

CONFIRMATION OF ACCEPTANCE

The attached document is the interim sharing arrangement between the Federal Communications Commission and the Department of Industry (Industry Canada) concerning broadband wireless systems in the 24.25-24.45 GHz, 25.05-25.25 GHz and 38.6-40.0 GHz frequency bands. The Federal Communications Commission and Industry Canada intend to implement the attached arrangement, to the extent permissible under their respective domestic laws, pending the amendment of the *Agreement Concerning the Coordination and Use of Radio Frequencies Above Thirty Megacycles per Second, with Annex*,¹ to incorporate the arrangement's terms.

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Date: 08 Dec 99

Date: 21/12/99

¹ Exchange of Notes at Ottawa, Canada, October 24, 1962. Entered into force October 24, 1962. See USA: *Treaties and Other International Acts Series* (TIAS) 5205; CAN: *Canada Treaty Series* (CTS) 1962 No. 15. *Agreement revision Technical Annex to the Agreement of October 24, 1962* (TIAS 5205/CTS 1962 No. 15) Effected by Exchange of Notes at Ottawa, Canada, June 16 and 24, 1965. Entered into force June 24, 1965. USA: TIAS 5833/CAN: CTS 1962 No. 15, as amended June 24, 1965.

**Interim Arrangement Concerning the Sharing
between
Canada and the United States of America on
Broadband Wireless Systems
in the Frequency Bands
24.25 – 24.45 GHz, 25.05 – 25.25 GHz,
and 38.6 – 40.0 GHz**

1. Scope

- 1.1 This interim arrangement (Arrangement) between the Federal Communications Commission of the United States of America (U.S.) and the Department of Industry of Canada, herein referred to as the Administrations, concerns the sharing between Canadian and U.S. broadband wireless systems in the 24.25-24.45 GHz, 25.05-25.25 GHz, and 38.6-40.0 GHz bands.¹
- 1.2 This Arrangement is subject to review at any time at the request of either Administration.

2. Use of the Bands

- 2.1 The 24.25–24.45 GHz and 25.05–25.25 GHz (collectively, 24 GHz) bands are designated for point-to-multipoint digital communication systems in the U.S. and for broadband wireless applications, including point-to-point and point-to-multipoint systems, in Canada. The bands are licensed by service areas as indicated in Appendix A.
- 2.2 The 38.6–40.0 GHz (38 GHz) band is designated for point-to-point, point-to-multipoint and mobile systems in the U.S, and for point-to-point and point-to-multipoint systems in Canada.² The band is licensed by service areas as indicated in Appendix B.

3. General Principles

- 3.1 Both Administrations agree that the 24 GHz and 38 GHz bands are to be shared on an equal basis along the border and, to the extent possible, both Administrations shall have full use of these frequencies or sub-bands within their respective countries.

¹ This Arrangement applies to both new facilities and facilities in existence prior to the date of this Arrangement.

² This Arrangement does not apply to mobile systems, nor to coordination with satellite systems.

- 3.2 Coordination of broadband wireless systems shall be carried out by the licensees for the respective service areas on both sides of the border, as indicated in Appendix A for the 24 GHz band and Appendix B for the 38 GHz band.
- 3.3 Licensees are expected to take full advantage of interference mitigation techniques such as antenna discrimination, polarization, frequency offset, shielding, site selection, and/or power control to facilitate the coordination of systems.
- 3.4 All results of analyses and/or licensee agreements shall be retained by the licensees and be made available to the Administrations upon request.
- 3.5 If a license is transferred, the agreement(s) developed by the former licensee (see Section 4) shall continue to apply with respect to the new licensee until a new agreement is reached.
- 3.6 The Administrations reserve the right to impose appropriate technical limitations to facilitate reasonable implementation and operation of proposed or existing systems.

