.S.satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States (N/A) b12. Application for Database Entry ○ b13. Amendment to a Pending Database Entry Application ○ b14. Modification of Database Entry
17c. Is a fee submitted with this application? ◉ If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114). ○ Governmental Entity ○ Noncommercial educational licensee ○ Other(please explain):	
17d. Fee Classification BFY – Space Station Modification(Geostationary)	

18. If this filing is in reference to an existing station, enter:	19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:	
(a) Call sign of station: AMSC-1	(a) Date pending application was filed:	(b) File number: SATMOD2011112800228

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- ☐ a. Fixed Satellite
- ☒ b. Mobile Satellite
- ☐ c. Radiodetermination Satellite
- ☐ d. Earth Exploration Satellite
- ☐ e. Direct to Home Fixed Satellite
- ☐ f. Digital Audio Radio Service
- ☒ g. Other (please specify) ATC

21. STATUS: Choose the button next to the applicable status. Choose only one.	22. If earth station applicant, check all that apply.
○ Common Carrier ◉ Non-Common Carrier	☐ Using U.S. licensed satellites ☐ Using Non-U.S. licensed satellites

23. If applicant is providng INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

○ Connected to a Public Switched Network ○ Not connected to a Public Switched Network ◉ N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

☐ a. C–Band (4/6 GHz) ☐ b. Ku–Band (12/14 GHz)

☒ c.Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: 1675 Frequency Upper: 1680 (Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

○ a. Fixed Earth Station

○ b. Temporary–Fixed Earth Station

○ c. 12/14 GHz VSAT Network

○ d. Mobile Earth Station

○ e. Geostationary Space Station

○ f. Non–Geostationary Space Station

◉ g. Other (please specify) ATC

26. TYPE OF EARTH STATION FACILITY:

○ Transmit/Receive ○ Transmit–Only ○ Receive–Only ◉ N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- [ ] a — authorization to add new emission designator and related service
- [ ] b — authorization to change emission designator and related service
- [ ] c — authorization to increase EIRP and EIRP density
- [ ] d — authorization to replace antenna
- [ ] e — authorization to add antenna
- [ ] f — authorization to relocate fixed station
- [x] g — authorization to change frequency(ies)
- [ ] h — authorization to add frequency
- [ ] i — authorization to add Points of Communication (satellites & countries)
- [ ] j — authorization to change Points of Communication (satellites & countries)
- [ ] k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
- [ ] l — authorization to change orbit location
- [ ] m — authorization to perform fleet management
- [ ] n — authorization to extend milestones
- [ ] o — Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.	○ Yes ◉ No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30–34.

29. Is the applicant a foreign government or the representative of any foreign government?	○ Yes ◉ No
30. Is the applicant an alien or the representative of an alien?	○ Yes ◉ No ○ N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	○ Yes ◉ No ○ N/A
32. Is the applicant a corporation of which more than one–fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	○ Yes ◉ No ○ N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one–fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	◉ Yes ○ No ○ N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	Response to Q. 34/40

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	◉ Yes ○ No Response to Q. 35
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explination of circumstances.	○ Yes ◉ No

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explination of circumstances.	○ Yes	◉ No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attemptiing unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition?If Yes, attach as an exhibit, an explanation of circumstances	○ Yes	◉ No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhinit, an explanation of the circumstances.	○ Yes	◉ No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.		

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti–Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.	◉ Yes ○ No
42a. Does the applicant intend to use a non–U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.	○ Yes ◉ No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?	

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

By this application, LightSquared seeks to modify the ATC spectrum rights associated with its existing space station license. See attached exhibit for additional information.

Response to Q. 43

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

○ A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

◉ B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

○ C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- ○ Individual
- ○ Unincorporated Association
- ○ Partnership
- ◉ Corporation
- ○ Governmental Entity
- ○ Other (please specify)

45. Name of Person Signing	46. Title of Person Signing
Jeffrey J. Carlisle	EVP, Public Policy & Regulatory Affairs

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WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104–13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

RESPONSE TO QUESTION 43: DESCRIPTION OF PROPOSED MODIFICATION

As part of a comprehensive solution that would permit LightSquared to commence operation of a new, competitive terrestrial broadband network while also addressing issues raised by the GPS industry, LightSquared Subsidiary LLC ("LightSquared") hereby seeks to modify its license authorizing it to provide mobile satellite service ("MSS") and MSS-ATC service. The proposals LightSquared is making in this application for modification ("Application") and in a separate petition for rulemaking[1] constitute a long-term solution that balances promoting compatibility with GPS receivers with the growing national imperative to devote large blocks of additional spectrum, in particular MSS spectrum, for wireless broadband.

