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MAR - 8 2002

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

March 8, 2002

VIA HAND DELIVERY

EX PARTE

Mr. William Caton
Acting Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

EX PARTE OR LATE FILED

Re: Notification of Ex Parte Communication in ET Docket 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:

On March 5, 2002, Sophia Collier, Antoinette Cook Bush, and Robert Combs of Northpoint Technology, Ltd. ("Northpoint"), met with Julius Knapp, Ira Keltz, and Geraldine Matisse of the Office of Engineering & Technology. Later that same day Ms. Collier, Ms. Bush, and Mr. Combs met with Thomas Stanley of the Wireless Telecommunications Bureau. The purpose of these meetings was to discuss technical issues related to satellite-terrestrial sharing of the 12.2-12.7 GHz spectrum.

In particular, Northpoint noted that it should not have to protect earth-station antennas that do not conform to the standards set forth in the Commission's rules (such as the antennas that SkyBridge proposes to use in its system). Northpoint discussed various ways of defining a mitigation zone for terrestrial service and various options for obligations to be imposed within such a zone. Also, Northpoint recommended that the Commission adopt a terrestrial e.p.f.d limit based on a 10% increase in DBS unavailability (equivalent to 20 dB C/I ratio). Finally, Northpoint stated that the FCC had a sufficient record to make a decision on the technical issues in ET Docket 98-206 and

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that no further proceedings were necessary. The attached materials were distributed at both meetings.

Eighteen copies of this letter are enclosed – two for inclusion in each of the above-referenced files. Please contact me if you have any questions.

Yours sincerely,

A handwritten signature in black ink, appearing to read "J.C. Rozendaal". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

J.C. Rozendaal

*Counsel for Northpoint Technology, Ltd.
and Broadwave USA, Inc.*

cc: Julius Knapp, OET
Ira Keltz, OET
Geraldine Matisse, OET
Thomas Stanley, WTB

February 6, 2002

VIA HAND DELIVERY

EX PARTE

Bryan Tramont
Senior Legal Advisor
Office of Commissioner Kathleen Abernathy
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Ex Parte Communication in ET Docket 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. Tramont:

I write on behalf of Northpoint Technology, Ltd., and Broadwave USA, Inc. (collectively, "Northpoint") on the topic of sharing between NGSO FSS and terrestrial services in the 12.2-12.7 GHz band. Skybridge LLC ("Skybridge") has proposed significant restrictions on Northpoint in the form of EPFD and PFD limits to be imposed on Northpoint's terrestrial operations.¹ Northpoint responded to these proposals and demonstrated that there is no need to impose a PFD to restrict Northpoint. What Skybridge has not disclosed in its recent presentations is that the Skybridge earth station antennas do not comply with the performance standards for NGSO FSS.² Northpoint's terrestrial operations and NGSO FSS have co-primary status in the 12.2-12.7 GHz band.³ While Northpoint does not object to Skybridge operating its non-compliant receivers at

¹ See, e.g., Ex parte letter from Jeffrey H. Olson, Paul, Weiss, Rifkind, Wharton & Garrison, to Magalie Roman Salas, Secretary, Federal Communications Commission, ET Docket No. 98-206 et al. (FCC filed Nov. 15, 2001) ("Skybridge Nov. 15 Ex Parte"). Northpoint has dealt with the substance of these proposals in the record, most recently in an ex parte letter from the undersigned to Magalie Roman Salas dated January 14, 2002.

² See §25.209 of the Commission's rules. SkyBridge proposes a more relaxed antenna reference pattern than required for FSS earth stations in Section 25.209, see Paragraph 239 of the FNPRM in ET Docket 98-206

³ See First Report and Order ¶ 2, ET Docket 98-206 et al, FCC 00-418 (FCC rel. Dec. 8, 2000) ("*First Report and Order*").

its own risk, no party should be required to protect non-conforming earth station antennas.⁴

In its comments to the NPRM in ET Docket 98-206 in 1999, Northpoint provided the Commission with a detailed technical analysis of interference to and from each NGSO FSS system proposing to share spectrum with Northpoint.⁵ That analysis assumed that Skybridge operated using its sub-standard antenna and showed that Skybridge would not be constrained by Northpoint operations, as frequency diversity would be needed in less than 10% of the Skybridge service area. Skybridge could then operate in harmony with Northpoint. Moreover, In those comments, Northpoint also specified that the low side-lobe levels of the Skybridge receive antenna do not provide enough signal rejection to minimize interference inside of a 2 km radius and further that the use of higher gain antennas would mitigate interference.⁶

The analysis attached to this letter identifies self-impairment from Skybridge's non-compliant antennas and updates the analysis presented in the Technical Annex to Northpoint's 1999 Comments. Comparative cases are presented at each of four latitudes. The diversity area is defined at the point where $I/N = 0$ dB.⁷ Note the remarkable change in the size of the diversity area in each of the four cases. The following table summarizes the results to show the size of the frequency diversity area⁸ changes if Skybridge used an antenna which complied with the Commissions standards.

