

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

In the Matter of )  
 )  
LightSquared Subsidiary LLC Request ) SAT-MOD-20101118-00239  
for Modification of its Authorization )  
for an Ancillary Terrestrial Component )  
 )

**COMMENTS OF TERRESTAR NETWORKS INC.**

TerreStar Networks Inc., Debtor-in-Possession (“TerreStar”), hereby comments on the Public Notice (“Public Notice”) issued by the Commission in the above-captioned proceeding.<sup>1</sup>

**I. Background Regarding TerreStar**

TerreStar is an active participant in the domestic and Canadian Mobile-Satellite Services (“MSS”) market and is currently undergoing a voluntary restructuring. Specifically, TerreStar’s wholly-owned subsidiary, TerreStar License Inc. Debtor-in-Possession, holds a letter of intent (“LOI”) authorization to provide mobile satellite service (“MSS”) in the United States over spectrum in the 2 GHz band using TerreStar-1, the largest commercial satellite in geosynchronous orbit.<sup>2</sup> The LOI authorization permits the use of 10 MHz of this 2 GHz MSS

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<sup>1</sup> Policy Branch Information, Applications Accepted for Filing, *Public Notice*, Report No. SAT-00738 (rel. Nov. 19, 2010); *see also* LightSquared Subsidiary LLC Request for Modification of its Authority for an Ancillary Terrestrial Component, *Order*, DA 10-2243, IB rel. Nov. 26, 2010 (extending the deadline for initial comments to December 2, 2010 and the deadline for reply comments to December 9, 2010).

<sup>2</sup> On July 17, 2001, the Commission granted TerreStar’s request for reservation of 2 megahertz of 2 GHz MSS spectrum for radio links between mobile earth stations in the United States and a geostationary-orbit satellite to be launched under authority from Industry Canada. *See* TMI Communications and Company, Limited Partnership, Letter of Intent to Provide Mobile-Satellite Service in the 2 GHz Bands, *Order*, 16 FCC Rcd 13808 (IB 2001).

spectrum in each direction, *i.e.*, uplink and downlink.<sup>3</sup> An affiliate of TerreStar has been authorized by Industry Canada to operate TerreStar-1.

On July 1, 2009, TerreStar-1 was successfully launched. The launch was soon followed by the first successful phone call over TerreStar-1 on July 20, 2009. On January 13, 2010, the Federal Communications Commission (“FCC” or “Commission”) authorized TerreStar Networks Inc. (“TSN”) to incorporate an ancillary terrestrial component (“ATC”) into its MSS system.<sup>4</sup> TerreStar plans to use this authority to enhance coverage, capacity and throughput in an integrated MSS and ATC network that will provide ubiquitous access to voice and data services throughout North America. On October 19, 2010, TSN, TerreStar License Inc., and certain of their affiliates filed voluntary petitions for reorganization under Chapter 11 of Title 11 of the United States Code in the United States Bankruptcy Court for the Southern District of New York in order to strengthen their financial position, successfully use its ATC authority, and achieve long-term success as a vibrant competitor in the MSS market.<sup>5</sup> TerreStar also secured \$75 million in debtor-in-possession financing from EchoStar Corporation.

TerreStar has entered into a distribution agreement with AT&T to bring to market the first fully integrated satellite-cellular smartphone, the GENUS™<sup>6</sup>. The GENUS™ is an

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<sup>3</sup> In December 2005, the Commission modified TerreStar’s spectrum reservation to increase it to 10 megahertz in each direction of transmission. *See Use of Returned Spectrum in the 2 GHz Mobile Satellite Service Frequency Bands, Order, 20 FCC Rcd 19696 (2005) (recon. pending).*

<sup>4</sup> *See TerreStar Networks Inc. Application for Blanket Authority to Operate Ancillary Terrestrial Component Base Station and Dual-Mode MSS-ATC Mobile Terminals in the 2 GHz MSS Bands, Order and Authorization, 25 FCC Rcd 228 (IB 2010).*

<sup>5</sup> *See In re TerreStar Networks, Inc., Case No. 10-15446 (SHL) (SDNY Oct. 19, 2010).*

<sup>6</sup> TerreStar believes the GENUS is the first device to integrate satellite and CMRS network access in a five ounce form factor featuring an open architecture design based on 3GPP standards and technology including an all IP Evolved Packet Core (EPC). The device runs the Windows Mobile 6.5 operating system providing full Outlook compatibility for contacts, email and calendaring.

