

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**NBC Telemundo License LLC (New York City)**  
**ENGLEWOOD CLIFFS, NJ**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
March 20, 2019

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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

xWave Engineering LLC  
Weblin Holdings LLC  
SW Networks

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 02/14/2019.

Company

AB Services LLC  
AQ2AT LLC  
AT&T Corp.  
AT&T Wireless Services 3 LLC - PA  
Algonquin Gas Transmission, LLC  
Allentown SMSA Limited Partnership  
Atlantic City Electric Company  
Auburn Data Systems, LLC  
Berks County Department of Emergency Ser  
Blueline Communications  
Bucks County Dept. of Emergency Comm  
Capital Communications of America  
Carbon, County of 911 Center  
Cellco Partnership - (W-NY)  
Cellco Prtnrshp - Phil. Tri-State Rgn  
Central Hudson Gas & Electric Corp.  
Chester, County of  
City of New York  
Commonwealth of Pennsylvania-Radio Proj.  
Connecticut, State of  
Consolidated Edison Company of New York  
County of Burlington, Public Safety Cntr  
County of Camden  
County of Pike  
County of Warren, NJ  
Cox Radio Inc  
DSRC Networks  
Dauphin County Emergency Management  
Delaware County (PA) Emergency Services  
Direct Broadcast Services, Inc.  
Dutchess County Emergency Response  
East Hampton Town Police Department  
Eastern MLG LLC  
Eastern Pennsylvania EMS Council  
Electric Railroad, LLC  
Essex County Sheriff's Office (NJ)  
Eversource Energy Service Company  
Exelon Generation Company, LLC  
FELHC, Inc.  
Frascozna, Carl  
GTT America LLC

Garden State Transmissions  
Gloucester, County of  
Goosetown Network Services, LLC  
Hammarlund Research LLC  
High Voltage Communications LLC (CFN)  
Higher Ground LLC  
Highway Networks, LLC  
Jefferson Microwave, LLC  
Kryptick Technologies  
Lackawanna, County of  
Lancaster County-Wide Communications  
Marcus Spectrum Holdings, LLC  
Middlesex, County of  
Monmouth, County of  
Monroe County Control Center (PA)  
Montgomery County Of  
Morris, County of  
Nassau County Police Department  
New Cingular Wireless PCS LLC - NJ  
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  
Norfolk Southern Railway  
Ocean County of - Div of Wireless Tech.  
Office of Emergency Telecom Services, NJ  
Orange County Dept of Emergency Services  
Orange Poughkeepsie SMSA LTD Partnership  
Orange and Rockland Utilities, Inc.  
PSEG Services Corporation  
Peco Energy Company  
Pennsylvania Turnpike Commission  
Pike County Commissioners  
Port Authority of New York & New Jersey  
Putnam County Bureau of Emerg. Services  
Qoncept Holdings LLC  
SW Networks  
Shenandoah Personal Communications, LLC  
South Central Task Force (SCTFNET)  
Southampton, Town Of, Police Dept.  
Suffolk County Police Department  
Sullivan County DPW  
Texas Eastern Communications, LLC  
Transcontinental Gas Pipeline Corp.  
Transwave Communication Systems, Inc.  
Ulster County of  
Uniti Fiber PEG, LLC  
Verizon Wireless (VAW) LLC - Delaware/NJ  
Verizon Wireless (VAW) LLC-Pennsylvania  
Weblin 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: 03/20/2019  
Job Number: 190214COMSGE06

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E040464  
Licensee Code NBCNYC  
Licensee Name NBC Telemundo License LLC (New York Cty)

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### Site Information ENGLEWOOD CL, NJ

Venue Name  
Latitude (NAD 83) 40° 53' 43.5" N  
Longitude (NAD 83) 73° 56' 35.5" W  
Climate Zone A  
Rain Zone 2  
Ground Elevation (AMSL) 127.66 m / 418.8 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 60° W to 143° West Longitude  
Azimuth Range 159.2° to 255.9°  
Corresponding Elevation Angles 40.6° / 7.0°  
Antenna Centerline (AGL) 6.1 m / 20.0 ft

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### Antenna Information

	Receive - FCC32	Transmit - FCC32
Manufacturer	Vertex	Vertex
Model	9 KPC	9 KPC
Gain / Diameter	49.9 dBi / 9.0 m	53.7 dBi / 9.0 m
3-dB / 15-dB Beamwidth	0.54° / 1.13°	0.35° / 0.74°
Max Available RF Power (dBW/4 kHz)		-12.2
(dBW/MHz)		11.8
Maximum EIRP (dBW/4 kHz)		41.5
(dBW/MHz)		65.5
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%

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### Frequency Information

	Receive 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	36M0G7W / 3700.0 - 4200.0	36M0G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	541.9 km / 336.7 mi	246.4 km / 153.1 mi
Precipitation Scatter Contour Radius	580.1 km / 360.4 mi	100.0 km / 62.1 mi

