

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
ABS Global, LTD
HUDSON, NY
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
January 29, 2018

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1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Operation will be restricted to the frequencies shown in Section 4 of this report.

2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-receive earth station.

Company

Cellco Partnership - (W-NY)
Columbia, County of
T-Mobile License LLC

No other carriers reported potential interference cases.

3. SUPPLEMENTAL SHOWING

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 10/18/2017.

Company

Albany, County of
Algonquin Gas Transmission, LLC
Binghamton MSA Limited Partnership(NY)
Binghamton MSA Limited Partnership(PA)
Blueline Communications
Broome County Emergency Services
Capital District Trans. Authority
Cellco Partnership - (W-NY)
Central Hudson Gas & Electric Corp.
Columbia, County of
Commonwealth of Pennsylvania-Radio Proj.
Connecticut, State of
Consolidated Edison Company of New York
Conterra Ultra Broadband, LLC
County of Pike
County of Schoharie
Delaware County Emergency Services (NY)
Dutchess County Emergency Response
EMS of Northeast Pennsylvania
Eastern MLG LLC
Electric Railroad, LLC
Eversource Energy Service Company
First Light Power Resources, LLC
Fulton County
Global Crossing Telecommunications, Inc.
Goosetown Network Services, LLC
HUDSON VALLEY WIRELESS
Highway Networks, LLC
ISO New England, Inc.
Industrial Tower and Wireless, LLC
Kryptick Technologies
Madison County Of
Massachusetts Commonwealth of
Massachusetts, Commonwealth of
Monroe County Control Center (PA)
NH #1 Rural Cellular, Inc.
National Grid USA Service Comp (NIMO)
National Grid USA Service Company, Inc
New Cingular Wireless PCS LLC-Vermont
New Cingular Wireless PCS, LLC (NY)
New Cingular Wireless PCS, LLC - PA

New Line Networks, LLC
New York Communications Co., Inc
Norton, Douglas R
Orange County Dept of Emergency Services
Orange Poughkeepsie SMSA LTD Partnership
Orange and Rockland Utilities, Inc.
Otsego, County of
Rensselaer County
Saratoga County Office of Emergency Svcs
Schenectady County Unified Communication
State of New York, Div of State Police
State of Rhode Island
Sullivan County DPW
Susquehanna County PA
T-Mobile License LLC
Texas Eastern Communications, LLC
Town of Colonie Police Department
Transwave Communication Systems, Inc.
Ulster County of
Uniti Fiber PEG, LLC
Verizon Wireless (VAW) LLC (NY)
Verizon Wireless (VAW) LLC-Pennsylvania
Vermont RSA #2-B2, Inc.
Vermont State Dept Public Safety
Vermont Transco, LLC
Warren County (NY)
Washington, County of
Weblin Holdings LLC
Westchester, County of
xWave Engineering LLC

4. EARTH STATION COORDINATION DATA

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147

(703)726-5500 <http://www.comsearch.com>

Date: 01/29/2018
Job Number: 171018COMSTC05

Administrative Information

Licensee Code ABSGLO
Licensee Name ABS Global, LTD

Site Information

HUDSON, NY
Latitude (NAD 83) 42° 16' 21.3" N
Longitude (NAD 83) 73° 43' 16.9" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 64.89 m / 212.9 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 3° W to 139° West Longitude
Azimuth Range 103.2° to 252.8°
Corresponding Elevation Angles 5.5° / 9.4°
Antenna Centerline (AGL) 6.1 m / 20.0 ft

Antenna Information

	Receive	Transmit
Manufacturer	RSI	RSI
Model	920C	920C
Gain / Diameter	50.1 dBi / 9.2 m	53.6 dBi / 9.2 m
3-dB / 15-dB Beamwidth	0.52° / 1.06°	0.40° / 0.80°

		1M20G7W - 72M0G7W	
Max Available RF Power	(dBW/4 kHz)	-14.1	-14.1
	(dBW/MHz)	9.9	9.9
Maximum EIRP	(dBW/4 kHz)	39.5	39.5
	(dBW/MHz)	63.5	63.5
	(dBW)	64.3	82.1

Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%

Frequency Information

	Receive 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	1M20G7W - 72M0G7W / 3700.0 - 4200.0	1M20G7W - 72M0G7W / 6020.0 - 6211.0 1M20G7W - 72M0G7W / 6272.0 - 6425.0

Max Great Circle Coordination Distance	568.9 km / 353.4 mi	239.4 km / 148.7 mi
Precipitation Scatter Contour Radius	609.5 km / 378.7 mi	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values

HUDSON, NY

Licensee Name	ABS Global, LTD		
Latitude (NAD 83)	42° 16' 21.3" N		
Longitude (NAD 83)	73° 43' 16.9" W		
Ground Elevation (AMSL)	64.89 m / 212.9 ft		
Antenna Centerline (AGL)	6.1 m / 20.0 ft		
Antenna Mode	Receive 4.0 GHz		
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%
	Short Term	-146.0 dBW/MHz	0.01%
Max Available RF Power			Transmit 6.1 GHz
			-154.0 dBW/4 kHz
		20%	
		-131.0 dBW/4 kHz	
		0.0025%	
		-14.1 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.88	103.20	-10.00	226.86	-10.00	100.00
5	0.39	98.21	-10.00	262.43	-10.00	117.30
10	0.00	93.23	-10.00	285.28	-10.00	132.57
15	0.00	88.25	-10.00	285.28	-10.00	132.57
20	0.00	83.27	-10.00	285.28	-10.00	132.57
25	0.00	78.30	-10.00	285.28	-10.00	132.57
30	0.42	73.31	-10.00	258.38	-10.00	114.49
35	0.53	68.33	-10.00	248.11	-10.00	107.32
40	0.58	63.35	-10.00	244.35	-10.00	104.60
45	0.62	58.37	-10.00	242.07	-10.00	102.93
50	0.63	53.40	-10.00	241.46	-10.00	102.49
55	0.65	48.42	-10.00	240.47	-10.00	101.76
60	0.58	43.46	-8.95	250.83	-8.95	107.57
65	0.66	38.50	-7.64	253.68	-7.64	107.48
70	0.70	33.55	-6.14	260.12	-6.14	109.52
75	0.67	28.62	-4.42	273.36	-4.42	115.61
80	0.65	23.71	-2.37	288.66	-2.37	122.30
85	0.70	18.84	0.12	303.38	0.12	127.27
90	0.83	14.02	3.33	319.94	3.33	131.06
95	0.83	9.46	7.61	355.42	7.61	143.90
100	0.89	5.62	13.26	400.84	13.26	164.78
105	0.96	4.85	14.85	568.85	14.85	239.37
110	0.74	8.14	9.23	376.21	9.23	155.23
115	0.99	11.47	5.51	326.48	5.51	130.59
120	1.05	14.87	2.69	300.37	2.69	120.32
125	1.16	18.13	0.54	279.60	0.54	110.95
130	1.12	21.38	-1.25	268.18	-1.25	106.58
135	1.01	24.55	-2.75	262.22	-2.75	105.10
140	1.22	27.30	-3.90	247.10	-3.90	100.00
145	0.96	30.21	-5.01	251.09	-5.01	101.14
150	0.79	32.82	-5.91	255.97	-5.91	106.20
155	0.79	35.02	-6.61	251.69	-6.61	104.36
160	0.60	37.06	-7.22	259.87	-7.22	111.16
165	0.37	38.79	-7.72	278.82	-7.72	124.86
170	1.31	39.00	-7.78	222.09	-7.78	100.00
175	1.30	39.68	-7.96	221.43	-7.96	100.00
180	0.80	40.39	-8.16	241.30	-8.16	100.00
185	0.72	40.25	-8.12	246.99	-8.12	103.57

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Coordination Values **HUDSON, NY**
 Licensee Name ABS Global, LTD
 Latitude (NAD 83) 42° 16' 21.3" N
 Longitude (NAD 83) 73° 43' 16.9" W
 Ground Elevation (AMSL) 64.89 m / 212.9 ft
 Antenna Centerline (AGL) 6.1 m / 20.0 ft

