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March 1, 2002

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

By Hand

William F. Caton, Acting Secretary
Federal Communications Commission
445 12th Street, N.W.,
Washington, DC 20554

Re: Ex Parte Communication in ET Docket No. 98-206/RM-9147; RM-9245;
Applications of Broadwave USA et al., PDC Broadband Corporation,
and Satellite Receivers, Ltd., to provide a fixed service in the 12.2-
12.7 GHz Band; Requests of Broadwave USA et al. (DA 99-494),
PDC Broadband Corporation (DA 00-1841), and
Satellite Receivers, Ltd. (DA 00-2134) for Waiver of Part 101 Rules

Dear Mr. Caton:

This letter is written on behalf of SkyBridge L.L.C. ("SkyBridge") in response to a written *ex parte* filed by Northpoint Technology, Ltd. and Broadwave USA, Inc. (collectively, Northpoint) on February 6, 2002 (the "Northpoint Letter").

In its letter, Northpoint states that the SkyBridge user terminals "do not comply with the performance standards for NGSO FSS," which Northpoint claims include the antenna reference pattern contained in Section 25.209 of the Commission's

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Name: OT4
Title: OT4

rules for Fixed-Satellite Service (“FSS”) earth stations.¹ Northpoint goes on to characterize the SkyBridge user terminals as “non-compliant,” “non-conforming,” and “sub-standard.”² None of these characterizations is remotely accurate. Indeed, Northpoint’s assertions are so baseless, so patently in conflict with unambiguous law and fact, that they can only be characterized as intentional, willful, misrepresentation.

First, as Northpoint ultimately acknowledges at the end of its letter,³ the Section 25.209 antenna pattern requirements do not apply to non-geostationary orbit (“NGSO”) FSS user terminals, such as those of SkyBridge.⁴ Indeed, in this very proceeding, the Commission explicitly amended Section 25.209(a) to make it clear that the earth station antenna patterns in that section apply *only* to geostationary orbit (“GSO”) earth stations.⁵ Put simply, *the SkyBridge user terminals are fully compliant with Commission rules.*⁶

¹ Northpoint Letter at 1, 3.

² Northpoint Letter at 1, 2, 3, 4.

³ Northpoint Letter at 4.

⁴ In the Matter of Amendment of Parts 2 and 25 of the Commission’s Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, ET Docket No. 98-206, RM-9147, RM-9245, First Report & Order and Further Notice of Proposed Rulemaking, FCC 00-418, rel. Dec. 8, 2000 (“Report & Order”), ¶ 240. The Commission did, however, decide to impose antenna pattern requirements on NGSO FSS *gateway* earth stations, requirements that SkyBridge gateways fully meet. Id., ¶ 243.

⁵ Report & Order, Appendix A: Final Rules, at 154. In the Report & Order, the Commission stated that it would re-address the need for an antenna pattern for NGSO FSS user terminals in its proceeding on sharing among NGSO systems. In its subsequent Notice of Proposed Rulemaking in that proceeding, the Commission stated that it had little evidence that imposing additional limitations on NGSO FSS user earth stations will significantly improve NGSO/NGSO sharing, and expressed concern that imposing such requirements will increase the cost for NGSO FSS user terminals. The Commission therefore proposed not to mandate a reference antenna pattern for NGSO FSS user earth stations. In the Matter of The Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ku-Band, IB Docket No. 01-96, Notice of Proposed Rulemaking, FCC 01-134, rel. May 3, 2001, ¶ 48.

⁶ The Commission made its decision not to apply antenna pattern requirements to NGSO user terminals in recognition that “there are physical limitations on the amount of sidelobe suppression achievable in small earth station antennas,” a point discussed further below. Report & Order, ¶ 240. Moreover, it is important to point out that the considerations used to develop the Section 25.209(a) antenna pattern do not apply to NGSO FSS systems. This pattern was crafted to ensure successful operation of GSO satellites at 2° orbital spacings. NGSO FSS satellites operate at much farther distances from either GSO or other NGSO satellites, and therefore, there is no rational reason for applying that limit to NGSO FSS systems.