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### ENGLEWOOD CL, NJ

Licensee Name NBC Telemundo License LLC (New York Cty)  
Latitude (NAD 83) 40° 53' 43.5" N  
Longitude (NAD 83) 73° 56' 35.5" W  
Ground Elevation (AMSL) 127.66 m / 418.8 ft  
Antenna Centerline (AGL) 6.1 m / 20.0 ft  
Antenna Model Vertex 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	103.96	-10.00	285.28	-10.00	136.55
5	0.00	108.92	-10.00	285.28	-10.00	136.55
10	0.00	113.88	-10.00	285.28	-10.00	136.55
15	0.00	118.83	-10.00	285.28	-10.00	136.55
20	0.00	123.78	-10.00	285.28	-10.00	136.55
25	0.00	121.98	-10.00	285.28	-10.00	136.55
30	0.00	118.70	-10.00	285.28	-10.00	136.55
35	0.00	115.29	-10.00	285.28	-10.00	136.55
40	0.00	111.77	-10.00	285.28	-10.00	136.55
45	0.00	108.16	-10.00	285.28	-10.00	136.55
50	0.00	104.49	-10.00	285.28	-10.00	136.55
55	0.00	100.76	-10.00	285.28	-10.00	136.55
60	0.00	97.00	-10.00	285.28	-10.00	136.55
65	0.00	93.21	-10.00	285.28	-10.00	136.55
70	0.00	89.42	-10.00	285.28	-10.00	136.55
75	0.00	85.63	-10.00	285.28	-10.00	136.55
80	0.00	81.85	-10.00	285.28	-10.00	136.55
85	0.00	78.09	-10.00	285.28	-10.00	136.55
90	0.00	74.38	-10.00	285.28	-10.00	136.55
95	0.00	70.73	-10.00	285.28	-10.00	136.55
100	0.00	67.15	-10.00	285.28	-10.00	136.55
105	0.00	63.65	-10.00	285.28	-10.00	136.55
110	0.00	60.28	-10.00	285.28	-10.00	136.55
115	0.00	57.04	-10.00	285.28	-10.00	136.55
120	0.00	53.98	-10.00	285.28	-10.00	136.55
125	0.00	51.12	-10.00	285.28	-10.00	136.55
130	0.00	48.50	-10.00	285.28	-10.00	136.55
135	0.00	46.18	-9.61	287.76	-9.61	137.67
140	0.00	44.20	-9.14	290.84	-9.14	139.06
145	0.00	42.61	-8.74	293.43	-8.74	140.25
150	0.00	41.46	-8.44	295.40	-8.44	141.15
155	0.00	40.78	-8.26	296.58	-8.26	141.69
160	0.00	40.60	-8.21	296.89	-8.21	141.84
165	0.00	40.94	-8.30	296.31	-8.30	141.57
170	0.00	41.76	-8.52	294.88	-8.52	140.91
175	0.00	42.48	-8.71	293.65	-8.71	140.34
180	0.00	42.73	-8.77	293.24	-8.77	140.16
185	0.00	42.48	-8.71	293.65	-8.71	140.34

# COMSEARCH

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### Coordination Values

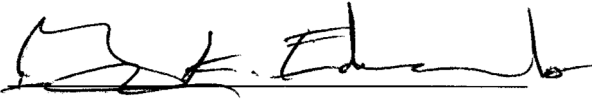
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Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%  
Max Available RF Power -12.2 (dBW/4 kHz)

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	0.00	41.76	-8.52	294.88	-8.52	140.91
195	0.00	40.58	-8.21	296.94	-8.21	141.86
200	0.00	38.97	-7.77	299.86	-7.77	143.21
205	0.00	37.00	-7.20	303.69	-7.20	145.00
210	0.00	34.69	-6.51	308.48	-6.51	147.25
215	0.00	32.10	-5.66	314.99	-5.66	150.05
220	0.00	29.28	-4.66	322.07	-4.66	153.48
225	0.00	26.25	-3.48	330.63	-3.48	157.71
230	0.00	23.05	-2.07	340.99	-2.07	162.95
235	0.00	19.72	-0.37	353.75	-0.37	171.15
240	0.00	16.28	1.71	369.86	1.71	179.23
245	0.00	12.75	4.36	390.44	4.36	189.46
250	0.00	9.20	7.91	420.37	7.91	203.03
255	0.00	7.10	10.71	541.91	10.71	246.37
260	0.00	8.13	9.25	432.22	9.25	206.52
265	0.00	11.46	5.52	399.96	5.52	193.89
270	0.00	15.70	2.10	372.94	2.10	180.75
275	0.00	20.28	-0.68	351.44	-0.68	169.96
280	0.00	25.02	-2.96	334.44	-2.96	159.62
285	0.00	29.84	-4.87	320.61	-4.87	152.77
290	0.00	34.70	-6.51	308.46	-6.51	147.24
295	0.00	39.60	-7.94	298.71	-7.94	142.68
300	0.00	44.51	-9.21	290.34	-9.21	138.83
305	0.00	49.44	-10.00	285.28	-10.00	136.55
310	0.00	54.38	-10.00	285.28	-10.00	136.55
315	0.00	59.33	-10.00	285.28	-10.00	136.55
320	0.00	64.28	-10.00	285.28	-10.00	136.55
325	0.00	69.23	-10.00	285.28	-10.00	136.55
330	0.00	74.19	-10.00	285.28	-10.00	136.55
335	0.00	79.15	-10.00	285.28	-10.00	136.55
340	0.00	84.11	-10.00	285.28	-10.00	136.55
345	0.00	89.08	-10.00	285.28	-10.00	136.55
350	0.00	94.04	-10.00	285.28	-10.00	136.55
355	0.00	99.00	-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 20, 2019