Alaska Communications Internet LLC
VSAT Blanket License Modification Application

Technical Appendix

I. Frequency Coordination Reports

II. Radiation Hazard Analyses

I. Frequency Coordination Reports

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

SUPPLEMENTAL SHOWING PART 101.103(D)

File Number: D1925614 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:

KANA Larsen Bay, 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:

10/17/2019 Original PCN (Expedited response requested by 10/31/2019)
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:

AT&T MOBILITY SPECTRUM LLC
COMSEARCH INC
GCI COMMUNICATION CORP.
KODIAK MICROWAVE SYSTEM, LLC
NEW CINGULAR WIRELESS PCS, LLC

Respectfully Submitted,

Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: D1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Larsen Bay, AK	
Call Sign:			
Latitude	(NAD83)	57 32 11.3 N	
Longitude	(NAD83)	153 58 44.8 W	
Elevation AMSL	(ft/m)	59.06	18.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6050.625/6106.625-6109.925/6165.925-6302.665/6358.665-6361.965/6417.965-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	135.18	136.20
Antenna Centerline	(ft/m)	52.49	16.00
Antenna Elevation Angles	(deg)	15.94	16.33

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	4.90	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-18.13
Max EIRP Main Beam	(dbW/4KHz)		23.87
Modulation / Emission Designator	DIGITAL	2M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	148.93	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
Rain Zone / Radio Zone		3	A

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

SUPPLEMENTAL SHOWING PART 101.103(D)

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Licensee: Alaska Communications Internet, LLC

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Systems Engineer

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Plano, Texas 75075
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File: R1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Larsen Bay, AK	
Call Sign:			
Latitude	(NAD83)	57 32 11.3 N	
Longitude	(NAD83)	153 58 44.8 W	
Elevation AMSL	(ft/m)	59.06	18.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6050.625/6106.625-6109.925/6165.925-6302.665/6358.665-6361.965/6417.965-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	135.18	136.20
Antenna Centerline	(ft/m)	52.49	16.00
Antenna Elevation Angles	(deg)	15.94	16.33

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	4.90	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-21.26
Max EIRP Main Beam	(dbW/4KHz)		20.74
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	139.98	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: S1925614 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:

KANA Larsen Bay, AK

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

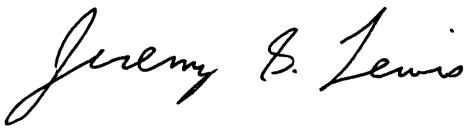
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

10/17/2019 Original PCN (Expedited response requested by 10/31/2019)
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: S1925614

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Larsen Bay, AK	
Call Sign:			
Latitude	(NAD83)	57 32 11.3 N	
Longitude	(NAD83)	153 58 44.8 W	
Elevation AMSL	(ft/m)	59.06	18.00
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)	135.18	136.20
Antenna Centerline	(ft/m)	52.49	16.00
Antenna Elevation Angles	(deg)	15.94	16.33

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)	432.09	
Max Rain Scatter Distances	(km)	369.90	
Max Interference Power Long Term	(dbW)	-182.60	
Max Interference Power Short Term	(dbW)	-177.90	
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: B1925614 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:

KANA Akhiok, 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:

10/17/2019 Original PCN (Expedited response requested by 10/31/2019)
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
KODIAK MICROWAVE SYSTEM, LLC

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: B1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Akhiok, AK	
Call Sign:			
Latitude	(NAD83)	56 56 43.7 N	
Longitude	(NAD83)	154 10 27.0 W	
Elevation AMSL	(ft/m)	36.09	11.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6271.19/6301.19-6330.49/6360.49-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	134.79	135.81
Antenna Centerline	(ft/m)	29.53	9.00
Antenna Elevation Angles	(deg)	16.30	16.70

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.20	
15 DB Half Beamwidth	(deg)	2.00	
Antennas	Transmit: GENERAL DYNAMICS 2244 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-18.13
Max EIRP Main Beam	(dbW/4KHz)		24.07
Modulation / Emission Designator	DIGITAL	2M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	148.11	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: M1925614 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:

