



DEPLOYMENT OF BROADBAND NETWORKS AND ADVANCED TELECOMMUNICATIONS SERVICES

SUBMITTED BY: ARRAYCOMM, INC.

Impediments to Development of Wireless Broadband Services

The most immediate barrier to wireless broadband deployment is the lack of available spectrum. ArrayComm has made this case before the Federal Communications Commission (FCC) in the agency's Third Generation Wireless Systems (3G) rulemaking. For companies like ArrayComm, and especially companies focused on the provision of spectrally efficient and affordable wireless data services based on Time Division Duplex (TDD) technologies, the availability of unpaired spectrum bands is crucial.

The current domestic approach to spectrum allocation has focused primarily on new spectrum for voice services. For instance, in the 3G rulemaking, the FCC's reallocation proposals are largely restricted to a variety of reallocations based on pairing options for services based on Frequency Division Duplex (FDD) technologies. FDD proponents expect to provide some data capability as part of their 3G service offerings. However, ArrayComm maintains that truly robust, high-speed, and affordable wireless data services would best be provided over unpaired spectrum bands utilizing TDD technologies.

For instance, with its i-BURST™ mobile broadband wireless Internet access system, ArrayComm has demonstrated that the use of TDD technologies in conjunction with highly sophisticated spatial processing can deliver data communications at 1 Mbps or better – far in excess of speeds provided by today's FDD systems and similar to what FDD proponents predict for their future 3G offerings. Furthermore, because TDD uses the same channel to transmit and receive, it can provide such wireless data solutions with remarkable spectrum efficiency and at significantly lower cost.

ArrayComm believes the FCC is working to create a spectrum policy and allocations that provide for unpaired spectrum bands, and technology-neutral spectrum policy. In current pending government spectrum proceedings, the FCC has allocated some bands of unpaired spectrum. Although this amount of spectrum is not sufficient to meet the growing demand for high-speed wireless Internet access and data services, the FCC appears to be acknowledging that the totality of wireless growth cannot be met by technologies designed primarily for voice services.

Acknowledgement of this fact raises the second, related impediment to wireless broadband: adoption of technology-neutral spectrum policies. This second point should not be perceived as a criticism. It is more a reminder that technology neutrality is a long-held principal of federal regulators. However, in the rush to find new spectrum for voice service, the current dominant application for which spectrum is employed, the spectrum needs of developing services, namely wireless data, have been overshadowed. Notwithstanding the FCC's efforts to acknowledge the wireless data field, more attention must be paid to this area. As the need to access data in a mobile environment continues to grow, the spectrum necessary to make such access a reality must be made available.

Conclusion

ArrayComm encourages the National Telecommunications and Information Administration (NTIA) and FCC to allocate more spectrum on an unpaired basis and to use their policy expertise to highlight and strengthen the need for even-handed, technology-neutral spectrum policies. Federal regulators and policy makers must not select specific technologies, such as FDD, to the exclusion of others based merely on the legacy of such technologies as today's prevailing mode of providing mobile wireless services. FDD will be useful for some Advanced Mobile Service applications, but other technologies, such as TDD, will be superior in other instances. The marketplace is proving this to be true on a daily basis.

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