

## ARRANGEMENT Q

### SHARING ARRANGEMENT BETWEEN THE DEPARTMENT OF INDUSTRY OF CANADA AND THE FEDERAL COMMUNICATIONS COMMISSION OF THE UNITED STATES OF AMERICA CONCERNING THE USE OF THE FREQUENCY BANDS 768-776 MHz AND 798-806 MHz BY THE LAND MOBILE SERVICE ALONG THE CANADA-UNITED STATES BORDER

The Department of Industry of Canada (Industry Canada), and the Federal Communications Commission of the United States of America (FCC), hereinafter referred to as the "Agencies".

Have agreed to the following:

#### **1. Scope**

- 1.1. This Arrangement is made pursuant to the *Exchange of Notes (October 24, 1962) between the Government of Canada and the Government of the United States of America concerning the coordination and use of radio frequencies above thirty megacycles per second*, with annex, completed at Ottawa October 24, 1962, as amended, and covers the sharing and coordination of frequency spectrum for the establishment and operation of land mobile radio services operating in the bands 768-776 MHz and 798-806 MHz along the Canada-United States border.
- 1.2. Aeronautical and maritime mobile services in this band are not covered by this Arrangement but may be subject to special coordination procedures on a case-by-case basis at the request of either agency prior to their introduction.
- 1.3. The Agencies may initiate and implement special coordination procedures allowing proposed stations to operate in a manner exceeding the technical conditions stated in this Arrangement within the sharing zones where the affected licensees agree to such conditions. Such special coordination may be initiated by either Agency through an exchange of correspondence and the results shall be approved by both Agencies.
- 1.4. This Arrangement is subject to review at any time at the request of either Agency, the U.S. Department of State or the Department of Foreign Affairs and International Trade of Canada.

#### **2. Sharing and Protection Zones**

The Agencies shall use the following definitions of Sharing Zones, Protection Zones and Sectors when interpreting this Arrangement:

##### **2.1. Sharing Zone I**

This Sharing Zone is the area adjacent to the United States-Canada border East of

longitude 121° 30' W. and extending a distance of 100 km within either country. However, within Sharing Zone I the following special geographic areas are recognized:

- a) In the Great Lakes area there are significant land areas that are within 100 km of the international border between the United States and Canada, but further than 100 km from any land mass of the other country. These areas contain several significant population centers that would benefit from additional spectrum if the lake shores were considered for purposes of sharing. With this in mind, the following cities shall be considered as falling outside of Sharing Zone I but inside the Protection Zone as defined in section 2.4 below: in the United States, the cities of Akron, Ohio; Youngstown, Ohio; and Syracuse, New York; and in Canada, the cities of Kitchener-Waterloo, Ontario; Peterborough, Ontario, and London, Ontario. These cities are defined in Annex B, Table B4 as an area with the given center coordinates and encompassing a circle of 30 km radius.
- b) Sector 1 and Sector 2, as defined in Section 4 below, are recognized as special geographic areas within Sharing Zone I.

## 2.2. **Sharing Zone II**

This Sharing Zone is the area adjacent to the United States-Canada border between 121° 30' and 127° W. longitude and extending a distance of 140 km within either country.

## 2.3. **Sharing Zone III**

This Sharing Zone is the area adjacent to the Alaska-British Columbia/Yukon Territory border and extending a distance of 100 km within either country.

## 2.4. **Protection Zones**

The Protection Zones are the areas adjacent to Sharing Zones I and III and extending from 100 km to 140 km away from the United States-Canada border within both countries as well as the areas defined in Annex B, Table B4.

# 3. ***General Sharing Arrangement***

## 3.1. **Channeling Arrangements**

Within the Sharing Zones and Protection Zones, the Agencies shall use the spectrum on the basis of a paired frequency channeling plan with base station transmitters in the frequency band 768-775 MHz and mobile station transmitters in the frequency band 798-805 MHz. In the bands 775-776 MHz and 805-806 MHz, the Agencies may use unpaired or paired frequencies. A mobile station may also transmit on any frequency assigned to its associated base station. Base station to base station transmissions may occur in either frequency band 768-776 MHz or frequency band 798-806 MHz.<sup>1</sup>

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<sup>1</sup> For purposes of this arrangement, base to base transmissions include fixed (repeater) and fixed (control) operations.

The channels and blocks referred to in this Arrangement are defined in Annex A.

### 3.2. Distribution/Allotment of Frequencies

The frequency bands covered by this Arrangement shall be shared along the border, as indicated below. Each Agency may use its allotted portions of spectrum, subject to not causing harmful interference to assignments beyond the allotted frequency band edges and subject to the technical limits described in section 5.

