Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: A1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Kotzebue, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

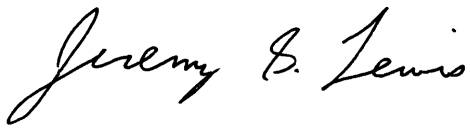
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
TECK ALASKA INCORPORATED/TECK AMERICA INCORPORATED
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: A1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kotzebue, AK	
Call Sign:			
Latitude	(NAD83)	66 51 29.6 N	
Longitude	(NAD83)	162 36 50.4 W	
Elevation AMSL	(ft/m)	108.00	32.92
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6108.1/6301.19-6360.14	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	129.02	130.01
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	6.43	6.74

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	3.10	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-18.76
Max EIRP Main Beam	(dbW/4KHz)		23.24
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	169.56	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: L1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Kotzebue, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

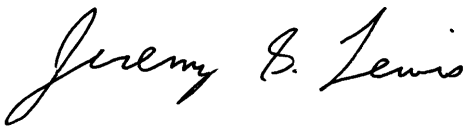
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: L1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kotzebue, AK	
Call Sign:			
Latitude	(NAD83)	66 51 29.6 N	
Longitude	(NAD83)	162 36 50.4 W	
Elevation AMSL	(ft/m)	108.00	32.92
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	129.02	130.00
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	6.43	6.74

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90
Antennas	Receive: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive	
Max Greater Circle Distances	(km)	494.09	
Max Rain Scatter Distances	(km)	407.56	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-149.90	
Rain Zone / Radio Zone		3	A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Kotzebue State: AK
Latitude: 66 51 29.6 Longitude: 162 36 50.4 (NAD83)
08-06-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
==========

Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 10.6103 W/m**2

= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: B1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Notak, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

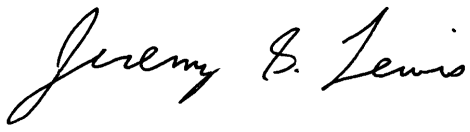
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
TECK ALASKA INCORPORATED/TECK AMERICA INCORPORATED
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: B1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Notak, AK	
Call Sign:			
Latitude	(NAD83)	67 34 17.0 N	
Longitude	(NAD83)	162 58 14.5 W	
Elevation AMSL	(ft/m)	89.00	27.13
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	128.81	129.80
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	5.87	6.17

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	3.10	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-18.76
Max EIRP Main Beam	(dbW/4KHz)		23.24
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	186.09	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: M1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Notak, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,

Jeremy B. Lewis

Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: M1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Notak, AK	
Call Sign:			
Latitude	(NAD83)	67 34 17.0 N	
Longitude	(NAD83)	162 58 14.5 W	
Elevation AMSL	(ft/m)	89.00	27.13
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	128.81	129.80
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	5.87	6.17

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90
Antennas	Receive: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive
Max Greater Circle Distances	(km)	502.42
Max Rain Scatter Distances	(km)	413.59
Max Interference Power Long Term	(dbW)	-158.60
Max Interference Power Short Term	(dbW)	-149.90
Rain Zone / Radio Zone		3 A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Notak State: AK
Latitude: 67 34 17.0 Longitude: 162 58 14.5 (NAD83)
08-06-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
==========

Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 10.6103 W/m**2

= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: E1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Ambler, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

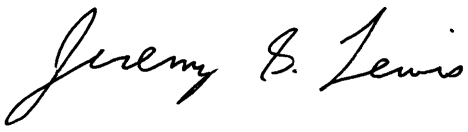
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: E1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Ambler, AK	
Call Sign:			
Latitude	(NAD83)	67 5 11.5 N	
Longitude	(NAD83)	157 51 40.7 W	
Elevation AMSL	(ft/m)	134.00	40.84
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	133.78	134.79
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	7.70	7.99

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	3.10	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-18.76
Max EIRP Main Beam	(dbW/4KHz)		23.24
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	167.27	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: P1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Ambler, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

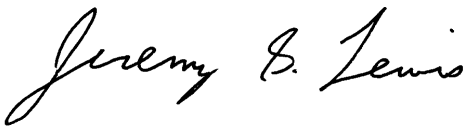
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: P1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Ambler, AK	
Call Sign:			
Latitude	(NAD83)	67 5 11.5 N	
Longitude	(NAD83)	157 51 40.7 W	
Elevation AMSL	(ft/m)	134.00	40.84
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	133.78	134.79
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	7.70	7.99

