

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
MTN License Corp.
HOLMDEL, NJ
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
August 18, 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 receive-only earth station.

Company

City of New York
Clearwire Spectrum Holdings III, LLC
Direct Broadcast Services, Inc.
Sprint Spectrum L.P.
Sprintcom, Inc

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 06/20/2017.

Company

256Q Networks
AMFM Radio Licenses, LLC
AT&T Corp.
AWC Networks
Adams County Department of Emergency Svc
Affiniti PA, LLC
Algonquin Gas Transmission, LLC
Allentown SMSA Limited Partnership
Allfirst Bank
Altius Communications
Archdiocese of New York Dept of Educatio
Argos Engineering, LLC
Atlantic Broadband (Penn), LLC
Atlantic Telecommunications
Atlantic, County of
BFI Licenses, LLC
Baltimore City Department of Public Work
Baltimore County of Maryland
Baltimore Gas and Electric Company
Beasley Media Group, LLC
Believe Wireless, LLC
Bergen, County of
Berkeley, County of
Berks County Department of Emergency Ser
Binghamton MSA Limited Partnership(PA)
Blue Ridge Carriers
Blueline Communications
Buckeye Partners
Bucks County Dept. of Emergency Comm
Business Only Broadband, LLC
CBS Communications Services Inc
CBS Radio East Inc.
CBS Radio WLIF, Inc.
CMEEC
Cape May County Municipal Utilities Auth
Cape May County, MIS Department
Capital Communications of America
Cellco Partnership-Northern New Jersey
Central Hudson Gas & Electric Corp.
Chester, County of

China Cat Productions LLC
City of Bethlehem
City of Bristol Mayor's Office
City of Jersey City
City of Laurel
City of New Haven Police Services
City of New York
City of Ocean City, MD
City of Westfield
Citywisper LLC
Clair Global
Clarity Connect, Inc.
Clearwire Spectrum Holdings III, LLC
Columbia, County
Columbia, County of
Community Products, LLC
Comprehensive Wireless LLC
Connecticut, State of
Conterra Ultra Broadband, LLC
Coralinks
County of Burlington
County of Burlington, Public Safety Cntr
County of Camden
County of Hunterdon
County of Mercer
County of Warren, NJ
County of York
Cox Radio Inc
Cumberland, County of (PA)
D&E Communications, Inc.
DSRC Networks
Dauphin County Emergency Management
Delaware County (PA) Emergency Services
Delaware Division of Communications
Direct Broadcast Services, Inc.
Dutchess County Emergency Response
ECW Wireless, LLC
East Brunswick, Township of, NJ
East Hampton Town Police Department
Eastern MLG LLC
Egg Harbor Township, Board of Education
Electric Railroad, LLC
Enoch Pratt Free Library
Essex County Sheriff's Office (NJ)
Eversource Energy Service Company
Exelon Generation Company, LLC
FELHC, Inc.
Fishers Island Telephone
Fordham University(WFUUV)
Franklin County Dept. of Emergency Servi
Fulton County of (PA)
Fundamental Broadcasting LLC
Garden State Transmissions
Geodesic Networks LLC
Global Telecom & Technology Americas
Globecomm License Sub LLC

Gloucester Township
Gloucester, County of
Goosetown Network Services, LLC
Greater Boston Radio Inc.
Greenwich, Town of (CT)
Hamilton, Township of
Hammarlund Research LLC
Hardy Cellular Telephone Company
Hardy Telecommunications
Hearst Properties Inc
High Voltage Communications LLC (CFN)
Highway Networks, LLC
Holy Name Hospital
Hopewell Radiology Group
Hudson County MIS Department
Hudson County Prosecutors Office
Jackson Twp. Police Department
Jefferson Microwave, LLC
Jlink, Inc
Juniata County Emergency Services
Kent County Levy Court
Kryptick Technologies
LANline Communications, Inc.
Lackawanna County Dept. of Emergency Ser
Lackawanna, County of
Lancaster County-Wide Communications
Lehigh, County of
Limitless Mobile, LLC
Local Media TV Philadelphia
Mahwah Communications
Manchester, Township of
Marcus Communications LLC
Maryland Port Administration
Maryland Public Broadcasting Commission
Maryland State Highway Administration
Maryland, State of - DNR
Maryland, State of - Dept.of Info & Tech
Maryland, State of - MDOT-MTA
Mid-Hudson Data Corp
Middlesex, County of
Middletown, City of
Millersburg Area School District
Monmouth, County of
Monroe County Control Center (PA)
Montgomery County Of
Montgomery, County of
Morgan, County of
Morris, County of
NBC Telemundo License LLC
NEPA Fiber LLC
NW Technologies, LLC
NY Dept of Health and Mental Hygiene
NYC DOT Staten Island Ferry
Nassau County Police Department
National Tower Company II, LLC
National Tower Company LLC