Case	Diversity Area (sq. mi.) Compliant Skybridge Antenna	Diversity Area (sq. mi.) Non-Compliant Skybridge Antenna	Self-Impairment due to Non-Compliance
Latitude 25	2.4	4.4	183%
Latitude 30	2.7	4.5	167%
Latitude 35	2.0	3.3	165%
Latitude 40	1.0	1.7	170%

⁴§25.209 says in part:

(d) The patterns specified in paragraphs (a) and (b) of this section shall apply to all new earth station antennas initially authorized after February 15, 1985 and shall apply to all earth station antennas after March 11, 1994.

(e) The operations of any earth station with an antenna not conforming to the standards of paragraphs (a) and (b) of this section shall impose no limitations upon the operation, location or design of any terrestrial station, any other earth station, or any space station beyond those limitations that would be expected to be imposed by an earth station employing an antenna conforming to the reference patterns defined in paragraphs (a) and (b) of this section.

⁵ See generally Comments of Northpoint Technology, Ltd., Technical Annex, ET Docket 98-206 et al. (FCC filed Mar. 2, 1999). ("Northpoint 1999 Technical Annex").

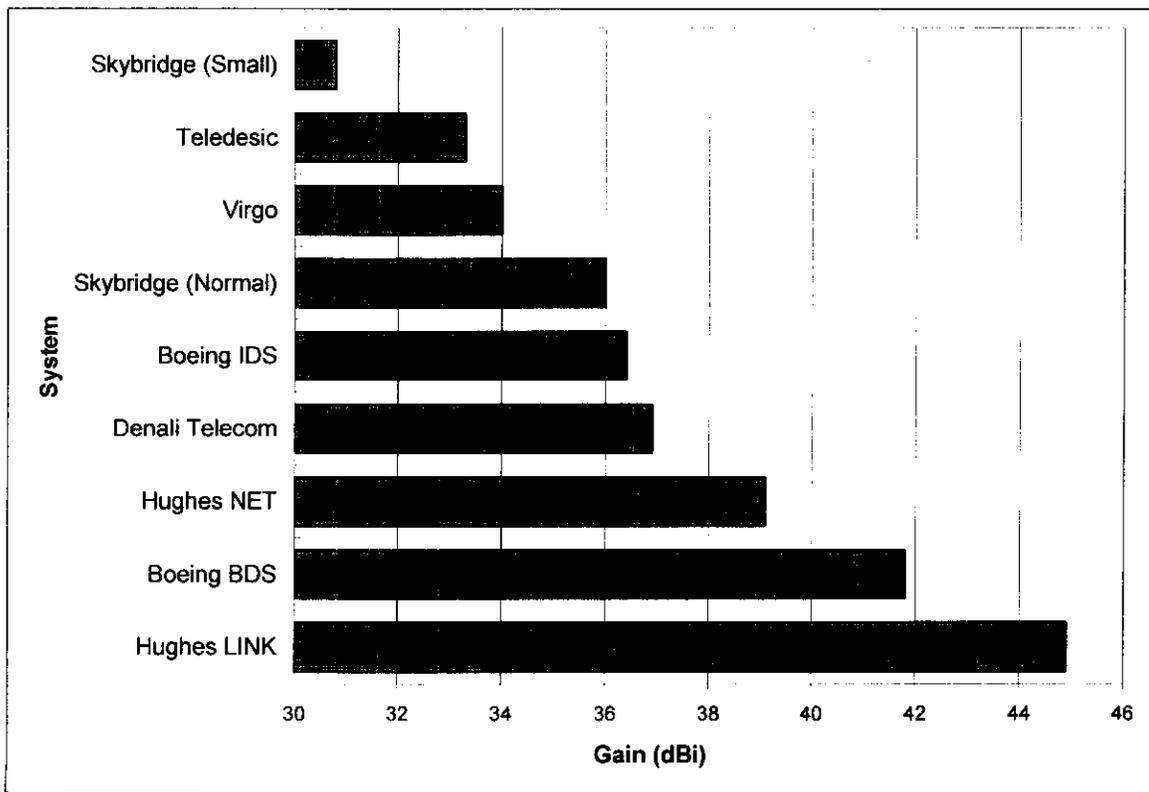
⁶ See Northpoint 1999 Technical Annex § 4.4.2.

⁷ See *id.* § 4.1.1, "Interference Criteria for NGSO FSS Systems." It must be noted that although the peak I/N is indicated on each graphic, the interference level could approach the peak for only a very small percentage of the time.

