

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Request by Globalstar to Expand its Ancillary) RM No. 11339
Terrestrial Component (ATC) Authority)

OPPOSITION OF SPRINT NEXTEL CORPORATION

I. INTRODUCTION

The Commission should deny the petition of Globalstar, Inc. to nearly triple the amount of mobile-satellite services spectrum dedicated to its ancillary terrestrial component service.¹ Globalstar’s request to use the 2493-2500 MHz band for ATC operations ignores rulings from the Commission and statements by Globalstar itself that explicitly recognize the serious interference to terrestrial mobile operations that would result from placing terrestrial mobile ATC in or near the same band as another terrestrial mobile service. Globalstar is ignoring its own statements and glossing over the enormous technical problems that would result in authorizing two wide-area, terrestrial mobile systems to use the same spectrum at the same time. The Commission should deny Globalstar’s petition.

II. DISCUSSION

Less than eight months ago, the Commission granted Globalstar authority to construct an “unlimited number” of downlink base stations and deploy a similarly unlimited number of user handsets in a portion of its licensed mobile-satellite service

¹Globalstar, Inc., *Petition for Expedited Rulemaking for Authorization to Provide Ancillary Terrestrial Component Services*, RM No. 11339 (June 20, 2006) (Globalstar Petition).

(MSS) spectrum.² Despite not having erected a single base station and not having deployed terrestrially based services to a single customer, Globalstar now demands that the Commission nearly triple the company's current in-band terrestrial services authorization from 11 MHz to 27.85 MHz to meet "current and future needs."³

Sprint Nextel is one of the nation's leading licensees of Broadband Radio Service (BRS) spectrum and intends to use this spectrum to deploy an advanced broadband WiMAX network capable of providing broadband service to 100 million Americans by 2008. To meet this goal – and the aggressive 2.5 GHz build-out milestones that the Commission imposed on the company as a condition of merger – Sprint Nextel intends to invest roughly \$3 billion over the next two years to build a terrestrial network that supports portable computing, multimedia applications, and a wide variety of consumer electronic devices in rural and urban areas across the country.⁴ Grant of Globalstar's thinly reasoned petition to extend its operations into the 2493-2500 MHz band is unnecessary and unwarranted, and dramatically increases the potential for interference licensed next-generation, wireless broadband BRS operations.

A. Both the Commission and Globalstar Have Already Recognized that BRS and ATC Operations Cannot Use the Same or Adjacent Frequencies

Globalstar's petition ignores an important fact: consistent with Globalstar's own statements in a prior proceeding, the Commission has already found that it is not

² See *Globalstar LLC, Request for Authority to Implement an Ancillary Terrestrial Component for the Globalstar Big LEO Mobile Satellite Service (MSS) System*, Order and Authorization, 21 FCC Rcd. 398, ¶ 43 (2006) (Globalstar ATC Authorization).

³ Globalstar Petition at 1.

⁴ Globalstar makes much of its support for public safety operations, but these intermittent efforts pale in comparison to the comprehensive efforts that Sprint Nextel's high-capacity, highly reliable voice and data networks offer public safety officials. In the aftermath of the 2005 Atlantic hurricane season, for instance, Sprint Nextel distributed more than 20,000 handsets to emergency workers in the storm's aftermath using distributed antenna transmitters.

technically feasible for ATC operations to operate on the same or even adjacent frequencies as BRS. In response to an inquiry from the Commission staff in the Big LEO spectrum sharing proceeding, Globalstar stated unequivocally that “*a Globalstar ATC system could not share frequencies with another terrestrial service.*”⁵ The Commission agreed in its 2004 decision in that proceeding. Indeed, the Commission not only prohibited ATC operations in the 2496-2500 MHz band, but also prohibited ATC services at 2493-2496 MHz to provide “even greater frequency separation ... to protect BRS”⁶ Consistent with the position it took in the proceeding, Globalstar did not seek reconsideration of this Commission finding.

Globalstar should not now be allowed to contradict its prior position and effectively seek reconsideration of this issue two years too late. Courts and administrative agencies confronted with similar tactics have invoked their equitable powers to estop parties from “pressing a claim that is inconsistent with a position taken by [a party] either in a prior legal proceeding or in an earlier phase of the same legal proceeding.”⁷ Moreover, Globalstar’s petition makes no effort to point to changed circumstances that would warrant reconsideration of the issue. The Commission’s 2004 conclusion that two terrestrial mobile systems could not share the same spectrum at the

⁵ See Letter from William D. Wallace, Globalstar Counsel, Marlene Dortch, FCC Secretary, IB Docket No. 02-362, at 4 (Feb. 26, 2004) (emphasis added). In its Petition for Reconsideration of the Commission’s July 2004 *Spectrum Sharing Order*, Globalstar again acknowledged the incompatibility of BRS and co-channel MSS ATC operations in the same geographic area, saying that BRS operations at permissible power levels “will wipe out MSS downlink operations, either satellite or ATC, for a radius of 30 kilometers.” Petition for Reconsideration of Globalstar LLC, IB Docket No. 02-364, at 12 (Sep. 8, 2004).