Second, Northpoint's characterization of the SkyBridge user terminals as "sub-standard" is absurd. As SkyBridge has repeatedly explained (and Northpoint either does not comprehend, or simply chooses to ignore), NGSO FSS user terminals bear no resemblance to standard fixed GSO terminals (whether FSS or DBS). Each SkyBridge user terminal is a complex system, employing two tracking beams, both sealed within a radome. Each terminal must be able to simultaneously track two moving low-earth orbit satellites, and seamlessly hand-off traffic from one beam to another. The beams are formed not with simple parabolic dishes, but with moving beam-generation structures. Packaging this technology in a relatively small and inexpensive piece of consumer electronics presents a complex and difficult challenge. In particular, it requires use of antennas with small effective areas. As the Commission has acknowledged, this leads to more relaxed antenna patterns.⁷

Furthermore, the fact that, to date, none of the other NGSO FSS system applicants has explicitly proposed using an antenna pattern more relaxed than that applied to GSO FSS earth stations is irrelevant.⁸ First, most of the other applicants have yet to specify any antenna patterns for their user terminals. Their applications to the Commission are simply silent on this issue. The reason for this is relatively clear from the face of these applications. At the time that those applications were filed, most applicants had not reached the critical point in the design process at which those patterns would be developed, based on specific marketplace and technical objectives.

Second, there are critical differences in the proposed NGSO FSS systems in terms of proposed services and target markets. These considerations significantly affect NGSO FSS system design. Some NGSO FSS applicants, with a business plan different from SkyBridge's, *e.g.*, with a primary focus on large commercial users, or a purely "backbone" approach, may be able to (indeed, may need to) employ larger antennas.⁹ However, that does not mean that SkyBridge's antennas are in any way "sub-standard." On the contrary, SkyBridge's efforts to provide satellite-based, highly-interactive, broadband service to the homes and small offices has led to the development of a truly state-of-the-art residential user terminal, perfectly suited for its intended application.

⁷ Report & Order, ¶ 240.

⁸ See Northpoint Letter at 3.

⁹ In fact, SkyBridge will use larger antennas for some types of customers. As explained in its application, Skybridge plans to use larger antennas for very heavy users of the service, such as medium to large companies. Such commercial deployments will use larger roof-top set-ups, and not the small consumer units meant for homes and small offices. As a consequence of the larger antenna size, the antenna patterns will be tighter. However, these types of facilities are inappropriate for a ubiquitous residential service. See, e.g., SkyBridge 1997 Amendment at 7.

Third, SkyBridge's request of a waiver of Section 25.209 for its residential user terminals was made out of an abundance of caution, at a time (in 1997) when it was not certain that Section 25.209 did not apply to NGSO FSS systems.¹⁰ At that early juncture, the SkyBridge business and technical plans were sufficiently mature that SkyBridge knew that its residential terminal antenna would not meet the Section 25.209(a) pattern. Therefore, SkyBridge asked for a waiver, assuming *arguendo* the applicability of the rule. As noted above, most of the other NGSO FSS applications are sufficiently sparse with respect to such technical detail that a waiver request could not rationally have been made when their applications were filed. In any case, the Commission's subsequent action in the Report & Order discussed above renders any such waiver requests moot.

Finally, in raising these illusory concerns regarding the sidelobe performance of SkyBridge's residential terminals, Northpoint overlooks the fact that the sidelobe level of the NGSO FSS user terminals is only one of the factors that determine the PFD levels necessary to protect such terminals. The greatest interference levels occur when the MVDDS transmitter emits into the main beam of the NGSO FSS user terminal. The impact of MVDDS interference into the main beam of an NGSO FSS user terminal will be even greater for larger, higher gain, NGSO FSS user terminals, necessitating even tighter PFD limits to adequately protect them.

In sum, the Northpoint Letter is nothing more than another of Northpoint's numerous and baseless attempts to blame the SkyBridge system for the difficulties inherent in sharing between a ubiquitous satellite service and a terrestrial service. As SkyBridge has repeatedly explained, the challenges in such a sharing scenario are immense, particularly where, as here, the terrestrial proponent appears to be so aggressively disinterested in achieving an equitable sharing regime that it is willing to resort to willful and repeated mischaracterization of unambiguous fact. Northpoint's simplistic and disingenuous proposals for either redesigning the SkyBridge system, or penalizing SkyBridge for design choices that are necessary to the services it seeks to provide, must be dismissed out-of-hand.

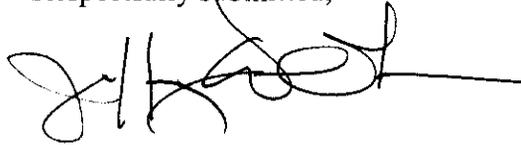
¹⁰ See Amendment of SkyBridge, L.L.C. to its Application to For Authority to Launch and Operate a Global Network of Low Earth Orbit Communications Satellites Providing Broadband Services in the Fixed Satellite Service, 89-SAT-AMEND-97, July 3, 1997 ("SkyBridge 1997 Amendment"), at 7.

William F. Caton, Acting Secretary

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If there are any questions regarding this matter, please contact the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J. H. Olson", with a long horizontal line extending to the right.

Jeffrey H. Olson
Diane C. Gaylor
Attorneys for SkyBridge L.L.C.

Via Hand Delivery and Facsimile

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