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BEFORE THE  
**Federal Communications Commission**  
WASHINGTON, D.C.

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JUN - 3 1997

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matter of )  
)  
Allocation and Designation of Spectrum ) IB Docket No. 97-95  
for Fixed-Satellite Services in the )  
37.5-38.5 GHz, 40.5-41.5 GHz, ) RM-8811  
and 48.2-50.2 GHz Frequency Bands; )  
Allocation of Spectrum to Upgrade Fixed )  
and Mobile Allocations in the )  
40.5-42.5 GHz Frequency Band, Allocation )  
of Spectrum in the 46.9-47.0 GHz )  
Frequency Band for Wireless Services; )  
and Allocation of Spectrum in the )  
37.0-38.0 GHz and 40.0-40.5 GHz for )  
Government Operations. )

**REPLY COMMENTS OF  
WINSTAR COMMUNICATIONS, INC.**

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**REPLY COMMENTS OF  
WINSTAR COMMUNICATIONS, INC.**

WinStar Communications, Inc. ("WinStar"), by its attorneys, hereby submits its reply comments in the above-captioned proceeding.

**I. INTRODUCTION AND SUMMARY.**

This proceeding offers the Commission an opportunity to continue its strong commitment to opening local telephone exchange markets to competition. Specifically, the 38.6-40.0 GHz band is presently used by terrestrial licensees to provide wireless local loops in competition with incumbent local exchange carriers ("ILECs"). WinStar, in fact, has been moving forward with the national roll-out of its 38.6-40.0 GHz band "wireless fiber" services since 1993. In order to continue those efforts, WinStar urges the Commission to: (1) reserve the 38.6-40.0 GHz band for terrestrial operations; (2) release swiftly a Report and

Order with respect to the 38.6-40.0 GHz band; and (3) refrain from adopting any satellite underlays in the 38.6-40.0 GHz band.

It is impracticable for the Commission to assign spectrum in the 38.6-40.0 GHz band to satellite operations, even on an underlay basis. As stated in the Notice and demonstrated by WinStar, sharing between satellite and terrestrial services is not feasible. Licensed 38.6-40.0 GHz terrestrial services already are well-established, having spent the past several years financing, acquiring skilled personnel and equipment and building out their systems. Moreover, satellite assignments in the 38.6-40.0 GHz band would curtail -- via sharing rules -- the potential for ubiquitous competition to ILECs offered by terrestrial licensees. In that regard, there should be no satellite underlays in spectrum bands allocated to terrestrial services.

**I. THE COMMISSION SHOULD SEGMENT AND RESERVE THE 38.6-40.0 GHz BAND FOR TERRESTRIAL OPERATIONS.**

WinStar and other terrestrial commenters demonstrated that sharing was not feasible between terrestrial and satellite interests.<sup>1</sup> Some satellite commenters agreed: Lockheed, for example, stated that satellite operations are "incompatible" with European terrestrial services in the 37.0-39.5 GHz band.<sup>2</sup> More

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<sup>1</sup> See, e.g., WinStar Comments at 3-5; TIA Comments at 10; BizTel Comments at 3-6; ART Comments at 5-13. (demonstrating problems of sharing).

<sup>2</sup> See Lockheed Comments at 15 ("[W]ireless services that are incompatible with ubiquitous-user satellite operators are already using the 37.0-39.5 GHz band in Europe.") TRW appears to agree implicitly with Lockheed's analysis. In its comments, TRW stated that the Commission should proceed with the licensing of the 38.5-39.5 GHz band to terrestrial

directly, Teledesic stated that the "ubiquitous deployment envisioned for both satellite and terrestrial services in the higher frequencies requires that separate bands be designated for the primary use of each of these services."<sup>3</sup>

Motorola mischaracterizes the situation by contending that terrestrial services have "summarily concluded" that sharing is unworkable.<sup>4</sup> Motorola is well aware of the fact that WinStar and other commenters have submitted numerous engineering studies to the Commission, the Ad Hoc Millimeter Wave ("AHMW") group of the Commission's 1997 World Radio Conference ("WRC-97"),<sup>5</sup> and to Motorola, demonstrating that sharing was not operationally or economically feasible.<sup>6</sup> More specifically, those studies found

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services because such services were licensed in the same band throughout Europe. See TRW Comments at 9 ("[I]t would seem appropriate for the U.S. to proceed with terrestrial high density fixed services ("HDFS") in the band 38.6-39.5 GHz.") If sharing were possible, there would be no need for that concession.

<sup>3</sup> See Teledesic Comments at 2.

<sup>4</sup> Motorola Comments at 12 & 18.