#### 3.2.1. Canada

In the Sharing Zones, except as specified in section 4, Canada has primary use of the channels and blocks listed in Annex A, Tables 1a and 1b in the frequency bands 768 to 776 MHz and 798 to 806 MHz.

#### 3.2.2. United States

3.2.3. In the Sharing Zones, except as specified in section 4, the United States has primary use of the channels and blocks listed in Annex A, Tables 2a and 2b in the frequency bands 768 to 776 MHz and 798 to 806 MHz.

#### 3.2.4. Shared Channels

##### (a) Interoperability Channels

The following paired channels shall be available as public safety interoperability channels.<sup>2</sup> These channels shall be available for each Agency's use in all areas. Usage of these channels in the sharing zones may be locally coordinated in accordance with the interoperability requirements of the Canadian and U.S. licensees.

<b>Base/Mobile Interoperability Channels</b>		
<b>(base/mobile)</b>	<b>To</b>	<b>(base/mobile)</b>
23 / 983	To	24 / 984
39 / 999	To	40 / 1000
63 / 1023	To	64 / 1024
79 / 1039	To	80 / 1040
103 / 1063	To	104 / 1064
119 / 1079	To	120 / 1080
143 / 1103	To	144 / 1104
159 / 1119	To	160 / 1120
183 / 1143	To	184 / 1144
199 / 1159	To	200 / 1160

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<sup>2</sup> Interoperability channels shall be used only for coordination of tactical communications between different public safety agencies, within a single public safety agency, or for other similar emergency communications.

<b>Base/Mobile Interoperability Channels</b>		
<b>(base/mobile)</b>	<b>To</b>	<b>(base/mobile)</b>
223 / 1183	To	224 / 1184
239 / 1199	To	240 / 1200
263 / 1223	To	264 / 1224
279 / 1239	To	280 / 1240
303 / 1263	To	304 / 1264
319 / 1279	To	320 / 1280
641 / 1601	To	642 / 1602
657 / 1617	To	658 / 1618
681 / 1641	To	682 / 1642
697 / 1657	To	698 / 1658
721 / 1681	To	722 / 1682
737 / 1697	To	738 / 1698
761 / 1721	To	762 / 1722
777 / 1737	To	778 / 1738
801 / 1761	To	802 / 1762
817 / 1777	To	818 / 1778
841 / 1801	To	842 / 1802
857 / 1817	To	858 / 1818
881 / 1841	To	882 / 1842
897 / 1857	To	898 / 1858
921 / 1881	To	922 / 1882
937 / 1897	To	938 / 1898

(b) Low Power Channels

The following channels shall be available as narrowband low power channels: 1 to 12, 949 to 960, 961 to 972, and 1909 to 1920. These channels shall be available for mobile operations only. No fixed station shall be allowed on these channels. These channels shall be available for each Agency's use on an unprotected basis. Operation on these low power channels shall be limited to a maximum ERP of 2 watts.

3.2.5. Protection Zones

In the Protection Zones, each Agency has primary use of all the channels and blocks in the frequency bands 768 to 776 MHz and 798 to 806 MHz.

3.3. **Use of the 768 to 776 MHz and 798 to 806 MHz bands Outside the Sharing and Protection Zones**

Beyond 140 km from the border, the Agencies shall have primary use of these bands.

3.4 In the event that a station in one country causes harmful interference to a station in the other country, both Agencies shall take appropriate action to eliminate such interference.

#### **4. *Special Sharing Arrangements***

In recognition of particular demographic circumstances, the Agencies agree on the unequal division of spectrum between Canada and the United States in the following two sectors of Sharing Zone I:

##### **4.1. Sector 1**

Sector 1 is defined to be the portion of Sharing Zone I in the United States and Canada bounded on the West by 85° W. longitude and on the East in Canada by 81° W. longitude and in the United States by 80° 30' W. longitude.

In this Sector, Canada shall have primary use of the frequencies listed in Annex A, Tables 3a and 3b. In this Sector, the United States shall have primary use of the frequencies listed in Annex A, Tables 4a and 4b. In this Sector, Canada and the United States shall have shared use of the channels listed in section 3.2.4.

##### **4.2. Sector 2**

Sector 2 is defined to be the portion of Sharing Zone I in the United States and Canada bounded on the East by 71° W. longitude and on the West in Canada by 81° W longitude and in the United States by 80° 30' W. longitude.