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COMSEARCH INC
KODIAK MICROWAVE SYSTEM, LLC

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: M1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Akhiok, AK	
Call Sign:			
Latitude	(NAD83)	56 56 43.7 N	
Longitude	(NAD83)	154 10 27.0 W	
Elevation AMSL	(ft/m)	36.09	11.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6271.19/6301.19-6330.49/6360.49-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	134.79	135.81
Antenna Centerline	(ft/m)	29.53	9.00
Antenna Elevation Angles	(deg)	16.30	16.70

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.20	
15 DB Half Beamwidth	(deg)	2.00	
Antennas	Transmit: GENERAL DYNAMICS 2244 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-21.46
Max EIRP Main Beam	(dbW/4KHz)		20.74
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	138.77	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: N1925614 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:

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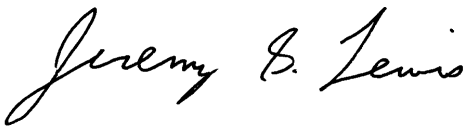
Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: N1925614

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Akhiok, AK	
Call Sign:			
Latitude	(NAD83)	56 56 43.7 N	
Longitude	(NAD83)	154 10 27.0 W	
Elevation AMSL	(ft/m)	36.09	11.00
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)	134.79	135.81
Antenna Centerline	(ft/m)	29.53	9.00
Antenna Elevation Angles	(deg)	16.30	16.70

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	38.20
15 DB Half Beamwidth	(deg)	2.40
Antennas	Receive: GENERAL DYNAMICS 2244 (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)	429.86	
Max Rain Scatter Distances	(km)	369.33	
Max Interference Power Long Term	(dbW)	-182.60	
Max Interference Power Short Term	(dbW)	-177.90	
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: T1925614 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:

KANA Old Harbor, AK

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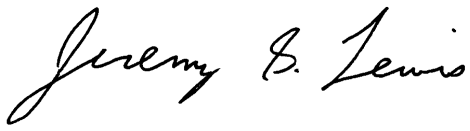
NEW CINGULAR WIRELESS PCS, LLC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: T1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Old Harbor, AK	
Call Sign:			
Latitude	(NAD83)	57 12 48.7 N	
Longitude	(NAD83)	153 17 0.7 W	
Elevation AMSL	(ft/m)	32.81	10.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6019.15/6049.15-6078.45/6108.45-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	135.78	136.81
Antenna Centerline	(ft/m)	26.25	8.00
Antenna Elevation Angles	(deg)	16.46	16.85

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	4.90	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-21.26
Max EIRP Main Beam	(dbW/4KHz)		20.74
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	139.00	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: F1925614 5.93 GHz
Licensee: Alaska Communications Internet, LLC

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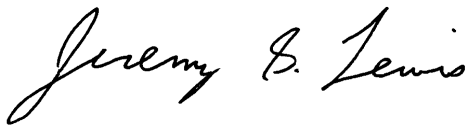
Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: F1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Old Harbor, AK	
Call Sign:			
Latitude	(NAD83)	57 12 48.7 N	
Longitude	(NAD83)	153 17 0.7 W	
Elevation AMSL	(ft/m)	32.81	10.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6019.15/6049.15-6078.45/6108.45-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	115.00
Range of Azimuths from North	(deg)	135.78	136.81
Antenna Centerline	(ft/m)	26.25	8.00
Antenna Elevation Angles	(deg)	16.46	16.85

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	4.90	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-18.13
Max EIRP Main Beam	(dbW/4KHz)		23.87
Modulation / Emission Designator	DIGITAL	2M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	147.72	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: U1925614 3.70 GHz
Licensee: Alaska Communications Internet, LLC

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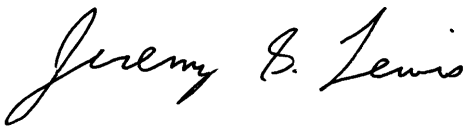

Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: U1925614

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Old Harbor, AK	
Call Sign:			
Latitude	(NAD83)	57 12 48.7 N	
Longitude	(NAD83)	153 17 0.7 W	
Elevation AMSL	(ft/m)	32.81	10.00
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)	135.78	136.81
Antenna Centerline	(ft/m)	26.25	8.00
Antenna Elevation Angles	(deg)	16.46	16.85

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)	428.80	
Max Rain Scatter Distances	(km)	369.09	
Max Interference Power Long Term	(dbW)	-182.60	
Max Interference Power Short Term	(dbW)	-177.90	
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: H1925614 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:

KANA Ouzinkie, AK

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

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KODIAK MICROWAVE SYSTEM, LLC
NEW CINGULAR WIRELESS PCS, LLC

Respectfully Submitted,

Jeremy Lewis
Systems Engineer

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812 Lexington Dr
Plano, Texas 75075
972-422-7200

File: H1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Ouzinkie, AK	
Call Sign:			
Latitude	(NAD83)	57 55 28.3 N	
Longitude	(NAD83)	152 29 58.3 W	
Elevation AMSL	(ft/m)	55.77	17.00
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)	136.81	137.84
Antenna Centerline	(ft/m)	49.21	15.00
Antenna Elevation Angles	(deg)	16.22	16.60

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	4.90	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-18.13
Max EIRP Main Beam	(dbW/4KHz)		23.87
Modulation / Emission Designator	DIGITAL	2M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	148.07	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: V1925614 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:

KANA Ouzinkie, AK

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

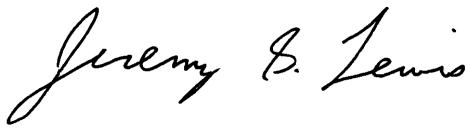
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

10/17/2019 Original PCN (Expedited response requested by 10/31/2019)
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:

AT&T MOBILITY SPECTRUM LLC
COMSEARCH INC
GCI COMMUNICATION CORP.
KODIAK MICROWAVE SYSTEM, LLC
NEW CINGULAR WIRELESS PCS, LLC

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: V1925614

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Ouzinkie, AK	
Call Sign:			
Latitude	(NAD83)	57 55 28.3 N	
Longitude	(NAD83)	152 29 58.3 W	
Elevation AMSL	(ft/m)	55.77	17.00
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)	136.81	137.84
Antenna Centerline	(ft/m)	49.21	15.00
Antenna Elevation Angles	(deg)	16.22	16.60

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	42.00	
15 DB Half Beamwidth	(deg)	4.90	
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)		
Max Transmitter Power	(dbW/4KHz)		-21.26
Max EIRP Main Beam	(dbW/4KHz)		20.74
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	139.28	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: W1925614 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:

KANA Ouzinkie, AK

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

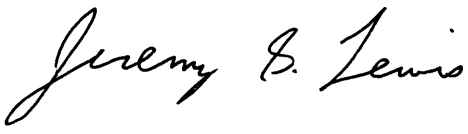
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

10/17/2019 Original PCN (Expedited response requested by 10/31/2019)
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: W1925614

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		KANA Ouzinkie, AK	
Call Sign:			
Latitude	(NAD83)	57 55 28.3 N	
Longitude	(NAD83)	152 29 58.3 W	
Elevation AMSL	(ft/m)	55.77	17.00
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)	136.81	137.84
Antenna Centerline	(ft/m)	49.21	15.00
Antenna Elevation Angles	(deg)	16.22	16.60

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)	429.74	
Max Rain Scatter Distances	(km)	369.46	
Max Interference Power Long Term	(dbW)	-182.60	
Max Interference Power Short Term	(dbW)	-177.90	
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: C1917809 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:

Kobuk, AK

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

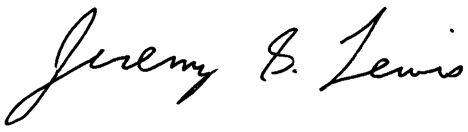
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

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: C1917809

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kobuk, AK	
Call Sign:			
Latitude	(NAD83)	66 54 27.3 N	
Longitude	(NAD83)	156 53 1.0 W	
Elevation AMSL	(ft/m)	145.00	44.20
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)	134.73	135.73
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	8.11	8.39

