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REPUBLIC OF KOREA

September 03, 2020

Re: Chinese Patent Application No.: 201410262009.X

Applicant: Samsung Electronics Co., Ltd.

Your Ref: ID-230662-CN

Client's Ref: ID-201311-026-1-CNO

Our Ref: PXD01396/YL

Title: MEMORY SYSTEMS INCLUDING NONVOLATILE MEMORY DEVICES AND DYNAMIC ACCESS METHODS THEREOF

Dear Sirs,

We are pleased to inform you that we received the electronic Letters Patent issued by the Chinese Patent Office to the above mentioned application. Under No.349 of the Announcement of the CNIPA, for electronic patent applications after the announcement date of March 3, 2020 (inclusive), the Chinese Patent Office will issue electronic Letters Patent through the patent electronic application system, and no longer issue paper patent certificates unless specifically requested.

We enclose herewith the electronic Letters Patent and English translation for your file.

We would appreciate it if you could kindly make record for following terms:

Patent Number: ZL 201410262009.X

Announcement Number: CN104240760B

Date of Grant and Announcement: August 28, 2020

Patent Term: June 12, 2014 (Chinese Filing Date) to June 11, 2034

Due date of next renewal fee: June 12, 2021

Although it is not mandatory under the Patent Law of China, we recommend you that products made in accordance with this patent be marked with its patent number to indicate that the product is protected by this patent.

We thank you for entrusting this case to us. Should you have any questions, please feel free to contact us.

Sincerely yours,
Liu, Shen & Associates



Patent Certificate Serial Number:3959620

Letters Patent
Patent for Invention

Title of Invention:MEMORY SYSTEMS INCLUDING NONVOLATILE MEMORY DEVICES AND DYNAMIC ACCESS METHODS THEREOF

Inventor(s):

MOON,SANGKWON

KIM,JI HONG

KIM,KYUNG HO

JEONG,JAERYONG

Patent No.: ZL 201410262009.X

Date of Filing: June 12, 2014

Patentee: Samsung Electronics Co., Ltd.

Seoul National University R&DB Foundation

After the examination pursuant to the Patent Law of the People's Republic of China, the Patent Office hereby grants a patent right to the present invention, issues this Letters Patent and effects registration on the Patent Register. The patent right shall take effect as of the patent announcement date.

The duration of the patent right for the present patent shall be twenty years from the date of filing. The patentee shall pay an annual fee pursuant to the provisions of the Patent Law of China and the Implementing Regulations thereof. The annual fee of the present patent shall be paid within one month before June 12 every year. In the event the annual fee is not paid by the patentee as required under the aforementioned provisions, the patent right shall lapse upon the expiration of the time limit within which the annual fee should have been paid.

The Letters Patent records the legal status existing at the time the patent right is granted. All changes in legal status, such as transfer, pledge, invalidation, termination, restoration of the patent right and change in the name, nationality and address of the patentee are duly recorded in the Patent Register.

Shen Changyu

Director General

State Intellectual Property Office of China

证书号第 3959620 号



发明专利证书

发明名称：包括非易失性存储器设备的存储器系统及其动态存取方法

发明人：文相权；金敬镐；金志烘；郑宰镛

专利号：ZL 2014 1 0262009. X

专利申请日：2014 年 06 月 12 日

专利权人：三星电子株式会社；首尔大学校产学协力团

地址：韩国京畿道

授权公告日：2020 年 08 月 28 日 授权公告号：CN 104240760 B

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第 1 页 (共 2 页)

其他事项参见续页

证书号第 3959620 号



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