

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC**

In the Matter of)
)
Request of Alcatel-Lucent, *et. al.* for Interpretation) WT Docket No. 09-106
Of 47 C.F.R. §101.141(a)(3) to Permit the Use of)
Adaptive Modulation Systems)

COMMENTS OF CLEARWIRE CORPORATION

Clearwire Corporation hereby files these comments in support of the Public Notice, DA 09-1427, Wireless Telecommunications Bureau Seeks Comment on Request of Alcatel-Lucent, *et. al.* for Interpretation of 47 C.F.R. §101.141(a)(3) to Permit the Use of Adaptive Modulation Systems. In that Public Notice, the Wireless Telecommunications Bureau seeks comment on a request by a number of entities to interpret its rules to permit data rates to drop for brief periods below the minimum payload capacity specified 47 C.F.R. §101.141(a)(3), when a link would otherwise be temporarily out of service, so long as the values otherwise mandated by the rule are maintained both in normal operation and on average (the “Request”). Clearwire supports adoption of this Request and believes that the potential use of adaptive modulation would increase its WiMAX service reach, enhance its service reliability, and increase its overall link availability.

Clearwire builds and operates next generation wireless broadband networks that provide entire communities with a robust suite of advanced high-speed Internet services.¹ Clearwire is building the first, nationwide 4G mobile Internet wireless network, bringing together an

¹ See SEC Form 10-K, Clearwire Corp/DE-N/A, filed March 26, 2009 (period: Dec. 31, 2008) providing a comprehensive overview of the company for the past year.

unprecedented combination of speed and mobility. Clearwire operates networks in more than 50 markets in the United States and Europe covering approximately 18.2 million people. At the end of 2008, Clearwire had approximately 475,000 wireless broadband subscribers. In its newest markets Clearwire utilizes mobile WiMAX technology that enables the company to offer mobile and fixed communications over a single wireless network at speeds that are multiple times faster than today's 3G wireless networks and that offer a competitive alternative to wireline broadband offerings. Clearwire holds over one thousand microwave licenses and utilizes point-to-point microwave licenses to provide backhaul in its network.

Clearwire is an operator of long-path length 11 GHz point-to-point microwave systems. The potential use of adaptive modulation would increase our WiMAX service reach, enhance service reliability, and increase overall link availability. Similarly to what was described in the Request, Clearwire designs its systems to a minimum 99.995% link availability and the potential use of adaptive modulation on our long path length 11 GHz paths would preserve network synchronization during fade events and would eliminate several additional minutes of outage. Adaptive modulation allows lower data rates during brief periods due to atmospherically caused decreases in received signal strength by allowing a temporary change in modulation rather than requiring the link to go out of service temporarily. Adaptive modulation techniques are already permitted in Canada, ETSI (the standards development body for the European community) and in a number of European administrations.

Clearwire respectfully submits that the Request is in the public interest, and supports interpretation of Section 101.141(a)(3) of the Commission's rules to permit the use of adaptive modulation systems.

Respectfully submitted,

CLEARWIRE CORPORATION

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