In this Sector, Canada shall have primary use of the frequencies listed in Annex A, Tables 5a and 5b. In this Sector, the United States shall have primary use of the frequencies listed in Annex A, Tables 6a and 6b. Within an area of 30 km radius from the centre city coordinates of London, Ontario, 42° 59' N. 81° 14' W., Canada shall have primary use the frequencies as defined in section 2.1 (protection zone). In this Sector, Canada and the United States shall have shared use of the channels listed in section 3.2.4.

## **5. *Technical Limits***

- 5.1. Within Sharing Zones I (including Sectors 1 and 2) and III, the Agencies may use their allotted portions of spectrum, subject to the Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limits of Annex B, Table B1.
- 5.2. Within Sharing Zones II, the Agencies may use their allotted portions of spectrum, subject to the Effective Radiated Power (ERP) and Antenna Height Above Mean Sea Level (AMSL) limits of Annex B, Table B2.
- 5.3. Each Agency shall have primary use of the 768-776 MHz and 798-806 MHz bands within the Protection Zone in its respective country, subject to the condition that base stations not exceed the maximum Effective Radiated Power (ERP) and effective Antenna Height (EAH) limits of Annex B, Table B1.
- 5.4. Within the Sharing and Protection Zones, calculation of the limits on Effective Radiated Power (ERP) shall be based on the power radiated toward the horizon in the direction of the common border.
- 5.5. Each Agency may authorize stations which exceed the ERP limits specified in sections 5.1 through 5.4, provided the signal from such a station does not exceed a maximum power flux density (pfd) limit of  $-107\text{dB(W/m}^2\text{)}/25\text{ kHz}$  at and beyond the border and a maximum ERP of 500 watts in the direction of the common border. If the border falls over water, the pfd limit shall apply at the shore beyond the border.
  - (a) The Agencies shall require applicants or licensees under this provision to calculate the pfd described in section 5.5 using good engineering practice and generally accepted terrain-sensitive propagation models (with location and time variables of 10% and standard 3 arc-second digitized terrain data). Upon request by either Agency, the other Agency shall provide all data and calculations for determining compliance with this Arrangement
  - (b) In the event that the actual pfd at or beyond the border exceeds the value described in section 5.5, it is the responsibility of the licensee to bring the station's actual pfd into compliance with section 5.5 or bring the station into compliance with the power limits described in sections 5.1 through 5.4.

## **6. *Coordination Necessitated by the Special Sharing Arrangements***

- 6.1. As a result of the division of spectrum described in sections 4.1 and 4.2, portions of the bands allotted to both countries under this Arrangement overlap. Therefore, the Agencies shall coordinate the proposed frequency assignments in the overlapping portions in those bands, as described in sections 6.2 and 6.3 below, in accordance with the procedures specified in Arrangement A annexed to the Above 30 Agreement.
- 6.2. Coordination shall be required for assignments on the frequencies listed Annex A, Tables 7a and 7b in the following areas (see Annex C, Figure 1):

- a) The geographical area in Canada enclosed by the United States-Canada border, the meridian 71° W.; and the line beginning at the intersection of 72° W. and the United States-Canada border, thence running North along meridian 72° W. to the intersection of 45° 45' N., thence running East along 45° 45' N. to the meridian 71° W., and
- b) The geographical area in the United States enclosed by the United States-Canada border, the meridian 71° W.; and the line beginning at the intersection of 44° 25' N., 71° W., thence running by great circle arc to the intersection of 45° N., 70° W., thence North along meridian 70° W. to the intersection of 45° 45' N., thence running West along 45° 45' N. to the intersection of the United States-Canada border.

6.3. Coordination shall be required for assignments on the frequencies listed Annex A, Tables 8a and 8b in the following areas (see Annex C, Figure 2):

- a) The geographical area in Canada enclosed by the meridian of 81° W. longitude, the arc of a circle of 100 km radius centered at 41° 58' N. latitude and 80° 30' W. longitude at the southern shore of Lake Erie and drawn clockwise from the northerly intersection with 81° W. longitude to intersect the United States-Canada border East of 80° 30' W., and the United States-Canada border; and
- b) The geographical area in the United States enclosed by the meridian of 81° W. longitude, the arc of a circle of 100 km radius centered at 42° 39' 30" N. latitude and 81° W. longitude at the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 80° 30' W. longitude to intersect the United States-Canada border West of 81° W., and the United States-Canada border.

Within an area of 30 km radius from the centre city coordinates of London, Ontario, 42° 59' N. 81° 14' W., Canada has primary access as defined in section 2.1 (protection zone).