4. Cross Border Coordination Process

- 4.1 Sharing Agreements - Licensees on both sides of the border are encouraged to develop sharing agreements that will facilitate reasonable and timely development of broadband wireless systems.³ These agreements should allow for the provision of service by each licensee within its licensed service area to the maximum extent possible. If there is a sharing agreement between the licensees, that agreement shall be followed rather than the coordination process set forth in Section 4.2.
- 4.2 Coordination in the Absence of a Sharing Agreement - If there is no sharing agreement between the licensees, then proposed facilities shall be coordinated on an individual basis according to the process described below.⁴

4.2.1 The following power flux density (pfd) levels shall apply:

- 4.2.1.a Power flux density A ('pfd A') has a value of -114 dBW/m² in any 1 MHz (at 24 GHz), and -125 dBW/m² in any 1 MHz (at 38 GHz).
- 4.2.1.b Power flux density B ('pfd B') has a value of -94 dBW/m² in any 1 MHz (at 24 GHz), and -105 dBW/m² in any 1 MHz (at 38 GHz).

³ A broadband wireless system can consist of one or more facilities, which may be implemented at different times. Sharing agreements can facilitate the implementation of such systems by allowing the licensees to establish how they will share in advance.

⁴ If facilities in the 24.25-24.45 GHz or 25.05-25.25 GHz bands are located more than 56 km (35 miles) from the Canada/U.S. border, then no coordination is required.

GHz).

- 4.2.1.c Power flux density is calculated at the service area boundary of the neighboring service area(s) on the other side of the border.⁵ Power flux density is calculated using accepted engineering practices, taking into account such factors as propagation loss, atmospheric loss, curvature of the Earth, and gain of the antenna in the direction of the service area boundary. The pfd level at the service area boundary shall be the maximum value for elevation points up to 500 meters above local terrain elevation. (See Appendix C for a sample calculation of power flux density at the service area boundary.)
- 4.2.2 If calculations demonstrate that facilities would generate a power flux density less than or equal to pfd A at the applicable service area boundary(ies), then no coordination is required.
- 4.2.3 If calculations demonstrate that facilities would generate a power flux density greater than pfd A, but less than or equal to pfd B at the applicable service area boundary(ies), then deployment of facilities is subject to successful coordination between the affected licensees in accordance with the following coordination process:⁶
 - 4.2.3.a The licensee must notify the respective licensee(s), by registered mail, of its intention to deploy facilities and include the appropriate information necessary to conduct an interference analysis.
 - 4.2.3.b The recipient of the notification must respond within 30 days of receipt to indicate any objection to the deployment. Such objections may be based only on harmful interference to existing systems.⁷
 - 4.2.3.c If there is no objection raised, the deployment may proceed.
 - 4.2.3.d If an objection is raised, the respective licensee(s) must work in

⁵ In cases where both the U.S./Canada border and the neighboring service area lie within a body of water, the power flux density shall be calculated at the shoreline of the neighboring service area.

⁶ The pfd B level has been selected on the basis that new systems, on the other side of the border, can be implemented with certain mitigation measures to avoid potential interference. It should be noted that potential interference into existing stations is a possibility, and therefore coordination is required.

⁷ Existing systems include (1) systems that are operational prior to the date on which notification is received and (2) systems that have been successfully coordinated within the 6 months preceding that date.

collaboration to develop an agreement regarding the proposed facilities before their deployment. It is expected that the time frame to develop such an agreement should not exceed 30 days.

4.2.3.e Proposed facilities must be operational within 6 months from the conclusion of coordination, otherwise coordination must be re-initiated pursuant to Section 4.2.

4.2.4 If calculations demonstrate that facilities would generate a power flux density greater than pfd B at the applicable service area boundary(ies), then deployment of facilities is subject to the consent of the licensee(s) for that (those) service area(s) on the other side of the border.⁸

4.3 No Licensee on Other Side of the Border - If no licensee exists on the other side of the border, then licensees may operate, at their own risk, at power levels that exceed pfd B at the applicable service area boundary(ies). However, when requested by new licensees, these facilities must be modified in a timely manner to meet the pfd B level unless an agreement can be reached regarding these facilities.