Antenna Mode	Receive 4.0 GHz	Transmit 6.1 GHz
Interference Objectives: Long Term	-156.0 dBW/MHz 20%	-154.0 dBW/4 kHz 20%
Short Term	-146.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power		-14.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.55	39.74	-7.98	258.75	-7.98	111.61
195	0.00	39.14	-7.82	299.56	-7.82	137.37
200	0.00	37.60	-7.38	302.48	-7.38	138.63
205	0.00	35.71	-6.82	306.31	-6.82	140.30
210	0.85	32.77	-5.89	252.24	-5.89	103.52
215	0.78	30.36	-5.06	262.02	-5.06	108.96
220	0.30	28.03	-4.19	311.64	-4.19	139.22
225	0.43	25.00	-2.95	304.42	-2.95	133.50
230	0.00	22.23	-1.67	343.95	-1.67	157.37
235	0.36	18.72	0.19	337.39	0.19	148.18
240	0.00	15.63	2.15	373.34	2.15	173.58
245	0.00	12.22	4.82	394.21	4.82	183.92
250	0.00	9.85	7.17	413.96	7.17	192.94
255	0.00	9.70	7.33	474.03	7.33	208.12
260	0.00	11.86	5.14	396.88	5.14	185.16
265	0.00	15.39	2.32	374.65	2.32	174.22
270	0.00	19.56	-0.29	354.42	-0.29	162.51
275	0.00	24.04	-2.52	337.62	-2.52	154.33
280	0.00	28.68	-4.44	323.67	-4.44	147.79
285	0.00	33.42	-6.10	311.29	-6.10	142.49
290	0.00	38.22	-7.56	301.29	-7.56	138.11
295	0.00	43.06	-8.85	292.69	-8.85	134.44
300	0.00	47.92	-10.00	285.28	-10.00	132.57
305	0.00	52.81	-10.00	285.28	-10.00	132.57
310	0.00	57.71	-10.00	285.28	-10.00	132.57
315	0.00	62.62	-10.00	285.28	-10.00	132.57
320	0.00	67.54	-10.00	285.28	-10.00	132.57
325	0.00	72.46	-10.00	285.28	-10.00	132.57
330	0.00	77.39	-10.00	285.28	-10.00	132.57
335	0.40	82.31	-10.00	261.14	-10.00	116.41
340	0.77	87.24	-10.00	233.18	-10.00	100.00
345	0.35	92.18	-10.00	267.30	-10.00	120.63
350	0.26	97.12	-10.00	277.62	-10.00	127.55
355	0.64	102.06	-10.00	240.66	-10.00	101.90

5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Timothy O. Crutcher
Frequency Planner
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: January 29, 2018

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
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HUDSON, NY
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1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Further, there will be no restrictions of its operation due to interference considerations.

2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-receive earth station.

Company

Sprint Spectrum L.P.

No other carriers reported potential interference cases.

3. SUPPLEMENTAL SHOWING

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 10/19/2017.

Company

AMFM Radio Licenses, LLC
ARD Operating, LLC
AT&T Mobility Spectrum LLC - New England
Affiniti PA, LLC
Albany, County of
Algonquin Gas Transmission, LLC
Allentown SMSA Limited Partnership
Americell PA-3 LTD
Amherst, Town of
Archdiocese of New York Dept of Educatio
Atlantic Telecommunications
BFI Licenses, LLC
BJ'S Wholesale Club, Inc
Bae Systems
Beasley Media Group, LLC
Bergen, County of
Binghamton MSA Limited Partnership(PA)
Blueline Communications
Boston Properties, Inc
Boston, City of
Bouncelinx
Bradford County
Broome County Emergency Services
Buckeye Partners
Bucks County Dept. of Emergency Comm
Business Only Broadband, LLC
CBS Communications Services Inc
CBS Radio East, LLC.
CMEEC
Capital Area Mutual Aid Fire Compact
Capital Communications of America
Capital District Trans. Authority
Carbon, County of 911 Center
Catholic Media, Inc
Cayuga County 911 Communications
Cellco Partnership - (W-NY)
Cellco Partnership - E-MA, NH, RI
Cellco Partnership-Northern New Jersey
Central Hudson Gas & Electric Corp.
Central Massachusetts Emergency Medical
City of Albany