## **7. *Use of Frequencies Allotted to One Administration by the Other Administration***

7.1 Frequencies allotted for primary use of one Agency may be assigned by the other Agency for use within the sharing zones in its country under the following conditions:

- (a) The maximum power flux density (pfd) of the signal at and beyond the border of the primary user's country does not exceed  $-124 \text{ dB(W/m}^2\text{)/25 kHz}$ .
  - (1) The Agencies shall require applicants or licensees under this provision to calculate the pfd described in section 7.1(a) using good engineering practice and generally accepted terrain-sensitive propagation models (with location and time variables of 10% and standard 3 arc-second digitized terrain data). Upon request by either Agency, the other Agency shall provide all data and calculations for determining compliance with this Arrangement.
  - (2) In the event that the measured pfd at or beyond the border exceeds the

value described in section 7.1(a), it is the responsibility of the licensee to bring the station's pfd into compliance with section 7.1(a).

- (b) Stations authorized under this provision shall be considered as secondary and shall neither be granted protection against harmful interference from stations that have primary use of their authorized frequency, nor shall they cause harmful interference to stations having primary use of their authorized frequency, regardless of whether they meet the pfd values specified in 7.1 (a) above.
- (c) Mobile stations exceeding 5 watts transmitter power output (TPO) shall not be operated in frequencies allotted for primary use of the other Agency within 30 km of the common border.
- (d) Beyond 30 km of the common border, mobile stations operating in frequencies allotted for primary use of the other Agency must not exceed the pfd value specified in 7.1 (a).
- (e) The documentation issued by each Agency authorizing such stations to use these frequencies shall include a clause stating that such authorization is subject to the following conditions:
  - (1) In the event that the measured signal at or beyond the border is found to exceed  $-124 \text{ dB(W/m}^2\text{)/25 kHz}$ , the signal level shall be reduced accordingly;
  - (2) In the event that harmful interference occurs to any station that has primary use of the authorized frequency, regardless of signal strength, the licensee shall take immediate action to eliminate such interference. The Agency granting the authorization for secondary use shall ensure that remedial action is taken to resolve the harmful interference, up to and including revocation of the authorization.

## **8. *Information Exchange***

- 8.1 To facilitate the coordination requirements of this Arrangement, the Agencies shall either exchange information including, but not limited to: (1) licensee name(s); (2) licensed service areas; and (3) licensee point(s) of contact; or means to obtain the above information.
- 8.2 When necessary, the Agencies shall provide information to their respective licensees to facilitate the coordination requirements of this Arrangement.
- 8.3 To facilitate cross-border coordination between licensees, the Agencies shall encourage licensees to exchange data as listed in Annex D to this Arrangement.

## ANNEX A

### DISTRIBUTION/ALLOTMENT OF FREQUENCIES FOR GENERAL AND SPECIAL SHARING ARRANGEMENTS

#### Channelling Plan

Channels shall be 6.25 kHz wide for a total of 1920 channels. The channels can be combined. The frequencies corresponding to the lower and upper band edge of the channel number are defined by the following formulas, where n is the channel number:

Channel Number	Lower Edge (MHz)	Upper Edge (MHz)
1 to 960	$f_n = 769.0 + (0.00625)*(n-1)$ where n = 1 to 960	$f_n = 769.0 + (0.00625)*(n)$ where n = 1 to 960
961 to 1920	$f_n = 799.0 + (0.00625)*(n-961)$ where n = 961 to 1920	$f_n = 799.0 + (0.00625)*(n-960)$ where n = 961 to 1920

- A1. In the Sharing Zones, except Sectors 1 and 2, Canada shall have primary use of the following channels and blocks:

**Table 1a – Canada Primary Channels in Sharing Zones (except Sectors 1 and 2)**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
181 / 1141	To	182 / 1142
185 / 1145	To	198 / 1158
221 / 1181	To	222 / 1182
225 / 1185	To	238 / 1198
261 / 1221	To	262 / 1222
265 / 1225	To	278 / 1238
301 / 1261	To	302 / 1262
305 / 1265	To	318 / 1278
327 / 1287	To	634 / 1594
643 / 1603	To	656 / 1616
659 / 1619	To	660 / 1620
683 / 1643	To	696 / 1656
699 / 1659	To	700 / 1660
723 / 1683	To	736 / 1696
739 / 1699	To	740 / 1700
763 / 1723	To	776 / 1736
779 / 1739	To	780 / 1740