<sup>5</sup> WinStar submitted various AHMW and working group documents in its *ex parte* letter to Chairman Hundt of December 16, 1996 which are incorporated in this preceding by reference. See Letter to Reed E. Hundt, Federal Communications Commission Chairman, from Philip L. Verveer, Counsel for WinStar (December 16, 1996).

<sup>6</sup> See WinStar comments at 3-5 (demonstrating problems of sharing); Biztel Comments at 3-6; ART comments at 5-13.

Studies carried out for the AHMW group showed that the interference between the Fixed Service transmitters and the receive earth stations of the Fixed Satellite Services would be excessive unless significant spatial separation (larger than 40 km in most cases) was provided. The satellite receive antennas considered were of the order of 0.66m to

that proposed sharing between terrestrial and satellite operations in the 38.6-40.0 GHz band would lead to significant holes in the coverage areas of terrestrial providers due to the imposition of severe technical constraints in the form of power density ("EIRP") and automatic transmission power control ("ATPC") demanded by Motorola. For that reason, the engineering studies -- like the Notice -- concluded that segmentation is the best solution for optimizing the deployment of both the satellite and fixed services.<sup>7</sup> Additional discussions with Jack Dicks of Wilbur Pritchard & Co. indicate that the problem is not unique to sharing between Fixed Satellite Service and Fixed Service, but encompasses sharing between terrestrial services and Mobile Satellite Services or Broadcast Satellite Services.<sup>8</sup>

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1.5m in diameter. Even in the impractical solution where lower level e.i.r.p. levels were proposed for Fixed Service transmitters employing an inordinately high level of ATPC, a geographical separation of 1 km was still requested by the Fixed Satellite Services representatives.

<sup>7</sup> See Notice at ¶ 12 ("Given the ubiquitous nature of some of the services proposed, it is not likely that satellite and terrestrial systems will be able to share the same spectrum without significant technical constraints....[Thus] we believe a band plan, with frequencies designated for different types of high-density services, would provide the various proposed systems with the best opportunity to succeed.")

<sup>8</sup> On behalf of WinStar, Wilbur Pritchard & Co. is in the process of completing a detailed study on the sharing capabilities of ubiquitous Fixed Service and satellite systems. That study should be submitted shortly. Preliminary research indicates that satellite systems using multiple receive antennas that can be deployed on a ubiquitous basis in the 38.6 to 40.0 GHz band are likely to suffer significant interference from the high power Fixed Service transmitters. This includes Fixed Satellite Service, Broadcast Satellite Service, and Mobile Satellite

The Commission reached a similar conclusion concerning the benefits of segmentation for competing ubiquitous wireless and satellite services in its LMDS Order.<sup>9</sup> There, the Commission found that (1) co-frequency sharing was not feasible between terrestrial LMDS and satellite services, and (2) segmentation would provide flexibility for system implementation and future growth.<sup>10</sup> A similar situation is present in the 38.6-40.0 GHz band. Therefore, elimination of the domestic satellite allocation in the 38.6-40.0 GHz band is entirely appropriate and not without precedent. That outcome is especially relevant here because -- unlike LMDS -- terrestrial licensees in the 38.6-40.0 GHz band already have begun system build out and operation.<sup>11</sup>

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Service systems. Since the Fixed Service is granted a license area within which it can rapidly install facilities pointing in any direction as needed to meet user requirements, physical shadowing by buildings or geographic features offers no long term solution for other services. Any other services working in this band would inevitably request coordination. For practical purposes, the band should remain free of other services.

<sup>9</sup> See Rulemaking to Amend Parts 1, 2, 21 and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, FCC 96-311, CC Docket No. 92-297, *First Report and Order and Fourth Notice of Proposed Rulemaking*. (rel. July 22, 1996).

<sup>10</sup> See id. at ¶ 27 & ¶ 41.

<sup>11</sup> The Commission has repeatedly recognized the potential value of terrestrial fixed service to provide a broad range of competitive benefits and services to American business and consumers. If adopted, the Commission's proposed decision to retain and license only terrestrial services in the 38.6-40.0 GHz band will permit both incumbent and new terrestrial licensees to continue to develop their service offerings and compete with ILECs. WinStar has made significant investments in pursuit of its plan to be a national competitor to ILECs. As shown in the attached press release, WinStar has switches

**II. THE COMMISSION SHOULD RELEASE SWIFTLY A REPORT AND ORDER CONCERNING THE 38.6-40.0 GHz BAND.**

WinStar agrees with the views of several satellite commenters that the Commission should "proceed with terrestrial high density fixed services ("HDFS") in the [ ] 38.5-39.5 [GHz band]." <sup>12</sup> WinStar, however, disagrees with those satellite providers who argue that no action should be taken on the 39.5-40.0 GHz band until completion of the WRC-97 proceeding. <sup>13</sup> Rather, WinStar believes that the Commission should release an order swiftly concerning the entire 38.6-40.0 GHz band.