⁸ The frequency diversity area is that area where frequency diversity would be used to mitigate interference, in the area where the sharing criterion might be exceeded.

If Skybridge used an antenna which complied with the Commissions rules (§25.209), the portion of the Northpoint service area where frequency diversity might need to be implemented shrinks by nearly half. Put in other words, the Skybridge self-impairment due to non-compliance with §25.209 nearly doubles the area where it might need to use frequency diversity. Northpoint should not be required to protect Skybridge self-impairment.

Skybridge has requested a waiver from the FSS antenna standard found in §25.209 of the Commissions rules. None of the other NGSO FSS system proponents -- only Skybridge -- requested a waiver. Skybridge's terminals "are even smaller than those used in BSS" (Those used in the BSS are generally larger than 33.5 dBi).⁹ As the following graph shows, other NGSO FSS system proponents chose a design that includes an earth station with higher gain than used in the BSS.¹⁰ Indeed, the Skybridge system itself has a higher gain antenna that it might use in lieu of a non-compliant sub-standard earth station.



⁹ First Report and Order ¶ 239.

¹⁰ See Northpoint 1999 Technical Annex, Table E-3, "NGSO FSS Receiver Characteristics at 12.2 - 12.7 GHz."

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In the FNPRM, the Commission decided that it did “not see the need at this time to specify an NGSO FSS customer premise earth station”.¹¹ Moreover, it concluded that specifying an NGSO FSS user terminal antenna pattern is not needed for sharing with GSO FSS or with the MVDDS”.¹² Northpoint agrees with the Commission’s assessment that no restriction is necessary, either on Northpoint or on Skybridge. In no event should the Commission waive its rules for Skybridge and require Northpoint to protect sub-standard non-compliant earth station antennas.

Sincerely,

/s/ Robert Combs

Robert Combs
Director of System Development

cc: Peter Tenhula, Office of the Chairman
Paul Margie, Office of Commissioner Copps
Monica Shah Desai, Office of Commissioner Martin
Edmond Thomas, Office of Engineering and Technology
Bruce Franca, Office of Engineering and Technology
Julius Knapp, Office of Engineering and Technology
Thomas Derenge, Office of Engineering and Technology
Thomas Tycz, International Bureau
Jennifer Gilsenan, International Bureau
Paul Locke, International Bureau

attachment

¹¹ *First Report and Order*, ¶ 240.

