

**BEFORE THE**  
**Federal Communications Commission**  
**WASHINGTON, DC 20554**

In the Matter of ) ET Docket No. 10-142  
)  
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 )

To: Secretary, Federal Communications Commission  
Attn: The Commission

**PETITION FOR RECONSIDERATION**  
**OF THE U.S. GPS INDUSTRY COUNCIL**

The U.S. GPS Industry Council (the “Council”), by its attorneys and pursuant to Section 1.429 of the Commission’s Rules, hereby seeks reconsideration of the Report & Order adopted April 6, 2011 in the above-captioned proceeding.<sup>1</sup> As demonstrated herein, two statements included in the *2 GHz MSS R&O* purporting to set forth historical fact and established Commission policy are demonstrably inaccurate and fundamentally at odds with a decade of Commission policy pronouncements concerning a mobile-satellite service (“MSS”) ancillary terrestrial component (“ATC”).<sup>2</sup> The statements have been gratuitously included in the *2 GHz MSS R&O* without any foundation in the record.<sup>3</sup> To prevent unwarranted reliance on these

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<sup>1</sup> *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*, 26 FCC Rcd 5710 (2011) (“*2 GHz MSS R&O*”).

<sup>2</sup> The statements also completely overlook the economic importance of millions of Global Positioning System (“GPS”) receivers and GPS-dependent systems and networks that are indispensable to commerce and civil infrastructure in the United States.

<sup>3</sup> The fact that the problematic passages appeared for the first time in the record of this proceeding in the *2 GHz MSS R&O* itself provides the Council (a party to the proceeding) with the right to raise this issue on reconsideration. *See* 47 C.F.R. § 1.429(b)(2).

statements in the future, the Commission should revise its *2 GHz MSS R&O* to remove them without delay.

## **I. BACKGROUND**

On July 15, 2010, the Commission adopted a Notice of Proposed Rulemaking and Notice of Inquiry (“NPRM/NOI”) proposing two specific rule changes to foster greater opportunity to implement mobile broadband services in frequency bands allocated primarily for MSS use.<sup>4</sup> First, it proposed to add domestic co-primary Fixed and Mobile service allocations to the 2 GHz band (2000-2020 MHz/2180-2200 MHz) consistent with the International Table of Allocations. Second, it proposed to apply secondary market spectrum policies and rules to all transactions involving the use of MSS bands generally for terrestrial service. In the NOI portion of the document, the Commission sought comment on the specific mechanisms to be employed to promote utilization of the 2 GHz band for terrestrial services and generally sought comment on “other actions that the Commission could take that would increase terrestrial use of the MSS bands.” *2 GHz MSS NPRM/NOI*, 25 FCC Rcd at 9493 (¶ 31).

The Council filed Comments in response to the *2 GHz MSS NRPM/NOI*, addressing primarily the NOI portion relating to the bands other than 2 GHz. The Council did not oppose the proposals contained in the NPRM to permit more flexible use of MSS spectrum, but nonetheless noted that the new emphasis on spectrum use for terrestrial services represented “a paradigm shift in use” that unless implemented carefully would “impair the ability to make use of the distinctive properties of both these MSS bands and adjacent bands allocated to space services” to provide the unique services currently provided in these bands. Council Comments, ET Dkt. No. 10-142, at 2

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<sup>4</sup> *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, 25 FCC Rcd 9481, 9481-82 (¶ 2) (2010) (“*2 GHz MSS NPRM/NOI*”).

(filed Sept. 15, 2010). In light of these concerns, the Council strongly urged the Commission to consider carefully the impact of adopting its proposal, particularly upon the Radionavigation-Satellite Service (“RNSS”), including the GPS, and take steps to ensure these services remained fully protected from interference. *Id.*<sup>5</sup>

The Commission did not address the Council’s concerns. Instead, it included language in the 2 GHz MSS R&O unrelated to the issues raised by, or the record of, the proceeding that is substantively at odds with past Commission pronouncements and current Commission policy concerning MSS ATC implementation.<sup>6</sup> First, the Commission stated, in reference to the potential introduction of terrestrial mobile services into MSS bands, that the “responsibility for protecting services rests not only on new entrants but also on incumbent users themselves, who must use receivers that reasonably discriminate against reception of signals outside their allocated spectrum.”<sup>7</sup> Second, the Commission asserted that “extensive terrestrial operations have been anticipated in the L-band for at least 8 years.”<sup>8</sup> Neither statement is correct. Accordingly, the Council seeks rescission of these erroneous statements from the 2 GHz MSS R&O.