Grant of this Application will remove obstacles that have prevented LightSquared from constructing and operating the type of commercially and technically viable nationwide mobile broadband network that LightSquared is able to deploy more quickly than any other potential new entrant. The public interest benefits that will flow from this Application are substantial, as recognized by the Commission when it authorized the deployment of the LightSquared network in the *Harbinger Transfer Order*. At that time, the Commission found that LightSquared's 4G mobile wireless broadband would provide significant public interest benefits, including enhancing competition among current mobile wireless providers and providing mobile wireless broadband service to traditionally underserved areas.[2] With this proposal, LightSquared

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[1] LightSquared is filing contemporaneously herewith a petition for rulemaking ("Rulemaking Petition") regarding terrestrial operations in LightSquared's lower 10 MHz downlink band at 1526-1536 MHz. In an additional separate filing, LightSquared has requested that the Commission confirm that all of the milestones in the *Harbinger Transfer Order* are now mooted and that the Commission establish new milestones at a future date. *See* LightSquared *Ex Parte* Communication and Request for Action, IB Docket Nos. 08-184, 11-109; ET Docket No. 10-142; IBFS File no. SAT-MOD-2010118-00239 (filed Sept. 24, 2012); *see also In re SkyTerra Communications, Inc., Memorandum Opinion and Order and Declaratory Ruling*, 25 FCC Rcd 3059, 3087-3088 (Chiefs IB, OET, and WTB 2010) ("*Harbinger Transfer Order*").

[2] *Harbinger Transfer Order*, 25 FCC Rcd at 3087-3088.

provides the Commission with an appropriate vehicle to realize these and other substantial public interest benefits.[3]

I. LIGHTSQUARED'S PROPOSED LICENSE MODIFICATION

In this Application, LightSquared proposes a comprehensive approach comprised of interrelated elements for addressing issues that have precluded even the initial deployment of its mobile broadband network. This approach would serve the public interest in the near term by establishing a path forward for LightSquared to proceed with building and providing service over a commercially viable wireless broadband network that provides greater access, choice, and competition for all Americans. LightSquared's proposed license modification consists of the following mutually-dependent and interrelated elements:

- Permanently relinquish its authority to conduct terrestrial operations in its upper 10 MHz downlink band at 1545-1555 MHz—the part of LightSquared's downlink band that is closest to the GPS band—thus providing GPS receivers an additional 10 MHz guardband from terrestrial services.
- Submit the issue of rules for LightSquared's eventual terrestrial use of its lower 10 MHz downlink band at 1526-1536 MHz to a separate rulemaking proceeding, as proposed in the Rulemaking Petition. During the pendency of that rulemaking proceeding, LightSquared, voluntarily, would not deploy its lower 10 MHz spectrum on its terrestrial network.

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[3] In response to Congressional inquiry regarding the Commission's consideration of authorizing LightSquared to use alternative spectrum for commercial broadband use, Chairman Genachowski stated that LightSquared had not at that time submitted a petition regarding such use. *See* Letters from Julius Genachowski, Chairman, to the Hon. James P. Moran, the Hon. Steven R. Rothman, the Hon. Maurice D. Hinchey, the Hon. Ander Crenshaw, and the Hon. Rodney Alexander (Aug. 13, 2012). Chairman Genachowski further stated: "Should that change, the Commission will coordinate with NTIA as necessary, and consider any proposals carefully." *Id.* LightSquared now submits such a proposal. Coordination between the Commission and NTIA to achieve the most efficient use of spectrum is, of course, a crucial part of each agency's mission.