¹² *Id.*

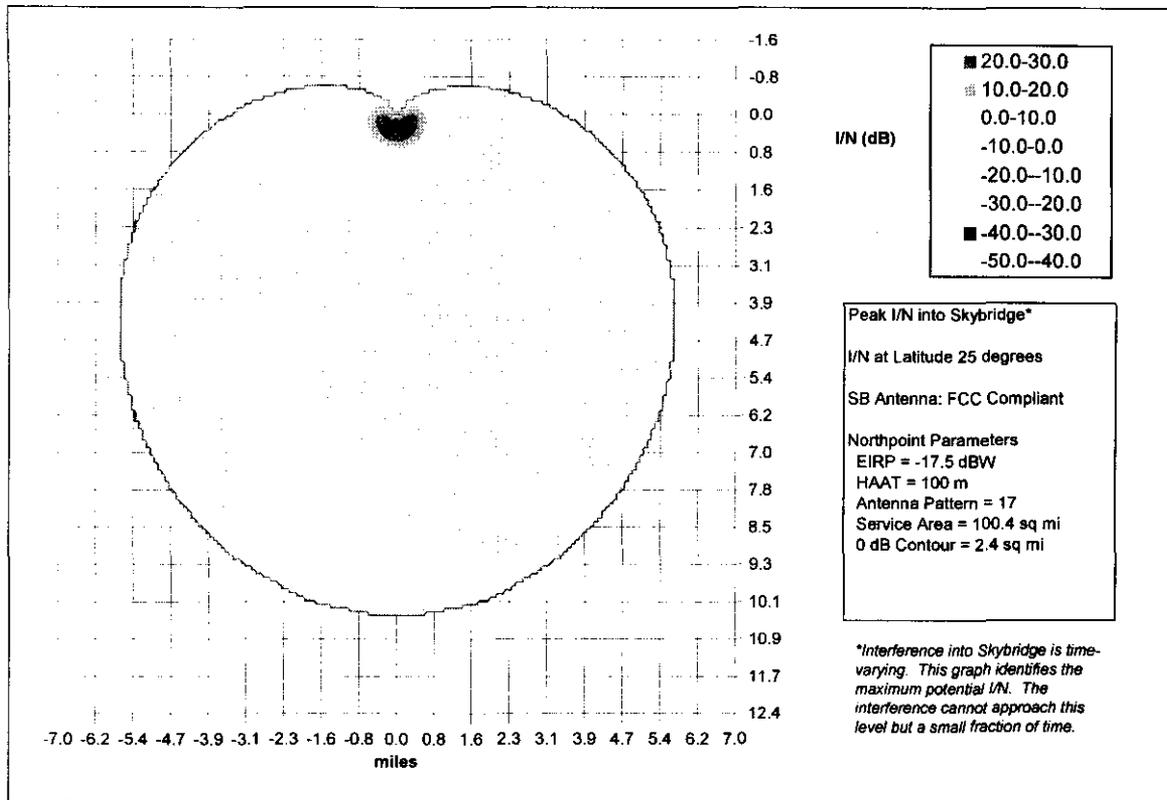


Figure 1. Case A (FCC Compliant)

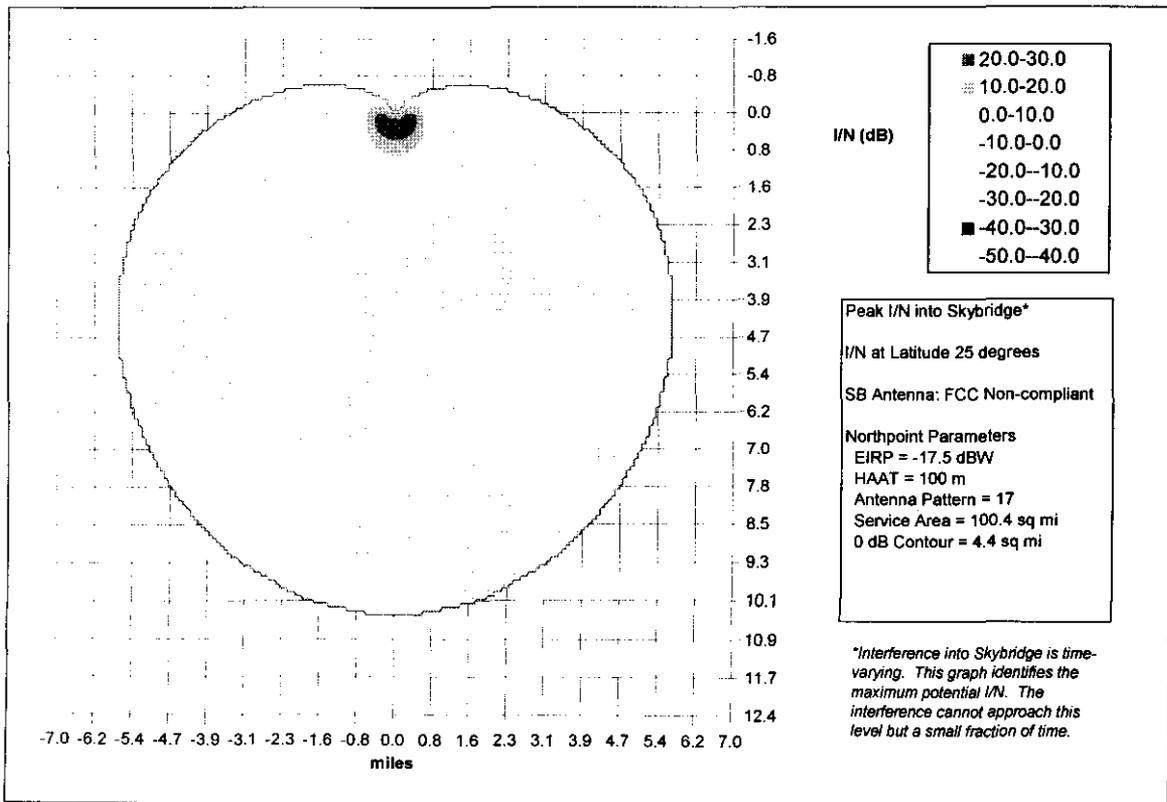


Figure 2. Case A (FCC Non-Compliant)