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<sup>5</sup> The Council noted the goal of the National Space Policy for the United States to “maintain its leadership in the service, provision, and use of global navigation satellite systems (“GNSS”)” (*National Space Policy of the United States of America* at 5 (June 28, 2010)), and the letter from the National Telecommunications & Information Administration (“NTIA”) submitted in this docket recognizing that “a key element of that policy is taking necessary measures to sustain the radiofrequency (“RF”) environment in which critical U.S. space systems operate.” Letter from Karl B. Nebbia, Assoc. Administrator, Office of Spectrum Management, NTIA, to Julius Knapp, Chief, OET, ET Docket No. 10-142, at 1-2 (July 14, 2010).

<sup>6</sup> The misstatements concern an unrelated licensing proceeding in which the International Bureau has improperly authorized the *de facto* conversion of L-band MSS spectrum to full-scale terrestrial mobile broadband use. See *LightSquared Subsidiary, LLC*, 26 FCC Rcd 566 (Int’l. Bur, 2011), *multiple applications for review and petitions for reconsideration pending*.

<sup>7</sup> 2 GHz MSS R&O, 26 FCC Rcd at 5723 (¶ 28). The Commission added that it might therefore be necessary to establish “receiver standards relative to the ability to reject interference from signals outside their allocated spectrum.” *Id.*

<sup>8</sup> 2 GHz MSS R&O, 26 FCC Rcd at 5723 (¶ 28).

## II. DISCUSSION

### A. The Commission's Assertion Concerning Anticipation of "Extensive Terrestrial Operations" in the L-Band Is Factually Incorrect.

In the *2 GHz MSS R&O*, the Commission states without explanation or citation that "extensive terrestrial operations have been anticipated in the L-band for at least 8 years" (*i.e.*, since 2003). *2 GHz MSS R&O*, 26 FCC Rcd at 5728 (¶ 28). This statement not only is completely unrelated to the 2 GHz MSS rulemaking proceeding, it is demonstrably incorrect. The MSS ATC rules have been clear since their inception that this service add-on is intended to be – as the name itself states – *ancillary* to primary MSS operations. Accordingly, there has been no understanding that such use could be "extensive," or would predominate over the allocated MSS use. From the beginning, both the Commission and the MSS licensees seeking MSS ATC authority intended that the service provided would be a "gap filler" to permit ubiquitous service *by MSS operators* in circumstances where satellite service might be degraded by man-made or natural barriers.

In August 2001, the FCC issued a Notice of Proposed Rulemaking inviting comment on proposals to add a terrestrial component to MSS. At that time, the Commission made plain that terrestrial use would be fully integrated with MSS operations. The NPRM quoted at length from the petition for rulemaking filed by Motient Services, Inc., the predecessor-in-interest of L-band MSS licensee LightSquared Subsidiary, LLC ("LightSquared"), where it described the ATC service it was proposing as "integrated with the satellite network" and as enabling "co-channel reuse of the satellite service link frequencies in adjacent satellite antenna beams to provide coverage to areas where the satellite signal is attenuated by foliage or terrain and to provide in-building coverage."<sup>9</sup> The rulemaking petition also noted that the "satellite path would be the

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<sup>9</sup> See *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 Band*, Notice of Proposed Rulemaking, 16 FCC Rcd 15532, 15541 (¶ 15) (2001) ("*MSS ATC NPRM*").

preferred communications link, but if the user's satellite path is blocked, the communications link would be sustained via the fill-in base stations."<sup>10</sup> These statements emphasize that MSS ATC was always intended to be a limited adjunct to satellite service to fill gaps in coverage.