**Table 1b – Canada Primary Blocks in Sharing Zones (except Sectors 1 and 2)**

Base	Mobile
768 to 768.50 MHz	798 to 798.50 MHz
775 to 775.50 MHz	805 to 805.50 MHz

- A2. In the Sharing Zones, except Sectors 1 and 2, the United States shall have primary use of the following channels and blocks:

**Table 2a – U.S. Primary Channels in Sharing Zones (except Sectors 1 and 2)**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
13 / 973	To	22 / 982
25 / 985	To	38 / 998
41 / 1001	To	62 / 1022
65 / 1025	To	78 / 1038
81 / 1041	To	102 / 1062
105 / 1065	To	118 / 1078
121 / 1081	To	142 / 1102
145 / 1105	To	158 / 1118
161 / 1121	To	180 / 1140
201 / 1161	To	220 / 1180
241 / 1201	To	260 / 1220
281 / 1241	To	300 / 1260
321 / 1281	To	326 / 1286
635 / 1595	To	640 / 1600
661 / 1621	To	680 / 1640
701 / 1661	To	720 / 1680
741 / 1701	To	760 / 1720
781 / 1741	To	800 / 1760
803 / 1763	To	816 / 1776
819 / 1779	To	840 / 1800
843 / 1803	To	856 / 1816
859 / 1819	To	880 / 1840
883 / 1843	To	896 / 1856
899 / 1859	To	920 / 1880
923 / 1883	To	936 / 1896
939 / 1899	To	948 / 1908

**Table 2b – U.S. Primary Blocks in Sharing Zones (except Sectors 1 and 2)**

Base	Mobile
768.50 to 769 MHz	798.50 to 799 MHz
775.50 to 776 MHz	805.50 to 806 MHz

A3. In Sector 1, Canada shall have primary use of the following channels and blocks:

**Table 3a – Canada Primary Channels in Sector 1**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
305 / 1265	To	318 / 1278
429 / 1389	To	532 / 1492
643 / 1603	To	656 / 1616

**Table 3b – Canada Primary Channels and Blocks in Sector 1**

Base	Mobile
768 to 768.15 MHz	798 to 798.15 MHz
775 to 775.15 MHz	805 to 805.15 MHz

- A4. In Sector 1, the United States shall have primary use of the following channels and blocks:

**Table 4a – U.S. Primary Channels in Sector 1**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
13 / 973	To	22 / 982
25 / 985	To	38 / 998
41 / 1001	To	62 / 1022
65 / 1025	To	78 / 1038
81 / 1041	To	102 / 1062
105 / 1065	To	118 / 1078
121 / 1081	To	142 / 1102
145 / 1105	To	158 / 1118
161 / 1121	To	182 / 1142
185 / 1145	To	198 / 1158
201 / 1161	To	222 / 1182
225 / 1185	To	238 / 1198
241 / 1201	To	262 / 1222
265 / 1225	To	278 / 1238
281 / 1241	To	302 / 1262
321 / 1281	To	428 / 1388
533 / 1493	To	640 / 1600
659 / 1619	To	680 / 1640
683 / 1643	To	696 / 1656
699 / 1659	To	720 / 1680
723 / 1683	To	736 / 1696
739 / 1699	To	760 / 1720
763 / 1723	To	776 / 1736
779 / 1739	To	800 / 1760
803 / 1763	To	816 / 1776
819 / 1779	To	840 / 1800
843 / 1803	To	856 / 1816
859 / 1819	To	880 / 1840
883 / 1843	To	896 / 1856
899 / 1859	To	920 / 1880
923 / 1883	To	936 / 1896
939 / 1899	To	948 / 1908

**Table 4b – U.S. Primary Blocks in Sector 1**

Base	Mobile
768.15 to 769 MHz	798.15 to 799 MHz
775.15 to 776 MHz	805.15 to 806 MHz

A5a. In Sector 2, Canada shall have primary use of the following channels and blocks:

**Table 5a – Canada Primary Channels in Sector 2**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
101 / 1061	To	102 / 1062
105 / 1065	To	118 / 1078
141 / 1101	To	142 / 1102
145 / 1105	To	158 / 1118
181 / 1141	To	182 / 1142
185 / 1145	To	198 / 1158
211 / 1171	To	222 / 1182
225 / 1185	To	238 / 1198
241 / 1201	To	262 / 1222
265 / 1225	To	278 / 1238
281 / 1241	To	302 / 1262
305 / 1265	To	318 / 1278
321 / 1281	To	640 / 1600
643 / 1603	To	656 / 1616
659 / 1619	To	680 / 1640
683 / 1643	To	696 / 1656
699 / 1659	To	720 / 1680
723 / 1683	To	736 / 1696
739 / 1699	To	750 / 1710
763 / 1723	To	776 / 1736
779 / 1739	To	780 / 1740
803 / 1763	To	816 / 1776
819 / 1779	To	820 / 1780
843 / 1803	To	856 / 1816
859 / 1819	To	860 / 1820