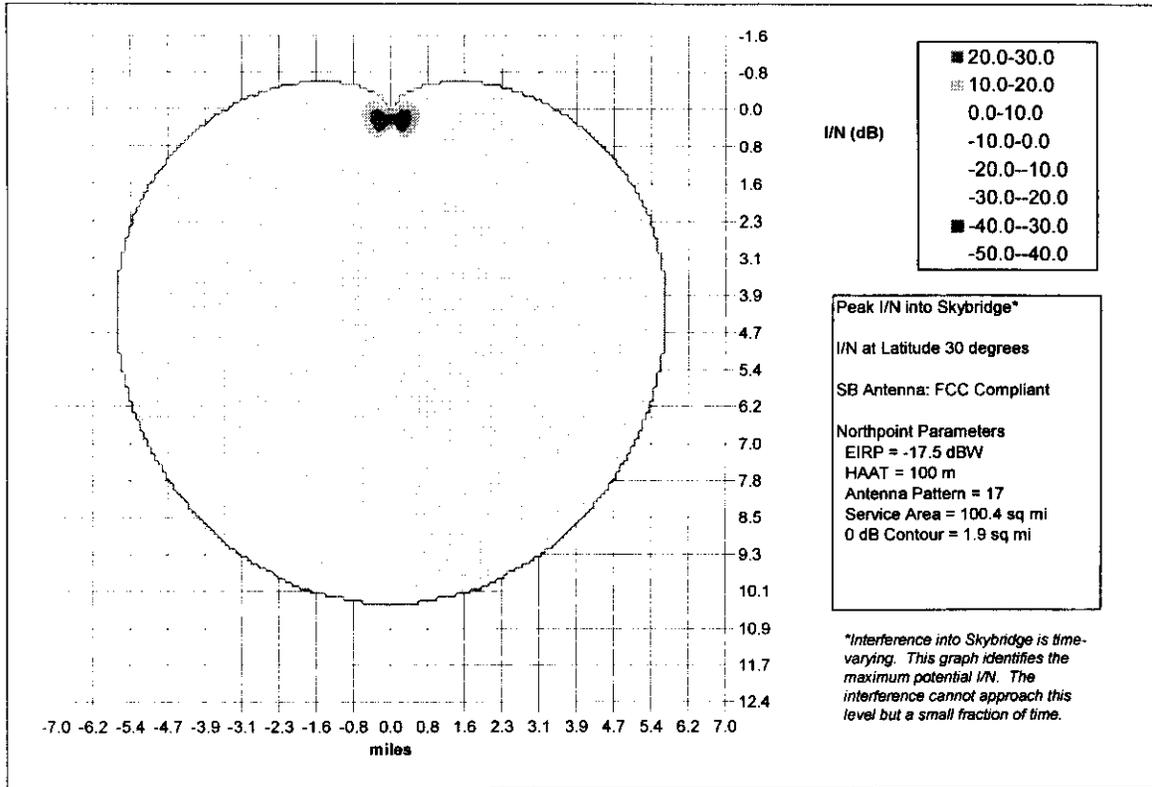


Figure 3. Case B (FCC Compliant)

