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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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March 8, 2001

Ex Parte

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

EX PARTE OR LATE FILED

Re: *Establishment of Rules for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*
IB Docket No. 90-357
GEN Docket No. 90-357

Dear Ms. Salas:

On March 1, 2001, BellSouth representatives attended a meeting convened by FCC staff to discuss interference issues between satellite DARS and services offered by WCS licensees. At that meeting BellSouth was asked to submit additional technical information about those issues as they affect BellSouth's system design to Mr. Ron Repasi by March 8, 2001.

This notice of a written *ex parte* presentation in the above-referenced proceeding is provided for inclusion in the public record in accordance with the Commission's rules. Please associate the attached memo addressed to Mr. Repasi from Mr. Johh Tehan with the above-referenced proceeding.

Please direct any questions regarding this matter to the undersigned.

Sincerely,



cc: Ron Repasi
Rocky Patterson
Ron Netro

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BellSouth Telecommunications Inc.
Room 42U85
675 W. Peachtree Street, N.E.
Atlanta, GA 303075

MEMORANDUM

Date: 3/08/01

To: Ron Repasi
Federal Communications Commission
International Bureau

From: John Tehan
BellSouth Science & Technology
404-330-0376

Re: [IB Docket No. 95-91]

Dear Mr. Repasi:

In a March 1, 2001 meeting convened by International Bureau and Wireless Telecommunications Service Staff, WCS and Satellite DARS licensees were asked to submit additional technical information for staff review. In response to this request, BellSouth agreed to submit information about the design of two-way data systems based upon its projected utilization of the WCS spectrum. The data requested concerns the receiver sensitivities of our typical transceiver systems for both base station systems and CPE as well as the typical range of heights at which these units would be installed.

Submitted with this memorandum is a two-page attachment with technical information on the design of our systems based upon the most up to date specifications of two-way data equipment in the MMDS bands. From a technical design perspective, these specifications would have virtually identical components to a comparable WCS system. We also surveyed several vendors to provide filter information of what was realistically feasible for both customer units (typically residential) and base station units. Also provided are the typical heights of our base station and CPE system components.

It is BellSouth's understanding that information from each WCS party attending this March 1st meeting will be collected by yourself and re-distributed to all meeting participants. It is also my understanding that both XM Satellite Radio and Sirius Satellite radio will provide, in return, key system design criteria for their proposed 40 kW systems such as repeater antenna patterns, typical antenna heights, and, if pertinent, filter characteristics of the repeaters.

Finally, it is BellSouth's understanding that the information provided by WCS licensees will be used by the SDARS license holders to conduct interference analyses on specific markets that currently are being evaluated under experimental license and that these analyses (and their accompanying assumptions) will be provided to all meeting participants.

Please direct all questions, regarding technical matters, to me at the number listed above.

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BellSouth Attachment - 1

03/08/2001

Subject: Reference BellSouth CPE Receiver Requirements and height requirements.

CPE Receivers

Utilizing feedback from several of our current vendors companies, the typical 1 dB compression point of the LNA is roughly +14 dBm for a single carrier at the output of the second LNA. 64 QAM requires a backoff of 6 dB peak to average and another 10 dB of backoff is required for optimum linearity to avoid non-linear degradation of the desired signal. The block diagram in figure 1 is included for reference.

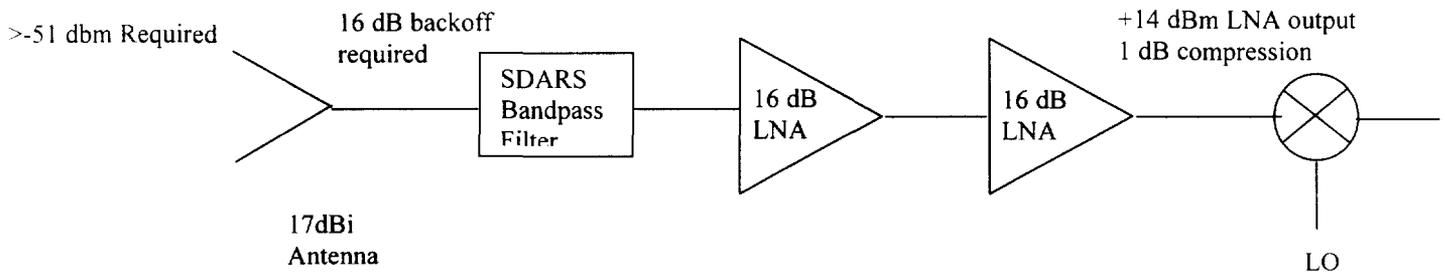


Figure 1 CPE Block Diagram

BellSouth has spoken with several filter and CPE vendors and the filtering achievable in a 4 MHz spacing between 2320 and 2324 MHz is between 0-4 dB. In order to utilize the same CPE for all residences for each of the WCS channels on both sides of SDARS, the RF filtering would be closer to 0 dB.

Max Power at receiver input (at antenna terminal) = +14 dBmW-16dB LNA-16dB LNA -6 dB (64 QAM peak to average power backoff) -10 dB (receiver linearity backoff)= -34 dBmW

Max Power at antenna face = -34dBmW-17dBi = -51 dBmW

It is important to note that the antenna gains can go as high as 24 dBi for residential systems that are in the outer region of our coverage areas.

Max Power at antenna face = -34dBmW-24dBi = -58 dBmW

03/08/2001

Base Station Receivers

In order to provide a balanced path link budget, the receiver sensitivities and LNA gains are comparable so BellSouth believes a reasonable estimate for receiver sensitivities for the base station is also -34 dBmW. The typical transmitter antennas range from 13dBi-16 dBi.

Max Power at antenna face = -34 dBmW-16dBi = -50 dBmW

BellSouth does acknowledge that the ability to distribute cost of base stations amongst many customers allows the possible utilization of large, heavy, and high cost (within reason) cavity RF filter's to help mitigate the RF interference caused by SDARS.

Typical CPE Antenna Heights

BellSouth's extensive experience with installation of MMDS (a similar spectral environment) in providing one way digital video indicates that in order to get a clear line-of-sight installation from the residence, the antenna needs to be installed from slightly above rooftop to as high as just above the highest treetop in the residential yard.

Typical CPE Antenna Heights = 30-100 ft

As such, BellSouth believes that a reasonable estimate of the typical residential receiver system is between 30-100 ft. above ground level. It is important to note that terrain varies significantly in many of our markets and often a residence could be several hundred feet higher than ground elevation of the base station or the building where it is mounted.

Typical Base Station Heights

BellSouth plans on utilizing many different base station concepts. In some markets, it is likely that BellSouth will deploy a single base station system. For the same reasons that the SDARS people will place their repeaters at the highest point available in the city, BellSouth may chose to do the same thing. As such, there is no way to predict the heights to which each base station will be deployed. It is therefore our position that without coordination, the signal received from SDARS could easily be from boresight and the rules would need to protect the WCS spectrum holders accordingly.