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To the Press

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[Press Release]

## **Ubiquitous ID Center has Authorized Two Types of RFID Chips Made by Fujitsu as the Standard ucode Tag**

Ubiquitous ID Center (Shinagawa, Tokyo; 329 members; with the Center Chairman, Ken Sakamura, Professor of Tokyo University, and Director of YRP Ubiquitous Networking Laboratory) has been promoting the establishment of infrastructure and technology for automatically recognizing “physical objects”, and the research & development and standardization activity for realizing a ubiquitous computing environment. Today, we would like to announce the latest activity of Ubiquitous ID Center. The details are as follows:

Ubiquitous ID Center has authorized MB89R116 chip (\*1) and MB89R118 chip (\*2), two types of ID tag chip, made by Fujitsu Ltd, which uses HF band (13.56MHz band) as Ubiquitous ID Center Standard ucode tags (Class 1) in compliance with Ubiquitous ID technology,.

- These tags are assigned with ucodes, maintained by Ubiquitous ID Center, and are used for automatic recognition of physical objects in the ubiquitous environment. The implementation of ucodes is in full compliance with the specification written by Ubiquitous ID Center.
- This ucode tag chip works well with a type of interface which is in compliance with the international standard of non-contact type IC tag, ISO/IEC15693(\*3). The same tag chip reads and writes relatively large volume of data at a very high speed, compared with the traditional type of tag chips, due to the fact that it uses a non-volatile memory with huge capacity, FRAM (\*4), and has 2Kbyte. You can use these chips for systems that handle many different kinds of application.

[List of Authorized Tags (as of March, 2004)]

Date of Authorization	Authorization No.	Authorization Class	Tag Name and Type	Vendor Name
June 2003 (completed)	01-001	Class 1	_-chip	Hitachi Ltd
June 2003 (completed)	01-002	Class 1	T-Junction	Toppan Printing Co., Ltd
June 2003 (completed)	04-001	Class 4	eTRON/16-AE45X	YRP UNL(*5)/ University of Tokyo, Renesas Technology
November 2003 (completed)	00-001	Class 0	Barcode	Sato Corporation
November 2003 (completed)	00-002	Class 0	Barcode	Toppan Printing Co., Ltd
December 2003 (completed)	00-003	Class 0	Barcode	Dai Nippon Printing Co., Ltd
March 2004 (new)	01-003	Class 1	MB89R116	Fujitsu Ltd
March 2004 (new)	01-004	Class 1	MB89R118	Fujitsu Ltd

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Please refer to the following URL for enquiry into Fujitsu MB89R116/118 chips:

<http://pr.fujitsu.com/jp/news/2003/02/27-2.html>

[Terms and Explanations]

\*1 MB89R116 Chip

MB89R116 chip is a LSI for IC tag for which Fujitsu Ltd made a product announcement in the press release on February 27<sup>th</sup>, 2003: “Press Release: Fujitsu’s New Product – FRAM-Embedded LSI for Huge-volume and High Speed IC Tag”.

(Fujitsu Develops High Capacity, High Speed Chip with Embedded FRAM for RFID Tags)

\*2 MB89R118 Chip

MB89R118 chip is a high-performance and enhanced speed version of MB89R116.

\*3 ISO/IEC15693

ISO/IEC15693 is one of the international standards for non-contact type IC tag. This IC tag is what is called “vicinity type” and utilized for the systems whose communication ranges are limited to 10-70cm.

\*4 FRAM (Ferroelectric Random Access Memory)

FRAM is generally called FeRAM, a non-volatile memory, which utilizes ferroelectric films for data-preserving capacitors. The advantages of using FRAM are, (1) high-speed access, (2) high-frequency re-writing, and (3) low-energy consumption, thus having the advantages of using ROM and RAM.

\*5 YRP UNL

YRP Ubiquitous Networking Laboratory

\* “FRAM” is a trademark which belongs to Ramtron International, a US company.