- In lieu of any terrestrial use of its upper 10 MHz downlink band, LightSquared initially would employ alternative (non-L-Band) spectrum, comprised of a contiguous 10 MHz band at 1670-1680 MHz, which would provide the needed coverage for its terrestrial network. Only after this alternative spectrum has been secured, and in accordance with the schedule, terms, and conditions that are expected to be developed in the rulemaking it has proposed, LightSquared anticipates using the lower 10 MHz L-Band downlink band to provide additional capacity as needed. The alternative 10 MHz of downlink spectrum to be used initially consists of:
    - 1670-1675 MHz, which LightSquared already has authority to use nationwide, and
    - 1675-1680 MHz, which LightSquared proposes to share with certain existing federal government users. LightSquared seeks authority to use the 1675-1680 MHz band to provide a commercially-useable, terrestrial wireless broadband service as part of a contiguous 10 MHz downlink channel. Given its present use of the 1670-1675 MHz band, LightSquared has extensive experience coordinating this existing 5 MHz with the adjacent band used by the federal government. Thus, LightSquared is uniquely suited to use this entire contiguous 10 MHz band in a manner that will protect the integrity of continuing, essential government operations in 1675-1680 MHz and the adjacent spectrum at 1680-1695 MHz. LightSquared's proposal to access spectrum used by federal agencies as proposed in this Application is supported by prior precedents for such use and would substantially serve federal interests in facilitating efficient spectrum use, dedicating additional spectrum to mobile broadband, and deploying a new, competitive broadband network, with particular emphasis on rural and underserved communities.

- LightSquared would continue to use its two 10 MHz uplink bands at 1627.5-1637.5 and 1646.7-1656.7 MHz under their existing technical parameters and match them with an alternative downlink channel at 1670-1680 MHz in an operationally-efficient and commercially-viable manner.

Accordingly, in this Application, LightSquared specifically proposes to vacate the 10 MHz of its terrestrially licensed spectrum closest to GPS, which will provide GPS receivers a permanent guardband from terrestrial services, and to gain access to 5 MHz of alternate spectrum, so that it can begin to build a mobile broadband network that will promote jobs and innovation and enhance safety for consumers by offering greater access and reliability.

In sum, in a result that will balance the needs of all stakeholders while maximizing the public interest benefits of a new, competitive broadband network, LightSquared proposes to change its historical plans for deploying in 40 MHz of the L-Band as the centerpiece of its 45 MHz terrestrial network (including 5 MHz at 1670-1675), by permanently relinquishing its right to use terrestrially its upper 10 MHz L-Band downlink, and by not deploying terrestrially in its lower 10 MHz L Band downlink during the pendency of its proposed rulemaking. Thus, LightSquared would initially utilize only 20 MHz of its L-Band spectrum (the uplinks), as well as its existing 5 MHz at 1670-1675 and the proposed 5 MHz at 1675-1680 MHz (the downlinks), for 30 MHz total. LightSquared has invested billions of dollars in developing its terrestrial network, and while it is proposing to reduce the amount of spectrum to be used on this terrestrial network to accommodate concerns regarding GPS compatibility, grant of this Application still would enable LightSquared to immediately expand on its existing, multi-billion dollar investment to build a network that brings more competition, choice and access to hundreds of millions of Americans more quickly than any other potential new wireless network operator.

II. THE PROPOSED LICENSE MODIFICATION IS CONSISTENT WITH THE COMMISSION'S OBLIGATION TO CONSIDER CONSTRUCTIVE SOLUTIONS TO SPECTRUM CONTROVERSIES

LightSquared has demonstrated in other contexts that terrestrial operations in the MSS portions of the L-Band would be fully consistent with its longstanding authorizations, the Commission's service rules, and applicable technical standards.[4] Nevertheless, LightSquared remains willing to explore constructive solutions that would address concerns raised by the GPS industry and others, while still allowing LightSquared to provide commercial service over its terrestrial network. The specific proposal advanced by LightSquared in this Application offers such a solution.

Notably, ample Commission precedent exists for this sort of solution—particularly when viewed as necessary to provide a substantial public interest benefit, such as addressing concerns about compatibility with other spectrum users. For example, the Commission relocated the Digital Electronic Messaging Service ("DEMS") from the 18 GHz Band to the 24 GHz Band based on national security concerns.[5] In that case, the Commission acted at the request of NTIA, in order to address Department of Defense concerns regarding potential interference from DEMS into military satellite earth stations in Denver and Washington, D.C. operating in the 18 GHz Band. By relocating DEMS to the 24 GHz Band and providing DEMS access to twice the amount of spectrum originally licensed, the Commission resolved these concerns, as well as concerns about the sharing of the 18 GHz Band with commercial satellite services.[6]

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[4] *See* LightSquared Petition for Declaratory Ruling, IB Docket No. 11-109, at 11-18 (filed Dec. 20, 2011); Comments in Opposition of LightSquared Inc., IB Docket No. 11-109 (Mar. 16, 2012).