4.4 In the event a satisfactory sharing agreement or a successful coordination between the licensees is not reached, then the respective Administrations shall be informed.

⁸ Any pfd value greater than pfd B may present potential interference into both existing, and/or planned systems, therefore successful coordination is required before deployment.

Appendix A
Service Areas in the 24.25 – 24.45 GHz and 25.05 – 25.25 GHz Bands

The 24.25-24.45 GHz and 25.05-25.25 GHz frequency bands⁹ are licensed by Tier 3 service areas in Canada¹⁰ and by Standard Metropolitan Statistical Areas (SMSAs) in the U.S.¹¹ The following tables show the Tier 3 service areas and SMSAs that may need to coordinate with each other. The Administrations will provide licensee names and points of contact to allow the licensees to contact the relevant licensee(s) on the other side of the border to initiate coordination in accordance with this Arrangement.¹²

Table 1A: From U.S.; Tier 3 areas that may require coordination

U.S.		Canada	
Standard Metropolitan Statistical Areas (SMSA)	County, State	Tier 3 Number	Tier 3 Name
Bellingham	Whatcom, WA	3-51	Okanagan/Columbia
Bellingham	Whatcom, WA	3-52	Vancouver
Bellingham	Whatcom, WA	3-53	Victoria
Buffalo	Erie, NY Niagara, NY	3-25	Toronto
Buffalo	Erie, NY Niagara, NY	3-29	Niagara-St. Catharines
Buffalo	Erie, NY Niagara, NY	3-30	London/Woodstock/St. Thomas
Burlington	Chittenden, VT Franklin, VT Grand Isle, VT	3-11	Eastern Townships/Cantons de l'Est

⁹ The channeling plan for these bands is shown in Appendix D.

¹⁰ The Tier 3 service areas are described in the document, Service Areas for Competitive Licensing (Industry Canada, August 1998). These service areas and Canadian licensee information are available on the World Wide Web by following the appropriate links at: <http://strategis.ic.gc.ca/spectrum>.

¹¹ SMSAs are the 323 Standard Metropolitan Statistical Areas, 1975, Office of Management and Budget, as amended June 1981. SMSAs do not cover the entire U.S. Further information on U.S. service areas and licensees may be obtained by contacting the Public Safety and Private Wireless Division of the Wireless Telecommunications Bureau, Federal Communications Commission.

¹² See *supra* notes 10-11.

Burlington	Chittenden, VT Franklin, VT Grand Isle, VT	3-12	Trois-Rivières
Burlington	Chittenden, VT Franklin, VT Grand Isle, VT	3-13	Montréal
Detroit	Lapeer, MI Livingston, MI Macomb, MI Oakland, MI St. Clair, MI Wayne, MI	3-31	Chatham
Detroit	Lapeer, MI Livingston, MI Macomb, MI Oakland, MI St. Clair, MI Wayne, MI	3-32	Windsor/Leamington
Detroit	Lapeer, MI Livingston, MI Macomb, MI Oakland, MI St. Clair, MI Wayne, MI	3-33	Strathroy
Duluth-Superior	Douglas, WI St. Louis, MN	3-38	Thunder Bay
Toledo	Fulton, OH Lucas, OH Monroe, MI Ottawa, OH Wood, OH	3-32	Windsor/Leamington

