



**Arrangements for the Frequency
Spectrum in the 1.9 - 2.2 GHz
Band upon Expiry of the Existing
Frequency Assignments for 3G
Mobile Services –
Consultation Paper**

Supplementary Submission
by CSL Limited to
the Office of the Communications Authority

14 September 2012

1. Introduction

After the close of the consultation on “Arrangements for the Frequency Spectrum in the 1.9 - 2.2GHz Band upon Expiry of the Existing Frequency Assignments for 3G Mobile Services” (**Consultation Paper**), the submissions of all interested parties were published on the website of the Communications Authority (**CA**). CSL Limited (**CSL**) notes that having the benefits of reviewing all the submissions, China Mobile Hong Kong Company Limited (**CMHK**) made another submission on 30 July 2012. For the sake of fairness, which CMHK emphasises in its latest submission, CSL should be given the same opportunity to make a supplementary submission to address CMHK’s comments.

2. Option 1 – encouraging investments and ensuring fairness and public interest

CMHK attempts to argue that Option 1 (i.e. offering the right of first refusal (**RFR**) to the incumbent 3G operators) is at odds with the market-based approach and destroys the general principle of fairness and that Option 2 (i.e. spectrum re-auction) is the right solution. CSL does not agree with these propositions which are solely made in the self-interest of CMHK without taking a broader view of public interest at large.

It is of vital importance to distinguish between a ‘greenfields’ allocation of spectrum and a re-allocation of spectrum once initially allocated and in efficient use by operators and in extensive use by consumers. CSL agrees that spectrum auction may be best suited to situations when new spectrum is first released to the market or when existing spectrum has been inefficiently utilised or left idle. However, this is not the case with the 1.9-2.2GHz spectrum in Hong Kong, where the incumbent 3G operators have invested heavily in their networks and services over time and utilised their spectrum allocations both efficiently and with considerable innovation since the 1.9-2.2GHz spectrum was first released to the market via auction in 2001 (CMHK chose not to participate in the auction at the time). All these efforts have delivered substantial consumer benefits where consumers can enjoy quality innovative mobile services at low prices. Certainty and confidence in regulatory regime are necessary in order to promote continued investment and innovation. This in turn further promotes competition in the market which is again for the benefits of consumers. However, the inherent uncertainty of re-auction under Option 2 would seriously undermine the incumbent 3G operators’ investment and network planning which are detrimental to consumers and the mobile industry. Further, customer service continuity is significantly at risk if their spectrum is not renewed. There will be severe customer service interruptions, customer confusions and general public inconvenience, all of which are undesirable and unacceptable social consequences to society.

Re-allocation of the 1.9-2.2 GHz spectrum requires consideration of the above social and consumer welfare objectives, i.e. continued efficient utilisation of spectrum, encouragement of investment and innovation, promotion of customer service continuity; and promotion of effective competition. These good public policy objectives can be achieved under Option 1, but not Option 2.

In addition, Option 1 has the added benefit of encouraging the future development of spectrum trading by removing regulatory uncertainty around spectrum continuation, which is a major barrier to trading spectrum. With spectrum trading, operators may acquire spectrum they need in the market from other operators who are willing to sell in a more flexible and timely manner. Notwithstanding the policy inclination of introducing spectrum trading in Hong Kong as stated in the Government’s Spectrum Policy Framework in 2007 and that the consultant commissioned by OFTA in 2009 also recommended the introduction of spectrum trading, as of today, there is no progress on this important policy

and regulatory framework. Appropriate arrangements should be in place to facilitate spectrum trading by October 2016.

In addition to spectrum trading, new entry can be encouraged via other means such as allocation of new spectrum or acquisition without the risk, uncertainty and disruption to the incumbent 3G operators and customers inherent in Option 2.

It is frustrating that CMHK makes a serious allegation of suspected collusion between the government and the incumbent 3G operators if Option 1 is adopted. CMHK fails to adduce any facts, events or evidence to support the collusion allegation. It is difficult to envisage how and why collusion exists if the government decides to opt for Option 1 in pursuit of the above important social and consumer welfare objectives in spectrum management. CMHK's allegation is totally unfounded and unsubstantiated.