[5] *See Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band for Fixed Service*, 12 FCC Rcd 3471 (1997); *aff'd*, 13 FCC Rcd 15147 (1998).

[6] In doing so, the Commission invoked the "military function" exception to the Administrative Procedures Act, facilitating Commission action within approximately two months and without notice and comment procedures. *See* 5 U.S.C. § 553(a)(1).

The Commission also effected a similar spectrum rationalization when it reconfigured the 800 MHz Band to resolve interference issues resulting from the differing uses of the interleaved channels in the band.[7] In recognition of the "public interest benefit derived from robust and reliable public safety communications," as well as the spectrum rights surrendered by Nextel in the 800 MHz Band, the Commission provided Nextel with spectrum in the 1.9 GHz Band.[8]

More recently, the Commission has recognized the potential for interference from MSS/ATC operations in the 2 GHz Band into adjacent personal communications service ("PCS") and advanced wireless service ("AWS") operations. In order to mitigate such potential, the Commission has proposed to reconfigure the 2 GHz Band[9] in order to "release a greater quantity of usable spectrum into the marketplace, reduce the need for guard bands to protect against harmful interference, and extend the existing PCS and AWS bands" – all of which would benefit the public.[10]

In short, the Commission has recognized the public interest benefits of considering spectrum-based alternatives, such as those proposed in this Application, before adversely modifying the authority of an existing licensee based on concerns about compatibility with other spectrum users.

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[7] *See Improving Public Safety Communications in the 800 MHz Band*, 19 FCC Rcd 14969 (2004).

[8] *Id.* at ¶ 5.

[9] *See Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz*, Notice of Proposed Rulemaking and Notice of Inquiry, ET Docket No. 10-142, at ¶ 140 (Mar. 21, 2012) ("*2 GHz NPRM and NOI*").

[10] *Id.* at ¶ 137.

III. THE PROPOSED LICENSE MODIFICATION WOULD YIELD SUBSTANTIAL PUBLIC INTEREST BENEFITS

A. The Need for Additional Spectrum for Mobile Broadband Remains as Acute as Ever.

An urgent and fast-growing need exists for additional spectrum to be made available to support mobile broadband services. Both the public and private sectors broadly acknowledge this fact. Each of the President's Council of Economic Advisors and the Commission has recognized that mobile data traffic is estimated to grow by a factor of 15 to 20 times over the next five years.[11] As a result, the President's Council has concluded that the "only feasible way to realize the full potential of wireless broadband is to make new spectrum available for wireless services."[12] Similarly, the Commission has recognized that this "explosive growth is creating an urgent need for more network capacity and, in turn, suitable spectrum."[13] As Chairman Genachowski succinctly stated, "[d]emand for spectrum is rapidly outstripping supply."[14] This sentiment is shared and echoed by both the private sector and lawmakers on both sides of the aisle. As CTIA notes, the wireless industry along with a "bipartisan group of lawmakers in the

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[11] *See, e.g.*, Executive Office of the President, Council of Economic Advisers, *The Economic Benefits of New Spectrum for Wireless Broadband*, at 2 (Feb. 2012) ("Industry forecasters expect that a rapid pace of growth in data traffic will continue for at least the next few years. For example, one industry forecaster projects that mobile data traffic will increase by a factor of 20 between 2010 and 2015. It is unlikely that wireless carriers will be able to accommodate this surging demand without additional spectrum.") ("CEA Report"); *Service Rules for Advanced Wireless Services in the 2000-2020 MHz & 2180-2200 MHz Bands*, Notice of Proposed Rulemaking and Notice of Inquiry, WT Dkt No. 12-70, FCC 12-32, at ¶ 10 (rel. Mar. 21, 2012) ("The rapid adoption of smartphones and tablet computers, combined with deployment of high-speed 3G and 4G technologies, is driving more intensive use of America's mobile networks. According to Cisco Systems, North American mobile Internet traffic more than doubled in 2011 and is expected to grow over 15-fold in the next five years.") ("*AWS Service Rules NPRM*").

[12] CEA Report at 1.

[13] *AWS Service Rules NPRM* ¶ 10.

[14] Julius Genachowski, Chairman, FCC, *Remarks on Broadband: The Clock is Ticking*, at 5 (Mar. 16, 2011).