**Table 5b – Canada Primary Blocks in Sector 2**

Base	Mobile
768 to 768.7 MHz	798 to 798.7 MHz
775 to 775.7 MHz	805 to 805.7 MHz

A6a. In Sector 2, the United States shall have primary use of the following channels and blocks:

**Table 6a – U.S. Primary Channels in Sector 2**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
13 / 973	To	22 / 982
25 / 985	To	38 / 998
41 / 1001	To	62 / 1022
65 / 1025	To	78 / 1038
81 / 1041	To	100 / 1060
121 / 1081	To	140 / 1100
161 / 1121	To	180 / 1140
201 / 1161	To	210 / 1170
751 / 1711	To	760 / 1720
781 / 1741	To	800 / 1760
821 / 1781	To	840 / 1800
861 / 1821	To	880 / 1840
883 / 1843	To	896 / 1856
899 / 1859	To	920 / 1880
923 / 1883	To	936 / 1896
939 / 1899	To	948 / 1908

**Table 6b – U.S. Primary Blocks in Sector 2**

Base	Mobile
768.7 to 769 MHz	798.7 to 799 MHz
775.7 to 776 MHz	805.7 to 806 MHz

- A7. In the areas listed in section 6.2, the following channels shall be coordinated in accordance with the procedures specified in Arrangement A annexed to the Above 30 Agreement:

**Table 7a – Channels Requiring Coordination in Areas Listed in Section 6.2**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
101 / 1061	To	102 / 1062
105 / 1065	To	118 / 1078
141 / 1101	To	142 / 1102
145 / 1105	To	158 / 1118
211 / 1171	To	220 / 1180
241 / 1201	To	260 / 1220
281 / 1241	To	300 / 1260
321 / 1281	To	326 / 1286
635 / 1595	To	640 / 1600
661 / 1621	To	680 / 1640
701 / 1661	To	720 / 1680
741 / 1701	To	750 / 1710
803 / 1763	To	816 / 1776
819 / 1779	To	820 / 1790
843 / 1803	To	856 / 1816
859 / 1819	To	860 / 1820

**Table 7b – Blocks Requiring Coordination in Areas Listed in Section 6.2**

Base	Mobile
768.50 to 768.70 MHz	798.50 to 798.70 MHz
775.50 to 775.70 MHz	805.50 to 805.70 MHz

- A8. In the areas listed in section 6.3, the following channels shall be coordinated in accordance with the procedures specified in Arrangement A annexed to the Above 30 Agreement:

**Table 8a – Channels Requiring Coordination in Areas Listed in Section 6.3**

Base/Mobile Channels		
(base/mobile)	To	(base/mobile)
101 / 1061	To	102 / 1062
105 / 1065	To	118 / 1078
141 / 1101	To	142 / 1102
145 / 1105	To	158 / 1118
181 / 1141	To	182 / 1142
185 / 1145	To	198 / 1158
211 / 1171	To	222 / 1182
225 / 1185	To	238 / 1198
241 / 1201	To	262 / 1222
265 / 1225	To	278 / 1238
281 / 1241	To	302 / 1262
321 / 1281	To	428 / 1388
533 / 1493	To	640 / 1600
659 / 1619	To	680 / 1640
683 / 1643	To	696 / 1656
699 / 1659	To	720 / 1680
723 / 1683	To	736 / 1696
739 / 1699	To	750 / 1710
763 / 1723	To	776 / 1736
779 / 1739	To	780 / 1740
803 / 1763	To	816 / 1776
819 / 1779	To	820 / 1790
843 / 1803	To	856 / 1816
859 / 1819	To	860 / 1820

**Table 8b – Blocks Requiring Coordination in Areas Listed in Section 6.3**

Base	Mobile
768.15 to 768.70 MHz	798.15 to 798.70 MHz
775.15 to 775.70 MHz	805.15 to 805.70 MHz

## ANNEX B

### LIMITS OF EFFECTIVE RADIATED POWER AND ANTENNA HEIGHT FOR GENERAL SHARING ARRANGEMENTS

Effective Radiated Power (ERP) is defined as the product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction.