⁶ *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Report and Order, Fourth Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd. 13356, ¶ 72 (2004).

⁷ *Alternative System Concepts, Inc. v. Synopsys, Inc.*, 374 F.3d 23, 33 (1st Cir. 2004) (citations omitted); *Rissetto v. Plumbers and Steamfitters Local 343*, 94 F.3d 597, 604 (9th Cir. 1996); *Microwave Communications, Inc.*, 18 FCC2d 953, ¶ 26 (1969).

same time in this band is consistent with its rules governing other spectrum bands licensed on a wide-area basis for terrestrial mobile operations. The predominant service licensing scheme the Commission has adopted for such spectrum has been to assign frequency blocks among terrestrial users on an exclusive basis. The Commission has taken this approach for all significant licensed mobile service allocations under 3 GHz, including cellular service, Personal Communications Service, Specialized Mobile Radio, the 700 MHz band, the AWS band, and the 2.5 GHz band.⁸ Globalstar's petition ignores this well-established precedent and the spectrum management principles that have guided the Commission's spectrum allocation and licensing policies.

One of the Commission's core duties is "to prevent interference among stations."⁹ Globalstar's petition is inconsistent with that responsibility.

B. MSS ATC Cannot Share Spectrum with BRS

Globalstar disingenuously claims to have "provided a detailed technical analysis in its ATC application" demonstrating how interference would not occur.¹⁰ In truth, Globalstar's application never discusses how its terrestrial service might share with another co-channel terrestrial mobile service. The only discussion Globalstar's underlying MSS ATC application offers for how to avoid co-channel interference to terrestrial mobile licensees is simply its commitment not to operate on a co-channel basis with another terrestrial mobile system. "ATC base stations will transmit in S-Band, just

⁸ See, e.g., *Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems*, Report and Order, 86 F.C.C.2d 469, ¶ 100 (1981) ("A grant authorizing a cellular system to operate in a given frequency Block within a specified CGSA will be exclusive. Therefore, two or more applications using the same frequency Block and proposing CGSAs that will overlap with each other will be considered mutually exclusive.").

⁹ 47 U.S.C. § 303(f).

¹⁰ Globalstar Petition at 21.

like the Globalstar satellites, *but only in the 2487.5-2493 MHz band*,” Globalstar said.¹¹

Therefore, the claim that Globalstar provided the Commission or the public with “detailed technical discussion” for co-channel interference to terrestrial mobile systems is highly misleading. It is also disingenuous for Globalstar to claim that, because its partially implemented MSS *satellite* service has offered service to a limited number of users allegedly without causing harmful interference for a few years, operating a *terrestrial* service in those same frequencies will not interfere with other terrestrial licensees. This puts sleight of hand above sound technical and legal reasoning.

The reality, of course, is that two separately duplexed, co-channel terrestrial mobile systems cannot coexist in the space at the same time because they cannot demodulate and recover their respective desired signals. In this case, Globalstar seeks to extend the MSS ATC authorization to permit its MSS ATC base station receivers to occupy the 1610-1621.35 MHz band and its MSS ATC base station transmitters to occupy the entire 2483.5-2500 MHz band. In these comments, Sprint Nextel does not address the potential harmful interference that will occur to other co-channel licensees such as the thousands of mobile facilities currently operating in the Broadcast Auxiliary Service (BAS). Nor does Sprint Nextel address the potential for harmful adjacent channel interference to other licensees, such as the A Block Educational Broadband Service (EBS) licensees, which would be located two megahertz away from Globalstar’s terrestrial mobile transmission facilities under the instant proposal.¹² While both

¹¹ Application of Globalstar LLC, FCC File No. SAT-MOD-20050301-00054, B-1, 2 (filed March 1, 2005) (Globalstar Application); *accord* Globalstar Application at B, 3 (identifying “protection for other services and stations” and excluding any mention of terrestrial mobile operations anywhere in the band).