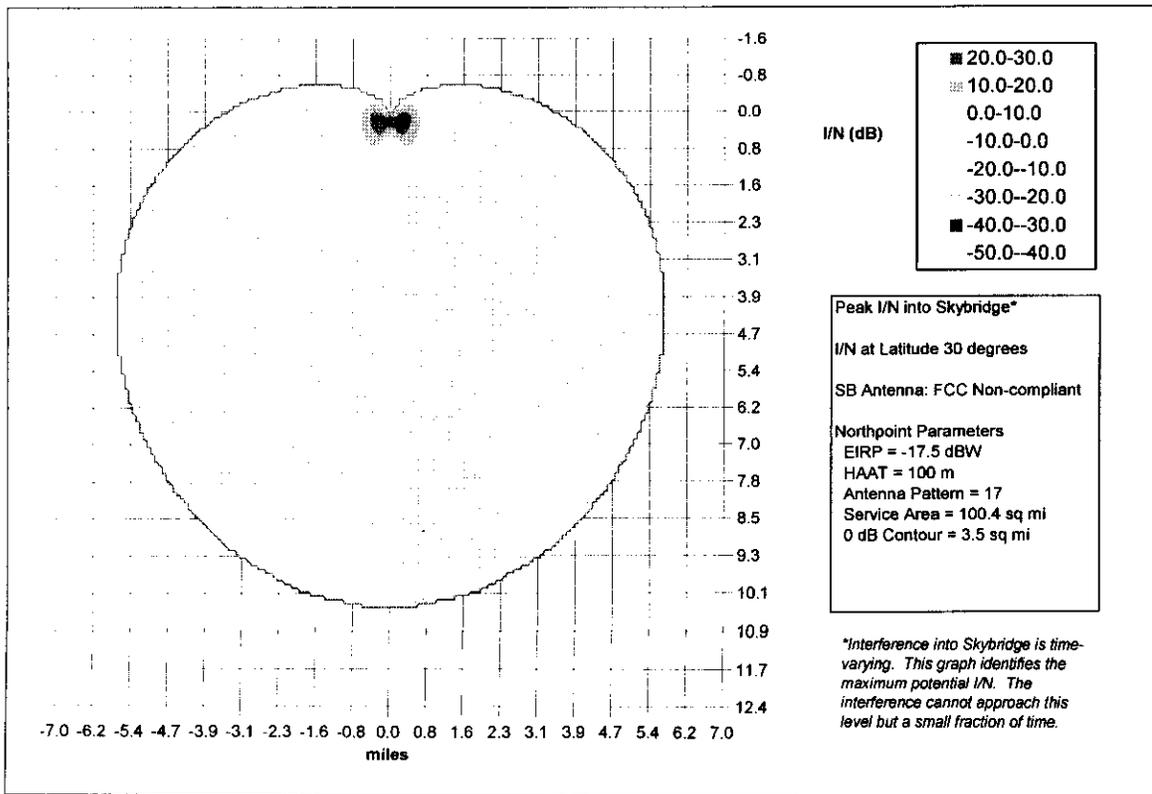


Figure 4. Case B (FCC Non-Compliant)

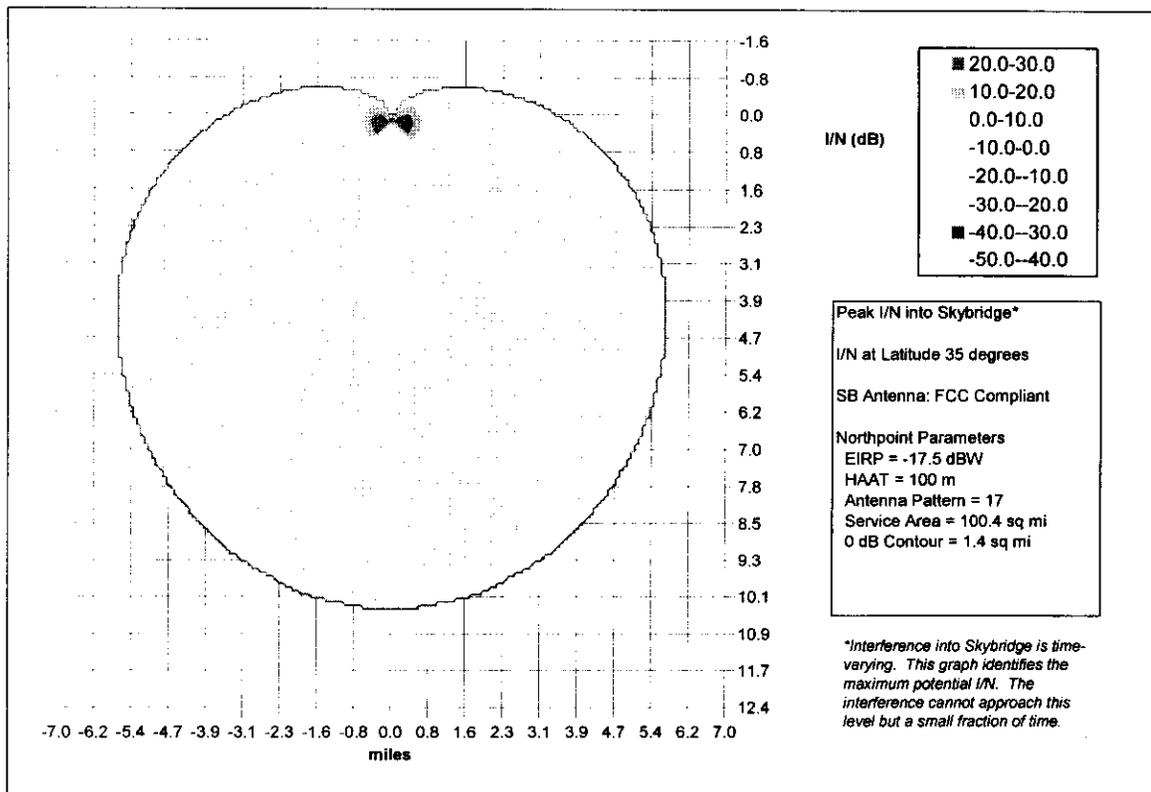


Figure 5. Case C (FCC Compliant)

