BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In The Matter Of	)	
Schools and Libraries Universal Support Mechanism	)	CC Docket No. 02-6

To: The Commission

REPLY COMMENTS OF QUALCOMM Incorporated

QUALCOMM Incorporated ("Qualcomm"), by its attorneys and pursuant to Public Notice, DA 09-1233, released June 2, 2009, hereby submits its Reply Comments in the above-referenced proceeding. Qualcomm makes this filing to support the Comments filed by Sprint Nextel Corporation ("Sprint"), and Verizon and Verizon Wireless ("Verizon") arguing that the E-rate Eligible Services List for funding year 2010 provide unequivocally that wireless Internet equipment, including 3G (EV-DO or WCDMA/HSPA) connection cards and USB modems, 3G wireless routers, and other wireless internet remote access devices all be eligible for E-rate support, as well as AT&T's Comments, which urged that wireless Internet access, data plans and applications are also be deemed eligible for E-rate support.[1]

I. Summary

Qualcomm wholeheartedly agrees with Sprinta nd Verizon that the Commission should modify the Eligible Services List so that it clearly provides that wireless Internet equipment, including 3G (EV-DO or WCDMA) connection cards and USB modems, 3G wireless routers, and other wireless Internet remote access devices are eligible for E-rate support, as well as with

[1] See AT&T Comments at Page 3; Sprint Nextel Comments at Pages 1-2; Verizon Comments at Pages 2 to 4.

AT&T, which joined the other two carriers in urging that wireless Internet access and data plans, and wireless applications are all eligible for E-rate support. This type of wireless equipment and these types of wireless services are essential for schools and libraries to serve their constituencies effectively in the 21st Century.

The E-rate program should not force schools and libraries to rely exclusively or even mostly on fixed, wireline technologies. According to the Commission's latest data, 95% of Americans live within the coverage of at least one wireless broadband network. See Bringing Broadband to Rural America, Report on a Rural Broadband Strategy, released May 22, 2009 at Pgs. 12-13. Likewise, these wireless broadband networks cover the areas in which the bulk of the nation's schools and libraries are located. Accordingly, these networks provide high speed, easy-to-access wireless broadband service to school and library buildings and campuses. Moreover, as the Commission itself noted in the NPRM in this proceeding, schools are increasingly using wireless Internet technology off-premises, and such uses that serve educational purposes should be supported by the E-rate program. NPRM at para 24; Verizon Comments at Pages 2-3. Schools and libraries should receive E-rate support so they can purchase wireless Internet equipment and service to take advantage of the high quality wireless broadband Internet provided by these networks.

In particular, the potential for schools to use wireless Internet equipment, services, and applications to substantially improve education has already been proven. Qualcomm, through its Wireless Reach Initiative, an initiative designed to promote the socially beneficial uses of wireless broadband technology, supports a project in rural North Carolina by the name of Project K-Nect. This project entailed the use of smartphones operating on a wireless broadband network to teach math to at-risk high school students. This first phase of this project had dramatically

positive results, with one participating class scoring 30 percent higher on their end of course exam than a class of their peers not participating in Project K-Nect, but taught by the same teacher. Although Project K-Nect relies on smartphones, wireless Internet access, and a wireless application, the same type of application could be accessed in schools via 3G-enabled connection cards or routers. Such equipment and services should be eligible for E-rate support.

More broadly, educators all over the country have developed wireless Internet-based applications, and these applications are proliferating. In February 2009, Qualcomm, along with CTIA-The Wireless Foundation and Project K-Nect, sponsored the 2009 Mobile Learning Conference. At this conference, educators from around the nation shared research and findings on the successful use of wireless technologies in education. Providing E-rate support for wireless Internet equipment, access, and applications will further these important and successful initiatives.

For all the reasons set forth herein and in the Comments filed by AT&T, Sprint, and Verizon, Qualcomm respectfully submits that the E-rate program should support the use of wireless Internet equipment, access, and applications.