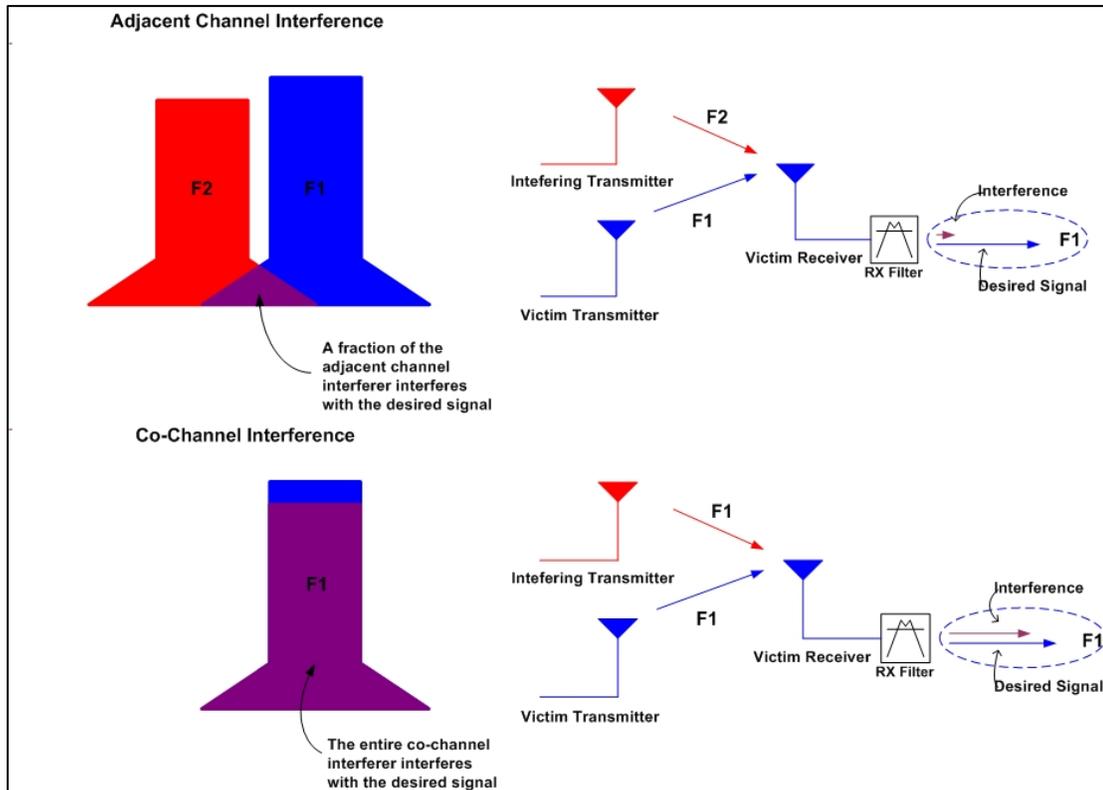
¹² This two megahertz of separation assumes the completion of the 2.5 GHz band transition process. Prior to the transition, Globalstar would be immediately adjacent to EBS Channel A1, which is allocated to the 2500-2506 MHz band.

interference effects are likely to occur and prove extraordinarily damaging, Sprint Nextel is a BRS-1 licensee and, therefore, focuses on the likelihood that interference would occur between Globalstar's proposed terrestrial service at 2493-2500 MHz and BRS-1 operations in the 2496-2500 MHz band.¹³

The Globalstar petition raises a serious problem of co-channel interference. Co-channel interference is fundamentally different from, and inherently more damaging than, adjacent-channel interference. As shown in the diagram below, adjacent channel interference occurs when only a portion of the undesired signal falls into the desired signal band. With co-channel interference, however, the full force of the undesired signal falls directly into the desired signal band. In a co-channel environment, the level of interference is prohibitively high because the aggressor's signal completely overlaps the victim's signal. The two operators can do nothing to solve the problem: the only solution to co-channel interference is to increase the physical separation of the two systems so the co-channel operation no longer occurs.¹⁴

¹³ In a separate proceeding, the Commission directed Sprint Nextel and other BRS operators in the 2150-2162 MHz band to relocate to the 2496-2502 MHz and 2618-2624 MHz bands. *See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, Second Report and Order, 17 FCC Rcd. 23193 (2002). The Commission ordered the move because it concluded that BRS terrestrial services could not coexist in the same or nearby spectrum with new Advanced Wireless Services (AWS) terrestrial mobile services. Sprint Nextel has challenged the Commission decision concluding that spectrum can be shared on a triple co-primary basis with MSS, broadcast auxiliary service, and industrial scientific and medical operations.

¹⁴ The use of different polarizations, while useful within a single system, is universally regarded as insufficient protection against harmful interference among two terrestrial mobile licensees in the same spectrum.



III. CONCLUSION

While there are gray areas in radiofrequency engineering, this is not one of them. The Commission should dismiss Globalstar's petition and adhere to its 2004 decision prohibiting ATC operations in the 2493-2500 MHz band.

Respectfully submitted,

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Certificate of Service

I, Victoria L. Petty-Nawrath, hereby certify that on this 28th day of August, 2006, caused true and correct copies of the foregoing Opposition of Sprint Nextel Corporation to be mailed by first class mail to:

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