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: N1917809 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:

Kobuk, AK

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

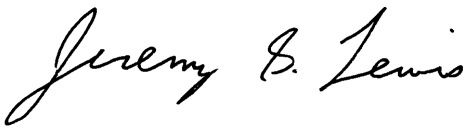
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

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: N1917809

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Kobuk, AK	
Call Sign:			
Latitude	(NAD83)	66 54 27.3 N	
Longitude	(NAD83)	156 53 1.0 W	
Elevation AMSL	(ft/m)	145.00	44.20
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)	134.73	135.73
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	8.11	8.39

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)	394.59	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-149.90	
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: M1922608 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:

Yakutat, AK

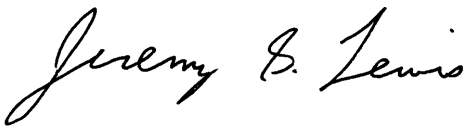
The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

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

10/10/2019 Original PCN (Expedited response requested by 10/24/2019)
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:

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: M1922608

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Yakutat, AK	
Call Sign:			
Latitude	(NAD83)	59 32 23.2 N	
Longitude	(NAD83)	139 44 12.9 W	
Elevation AMSL	(ft/m)	72.18	22.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	46.00	115.00
Range of Azimuths from North	(deg)	93.22	151.88
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	-10.43	19.22

Equipment Parameters		Transmit	
Antenna Gain, Main Beam	(dbI)	46.50	
15 DB Half Beamwidth	(deg)	2.00	
Antennas	Transmit: PRODELIN 1385 (3.8M)		
Max Transmitter Power	(dbW/4KHz)		-12.40
Max EIRP Main Beam	(dbW/4KHz)		34.10
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	621.14	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: N1922608 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:

Yakutat, AK

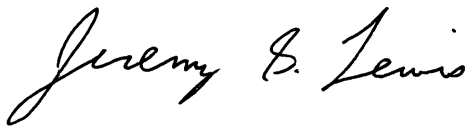
The results of the study indicate that no unacceptable interference will result with existing, proposed or prior coordinated radio facilities.

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

10/10/2019 Original PCN (Expedited response requested by 10/24/2019)
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:

Respectfully Submitted,



Jeremy Lewis
Systems Engineer

Attached: 1 data sheet

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

File: N1922608

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Yakutat, AK	
Call Sign:			
Latitude	(NAD83)	59 32 23.2 N	
Longitude	(NAD83)	139 44 12.9 W	
Elevation AMSL	(ft/m)	72.18	22.00
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)	150.78	151.88
Antenna Centerline	(ft/m)	5.91	1.80
Antenna Elevation Angles	(deg)	18.96	19.22

Equipment Parameters		Receive
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	2.40
Antennas	Receive: PRODELIN 1386 (3.8 M)	
Max Transmitter Power	(dbW/4KHz)	
Max EIRP Main Beam	(dbW/4KHz)	
Modulation / Emission Designator	DIGITAL	72M0G7W

Coordination Parameters		Receive	
Max Greater Circle Distances	(km)	415.97	
Max Rain Scatter Distances	(km)	365.76	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-153.90	
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: M1929825 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:

8 Mile, 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:

11/12/2019 Original PCN (Expedited response requested by 11/26/2019)
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:

BRISTOL BAY CELLULAR PARTNERSHIP
COMSEARCH INC
MICRONET COMMUNICATIONS INC
NUSHAGAK ELECTRIC & TELEPHONE COOP
RADIO DYNAMICS
UNITED UTILITIES 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: M1929825

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		8 Mile, AK	
Call Sign:			
Latitude	(NAD83)	58 43 41.0 N	
Longitude	(NAD83)	156 48 59.2 W	
Elevation AMSL	(ft/m)	131.23	40.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	46.00	115.00
Range of Azimuths from North	(deg)	108.00	133.69
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	-18.84	14.35

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	42.00
15 DB Half Beamwidth	(deg)	2.00
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	-18.45
Max EIRP Main Beam	(dbW/4KHz)	23.55
Modulation / Emission Designator	DIGITAL	5M60G7W