II. Background

A. Qualcomm's Role in Developing High Speed Wireless Broadband Technologies

Qualcomm is a world leader in developing innovative digital wireless communications technologies and enabling products and services based on the digital wireless communications technologies that it develops. Qualcomm is the pioneer of code division multiple access ("CDMA") technology, which is utilized in the 3G CDMA family of wireless technologies. These technologies include CDMA2000 and HSPA/WCDMA, which are technologies used in today's so-called third generation ("3G") wireless networks and devices, which enable tens of

millions of Americans to enjoy advanced, high speed, and ubiquitous wireless broadband services. Qualcomm broadly licenses its technology to over 160 handset and infrastructure manufacturers around the world, who make infrastructure equipment, handsets and other consumer devices, and develop applications, all based on the CDMA2000 and/or HSPA air interfaces. Verizon, Sprint, and other carriers use CDMA2000 technology in their wireless networks; AT&T and others use HSPA.

Qualcomm CDMA Technologies ("QCT"), a division of Qualcomm, is the world's largest provider of wireless chipset technology. QCT has helped lead the diversification of wireless broadband into many new types of wireless broadband-enabled equipment, including wireless broadband connection cards and USB dongles, as well as wireless broadband routers. Millions of Americans currently use this type of equipment for high speed wireless Internet access, and, the vast majority of the nation's schools and libraries could do so as well if E-rate support is made available.

B. High Speed Wireless Broadband Technologies

Wireless broadband technology now enables fully mobile wireless Internet access at speeds that are comparable to fixed wireline technologies. At present, as the FCC found in its recent annual report on the competitive conditions in the US wireless industry, Verizon Wireless, Sprint, Leap Wireless and others provide mobile broadband service to areas in which over 95% of Americans live via EV-DO Revision A, which supports peak data speeds of 3.1 megabits per second ("Mbps") on the downlink and 1.8 Mbps on the uplink.

Likewise, AT&T is concluding its network upgrade to HSUPA, which will support peak data speeds of up to 1.8 Mbps to 5.6 Mbps on the uplink. Just a few weeks ago, AT&T announced that it will begin upgrading its HSPA network to support peak speeds of 7.2 Mbps.

This upgrade will begin later this year. AT&T also announced that they are adding additional capacity to thousands of cell sites to support higher mobile broadband speeds. Likewise, T-Mobile USA is moving forward rapidly with its HSPA deployment on the AWS-1 spectrum.

All of the wireless broadband technologies described above are available today, but the EV-DO and HSPA technologies are not standing still. Both EV-DO and HSPA technology are being enhanced substantially, and these enhancements will all be backwards compatible—carriers who use EV-DO and HSPA do not require new spectrum to upgrade their networks to the next version of these technologies. The next upgrades to EV-DO and HSPA will result in dramatically faster data rates. EV-DO Revision B enables the aggregation of three EV-DO carriers in one 5 MHz channel. In its Phase I, EV-DO Rev. B will support downloads at a peak rate of 9.3 Mbps and eventually, in Phase II, at 14.7 Mbps, while supporting uploads at up to 5.4 Mbps. This technology will undergo an additional upgrade, now known as EV-DO Advanced, which, if implemented with four carriers, will support downloads of up to 34.4 Mbps and uploads of 12.4 Mbps. These upgrades are all backwards compatible, meaning that they will not require any new infrastructure. The net result of these upgrades to CDMA2000 will be wireless broadband service with data rates that are ten times faster than even today's fastest EV-DO-based networks achieve.

Likewise, there are substantial upgrades for HSPA technology on its roadmap. The initial version of the technology known as HSPA + (also called HSPA Evolved—HSPA Release 7) will support peak downloads of 28 Mbps and uploads of 11 Mbps. Future releases of HSPA, Releases 8 and 9, will increase the peak downlink speeds, first to 42 Mbps and then to 84 Mbps.

