TELECOMMUNICATIONS

.....

Agreement Between the UNITED STATES OF AMERICA and CANADA

Amending the Agreement of October 24, 1962, as Amended

Effected by Exchange of Notes Signed at Washington November 2, 1993 and January 4, 1994

with

Arrangement



NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89-497, approved July 8, 1966 (80 Stat. 271; 1 U.S.C. 113)---

"... the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence ... of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof."

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CANADA

Telecommunications

Agreement amending the agreement of October 24, 1962, as amended.

Effected by exchange of notes Signed at Washington November 2, 1993 and January 4, 1994;

Entered into force January 4, 1994. With arrangement.

The Canadian Ambassador to the Secretary of State

Canadian Embassy

Ambassade du Canada

Washington, November 2, 1993

Note No. 191

Dear Secretary Christopher,

I have the honour to refer to the Exchange of Notes dated April 23 and June 23, 1952 constituting an Agreement between Canada and the United States of America regarding allocation of television Channels (hereinafter "the 1952 TV Agreement"), which was amended by an Exchange of Notes dated February 26, and April 7, 1982,¹ and to the Exchange of Notes dated October 24, 1962, between the Government of Canada and the Government of the United States of America concerning the Co-ordination and Use of Radio Frequencies above Thirty Megacycles Per Second (hereinafter called "the 1962 Radio Frequencies Agreement"), which was amended by Exchanges of Notes dated June 16 and 24, 1965, and February 26 and April 7, 1982.² (This latter amendment concerned the 406.1–430 MHz band.)

The 1982 amendment of the 1952 TV Agreement reallocated the use of the band 806 to 890 MHz from television broadcasting to mobile radio services, and provided that the use of this band would be governed by an Arrangement between the Department of Communications of Canada and the Federal Communications Commission of the United States of America (hereinafter "the Arrangement"). The Arrangement was attached as Annex I to the 1982 TV amendment. Furthermore, the 1982 TV amendment provided that at an appropriate time in the future the Arrangement would be annexed to the 1962 Radio Frequencies Agreement as amended.

The Honourable Warren M. Christopher Secretary of State Department of State Washington, D.C.

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¹TIAS 2594, 10645; 3 UST 4443.

²TIAS 5205, 5833, 10646; 13 UST 2418; 16 UST 923.

Since the 1982 amendment of the 1952 TV Agreement, discussions have taken place between the Department of Communications of Canada and the Federal Communications Commission of the United States of America. These discussions have concluded that paragraphs 5 and 6, as well as Annex B of the Arrangement, should be amended. These proposed amendments are embodied in the attached revised Arrangement.

Accordingly, I have the honour to request the concurrence of the Department of State to the attached revised Arrangement and propose that it be annexed to the 1962 Radio Frequency Agreement as Arrangement F and that the Index to the Technical Annex of the 1962 Radio Frequencies Agreement be modified by adding, after line 35, a new item which would read as follows:

		Authorized	Co-ordination	Co-ordination
	Frequency	Agencies	or Channels	Arrangements
Item	Bands Mc/s	<i>U.S</i> .	Canada	Remarks
35 bis	806890	FCC	DOC	Arrangement F

Furthermore, I have the honour to propose that the fourth, fifth and seventh paragraphs of the 1982 Exchange of Notes amending the 1952 TV Agreement, which are reproduced below, no longer have operative effect:

"[4]Recognizing that five Canadian television stations currently provide service in Southern Ontario and British Columbia in the band 806 to 890 MHz and that these stations utilize, in accordance with the 1952 Canadian/ USA Television Agreement of 1952, channel 78, (854–860 MHz) in Windsor, channel 76, (842–848 MHz) in Kitchener, channel 79, (860–866 MHz) in Toronto, channel 72, (818–824 MHz) in Enderby and channel 77, (848–854 MHz) in Radium/Hot Springs, the United States agrees to protect reception of these stations in Canada from interference from other radio services operating in the band 806–890 MHz. Canada agrees to reassign as expeditiously as possible the three television stations located in Ontario. The two stations in British Columbia will be reassigned when their continued operation would impair the provision of mobile radio service along the border."

