

LED

IC

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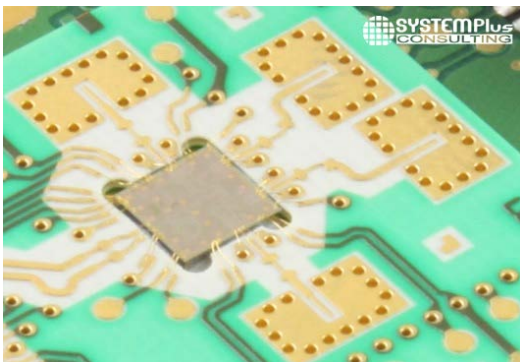
PACKAGING

**SYSTEM**

POWER

# Delphi Rear and Side Detection System

*76GHz short-range radar specially designed for blind-spot detection*



**Delphi's Rear and Side Detection System (RSDS) utilizes 76GHz single-beam mono-pulse radar. Its compact design enables simplified vehicle integration. The RSDS offers an array of active safety features including blind-spot**

**detection, lane-change merge assist, rear cross-traffic alert, and rear pre-crash sensing.**

Concerning the radar function, receiver and transmitter chips from Infineon using SiGe HBT technology are assembled by wire bonding on the RF board. The antenna board uses a PTFE-based substrate and is equipped with planar antennas for transmission and reception of the RF signals. Processing is realized by a Renesas 32-bit MCU and a Texas Instruments Jacinto Processor.

Based on a complete teardown analysis of the Delphi RSDS, this report provides the system's bill-of-materials (BOM) and manufacturing cost. A physical analysis and manufacturing cost estimate for the Infineon RF chips is available in a separate report titled, "*Infineon RASIC: RRN7740 & RTN7750 77GHz Radar Dies*", which also includes a comparison with the MMICs used in the Bosch MRR1 Radar.

**Title:** Delphi Rear and Side Detection System

**Pages:** 83

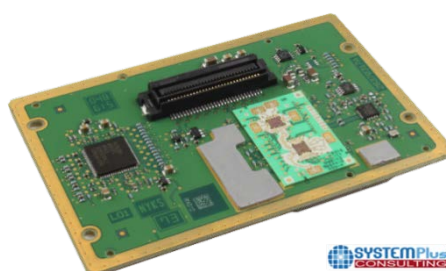
**Date:** September 2016

**Format:** PDF & Excel file

**Price:** Full report: EUR 2,990

## COMPLETE TEARDOWN WITH:

- Detailed photos
- Materials analysis
- Antenna cross-section and EDX
- MCU cost estimate
- Bill-of-materials
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- Estimated sales price



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### AUTHORS:



#### David Le Gac

David Le Gac has joined System Plus Consulting as a cost engineer in 2013. He is in charge of reverse costing with a focus on boards and systems. He previously worked for Lacroix Electronics where he was in charge of components database. He holds a master degree in micro-electronics from the University of Rennes.



#### Véronique Le Troadec

Véronique is in charge of structure analysis of semi-conductors. She has a deep knowledge in chemical & physical technical analyses. She previously worked for 20 years in Atmel Nantes Laboratory.

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Pages: 80  
Date: October 2015  
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### Delphi RACam Integrated Radar and Camera

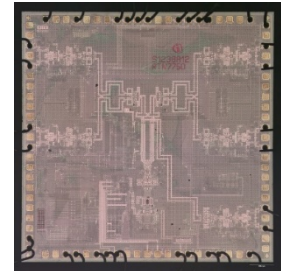
A compact, cost-effective and high-performance Advanced Driving Assistance System (ADAS).



Pages: 104  
Date: January 2016  
Full report: EUR 3,490\*

### Infineon RASIC: RRN7740 & RTN7750 77GHz Radar Dies

New receiver & transmitter components with a SiGe:C HBT technology from Infineon.



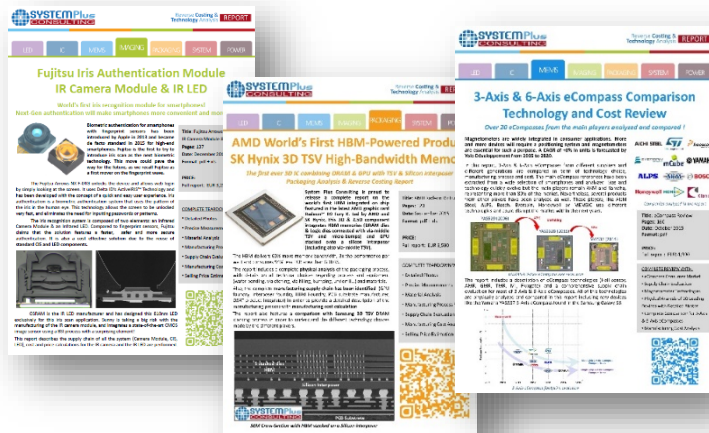
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