

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Intelsat License LLC
MANHASSET, NY
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
March 15, 2017

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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

Capital Communications of America

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 02/08/2017.

Company

AB Services LLC
ALGONQUIN GAS TRANSMISSION, LLC
AT&T Corp.
BFI Licenses, LLC
Blueline Communications
CONSOLIDATED EDISON COMPANY OF NEW YORK
Capital Communications of America
Cellco Partnership - (W-NY)
Central Hudson Gas & Electric Corp.
China Cat Productions LLC
City of New York
Connecticut State Police Department
Coralinks
County of Warren, NJ
Cox Radio Inc
DSRC
Direct Broadcast Services, Inc.
Dutchess County Emergency Response
ECW Wireless, LLC
Eastern MLG LLC
Electric Railroad, LLC
Essex County Sheriff's Office (NJ)
Eversource Energy Service Company
FELHC, INC
Garden State Transmissions
Goosetown Network Services, LLC
Hammarlund Research LLC
High Voltage Communications LLC (CFN)
Higher Ground LLC
Jefferson Microwave, LLC
Kryptick Technologies
MONMOUTH, COUNTY OF
Middlesex, County of
Morris, County of
NEW YORK CITY POLICE DEPARTMENT
Nassau County Police Department
National Tower Company LLC
NeXXCom Wireless LLC
New Cingular Wireless PCS LLC - NJ
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 Communications Co., Inc
Office of Emergency Telecom Services, NJ
Open Line Communications
Orange County Dept of Emergency Services
Orange Poughkeepsie SMSA LTD Partnership
Orange and Rockland Utilities, Inc.
PSEG Services Corporation
Port Authority of New York & New Jersey
Qoncept Holdings LLC
Rendezvous Communications LLC
SCS Networks
SW Networks
Suffolk County Police Department
Sullivan County DPW
Texas Eastern Communications, LLC
Transcontinental Gas Pipeline Corp.
ULSTER COUNTY OF
Uniti Fiber PEG, LLC
Webline Holdings LLC
Westchester, County of
Wireless Internetwork LLC
World Class Wireless, LLC
iSignal
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: 03/15/2017
Job Number: 170208COMSGE03

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code INTELS
Licensee Name Intelsat License LLC

Site Information

MANHASSET, NY
Venue Name
Latitude (NAD 83) 40° 46' 40.0" N
Longitude (NAD 83) 73° 42' 3.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 39.17 m / 128.5 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 27.5° W to 27.5° West Longitude
Azimuth Range 122.1° to 122.1°
Corresponding Elevation Angles 23.6° / 23.6°
Antenna Centerline (AGL) 3.66 m / 12.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Andrew		Andrew	
Model		ESA39AA-1		ESA39AA-1	
Gain / Diameter		42.5 dBi / 3.9 m		46.3 dBi / 3.9 m	
3-dB / 15-dB Beamwidth		1.20° / 4.20°		0.79° / 1.66°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-12.2 11.8	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			34.1 58.1	
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)	1M84G7W / 3700.0 - 4200.0	1M84G7W / 5925.0 - 6329.0 1M84G7W / 6362.0 - 6425.0
Max Great Circle Coordination Distance	285.3 km / 177.2 mi	136.5 km / 84.8 mi
Precipitation Scatter Contour Radius	497.5 km / 309.1 mi	100.0 km / 62.1 mi