When it subsequently adopted rules for integrated terrestrial use of L-band MSS, the Commission strongly cautioned that it was authorizing limited MSS ATC operations "subject to conditions that ensure that the added terrestrial component remains ancillary to the principal MSS offering."<sup>11</sup> It emphasized, "We do not intend, nor will we permit, the terrestrial component to become a stand-alone service."<sup>12</sup> The Commission went beyond establishing limits on MSS ATC, and explained why any other approach, such as sharing between independent terrestrial and MSS use, was unworkable, making plain its carefully considered technical judgment that "shared usage between MSS and terrestrial services would likely compromise effectiveness to such a degree that neither service would prove cost-effective, and therefore would probably not be deployed."<sup>13</sup>

Further, when the International Bureau eventually granted LightSquared's L-band integrated MSS ATC application in 2004,<sup>14</sup> it noted the Commission's unquestioned emphasis on

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<sup>10</sup> *MSS ATC NPRM*, 16 FCC Rcd at 15541 (¶ 15).

<sup>11</sup> *See 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 Band*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, 1964-65 (¶ 1) (2003) ("*MSS ATC R&O*"). The FCC explained further that:

[W]e intend to authorize ATC only as an ancillary service to the provision of the principal service, MSS. We have established a number of gating requirements to ensure that ATC may only operate after the provision of MSS has commenced and during the period in which MSS continues to operate. . . . While it is impossible to anticipate or imagine every possible way in which it might be possible to "game" our rules by providing ATC without also simultaneously providing MSS and while we do not expect our licensees to make such attempts, we do not intend to allow such "gaming."

*Id.* at 1965 (footnote 5) (emphasis added).

<sup>12</sup> *MSS ATC R&O*, 18 FCC Rcd at 1965 (¶ 1).

<sup>13</sup> *MSS ATC R&O*, 18 FCC Rcd at 1995 (¶ 55).

<sup>14</sup> At that time LightSquared was known as Mobile Satellite Ventures, LLC. The Council uses the company's current name throughout this Petition when referring to the L-band MSS licensee.

the “ancillary” nature of the MSS terrestrial service, declaring that “[t]he Commission’s decision to permit implementation of MSS ATC was based on the premise that ATC must be ‘ancillary’ to MSS operation.”<sup>15</sup> The Commission subsequently took up this issue once again, and reiterated its prior conclusions in unequivocal terms, stating that “‘integrated service’ as used in this proceeding,” and required by Section 25.149(b)(4) of the FCC’s Rules, “forbids MSS/ATC operators from offering ATC-only subscriptions,” and that it would “not permit MSS/ATC operators to offer ATC-only subscriptions, because ATC systems would then be terrestrial mobile systems separate from their MSS systems.”<sup>16</sup> In the same order, the FCC stated that:

In any channel that is coordinated for the exclusive use of an MSS/ATC operator, and where there is no other MSS operator’s satellite within the visible arc as seen from the ATC geographic coverage area, the MSS/ATC operator is limited only by in-band and out-of-band emission limits *and the need to control self-interference sufficiently to maintain satellite service.*<sup>17</sup>

This paragraph shows that the FCC considered specifically that MSS ATC operators would be required to control self-interference to a level consistent with maintaining substantial satellite service, a necessity that also would maintain the spectrum environment critical for GPS.<sup>18</sup>

Accordingly, the notion advanced for the first time in the *2 GHz MSS R&O* that “extensive terrestrial operations have been anticipated in the L-band for at least 8 years” is without foundation. The only terrestrial operations that were understood to be permissible in the L-band

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<sup>15</sup> See *In the Matter of Mobile Satellite Ventures LLC*, 19 FCC Rcd 22144, 22150 (¶ 18) (2004) (footnotes omitted) (“To that end, the Commission established ‘gating’ requirements for ATC authorization and operation to ensure that ATC will augment, rather than supplant, MSS.”)

<sup>16</sup> See *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 Band*, Memorandum Opinion and Order and Second Order on Reconsideration, 20 FCC Rcd 4616, 4628 (¶ 33) (2005) (footnote omitted) (“*MSS ATC 2<sup>nd</sup> Recon. Order*”).

