

---

**Canada Gazette, Part I**  
**SMSE-018-10**  
***Industry Canada Consultation on a Policy and Technical Framework for the 700 MHz Band***  
***and Aspects Related to Commercial Mobile Spectrum***  
**November 30, 2011**

---

**RESPONSE OF HARRIS CANADA SYSTEMS, INC.**

**Submitted February 28, 2011**

---

**A. EXECUTIVE SUMMARY.**

A.1. Harris Canada Systems, Inc. (“Harris Canada”) submits this comment to Industry Canada in reference to SMSE-018-10 “Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum.”<sup>1</sup> Harris Canada’s response primarily focuses on the overall structure of the 700 MHz band plan and whether to provide dedicated broadband spectrum in the 700 MHz band to public safety. Harris Canada supports both dedicated broadband spectrum for public safety in the 700 MHz band and harmonization of Canada’s 700 MHz band plan with the United States. In particular, Harris Canada supports public safety’s call for 20 MHz of dedicated broadband spectrum (10 MHz + 10 MHz blocks, 758-768 MHz + 788-798 MHz).

---

<sup>1</sup> *Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum*, Industry Canada, Canada Gazette Part I, SMSE-018-10 (rel. Nov. 30, 2010).

<sup>2</sup> Responding to Industry Canada Consultation (SMSE-018-10) Question 5-3 (requesting comment on whether public safety agencies require dedicated spectrum for broadband applications); Question 5-4 (requesting comment on the need for interoperable public safety broadband radio systems both within Canada and across the border with

A.2. Harris Canada is a wholly owned subsidiary of Harris Corporation. Harris Corporation is an international communications and information technology company serving government and commercial markets in more than 150 countries. Harris Corporation is a leading technology developer and manufacturer of mission-critical wireless communications for the public safety communications market with more than 500 critical communications systems deployed worldwide. Within Canada, Harris Corporation has over 30 critical communications systems installed, including major systems serving 15 of Canada's top 33 Metropolitan Area's and two Province-Wide Public Safety Systems. Harris Canada has sales, engineering, and service offices across Canada and an engineering facility in Burnaby, British Columbia. As a pioneer in the development of Internet Protocol ("IP") based networks for private radio and broadband applications, Harris supplies industry-leading brands such as VIDA Broadband™, EDACS®, OpenSky®, NetworkFirst™, and Provoice™ and Harris GR-100. In addition, Harris Corporation now offers first responders full-spectrum multiband products for joint public safety operations on the local, regional, provincial, and federal levels: the Harris Unity XG-100 and RF-1033M.

A.3. Harris Canada is committed to providing public safety with solutions to achieving true nationwide interoperability through combining its leading IP based technology and in-depth knowledge of mission critical communications requirements. To meet the emerging needs of public safety for mobile broadband services Harris Corporation has developed VIDA Broadband LTE, a complete 700 MHz broadband network based on the 3GPP Long Term Evolution ("LTE") cellular technology. VIDA Broadband LTE is a wireless broadband network designed exclusively for

public safety, and uses the same fourth generation cellular network architecture and over-the-air LTE technology as commercial cellular networks.

A.4. Harris Canada believes that providing dedicated 700 MHz broadband spectrum is crucial to promoting public safety communications interoperability throughout Canada and across the border with the United States. Ensuring sufficient capacity for public safety broadband communications and facilitating interoperability, both technically and operationally, must be two of the top considerations for Industry Canada as it determines whether to provide dedicated 700 MHz spectrum to support public safety broadband.

**B. CANADA’S PUBLIC SAFETY AGENCIES REQUIRE DEDICATED 700 MHZ BROADBAND SPECTRUM.<sup>2</sup>**

B.1. Public safety in Canada requires dedicated broadband spectrum in the 700 MHz band. Broadband is an emerging technological tool that will significantly enhance first responders’ effectiveness, responsiveness, and safety. Harris Canada supports public safety’s request for a dedicated 20 MHz allocation in the 700 MHz band for public safety broadband. By providing 20 MHz of dedicated spectrum today, Industry Canada will ensure that public safety has sufficient capacity to meet first responders’ future broadband needs.

---

<sup>2</sup> Responding to Industry Canada Consultation (SMSE-018-10) Question 5-3 (requesting comment on whether public safety agencies require dedicated spectrum for broadband applications); Question 5-4 (requesting comment on the need for interoperable public safety broadband radio systems both within Canada and across the border with the United States); Question 5-6 (requesting comment on whether public safety broadband needs can be met by commercial systems); and Question 5-9 (requesting comment on how much 700 MHz spectrum should be dedicated for public safety broadband).

B.2. Harris Canada believes that commercial services are insufficient to meet the needs of public safety broadband for two primary reasons: lack of reliability and insufficient coverage. First, public safety agencies require reliable and redundant communications over hardened networks. Commercial carriers lack the economic incentive to meet public safety's operational requirements because public safety agencies only constitute a small subset of commercial carriers' total market. The always on (24/7) mission critical nature of public safety communications makes owning, operating, and managing their own networks the most desirable communications solution for public safety. When cell and landline communications are overloaded or go down, first responders continue to need quick and easy access to communications networks. The complexities of sharing agreements aside, it is not in the public interest to require public safety to rely upon commercial networks with the hope that those networks may not be affected by an incident or that the necessary capacity is available. By allocating dedicated broadband spectrum to public safety, first responders will be able to build their own dedicated broadband networks that meet their unique communications requirements and ensure uninterrupted, unconstrained network access.

B.3. Second, commercial services are insufficient because they do not provide the type of ubiquitous coverage across entire geographic regions required by public safety. First responders must be able to respond and maintain the ability to protect all citizens, regardless of the location. In contrast, population density is generally the primary driver for whether commercial entities deploy broadband in an area. Due to their low population densities, rural communities generally lack the leverage to

attract commercial broadband services. Yet, public safety systems strive to provide wireless coverage for mission critical communications in all regions, regardless of population density.

