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Via Overnight Mail and E-Mail

California Energy Commission
Docket No. 11-AAER-2
Docket Unit
1516 Ninth Street, Mail Station 4
Sacramento, CA 95814-5504

Email: Docket@energy.state.ca.us

Re: Notice of Proposed Action – Proposed Amendments To Appliance Efficiency Regulations (*e.g.*, Battery Charger Systems) – CEC Docket No. 11-AAER-2

Dear Madam/Sir:

QUALCOMM Incorporated ("Qualcomm") respectfully submits these comments in response to the California Energy Commission ("CEC" or "Commission") Notice of Proposed Action in Docket Number 11-AAER-2, Proposed Amendments To Appliance Efficiency Regulations, specifically the proposed regulations of battery charger systems.[1]

As explained below, Qualcomm respectfully requests that the Commission exempt from the proposed regulations an entirely new class of inductive charging systems, *i.e.*, loosely-coupled wireless charging systems, that will provide public interest benefits but are in much too early a stage to be subject to the proposed regulations.

Loosely-coupled wireless charging systems will allow a consumer to simultaneously and independently charge multiple devices, such as a cell phone, a pair of hearing aids, and a handheld gaming device, by placing them in any position on a charging pad or properly equipped surface, such as a table-top or automobile dashboard console, eliminating the need to use a separate power adapter for each device.[2] An exemption is needed because the proposed regulations, as written, broadly cover all types of inductive charging systems,[3] including loosely-coupled wireless charging systems that are not yet on the market.

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[1] *See* California Energy Commission, Docket Number 11-AAER-2, Notice of Proposed Action, Proposed Amendments To Appliance Efficiency Regulations, CCR, Title 20, §§ 1601-1607 (rel. Oct. 7, 2011) (the "NOPA").

[2] Loosely-coupled wireless charging systems provide charging capability to properly equipped portable devices placed anywhere within a charging zone. Currently available wireless charging pads do not provide this highly-desirable freedom of placement feature.

[3] The CEC can effect the requested exemption by limiting its proposed regulation of inductive charger systems to tightly-coupled systems (which were the only type of inductive charger systems that the agency considered in this proceeding).

Summary

The CEC should exempt from the proposed regulations loosely-coupled wireless charging systems that are currently under active development by Qualcomm and other technology companies. Without the requested relief, the CEC could effectively delay the introduction of these new and useful systems in California or, even worse, prevent them from ever being sold in the state. In developing the proposed regulations for inductive charging systems, the CEC considered only tightly-coupled wireless charging systems, such as electric toothbrushes, that – unlike loosely-coupled wireless charging systems – have been on the market for many years. With tightly coupled systems, such as electric toothbrushes, the battery-equipped device must be precisely fitted inside of (*i.e.*, tightly coupled to) a charging base. In contrast, loosely-coupled wireless chargers can simultaneously and independently charge multiple consumer devices placed anywhere within a large charging area.

Because loosely-coupled wireless charging systems are not yet available for sale, the CEC could not possibly have considered them when it developed the proposed regulations. Unfortunately, as written, the proposed regulations broadly cover all types of inductive charging systems, including loosely-coupled wireless charging systems, which are under active development. Qualcomm respectfully requests that the Commission exempt this new class of products from the proposed regulations to permit continued, unfettered R & D into this vibrant area, as these systems eventually will eliminate the need for consumers to maintain separate power adapters for every device and provide consumers with more convenient charging options.

About Qualcomm

Founded more than a quarter century ago in San Diego, California, Qualcomm has pioneered the development of many innovative wireless technologies. For example, the company invented the Code Division Multiple Access ("CDMA")-based cellular communications technology used today around the globe for countless wireless voice and broadband communications devices, services, and applications. Qualcomm is the world's largest provider of wireless chipset technology that is used in today's cell phones and consumer electronic devices. The company also broadly licenses its technology to more than 180 manufacturers worldwide that make wireless network equipment, handsets, and other consumer devices.