<sup>17</sup> *MSS ATC 2<sup>nd</sup> Recon. Order*, 20 FCC Rcd at 4633 (¶ 46) (emphasis added).

<sup>18</sup> The FCC then used the limit on overall interference as the basis for eliminating the cap on the number of base stations, stating that “our overall limit on the interference an MSS/ATC operator may cause to other MSS systems obviates the need for a numerical limit on ATC base stations.” *MSS ATC 2<sup>nd</sup> Recon. Order*, 20 FCC Rcd at 4634 (¶ 48).

over the past decade were those that remain ancillary to and fully integrated with MSS and which consequently protect reception of low-power L-band satellite signals by mobile Earth terminals.

**B. The Commission's Statement Regarding the Need for GPS Receiver Discrimination Is at Odds with the Established L-Band Spectrum Operating Environment.**

The limited scope of anticipated terrestrial deployment in the L-band MSS is more than just a product of the particular policies established in the MSS ATC proceedings outlined above. These policies are a critical part of the overall L-Band spectrum plan, as reflected in the domestic and international spectrum allocation tables. The ITU spectrum allocation table, which is implemented in the U.S. in Part 2 of the FCC's Rules, groups several different satellite uses together with the object of avoiding interference that would result from having inconsistent spectrum uses in adjacent frequency bands. In the frequency range 1535-1660.5 MHz, there is no allocation of spectrum for terrestrial Mobile use of any kind, even on a secondary basis.<sup>19</sup> This arrangement of allocations limits the potential for interference from ubiquitously-deployed, high-powered, mobile terrestrial transmitters to space-based services, including GPS receivers, which must be highly-sensitive in order to detect faint satellite signals across a range of frequencies.

Consistent with this well-established spectrum environment, the Commission made plain from the advent of the MSS ATC concept that the ancillary terrestrial operations would be required to protect GPS receivers. In the initial *MSS ATC NPRM*, the Commission stated:

The L-band MSS satellite transmitters operate [in] the lower adjacent band to the Global Positioning System ("GPS") and other Radio Navigation Satellite Services. Unwanted emissions from terrestrial stations in the MSS will have to be carefully controlled in order to avoid interfering with GPS receivers.<sup>20</sup>

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<sup>19</sup> See 47 C.F.R. § 2.106 (Table of Frequency Allocations). Indeed, there are only very limited allocations for terrestrial Fixed use in these bands, and these are in specified countries that lie outside of ITU Region 2 (the Americas). See *id.*, International Footnotes 5.355 & 5.359. Thus there is no primary or secondary allocation for any terrestrial service in North America in the frequency range 1535-1660.5 MHz.

<sup>20</sup> *MSS ATC NPRM*, 16 FCC Rcd at 15559 (¶ 68).

More broadly, the Commission codified eight years ago, in 2003, the obligation of MSS ATC operators to protect all spectrum users providing allocated services, stating “[i]f harmful interference is caused to other services by ancillary MSS ATC operations, either from ATC base stations or mobile terminals, *the ATC operator must resolve any such interference.*”<sup>21</sup>

LightSquared’s Comments in this proceeding evidence its own continued understanding, as of September 2010, that “ATC in the L-band, because it lacks a primary allocation in the United States, may have to protect other services and to accept interference from other services . . . .”

LightSquared Comments, ET Dkt. No. 10-142, at 12 (Sept. 15, 2010).<sup>22</sup>

The Commission’s unexplained assertion in the *2 GHz MSS R&O* that space-based spectrum users operating under primary L-band allocations “must use receivers that reasonably discriminate against reception of signals outside their allocated spectrum” transmitted by terrestrial mobile units operating at variance with the allocation table is inconsistent with these well-established rules and policies. Affording such unprotected MSS ATC operations special rights is fundamentally incompatible with the spectrum environment that is established in the ITU Radio Regulations, which provide no allocation of any type for terrestrial Mobile services, reflected in FCC rules and decisions, and mandated by U.S. national policy. Such operations must therefore continue to be on a non-protected, non-interference basis vis-à-vis all spectrum users providing services that have primary (or secondary) allocations.

