SIEMENS

Automotive Systems

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Our Ref.	FCCRules.doc
Date	16.06.99

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved in writing by the manufacturer may void the user´s authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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CPOD Technical Description

I. Technical description CPOD

The Child Seat Presence and Occupant Detection (CPOD) is a transponder principle based sensing device that provides information on the passenger and child seat presence in order to adapt the airbag deployment in regard to the occupant situation. The system is comprised of a Force Sensitive Resistor (FSR™) that has both a sending and receiving antenna and an Electronic Control Unit (ECU), both are permanently connected and built into the passenger seat, along with two resonators that are permanently built into the child seat.

The ECU generates a 130kHz-band inductive field which charges up the resonators. After capturing the transmitted signal, the resonators modulate the phase shift of the carrier signal by periodically switching of the resonance frequency. The phase modulated signal is captured by the receiving antenna and re-transformed by way of a demodulator circuit. The CPOD-ECU sends the child seat status to the Central Airbag ECU by way of an interface line. In addition, the passenger presence status is also evaluated by way of a resistance measurement through force sensors on the FSR mat. This information is also entered to the Central Airbag ECU.

II. Power Supply

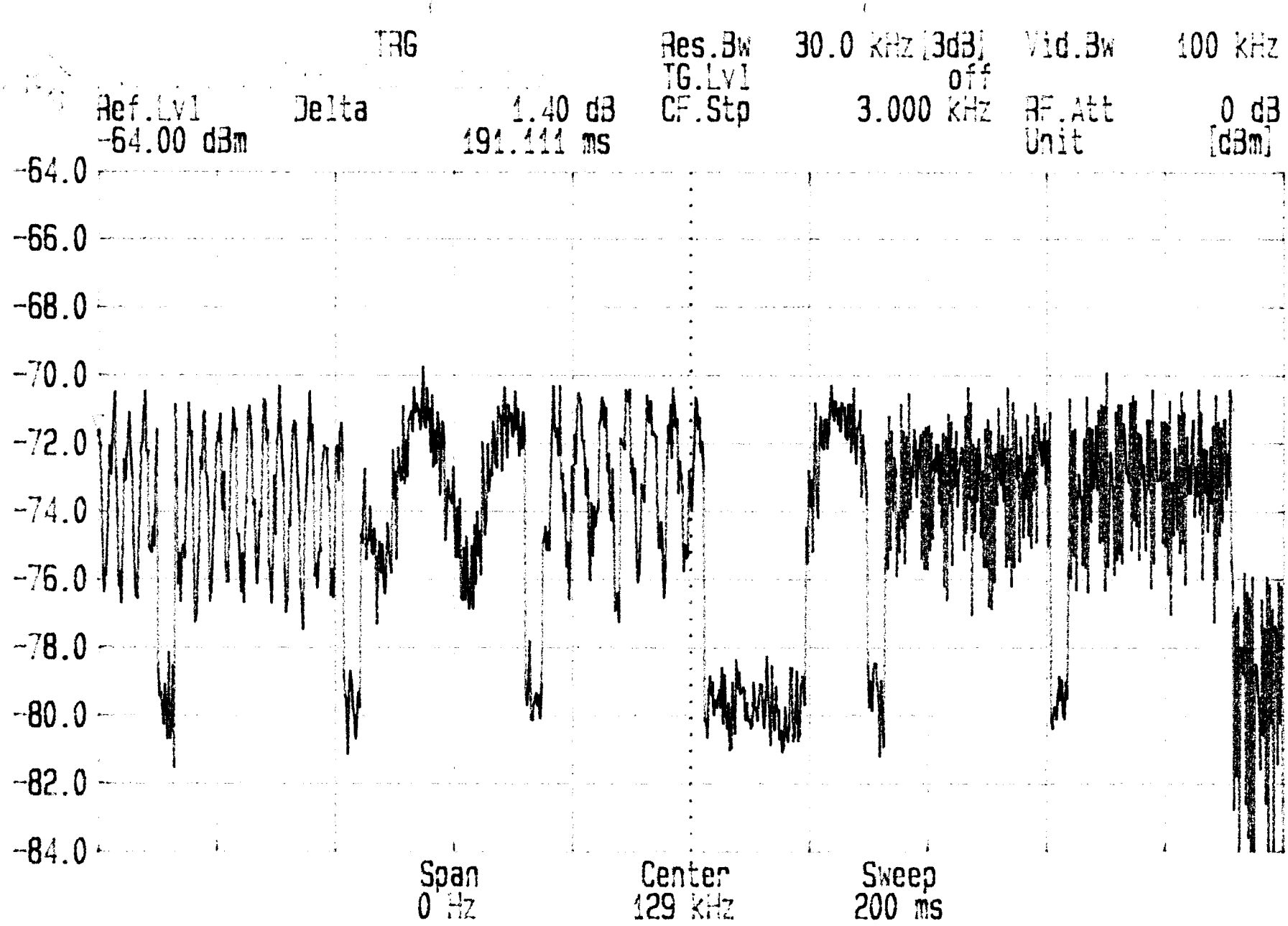
The CPOD-ECU operates on the passenger vehicle power supply, an internal voltage regulator unit delivers a steady operating voltage of 5 volts to supply the controller and peripheral components. If the operating voltage falls below a defined threshold due to the loss of input voltage, a signal is sent to reset the microcontroller.

III. Transmitting Frequency Generator

The transmitting frequency generator produces a signal in the 125 to 135kHz band which drives the transmitting antenna. The micro controller can modify the transmitting frequency in 2kHz steps. This ensures that the resonance frequency in a specific child seat is optimized.

IV. Microcontroller

A microcontroller is used to control the entire process. The controller includes an analog to digital converter for the evaluation of the demodulated signals, for passenger seat occupancy status detection, and an EEPROM for storing system parameters, part identification and system failures.



EUT: CPOD / PPD Opel **Tested by:** R. Bauer **Date:** 01. 06.1999