Moreover, Qualcomm and many other vendors around the world are working on LTE, a so-called fourth generation OFDM-based technology. This technology is not yet available, but is

under active development. It does require new spectrum, but by auctioning the 700 MHz spectrum last year, the Commission has filled that need. Both Verizon and AT&T have publicly stated their intention to deploy LTE.

III. The E-Rate Program Should Support Wireless Internet Equipment, Access, & Applications

In its most recent report on the state of competition in the commercial wireless industry, the Commission noted that its data demonstrated "the increasingly significant role that wireless services play in the lives of American consumers" and that "wireless technology is increasingly being used to provide a range of wireless broadband services." Thirteenth Report, Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, DA 09-54, released January 16, 2009 at Page 5. The Commission went on to state that carriers have deployed networks based on EV-DO Rev. A or WCDMA/HSPA that allow them to offer mobile (i)nternet service services for mobile telephone handsets, PDAs, and computers "at speeds comparable to what many users get from fixed broadband connections, such as DSL." Id. at Page 128. Thus, the Commission has already found that wireless Internet networks are comparable to fixed broadband networks. For that reason, the E-rate program should not distinguish between fixed and wireless broadband equipment, access, or applications, and the program should not disfavor wireless equipment or services. Therefore, wireless Internet equipment, access, and applications should be added to the 2010 Eligible Services List.

In this vein, Verizon correctly explained that a wireless modem serves the same function as a cable modem (which is listed on the Eligible Services List), and an EV-DO card, too, acts exactly like a cable modem or any other device that supports a wireline connection to the Internet except that the EV-DO card does not require a wire and can be used wherever the user is

physically located. Verizon Comments at Page 4. The E-rate program should support this wireless equipment, which is the functional equivalent of supported wireline equipment.

Similarly, the Eligible Services List includes "routers," and, there is no material difference between a wired router (one that uses a wireline broadband connection) and a wireless router (one that uses a wireless broadband connection). Id. Both wired and wireless routers use a form of back haul, either wired or wireless, and provide Internet access within a confined area for multiple users. Wireless routers are portable, pocket sized devices which are just more convenient than a wired router. There is no basis for the Commission to find that wired routers are supported by E-rate, but wireless routers are not. Wireless routers should be eligible for E-rate support.

Moreover, Qualcomm agrees with Sprint that the "notion of 'eligible locations' is a wireline-centric concept which is increasingly divorced from the way Americans work, study and live" and that school and library communities "are turning more and more to mobile technologies to engage in school and library-related work at all hours, and from many locations other than the classroom or the library." Sprint Comments at Page 2. As Verizon notes, wireless Internet services and applications serve important educational purposes and should be supported by E-rate. Verizon Comments at Page 4. Sprint correctly notes that safeguards such as Sprint's Data Link service, can be put in place to ensure that wireless data traffic on E-rate subsidized equipment is only used to access authorized sites and authorized applications. Sprint Comments at Page 2.

As AT&T noted, schools must have access to an ever evolving set of telecommunications services and equipment to support their 21st Century educational missions. AT&T Comments at Page 1. Likewise, as Verizon stated, wireless applications exist today which are essential to a

school's educational mission, and, therefore, the applications and the equipment needed to access the applications should all be supported by E-rate. Verizon Comments at Page 3.

The nation's use of wireless Internet equipment, access, and applications is growing by leaps and bounds. The E-rate program should reflect the nation's increasing reliance on wireless technology and support wireless equipment and services to the very same extent that it supports fixed or wireline equipment and services.

IV. Conclusion

Wherefore, Qualcomm respectfully requests that the Commission rule that wireless Internet equipment, access, and applications are all eligible for E-rate support and will be added to the 2010 Eligible Services List.

Respectfully submitted,

By: /s/Dean R. Brenner
Dean R. Brenner
Vice President, Government Affairs
QUALCOMM Incorporated
2001 Pennsylvania Ave., N.W.
Suite 350
Washington, D.C. 20006
(202) 263-0020
Attorney for QUALCOMM Incorporated

Dated: June 30, 2009