City of Bethlehem
City of Bristol Mayor's Office
City of Jersey City
City of New Haven Police Services
City of New York
City of Providence RI Public Safety Comm
City of Springfield Police Department
City of Westfield
City of Worcester Emergency Comm Dept
Clarity Connect, Inc.
Clearwire Spectrum Holdings II, LLC
Clearwire Spectrum Holdings III, LLC
Columbia, County
Columbia, County of
Commonwealth of Pennsylvania-Radio Proj.
Community Products, LLC
Comprehensive Wireless LLC
Concord, City of (NH)
Connecticut, State of
Conterra Ultra Broadband, LLC
Conxx, Inc.
Coralinks
Cortland County New York
County of Hunterdon
County of Lycoming
County of Mercer
County of Pike
County of Seneca
County of Tioga
County of Warren, NJ
Cox Radio Inc
DSRC Networks
Dutchess County Emergency Response
ECW Wireless, LLC
East Brunswick, Township of, NJ
East Hampton Town Police Department
Eastern MLG LLC
Electric Railroad, LLC
Essex County Sheriff's Office (NJ)
Eversource Energy Service Company
FELHC, Inc.
Fishers Island Telephone
Fordham University(WFUV)
Fundamental Broadcasting LLC
GAW High-Speed Internet
GTT America LLC
Galaxy Utica Licensee LLC
Garden State Transmissions
Geodesic Networks LLC
Glastonbury Police Department
Global Crossing Telecommunications, Inc.
Goosetown Network Services, LLC
Granite State Telephone, Inc.
Greater Boston Police Council
Greenwich, Town of (CT)
HARRIS CORPORATION

HUDSON VALLEY WIRELESS
Hamilton County
Hamilton, Township of
Hammarlund Research LLC
High Voltage Communications LLC (CFN)
Highway Networks, LLC
Hillsborough County Sheriff's Office
Holy Name Hospital
Hooksett, Town of Police Department
Hopewell Radiology Group
Hudson County MIS Department
Hudson County Prosecutors Office
Industrial Tower and Wireless, LLC
Jefferson Microwave, LLC
Jlink, Inc
Kryptick Technologies
LANline Communications, Inc.
Lackawanna County Dept. of Emergency Ser
Lackawanna, County of
Lehigh, County of
Lewis, County of
Limitless Mobile, LLC
Madison County Of
Manchester Fire Department
Marcus Communications
Massachusetts Bay Transit Authority
Massachusetts Commonwealth of
Massachusetts Port Authority
Massachusetts Water Resources Authority
Massachusetts, Commonwealth of
Mid-Hudson Data Corp
Middleborough, Town of
Middlesex, County of
Middletown, City of
Monmouth, County of
Monroe County Control Center (PA)
Morris, County of
Mva.Net, Ltd
NBC Telemundo License LLC
NEPA Fiber LLC
NH #1 Rural Cellular, Inc.
NH Department of Safety
NW Technologies, LLC
NY Dept of Health and Mental Hygiene
NYC DOT Staten Island Ferry
Nashua City New Hampshire
Nassau County Police Department
National Grid USA Service Comp (NIMO)
National Grid USA Service Company, Inc
National Tower Company II, LLC
National Tower Company LLC
NeXXCom Wireless LLC
Nep Cellcorp Inc
New Britain, City of
New Cingular Wireless PCS LLC - NJ
New Cingular Wireless PCS LLC - MA