integrated dual-mode, multi-band smartphone that integrates AT&T's 3G terrestrial wireless capability with MSS.<sup>7</sup> AT&T added Satellite Augmented Mobility (SAM) service to its mobility product portfolio on September 21, 2010 by making the GENUS™ and SAM commercially available through various sale channels.<sup>8</sup> An AT&T customer purchasing voice, data (including mobile Internet and email) and Short Message Service (SMS) services distributed over licensed GSM networks in the 800, 900, 1800, and 1900 MHz bands, or over an unlicensed 802.11 WiFi network, now has the option to use a standard-sized handset that integrates mobile satellite voice and data communication to their everyday smartphone. Using one phone number and one device, end-users are able to access voice and data services in the United States, Puerto Rico, the U.S. Virgin Islands and offshore coastal waters over either AT&T's terrestrial network or TerreStar's MSS network, as well as globally through AT&T's terrestrial roaming partners.

## **II. The LightSquared Modification Application**

The Public Notice was issued by the Commission to seek public comment regarding a request by LightSquared Subsidiary LLC ("LightSquared") to modify its existing authority to deploy an ATC network.

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<sup>7</sup> The terrestrial network accessible via the GENUS is provided via AT&T's existing 3G network rather than a TerreStar-operated ATC network. TerreStar has not yet constructed or made other arrangements for using its ATC authority.

<sup>8</sup> The following link to AT&T's web site provides a description of the SAM product offering: <http://www.wireless.att.com/businesscenter/business-programs/government/solutions/integrated-cellular-satellite-solution.jsp>. SAM and the GENUS are available for purchase under an addendum to existing service plans. The GENUS may also be purchased through authorized TerreStar resellers.

In 2003, the Commission established several requirements, or “gating criteria,” that MSS licensees are required to satisfy as prerequisites to a Commission grant of ATC authority.<sup>9</sup> One such gating criterion requires MSS licensees only to offer ATC services on an integrated basis with their MSS services. In the *ATC Order*, the Commission held that MSS licensees may demonstrate compliance with this MSS/ATC integration requirement by providing ATC service via dual-mode handsets that can be used to communicate with both the licensee’s MSS system and its ATC network.<sup>10</sup> The Commission characterized this means of satisfying the MSS/ATC integration requirement as a “safe harbor,” but expressly held that it is not the only means that may be used by MSS licensees to comply with the integration requirement.<sup>11</sup>

In the LightSquared ATC license modification application referenced in the Public Notice (“Application”), LightSquared requests the Commission to modify LightSquared’s ATC authority. LightSquared states in the Application that its predecessor’s initial application for ATC authority demonstrated compliance with the MSS/ATC integration gating criteria through the use of the dual-mode handset safe harbor. LightSquared also explains that its MSS/ATC business plan has evolved since its predecessor’s initial ATC application was filed six years earlier. As a result, LightSquared requests to modify the means by which it demonstrates compliance with the integration requirement from the dual-mode handset safe harbor to an

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<sup>9</sup> See 47 CFR 25.149 and Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands; Amendment of Section 2.106 of the Commission’s Rules to Allocate Spectrum at 2 GHz for Use by Mobile Satellite Service, *Report and Order and Notice of Proposed Rulemaking*, 18 FCC Rcd 1962 (2003) (“*ATC Order*”); see also Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, *Memorandum Opinion and Order and Second Order on Reconsideration*, 20 FCC Rcd 4616 (IB 2005) (“*ATC Second Order on Reconsideration*”).

<sup>10</sup> *ATC Order* at ¶ 87.

<sup>11</sup> *ATC Order* at ¶ 88 (“MSS licensees that choose not to rely on this safe harbor will have to submit for Commission review evidence demonstrating that the service they propose to offer will be integrated.”)

alternative integration showing. Specifically, LightSquared proposed in the Application to demonstrate compliance with the MSS/ATC integration requirement on the basis that (1) its ATC network is fully integrated with its MSS system, (2) ATC and MSS pricing are integrated, (3) LightSquared's retailer customers can offer dual-mode devices to their end-user customers, and (4) LightSquared will continue to offer substantial MSS service.

LightSquared also makes a number of commitments regarding its ATC services. First, LightSquared pledges to dedicate a minimum of 6 MHz of spectrum nationwide exclusively to providing MSS to ensure that adequate MSS capacity will remain available to end users. Second, LightSquared commits that its satellites will be capable of providing MSS across all of the L-band MSS frequencies on which the Commission has authorized LightSquared to operate. Third, LightSquared pledges actively to market its MSS and to offer commercially competitive rates for the service. Finally, LightSquared commits to file reports with the Commission every six months once it commences commercial MSS/ATC operations to provide the Commission with the number of handsets in service in the following three categories: MSS-only, dual-mode MSS/ATC, and ATC-only.