Table 1B: From Canada; SMSAs that may require coordination

Canada		U.S.	
Tier 3 Number	Tier 3 Name	Standard Metropolitan Statistical Areas (SMSA)	County, State
3-11	Eastern Townships/Cantons de l'Est	Burlington	Chittenden, VT Franklin, VT Grand Isle, VT
3-12	Trois-Rivières	Burlington	Chittenden, VT Franklin, VT Grand Isle, VT
3-13	Montréal	Burlington	Chittenden, VT Franklin, VT Grand Isle, VT
3-25	Toronto	Buffalo	Erie, NY Niagara, NY
3-29	Niagara-St. Catharines	Buffalo	Erie, NY Niagara, NY
3-30	London/Woodstock/St. Thomas	Buffalo	Erie, NY Niagara, NY
3-31	Chatham	Detroit	Lapeer, MI Livingston, MI Macomb, MI Oakland, MI St. Clair, MI Wayne, MI
3-32	Windsor/Leamington	Detroit	Lapeer, MI Livingston, MI Macomb, MI Oakland, MI St. Clair, MI Wayne, MI
3-32	Windsor/Leamington	Toledo	Fulton, OH Lucas, OH Monroe, MI Ottawa, OH Wood, OH
3-33	Strathroy	Detroit	Lapeer, MI Livingston, MI Macomb, MI Oakland, MI St. Clair, MI Wayne, MI

3-38	Thunder Bay	Duluth-Superior	Douglas, WI St. Louis, MN
3-51	Okanagan/Columbia	Bellingham	Whatcom, WA
3-52	Vancouver	Bellingham	Whatcom, WA
3-53	Victoria	Bellingham	Whatcom, WA

Appendix B
Service Areas in the 38.6 - 40.0 GHz Band

The 38.6-40.0 GHz band¹³ is licensed by Tier 3 service areas in Canada¹⁴ and by Economic Areas (EAs) in the U.S.¹⁵ The following tables show the Tier 3 service areas and EAs that may need to coordinate with each other. The Administrations will provide licensee names and points of contact to allow the licensees to contact the relevant licensee(s) on the other side of the border to initiate coordination in accordance with this Arrangement.¹⁶

Table 2A: From Canada; EAs that may require coordination.

TIER 3 NUMBER	TIER 3 NAME	EA NUMBER	EA NAME
3-05	Southern New Brunswick/Nouveau-Brunswick-Sud	1	Bangor, ME
3-06	Western New Brunswick/Nouveau-Brunswick-Ouest	1	Bangor, ME
3-07	Eastern New Brunswick/Nouveau-Brunswick-Est	1	Bangor, ME
3-08	Bas du fleuve/Gaspésie	1	Bangor, ME
3-09	Québec	1	Bangor, ME
3-11	Eastern Townships/Cantons de l'Est	1	Bangor, ME

¹³ The channeling plan for this band is shown in Appendix D.

¹⁴ The Tier 3 service areas are described in the document, Service Areas for Competitive Licensing (Industry Canada, August 1998). These service areas and Canadian licensee information are available on the World Wide Web by following the appropriate links at: <http://strategis.ic.gc.ca/spectrum>.

¹⁵ The EA service areas are based on the Economic Areas delineated by the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce. See 47 C.F.R. § 90.7. Further information on U.S. service areas and licensees may be obtained by contacting the Public Safety and Private Wireless Division of the Wireless Telecommunications Bureau, Federal Communications Commission.

¹⁶ See *supra* notes 14-15.

3-11	Eastern Townships/Cantons de l'Est	2	Portland, ME
3-11	Eastern Townships/Cantons de l'Est	3	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT
3-11	Eastern Townships/Cantons de l'Est	4	Burlington, VT-NY
3-12	Trois-Rivières	4	Burlington, VT-NY
3-13	Montréal	6	Syracuse, NY-PA
3-13	Montréal	4	Burlington, VT-NY
3-15	Ottawa	4	Burlington, VT-NY
3-15	Ottawa	6	Syracuse, NY-PA
3-18	Cornwall	4	Burlington, VT-NY
3-18	Cornwall	6	Syracuse, NY-PA
3-19	Brockville	4	Burlington, VT-NY
3-19	Brockville	6	Syracuse, NY-PA
3-20	Kingston	6	Syracuse, NY-PA
3-21	Belleville	6	Syracuse, NY-PA
3-25	Toronto	8	Buffalo-Niagara Falls, NY-PA
3-29	Niagara-St. Catharines	7	Rochester, NY-PA
3-29	Niagara-St. Catharines	8	Buffalo-Niagara Falls, NY-PA
3-30	London/Woodstock/St. Thomas	8	Buffalo-Niagara Falls, NY-PA
3-30	London/Woodstock/St. Thomas	54	Erie, PA
3-31	Chatham	57	Detroit-Ann Arbor-Flint, MI
3-32	Windsor/Leamington	56	Toledo, OH
3-32	Windsor/Leamington	55	Cleveland-Akron, OH-PA
3-32	Windsor/Leamington	57	Detroit-Ann Arbor-Flint, MI
3-33	Strathroy	57	Detroit-Ann Arbor-Flint, MI