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	365.70	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
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: N1929825 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:

8 Mile, 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:

11/12/2019 Original PCN (Expedited response requested by 11/26/2019)
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: N1929825

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		8 Mile, AK	
Call Sign:			
Latitude	(NAD83)	58 43 41.0 N	
Longitude	(NAD83)	156 48 59.2 W	
Elevation AMSL	(ft/m)	131.23	40.00
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	46.00	115.00
Range of Azimuths from North	(deg)	108.00	133.69
Antenna Centerline	(ft/m)	6.56	2.00
Antenna Elevation Angles	(deg)	-18.84	14.35

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)	967.52	
Max Rain Scatter Distances	(km)	345.34	
Max Interference Power Long Term	(dbW)	-158.60	
Max Interference Power Short Term	(dbW)	-153.90	
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: M1934616 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:

Naknek Silverbay, 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:

12/23/2019 Original PCN (Expedited response requested by 01/06/2020)
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:

BRISTOL BAY CELLULAR PARTNERSHIP
COMSEARCH INC
MICRONET COMMUNICATIONS INC
NUSHAGAK ELECTRIC & TELEPHONE COOP
RADIO DYNAMICS
UNITED UTILITIES, 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: M1934616

TECHNICAL CHARACTERISTICS OF TRANSMIT RECEIVE EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Naknek Silverbay, AK	
Call Sign:			
Latitude	(NAD83)	58 44 41.4 N	
Longitude	(NAD83)	156 57 14.4 W	
Elevation AMSL	(ft/m)	78.74	24.00
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	116.00
Range of Azimuths from North	(deg)	132.56	134.57
Antenna Centerline	(ft/m)	16.40	5.00
Antenna Elevation Angles	(deg)	13.89	14.67

Equipment Parameters		Receive	Transmit
Antenna Gain, Main Beam	(dbI)	38.00	41.70
15 DB Half Beamwidth	(deg)	4.90	2.00

Antennas Receive: GENERAL DYNAMICS 1241 (2.4M)
Transmit: GENERAL DYNAMICS 1241 (2.4M)

Max Transmitter Power	(dbW/4KHz)		-18.45
Max EIRP Main Beam	(dbW/4KHz)		23.25
Modulation / Emission Designator	DIGITAL	5M60G7W	

Coordination Parameters		Receive	Transmit
Max Greater Circle Distances	(km)	444.36	152.35
Max Rain Scatter Distances	(km)	373.71	100.00
Max Interference Power Long Term	(dbW)	-158.60	-154.80
Max Interference Power Short Term	(dbW)	-153.90	-126.80
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: M2003814 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:

Red Dog Port, AK

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

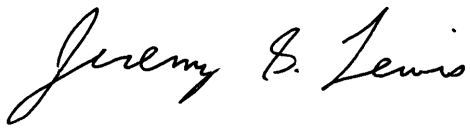
Coordination was performed with existing, proposed and prior coordinated carriers within coordination range on the following dates:

02/14/2020 Original PCN (Expedited response requested by 02/28/2020)
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: M2003814

TECHNICAL CHARACTERISTICS OF TRANSMIT ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Red Dog Port, AK	
Call Sign:			
Latitude	(NAD83)	67 34 39.8 N	
Longitude	(NAD83)	164 3 27.7 W	
Elevation AMSL	(ft/m)	22.97	7.00
Receive Frequency Range	(MHz)		
Transmit Frequency Range	(MHz)	5925-6425	
Range of Satellite Orbital Long.	(deg W)	114.00	116.00
Range of Azimuths from North	(deg)	127.74	129.71
Antenna Centerline	(ft/m)	13.12	4.00
Antenna Elevation Angles	(deg)	5.53	6.14

Equipment Parameters		Transmit
Antenna Gain, Main Beam	(dbI)	41.70
15 DB Half Beamwidth	(deg)	2.00
Antennas	Transmit: GENERAL DYNAMICS 1241 (2.4M)	
Max Transmitter Power	(dbW/4KHz)	-18.45
Max EIRP Main Beam	(dbW/4KHz)	23.25
Modulation / Emission Designator	DIGITAL	5M60G7W