New Cingular Wireless PCS LLC-DE/NH/RI
New Cingular Wireless PCS LLC-Vermont
New Cingular Wireless PCS of PA LLC
New Cingular Wireless PCS, LLC (NY)
New Cingular Wireless PCS, LLC - PA
New Hampshire Electric Cooperative
New Jersey State Police
New Jersey Transit Rail Operations, Inc.
New Jersey Turnpike Authority-Pkwy Div
New Jersey, State of -NJ Transit
New Line Networks, LLC
New York City Police Department
New York City Transit Authority
New York Communications Co., Inc
New York Police Department
New York Power Authority
New York Presbyterian Hospital
New York RSA No. 2 Cellular Partnership
New York SMSA LP (Northern NJ)
New York SMSA Limited Partnership
New York State Electric & Gas Corp
Newark Police Department
Nextel Comm. of The Mid-Atlantic, Inc.
Nextlink Wireless, LLC
Norcom Communications Corp.
Norfolk County Fire Dispatch
Northeast Pennsylvania SMSA LTD Prtnrsh
Northland Networks, Ltd
Northrop Grumman Systems Corp.
Northrop Grumman Systems Corporation Inc
Northumberland County DPS/911
Norton, Douglas R
Nstar Electric Company
Office of Emergency Telecom Services, NJ
Oneida County Emergency Services
Onondaga County Dept of Emergency Comm
OpenCape Corporation
Optiver GT US, LLC
Orange County Dept of Emergency Services
Orange and Rockland Utilities, Inc.
Orangetown, Town of
Oswego County
Otsego, County of
PSEG Services Corporation
Pennsylvania 3 Sector 2, L.P. - PA Regn
Pennsylvania 4 Sector 2 LP- PA Region
Pennsylvania Turnpike Commission
Pfeiffer, Terry L
PhillieCo, L.P.
Piedmont Broadcasting Corporation
Pierce Broadband, LLC
Pines Pantry, Inc.
Piscataway, Township Of
Plexicomm, LLC
Plymouth County Sheriff Dept.
Pocono Mountain School District

Port Authority of New York & New Jersey
Qoncept Holdings LLC
Radius North, LLC
Rendezvous Communications LLC
Rensselaer County
Ridgefield Police Department
River Valley Internet LLC
Rockland, County of
Rural Cellular Corporation-New England W
SW Networks
Sanofi Pasteur
Saratoga County Office of Emergency Svcs
Schenectady County Unified Communication
Schuykill, County of
SmartSky Networks, LLC
Somerset County (M.I.S.)
Somerset, County of - Emergency Manageme
Southington Town of CT
Southold Town Police Department
Southwestern NH District Fire Mutual Aid
Spot On Networks
Sprint Spectrum L.P.
Sprintcom, Inc
St Lukes Hospital
Stamford, City of
Standard Backhaul Communications LLC
State of New Jersey
State of New Jersey Information Technolog
State of New York, Div of State Police
State of Rhode Island, EMA
Steuben County
Suffolk County Police Department
Suffolk, County of
Sullivan County DPW
Sullivan, County of
Susquehanna County
Susquehanna County PA
Sussex County Sheriffs Office
Syracuse SMSA Limited Partnership
T-Mobile License LLC
TTWN Networks, LLC
Telecom Transport Management, Inc
Tioga, County of
Tompkins, County Dept of Emergency Respo
Towerstream Corp.
Town of Colonie Police Department
Town of Holden
Town of Narragansett, Rhode Island
Town of Plymouth
Town of Scituate
Town of Smithtown Dept of Public Safety
Town of Thomaston
Town of Wareham
Town of Wethersfield
Town of Woodbridge, Police Department
Township of Middletown

Township of Monroe
Township of Old Bridge
Townsquare Media Oneonta License, LLC
Transcontinental Gas Pipeline Corp.
Transwave Communication Systems, Inc.
Ulster County of
Union County New Jersey
Union, County Of
United Health Services Hospital
Uniti Fiber PEG, LLC
VTel Wireless, Inc.
Verizon New England Inc.
Verizon New Jersey, Inc.
Verizon Wireless (VAW) LLC (NY)
Verizon Wireless (VAW) LLC - Northern NJ
Verizon Wireless (VAW) LLC-Pennsylvania
Vermont Transco, LLC
Walpole, Town of
Warren County (NY)
Wayne County - DHS-EM
Wayne, Township of
Weblin Holdings LLC
Webpass Inc.
West Haven, City of
Westchester, County of
Wireless Internetwork LLC
World Class Wireless, LLC
Wyoming, County of
XO Communications, LLC
Xvergent
iSignal
xWave Engineering LLC