House and the Senate, the President, and the Chairman of the FCC" have recognized "a need to bring additional spectrum to market to fuel what is one of the country's key industries."[15]

The economic benefits of expanded spectrum are enormous. CTIA estimates that "making additional spectrum available to the mobile broadband ecosystem will generate infrastructure investments of up to $53 billion, provide as much as $151 billion in GDP and create as many as 771,000 jobs by 2016."[16] But this promise comes with a warning. President Obama cautions that the "new era in global technological leadership will only happen if there is adequate spectrum available to support the forthcoming myriad of wireless devices, networks and applications that can drive the new economy."[17] As Chairman Genachowski states more starkly:

> If we don't . . . make much more spectrum available for mobile broadband, we are going to get swamped by an ocean of demand and risk our competitive advantage in the race to lead the world in mobile innovation. American consumers will face slower speeds, more dropped connections, and higher prices. And future innovators will be incentivized to launch their businesses in countries that beat us in the race for the best wireless infrastructure. The price of that will be measured in lost jobs, investment, and innovation.[18]

Sounding the same theme, the President and CEO of CTIA has warned that "the U.S.'s leading role in the world will be undermined unless the growing drought of additional spectrum is not quickly remedied."[19]

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[15] CTIA Statement on Citigroup Spectrum Report (Sep. 26, 2011), *available at* http://www.ctia.org/media/press/body.cfm/prid/2124.

[16] Letter from Steve Largent, President and CEO, CTIA, to Chairman Julius Genachowski, Commissioner Robert M. McDowell, and Commissioner Mignon Clyburn, FCC, at 2 (Mar. 22, 2012) ("Largent Letter").

[17] President Barack Obama, *Unleashing the Wireless Broadband Revolution* (Jun. 28, 2010), *available at* http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution.

[18] Julius Genachowski, Chairman, FCC, Remarks at the Consumer Electronics Show (Jan. 11, 2012).

[19] Largent Letter at 2.

While efforts are underway to clear additional spectrum to meet broadband demand, those efforts appear at best long-term, with little present relief in sight. As Commissioner McDowell observed recently, "[i]t looks like we're at a point where we have little or no federal spectrum going to auction in the near term" so that "it's very appropriate for us to talk about imaginative ways to squeeze more efficien[cy] out of the airwaves."[20] Both the need for more spectrum and for creative means to support broadband technology are echoed in the views of NTIA Administrator Lawrence E. Strickling:

> [G]iven the speed at which the demand for spectrum is growing, there will be a continuing national need to find spectrum for broadband services, even after we reallocate the 500 megahertz as directed by the President . . . .
>
> [T]he old method of clearing spectrum of federal users and then making it available for the exclusive use of commercial providers is not sustainable. We have moved the easy systems. To continue the old method of spectrum reallocation costs too much money and takes too long. The industry and their customers, as well as our economy, cannot afford the cost and delay.[21]

In short, the need for additional spectrum for mobile broadband services remains more pressing today than ever. In this regard, the Commission and NTIA have an obligation to explore every possible solution to the issues of GPS receiver compatibility with authorized L-Band operations and not to abandon use of L-Band for terrestrial broadband or ignore the significant public interest benefits of LightSquared's mobile broadband network, on which the Commission relied in approving the acquisition of LightSquared's predecessor, SkyTerra.[22]

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[20] COMMUNICATIONS DAILY at 5 (July 20, 2012).

[21] Lawrence E. Strickling, Assistant Secretary of Commerce for Communications and Information, Remarks at the Release of the Report "Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth" by the President's Council of Advisors on Science and Technology (Jul. 20, 2012).

[22] *See Harbinger Transfer Order,* 25 FCC Rcd at 3085-88.

B. The Proposed License Modification Would Avoid Any Risk of GPS Receiver "Overload."

The prospect of GPS receivers experiencing "overload" when in the vicinity of LightSquared terrestrial base stations operating in its L-Band downlink spectrum has been the subject of much debate at the Commission.[23] LightSquared's comprehensive proposal would address this issue in two ways:

- First, LightSquared would permanently relinquish its right to provide terrestrial operations in its upper 10 MHz downlink band at 1545-1555 MHz, and would permanently relocate those terrestrial operations to 1670-1680 MHz.
- Second, LightSquared would defer all terrestrial use in its lower 10 MHz downlink band at 1526-1536 MHz while the Commission is actively pursuing, through an inclusive rulemaking process, revised rules regarding terrestrial operations in that lower 10 MHz downlink band.

Accordingly, under LightSquared's proposals, GPS receivers would immediately enjoy the benefit of an additional 10 MHz guardband from terrestrial services.

