

**Views of the Communications Authority
on the Consultancy Study Commissioned
by the Incumbent 3G Operators on
Impact Assessment of Re-auction of
Spectrum in the 1.9 – 2.2 GHz Band
in Hong Kong**

**Telecommunications Regulatory Affairs Advisory Committee
29 November 2013**

Background

- The incumbent 3G operators commissioned Plum Consulting (“Plum”) to conduct an impact assessment if the hybrid option were to be adopted in the 3G Spectrum re-assignment (“Plum Study”)
- The incumbent 3G operators jointly submitted the full report of the Plum Study to OFCA in September 2013
- The CA has given due consideration to the findings of the Plum’s Study as an input to its deliberations on way forward with the 3G Spectrum re-assignment arrangements

The CA's Views on Plum's Study (1)

Plum's Study Approach

- The CA disagrees with the approach of Plum's Study as it:
 - focuses on the 3G networks only and disregards the ample capacity of the 4G networks
 - only considers the scenarios in which the incumbent 3G operators are unable to acquire the Re-auctioned Spectrum
 - disregards the network capacity to be offered by those operators which acquire the Re-auctioned Spectrum
- The CA considers that Plum's Study fails to provide an objective assessment of the impact on service quality under the hybrid option

The CA's Views on Plum's Study (2)

Plum's Study Result (a)

- If all incumbent 3G operators are unable or choose not to acquire any Re-auctioned Spectrum, the 3G data download speed will be reduced by 27%

The CA's Views

- The scenario that all incumbent 3G operators are unable or choose not to acquire any Re-auctioned Spectrum will be highly unlikely
- Service impact depends on both capacity and demand, i.e. if both capacity and demand decrease, there may not necessarily be any significant change in service impact
- Plum's calculation of service degradation by 27% only focuses on current capacity, without taking into account the potential to increase capacity and the shift in demand for 3G services
- If the incumbent 3G operators which are unable or choose not to acquire any Re-auctioned Spectrum implement appropriate measures (e.g. spectrum refarming), the service impact can be effectively mitigated

The CA's Views on Plum's Study (3)

Plum's Study Result (b)

- There will be a risk of complete loss of voice communications in MTR and some outdoor locations arising from the hybrid option

The CA's Views

- The CA finds the validity of the assessment questionable
- Compared with data traffic, voice traffic takes up limited network capacity and Plum has already reserved 14% of capacity for voice traffic when arriving at the 27% degradation in 3G data download speed
- Due to time-sensitive nature of voice traffic, it is a normal network planning practice for MNOs to prioritise voice traffic over data traffic
- The RFR Spectrum of the incumbent 3G operators combined with proper network planning is more than sufficient to ensure a continued provision of voice services
- Deployment of 4G spectrum in the 2.5/2.6 GHz band in MTR will address the uplink noise problem

The CA's Views on Plum's Study (4)

Plum's Study Result (c)

- The adoption of hybrid option may lead to 1.5 million 3G subscribers spending HK\$5.4 billion on new 4G handsets to enable them to migrate to 4G services

The CA's Views

- The CA is of the view that there should not be any extra cost to consumers which is attributable to the 3G Spectrum re-assignment under the hybrid option as alleged by Plum
- The CA does not agree with Plum's assumption that the migration pace from 3G to 4G will be similar to that from 2G to 3G. The CA expects that the speed of migration from 3G to 4G should proceed at a faster pace
- Based on a survey conducted by the Chinese University of Hong Kong in August 2012, the CA expects that the majority of mobile data users will have replaced their 3G handsets with 4G ones in the coming three years, as part of their normal device replacement cycle and in response to the promotional offers of the MNOs

The CA's Views on Plum's Study (5)

Plum's Study Result (d)

- The four incumbent 3G operators will need to spend a total of HK\$853 million on their networks to alleviate the service impact arising from the 3G Spectrum re-assignment under the hybrid option

The CA's Views

- The CA notes that the cost of network upgrades, in particular at high traffic areas where the 3G service is already of inferior quality during busy hours, is unavoidable regardless of the 3G Spectrum re-assignment in 2016
- For the incumbent 3G operators which are unable or choose not to acquire any Re-auctioned Spectrum, there is no need for them to pay the SUF of that part of the 3G Spectrum and they are likely to invest in their infrastructures to upgrade their network capacity to compensate for the reduction in spectrum holdings

The CA's Views on Plum's Study (6)

Plum's Study Result (e)

- The total costs of the hybrid option can reach HK\$15.5 billion, including the SUF for the RFR Spectrum (HK\$6.2 billion), the SUF for Re-auctioned Spectrum (HK\$3.1 billion), the alleged 4G handset costs (HK\$5.4 billion) and the alleged network upgrade costs (HK\$853 million)

The CA's Views

- The CA does not agree with Plum's calculation. In assessing the costs of adopting one option over the other, one should not focus on the total costs incurred for a particular option, but only the incremental costs attributable to that particular option over the other
- Plum's calculation of the costs of the hybrid option is also faulty:
 - Plum has wrongly included the costs which are common to both the status quo and the hybrid option, e.g. the SUF for RFR Spectrum
 - Plum has wrongly included the costs of different spectrum re-auction outcomes under the hybrid option, e.g. the SUF involved for acquiring the Re-auctioned Spectrum as well as the alleged 4G handset costs and network upgrade costs arising from not acquiring the Re-auctioned Spectrum

Thank you