"[5]Prior to reassignment, each of the broadcast stations is to be protected as follows: the field strength of an interfering mobile radio signal at the station's calculated B contour (where the protected contour crosses the border, that portion of the border lying within the contour shall be treated as the relevant segment of the B contour) is not to exceed 14 dBu for frequencies co-channel with that of the television channel utilized and is not to exceed 54 dBu in the two adjacent 6 MHz guard bands. The field strength of any interfering signals is to be calculated using the R6602 F(50,10) propagation curves at a receiving effective antenna height of 9.1 metres."

"[7] Representatives of the United States and Canada will, at the request of the Canadian administration, negotiate amendments to the annexed arrangement in order to permit the introduction of mobile satellite operations in the band 806 to 890MHz."

If the proposals outlined above are acceptable to the Government of the United States of America, I have the honour to propose that this Note, including the attachment hereto, which is authentic in English and French, and your reply to that effect, shall constitute an Agreement between our two governments, which shall enter into force on the date of your reply.

Accept, Mr. Secretary, the renewed assurances of my highest consideration.

John¹de Chastelain Ambassador Arrangement Between the Department of Communications of Canada and the Federal Communications Commission of the United States Concerning the use of the Band 806 to 890 MHz along the Canada -United States Border

1. Scope

This arrangement between the Department of Communications of Canada (DOC) and the Federal Communications Commission of the United States (FCC), herein referred to as the Agencies, covers the establishment and operation of land mobile radio services operating in the band 806 to 890 MHz along the Canada - United States border.

Aeronautical and maritime mobile services in this band are not covered by this arrangement but will be the subject of future discussion at the request of either Agency prior to their introduction, in accordance with the principle outlined in paragraph 2.

2. General Sharing Principle

The frequency band covered by this arrangement and each of the sub-bands are to be shared on an equal basis along the border, except as otherwise specified.

- 3. Sharing Arrangements in the 806–821 MHz and 851–866 MHz Bands
- 3.1 The United States has the unrestricted geographic use of the frequency bands 806.0000 to 809.75000 MHz, 817.2500 to 821.0000 MHz, 851.0000 to 854.7500 MHz and 862.2500 to 866.0000 MHz in the Sharing Zones within the United States except as specified in paragraph 4.

Canada has the unrestricted geographic use of the frequency bands 809.7500 to 817.2500 MHz and 854.7500 to 862.2500 MHz in the Sharing Zones within Canada except as specified in paragraph 4.

- 3.2 There are three Sharing Zones:
 - a) 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. Within this zone, the Agencies may use their allotted portions of spectrum subject to the Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limits of Annex A, Table A1.

b) 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. Within this zone, the Agencies may use their allotted portions of spectrum subject to the Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limits of Annex A, Table A2.

c) 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. Within this zone, the Agencies may use their alloted portions of spectrum subject to the Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limits of Annex A, Table A1.

3.3 Protection Zone:

The Protection Zones are the areas adjacent to Sharing Zones I and III and extending from 100 to 140 km away from the United States-Canada border within both countries. There is no Protection Zone associated with Sharing Zone II.

3.4 Each Agency has full use of the 806-821 MHz and 851-866 MHz bands within the Protection Zone in their respective country subject to the condition that base stations not exceed the maximum Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limits given in Annex A, Table A1.

Note: see Figure 1

3.5 Two Frequency Channelling Arrangements

Everywhere within the Sharing and Protection Zones, the Agencies will use the spectrum on the basis of a two frequency channelling plan with mobile station transmitters in the 806-821 MHz band and base station transmitters in the 851-866 MHz band.

3.6 Use of the 806-821 MHz and 851-866 MHz Bands Outside of the Sharing and Protection Zones.

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

4. Special Sharing Arrangements

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

4.1

a) 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 by 81°W longitude.

In this Sector, the United States has the unrestricted geographic use of the bands 806.0000 to 811.2500 MHz, 815.7500 to 821.0000 MHz, 851.0000 to 856.2500 MHz and 860.7500 to 866.0000 MHz and Canada has the unrestricted geographic use of the bands 811.2500 to 815.7500 MHz and 856.2500 to 860.7500 MHz.

b) Sector 2:

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

In this Sector, the United States has the unrestricted geographic use of the bands 806.0000 to 808.2500 MHz, 818.7500 to 821.0000 MHz, 851.0000 to 853.2500 MHz and 863.7500 to 866.0000 MHz and Canada has the unrestricted geographic use of the bands 808.2500 to 818.7500 MHz and 853.2500 to 863.7500 MHz.