Coordination Parameters		Transmit	
Max Greater Circle Distances	(km)	173.74	
Max Rain Scatter Distances	(km)	100.00	
Max Interference Power Long Term	(dbW)	-154.80	
Max Interference Power Short Term	(dbW)	-126.80	
Rain Zone / Radio Zone		3	A

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

File: N2003814

TECHNICAL CHARACTERISTICS OF RECEIVE ONLY EARTH STATION

Company:		Alaska Communications Internet, LLC	
Site Name, State:		Red Dog Port, AK	
Call Sign:			
Latitude	(NAD83)	67 34 39.8 N	
Longitude	(NAD83)	164 3 27.7 W	
Elevation AMSL	(ft/m)	22.97	7.00
Receive Frequency Range	(MHz)	3700-4200	
Transmit Frequency Range	(MHz)		
Range of Satellite Orbital Long.	(deg W)	114.00	116.00
Range of Azimuths from North	(deg)	127.74	129.71
Antenna Centerline	(ft/m)	13.12	4.00
Antenna Elevation Angles	(deg)	5.53	6.14

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)	502.63	
Max Rain Scatter Distances	(km)	417.75	
Max Interference Power Long Term	(dBW/MHz)	-134.60	
Max Interference Power Short Term	(dBW/MHz)	-129.90	
Rain Zone / Radio Zone		3	A

II. Radiation Hazard Analyses

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: KANA Akhiok State: AK
Latitude: 56 56 43.7 Longitude: 154 10 27.0 (NAD83)
11-25-2019

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) = 10.0000 Watts

Antenna Gain at Earth Site (GES) = 42.2000 dBi = 16595.8691
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) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 2.6009 W/m**2

= 0.2601 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) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 5.3052 W/m**2

= 0.5305 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 = $\frac{2(P)}{Sa}$ = 4.4210 W/m**2

= 0.4421 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 = $\frac{P}{Sa}$ = 2.2105 W/m**2

= 0.2210 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	4.7399	Complies with ANSI
2. Near Zone	4.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.5579	Complies with ANSI
5. Main Reflector to Ground	4.7790	Complies with ANSI

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

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.7399	Complies with ANSI
2. Near Zone	0.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.5579	Complies with ANSI
5. Main Reflector to Ground	0.7790	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
All Zones comply with ANSI Standards.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: KANA Larsen Bay State: AK
Latitude: 57 32 11.3 Longitude: 153 58 44.8 (NAD83)
11-25-2019

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) = 10.0000 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) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 2.4839 W/m**2

= 0.2484 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) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 5.3052 W/m**2

= 0.5305 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 = $\frac{2(P)}{Sa}$ = 4.4210 W/m**2

= 0.4421 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 = $\frac{P}{Sa}$ = 2.2105 W/m**2

= 0.2210 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	4.7516	Complies with ANSI
2. Near Zone	4.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.5579	Complies with ANSI
5. Main Reflector to Ground	4.7790	Complies with ANSI

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

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.7516	Complies with ANSI
2. Near Zone	0.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.5579	Complies with ANSI
5. Main Reflector to Ground	0.7790	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
All Zones comply with ANSI Standards.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: KANA Old Harbor State: AK
Latitude: 57 12 48.7 Longitude: 153 17 0.7 (NAD83)
11-25-2019

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) = 10.0000 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) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 2.4839 W/m**2

= 0.2484 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) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 5.3052 W/m**2

= 0.5305 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 = $\frac{2(P)}{Sa}$ = 4.4210 W/m**2

= 0.4421 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 = $\frac{P}{Sa}$ = 2.2105 W/m**2

= 0.2210 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	4.7516	Complies with ANSI
2. Near Zone	4.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.5579	Complies with ANSI
5. Main Reflector to Ground	4.7790	Complies with ANSI