RFR is not new to Hong Kong. The Telecommunications Authority decided to grant a RFR to the incumbent GSM and PCS licensees in 2004 after taking due consideration of the importance of ensuring continuity of customer service and providing a stable investment environment. At the time, CMHK who was one of the PCS licensees did not make any collusion allegation but gave support to offering the RFR to the incumbents. It is unfair for CMHK at this juncture to make such collusion allegation which is groundless if a RFR is granted to the incumbent 3G operators.

It is surprising that CMHK's position on spectrum policy is inconsistent and contradictory. In its submission to the consultation paper on proposed spectrum policy framework in 2007, CMHK emphasised the importance of consumer interests in formulating the spectrum policy framework and supported offering a RFR to incumbent operators.

*"[CMHK] suggest that the TA add '**consumer interests**' to the considerations [in Hong Kong's spectrum policy framework and the supporting spectrum arrangements]. Sometimes, there may be overriding consumer interests which are more important than investor interests."*

*"[CMHK] agree that there should be no legitimate expectation for renewal after expiry of a spectrum assignment. However, **if the licensee is utilizing the spectrum in an efficient way to serve customers, the licensee should be given a Right of First Refusal to a renewal of its spectrum assignment.**"*

However, CMHK in its latest submission in July 2012 entirely reverses its position on RFR and turns a blind eye to what it considered crucial in respect of efficient use of spectrum and overriding consumer interests. CMHK ignores the fact that the incumbent 3G operators have efficiently utilised their spectrum. Further, CMHK disregards consumer interests as service disruption and degradation will result if the spectrum of the incumbent 3G operators is not renewed. CMHK's arguments are conflicting, unconvincing and egotistic.

CMHK goes on to say that Option 1 would be in violation of Article 118 of the Basic Law which provides that "*the Government of the Hong Kong Special Administrative Region shall provide an economic and legal environment for encouraging investments, technological progress and the development of new industries.*" CSL does not agree with CMHK's allegation. Operating a mobile network entails high initial and recurrent capital costs. Creating and maintaining a stable legal and regulatory environment that promotes substantial, continued and long term investment is critical to licensees for planning network build, upgrade and enhancement. Spectrum re-auction would create a very high level of uncertainty on the continued availability of spectrum. This will discourage investment and inhibit the development of new innovative services, particularly over the remaining life the current licence term. Offering a RFR will remove the regulatory uncertainty and provide confidence to all four incumbent 3G operators in relation to

spectrum usage upon the expiry of the current spectrum assignment, thus ensuring “*an economic and legal environment for encouraging investments and technological progress*” for the benefits of the telecommunications industry and consumers and consistent with Article 118 of the Basic Law.

For the reasons given above, Option 1 is undoubtedly fair, consistent with the Basic Law and best serves the public interest. On the other hand, Option 2 destroys the 3G mobile market which has been already very competitive and working properly.

3. Efficient spectrum utilization by the incumbent 3G operators

CMHK supports Option 2 by attempting to argue that the existing spectrum is not being utilised efficiently by the incumbent 3G operators with reference to paragraphs 20 and 21 of the Consultation Paper:

“it is not certain whether the existing assignment ...has already delivered the optimal consumer benefits.”

“... it may be possible to attain higher spectral efficiency for the industry as a whole by varying the distribution of the spectrum among incumbent 3G operators or by recruiting new players to the 3G mobile service market.”

CMHK’s argument is incorrect. It is entirely certain that the mobile market in Hong Kong is fiercely competitive with 5 MNOs and 11 MVNOs serving a population of about 7.1 million which is unprecedented in the world. The strong competitive force, coupled with the insatiable demand for mobile data as evidenced by the wide adoption of smartphones, tablets, dongles and other mobile devices with data (including video) hungry applications, drive the incumbent 3G operators to make ever more efficient use of their spectrum, invest in their network heavily and provide better and innovative services to consumers. This has already resulted in optimal consumer benefits. Conversely, there is no evidence to suggest that the incumbent 3G operators have not used their spectrum efficiently or the optimal consumer benefits have not been attained.

It is difficult to envisage how spectral efficiency could be enhanced by either spectrum redistribution amongst the incumbent 3G operators or new entry under Option 2. Redistribution would either have no effect or would inequitably dilute an incumbent’s spectrum assignment with a windfall gain to the other players. New entry would dilute the assignments of all operators. In any event, spectrum dilution will undoubtedly lower spectral efficiency and seriously undermine incumbents’ ability to meet the demand for mobile data, leading to reduction of consumer benefits.