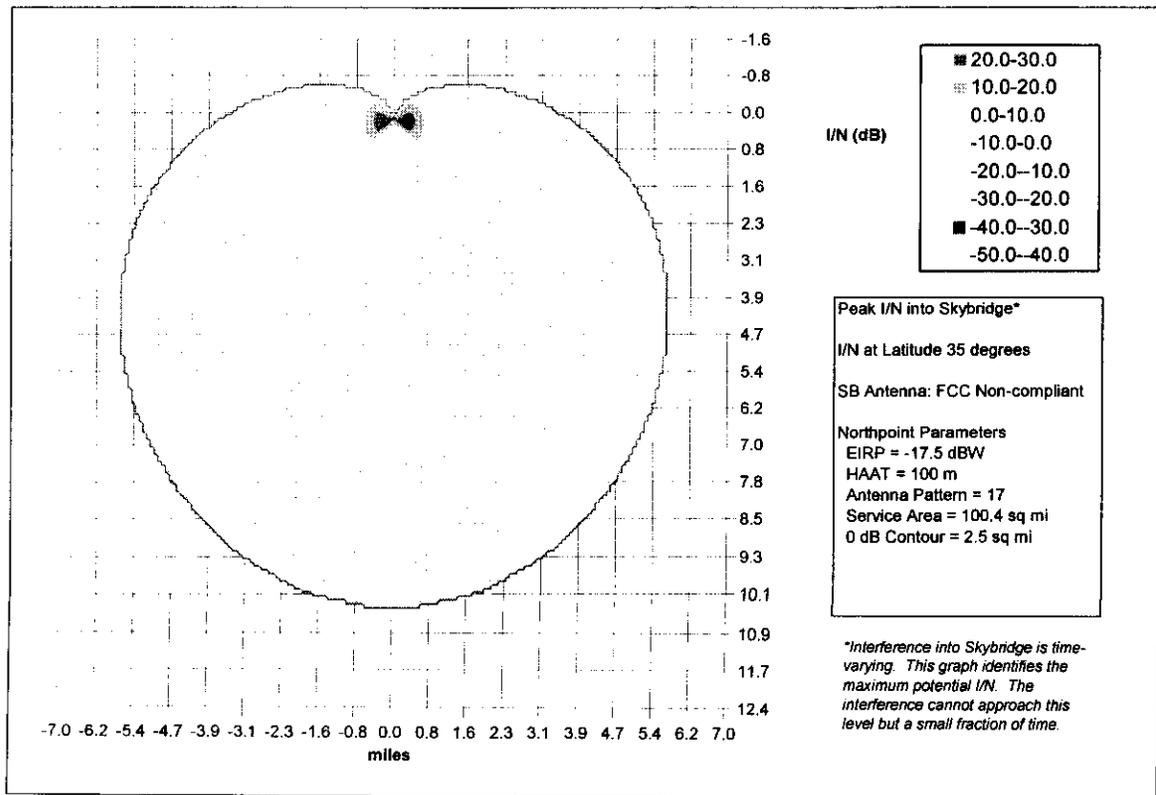


Figure 6. Case C (FCC Non-Compliant)

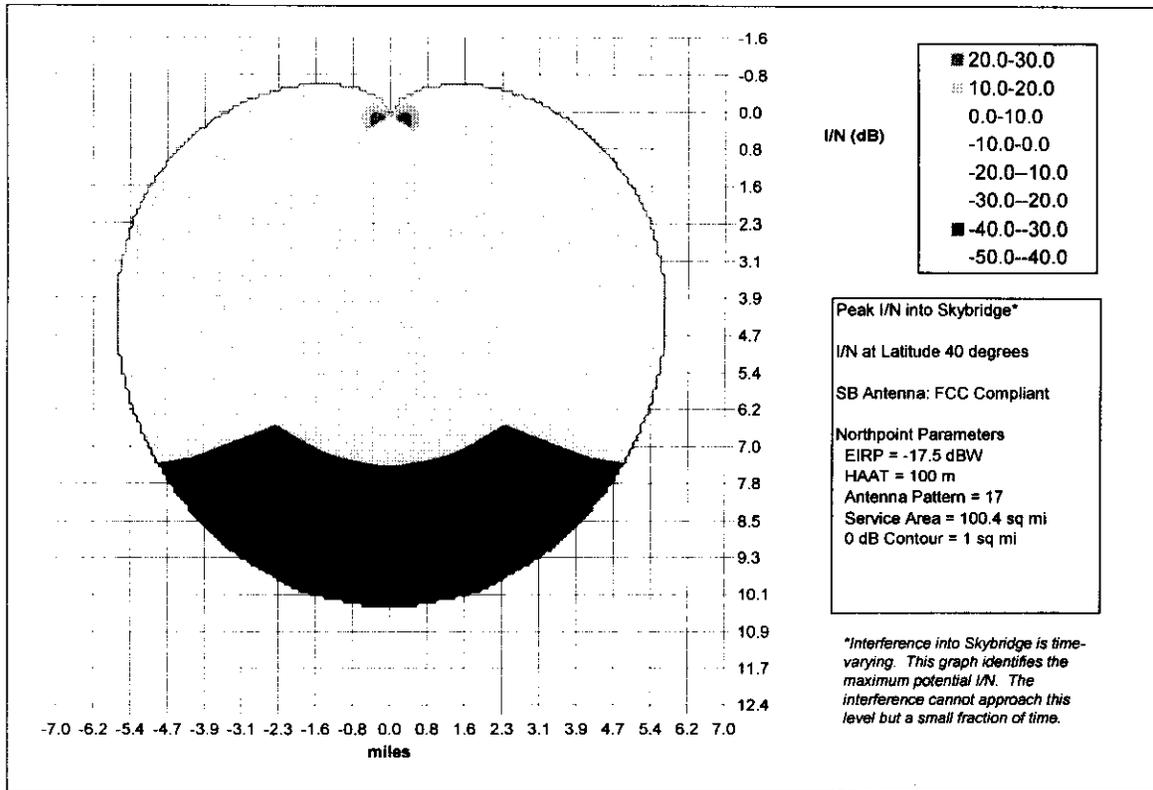


Figure 7. Case D (FCC Compliant)