- B1. For base stations in Sharing Zones I (including Sectors 1 and 2) and III, and the Protection Zones, Table B1 lists the limits of Effective Radiated Power (ERP) corresponding to the Effective Antenna Height (EAH) ranges shown. In this case, Effective Antenna Height is calculated by subtracting the Assumed Average Terrain Elevation given in Table B3 from the antenna height above mean sea level.

**Table B1**

**Limits of Effective Radiated Power (ERP) Corresponding to Effective Antenna Heights of Base Stations in Sharing Zones I (including Sectors 1 and 2) and III, and the Protection Zones**

Effective Antenna Height (EAH) in Metres	ERP Watts (Maximum)
Up to 153	500
Above 153 to 306	125
Above 306 to 458	40
Above 458 to 610	20
Above 610 to 915	10
Above 915 to 1067	6
Above 1067	5

B2. For base stations in Sharing Zone II, Table B2 lists the limits of Effective Radiated Power (ERP) corresponding to the antenna height above mean sea level (AMSL) ranges shown.

**Table B2**  
**Limits of Effective Radiated Power (ERP) Corresponding to Antenna Heights Above Mean Sea Level of Base Stations in Sharing Zone II**

Antenna Height Above Mean Sea Level (AMSL) in Metres	ERP Watts (Maximum)
Up to 504	500
Above 504 to 610	350
Above 610 to 763	200
Above 763 to 915	140
Above 915 to 1067	100
Above 1067 to 1220	75
Above 1220 to 1372	70
Above 1372 to 1523	65
Above 1523	5

- B3. Table B3 lists the values of Assumed Average Terrain Elevations (AATE) within the Sharing and Protection Zones on both sides of the United States-Canada border.

EAH = Antenna Height Above Mean Sea Level - AATE

**Table B3**  
**Values of Assumed Average Terrain Elevation within the Sharing and Protection**  
**Zones on Both Sides of the United States - Canada Border**

Longitude ( $\phi$ )  (°West)	Latitude ( $\Omega$ )  (°North)	Assumed Average Terrain Elevation			
		United States		Canada	
		Feet	Metres	Feet	Metres
$65 \leq \Phi < 69$	$\Omega < 45$	0	0	0	0
"	$45 \leq \Omega < 46$	300	91	300	91
"	$\Omega \geq 46$	1000	305	1000	305
$69 \leq \Phi < 73$	All	2000	609	1000	305
$73 \leq \Phi < 74$	"	500	152	500	152
$74 \leq \Phi < 78$	"	250	76	250	76
$78 \leq \Phi < 80$	$\Omega < 43$	250	76	250	76
"	$\Omega \geq 43$	500	152	500	152
$80 \leq \Phi < 90$	All	600	183	600	183
$90 \leq \Phi < 98$	"	1000	305	1000	305
$98 \leq \Phi < 102$	"	1500	457	1500	457
$102 \leq \Phi < 108$	"	2500	762	2500	762
$108 \leq \Phi < 111$	"	3500	1066	3500	1066
$111 \leq \Phi < 113$	"	4000	1219	3500	1066
$113 \leq \Phi < 114$	"	5000	1524	4000	1219
$114 \leq \Phi < 121.5$	"	3000	914	3000	914
$121.5 \leq \Phi < 127$	"	0	0	0	0
$\Phi \geq 127$	$54 \leq \Omega < 56$	0	0	0	0
"	$56 \leq \Omega < 58$	500	152	1500	457
"	$58 \leq \Omega < 60$	0	0	2000	609
"	$60 \leq \Omega < 62$	4000	1219	2500	762
"	$62 \leq \Omega < 64$	1600	488	1600	488
"	$64 \leq \Omega < 66$	1000	305	2000	609
"	$66 \leq \Omega < 68$	750	228	750	228
"	$68 \leq \Omega < 69.5$	1500	457	500	152
"	$\Omega \geq 69.5$	0	0	0	0

- B4. Table B4 lists cities in the United States and Canada that, for the purposes of this agreement, shall be considered as falling outside of Sharing Zone I but within the Protection Zone. These cities are defined as circles with a 30 km radius around the center coordinates listed.

