

**Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Amendment of Part 2 of the Commission's)	ET Docket No. 00-258
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)	
)	
The Establishment of Policies and Service)	IB Docket No. 99-81
Rules For the Mobile-Satellite Service in the)	
2 GHz Band)	
)	
Amendment of the U.S. Table of Frequency)	RM-9911
Allocations to Designate the 2500-2520/2670-)	
2690 MHz Frequency Bands for the Mobile)	
Satellite Service)	
)	
Petition for Rule Making of the Wireless)	RM-9498
Information Networks Forum Concerning the)	
Unlicensed Personal Communications Service)	
)	
Petition for Rule Making of UTStarcom, Inc.,)	RM-10024
Concerning the Unlicensed Personal)	
Communications Service)	

REPLY COMMENTS OF LUCENT TECHNOLOGIES INC.

Lucent Technologies Inc. ("Lucent") provides the following comments in reply to filings made in the Commission's above referenced proceeding. Lucent's comments are limited to the issue of pairing spectrum at 1910-1920 MHz, currently allocated for Unlicensed PCS ("UPCS"), with spectrum at 1990-2000 MHz, reallocated by the Commission from Mobile Satellite Services ("MSS"). Specifically, Lucent's comments

address the allocation of the 1910-1915/1990-1995 MHz band as an extension of the PCS band (the PCS “G Block”).

Several comments filed in this proceeding raise credible concerns relative to the use of the 1910-1915 MHz band for licensed, commercial services. These concerns are associated with the necessary reduction in the PCS center (duplexer) gap, and the consequent potential interference that could occur between the PCS mobile transmit (uplink) band and the PCS base transmit (downlink) band. With the reduction of the center gap from 20 MHz to 15 MHz, it is possible that the out-of-band energy (“OOBE”) from G Block mobile transmitters could interfere with A Block mobile receivers. Similarly, the possibility of interference from an A Block base station transmitter into a G Block base station receiver also warrants consideration.

Lucent analyzed the potential for such interference through the use of a simulation model. The result of the simulation studies are consistent with the conclusions of those parties who filed in the initial comment round; that is, a 5 MHz extension of the PCS band can likely be achieved without harmful interference.* The simulation studies show that interference effects are minimal with the possible exception of the unlikely case where two mobiles are in very close proximity to one another.

Lucent’s simulation assumed that the interfering mobiles were uniformly distributed within a cell and that the OOBE from the G Block mobile transmitter was limited to –13 dBm/MHz, consistent with Part 24 Rules. With these assumptions, the results indicated negligible impact to the PCS A Block mobile receiver.

* See, Comments of Motorola, Inc. at 4; Comments of Verizon Wireless at 5; Comments of Ericsson Inc. at 3.

The results of the investigation into base station to base station interference (PCS A Block base station transmit into G Block base station receive) determined that the reduced (15 MHz) center gap demands isolation between base stations that is slightly greater than that presently required between existing Lucent base stations operating with the current 20 MHz center gap. Although the achievable isolation is dependent on the actual antenna gain, the antenna patterns, and the propagation loss between antennas, the provision of the necessary additional isolation in the base station environment should be manageable.

Lucent also performed similar simulation studies of the impact of MSS ATC mobiles transmitting in the 2000-2020 MHz band on G Block mobile receivers operating in the 1990-1995 MHz band. The simulation assumed the prescribed OOB for the ATC mobiles of -40 dBm/MHz below 1995 MHz. Again, a uniform distribution of interferers was considered within the affected cell. A negligible impact on the victim G Block mobile receivers was indicated.

Respectfully submitted,

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