3-35	Sault Ste. Marie	58	Northern Michigan, MI
3-38	Thunder Bay	110	Grand Forks, ND-MN
3-38	Thunder Bay	109	Duluth-Superior, MN-WI
3-38	Thunder Bay	59	Green Bay, WI-MI
3-39	Winnipeg	110	Grand Forks, ND-MN
3-40	Brandon	110	Grand Forks, ND-MN
3-40	Brandon	111	Minot, ND
3-41	Regina	144	Billings, MT-WY
3-41	Regina	111	Minot, ND
3-42	Moose Jaw	144	Billings, MT-WY
3-42	Moose Jaw	145	Great Falls, MT
3-45	Medicine Hat/Brooks	145	Great Falls, MT
3-46	Lethbridge	146	Missoula, MT
3-46	Lethbridge	145	Great Falls, MT
3-50	Kootenays	146	Missoula, MT
3-50	Kootenays	147	Spokane, WA-ID
3-50	Kootenays	145	Great Falls, MT
3-51	Okanagan/Columbia	147	Spokane, WA-ID
3-51	Okanagan/Columbia	169	Richland-Kennewick-Pasco, WA
3-51	Okanagan/Columbia	170	Seattle-Tacoma-Bremerton, WA
3-52	Vancouver	169	Richland-Kennewick-Pasco, WA
3-52	Vancouver	170	Seattle-Tacoma-Bremerton, WA
3-53	Victoria	170	Seattle-Tacoma-Bremerton, WA
3-54	Nanaimo	170	Seattle-Tacoma-Bremerton, WA

3-57	Prince George	171	Anchorage, AK
3-59	Yukon, Northwest Territories & Nunavut/Yukon, Territoires du Nord-Ouest & Nunavut	171	Anchorage, AK

Table 2B: From U.S.; Tier 3 areas that may require coordination.

EA NUMBER	EA NAME	TIER 3 NUMBER	TIER 3 NAME
1	Bangor, ME	3-09	Québec
1	Bangor, ME	3-05	Southern New Brunswick/Nouveau-Brunswick-Sud
1	Bangor, ME	3-11	Eastern Townships/Cantons de l'Est
1	Bangor, ME	3-06	Western New Brunswick/Nouveau-Brunswick-Ouest
1	Bangor, ME	3-07	Eastern New Brunswick/Nouveau-Brunswick-Est
1	Bangor, ME	3-08	Bas du fleuve/Gaspésie
2	Portland, ME	3-11	Eastern Townships/Cantons de l'Est
3	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH-RI-VT	3-11	Eastern Townships/Cantons de l'Est
4	Burlington, VT-NY	3-12	Trois-Rivières
4	Burlington, VT-NY	3-15	Ottawa
4	Burlington, VT-NY	3-18	Cornwall
4	Burlington, VT-NY	3-19	Brockville
4	Burlington, VT-NY	3-11	Eastern Townships/Cantons de l'Est
4	Burlington, VT-NY	3-13	Montréal
6	Syracuse, NY-PA	3-20	Kingston
6	Syracuse, NY-PA	3-21	Belleville
6	Syracuse, NY-PA	3-15	Ottawa
6	Syracuse, NY-PA	3-18	Cornwall