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90
Antennas	Receive: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive
Max Greater Circle Distances	(km)	487.87
Max Rain Scatter Distances	(km)	397.23
Max Interference Power Long Term	(dbW)	-158.60
Max Interference Power Short Term	(dbW)	-149.90
Rain Zone / Radio Zone		3 A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Ambler State: AK
Latitude: 67 5 11.5 Longitude: 157 51 40.6 (NAD83)
08-09-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
==========

Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 10.6103 W/m**2

= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: F1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Noorvik, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,

Jeremy B. Lewis

Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: F1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Noorvik, AK	
Call Sign:			
Latitude	(NAD83)	66 49 59.3 N	
Longitude	(NAD83)	161 2 44.8 W	
Elevation AMSL	(ft/m)	44.00	13.41
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	130.56	131.55
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	6.93	7.23

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	3.10

Antennas Transmit: GENERAL DYNAMICS 1241 (2.4M)

Max Transmitter Power	(dbW/4KHz)		-18.76
Max EIRP Main Beam	(dbW/4KHz)		23.24
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	167.27	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: R1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Noorvik, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

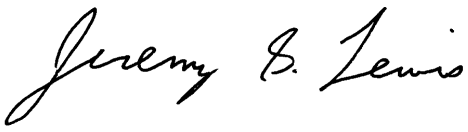
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: R1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Noorvik, AK	
Call Sign:			
Latitude	(NAD83)	66 49 59.3 N	
Longitude	(NAD83)	161 2 44.8 W	
Elevation AMSL	(ft/m)	44.00	13.41
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	130.56	131.55
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	6.93	7.23

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90
Antennas	Receive: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive	
Max Greater Circle Distances	(km)	487.87	
Max Rain Scatter Distances	(km)	403.04	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-149.90	
Rain Zone / Radio Zone		3	A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Noorvik State: AK
Latitude: 66 49 59.4 Longitude: 161 2 44.8 (NAD83)
08-09-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
==========

Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 10.6103 W/m**2

= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: G1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Kiana, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,

Jeremy B. Lewis

Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: G1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kiana, AK	
Call Sign:			
Latitude	(NAD83)	66 58 24.3 N	
Longitude	(NAD83)	160 25 49.3 W	
Elevation AMSL	(ft/m)	107.00	32.61
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	131.20	132.20
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	7.02	7.32

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	3.10
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	-18.76
Max EIRP Main Beam	(dbW/4KHz)	23.24
Modulation / Emission Designator	DIGITAL	5M60G7W

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	167.27	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: S1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Kiana, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

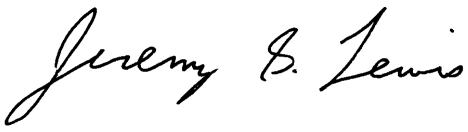
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: S1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kiana, AK	
Call Sign:			
Latitude	(NAD83)	66 58 24.3 N	
Longitude	(NAD83)	160 25 49.3 W	
Elevation AMSL	(ft/m)	107.00	32.61
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	131.20	132.20
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	7.02	7.32

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
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Antennas	Receive: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive	
Max Greater Circle Distances	(km)	487.87	
Max Rain Scatter Distances	(km)	402.28	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-149.90	
Rain Zone / Radio Zone		3	A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Kiana State: AK
Latitude: 66 58 24.3 Longitude: 160 25 49.3 (NAD83)
08-09-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
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Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

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Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

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= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: H1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Deering, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

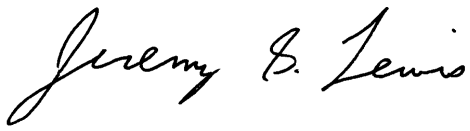
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: H1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Deering, AK	
Call Sign:			
Latitude	(NAD83)	66 4 32.7 N	
Longitude	(NAD83)	162 43 22.0 W	
Elevation AMSL	(ft/m)	12.00	3.66
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	128.74	129.73
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	6.90	7.22

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	3.10

Antennas Transmit: GENERAL DYNAMICS 1241 (2.4M)

Max Transmitter Power	(dbW/4KHz)		-18.76
Max EIRP Main Beam	(dbW/4KHz)		23.24
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	167.27	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: T1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Deering, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,

Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: T1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Deering, AK	
Call Sign:			
Latitude	(NAD83)	66 4 32.7 N	
Longitude	(NAD83)	162 43 22.0 W	
Elevation AMSL	(ft/m)	12.00	3.66
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	128.74	129.73
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	6.90	7.22