NeXXCom Wireless LLC
Nep Cellcorp Inc
Netrepid, Inc.
New Britain, City of
New Cingular Wireless PCS LLC - NJ
New Cingular Wireless PCS - Maryland
New Cingular Wireless PCS LLC - DC
New Cingular Wireless PCS LLC - N CAL
New Cingular Wireless PCS LLC - WV,NC,SC
New Cingular Wireless PCS LLC-DE/NH/RI
New Cingular Wireless PCS of PA LLC
New Cingular Wireless PCS, LLC (NY)
New Cingular Wireless PCS, LLC - PA
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 Communications Co., Inc
New York Police Department
New York Presbyterian Hospital
New York SMSA LP (Northern NJ)
New York SMSA Limited Partnership
Newark Police Department
Norcom Communications Corp.
Norfolk Southern Railway
Noroc Broadband LLC
Northrop Grumman Systems Corp.
Northrop Grumman Systems Corporation Inc
Northumberland County DPS/911
Ocean, County of
Ocean, County of - Div of Wireless Tech.
Office of Emergency Telecom Services, NJ
Optiver GT US, LLC
Orange County Dept of Emergency Services
Orange and Rockland Utilities, Inc.
Orangetown, Town of
PSEG Services Corporation
Peco Energy Company
Pennsylvania 4 Sector 2 LP- PA Region
Pennsylvania Sports Entertainment Netwo.
Pennsylvania Turnpike Commission
Perry, County of
Perseus Technology Holdings USA Inc.
PhillieCo, L.P.
Piedmont Broadcasting Corporation
Pierce Broadband, LLC
Pines Pantry, Inc.
Piscataway, Township Of
Pitt Power
Port Authority of New York & New Jersey
Port Networks, Inc
Qoncept Holdings LLC
Qualcomm Inc.
Radio One, Inc. - MD

Rendezvous Communications LLC
Ridgefield Police Department
River Valley Internet LLC
Rockland, County of
SCS Networks
SW Networks
Salem County Information Technology
Sanofi Pasteur
Schuylkill, County of
Secom Net
Shenandoah Personal Communications, LLC
SmartSky Networks
Somerset County (M.I.S.)
Somerset, County of - Emergency Manageme
South Central Task Force (SCTFNET)
South Western School District
Southeastern Pennsylvania Transit Auth
Southington Town of CT
Southold Town Police Department
Spot On Networks
Sprint Spectrum L.P.
Sprintcom, Inc
St Lukes Hospital
Stamford, City of
Standard Backhaul Communications LLC
State of Maryland, MIEMSS
State of New Jersey
State of New Jersey
State of New Jersey Infomation Technolog
State of New York, Div of State Police
Suffolk County Police Department
Suffolk, County of
Sullivan County DPW
Sullivan, County of
Sussex County Council
Sussex County Sheriffs Office
T-Mobile License LLC
TTWN Networks, LLC
Telecom Transport Management, Inc
Telegia Communications Inc.
Thought Transmissions, LLC
Toms River Police Department
Toms River, Township of
Towerstream Corp.
Town of Smithtown Dept of Public Safety
Town of Thomaston
Town of Wethersfield
Town of Woodbridge, Police Department
Township of Middletown
Township of Monroe
Township of Old Bridge
Townsquare Media Atlantic City III Licen
Townsquare Media Monmouth-Ocean License
Townsquare Media Oneonta License, LLC
Transcontinental Gas Pipeline Corp.
Turtle Networks 6562

USCOC of Cumberland, Inc.
Ulster County of
Union County New Jersey
Union, County Of
Uniti Fiber PEG, LLC
Vector Data Systems, LLC
Verizon New Jersey, Inc.
Verizon Wireless (VAW) LLC (NY)
Verizon Wireless (VAW) LLC - Northern NJ
Verizon Wireless (VAW) LLC-Pennsylvania
Virginia Everywhere, LLC
WHYY, Inc.
WV DHHR BPH, Office of Ems, Com. Div.
Washington County Board of Education
Washington County Public Schools
Washington Gas Light Company
Washington Suburban Sanitary Commission
Wayne County - DHS-EM
Wayne, Township of
Weblin Holdings LLC
West Haven, City of
West Virginia Radio Corporation
Westchester, County of
Wireless Internetwork LLC
World Class Wireless, LLC
Wyoming, County of
XO Communications, LLC
Xvergent
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: 08/18/2017
Job Number: 170620COMSGE13

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E160163
Licensee Code MRNINC
Licensee Name MTN License Corp.