Note : see Figure 2

4.2

Coordination Necessitated by the Special Sharing Arrangements

Where, as a result of these special sharing arrangements, portions of the allotted bands of both countries overlap, proposed frequency assignments in the overlapping portions will be coordinated between the two Agencies in accordance with the procedures specified in Arrangement A annexed to the Agreement concerning the Coordination and Use of Radio Frequencies Above Thirty Megacycles per Second as amended 24 June 1965.

4.2.1

Coordination is required for assignments in the 808.2500 to 811.2500 MHz, 815.7500 to 818.7500 MHz, 853.2500 to 856.2500 MHz and 860.7500 to 863.7500 MHz bands in the following overlap areas:

> 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 the intersection of 81°W longitude and the southern shore of Lake Erie and drawn clockwise from the northerly inter

section with 81°W longitude to intersect the United States-Canada border, 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 the intersection of 81°W longitude and the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 81°W longitude to intersect the United States-Canada border, and the United States-Canada border.

The Agencies will channel and use the overlapping bands for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart. The FCC will assign frequencies from 808.2625 to 811.2375 MHz, 815.7625 to 818.7375 MHz, 853.2625 to 856.2375 MHz and 860.7625 to 863.7375 MHz inclusive. The DOC will assign frequencies from 808.2750 to 811.2250 MHz, 815.7750 to 818.7250 MHz, 853.2750 to 856.2250 MHz and 860.7750 to 863.7250 MHz inclusive.

- 4.2.2 Coordination is required for assignments in the 808.2500 to 809.7500 MHz, 817.2500 to 818.7500 MHz, 853.2500 to 854.7500 MHz and 862.2500 to 863.7500 MHz bands in the following area:
 - 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 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.

The Agencies will channel and use the bands for assignments with 16 kHz or less necessary bandwidth on center frequencies spaced 25 kHz apart. The FCC will assign frequencies from 808.2625 to 809.7375

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MHz, 817.2625 to 818.7375 MHz, 853.2625 to 854.7375 MHz and 862.2625 to 863.7375 MHz inclusive.

The DOC will assign frequencies from 808.2750 to 809.7250 MHz, 817.2750 to 818.7250 MHz, 853.2750 to 854.7250 MHz and 862.2750 to 863.7250 MHz inclusive.

Note: see Figure 3

5. Use of the 821-851 MHz and 866-890 MHz Bands

Canada and the United States reserve specification of sharing methodology in these bands for future discussion which may be held at the request of either Agency.

In the case of evolvement of cellular systems in either country, reliable service area of cells (defined for the purpose of this arrangement to be the 35 dBu V/ m at the cell perimeter) will not extend across the border. In any case where the interference contour of a cell (defined as 3 times the radius of the cell) would fall across the border, the responsible Agency will coordinate such cases with the other Agency prior to authorization.

The coordination procedure will be in accordance with the principle of equal access to the spectrum. The definition of reliable service area may be revised by mutual consent.

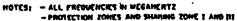
6. Protection of Television Reception

In order to provide protection to the reception in Canada of certain television stations from TV image frequency related interference, the FCC agrees to limit the use of land mobile base stations in the frequency bands and geographical areas listed in Annex B on the following basis:

Protection to Canadian television assignments and allotments is based on the field strength of an interfering mobile radio signal at the TV station's calculated Grade B contour (64 dBu) not exceeding the TV field strength by more than 20 dB.* The field strength of the TV assignment or allotment is calculated using the R6602 [F(50,50)] propagation curves and any land mobile base station interfering signal is calculated using the R6602 [F(50,10)] propagation curves at a receiving effective antenna height of 9.1 meters. Where the calculated field strength of the TV assignment or allotment exceeds the Grade B contour value of 64 dBu at the CAN - USA border, the actual calculated TV field strength is used for protection purposes at the border.

* This value is based on measurements of a limited number of receivers and includes antenna discrimination. It should therefore be used for this application only.

