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**Date:**  **For action** [Please indicate which is appropriate]  
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**ITU-D Study Group: SG2**

**Question: 18/2**

**Title of contribution:**

Commercial Application of TD-SCDMA System and Test of TD-LTE in China

**Revision to previous contribution ( Yes / No )**

If yes, please indicate document no.:

[Any changes in a previous text should be indicated by revision marks]

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**Name of contact point: Miss Xiaolu Wang**

**Administration/Organization/Company:**

Datang Mobile Communications Equipment Co.,Ltd.

**Tel.:**86-10-58832163

**Fax:** 86-10-58832784

**E-mail:**

wangxiaolu@datangmobile.cn

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**Action required**

Member states of ITU, particularly developing countries, are invited to discuss this document and give their comments.

**Abstract**

This article briefly introduces commercial application of TD-SCDMA and test of TD-LTE in China. It is expected to provide the reference and guide for other countries, especially for developing countries, to deploy and operate the TD-SCDMA network.

**Contact:**

Miss Xiaolu Wang

Tel: +86-10-58832163

Fax: +86-10-58832784

Email: [wangxiaolu@datangmobile.cn](mailto:wangxiaolu@datangmobile.cn)



Received: xxxx

## China

# The Commercial Application of TD-SCDMA System and Test of TD-LTE in China

## 1. Introduction

On January 7, 2009, the Administration of telecom in China gave the license of TD-SCDMA, one of IMT-2000 technology, to China mobile. Until now, 38 big and medium cities have been deployed the TD-SCDMA network and the number of TD-SCDMA customers has been exceeded the one millions. At the end of this year, two hundreds of medium cities will be deployed the TD-SCDMA network. It needs 39,000 base stations, about 260,000 wireless carrier sectors. It will cover 70% Chinese cities. System equipments of TD-HSUPA have been finished the test of network accessing and will start to be used in the commercial scale. In order to meet the demand of increasing the service, the base station of dual frequency bands (1880~1900MHz and 2010~2025MHz) have been developing. The products of terminal are abundant and presents diverse. It have been 125 kinds of terminal gotten the entitlement to network, including mobile, data card, internet notepad and so on. Most of terminals support HSDPA. With the deployment of third phase of TD-SCDMA network, the application of TD-SCDMA will be extended widely.

### Contact:

Miss Xiaolu Wang

Tel: +86-10-58832163

Fax: +86-10-58832784

Email: [wangxiaolu@datangmobile.cn](mailto:wangxiaolu@datangmobile.cn)

## **2. The application of TD-SCDMA**

With the commercial application of TD-SCDMA system in China, various applications based on TD-SCDMA technology has been going deeply into all walks of life. Customers can access to internet and intranet to get information, to work and to get entertainment anytime and anywhere.

### ◆ Public information inquiry

Customers can query public information such as city traffic information and library information through TD-SCDMA system. Customers can get the bus line and traffic condition through the common platform of city traffic information. A palm library can make readers query and renew books by mobile phone anytime and anywhere.

### ◆ Wireless application in medical industry

Residents can get convenient medical service by phone call or short message. They can get the medical information and schedule of visiting medical experts in hospital by TD-SCDMA high speed broadband network. Workers of emergency center can accurately monitor the rescue situation by installation of cameras on the ambulance and to provide scene guidance at the first time,

### ◆ Campus informationization

By constructing TD-SCDMA wireless network at campus, various high-speed information services are realized. Teachers and students login network platform to get the service by mobile phone and palmtop, such as accessing library, applying for a job, querying campus address list and campus video surveillance and so on. Specially, the service of applying for a job in palm has been getting more and more attention for its employment information to undergraduates.

### ◆ Wireless office

Government, institution and variety enterprises can use TD-SCDMA mobile wireless technology to achieve office automation (OA) through computer, notebook or mobile phone to login cooperative office system to get the office situation and handle urgent tasks anytime, anywhere and anyway. It provides a great convenience to handle official business and improves working efficiency for government, institution and enterprises.

#### **Contact:**

Miss Xiaolu Wang

Tel: +86-10-58832163

Fax: +86-10-58832784

Email: [wangxiaolu@datangmobile.cn](mailto:wangxiaolu@datangmobile.cn)

### **3. The introduction of TD-LTE trial test**

TD-LTE, as the evolved technology of TD-SCDMA, has been finished the version Rel 8. It supports variable frequency bandwidths. The peak data rate of DL is 100Mbps and the UL is 50Mbps when the frequency bandwidth is 20MHz. It can also be back compatible with TD-SCDMA system. In China, it began to test and develop the commercial products of TD-LTE. The Administration department of government uniting the operator organizes the equipment vendors to test the TD-LTE products by three phases. The first phase is proof of test, which is to verify the key performance index indoors and outdoors. The second phase is developing test, including the interoperable test of single system and intra systems. The third phase is scale trial test, which is expected to start in third quarter of 2010. At this phase, it is hoped that the tested products would be commercial system equipments. Currently, the first phase has been finished. DaTang, ZTE and China Potevio attended the test and verified the key performance index, such as the peak data rate, spectrum efficiency and system latency. All the key performance index can reach the theory value. Additionally, the first TD-LTE trial network will be built during the World Exposition in Shanghai. It will cover 200 buildings and meet the demand of 800,000 person mobile communication every day.

### **4. Conclusion**

In summary, with the deployment of TD-SCDMA network by Chinese operator, there are all kinds of products to meet variable scenes. At the same time, with the deeply commercial application of TD-SCDMA, the services based on TD-SCDMA technology will be more and more abundant. We hope to share the experience of deployment of TD-SCDMA network with the developing and developed countries and to provide the information and guide for developing countries to deploy IMT system.

**Contact:**

Miss Xiaolu Wang

Tel: +86-10-58832163

Fax: +86-10-58832784

Email: [wangxiaolu@datangmobile.cn](mailto:wangxiaolu@datangmobile.cn)