Site Information

HOLMDEL, NJ
Venue Name
Latitude (NAD 83) 40° 23' 42.0" N
Longitude (NAD 83) 74° 10' 24.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 104.27 m / 342.1 ft

Link Information

Satellite Type Geostationary
Mode RO - Receive-Only
Modulation Digital
Satellite Arc 17° W to 143° West Longitude
Azimuth Range 112.7° to 255.9°
Corresponding Elevation Angles 16.0° / 7.3°
Antenna Centerline (AGL) 3.96 m / 13.0 ft

Antenna Information

Receive - FCC32
Manufacturer Alpha Satcom
Model 90KUFRLP
Gain / Diameter 58.0 dBi / 9.0 m
3-dB / 15-dB Beamwidth 0.20° / 0.38°

Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Frequency Information

Receive 11.0 GHz
Emission / Frequency Range (MHz) 58K0G7W - 40M5G7W / 10700.0 - 11700.0
58K0G7W - 40M5G7W / 12200.0 - 12500.0

Max Great Circle Coordination Distance 476.6 km / 296.1 mi
Precipitation Scatter Contour Radius 565.1 km / 351.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
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Coordination Values

HOLMDEL, NJ

Licensee Name MTN License Corp.
Latitude (NAD 83) 40° 23' 42.0" N
Longitude (NAD 83) 74° 10' 24.0" W
Ground Elevation (AMSL) 104.27 m / 342.1 ft
Antenna Centerline (AGL) 3.96 m / 13.0 ft
Antenna Model Alpha Satcom 9 Meter
Antenna Mode Receive 11.0 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	103.98	-10.00	231.37
5	0.00	106.98	-10.00	231.37
10	0.00	102.19	-10.00	231.37
15	0.00	97.39	-10.00	231.37
20	0.00	92.59	-10.00	231.37
25	0.00	87.78	-10.00	231.37
30	0.00	82.98	-10.00	231.37
35	0.00	78.18	-10.00	231.37
40	0.00	73.38	-10.00	231.37
45	0.00	68.60	-10.00	231.37
50	0.00	63.83	-10.00	231.37
55	0.00	59.09	-10.00	231.37
60	0.00	54.37	-10.00	231.37
65	0.00	49.69	-10.00	231.37
70	0.00	45.05	-9.34	234.26
75	0.00	40.49	-8.18	239.50
80	0.00	36.01	-6.91	245.55
85	0.00	31.67	-5.52	252.25
90	0.00	27.53	-4.00	259.81
95	0.00	23.70	-2.37	268.19
100	0.00	20.34	-0.71	277.03
105	0.00	17.73	0.78	285.21
110	0.00	16.25	1.73	290.57
115	0.00	16.19	1.77	290.79
120	0.00	17.58	0.88	285.75
125	0.00	20.11	-0.59	277.69
130	0.00	23.36	-2.21	269.02
135	0.00	26.58	-3.61	261.75
140	0.00	29.65	-4.80	255.79
145	0.00	32.50	-5.80	250.89
150	0.00	35.12	-6.64	246.84
155	0.00	37.46	-7.34	243.40
160	0.00	39.47	-7.91	240.77
165	0.00	41.10	-8.35	238.76
170	0.00	42.30	-8.66	237.34
175	0.00	43.04	-8.85	236.48
180	0.00	43.29	-8.91	236.20
185	0.00	43.04	-8.85	236.49

COMSEARCH

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Coordination Values

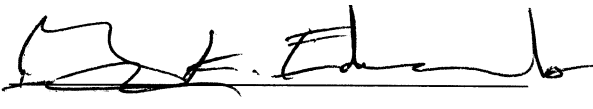
HOLMDEL, NJ

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Latitude (NAD 83) 40° 23' 42.0" N
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Antenna Mode Receive 11.0 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	42.30	-8.66	237.33
195	0.00	41.10	-8.34	238.76
200	0.00	39.47	-7.91	240.77
205	0.00	37.46	-7.34	243.41
210	0.00	35.12	-6.64	246.84
215	0.00	32.50	-5.80	250.89
220	0.00	29.64	-4.80	255.80
225	0.00	26.58	-3.62	261.75
230	0.00	23.36	-2.21	269.01
235	0.00	20.00	-0.52	278.03
240	0.00	16.52	1.55	289.55
245	0.00	12.95	4.20	302.14
250	0.00	9.41	7.66	326.04
255	0.00	7.40	10.28	476.60
260	0.00	8.40	8.89	335.58
265	0.00	11.67	5.33	309.48
270	0.00	15.86	2.00	292.07
275	0.00	20.41	-0.74	276.83
280	0.00	25.12	-3.00	264.90
285	0.00	29.93	-4.90	255.29
290	0.00	34.78	-6.53	247.35
295	0.00	39.67	-7.96	240.52
300	0.00	44.58	-9.23	234.78
305	0.00	49.50	-10.00	231.37
310	0.00	54.43	-10.00	231.37
315	0.00	59.37	-10.00	231.37
320	0.00	64.32	-10.00	231.37
325	0.00	69.27	-10.00	231.37
330	0.00	74.23	-10.00	231.37
335	0.00	79.18	-10.00	231.37
340	0.00	84.14	-10.00	231.37
345	0.00	89.10	-10.00	231.37
350	0.00	94.06	-10.00	231.37
355	0.00	99.02	-10.00	231.37

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: August 18, 2017