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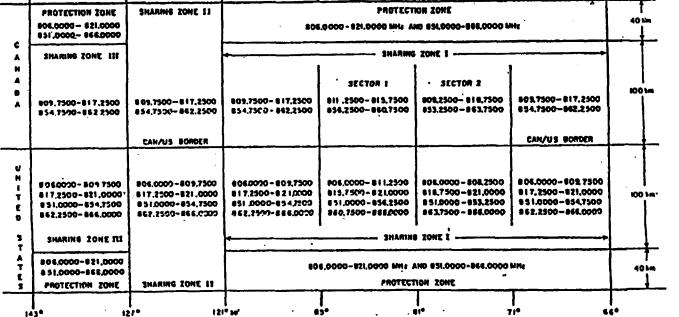


SUBJECT TO ANNEX A TABLE AI REQUIREMENTS

TABLE AS REQUIREMENTS.

- SHAMING ZONE IL SUBJECT TO ANNEX A.

121" 30" . 83*



CANADA/UNITED STATES SHARING ARRANGEMENT: 806-821 MHz AND 851-866 MHz BANDS

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Figure I

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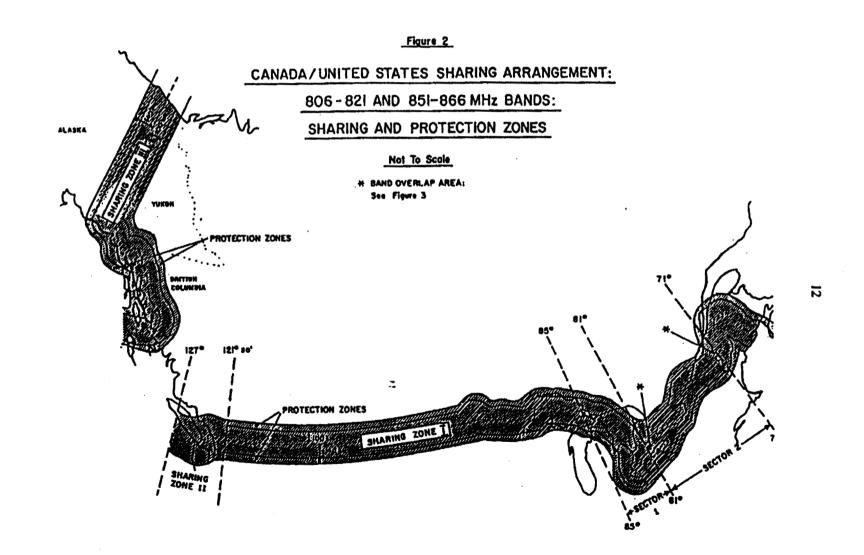
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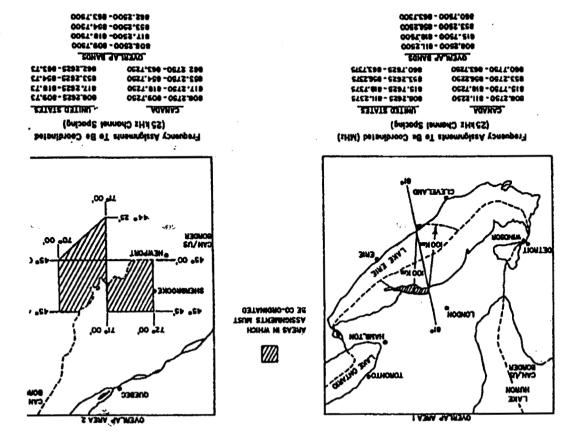
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BAND OVER AP COORDINATION SQNA8 THM 338-128 QNA THM 158-308 CANADA / UNITED STATES SHARING ARRANGEMENT:

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ANNEX A

Limits of Effective Radiated Power and Antenna Height

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.

For base stations in the Protection Zones and Sharing Zones I and III, Table A1 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 A3 from the antenna height above mean sea level.

Effective Antenna Height (EAH)		ERP	
Metres	Feet	Watts (Maximum)	
0-152	0-500	500	
153305	501-1000	125	
306-457	1001-1500	40	
458-609	1501-2000	20	
610-762	2001-2500	10	
763-914	2501-3000	10	
915-1066	3001-3500	6 1	
1067-1219	3501-4000	5	
Above 1219	Above 4000	S	

 Table A1:
 Limits of Effective Radiated Power (ERP) Corresponding to

 Effective Antenna Heights of Base Stations in the Protection

 Zones and Sharing Zones I and III.