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

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.7516	Complies with ANSI
2. Near Zone	0.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.5579	Complies with ANSI
5. Main Reflector to Ground	0.7790	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
All Zones comply with ANSI Standards.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: KANA Ouzinkie State: AK
Latitude: 57 55 28.3 Longitude: 152 29 58.3 (NAD83)
11-25-2019

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) = 10.0000 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) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 2.4839 W/m**2

= 0.2484 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) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 5.3052 W/m**2

= 0.5305 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 = $\frac{2(P)}{Sa}$ = 4.4210 W/m**2

= 0.4421 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 = $\frac{P}{Sa}$ = 2.2105 W/m**2

= 0.2210 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	4.7516	Complies with ANSI
2. Near Zone	4.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	4.5579	Complies with ANSI
5. Main Reflector to Ground	4.7790	Complies with ANSI

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

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.7516	Complies with ANSI
2. Near Zone	0.4695	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	0.5579	Complies with ANSI
5. Main Reflector to Ground	0.7790	Complies with ANSI

6. EVALUATION

A. Controlled Environment
B. Uncontrolled Environment
All Zones comply with ANSI Standards.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Kobuk State: AK
Latitude: 66 54 27.3 Longitude: 156 53 1.0 (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.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: 8 Mile State: AK
Latitude: 58 43 41.0 Longitude: 156 48 59.2 (NAD83)
12-04-2019

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.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Yakutat State: AK
Latitude: 59 32 23.2 Longitude: 139 44 12.9 (NAD83)
12-12-2019

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) = 3.8000 m

Antenna Surface Area (Sa) = pi(D**2)/4 = 11.3411 m**2

Wavelength at 6.1750 GHz (lambda) = 0.0485 m

Transmit Power at Flange (P) = 60.0000 Watts

Antenna Gain at Earth Site (GES) = 46.5000 dBi = 44668.3592
Power Ratio:
AntiLog(GES/10)

pi = 3.1415927

Antenna Aperture Efficiency (n) = 0.6000

1. FAR ZONE CALCULATIONS

Distance to the Far Zone (Df) = $\frac{(n)(D^{**}2)}{\text{lambda}}$ = 178.6392 m

Far Zone Power Density (Rf) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 6.6833 W/m**2

= 0.6683 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) = $\frac{D^{**}2}{4*\text{lambda}}$ = 74.4330 m

Near Zone Power Density (Rn) = $\frac{16.0(n)P}{pi(D^{**}2)}$ = 12.6971 W/m**2

= 1.2697 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 = $\frac{2(P)}{Sa}$ = 10.5809 W/m**2

= 1.0581 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 = $\frac{P}{Sa}$ = 5.2905 W/m**2

= 0.5290 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	4.3317	Complies with ANSI
2. Near Zone	3.7303	Complies with ANSI
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	3.9419	Complies with ANSI
5. Main Reflector to Ground	4.4710	Complies with ANSI

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

Zones	Safety Margins (mW/cm**2)	Conclusions
1. Far Zone	0.3317	Complies with ANSI
2. Near Zone	-0.2697	POTENTIALLY HAZARDOUS
3. Transition Zone	Rf < Rt < Rn	Complies with ANSI
4. Main Reflector Surface	-0.0581	POTENTIALLY HAZARDOUS
5. Main Reflector to Ground	0.4710	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.

The MAIN Reflector Surface 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.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Naknek Silverbay State: AK
Latitude: 58 44 41.4 Longitude: 156 57 14.4 (NAD83)
01-10-2020

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) = 41.7000 dBi = 14791.0839
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) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.6361 W/m**2

= 0.4636 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	4.5364	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	0.5364	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.

ANALYSIS OF NON-IONIZING RADIATION
for Alaska Communications Internet LLC
Site: Red Dog Port State: AK
Latitude: 67 34 39.8 Longitude: 164 3 27.7 (NAD83)
03-18-2020

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) = 41.7000 dBi = 14791.0839
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) = $\frac{(GES)(P)}{4*pi*(Df^{**}2)}$ = 4.6361 W/m**2

= 0.4636 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	4.5364	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	0.5364	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.