**Table B4**  
**Cities in the United States and Canada that for**  
**purposes of this arrangement shall be considered as falling outside of**  
**Sharing Zone I but within the Protection Zone**

Location	Coordinates (NAD83)	
	Latitude	Longitude
Akron, Ohio	41° 05' 00.2" N.	81° 30' 39.4" W.
Youngstown, Ohio	41° 05' 57.2" N.	80° 39' 01.3" W.
Syracuse, New York	43° 03' 04.2" N.	76° 09' 12.7" W.
Kitchener-Waterloo, Ontario	43° 27' 30.2" N.	80° 29' 59.4" W.
Peterborough, Ontario	44° 18' 00.2" N.	78° 18' 59.2" W.
London, Ontario	42° 59' 00.0" N.	81° 14' 00.0" W.

# ANNEX C

## BAND OVERLAP COORDINATION AREAS

 AREAS IN WHICH COORDINATION IS REQUIRED

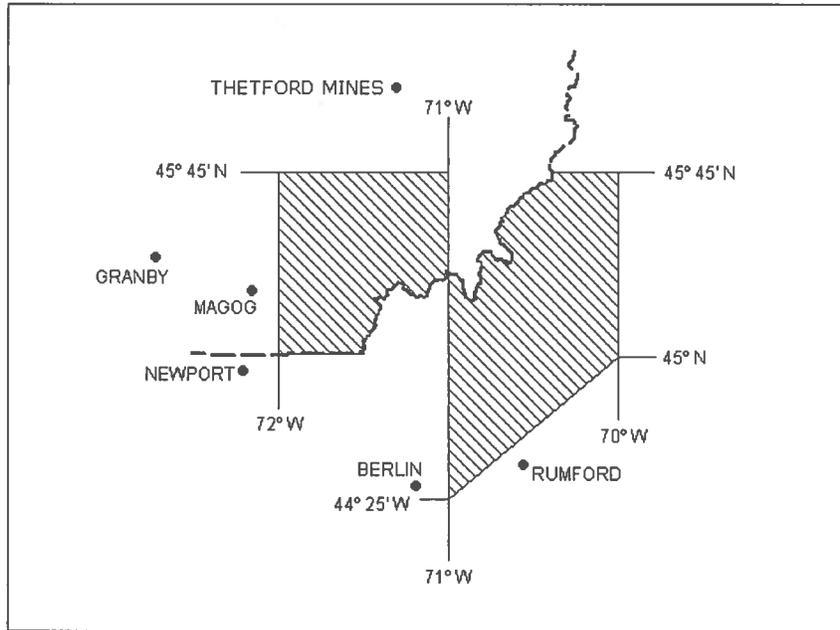


Figure 1

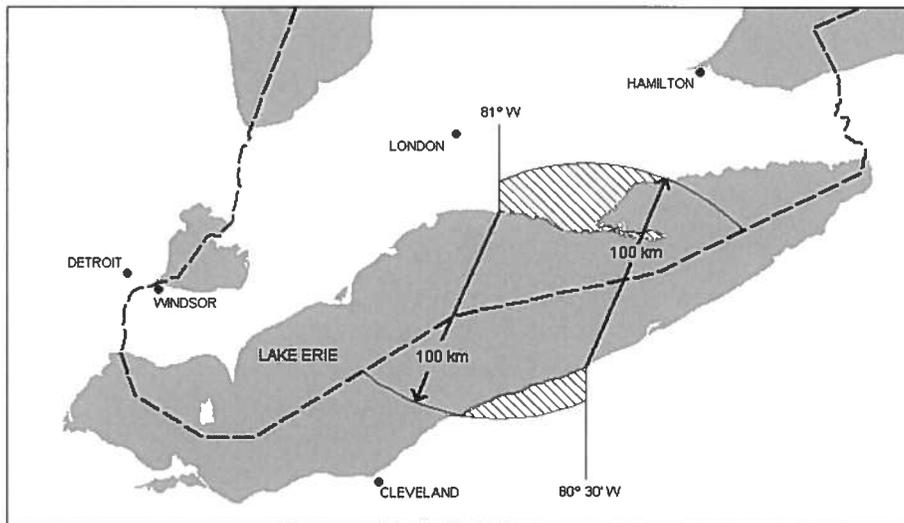


Figure 2

## ANNEX D

### PARAMETERS FOR COORDINATION

Licensee information (Corporate name/Mailing address/Phone/Fax/Email address)  
Location of transmitter (Community/State/Province)  
Geographical coordinates of transmitting antenna (NAD83)  
Equivalent Radiated Power (ERP) (dBW)  
Ground elevation and antenna height above ground (m)  
Center frequency (MHz)  
Polarization  
Antenna pattern/tabulation of the pattern  
Azimuth of the maximum antenna gain  
Bandwidth and emission designation