For base stations in the Sharing Zone II, Table A2 lists the limits of Effective Radiated Power (ERP) corresponding to the antenna height above mean sea level ranges shown.

Antenna Height Above Mean Sea Level		ERP	
Metres	Feet	Watts (Maximum)	
0-503	01650	500	
504-609	1651-2000	350	
610-762	2001-2500	200	
763-914	2501-3000	140	
9151066	3001-3500	100	
1067-1219	3501-4000	75	
1220-1371	4001-4500	70	
1372-1523	4501-5000	65	
Above 1523	Above 5000	5	

Table A2:

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

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Table A3 lists the values of Assumed Average Terrain Elevations (A.A.T.E.) within the Sharing and Protection Zones on both sides of the United States-Canada border.

16

T	1 - 1 - 1 - (0)	Assumed	Assumed Average Terrain Elevations			
Longitude(\$)	Latinde(8) (°North)	United S	United States		Canada	
("West)		fcet	metres	feet	metres	
65≤¢<69	θ<45	0	0	0	0	
65≤¢<69	45≤9<46	300	91	300	91	
65≤ ∳ < 69	0≤46	1000	305	1000	305	
69≤∳<73	all	2000	609	1000	305	
73≤∳<74	all	500	152	500	152	
74≤∳<78	all	250	76	250	76	
78≤∳<80	0 <43	250	76	250	76	
78≤¢<80	0 ≥43	500	152	500	152	
80≤♦<90	all	600	183	600	183	
90≤¢<98	all	1000	305	1000	305	
98≤¢<102	الله	1500	457	1500	457	
102≤ ¢ <108	الع	2500	762	2500	762	
108≲∳<111	all a	3500	1066	3500	1066	
111≤¢<113	ali	4000	1219	3500	1066	
113≤♦<114	all	5000	1524	4000	1219	
114≤¢<121.5	all	3000	914 **	3000	914	
121.5≤¢<127	ali	0	0	0	0	
Ť	54≲9<56	0	0	0	0	
1	56≤0<58	500	152	1500	457	
¢ ≥127	58≤0<60	0	0	2000	609	
(Alaska - British	60≤0<62	4000	1219	2500	762	
Columbia/Yukon	62≤0<64	1600	488	1600	488	
Territory Border)	64 ≤ 0 < 66 66 ≤ 0 < 68	1000 750	305	2000	609 228	
	68≤8<69.5	1500	457	500	152	
Ļ	0≥69.5	Ō	0	0	0	

E.A.H. = Antenna Height Above Mean Sea Level - A.A.T.E.

Table A3: Values of Assumed Average Terrain Elevation within the Sharing and Protection Zones on Both Sides of the United States-Canada Border.