C. Considerable Public Interest Benefits Would Be Realized by Deployment of LightSquared's Network.

By granting this Application, the Commission would allow LightSquared to deploy a mobile broadband network that will offer substantial public interest benefits. These benefits were recognized and relied upon by the Commission when it initially considered LightSquared's plan for a mobile broadband network using MSS L-Band spectrum. Then, the Commission stated that LightSquared's plan:

> promises the possibility of providing several public interest benefits. Its network will provide additional broadband capacity at a time when – as the National Broadband Plan noted – the nation is increasing its use of such services exponentially. It will help enhance competition among current mobile wireless providers. ... We find that [LightSquared] plans to provide 4G mobile wireless broadband are a significant public interest benefit, both because of the competition it will bring in mobile wireless

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[23] *See generally* IB Docket No. 11-109.

> broadband services and because it will provide mobile wireless broadband service to traditionally underserved areas. ...[24]

The Commission, however, stated the obvious point that these public interest benefits are "dependent on ... [LightSquared's] actually moving forward with its plan."[25] Since that time, despite its best efforts, LightSquared has been thwarted and delayed in implementing its plan because of concerns about the compatibility between LightSquared's terrestrial base stations and GPS receivers. Nevertheless, despite that costly delay, LightSquared still is in the best position among any potential new broadband network operator to bring the benefits of such a competitive network to the public.

In this application, LightSquared has offered a comprehensive solution to the GPS issue and a way to proceed with deployment of its broadband network. The solution involves permanently relinquishing LightSquared's right to deploy terrestrial downlink operations at 1545-1555 MHz and permanently relocating those terrestrial operations instead to 1670-1680 MHz. Without this relocation, LightSquared would not be able to deploy its broadband network and the substantial promise of that network, as found by the Commission and recognized by many others, would be lost. Conversely, a grant of the application would: (i) help resolve the GPS issue regarding terrestrial use of L-Band MSS spectrum, (ii) devote acceptable portions of the MSS L-Band to broadband terrestrial use in accordance with the national broadband plan, (iii) develop a new, competitive mobile broadband network, and (iv) facilitate a private sector frequency coordination arrangement with federal users that is supported by the extensive precedents of non-federal/federal spectrum use, and offers a unique opportunity to advance the public interest on many fronts.

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[24] *Harbinger Transfer Order*, 25 FCC Rcd at 3087-88.

[25] *Id* at 3088.

IV. GRANT OF THE LICENSE MODIFICATION TO USE ALTERNATE SPECTRUM IN THE 1675-1680 MHZ BAND IS ESSENTIAL FOR THE DEPLOYMENT OF LIGHTSQUARED'S TERRESTRIAL NETWORK

A. The 1675-1680 MHz Band Is an Ideal Band to Serve as LightSquared's Alternate Downlink Spectrum and LightSquared Is Uniquely Qualified to Employ It.

LightSquared's proposal to provide GPS receivers an immediate, additional 10 MHz guardband from terrestrial services by relinquishing permanently all terrestrial authority for the upper 10 MHz downlink band at 1545-1555 MHz—and voluntarily not deploying terrestrially in its lower 10 MHz downlink band at 1526-1536 MHz while the Commission is actively pursuing a separate rulemaking proceeding—means that LightSquared's network cannot be deployed now without access to alternative downlink spectrum that is compatible with LightSquared's two L-Band uplinks bands at 1627.5-1637.5 and 1646.7-1656.7 MHz. To fill this immediate need and, therefore, to enable the deployment of an operational terrestrial broadband network, LightSquared proposes to use the 1675-1680 MHz band in cooperation with federal government users in a commercially and technically viable manner. LightSquared would use this 5 MHz along with LightSquared's currently-leased spectrum in the 1670-1675 MHz band to create a contiguous 10 MHz downlink channel for terrestrial wireless broadband services.[26]

Given its present use of the 1670-1675 MHz band, LightSquared has extensive experience coordinating the adjacent 5 MHz band with the federal government. Accordingly, LightSquared is uniquely suited to efficiently integrate this contiguous 10 MHz channel into a 4G LTE network in a manner that will protect the integrity of continuing, essential government operations at 1675-1680 MHz and in the neighboring spectrum above 1680 MHz. LightSquared will work closely with NTIA in establishing the operating parameters and safeguards necessary to use this frequency band in cooperation with the existing federal user of this 5 MHz and will commit to protecting that user's essential government services that will remain in the band.

