

EXHIBIT 1

Pursuant to Sections 5.3(a), 5.3(g) and 5.3(i) of the Commission's rules, Magnolia Broadband, Inc. ("Magnolia") seeks an experimental radio service license for the PCS band.¹ For the reasons set forth herein, Magnolia respectfully submits that favorable Commission action on the instant request will serve the public interest, convenience and necessity.

Background

Magnolia, a privately held Delaware corporation headquartered in Clinton, NJ, was founded in 2000 for the purpose of developing new wireless communications technology. Magnolia is lead by a team of veteran research scientists with years of experience in the wireless communications industry. Collectively, members of Magnolia's research team hold approximately 30 wireless communications patents, and have particular expertise in digital radio technology. As part of its ongoing efforts to devise innovative products that advance the radio art (particularly digital CDMA technology), Magnolia hereby respectfully requests an experimental radio service license to test the efficiency of a new chip-based smart antenna design for wireless communications handsets.

Proposed Experimental Program

Magnolia proposes to test its smart antenna design in two phases. Phase one, which is expected to last several months, will be conducted primarily inside Magnolia's Clinton, NJ facility. Phase two, which is expected to last approximately one year, will be conducted at various remote locations (including driving tests) within a ten-mile radius of the Clinton, NJ facility. Both phases of the experimental program will involve the use of a single fixed base station at the Clinton site, and up to 10 mobile handsets. The base station will be constructed with commercially available components and will consist of a radio board and a RF interface board. The handsets will be constructed with off-the-shelf consumer equipment modified with Magnolia's smart antenna design.²

Specifically, Magnolia has developed a smart antenna design consisting of new algorithms and a new RF chipset, the purpose of which is to electronically steer the radiated energy of wireless handsets. These modifications are not, however, expected to alter the handset's RF emissions; indeed, the modified handsets will not transmit at power levels higher than a conventional handset. The objective of the smart antenna design is to

¹ 47 C.F.R. §§ 5.4(a), 5.4(g) and 5.4(i).

² Magnolia has not finalized the make and manufacture of the handsets it will use.

utilize handset transmission power in a more efficient manner by electronically steering radiated emissions. This technology is expected to reduce handset power requirements, increase handset performance (transmit and receive), and to extend battery life.

In order to test this design, Magnolia proposes to retrofit up to ten consumer handsets with the new chipset, and to test the modified handsets in a variety of topographic and population environments. Magnolia's experimental program will allow it to evaluate equipment performance and to use the data obtained for further refinements to its design. Upon completion of the experimental program, Magnolia anticipates producing a final, patented design that handset manufacturers will be able to easily integrate into certificated equipment.

Frequency Coordination

Magnolia seeks authority to test its equipment in the commercial PCS band (1850-1910 MHz; 1930-1990 MHz). In order to minimize the potential for interference, Magnolia proposes to use the lowest power levels possible, and to utilize the least encumbered segments of the PCS band in its area. Magnolia's proposed experiment will be conducted in full coordination with other authorized users to ensure that no harmful interference occurs. Magnolia understands that the experimental use of spectrum is secondary and it will discontinue its experimental activity if such activity causes harmful interference.

Public Interest Benefit

Successful completion of the experimental program proposed herein will benefit the public by improving the overall performance of consumer wireless handsets. Magnolia's smart antenna design will improve handset transmission and reception performance, increase battery life, and, since it will require no modifications to a carrier's air interface or base station equipment, can be implemented economically. Accordingly, Magnolia respectfully submits that approval of the instant application will advance the radio art, will benefit wireless companies and consumers, and should therefore be granted as consistent with the public interest, convenience and necessity.