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90

Antennas Receive: GENERAL DYNAMICS 1241 (2.4M)

Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive
Max Greater Circle Distances	(km)	487.87
Max Rain Scatter Distances	(km)	403.32
Max Interference Power Long Term	(dbW)	-158.60
Max Interference Power Short Term	(dbW)	-149.90
Rain Zone / Radio Zone		3 A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Deering State: AK
Latitude: 66 4 32.7 Longitude: 162 43 22.0 (NAD83)
08-09-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
==========

Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 10.6103 W/m**2

= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: I1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Buckland, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

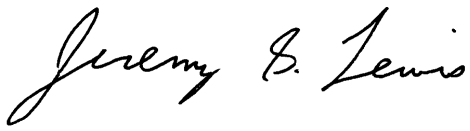
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: I1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Buckland, AK	
Call Sign:			
Latitude	(NAD83)	65 58 42.0 N	
Longitude	(NAD83)	161 7 29.5 W	
Elevation AMSL	(ft/m)	23.00	7.01
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	130.30	131.29
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	7.47	7.79

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	3.10
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	-18.76
Max EIRP Main Beam	(dbW/4KHz)	23.24
Modulation / Emission Designator	DIGITAL	5M60G7W

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	167.27	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: U1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Buckland, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

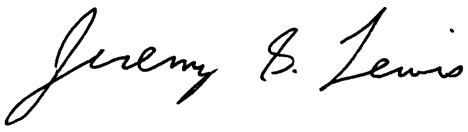
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: U1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Buckland, AK	
Call Sign:			
Latitude	(NAD83)	65 58 42.0 N	
Longitude	(NAD83)	161 7 29.5 W	
Elevation AMSL	(ft/m)	23.00	7.01
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	130.30	131.29
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	7.47	7.79

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90
Antennas	Receive: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive	
Max Greater Circle Distances	(km)	487.87	
Max Rain Scatter Distances	(km)	398.83	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-149.90	
Rain Zone / Radio Zone		3	A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Buckland State: AK
Latitude: 65 58 42.0 Longitude: 161 7 29.5 (NAD83)
08-09-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
==========

Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 10.6103 W/m**2

= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: J1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Selawik, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

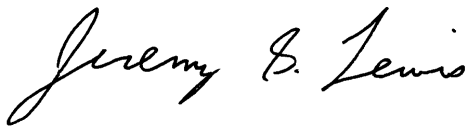
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: J1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Selawik, AK	
Call Sign:			
Latitude	(NAD83)	66 36 24.4 N	
Longitude	(NAD83)	160 0 52.7 W	
Elevation AMSL	(ft/m)	18.00	5.49
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	131.54	132.53
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	7.40	7.70

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	3.10
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	-18.76
Max EIRP Main Beam	(dbW/4KHz)	23.24
Modulation / Emission Designator	DIGITAL	5M60G7W

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	167.27	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: V1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Selawik, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,

Jeremy B. Lewis

Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: V1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Selawik, AK	
Call Sign:			
Latitude	(NAD83)	66 36 24.4 N	
Longitude	(NAD83)	160 0 52.7 W	
Elevation AMSL	(ft/m)	18.00	5.49
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	131.54	132.53
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	7.40	7.70

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90
Antennas	Receive: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive	
Max Greater Circle Distances	(km)	487.87	
Max Rain Scatter Distances	(km)	399.38	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-149.90	
Rain Zone / Radio Zone		3	A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Selawik State: AK
Latitude: 66 36 24.4 Longitude: 160 0 52.6 (NAD83)
08-09-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

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AntiLog(GES/10)

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= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

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3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

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Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

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CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

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2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: K1917809 5.93 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Kivalina, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

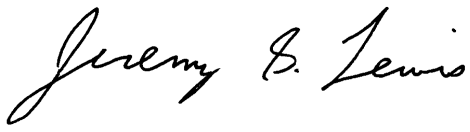
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC
TECK ALASKA INCORPORATED/TECK AMERICA INCORPORATED
UNICOM, INC.
WIRELESS APPLICATIONS CORP

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: K1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kivalina, AK	
Call Sign:			
Latitude	(NAD83)	67 43 34.9 N	
Longitude	(NAD83)	164 32 15.8 W	
Elevation AMSL	(ft/m)	15.00	4.57
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	127.30	128.28
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	5.30	5.60

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	3.10

Antennas Transmit: GENERAL DYNAMICS 1241 (2.4M)