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[26] LightSquared currently is authorized to operate at 1670-1675 MHz by virtue of a leasing agreement through One Dot Six Corp. to which the Commission has consented. *See* ULS Lease ID L000007295.

B. The Commission's and NTIA's Rules and Precedents Permit the Commission to Authorize Non-Federal Use of the 1675-1680 MHz Band.

LightSquared's proposal to have access to spectrum currently used by federal agencies as proposed in this Application is well supported by prior precedents. Over the years, the Commission and NTIA have cooperated in applying their respective public interest mandates to foster sound spectrum management and inject flexibility into the division of the radio spectrum between federal users and non-federal users. For example, non-federal law enforcement agencies were permitted to use a primary federal frequency for stolen vehicle recovery,[27] a commercial satellite operator to use federal frequencies to provide satellite service to the Navy,[28] an energy exploration company to timeshare NASA satellite capacity to provide commercial satellite service,[29] and commercial digital message providers to use federal spectrum as a substitute for originally-licensed spectrum that could not be used because of potential interference to government stations.[30] In each instance, the Commission and NTIA found that such flexible and innovative spectrum management initiatives served important national goals that could be served in no practical way other than by cooperating to give private parties access to spectrum that either was used exclusively or primarily by federal agencies.

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[27] *Amendment of Parts 2 and 90 of the Commission's Rules to Provide for Stolen Vehicle Recovery Systems*, 3 FCC Rcd 7195 (1988) (frequency initially allocated exclusively for federal use re-allocated on a shared basis between federal and non-federal users for the purposes of stolen vehicle monitoring and recovery use).

[28] *Hughes Communications Services, Inc.,* FCC 79-809 (rel. Dec. 10, 1979) (authorizing construction of LEASAT satellite system on federal frequencies).

[29] *In the Matter of Application of SpaceData International LLC; For Authority to Operate on a Time Share Basis NASA's Tracking and Data Relay Satellite System,* 16 FCC Rcd 9266 (Chief IB 2001) (authorizing use of federal TDRSS spectrum for searching for oil and gas deposits on ocean floor).

[30] *See Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band For Fixed Service,* 12 FCC Rcd 3471 (1997) (federal spectrum made available for digital electronic message service ("DEMS") to substitute for originally assigned spectrum that could not be used because of potential interference to government stations).

The authority for 1675-1680 MHz that LightSquared seeks in this Application is supported by these precedents and is well within the authority of the Commission and NTIA to provide. Given concerns about GPS compatibility with use of LightSquared's licensed L-Band downlink, obtaining access to 1675-1680 MHz is an efficient solution that would allow LightSquared to deploy its broadband network in a manner that already has been found to be in the public interest. Accordingly, LightSquared's use of 1675-1680 MHz as a key element in its network would substantially serve the national interests in achieving efficient spectrum use, dedicating critical spectrum to mobile broadband, and facilitating the deployment of a new, competitive broadband network, with particular emphasis on rural and underserved communities.

V. LIGHTSQUARED SEEKS TO MATCH ITS TWO UPLINK BANDS WITH THE NEW DOWNLINK BAND IN AN OPERATIONALLY-EFFICIENT AND COMMERCIALLY-VIABLE MANNER

LightSquared's proposals in this Application regarding terrestrial use of the L-Band would leave it unable ever to use its upper 10 MHz L-Band downlink band for terrestrial operations, and would defer terrestrial use of its lower 10 MHz L-Band downlink band while the Commission is actively pursuing, through the proposed rulemaking, revised rules for that lower 10 MHz band. Under these circumstances, LightSquared therefore would not be able to construct and operate its authorized 4G LTE wireless network in the near future.

Accordingly, LightSquared seeks appropriate authorization to match its two uplink bands at 1627.5-1637.5 MHz and 1646.7 MHz-1656.7 MHz with the 1670-1680 MHz downlink channel proposed herein in an operationally efficient and commercially viable manner. Moreover, LightSquared recognizes that at the time that the 1675-1680 MHz cooperative spectrum use arrangement is finalized with the federal government, it may be necessary to conform that arrangement and the proposed uplink/downlink spectrum matching to the Commission's rules. For these reasons, LightSquared respectfully requests such appropriate adjustments and further authorizations with regard to the Commission's rules as may be needed to facilitate the prompt processing and grant of this Application.