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Date: 01/29/2018
 Job Number: 171019COMSTC01

Administrative Information

Licensee Code: ABSGLO
 Licensee Name: ABS Global, LTD

Site Information

HUDSON, NY
 Latitude (NAD 83): 42° 16' 21.3" N
 Longitude (NAD 83): 73° 43' 16.9" W
 Climate Zone: A
 Rain Zone: 2
 Ground Elevation (AMSL): 64.89 m / 212.9 ft

Link Information

Satellite Type: Geostationary
 Mode: TR - Transmit-Receive
 Modulation: Digital
 Satellite Arc: 3° W to 139° West Longitude
 Azimuth Range: 103.2° to 252.8°
 Corresponding Elevation Angles: 5.5° / 9.4°
 Antenna Centerline (AGL): 6.1 m / 20.0 ft

Antenna Information

	Receive	Transmit
Manufacturer	RSI	RSI
Model	920KS	920KS
Gain / Diameter	58.5 dBi / 9.2 m	59.2 dBi / 9.2 m
3-dB / 15-dB Beamwidth	0.20° / 0.40°	0.15° / 0.30°

Max Available RF Power	(dBW/4 kHz)	1M20G7W - 72M0G7W			
	(dBW/MHz)	-14.1	-14.1		
Maximum EIRP	(dBW/4 kHz)	9.9	9.9		
	(dBW/MHz)	45.1	45.1		
	(dBW)	69.1	69.1		
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%

Frequency Information

	Receive 11.0 GHz	Transmit 14.0 GHz
Emission / Frequency Range (MHz)	1M20G7W - 72M0G7W / 10950.0 - 11200.0 1M20G7W - 72M0G7W / 11450.0 - 11700.0	1M20G7W - 72M0G7W / 14000.0 - 14500.0

Max Great Circle Coordination Distance	529.2 km / 328.8 mi	245.1 km / 152.3 mi
Precipitation Scatter Contour Radius	598.4 km / 371.8 mi	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values

HUDSON, NY

Licensee Name	ABS Global, LTD		
Latitude (NAD 83)	42° 16' 21.3" N		
Longitude (NAD 83)	73° 43' 16.9" W		
Ground Elevation (AMSL)	64.89 m / 212.9 ft		
Antenna Centerline (AGL)	6.1 m / 20.0 ft		
Antenna Model	FCC Reference 32-25LOG(THETA)		
Antenna Mode	Receive 11.0 GHz		Transmit 14.0 GHz
Interference Objectives:	Long Term	-156.0 dBW/MHz 20%	-154.0 dBW/4 kHz 20%
	Short Term	-146.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power			-14.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.88	103.20	-10.00	187.98	-10.00	100.00
5	0.39	98.21	-10.00	213.87	-10.00	108.49
10	0.00	93.23	-10.00	231.37	-10.00	123.09
15	0.00	88.25	-10.00	231.37	-10.00	123.09
20	0.00	83.27	-10.00	231.37	-10.00	123.09
25	0.00	78.30	-10.00	231.37	-10.00	123.09
30	0.42	73.31	-10.00	210.82	-10.00	105.81
35	0.53	68.33	-10.00	203.24	-10.00	100.00
40	0.58	63.35	-10.00	202.79	-10.00	100.00
45	0.62	58.37	-10.00	201.02	-10.00	100.00
50	0.63	53.40	-10.00	200.54	-10.00	100.00
55	0.65	48.42	-10.00	199.75	-10.00	100.00
60	0.58	43.46	-8.95	204.72	-8.95	100.00
65	0.66	38.50	-7.64	206.25	-7.64	100.00
70	0.70	33.55	-6.14	210.36	-6.14	100.94
75	0.67	28.62	-4.42	219.42	-4.42	106.70
80	0.65	23.71	-2.37	229.92	-2.37	112.81
85	0.70	18.84	0.12	239.51	0.12	117.42
90	0.83	14.02	3.33	249.47	3.33	120.86
95	0.83	9.46	7.61	273.71	7.61	131.95
100	0.89	5.62	13.26	304.22	13.26	150.03
105	0.96	4.85	14.85	529.25	14.85	245.14
110	0.74	8.14	9.23	289.14	9.23	141.88
115	0.99	11.47	5.51	252.74	5.51	120.27
120	1.05	14.87	2.69	235.41	2.69	110.57
125	1.16	18.13	0.54	221.39	0.54	101.70
130	1.12	21.38	-1.25	214.09	-1.25	100.00
135	1.01	24.55	-2.75	210.46	-2.75	100.00
140	1.22	27.30	-3.90	202.35	-3.90	100.00
145	0.96	30.21	-5.01	203.27	-5.01	100.00
150	0.79	32.82	-5.91	207.20	-5.91	100.00
155	0.79	35.02	-6.61	204.36	-6.61	100.00
160	0.60	37.06	-7.22	210.66	-7.22	102.55
165	0.37	38.79	-7.72	225.17	-7.72	115.63
170	1.31	39.00	-7.78	182.36	-7.78	100.00
175	1.30	39.68	-7.96	181.78	-7.96	100.00
180	0.80	40.39	-8.16	199.61	-8.16	100.00
185	0.72	40.25	-8.12	203.99	-8.12	100.00

