Key Contacts
Robert Hart, Country Manager – Australia and New Zealand
(ph) 03 9225 5015 (mob) 0429 880 065
email: rhart@qualcomm.com

Julie Welch, Director, Government Affairs – South East Asia & Pacific
(ph) (852) 2537 5000 (mob) (852) 6348 6687
email: juliewelch@qualcomm.com

30 June 2008

Submission from Qualcomm Incorporated to the Department of Broadband, Communications and the Digital Economy consultation process on policy and funding initiatives for the provision of enhanced broadband services in rural and remote areas

Qualcomm welcomes the opportunity to contribute to the Department of Broadband, Communications and the Digital Economy consultation process regarding policy and funding initiatives for the provision of enhanced access to broadband services in rural and remote areas.

As a leading developer of technology used for advanced wireless communication services in metropolitan, regional and rural Australia, Qualcomm plays an important role in the Australian telecommunications industry and is highly supportive of the Government's encouragement of increased technology access.

Qualcomm believes funding initiatives such as the Australian Broadband Guarantee (ABG) that seek to encourage, *on a technology neutral basis,* appropriate broadband solutions for each geographic and demographic situation are essential to achieving parity of broadband services for regional and rural Australia.

This submission contends that Australia's unique geography and population distribution means that there is no single technology solution that can be implemented, rather a mix of scalable and innovative technologies, including next generation wireless platforms, is the way to connect all Australian premises to high speed broadband.

With fibre-to-the-node a feature of the Government's National Broadband Network (NBN) initiative, this submission considers alternative broadband technologies that will help complement the network and provide a stronger mix of next generation broadband solutions for rural Australia.

In particular, the submission largely focuses on next generation mobile wireless broadband platforms, which is Qualcomm's area of expertise, and encourages the Government to consider investing in more permanent infrastructure that can deliver high data speeds over great distances to cover as many rural and remote premises as possible.

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About Qualcomm

Qualcomm Incorporated is a pioneer of CDMA digital wireless technology and one of the leading enablers of 3G wireless as well as other wireless solutions and services. Qualcomm is a world leader in the development of CDMA2000®, EV-DO, WCDMA (UMTS) and HSDPA/HSUPA chipsets and solutions, and has licensed its CDMA patent portfolio to more than 150 companies worldwide.

Qualcomm is not a telecommunications or internet service provider. Rather, its focus is on developing and providing telecommunications companies with technology that can be used to provide next generation voice and data services over 3G networks.

In Australia, Qualcomm technology forms the basis for commercial wireless networks deployed by Telstra, Optus, Vodafone and Hutchison, accounting for more than seven million subscribers nationally.[1]

Australia's Wireless Future

Wireless and mobile broadband networks are becoming increasingly more critical in Australia and play an important role in the mix of national broadband technology solutions. As well as emulating fixed broadband access to under-served premises, wireless broadband fulfils an increasingly fundamental part of every day life in Australia – the freedom of mobility.

Many Australians now have access to true mobile broadband, allowing for more flexible work practices, making processes more-timely and creating new areas of economic activity. In fact mobile penetration in Australia is over 105 percent, one of the highest levels in the world, surpassing that of Japan, Korea and the United States.[2]

3G Mobile Broadband

Australia is a global leader in 3G wireless broadband, with current networks providing access to over 98 per cent of the population. Across the country, 3G wireless broadband networks have been operated for many years by Telstra, Optus, Vodafone and Hutchison using CDMA2000/EV-DO and WCDMA/HSPA technologies. As of March 2008, the 3G penetration rate in Australia was over 35 percent.[3] These networks are well suited to the Australian geographical landscape,

[1] WCIS database and Wireless Intelligence database as of March 2008.
[2] *Ibid.*
[3] *Ibid.*

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enabling multi-megabit and fully mobile broadband services across very large land areas.

In a highly convergent and mobile world, 3G wireless communications networks will drive substantial economic growth and underpin greater productivity gains for the country. In Australian towns and communities with limited fixed line infrastructure, 3G is an ideal high speed broadband solution because of its greater coverage range and mobility benefits. Even when fixed-line options are available, 3G mobile broadband can offer high speed connectivity to a wider coverage area.

A new and more sophisticated 3G mobile technology called 'HSPA' (High Speed Packet Access) has recently been deployed in Australia. HSPA provides very fast wireless broadband speeds that allow increased connectivity for users. HSPA is becoming increasingly popular across the globe with new figures from the GSM Association revealing that there were more than 32 million HSPA-based mobile broadband connections worldwide at the beginning of 2008, compared with just over 3 million 12 months earlier. Moreover, there are currently over 175 commercial HSPA networks in 78 countries.[4] In Australia, HSPA mobile broadband services are currently available through Telstra, Optus, Vodafone, Hutchison and Virgin Mobile. Some operator networks can already support data rates up to 14.4 Mbps on the downlink. Support for data rates up to 5.76 Mbps on the uplink will soon be available.

Importantly, HSPA mobile broadband networks have the versatility to deliver next-generation services to consumers in both urban and rural areas and they are scalable to accommodate ongoing enhancements as the technology evolves. For example, 3G mobile phone operators in Australia and across the world are already upgrading their HSPA networks to HSPA+. HSPA+ will substantially increase the data capacity with peak speeds of up to 42 Mbps on the downlink and 11 Mbps on the uplink. These speeds are well above the 12 Mbps benchmark set by the Government.

Satellite Broadband Solutions

Despite being the most expensive broadband access option, satellite will continue its role of providing access to the most remote Australian homes. However, many satellite arrangements are only short-term solutions and it is imperative that terrestrial broadband networks are extended to cover as many rural and remote premises as possible to ensure the provision of long-term and scalable broadband connectivity into the future.

[4] http://hspa.gsmworld.com

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Key Recommendations

Qualcomm believes that there is an opportunity for 3G wireless broadband to complement the NBN and extend beyond the two per cent of households not targeted by the network.

3G wireless and mobile broadband can support many of the same applications as fiber, especially when deployed in areas with lower population density such as rural Australia. This is particularly pertinent outside regional townships where population density falls off.

The ongoing ABG subsidy scheme is important as a guaranteed broadband solution and Qualcomm commends the Government's recent budget decision to continue funding the program until 2012. This commitment will ensure Australians in rural areas have access to broadband services, while the Government implements the fiber network.

Qualcomm believes that the Government can further meet the needs of rural and regional areas by continuing to expand the program to support a mix of rural-friendly next generation broadband infrastructure such as 3G wireless and mobile broadband networks for scalable and long-term solutions.

To this end, Qualcomm recommends the Government consider allocating the estimated $400 million already generated in interest from the $2 billion Communications Fund to enhance the ABG to deliver complimentary next generation broadband networks, such as 3G wireless, *on a technology neutral basis* in particular to those rural areas that will not be targeted under the NBN.

An enhanced ABG with additional funding for alternative broadband infrastructure can also complement and support the NBN to achieve comparable high speed broadband connectivity for all Australians. Doing so will enable continued service improvement in regional telecommunications and provide the most effective safeguard imaginable for the provision of critical broadband services in country areas.

Qualcomm Incorporated (www.qualcomm.com) is a leader in developing and delivering innovative digital wireless communications products and services based on CDMA and other advanced technologies. Headquartered in San Diego, Calif., Qualcomm is included in the S&P 500 Index and is a 2008 FORTUNE 500® company traded on The Nasdaq Stock Market® under the ticker symbol QCOM.