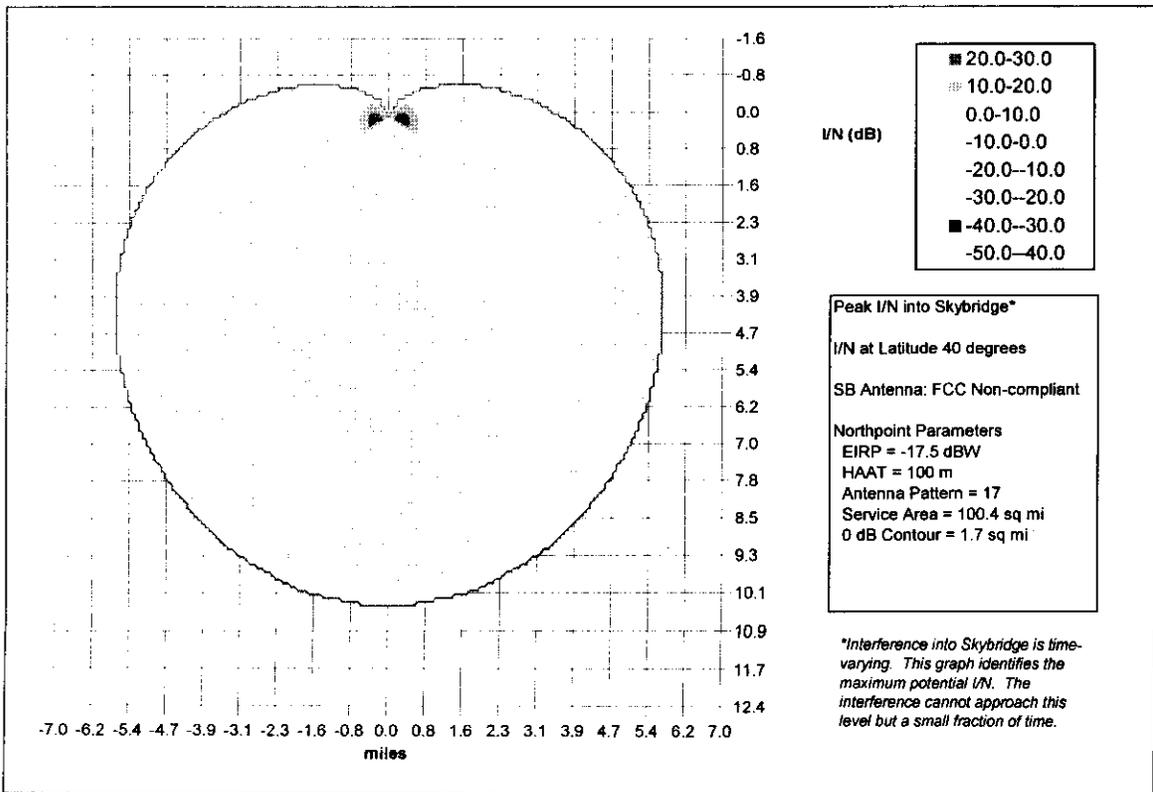


Figure 8. Case D (FCC Non-Compliant)

Establishing the Correct Interference Criterion

- “Echostar estimates that a more acceptable Carrier-to-Interference level would be at least 20 dB (equal to the cross polarization isolation level of the Low Noise Block Down Converter with Integrated Feedhorn).” (Opposition of Echostar Communications Corporation, RM 9245, April 20, 1998, page 9)

City	Proposal (EPFD - 4 kHz)		
	DirectTV	Northpoint	Difference
Miami, Fl	-174.3	-166.7	7.6
Washington, DC	-175.8	-170.5	5.3
Chicago, IL	-176.9	-170.5	6.4
Los Angeles, CA	-178.2	-173	5.2
Seattle, WA	-180.6	-173	7.6

CERTIFICATE OF SERVICE

I, Shonn Dyer, hereby certify that on this 8th day of March, 2002, copies of the foregoing were served by hand delivery* and/or first class United States mail, postage prepaid, on the following:

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