### **III. The Commission Should Provide MSS Licensees With Flexibility Regarding the Manner in Which They Demonstrate Compliance With the MSS/ATC Integration Gating Criterion**

The Commission should provide MSS licensees with substantial flexibility regarding the means by which such licensees demonstrate compliance with the MSS/ATC integration gating criterion.<sup>12</sup> This will enable MSS licensees to optimize the speed at which MSS/ATC systems are deployed and ensure that competitive pressures cause such integrated MSS/ATC systems to

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<sup>12</sup> TerreStar supports LightSquared's Application and notes that under an appropriately flexible view of the MSS/ATC gating criterion, LightSquared's approach is simply one way of demonstrating integration that may not be applicable to other MSS/ATC licensees given their disparate business plans.

best satisfy the needs of the marketplace. As a result, such flexibility will maximize the public policy benefits promised by the widespread deployment of MSS/ATC systems. Ultimately, such a flexible approach to compliance with the MSS/ATC integration requirement will ensure the realization of the Commission's regulatory objectives while accounting for the operational and economic realities facing MSS licensees.

The Commission has consistently recognized the potential benefits of permitting the integration of ATC into MSS networks. Indeed, the Commission's order establishing ATC authority for MSS licensees recognized that deployment of integrated MSS/ATC systems will (1) increase the efficiency of spectrum use, (2) reduce costs for consumers, (3) strengthen competition in the MSS market, (4) encourage technological innovation, and (5) enhance public safety. In addition, the Commission recognized that granting ATC authority will "promote competition and innovation,"<sup>13</sup> by, *inter alia*, "encourag[ing] innovation in mobile telecommunications, broadband services and interoperable public-safety systems."<sup>14</sup>

As TerreStar has previously advocated, "flexibility is perhaps the single most important measure the Commission can take to facilitate the provision of broadband services in the MSS bands."<sup>15</sup>

It is now axiomatic that "[m]obile broadband services are poised to be a primary driver of innovation in the U.S. economy over the next decade."<sup>16</sup> The Commission should strive to

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<sup>13</sup> *ATC Order* ¶ 30.

<sup>14</sup> The Commission has long recognized that increased flexibility in spectrum usage promotes technological development, innovation, investment, economic growth, and consumer choice. See, for example, *ATC Order* ¶211 ".....our CMRS policies have emphasized flexible use of spectrum resources, and this broad flexibility has been the basis of a series of regulatory actions extending over many years by which the Commission has encouraged investment and innovation in wireless telecommunications technologies."

<sup>15</sup> See Comments of TerreStar Networks Inc., ET Docket No. 10-142, dated Sept. 15, 2010, at 4-5 ("TerreStar MSS Comments").

<sup>16</sup> Applications for Consent to Transfer of Control of SkyTerra Subsidiary, LLC, *Memorandum Opinion and Order and Declaratory Ruling*, 25 FCC Rcd 3059 at ¶ 57 (IB 2010).

implement policies that spur MSS/ATC deployment and innovation. At the time it granted MSS licensees the flexibility to provide ATC, the Commission expected increased investment in MSS technology development and economies of scale from integration of ATC into MSS. It acknowledged the nexus between the broad flexible use authority granted CMRS carriers and technology innovation and investment in CMRS bands<sup>17</sup>, while noting that the regulatory flexibility to provide ATC in MSS spectrum “differs markedly from the flexible use allocation” of spectrum in licensed CMRS bands.<sup>18</sup>

Commission flexibility is especially important with respect to MSS licensees’ showings regarding their satisfaction of the MSS/ATC integration gating criterion. As an initial matter, the Commission has consistently held that MSS licensees seeking ATC authorization are not required to employ the dual-mode handset safe harbor to demonstrate integrated MSS/ATC service. Indeed, in the *ATC Order*, the Commission expressly held that MSS licensees may satisfy this gating criterion “through a technical, economic or any other substantive showing that the primary purpose of the MSS licensee’s system remains the provision of MSS.”<sup>19</sup> More recently, the Commission reiterated this holding, stating that “[a]ny MSS/ATC operator that chooses not to make its handset or digital devices dual-mode can satisfy our integrated service