Qualcomm is continuously innovating in the wireless space. The company has invested more than $16.0 billion in R & D of wireless technologies since its beginning in 1985. In fiscal 2010 alone, Qualcomm spent $2.55 billion (23% of its revenues) on wireless R & D. These enormous expenditures have enabled the company to invent many of the technologies fueling the mobile broadband revolution. Qualcomm's work in the area of loosely-coupled wireless charging is one of the company's many areas of active R & D.

Discussion

1. Overbroad regulation of inductive charging systems would delay and possibly prevent the future sale in California of new and useful loosely-coupled wireless charging systems. While the Commission recognizes that inductive charger systems should be considered separately from small battery charging systems and has proposed an alternative compliance option for such systems, that alternative was developed based entirely upon the CEC's review of tightly-coupled wireless charging systems, particularly those used in electric toothbrushes.

Indeed, the CEC (and its consultants) could not possibly have examined loosely-coupled wireless charging systems because they are not yet available on the market. Unfortunately, the regulations, as written, cover all types of inductive charging systems.

In order to allow Qualcomm and other technology developers that are actively working on loosely-coupled wireless charging systems to bring the useful technology to market in California in a timely manner, the CEC should expressly exempt such systems from the proposed battery charger regulations at this time. Qualcomm proposes that the Commission limit the proposed rules for inductive charging systems to tightly-coupled systems, that is, the type of wireless charging systems on which the proposed regulations were based.

2. In developing the proposed regulations, the CEC did not consider loosely-coupled wireless charging systems because they are not yet on the market. The CEC justified the amount of energy savings that California will realize through its regulation of battery charging systems by comparing the efficiency of available battery chargers currently sold in California to future products designed to comply with the proposed regulations. Because loosely-coupled wireless charging systems are not yet available on the market, they were not part of the energy-savings calculus. Indeed, the CEC cannot realize such savings from products that are not even available. In contrast, by broadly regulating all types of inductive charging systems, the CEC may prevent Californians from ever realizing the benefits of new and highly innovative loosely-coupled wireless charging technology.

Furthermore, in developing the proposed regulations for inductive charging systems, the Commission considered low-power, tightly-coupled wireless charging systems, such as electric toothbrushes, where the battery-equipped device must be fitted precisely inside of a charging base. Loosely-coupled wireless chargers, however, simultaneously and independently charge multiple consumer devices (*e.g.*, cell phones, hearing aids, portable gaming devices) placed anywhere within a charging zone.

Additionally, cellular handsets and today's hearing aids for that matter are considerably more complex devices than electric toothbrushes. With cellular handsets, for example, optimization of charging efficiency must be balanced with requirements for very small form-factors and compliance with stringent electromagnetic compatibility requirements associated with devices that have multiple wireless transceivers, such as 3G/4G/WiFi/Bluetooth, GPS, and state of art tools such as accelerometers and gyroscopes.

3. Loosely-coupled wireless charging systems provide public interest benefits that cannot be measured solely through energy savings. Although the CEC justifies the need for the proposed regulations on the basis that they will result in substantial energy savings in California, Qualcomm respectfully requests that the Commission recognize the positive public benefits of loosely coupled wireless charging systems in considering this request.

Loosely-coupled wireless charging systems will allow consumers to charge multiple battery-powered devices simply by placing them anywhere on a charging pad or properly-equipped table, desktop, or automobile console. Consumers need not connect their devices to a power adapter that plugs into the local ac outlet. In this way, for example, when wireless emergency calls need to be placed, there will be a much greater likelihood that the cellular handset will be charged. Loosely-coupled wireless charging pads also will eliminate the need for power adapters and the environmental concerns associated with their disposal. Accordingly, Qualcomm

respectfully requests that the CEC take into account these benefits in its consideration of this request.

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For the foregoing reasons, Qualcomm respectfully requests that the Commission exempt from the proposed battery charger regulations loosely-coupled wireless charging systems that Qualcomm and other technology companies are actively researching and developing and plan to bring to market as early as 2012. The CEC should limit its proposed regulation of inductive charger systems to tightly-coupled systems.

Respectfully submitted,

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