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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

MAR 14 2002

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Wireless Telecommunications Bureau)
Seeks Comment on Cingular Wireless LLC's)
Request for Waiver of the Cellular)
Vertical Wave Polarization Requirement)

DA 02-240

To: Chief, Wireless Telecommunications Bureau

REPLY COMMENTS OF AIRCELL, INC.

Introduction. AirCell, Inc. ("AirCell") hereby replies to comments filed in the above-referenced proceeding. AirCell urges the Commission to deny the request of Cingular Wireless LLC ("Cingular") and respectfully suggests that the Commission avoid changing its rules to accommodate engineering issues (i) because clear alternatives exist, (ii) the proposal has the potential to adversely impact other services, and (iii) for other practical reasons. As discussed below, there are numerous alternative antenna configurations that meet current rules and achieve equal performance to the Cingular proposal. The Commission should also consider the fact that Cingular's original request and supplemental filing contained no real technical details or justification, other than generalities. This may indicate that Cingular has not considered other, less drastic, options.

Alternatives to the Cingular Proposal Exist. Using nine antennas at a sectorized site implies that Cingular uses a separate transmit antenna, and a pair of spatially-separated receive diversity antennas, per sector. Cingular is proposing to add nine additional antennas to go to GSM, which fosters the assumption that they want to separate physically the two systems, probably for

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require the minimum antenna approach contemplated, an H-V diversity antenna would provide the same results as a slant 45.

For example, at least one manufacturer has built H/V polarity antennas that could be used in a three-per-sector configuration. This provides the six elements necessary to provide two transmits, and two separate diversity receives for each system, if it is desired to keep the two systems separate for simplicity of installation.

At least one manufacturer also has designed a sector antenna with three elements in it, a vertical transmit and two slant 45 receive antennas, in a single package. If antenna count is an issue, one could simply put a pair of these antennas on each face, for a total of 6 per site (3 for Amps/TDMA and 3 for GSM), rather than 9 antennas per site as Cingular suggests. This would seem to be both a good idea from a zoning perspective (reduces the visual impact) as well as the cost of antennas. If in fact one were to combine the systems into shared antennas as suggested in the first point above, one could go to one antenna per face or 3 antennas per site, rather than 6 or 9, further reducing zoning and cost issues.

Cingular's Proposal May Adversely Impact Other Services. AirCell agrees with On-Star's arguments with respect to urban versus rural performance. Indeed, performance in rural areas will be reduced if the polarization is changed, and there are numerous other applications that depend on vertically polarized analog signals for link performance. Many applications have been deployed using vertically polarized hard mounted antennas similar to On-Star, where the link has been optimized around that physical configuration. Highwaymasters (truck position location tracking) and the variety of Supervisory Control and Data Acquisition (SCADA) applications would also be affected by this change.

It is also important to note that by maintaining the requirement for vertical polarity on the Analog side, performance of all these analog applications will be better in both rural *and urban* areas, so the continued performance issue is not limited solely to rural locales. Moreover, the Analog cellular network is the fundamental solution for rural areas, and will remain so for many years, since the cost to implement alternative technologies nationwide is extreme. The Commission should not allow the large urban providers to force reduced performance onto the smaller companies that are providing service in rural areas. This will only force rural service providers into a non-cost effective upgrade of their networks.

Other practical reasons weigh against granting Cingular's request. There are many practical reasons why it makes more sense to simply combine the new services into the same antenna in a rural area. In rural areas, existing sites are generally deployed with omni configurations rather than sectorized. To AirCell's knowledge, no one manufactures slant polarized omni directional antennas, so there are no practical solutions for these areas anyway. Thus, this issue is limited to only urban markets where sites are sectorized, and where other antenna configuration solutions exist which do not require rule changes. Therefore, it is possible that Cingular has overstated the numbers of antennas that will be impacted.

It is also worth noting that GSM does not need to be vertical as it is an alternative technology. This allows even more flexibility in configurations, such as using one of the aforementioned dual polarity V/H pol antennas in place of the existing transmit at a site, allowing separate transmits for the two technologies. The existing diversity receive antennas could be separated at the multicoupler level into the two systems with minimal impact.

Moreover, changing from one type of antenna to another, and running additional antenna cables up a tower, often requires zoning approval in some markets. Thus, Cingular's argument that

changing from one antenna style to another will avoid zoning issues is not necessarily accurate in all circumstances.

Conclusion. There are sufficient technical and practical solutions that exist to accommodate the requirements of Cingular's GSM and GRPS deployment. These solutions would not require a change in the Commission's rules and thus would not impact users in ways that could be underestimated. For the reasons discussed above, AirCell urges the Commission to retain the current rules without modification because the waiver sought by Cingular is not necessary.

Respectfully submitted,

/s/

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CERTIFICATE OF SERVICE

I, Angela E. Giancarlo, do hereby certify that the foregoing "Reply Comments of AirCell, Inc." was served on this 19th day of February, 2002, by electronic mail, and first-class U.S. mail on:

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