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<sup>21</sup> 47 C.F.R. § 25.255 (emphasis added).

<sup>22</sup> LightSquared went on to suggest that the Commission could “make it substantially easier to implement ATC domestically in the future by expanding the definition of MSS in its rules to include ATC and thus rendering ATC a primary service.” *Id.* No rulemaking is pending or proposed advancing such an allocation change.

**C. The Commission’s Statements Regarding L-band Spectrum Use  
In the 2 GHz MSS R&O Are Procedurally Improper.**

Given the well-established history of the L-band allocations and the consistent prior Commission statements recognizing the need for any non-protected, non-interfering ancillary terrestrial operations to protect both MSS and GPS, it is disappointing that the Commission would suggest that GPS receivers and GPS-enabled devices in ubiquitous and widespread use today were somehow designed or manufactured without due regard for the allocation environment or without due accord for the technical state of the art. The FCC must not make unfounded comments that could have the effect of undermining public confidence in a critical global utility.

The Commission’s gratuitous inclusion of this language in the 2 GHz MSS R&O is also procedurally defective because such Order could not have legitimately altered the established policies and rules described in Sections II.A and II.B of this Petition. The NPRM was limited to seeking input on two narrowly-targeted proposals – adding terrestrial Fixed and Mobile allocations to the 2 GHz MSS bands only, and applying secondary market spectrum regulations to all of the MSS bands.<sup>23</sup> The Commission did not propose, nor even imply, other possible policy or rule changes arising from the NPRM.<sup>24</sup> Accordingly, there was no basis in the NPRM itself, or in the record established in the proceeding, for the Commission to make any changes in the allocation status or coordination obligations of L-band spectrum users.<sup>25</sup> Such fundamental alterations were well beyond the scope of any proposals contained in the NPRM upon which the

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<sup>23</sup> See 2 GHz MSS NPRM/NOI, 25 FCC Rcd at 9481-82 (¶ 31).

<sup>24</sup> As noted above, the NOI portion of the NPRM/NOI merely sought general input on “other actions that the Commission could take that would increase terrestrial use of the MSS bands.” 2 GHz MSS NPRM/NOI, 25 FCC Rcd at 9493 (¶ 31).

<sup>25</sup> See, e.g., *Council Tree Comm’ns v. FCC*, 619 F.3d 235, 254-56 (3d Cir. 2010) (the Commission may not adopt changes to its rules without providing adequate notice of the substance of rule changes being contemplated). See also *Shell Oil Co. v. EPA*, 950 F.2d 741, 751 (D.C. Cir. 1991); *Home Box Office, Inc. v. FCC*, 567 F.2d 9, 36 (D.C. Cir. 1977).

Commission acted in the 2 GHz MSS R&O. The Commission's comments are without any basis in the 2 GHz MSS proceeding.

### **III. REQUEST FOR RELIEF**

Based on the foregoing discussion, the Council respectfully requests that the Commission rescind the language contained in paragraph 28 of the 2 GHz MSS R&O.<sup>26</sup> As conclusively demonstrated herein, there was no basis for the Commission to assert that extensive terrestrial operations have been anticipated in the L-band or to maintain that primary space-based services in the L-band must use receivers that discriminate against reception of signals from adjacent-band MSS ATC operations, which have no spectrum allocation and necessarily must operate on a non-protected, non-harmful-interference basis. These statements were inconsistent not only with all prior FCC policy statements concerning these matters, but with relevant FCC Rules. The 2 GHz MSS NPRM/NOI provided no notice that the Commission might even contemplate altering these rules in this proceeding. Accordingly, the Commission should revise its decision to remove these erroneous statements on reconsideration.

Respectfully submitted,

**THE U.S. GPS INDUSTRY COUNCIL**

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<sup>26</sup> The Commission nonetheless has recognized circumstances when its decisions have been tainted by erroneous factual statements or other data, and has acted to correct such mistakes. *See, e.g., Reconsideration of Implementation of the AM Expanded Band Allotment Plan*, 10 FCC Rcd 12143 (¶ 3) (1995) (rescinding conclusions premised on FCC database errors).