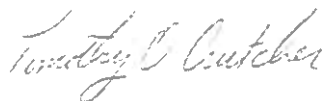
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Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz
Max Available RF Power			-14.1 (dBW/4 kHz)
			20%
			0.0025%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.55	39.74	-7.98	210.17	-7.98	103.00
195	0.00	39.14	-7.82	241.19	-7.82	128.69
200	0.00	37.60	-7.38	243.21	-7.38	129.81
205	0.00	35.71	-6.82	245.98	-6.82	130.02
210	0.85	32.77	-5.89	204.46	-5.89	100.00
215	0.78	30.36	-5.06	211.29	-5.06	100.38
220	0.30	28.03	-4.19	248.56	-4.19	130.22
225	0.43	25.00	-2.95	242.18	-2.95	123.66
230	0.00	22.23	-1.67	271.86	-1.67	145.12
235	0.36	18.72	0.19	265.41	0.19	136.66
240	0.00	15.63	2.15	292.97	2.15	158.39
245	0.00	12.22	4.82	306.15	4.82	169.99
250	0.00	9.85	7.17	322.40	7.17	178.91
255	0.00	9.70	7.33	410.38	7.33	204.63
260	0.00	11.86	5.14	308.27	5.14	171.22
265	0.00	15.39	2.32	293.91	2.32	159.00
270	0.00	19.56	-0.29	279.32	-0.29	149.73
275	0.00	24.04	-2.52	267.37	-2.52	142.40
280	0.00	28.68	-4.44	257.58	-4.44	136.60
285	0.00	33.42	-6.10	249.42	-6.10	131.94
290	0.00	38.22	-7.56	242.39	-7.56	129.35
295	0.00	43.06	-8.85	236.46	-8.85	126.02
300	0.00	47.92	-10.00	231.37	-10.00	123.09
305	0.00	52.81	-10.00	231.37	-10.00	123.09
310	0.00	57.71	-10.00	231.37	-10.00	123.09
315	0.00	62.62	-10.00	231.37	-10.00	123.09
320	0.00	67.54	-10.00	231.37	-10.00	123.09
325	0.00	72.46	-10.00	231.37	-10.00	123.09
330	0.00	77.39	-10.00	231.37	-10.00	123.09
335	0.40	82.31	-10.00	212.90	-10.00	107.64
340	0.77	87.24	-10.00	193.68	-10.00	100.00
345	0.35	92.18	-10.00	217.56	-10.00	111.66
350	0.26	97.12	-10.00	225.46	-10.00	118.28
355	0.64	102.06	-10.00	199.90	-10.00	100.00

5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Timothy O. Crutcher
Frequency Planner
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: January 29, 2018