It is certain that the notion “*it is not certain ...*” and “*it may be possible ...*” are hypothetical and speculative and are not supported by concrete evidence or thorough market analysis. It is dangerous and inequitable for a regulator to rely on such hypothetical and speculative assumptions in formulating a regulatory framework on 3G spectrum assignment which has a far-reaching impact on the society as a whole. As fully canvassed in our previous and this submission, it is entirely certain that Option 2 will have a disruptive impact on both the incumbent 3G operators and consumers.

4. Option 2 - Disruptive impact on incumbent operators and customers

CMHK submits that it has been within the contemplation of the incumbent 3G operators that their 3G spectrum may not be renewed upon expiry of the current term and that the

incumbent 3G operators have sufficient time to adjust their plans for network investment and customer migration to minimise the potential impact on consumers.

It is incorrect to assume that advance notification, though it is desirable, will not deter investments, inhibit innovation and have negative impacts on consumers.

As explained in our previous and this submission, without regulatory certainty on continued spectrum availability, the incumbents 3G operators will be discouraged to continue to maintain and invest further in their network. Typically network equipment has a lifetime of 5 years or more. Return on investment beyond the spectrum expiry date is significantly at risk. Investment may be held up for the remainder of the licence terms. This will inhibit service innovation and detrimental to consumers. Further, they will be forced to write-off significant investments as a result of non-renewal of 3G spectrum.

OFCA's statistics demonstrate that mobile data usage experienced exponential growth over 900-fold during the period of December 2005 to December 2011. It is widely believed that the upsurge of mobile data will continue. The trend of rapid growth of mobile data worldwide will likely increase tenfold by 2016 due to proliferation of data intensive services and applications, intelligent networks and machine-to-machine communications¹. Forecasts also show that two-third's of the world's mobile traffic will be video by 2016², further accelerating the growth of mobile data.

In view of the explosive growth of mobile data, the existing spectrum (including 4G spectrum and re-farmed spectrum) are widely regarded as not being sufficient to meet the demand beyond 2016, let alone part of or all 3G spectrum may be lost due to non-renewal upon expiry in October 2016. CMHK suggests customer migration to 4G. First, migration depends on whether customers are willing to incur additional costs to purchase a new 4G device. Most importantly, customer migration to 4G cannot solve the problem of insufficient or limited spectrum. Invariably, network congestion and service degradation will result which triggers consumer complaints.

There will be disruptive impact on both the incumbent 3G operators and customers if the 3G spectrum is not renewed. CMHK's allegation that the incumbent 3G operators do not have a genuine need of 3G spectrum is not valid.

5. Option 1 – Ensuring service continuity

CMHK suggests that service continuity will probably be assured only if the incumbent 3G operators all exercise the right of first refusal to retain their originally-assigned 3G spectrum.

CMHK acknowledges that Option 1 ensures customer service continuity. Given the level of capital investments made and the wide customer base established over years, there is every incentive for the incumbent 3G operators to exercise their RFR if offered at a right market price. Option 1 therefore best ensures service continuity without going through the pains of service interruptions, confusion and general inconvenience to consumers which will result under Option 2.

¹ Telecomasia, 'Mobile data set to swell tenfold by 2016' (17 May 2012) <<http://www.telecomasia.net/content/mobile-data-set-swell-tenfold-2016>>.

² Cisco Systems, Inc., *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2011-2016* (24 February 2012) 3 <http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf>.

6. Conclusion

Option 1 is preferred to either Option 2 or 3 because Option 1 best encourages continued efficient spectrum utilisation, investment and innovation by creating a certain and stable regulatory environment, thus fostering more competition in the mobile market for the benefits of consumers in Hong Kong. Further, option 1 promotes customer service continuity and minimises unnecessary customer inconvenience, disruption, confusion and service degradation. Option 1 is fair, serves best public interest and is consistent with the government's Spectrum Policy Framework.

Option 1 also accords with the best international practice to renew the licences to the incumbent 3G operators as has occurred in the United Kingdom, Australia and New Zealand.

Submitted by CSL Limited

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