6	Syracuse, NY-PA	3-19	Brockville
6	Syracuse, NY-PA	3-13	Montréal
7	Rochester, NY-PA	3-29	Niagara-St. Catharines
8	Buffalo-Niagara Falls, NY-PA	3-30	London/Woodstock/St. Thomas
8	Buffalo-Niagara Falls, NY-PA	3-25	Toronto
8	Buffalo-Niagara Falls, NY-PA	3-29	Niagara-St. Catharines
54	Erie, PA	3-30	London/Woodstock/St. Thomas
55	Cleveland-Akron, OH-PA	3-32	Windsor/Leamington
56	Toledo, OH	3-32	Windsor/Leamington
57	Detroit-Ann Arbor-Flint, MI	3-31	Chatham
57	Detroit-Ann Arbor-Flint, MI	3-32	Windsor/Leamington
57	Detroit-Ann Arbor-Flint, MI	3-33	Strathroy
58	Northern Michigan, MI	3-35	Sault Ste. Marie
59	Green Bay, WI-MI	3-38	Thunder Bay
109	Duluth-Superior, MN-WI	3-38	Thunder Bay
110	Grand Forks, ND-MN	3-40	Brandon
110	Grand Forks, ND-MN	3-39	Winnipeg
110	Grand Forks, ND-MN	3-38	Thunder Bay
111	Minot, ND	3-40	Brandon
111	Minot, ND	3-41	Regina
144	Billings, MT-WY	3-41	Regina
144	Billings, MT-WY	3-42	Moose Jaw
145	Great Falls, MT	3-42	Moose Jaw
145	Great Falls, MT	3-45	Medicine Hat/Brooks
145	Great Falls, MT	3-46	Lethbridge

145	Great Falls, MT	3-50	Kootenays
146	Missoula, MT	3-46	Lethbridge
146	Missoula, MT	3-50	Kootenays
147	Spokane, WA-ID	3-51	Okanagan/Columbia
147	Spokane, WA-ID	3-50	Kootenays
169	Richland-Kennewick-Pasco, WA	3-51	Okanagan/Columbia
169	Richland-Kennewick-Pasco, WA	3-52	Vancouver
170	Seattle-Tacoma-Bremerton, WA	3-51	Okanagan/Columbia
170	Seattle-Tacoma-Bremerton, WA	3-52	Vancouver
170	Seattle-Tacoma-Bremerton, WA	3-53	Victoria
170	Seattle-Tacoma-Bremerton, WA	3-54	Nanaimo
171	Anchorage, AK	3-57	Prince George
171	Anchorage, AK	3-59	Yukon, Northwest Territories & Nunavut/Yukon, Territoires du Nord-Ouest & Nunavut

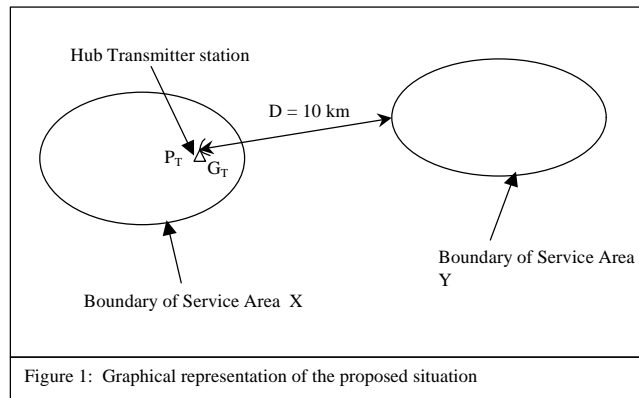
Appendix C

Sample Calculation

The following example is provided to illustrate how the pfd level at the service area boundary can be determined¹⁷:

Proposed station parameters:

Parameter	Symbol	Value
Hub transmitter power into the antenna	P_T	0 dBW
Channel bandwidth	B	50 MHz
Transmitter antenna height above ground	H_T	100 metre
Transmitter antenna gain (Maximum gain towards the service area boundary at any elevation point 0-500 m above average terrain)	G_T	16 dBi
Centre frequency of channel	F	38750 MHz
Distance from hub transmitter to the boundary of service area Y	D	10km



¹⁷ It should be noted that the example calculation assumes line of sight conditions due to the short path length and the height of the transmitting antenna. In other cases, where the distance is larger and/or the transmitting antenna height is small, line-of-sight conditions may not exist. In these cases, an appropriate propagation model that takes the non-line-of-sight situation into account should be used.