Certain satellite commenters urge the Commission to delay action on the 39.5-40.0 GHz band in order to explore all possible

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in Los Angeles, Chicago, Boston and New York. See, Appendix I. WinStar's national roll-out continues with San Diego in the near future. Other 38 GHz companies -- following WinStar's example -- have received significant funding from Wall Street, hired extensive personnel, and are building 38 GHz networks with broad geographic reach.

<sup>12</sup> See TRW Comments at 9; Lockheed Comments at 17.

<sup>13</sup> Motorola, GE American Communications and Hughes urge delay with respect to the entire band plan. See Motorola Comments at 13; GE American Communications Comments at 13; Hughes Comments at 14-17. TRW and Lockheed urge the agency to move forward with terrestrial licensing in the 38.5-39.5 GHz band, and to delay implementation of other parts of the band plan, including 39.5-40.0 GHz. See, TRW Comments at 9; Lockheed Comments at 15-17. The result is that GE American Communications, Motorola, Hughes, TRW and Lockheed have encouraged additional delay of up to another 6 months for resolution of the long outstanding 39 GHz item, ET Docket No. 95-183. The 39 GHz item has been in practical stasis since 1995 due to an ongoing application freeze and lack of a resolution of technical and licensing issues. Delay until the conclusion of WRC-97 does not resolve the fact that segmentation is necessary.

sharing avenues between terrestrial and satellite services and to better understand the spectrum requirements for the two services.<sup>14</sup> It is telling that such commenters did not include any studies showing the feasibility of sharing.<sup>15</sup> Nor could they: WinStar and other terrestrial interests already have demonstrated fully that the 38.6-40.0 GHz band could not be shared by satellite and terrestrial wireless systems.<sup>16</sup> The infeasibility of sharing was endorsed in the Notice<sup>17</sup> and by at least one satellite commenter.<sup>18</sup> Consequently, it is not a proper ground for delay. Further delay would complicate the efforts of companies seeking to supplement their wireless local deployments by filling geographic "holes" in their target service areas.

Nor are satellite operators correct in asserting that the Commission should delay the proceeding to better understand the

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<sup>14</sup> See, e.g., TRW Comments at 9; Lockheed Comments at 17.

<sup>15</sup> For example, SkyBridge did not provide any technical data to support its assertion that its system design could share with terrestrial systems.

<sup>16</sup> See WinStar Comments at 3-5 (referencing various engineering studies demonstrating the infeasibility of sharing in the 38.6-40.0 GHz band).

<sup>17</sup> In the Notice, the FCC noted that it was unlikely that satellite and terrestrial services could share the same spectrum "without significant technical constraints" on their operations. See Notice at ¶ 2.

<sup>18</sup> See Teledesic Comments at 4 ("Teledesic agrees with the Commission's assessment of satellite/terrestrial sharing and endorses its tentative conclusion that separate frequencies should be designated for satellite and terrestrial services in the future.")

needs of satellite carriers. A better understanding of satellite carriers' needs will not alter the simple fact that the two services cannot share the 38.6-40.0 GHz band. That is especially true given that WinStar and other terrestrial licensees are deploying the kind of ubiquitous systems that the Notice found unlikely to be able to share with satellite systems.<sup>19</sup>

Additionally, a majority of the 38.6-40.0 GHz band is already licensed. In light of the above, the Commission should move forward with completing the licensing of the 38.6-40.0 GHz band.

**III. THE COMMISSION SHOULD REFRAIN FROM IMPOSING AN "UNDERLAY" SERVICE IN THE 38.6-40.0 GHz BAND.**

Whatever the merits may be of the Notice's underlay proposal, there should not be a reciprocal satellite underlay in the 38.6-40.0 GHz band.<sup>20</sup> As discussed above, sharing is not feasible between terrestrial and satellite operations in that band. Thus, any type of satellite underlay would undercut the very purpose of segmenting this band.

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<sup>19</sup> As noted previously, both Lockheed and TRW asserted that the Commission could license the 38.5-39.5 GHz band because satellite operations could not share with European ubiquitous terrestrial systems. See supra at p. 2-3, note 2.

<sup>20</sup> Some satellite interests argued that the Commission should adopt reciprocal satellite underlays in bands reserved for wireless services. See, e.g., Motorola Comments at 11; TRW Comments at 18.

