



Reply Comments to Industry Canada by

SSI MICRO LTD.

Pursuant to

Canada Gazette Notice SMSE-018-10,

***"Consultation on a Policy and Technical Framework
For the 700 MHz Band and
Aspects related to Commercial Mobile Spectrum"***

April 6, 2011

A. Introduction

1. SSi Micro Ltd. (“SSi”) is pleased to submit these reply comments to the Minister of Industry (“Industry Canada” or the “Department”) in response to Canada Gazette Notice No. SMSE-018-10, the Department’s “Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum” (the “700 MHz Consultation”) and Gazette Notice No. SMSE-009-11 extending the deadline for the submission of reply comments to April 6, 2011.
2. SSi has reviewed the comments filed by parties on February 28, 2011 as part of the 700 MHz Consultation and made available on the Industry Canada web site. Our failure to address the arguments or positions taken by other parties as part of this consultation should not be construed as our acceptance of or agreement with same. Where SSi provides no further comment in this reply, we continue to adhere to the views expressed in our initial submission.
3. For ease of review, these reply comments are set out in the order of questions posed by the Department in the 700 MHz Consultation.

B. Reply Comments of SSi

700 MHz Band Plan Architecture for Commercial Mobile Systems

- ***Option 1: Harmonize with the U.S. band plan;***
- ***Option 2a: U.S. band plan with slight adjustments – with 8 and 10 MHz channel blocks in the Lower 700 MHz;***
- ***Option 2b: U.S. band plan with slight adjustments – with a mix of 3 and 5 MHz channel blocks in the Lower 700 MHz;***
- ***Option 3: Harmonize with the APT band plan.***

Question 5-1 - Based on the criteria listed above, which of the four band plan options should be adopted in Canada? Why is this option preferred over the other options?

4. In our initial comments, we indicated that SSi would favour the proposed band plan Option 2b, provided that such option not negatively impact North American and global roaming and network interoperability, nor cause inordinate delays or increased costs in the availability of network equipment and terminal devices.

5. In reviewing the comments of other parties, there appears to be an overwhelming consensus that Option 1, harmonizing with the US band plan, would be the most appropriate route for the 700 MHz band in Canada.

6. We note in particular the following comments of Ericsson Canada:

“Spectrum efficiency: In practical implementations where channel bandwidth of 5 MHz and 10 MHz are most likely used, the amount of spectrum that is utilized with Option 2a and 2b would be reduced to 10 MHz across the frequencies 698-716 MHz (18 MHz). In contrast Option 1 has a usable spectrum of 15 MHz in the same frequencies (18 MHz).”

7. Similarly, the RABC notes:

“While Options 2a and 2b are initially appealing as a means to maximize the “usable” amount of spectrum, in practice they would introduce several problems due to:

- *Potential interference from adjacent TV stations (below 698 MHz) requiring at least 1 MHz guard band.*
- *Potential interference from blocks D and E (716 MHz – 728 MHz) both within Canada (depending on Canadian use of D and E) and from cross-border interference necessitating at least 1 MHz guard band.”*

8. In light of the consensus of parties in favour of Option 1, and the substantive concerns on spectral efficiency raised with respect to Option 2b, SSi would agree with the adoption of Option 1 for the 700 MHz band plan.

9. That said, as noted in our initial comments and further below in our reply, we qualify our support for Option 1 (or any other option) with our belief that 700 MHz spectrum need not be dedicated to public safety agencies for the deployment of closed “private” networks by security agencies.

10. We also note favourably the following proposal of Shaw Communications with respect to Option 1 (which approach is also endorsed by Quebecor Media):

“[...] in order to maximize the number of spectrum blocks available for bidding, the Government should split the upper “C” block into two blocks [...]”

Question 5-6 - Notwithstanding your responses to questions 5-3 to 5-5, the Department seeks comments on whether public safety broadband needs can be met by using commercial systems with priority access rights for public safety, at commercial rates.

(a) Your views and comments are invited on priority access rights, including pre-emption, and on the feasibility of such a system.

(b) What public safety technical and operational requirements cannot be met by commercial systems, from either a public safety or commercial operator point of view?

(c) What specific rules, if any, should be mandated by the Department to make such a system viable?

11. Rather than having 700 MHz spectrum dedicated exclusively for the use of public safety broadband systems to build and operate “closed” or “private” networks, SSI’s first preference is for all good faith efforts be made to assess and develop solutions whereby commercial network operators can address and deliver public safety broadband needs and requirements.

12. A number of other parties in their initial comments advocated for commercial operators, either alone or in “public-private” partnerships with public safety agencies, to deploy and operate wireless networks that will support the needs of consumers and businesses as well as the needs of governments and public safety agencies.

13. Certain parties also highlighted a concern raised by SSI, namely that public safety agencies today have limited or no infrastructure in many rural and remote areas of the country. We note the comments of Bell Mobility on this point:

“Public safety’s ability to use 700 MHz (and service to the public at large, including 9-1-1) will be limited by the available footprint of networks. We believe that it will be some time before the public safety network can duplicate the coverage of the commercial networks, thus the immediate expansion of the commercial footprint into rural areas should be encouraged, whether by financial incentive or spectrum appropriate to rural coverage.

“[...] we believe that for the next five, perhaps ten or more years, the most cost effective and timely use of broadband by public safety, for both their mission critical and non-critical requirements, requires the use of commercial network services.”

