



Telecommunications Users and Consumers Advisory Committee (TUCAC)

An Introduction to the Fourth Generation (4G) Mobile Services

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Development of 4G Networks in Hong Kong

- In the auction of radio spectrum in the 2.5/2.6 GHz band in 2009, each of the three companies bid for 30 MHz of spectrum and built their 4G networks deploying LTE (Long Term Evolution) technology. At present, four operators are using these 4G networks to provide mobile broadband services.
- In February this year, a total of three operators participated in the auction of radio spectrum in the 2.3 GHz band. Each of them successfully bid for 30 MHz of spectrum. It is expected that new wireless broadband services will be provided.
- The Government plans to release 50 MHz of additional spectrum in the 2.5/2.6 GHz band by auction in early 2013.

Guidelines to Use the Term “Fourth Generation” or “4G”

- The guidelines to use the term “fourth generation” or “4G” were issued to the industry in March 2011 -
- “Fourth Generation (4G)” mobile networks/services and products/equipment involve the following four standards:
 - 3GPP (Third Generation Partnership Project):
LTE (Long Term Evolution technology),
LTE-Advanced (enhancement of LTE)
 - IEEE (Institute of Electrical and Electronics Engineers):
WiMax (Worldwide Interoperability for Microwave Access),
WirelessMAN-Advanced (enhancement of WiMax)

Introduction to 4G Networks

- Speeds of downloading mobile data:
3G networks: support download speeds of up to 42 Mbps and upload speeds of up to 5.76 Mbps.
4G networks: support download speeds of up to 100 Mbps and upload speeds of up to 50 Mbps.
- In an area without any 4G network coverage, there may be a switch to a 3G or 2G network covering that area. The speeds of uploading or downloading mobile data may be affected.
- The actual speeds of uploading or downloading mobile data may be affected by factors such as network coverage, geographical environment, number of users, etc.

4G Terminals

- Currently, the LTE networks in Hong Kong mainly operate in the frequency band of 2.6 GHz, certain terminals available for sale in the United States and Canada only supporting 700/2100 MHz frequency bands are not suitable for use in Hong Kong.
- Users require the terminals supporting LTE 2.6 GHz for use of local 4G services.
- 4G terminals include handsets, data cards, tablet computers and notebook computers.

4G Roaming Services

- No 4G licence has been issued by Mainland China so far, while other overseas 4G networks are not popular or the frequency bands or standards in use are different from those in Hong Kong. Accordingly, users can only use 3G or 2G services for roaming to Mainland China and a majority of overseas places.
- The charges for data roaming plans vary among network operators, e.g. daily rate or standard rate, users can check with the respective operators for 4G roaming information and destinations.

Local Tariffs and Points to Note

- Currently, the monthly fees for 4G service plans are similar to those for 3G service plans.
- Some monthly fee plans include fair usage policy provisions. When the data usage has exceeded the fair usage threshold, the network speed may be restricted.
- The coverage of 4G networks of different operators may vary. When users subscribe to 4G services, they can obtain the latest information on network coverage and charging details from their respective operators.

Thank you

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