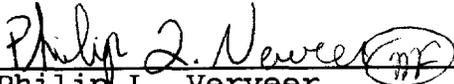
**IV. CONCLUSION.**

For the foregoing reasons, WinStar respectfully urges the Commission to eliminate the satellite allocations in the 38.6-40.0 GHz band.

Respectfully submitted,

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June 3, 1997

# **APPENDIX I**



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**WINSTAR – “THE NEW PHONE COMPANY” – PREMIERES IN LA**

**WinStar’s National Expansion Continues with Opening of Its Third Switch**

**Integrates Los Angeles by Crossing Pacific Bell and GTE Lines**

**WinStar Brings Fiber Quality to Capacity Starved California Customers**

**NEW YORK – APRIL 17, 1997, WINSTAR COMMUNICATIONS, INC. (NASDAQ – WCII) has launched its competitive local telecommunications business in Los Angeles, with the installation of the third Lucent 5ESS switch in its national expansion. WinStar, which markets itself as The New Phone Company, provides small and medium-sized business customers in Los Angeles with a single source for local and long distance communications, Internet access, and other data services, in competition with Pacific Bell and GTE, which are the incumbent local telephone companies which serve different portions of Los Angeles. This is the third major market in which WinStar has installed a communications switch as part of the nationwide rollout of its competitive high bandwidth communications services.**

WinStar first provides its services on a resale basis in each city, and follows initial marketing efforts with the installation of Lucent 5ESS switches within a few months. WinStar will continue its switch rollout in Boston next month, and San Diego in June. The company will cover more than a dozen major markets with switched services by the end of this year, including the remaining top market in California – San Francisco.

WinStar brings a new approach to local communications in Los Angeles. It allows customers with locations spread out between Pacific Bell and GTE territories to use one phone company for all their locations, instead of trying to coordinate communications with two carriers.

WinStar provides service differently from other local communications providers by using its Wireless Fiber<sup>SM</sup> service to provide broadband communications links, which many customers have been unable to obtain on a timely basis in California due to the overloaded local phone networks. The explosive demand for broadband services in California, fueled by the Internet, will continue to increase the need for capacity, making WinStar an attractive alternative due to its ability to quickly put in place its wireless broadband capacity for business customers. WinStar’s focus on customer service, providing

businesses with integrated billing, dedicated account managers, and competitive prices also makes it different from other local telephone companies.

WinStar is a rapidly growing national local telecommunications provider which is bringing competitive telecommunications services to the nation's top 30 markets. The company has grown from 150 to 1,050 employees in the last two years, and is well capitalized by Wall Street, with \$600 million in funds available to pursue its national expansion.

WinStar's advertising campaign will begin on Sunday, April 20, in Los Angeles, to create brand recognition. Television commercials and print advertising emphasize WinStar's commitment to customer satisfaction and introduce the WinStar brand name to small and medium-sized businesses looking for an alternative to Pacific Bell or GTE.

WinStar is rolling out its competitive telecommunications services in the top thirty markets in the United States over the next three years. WinStar already offers competitive local telephone services in 12 cities in addition to Los Angeles, including New York, Chicago, San Diego, San Francisco, Boston, Atlanta, Philadelphia, Milwaukee, Dallas, Hartford, Stamford, and Washington, D.C. The company currently fields 350 sales and support people in these 13 markets.

WinStar's competitive local telephone offering is based on its Wireless Fiber<sup>SM</sup> service, which is a broadband wireless local communication service provided using WinStar's licenses in the 38 GHz frequency band. Wireless Fiber service is the functional equivalent of fiber optic cable in terms of reliability, data transmission quality, and bandwidth provided to the end user.

WinStar currently holds 38 GHz licenses in 47 of the top 50 U.S. markets. Upon completion of pending acquisitions, each of which is subject to FCC approval, WinStar will have license coverage in 49 of the top 50 markets in the country, and more than 160 major market areas in total, covering approximately 180 million people, and approximately 650 million channel pops (population coverage multiplied by the number of channels).

WinStar Communications, Inc. is a national local communications company serving business customers, long distance carriers, fiber-based competitive access providers, mobile communications companies, local telephone companies, and other customers with broadband local communications needs. The company provides its Wireless Fiber services using its licenses in the 38 GHz spectrum. The company also provides long distance and various information services and entertainment content.

*Except for any historical information contained herein, the matters discussed in this press release contain forward-looking statements that involve risks and uncertainties which are described in the company's SEC reports, including the 10-K for the period ended December 31, 1996.*

Wireless Fiber is a service mark of WinStar Communications, Inc.