The spectral power density in dBW/MHz ($P_{\text{at the boundary of Service Area Y}}$) at the boundary of service area Y may be calculated using free space propagation, and taking into account such factor as atmospheric losses as follows:

$$\begin{aligned}
 P_{\text{at the boundary of Service Area Y}} &= P_T' + G_T - 20 \log F_{\text{MHz}} - 20 \log D_{\text{km}} - 32.4 - L_a \\
 &= (-17 + 16 - 20 \log (38750) - 20 \log (10) - 32.4 - 0.1 \times 10) \text{ dBW/MHz} \\
 &= (-17 + 16 - 91.8 - 20 - 32.4 - 1) \text{ dBW/MHz} \\
 &= -146.2 \text{ dBW/MHz}
 \end{aligned}$$

where:

$$\begin{aligned}
 P_T' &= P_T - 10 \log B_{\text{MHz}} \\
 &= 0 - 10 \log(50) \\
 &= -17 \text{ dBW/MHz} \\
 G_T &= 16 \text{ dBi} \\
 F_{\text{MHz}} &= 38750 \\
 D_{\text{km}} &= 10 \\
 L_a &= \text{atmospheric losses} \\
 &= 0.1 \text{ dB/km}
 \end{aligned}$$

Then, the power flux density in dBW/m² in 1 MHz (pfd) may be calculated as follows:

$$\begin{aligned}
 \text{pfd} &= P_{\text{at the boundary of Service Area Y}} - 10 \log A_r \\
 &= (-146.2 - 10 \log (4.770 \times 10^{-6})) \text{ dBW/m}^2 \text{ in 1 MHz} \\
 &= (-146.2 - (-53.2)) \text{ dBW/m}^2 \text{ in 1 MHz} \\
 &= -93 \text{ dBW/m}^2 \text{ in 1 MHz}
 \end{aligned}$$

where:

$$\begin{aligned}
 A_r &= \frac{\lambda^2}{4\pi} \\
 &= \frac{c^2}{4\pi F_{\text{Hz}}^2} \\
 &= \frac{(3 \times 10^8)^2}{4\pi \times (38.75 \times 10^9)^2} \\
 &= 4.770 \times 10^{-6} \text{ m}^2
 \end{aligned}$$

Appendix D
Channeling Plans

Table 1 – 24 GHz Frequency Block Pairs		
Paired Block	Lower Frequency Block (MHz)	Upper Frequency Block (MHz)
A/A'	24250 – 24290	25050 – 25090
B/B'	24290 – 24330	25090 – 25130
C/C'	24330 – 24370	25130 – 25170
D/D'	24370 – 24410	25170 – 25210
E/E'	24410 – 24450	25210 – 25250

Table 2 – Paired Spectrum Blocks in the Frequency Band 38.6-40.0 GHz		
Paired Block	Lower Frequency Block (MHz)	Upper Frequency Block (MHz)
A/A'	38600 – 38650	39300 – 39350
B/B'	38650 – 38700	39350 – 39400
C/C'	38700 – 38750	39400 – 39450
D/D'	38750 – 38800	39450 – 39500
E/E'	38800 – 38850	39500 – 39550
F/F'	38850 – 38900	39550 – 39600
G/G'	38900 – 38950	39600 – 39650
H/H'	38950 – 39000	39650 – 39700
I/I'	39000 – 39050	39700 – 39750

J/J'	39050 – 39100	39750 – 39800
K/K'	39100 – 39150	39800 – 39850
L/L'	39150 – 39200	39850 – 39900
M/M'	39200 – 39250	39900 – 39950
N/N'	39250 – 39300	39950 – 40000