14. Again, the best solution, SSI believes, is for public safety agencies to have access to the commercial networks where they exist now or, as they will be developed in the future.

15. It is the local people who must be part of any response, and who must be enabled to be effective local responders for public safety. We do believe the only way to do that is to have public safety functions co-exist with commercial services. In this regard, we highlight and agree with the following comments of SaskTel:

“One method of achieving the appropriate utilization of spectrum would be to undertake partnerships with commercial or other providers to most efficiently utilize this spectrum. These arrangements would necessarily give priority access for the public safety groups to network resources and priority usage of the spectrum allocated. However, when such demands were not being placed on the public safety spectrum, it could be used for other purposes.

“The advantages of such an arrangement would be:

- the more efficient use of the public safety spectrum, while still meeting the needs of the agencies involved,*
- other operators could bring expertise to the design, construction, operation and management of the public safety network,*
- this would result in increased capacity and coverage for the public safety networks; and*
- this could create significant savings for both taxpayers and provincial governments.”*

Question 5-12 - The Department seeks comments on whether the auction of 700 MHz commercial spectrum should be based on uniform tier sizes across all spectrum blocks, or a mixture of tier sizes.

16. A number of parties stated their preference for smaller tier sizes to be licensed in the 700 MHz band; tier 4 if practical, and no larger than tier 3. For example, Eastlink provided the following comment, with which SSi fully agrees:

“EastLink proposes that the 700 MHz spectrum be auctioned using only Tier 4 areas. The use of Tier 4 areas will ensure that spectrum in rural areas is only purchased by companies that actually plan to deploy service in those areas (in contrast, when Tier 2 and 3 areas are auctioned, companies may bid on an area with the intention of serving only the most densely-populated parts, while ignoring the rural areas).”

Question 7-6(a) - If the Department were to implement spectrum aggregation limits (caps):

- (i) Should the cap apply to the 700 MHz band only or be broader?**
- (ii) What should the size of the cap be?**

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17. SSi advocated the use of spectrum caps in the 700 MHz auction. A significant number of parties in their initial comments also recommended the use of spectrum caps to limit the amount of spectrum any participant (or associated group of participants) can acquire in the 700 MHz auction.
18. In our initial comments, SSi recommended that that no individual participant or associated group of participants be permitted to acquire more than 20% or 25% of the 700 MHz spectrum available at auction.
19. If the Department adopts the proposed "Option 1" for the 700 MHz band plan in Canada, SSi would support the proposal put forth by Quebecor Media:

"We recommend adoption in Canada of the US 700 MHz band plan, with the splitting of the upper C block into two smaller blocks.

"This results in the auction of five spectrum blocks of 5+5 MHz or 6+6 MHz across Canada (with the possible addition of a sixth block depending upon the ultimate allocation of the upper D block).

"Given that the useable portion of a 6+6 MHz block in an LTE deployment context is only 5+5 MHz, we recommend that all five (or potentially six) spectrum blocks be treated as equivalent for the purpose of applying spectrum caps.

"Any carrier that already holds 800 MHz cellular spectrum in a given Tier 2 service area should be limited to acquiring one 700 MHz block in that service area.

"Any carrier that does not already hold 800 MHz cellular spectrum in a given Tier 2 service area should be limited to acquiring two 700 MHz blocks in that service area."

Question 8-2 - Is there a need for further regulatory measures or changes to existing regulatory rules (e.g. RP-19) to facilitate service deployments in rural and remote areas that remain unserved and/or underserved?

20. *Roaming:* While Industry Canada has announced that it will hold a separate consultation on mandatory roaming, in what underscores the importance of this measure, a very significant number of parties nonetheless advocated that the Department mandate mobile spectrum licensees to provide roaming to other licensees.
21. Advocates of mandated roaming include the British Columbia Broadband Association, Cogeco, Eastlink, Globalive, Mobilicity, MTS Allstream, the Ontario

Telecommunications Association (“OTA”), Public Mobile and Shaw Communications. SSi agrees with these parties.

22. Being a remote area operator, we wish to highlight in particular the comments of the OTA with respect to the importance of mandated roaming:

“[...] small rural service providers are typically landlocked by larger incumbent service providers. They cannot avoid the need for a roaming arrangement with the larger carriers that have more extensive coverage areas. The carrier seeking the roaming arrangement is typically at a disadvantage over and against the incumbent carrier. Smaller service providers who acquire 700 MHz spectrum will require economic roaming rates from the larger incumbent service providers. This cannot be left to market forces alone.”

23. *Deployment Incentives*: SSi also proposed to the Department a number of incentives to encourage spectrum licensees to deploy and/or improve mobile broadband service in remote, rural, unserved and underserved areas. These can include:

- Tax incentives;
- Portable subsidies (allowing consumers to receive subsidized broadband from the service provider of their choice);
- Rebates from the amounts paid at auction for spectrum for licensees who actually deploy in unserved and underserved areas;
- Reduction of licence fees (for spectrum that was licensed outside of an auction) for licensees who actually deploy in unserved and underserved areas.

24. In line with SSi’s recommendations for deployment incentives to outlying areas, Shaw Communications proposed that:

“[...] to recognize the costs and challenges associated with deployment in certain rural areas, the Department should provide rebates on auction fees to bidders that deploy HSPA+ and/or LTE systems in certain remote and underserved areas of the country [...].”

C. Conclusions

25. SSi very much appreciates the opportunity to participate in this consultation, and thanks the Department for considering our comments and reply.

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