VI. CONCLUSION

LightSquared's proposed license modification and its corresponding commitment on the lower 10 MHz offer a constructive and comprehensive approach to resolve the issues that to date have precluded the deployment of its terrestrial network. LightSquared remains committed to fulfilling the Commission's vision of providing competitive wireless broadband to all Americans. With the Commission's granting of this Application, LightSquared could achieve this goal in a manner that also addresses concerns raised by the GPS industry. As this Application shows in substantial detail, LightSquared's comprehensive solution advances the public interest by creating a valuable guardband from terrestrial services for GPS receivers, introduces a new nationwide mobile broadband network, and ultimately increases utility of the nation's scarce spectrum resources. In short, grant of this Application would enable LightSquared to immediately expand on its existing, multi-billion dollar investment to build a network that brings more competition, choice and access to hundreds of millions of Americans more quickly than any other potential new wireless network operator.

Response to Question 35

Out of an abundance of caution, LightSquared is checking "yes" in response to this question, but see Section V of the attached narrative.

Ownership Information
Response to Questions 34 and 40

The current ownership of LightSquared Subsidiary LLC is as follows:

1. **LightSquared Subsidiary LLC**, the Applicant, is a Delaware limited liability company that is the licensee.

2. LightSquared Subsidiary LLC is a wholly-owned subsidiary of **LightSquared LP**, a Delaware limited partnership. The following entities hold ownership interests in LightSquared LP of ten percent or greater:

   1. LightSquared Investors Holdings Inc. directly holds approximately 78 percent of the ownership interests in LightSquared LP.

   2. TMI Communications Delaware, Limited Partnership holds approximately 22 percent of the ownership interests in LightSquared LP.

   3. LightSquared GP Inc. controls LightSquared LP as its General Partner.

3. **LightSquared Investors Holdings Inc.** is a Delaware corporation, and is a wholly-owned subsidiary of LightSquared Inc.

4. **TMI Communications Delaware, Limited Partnership** is a Delaware limited partnership. The following entities hold ownership interests in TMI Communications Delaware, Limited Partnership of ten percent or greater:

   4. LightSquared Investors Holdings Inc. holds 100 percent of the ownership interests in TMI Communications Delaware, Limited Partnership.

   5. SkyTerra Rollup Sub LLC controls TMI Communications Delaware, Limited Partnership as its General Partner.

5. **LightSquared GP Inc.** is a Delaware corporation that serves as a holding company. The following entities hold ownership interests in LightSquared GP Inc. of ten percent or greater:

   6. LightSquared Investors Holdings Inc. holds approximately 78 percent of the ownership interests in LightSquared GP Inc.

   7. TMI Communications Delaware, Limited Partnership holds approximately 22 percent of the ownership interests in LightSquared GP Inc.

6. **SkyTerra Rollup Sub LLC**, a Delaware limited liability company, is a wholly-owned subsidiary of SkyTerra Rollup LLC.

7. **SkyTerra Rollup LLC** also is a Delaware limited liability company.

8. SkyTerra Rollup LLC and LightSquared Investors Holdings Inc. are wholly-owned subsidiaries of **LightSquared Inc.**, a Delaware corporation that manages the overall operations of the LightSquared corporate structure. Each of the other entities identified above is essentially a holding company for various assets connected to those operations.

9. Each of the entities identified above can be contacted care of LightSquared Subsidiary LLC at the address listed above.

10. LightSquared Inc. is owned and controlled by individuals and entities affiliated with **Harbinger Capital Partners** ("Harbinger"). Extensive information about the ownership of Harbinger, including its foreign ownership, is on file with the Commission in IB Docket No. 08-184, as updated periodically. *See, e.g.,* Letter from Henry Goldberg, Counsel to Harbinger Capital Partners, to FCC, IB Docket No. 08-184 (May 16, 2012); *see also* ULS File No. 0004339908. LightSquared incorporates this information by reference. Notably, the Commission has issued a declaratory ruling under Section 310(b)(4) of the Communications Act, as amended, 47 U.S.C. § 310(b)(4), permitting Harbinger-affiliated entities to exceed the 25 percent limit on foreign ownership that otherwise would be applicable in connection with their interests in LightSquared. *See SkyTerra Communications, Inc.*, Memorandum Opinion and Order and Declaratory Ruling, 25 FCC Rcd 3059, at ¶¶ 16-27 (2010).

LightSquared Subsidiary LLC has no officers or directors.