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Xperi Inc Comments on California Energy Commissionâ€™s Flexible Demand Appliance Standards [Docket Number 23â€FDASâ€01]

Additional submitted attachment is included below.

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August 8, 2023

California Energy Commission
Dockets Office
Re: Docket # 23-FDAS-01
1516 Ninth Street
Sacramento, CA 95814

Subject: Request for Comments on California Energy Commission's Flexible Demand Appliance Standards
[Docket Number 23-FDAS-01]

Xperi Inc. and its subsidiaries (collectively "Xperi") support and value the work being performed by the California Energy Commission ("CEC") and the opportunity to provide comments on the 15-day draft of Pool Controls Rulemaking.

Xperi is a California-based company with multiple offices and its headquarters in the state. In partnership with e-Radio USA, Inc. ("e-Radio"), also based in California, we have developed a digital radio-based data delivery system. We are pleased to have the opportunity to share our comments on the FDAS draft language via the 23-FDAS-01 docket.

The utility industry seeks to reduce operational costs and manage load use through flexible demand appliances. Reliable and cost-effective communication to flexible demand appliances will be required to achieve the industry's goals. We are pleased to see pool pump FDAS language for optional inclusion of FM (analog and digital) radio technology for calendar year 2026 and mandated beginning in 2027.

In 2002, the Federal Communications Commission authorized broadcasters to deploy an In-Band On-Channel ("IBOC") digital radio standard known as NRSC-5.[1] This standard defines the technology and protocols necessary for radio stations to achieve reliable digital communications on AM and FM radio stations. Digital radio broadcasting enables higher data transmission rates than analog, device-addressable protocols, and location-based messaging to manage a wide variety of device applications. In recognition of this, in 2002, the FCC selected Xperi's IBOC digital AM/FM broadcast technology branded HD Radio® as the single digital radio standard for the United States. Over twenty-five hundred (2500+) radio stations across the United States, including two-hundred thirty-nine (239) radio stations in California, currently broadcast in digital AM and FM using HD Radio technology and over 95 million vehicles have been equipped with HD Radio technology, reaching over 95% of the US population. In support of the HD Radio ecosystem, Xperi engineers develop software solutions for broadcast/transmitter and receiver products.

HD Radio, as a digital broadcast, can carry not only audio but data as well. The existing HD Radio FM data broadcast infrastructure of private and public radio already enables digital data services for thousands of local AM and FM radio stations and has been used successfully for traffic information broadcasts to vehicles for over ten years.[1] Furthermore, radio has a 100-year history of serving local communities, providing critical information, and messaging to the public. Digital radio's potential for simplified setup and reduced operational costs could help grow consumer participation in Demand Response programs. Radio stations provide reliable, wide-area, one-to-many, cost-effective communication services. Broadcasters have

[1] NRSC-5E is the current version of the standard and was adopted by the FCC in 2023.

federally regulated, established infrastructure for these services in urban and rural markets. Using digital radio technology, radio stations serve local communities with data services at a higher capacity than current analog technologies.

Xperi's broadcast technology can be utilized for scalable unidirectional communication and control to devices in large metropolitan areas. The broadcast network was created to communicate to devices and appliances with a secure, easy-to-use data service. We believe that a simplified setup for devices and reduced operational costs for demand response could help grow consumer participation in flexible energy programs. ***We propose that digital radio broadcasting over the FM band should be considered as a standard for efficient data delivery, providing cost-effective distribution of information in a one-to-many broadcast data service.***

Xperi and e-Radio have developed a hardware and software solution for appliance information and control over HD Radio and produced a prototype ANSI/CTA–2045-A compliant module to enable appliances to receive real-time location-specific prices and other utility information via FM broadcast. By harnessing radio's broadcast-based digital architecture, this CTA-2045 module will enhance existing communication technology, providing a utility-to-device link that significantly reduces the overall data usage of the existing communication architectures. We believe this approach will enable utilities to optimize energy use through the load management standards currently under consideration by the CEC. Xperi and e-Radio are jointly conducting test programs in several regions across the United States in coordination with utilities and broadcasters.

Radio broadcasting remains the most cost-effective transmission technology to reach a multitude of devices with a common message. The one-to-many efficiency of radio allows operators to scale services to millions of receivers without increasing operational costs. The transmission infrastructure already exists across the U.S. Radio stations operate in all markets providing essential radio services, including digital radio broadcasts. This transmission technology has serviced millions of automotive vehicles with real-time traffic messaging data integrated into automotive navigation systems since 2008.[2] The technology offers scalability, privacy, security, and reliable transmission in a plug-and-play configuration that eliminates the need for customer setup.

HD Radio is mature, proven, and ready to handle California's flexible energy communications needs. We look forward to supporting the CEC in technology and application development to serve this critical goal of improving power management infrastructure.

Thank you for your consideration.

Michael C. Spillner
Senior Vice President, Deputy General Counsel

[2] Examples of HD Radio traffic services:
https://www.youtube.com/watch?v=NJLZ6LCAOOs
https://www.youtube.com/watch?v=r_uALe0XbUg
https://www.youtube.com/watch?v=P0ka-w574fU