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Coordination Values

MANHASSET, NY

Licensee Name Intelsat License LLC
Latitude (NAD 83) 40° 46' 40.0" N
Longitude (NAD 83) 73° 42' 3.0" W
Ground Elevation (AMSL) 39.17 m / 128.5 ft
Antenna Centerline (AGL) 3.66 m / 12.0 ft
Antenna Model Andrew 3.9 meter
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 -12.2 (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	0.00	119.10	-10.00	285.28	-10.00	136.55
5	0.00	114.63	-10.00	285.28	-10.00	136.55
10	0.00	110.13	-10.00	285.28	-10.00	136.55
15	0.00	105.59	-10.00	285.28	-10.00	136.55
20	0.31	101.06	-10.00	272.09	-10.00	128.97
25	0.36	96.48	-10.00	265.41	-10.00	124.43
30	0.30	91.89	-10.00	272.77	-10.00	129.42
35	0.21	87.30	-10.00	284.46	-10.00	135.99
40	0.48	82.71	-10.00	251.64	-10.00	114.79
45	0.79	78.09	-10.00	232.11	-10.00	100.41
50	1.35	73.44	-10.00	209.79	-10.00	100.00
55	1.67	68.81	-10.00	203.30	-10.00	100.00
60	2.05	64.17	-10.00	193.32	-10.00	100.00
65	2.41	59.55	-10.00	185.17	-10.00	100.00
70	2.52	55.01	-10.00	182.57	-10.00	100.00
75	3.37	50.28	-10.00	161.18	-10.00	100.00
80	4.29	45.54	-9.46	145.92	-9.46	100.00
85	4.37	41.13	-8.35	149.66	-8.35	100.00
90	4.41	36.85	-7.16	154.77	-7.16	100.00
95	4.36	32.81	-5.90	162.21	-5.90	100.00
100	4.38	28.97	-4.55	170.80	-4.55	100.00
105	4.40	25.50	-3.17	178.09	-3.17	100.00
110	4.34	22.64	-1.87	186.08	-1.87	100.00
115	4.29	20.55	-0.82	192.46	-0.82	100.00
120	4.26	19.49	-0.25	196.11	-0.25	100.00
125	3.98	19.88	-0.46	199.51	-0.46	100.00
130	3.53	21.56	-1.34	203.88	-1.34	100.00
135	3.13	24.10	-2.55	205.84	-2.55	100.00
140	2.51	27.45	-3.97	209.59	-3.97	100.00
145	2.44	30.84	-5.23	204.92	-5.23	100.00
150	2.34	34.61	-6.48	203.55	-6.48	100.00
155	2.31	38.58	-7.66	198.55	-7.66	100.00
160	1.80	42.94	-8.82	205.33	-8.82	100.00
165	1.68	47.24	-9.86	203.86	-9.86	100.00
170	1.36	51.69	-10.00	209.63	-10.00	100.00
175	0.77	56.27	-10.00	233.26	-10.00	101.30
180	0.97	60.67	-10.00	222.04	-10.00	100.00
185	1.38	65.10	-10.00	208.87	-10.00	100.00

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Coordination Values

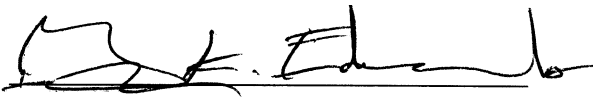
MANHASSET, NY

Licensee Name: Intelsat License LLC
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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: -12.2 (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	1.38	69.66	-10.00	208.95	-10.00	100.00
195	1.24	74.26	-10.00	213.02	-10.00	100.00
200	1.20	78.86	-10.00	214.20	-10.00	100.00
205	1.10	83.48	-10.00	217.11	-10.00	100.00
210	1.06	88.10	-10.00	218.39	-10.00	100.00
215	1.21	92.72	-10.00	213.77	-10.00	100.00
220	1.25	97.34	-10.00	212.75	-10.00	100.00
225	1.28	101.95	-10.00	211.92	-10.00	100.00
230	1.34	106.56	-10.00	210.13	-10.00	100.00
235	1.53	111.17	-10.00	204.68	-10.00	100.00
240	1.54	115.73	-10.00	204.49	-10.00	100.00
245	1.54	120.25	-10.00	204.57	-10.00	100.00
250	1.92	124.83	-10.00	196.55	-10.00	100.00
255	2.03	129.29	-10.00	193.83	-10.00	100.00
260	1.90	133.60	-10.00	197.31	-10.00	100.00
265	1.95	137.86	-10.00	195.81	-10.00	100.00
270	1.94	141.94	-10.00	196.02	-10.00	100.00
275	1.81	145.75	-10.00	199.64	-10.00	100.00
280	1.50	149.14	-10.00	205.59	-10.00	100.00
285	1.25	152.11	-10.00	212.74	-10.00	100.00
290	1.25	154.71	-10.00	212.79	-10.00	100.00
295	1.36	156.68	-10.00	209.45	-10.00	100.00
300	1.38	157.64	-10.00	209.04	-10.00	100.00
305	1.10	157.27	-10.00	217.27	-10.00	100.00
310	0.71	155.80	-10.00	236.52	-10.00	103.79
315	0.55	153.71	-10.00	246.24	-10.00	110.99
320	0.44	150.97	-10.00	256.72	-10.00	118.40
325	0.00	147.52	-10.00	285.28	-10.00	136.55
330	0.00	144.03	-10.00	285.28	-10.00	136.55
335	0.00	140.25	-10.00	285.28	-10.00	136.55
340	0.00	136.26	-10.00	285.28	-10.00	136.55
345	0.00	132.12	-10.00	285.28	-10.00	136.55
350	0.00	127.86	-10.00	285.28	-10.00	136.55
355	0.00	123.51	-10.00	285.28	-10.00	136.55

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.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: March 15, 2017