Max Transmitter Power	(dbW/4KHz)		-18.76
Max EIRP Main Beam	(dbW/4KHz)		23.24
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	173.96	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-130.80	
Rain Zone / Radio Zone		3	A

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: W1917809 3.70 GHz
Licensee: Alaska Communications Internet, LLC

Pursuant to Parts 25.203 and 101.103(d) of the FCC Rules and Regulations, a frequency coordination study was conducted by Micronet Communications, Inc. for the following proposed earth station:

Kivalina, AK

The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

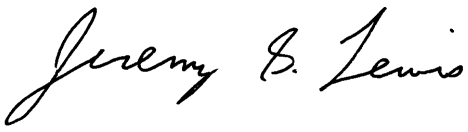
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

07/17/2019 Original PCN
There were no unresolved interference objections.

The attached coordination data was forwarded on the latest date to the following parties within coordination range or their authorized coordination agents:

COMSEARCH INC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

Micronet Communications, Inc.
812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: W1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kivalina, AK	
Call Sign:			
Latitude	(NAD83)	67 43 34.9 N	
Longitude	(NAD83)	164 32 15.8 W	
Elevation AMSL	(ft/m)	15.00	4.57
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	127.30	128.28
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	5.30	5.60

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.00
15 DB Half Beamwidth	(deg)	4.90

Antennas Receive: GENERAL DYNAMICS 1241 (2.4M)

Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive	
Max Greater Circle Distances	(km)	506.08	
Max Rain Scatter Distances	(km)	421.03	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-149.90	
Rain Zone / Radio Zone		3	A

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Kivalina State: AK
Latitude: 67 43 34.9 Longitude: 164 32 15.8 (NAD83)
08-09-2019

The Office of Science and Technology Bulletin, No. 65, October 1985 and revised August 1997, specifies that the maximum level of non-ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW/cm**2 (five milliwatts per centimeter squared) for a controlled environment. For an uncontrolled environment, the maximum level of non-ionizing radiation that a person may be exposed to over a thirty minute period is an average power density equal to 1 mW/cm**2 (one milliwatt per centimeter squared). It is the purpose of this report to determine the maximum power flux densities of the earth station in the far zone, near zone, transition zone, at the main reflector surface, and between the antenna edge and the ground.

Parameters which were used in the calculations:
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Antenna Diameter, (D) = 2.4000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 4.5239 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 20.0000 Watts

Antenna Gain at Earth Site (GES) = 42.0000 dBi = 15848.9319
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 71.2577 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.9677 W/m**2

= 0.4968 mW/cm**2

2. NEAR ZONE CALCULATIONS

Power Flux Density is considered to be at a maximum value throughout the entire length of this Zone. The Zone is contained within a cylindrical volume which has the same diameter as the antenna. Beyond the Near Zone, the Power Flux Density will decrease with distance from the Antenna.

Distance to the Near Zone (Dn) = $\frac{D^{**}2}{4*\text{lambda}}$ = 29.6907 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 10.6103 W/m**2

= 1.0610 mW/cm**2

3. TRANSITION ZONE CALCULATIONS

The Power Density begins to decrease with distance in the Transition Zone. While the Power Density decreases inversely with distance in the Transition Zone, the Power Density decreases inversely with the square of the distance in the Far Zone. Since the maximum Power Density in the Transition Zone will not exceed the Near Zone values, it is not calculated.

4. MAIN REFLECTOR ZONE

Main Reflector Power Density = $\frac{2(P)}{Sa}$ = 8.8419 W/m**2

= 0.8842 mW/cm**2

5. ZONE BETWEEN THE MAIN REFLECTOR AND THE GROUND

Applying uniform illumination of the Main Reflector Surface:

Main to Ground Power Density = $\frac{P}{Sa}$ = 4.4210 W/m**2

= 0.4421 mW/cm**2

CALCULATED SAFETY MARGINS SUMMARY
AND EVALUATION

Controlled Safety Margin = 5.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	4.5032	Complies with ANSI
2. Near Zone	3.9390	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.1158	Complies with ANSI
5. Main Reflector to Ground	4.5579	Complies with ANSI

Uncontrolled Safety Margin = 1.0 - Calculated Zone Value (mW/cm**2)

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.5032	Complies with ANSI
2. Near Zone	-0.0610	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.1158	Complies with ANSI
5. Main Reflector to Ground	0.5579	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
The NEAR ZONE does not comply with the ANSI standards!
The system will be FENCED so that no one can enter the affected Zone while the system is in use. Additionally, the system will be shut down for servicing.