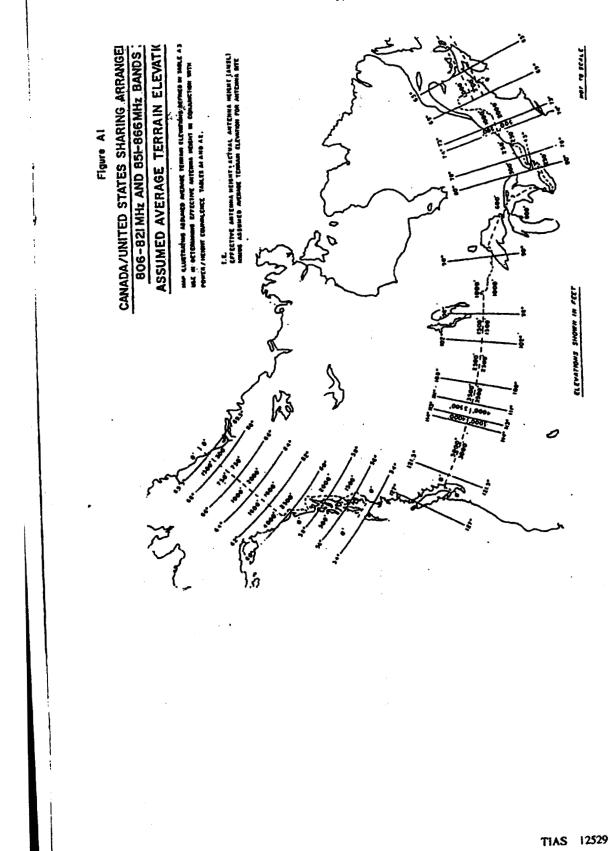


Table A3 lists the values of Assumed Average Terrain Elevations (A.A.T.E.) within the Sharing and Protection Zones on both sides of the United States-Canada border.

E.A.H. = Antenna Height Above Mean Sea Level - A.A.T.E.

Y	Latitude(0) ("North)	Assumed	Assumed Average Terrain Elevations			
Longitude(\$)		United S	United States		Canada	
(°₩est)		feet	metres	feet	metres	
65≤¢<69	0 <45	0	0	0	0	
65≤¢<69	45≤9<46	300	91	300	91	
65≤♦<69	9≤46	1000	305	1000	305	
69≤♦<73	a 11	2000	609	1000	305	
73≤∳<74	<u>all</u>	500	152	500	152	
74≤♦<78	all	250	76	250	76	
78≤ ∳ <80	0 <43	250	76	250	76	
78 ≤ ∳<80	9≥43	500	152	500	152	
80≲♦<90	لله	600	183	600	183	
90≤∳<98	للم	1000	305	1000	305	
98≤♦<102	a11	1500	457	1500	457	
102≤♦<108	الد	2500	762	2500	762	
108≤♦ < 111	all	3500	1066	3500	1066	
111≤∳<113	a11	4000	1219	3500	1066	
113≤♦<114	لله	5000	1524	4000	1219	
114≤ ¢ <121.5	لله	3000	914	3000	914	
121.5≤♦<127	علا	0	0	0	0	
∳≥127	54≤0<56 56≤0<58 58≤0<60	0 500 0	0 152 0	0 1500 2000	0 457 609	
(Alaska - British	60≤0<62	4000	1219	2500	762	
Columbia/Yukon	62≤0<64	1600	488	1600	488	
Territory Border)	64≤0<66 66≤0<68 68≤0<69.5 0≥69.5	1000 750 1500 0	305 228 457 0	2000 750 500 0	609 228 152 0	

Table A3:Values of Assumed Average Terrain Elevation within the
Sharing and Protection Zones on Both Sides of the United
States-Canada Border.

ANNEX B

The FCC will limit the use of the land mobile base stations in the frequency bands and in the geographical areas described below based on the provisions specified in Article 6:

Frequency Bands Areas

852-853.25 MHz (Cornwall - 63) Area bounded by a line joining,

clockwise, the following coordinates: starting at point 45°00'00" N. Lat., 74°38'00" W. Long., moving east along the Canada/USA border to point 44°59'30" N.Lat., 74°05'00" W. Long., moving south west to point 44°56'30" N. Lat., 74°08'00" W. Long. moving west to point 45°00'00" N. Lat., 74°38'00" W. Long. The second area is bounded by a line joining, clock-

wise the following coordinates:

44°50'30" N. Lat., 75°17'30" W. Long., moving east along the Canada/USA border to point 44°55'30" N. Lat., 75°05'00" W. Long., moving south to point 44°55'00" N. Lat., 75°05'00" W. Long., moving south west to point 44°53'00" N. Lat., 75°06'30" W. Long., moving south west to point 44°48'30" N. Lat., 75°14'30" W. Long. and moving north west to point 44°50'30" N. Lat., 75°17'30" W. Long.

Frequency Bands Areas

852-854.75 MHz (Vancouver-63) Area bounded by a line joining, clockwise, the following coordinates: starting at point 49°00'00" N. Lat., 122°45'30" W. Long., moving east along the Canada/USA border to point 49°00'00" N. Lat., 122°05'00" W. Long., moving south west to point 48°57'30" N. Lat., 122°09'00" W. Long., moving west to point 48°59'00" N. Lat., 122°44'30" W. Long. and moving north to point 49°00'00" N. Lat., 122°45'30" W. Long.