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<sup>17</sup> In the bands below 3.7GHz, 547 MHz is currently licensed as flexible use spectrum that can be used for mobile broadband. Flexible use bands for CMRS include Cellular, PCS, and AWS service bands. [OBI Technical Paper No. 1, chap 4 end notes, p. 123.] . The National Broadband Plan cites the economic benefits attributable to spectrum flexibility with respect to service rules and license transfers. Citing estimates by Rosston and Bazelon, it suggests the combined book value of flexible-use licenses held by the four largest CMRS providers is over \$150 billion, and the consumer welfare value from externalities attributable to flexible use of licensed mobile radio spectrum in the U.S. could be as much as \$1.5 trillion. [National Broadband Plan, p. 79]

<sup>18</sup> See *ATC Order and FNPRM*, Feb 10, 2003, footnote 67 (“.....“the regulatory flexibility to provide ATC in MSS spectrum differs markedly from a “flexible-use” allocation, where a licensee could provide whatever services are allocated for the band without restriction, condition or limitation on the overall mix of service offerings they provide.”

<sup>19</sup> *ATC Order* at ¶ 88.

gating criterion by presenting sufficient evidence demonstrating that they will offer integrated service.”<sup>20</sup> Thus, the Commission firmly has established a policy to permit MSS operators to satisfy the MSS/ATC integration gating requirement through means other than the dual-mode handset safe harbor.

Further, applying the ATC gating rules in a flexible, rather than mechanical, manner will enable the Commission and MSS/ATC licensees to learn from, and react to, the successes and failures of participants and technology evolution<sup>21</sup> in the MSS and terrestrial wireless markets.<sup>22</sup> The ATC gating criteria were established long before any MSS/ATC systems were technologically feasible and prior to the development of today’s robust wireless broadband market. With the benefit of its current perspective regarding these developments, the Commission is now positioned to address MSS/ATC integration showings in a manner that will better account for the current realities of the MSS/ATC industry and the potential of MSS/ATC to enhance competition in the wireless broadband market.<sup>23</sup>

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<sup>20</sup> *ATC Second Order on Reconsideration* at ¶ 31.

<sup>21</sup> As integrated MSS/terrestrial chips and satellite adaptations of HSPA and LTE emerge, that spectral efficiency and capacity allocation between MSS and ATC will improve. It is entirely feasible that user devices may incorporate diverse MSS access capability. Multiple licensees and spectrum lessees could share MSS/ATC spectrum in the L and S bands on a dynamic basis, thereby enabling diversity of MSS access where such RF capability is resident in the spacecraft, base station and mobile terminal chipset. See, for example, Qualcomm ex parte in FCC Dkt 09-51 (29 Oct 2009) describing development for L and S band MSS licensees of a satellite-based variant of EV-DO Revision A, known as S-DO, to be included in the firmware of select Qualcomm multi-mode chips, that integrates satellite and cellular technology for use in the L and S bands. This S-DO technology will be incorporated in chips which also support terrestrial LTE, UMTS, and/or EV-DO.

<sup>22</sup> See FEDERAL COMMUNICATIONS COMMISSION, NATIONAL BROADBAND REPORT 88 (2010) (“So far, the ATC gating criteria have made it difficult for MSS providers to deploy ancillary terrestrial networks, as well as to establish partnerships with wireless providers or other well-capitalized potential entrants.”).

<sup>23</sup> TerreStar previously has urged the Commission to update the ATC gating criteria to provide enhanced operational flexibility to MSS/ATC licensees. See TerreStar MSS Comments at 7-9.

It is longstanding Commission policy to permit the market to determine the best and highest use of spectrum resources whenever possible consistent with regulatory objections.<sup>24</sup> Accordingly, a case-by-case review of MSS/ATC integration showings will enable the Commission to foster the maximum public interest benefits that MSS/ATC providers have the potential to provide to the public. Employing such a flexible approach to its review of the MSS/ATC integration showings is consistent with this policy and will ensure that the market plays a significant role in dictating the nature of the MSS/ATC networks deployed by, and the MSS/ATC services provided by, such licensees. A flexible approach will go far to ensuring that licensing and technical rules do not inadvertently impose barriers to deployment and that the economics of deployment and adoption of the next generation of integrated MSS/CMRS access technology can take root.

Respectfully submitted,

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<sup>24</sup> *ATC Order* at ¶ 23 (“[T]he market will ultimately determine the precise mix of new offerings...”).