Automotive Radar Dismantling and Cost Analysis, 2019-2020

May 2020

ResearchInChina
www.researchinchina.com

STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

- To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
- To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
- To complement the organizations' internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
- To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
- To help company to succeed in a competitive market, and

METHODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications. Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.

Abstract

It is in this report that over a dozen of millimeter-wave radar types are studied on design, supply chain and cost, including Continental's ARS4A, ARS4B, ARS408 and ARS410, Bosch's LRR4, FR5CP, MRR1PLUS and MRR Rear, Aptiv's RACam and SRR3, Veoneer's MRRV1, Valeo's MBHL2, ZF's AC1000, Denso's HYQDNWR010, etc. Some of them are dismantled and illustrated in details.

Automotive MMW radar is mainly comprised of a planar printed antenna, RF IC (generally called MMIC) and DSP-contained MCU. The fast Fourier transformation (FFT) of radar is a special operation, mostly fulfilled by separate external FPGA or DSP in the past. Freescale built DSP into MCU for the first time, improving the integration observably. Also, there are a few external DSP designs for the time being. Auxiliary IC encompasses power management, VCO, low-noise amplifier LNA, CAN transceiver, among others. MCU is often offered by NXP's 577x series or 567x series.

MMIC, though with a small share in costs, is crucial to both total cost and performance, really making a big difference in costs between radars. For example, the MR2001 radar chipset consists of two transmitters and three receivers. A simple mid-range radar only needs a chipset, but a long-range radar with higher resolution demands more chipsets, like ARS 4A with one more transmitter and three more receivers.

The RF board employs an asymmetric structure based on a hybrid PTFE / FR4 substrate and is provided with a planar antenna which is hard to produce. RF board is costly since 80 percent of substrate materials are now monopolized by Rogers RO3003 ED G2 (Japanese companies use Panasonic R5515).

For special radar structures, the baseband board and the RF board are as usual separated by an aluminum-zinc alloy die-casting board whose edges are connected to the radar plastic housing via shockproof rubber in order to meet the waterproof and shockproof requirements of automotive standards as well as to avoid interference to the RF board.

The plastic cover on the antenna of automotive radar takes into account the microwave transmission effect. Vendors attach great importance to the thickness, material and shape of the plastic cover, which is part of the radar design. Generally speaking, they prefer materials with ultra-low dielectric coefficient and surprisingly low losses as well as resistance to dust, water and vibration to cater to automotive grade. Bosch used PEI in the early days, and later turned to PBT-GF30 provided by BASF, while Continental has adhered to PBT-GF30 invariably. Valeo and Aptiv replace expensive PBT with SPS for 24GHz radar, and they are studying how to apply it to 77GHz radar.

Chinese millimeter-wave radar vendors pay much more than foreign counterparts because of low chip procurement. The price major foreign vendors pay for each of MMIC, MCU and RF PCB is equivalent to 1/3 to 1/4 of that by Chinese ones, and that for analog products such as power management is 1/4 to 1/5 of Chinese peers'. However, the Chinese millimeter-wave radar cost will be cut substantially once the procurement goes up.

The threshold for access to MMIC is low, and the Chinese MMIC vendors embrace a rosy prospect. Foreign chips, especially made by Infineon, are expensive and unfriendly for Chinese vendors who have to select NXP. In this case, MMIC made in China is very popular.

The China-made forward 77GHz radar is led by Shenyang Cheng-Tech and Huayu Automotive Systems, and the 24GHz radar is largely offered by Wuhu Sensortech Intelligent Technology (WHST) and it has been heavily shipped to Hongqi cars.

Table of contents

ResearchInChina

The Vertical Portal for China Business Intelligence

How to Buy

You can place your order in the following alternative ways:

1.Order online at www.researchinchina.com

2.Fax order sheet to us at fax number:+86 10 82601570

3. Email your order to: report@researchinchina.com

4. Phone us at +86 10 82600828

Party A:			
Name:			
Address:			
Contact Person:		Tel	
E-mail:		Fax	

Party B:			
Name:	Beijing Waterwood Technologies Co., Ltd (ResearchInChina)		
Address:	Room 2-626, 6th Floor, No.1, Shanyuan Street, Haidian District, Beijing, 100080		
Contact Person:	Liao Yan	Phone:	86-10-82600828
E-mail:	report@researchinchina.com	Fax:	86-10-82601570
Bank details:	Beneficial Name: Beijing Waterwood Technologies Co., Ltd Bank Name: Bank of Communications, Beijing Branch Bank Address: NO.1 jinxiyuan shijicheng,Landianchang,Haidian District,Beijing Bank Account No #: 110060668012015061217 Routing No # : 332906 Bank SWIFT Code: COMMCNSHBJG		

Title	**Format**	**Cost**
Total		

Choose type of format

PDF (Single user license) ……..3,000 USD

Hard copy …… 3,200 USD

PDF (Enterprisewide license)…..... 4,500 USD

※ Reports will be dispatched immediately once full payment has been received. Payment may be made by wire transfer or credit card via PayPal.

ResearchInChina

www.researchinchina.com

About ResearchInChina

ResearchInChina (www.researchinchina.com) is a leading independent provider of China business intelligence. Our research is designed to meet the diverse planning and information needs of businesses, institutions, and professional investors worldwide. Our services are used in a variety of ways, including strategic planning, product and sales forecasting, risk and sensitivity management, and as investment research.

Our Major Activities

- ***Multi-users market reports***
- ***Database-RICDB***
- ***Custom Research***
- ***Company Search***

RICDB (http://www.researchinchina.com/data/database.html), is a visible financial data base presented by map and graph covering global and China macroeconomic data, industry data, and company data. It has included nearly 500,000 indices (based on time series), and is continuing to update and increase. The most significant feature of this base is that the vast majority of indices (about 400,000) can be displayed in map.

After purchase of our report, you will be automatically granted to enjoy 2 weeks trial service of RICDB for free.

After trial, you can decide to become our formal member or not. We will try our best to meet your demand. For more information, please find at www.researchinchina.com

For any problems, please contact our service team at:

Room 2-626, 6th Floor, No.1, Shanyuan Street, Haidian District, Beijing, 100080
Phone: +86 10 82600828 ● Fax: +86 10 82601570 ● www.researchinchina.com ● report@researchinchina.com