B.4. A dedicated 700 MHz public safety broadband allocation will also help Industry Canada ensure the deployment of interoperable public safety broadband communications throughout Canada and across the border with the United States. Harris Canada firmly believes that the 700 MHz band is the best solution for deploying cost effective, interoperable public safety broadband systems. Private public safety systems will be able to support data intensive applications for both day-to-day and mission critical operations. Through a dedicated broadband allocation, public safety will be able to deploy reliable, resilient, and ubiquitous broadband networks unlike current commercial systems. A dedicated broadband allocation to public safety will also help encourage the development of public safety specific mission critical broadband voice applications and standards.

B.5. While in the future, public safety broadband systems will be able to support mission critical voice applications, public safety grade broadband voice should be viewed as a long-term goal. Harris Canada would like to take this opportunity to remind Industry Canada of the importance of narrowband mission critical voice networks. Voice communications are a first responder's lifeline. First responders must be 100% certain that their call will be heard and directed as warranted by the situation. Narrowband Land Mobile Radio ("LMR") systems have been built to meet the specific voice and low speed data requirements of public safety, which includes

ubiquitous geographic coverage, prioritization, reliability, and critical applications such as talk-around and push-to-talk. While the potential for public safety broadband is great, broadband technology is still in its infancy and voice over broadband remains largely untested in mission critical public safety situations. Industry Canada should not let industry excitement surrounding LTE and potential uses of LTE technology for mission critical public safety services overshadow the importance of narrowband voice communications. As of today LTE broadband technology does not yet provide the type of assured mission critical voice communications required by public safety. Narrowband LMR systems are and will remain the lifeblood of public safety for the foreseeable future.

- B.6. In the immediate future, Industry Canada must ensure there remains sufficient narrowband spectrum available for public safety to meet the mission critical voice communications needs. 700 MHz LTE broadband deployments—public safety or commercial—should not be completed at the detriment of mission critical voice operations. Harris Canada encourages Industry Canada to keep the current 700 MHz narrowband allocations (768-776 MHz and 798-806 MHz) intact and free from interference.
- B.7. No suitable alternative spectrum to the 700 MHz band exists to meet public safety broadband goals. Current public safety broadband allocations in Canada are insufficient. While the 4.9 GHz band is an important component of public safety's overall broadband capability, the 4.9 GHz band is unable to support the large-scale, data intensive applications over large geographic areas that are possible with 700

MHz LTE systems. The 700 MHz band has the propagation characteristics necessary to penetrate deep into buildings and provide expansive geographic coverage. Providing dedicated public safety broadband spectrum in the 700 MHz band is crucial to the future of advanced public safety communications.

**C. INDUSTRY CANADA SHOULD AIM TO HARMONIZE ITS 700 MHZ BAND PLAN WITH THE UNITED STATES.<sup>3</sup>**

C.1. Industry Canada should adopt band option 1 provided in the Consultation and harmonize Canada's frequencies with the United States. However, regardless of how much dedicated public safety broadband spectrum the United States allocates to public safety broadband, Industry Canada should independently evaluate the arguments presented by public safety in Canada for providing a dedicated 20 MHz allocation for public safety broadband.

C.2. Harmonization of Canada's 700 MHz plan with the United States is critical and would advance a majority of Industry Canada's key considerations outlined in the Consultation. Most notably, harmonization with the United States will enable economies of scale in North America to flourish and ultimately reduce deployment costs, increase equipment availability, and make services more affordable to both consumers and public safety agencies.

---

<sup>3</sup> Responding to Industry Canada Consultation (SMSE-018-10) Question 5-1 (requesting comment on the appropriate 700 MHz band plan to be adopted in Canada); Question 5-4 (requesting comment on the need for interoperable public safety broadband radio systems both within Canada and across the border with the United States); and Question 5-5 (requesting input on challenges faced by public safety to have cross border radio interoperability).

C.3. Harmonization will also encourage cross-border interoperability. Currently, one of the greatest obstacles to facilitating interoperable cross-border communications is the assignment of disparate public safety frequencies in the United States and Canada. While the United States and Canada have made many strides in recent years towards solving cross-border communications issues, such as through the harmonization of the 4.9 GHz band and 700 MHz narrowband spectrum bands, it is in the public interest that both countries continue to work together to create an environment that supports seamless cross-border public safety communications.

#### **D. CONCLUSION.**

D.1. For the foregoing reasons Harris Canada encourages Industry Canada to allocate dedicated spectrum in the 700 MHz band to support public safety broadband requirements. In particular, Harris Canada supports public safety's call for a dedicated 20 MHz allocation. Commercial services are insufficient to support the needs of public safety broadband because they do not provide the, ubiquitous geographic coverage, redundancy, and reliability that first responders need to support their mission critical communications. Providing a dedicated spectrum allocation for public safety broadband will be crucial in supporting the future of mission critical public safety communications, including mission critical voice.

D.2. In addition, Harris Canada encourages Industry Canada to make all reasonable attempts to harmonize Canada's 700 MHz band plan with the United States.

Harmonization will facilitate interoperable communications both domestically and between public safety agencies in the United States and Canada.

D.3. Harris Canada looks forward to working with both Industry Canada and the public safety community across Canada to deploy interoperable 700 MHz public safety broadband systems.

Respectfully Submitted,



---

Norman Hrapchak  
Director of Sales, Harris Canada Systems, Inc.  
5-2895 Argentia Road  
Mississauga, ON L5N 8G6  
Phone: 905-817-8333  
E-mail: nhrapcha@harris.com

February 28, 2011