

PRESS RELEASE

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DAB+ software library upgrade improves in-vehicle reception of digital radio

Erlangen, Germany: With its DAB+ software library, the Fraunhofer Institute for Integrated Circuits IIS offers a software defined radio solution that enables the implementation of digital radios with DAB+ (Digital Audio Broadcasting) functionality. Available now, the update to the established library uses efficient spur suppression technology to significantly improve the quality of digital radio reception. It moreover enhances the reception sensitivity of the radio receivers. In turn, this extends the range of coverage for broadcasters and increases the number of channels that can be received in vehicles.

The Fraunhofer IIS DAB+ software solution paves the way for radio and chip manufacturers to implement DAB+ in radio systems. In concrete terms, the software library serves as the baseband decoder for DAB+ signals. An added advantage is the library's compatibility with audio and data decoding components also developed at Fraunhofer IIS. Available as C- or object code, the DAB+ software solution is optimized for typical software defined radio platforms for automotive applications. It follows stringent coding standards to fulfil the automotive industry's strict quality requirements.

Efficient spur suppression for higher in-vehicle reception quality

"Thanks to improved baseband processing algorithms, the solution offers dynamic resistance to interference. Using a method developed specially for the purpose, the upgraded version of our DAB+ software library automatically suppresses any sporadic narrowband interference. Electronic vehicle components can generate interfering signals of this nature," explains Martin Speitel, Group Manager Infotainment at Fraunhofer IIS.

Newer vehicles, and electric vehicles in particular, feature complex open- and closed-loop electronic control systems. These can interfere with digital radio reception, causing brief but repeated signal disruptions. The newly integrated technique enhances the radio receiver robustness to interference, which significantly improves the quality of digital radio reception and the listening experience in the car.

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Wider selection of stations and Emergency Warning Functionality (EWF)-----
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The optimized DAB+ software solution greatly improves radio reception characteristics. Notably, it increases the sensitivity of the radio receivers, making more stations available over even greater distances while maintaining perfect reception.

The software upgrade moreover includes the DAB+ Emergency Warning Functionality (EWF) that enables the radio receivers to automatically switch to emergency broadcasts – a simple, reliable and extremely quick way to alert the public to natural disasters and emergencies. In addition to audio announcements, detailed multilingual text information can be received. Not only do radios with integrated EWF switch to the emergency broadcast in a crisis situation, they also wake up automatically if they are on standby mode.

You can find more information about the DAB Receiver Kit from Fraunhofer IIS here:
<https://www.iis.fraunhofer.de/en/ff/kom/digitaler-rundfunk/dek.html>

The Fraunhofer-Gesellschaft is the leading organization for applied research in Europe. Its research activities are conducted by 69 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of 24,500, who work with an annual research budget totaling more than 2.3 billion euros.

The **Fraunhofer Institute for Integrated Circuits IIS** is one of the world's leading application-oriented research institutions for microelectronic and IT system solutions and services. It is the largest of all Fraunhofer Institutes. Research at Fraunhofer IIS revolves around two guiding topics: In the area of **"Audio and Media Technologies"**, the institute has been shaping the digitalization of media for more than 30 years now. Fraunhofer IIS was instrumental in the development of mp3 and AAC and played a significant role in the digitalization of the cinema. Current developments are opening up whole new sound worlds and are being used in virtual reality, automotive sound systems, mobile telephony, streaming and broadcasting.

In the context of **"cognitive sensor technologies"**, the institute researches technologies for sensor technology, data transmission technology, data analysis methods and the exploitation of data as part of data-driven services and their accompanying business models. This adds a cognitive component to the function of the conventional "smart" sensor.

970 employees conduct contract research for industry, the service sector and public authorities. Founded in 1985 in Erlangen, Fraunhofer IIS has now 14 locations in 11 cities: Erlangen (headquarters), Nuremberg, Fürth, Dresden, further in Bamberg, Waischenfeld, Coburg, Würzburg, Ilmenau, Deggendorf and Passau. The budget of 184 million euros is mainly financed by projects. 22 percent of the budget is subsidized by federal and state funds.

Detailed information on: www.iis.fraunhofer.de/en