

July 17, 2002

Nagase Enters Alliance for Next-Generation Power Amplifiers for use in 3G Mobile Phone Basestations

Nagase & Co., Ltd.

The four companies Nagase & Co., Ltd., Gigatec Co., Ltd., PMC-Sierra, Inc. and Altima Corp. have agreed to enter into an alliance for the joint development and sale of next-generation power amplifiers for use with 3G mobile phone basestations ("BTS"). Products combining PMC-Sierra's digital adaptive pre-distortion chips and Gigatec's power amplifiers will be used in BTS to dramatically raise power amplifier efficiency from the current 8% to just under 20%.

Nagase aims to achieve sales of 100 units per year by 2004.

The development and sales alliance among the four companies was driven by the conclusion that the combination of PMC-Sierra products and Gigatec products would allow mass-production of high-efficiency power amplifiers that could be successfully sold to BTS manufacturers.

The amount of capital investment required for 3G BTS has been enormous and this has been a major factor hampering the diffusion of 3G mobile phones. BTS manufacturers are therefore exploring possibilities for producing low-cost, high-performance BTS, and the digital adaptive pre-distortion algorithm is increasingly being touted as a viable candidate. PMC-Sierra is the first manufacturer anywhere in the world to have succeeded in developing general-use chips for 3G BTS that use this algorithm. The products are PALADIN™-15 and PALADIN™-Waveshaper.

To make full use of the performance of this algorithm, both digital and analog signal processing need to be considered and optimized, and the maximum efficiency of power amplifiers needs to be raised. Gigatec has successfully supplied prototypes of digital adaptive pre-distortion power amplifiers, and, with the cooperation of PMC-Sierra, the company will now be developing and manufacturing these power amplifiers for practical application.

The four companies have entered into an alliance whereby Altima, the semiconductor trading company, and Nagase, which has sales channels to BTS manufacturers and possesses specialized knowledge of power amplifiers, will be jointly selling PALADIN™-15 and PALADIN™-Waveshaper products along with Gigatec power amplifiers at PMC-Sierra's dealer outlets in Japan.

PMC-Sierra's PALADIN family of waveform processors

The PALADIN family of waveform processors consists of devices for 2.5G and 3G mobile phone networks. The lineup includes the PALADIN™-Waveshaper (PM7819), the PALADIN™-10 (PM7800), and the PALADIN™-15 (PM7815). In the case of BTS, use in combination with digital adaptive pre-distortion power amplifier technology enables an improvement in spectrum power efficiency of more than 50 percent in comparison with existing feed-forward solutions. PALADIN™-10

is compatible with multi-carrier systems with single chips up to a maximum of two carriers with WCDMA and up to eight carriers with IS-95/CDMA2000. PALADIN™-15 can handle with up to a maximum of four carriers with WCDMA and up to 16 carriers with IS-95/CDMA2000. PALADIN™-Waveshaper synthesizes multiple digital carrier signals and is optimized for WCDMA and CDMA2000. Further information on PMC-Sierra's PALADIN™ products can be found on the company's website, located at <http://www.pmc-sierra.com>.

About PMC-Sierra

PMC-Sierra is a leading provider of high-speed broadband communications semiconductors and MIPS-based processors for Enterprise, Access, Metro Optical Transport, and Wireless network equipment that make up the backbone of the Internet. The company offers worldwide technical and sales support, including a network of offices throughout North America, Europe and Asia. PMC-Sierra is included in the S&P 500 Index which consists of 500 stocks chosen for market size, liquidity, and industry group representation and in the Nasdaq-100 Index (NDX) which contains the largest non-financial companies on the Nasdaq Stock Market. PMC-Sierra is publicly traded on the Nasdaq Stock Market under the PMCS symbol. For more information about PMC-Sierra, visit <http://www.pmc-sierra.com>.

Company Profiles

PMC-Sierra, Inc.

Head office: 3975 Freedom Circle, Mission Towers One, Santa Clara, California
President: Robert L. Bailey
Founded: 1992
Sales: US\$323 million (FY2001)
Employees: 1,112
Core business: Design and development of broadband transmission and switchboard devices.
URL: <http://www.pmc-sierra.com>

Altima Corp.

Head office: 1-5-5 Shin-Yokohama, Kohoku-ku, Yokohama-shi
President: Haruki Kamiyama
Capital: ¥99.8 million
Founded: 1991
Sales: ¥11.0 billion (FY1998)
Employees: 200
Core business: Sales of imported electronic components for industrial use as well as developmental support, technical support and all other related business.
URL: <http://altima.com>

Gigatec Co., Ltd.

Head office: 625 Shimo-Oshima-machi, Takasaki-shi, Gunma Prefecture

President: Isao Akiyama

Capital: ¥48 million (41% investment by Nagase & Co.)

Founded: 1989

Sales: ¥1.7 billion (FY2001)

Employees: 29

Core business: Design, development and manufacture of wireless communications power amplifiers.

URL: <http://www.gigatec.net>

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