

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Comcast Cable Communications Management,  
EARLE, AR  
Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
June 15, 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. Further, there will be no restrictions of its operation due to interference considerations.

## **2. SUMMARY OF RESULTS**

No great circle interference cases were identified during the interference study of the proposed earth station.

### 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 06/15/2018.

<u>Company</u>
Comsearch

## **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: 06/15/2018  
Job Number: 180615COMSGE28

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E170186  
Licensee Code COMWGR  
Licensee Name Comcast Cable Communications Management,

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### Site Information

#### EARLE, AR

Venue Name  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 65.55 m / 215.1 ft

---

### Link Information

Satellite Type Geostationary  
Mode RO - Receive-Only  
Modulation Digital  
Satellite Arc 60° W to 143° West Longitude  
Azimuth Range 134.4° to 246.1°  
Corresponding Elevation Angles 37.9° / 21.7°  
Antenna Centerline (AGL) 2.74 m / 9.0 ft

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### Antenna Information

#### Receive - S40321

Manufacturer Winegard  
Model 3.5 meter  
Gain / Diameter 40.0 dBi / 3.5 m  
3-dB / 15-dB Beamwidth 1.70° / 3.40°

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

---

### Frequency Information

#### Receive 4.0 GHz

Emission / Frequency Range (MHz) 36M0G7W / 3700.0 - 4200.0

Max Great Circle Coordination Distance 348.7 km / 216.6 mi  
Precipitation Scatter Contour Radius 575.4 km / 357.5 mi

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
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### Coordination Values

### EARLE, AR

Licensee Name Comcast Cable Communications Management,  
Latitude (NAD 83) 35° 16' 6.4" N  
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Antenna Model Winegard 3.5 meter  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	112.10	-10.00	285.28
5	0.00	116.67	-10.00	285.28
10	0.00	116.52	-10.00	285.28
15	0.00	112.84	-10.00	285.28
20	0.00	109.07	-10.00	285.28
25	0.00	105.24	-10.00	285.28
30	0.00	101.36	-10.00	285.28
35	0.00	97.45	-10.00	285.28
40	0.00	93.51	-10.00	285.28
45	0.00	89.56	-10.00	285.28
50	0.00	85.62	-10.00	285.28
55	0.00	81.69	-10.00	285.28
60	0.00	77.78	-10.00	285.28
65	0.00	73.91	-10.00	285.28
70	0.00	70.09	-10.00	285.28
75	0.00	66.34	-10.00	285.28
80	0.00	62.67	-10.00	285.28
85	0.00	59.11	-10.00	285.28
90	0.00	55.69	-10.00	285.28
95	0.00	52.43	-10.00	285.28
100	0.00	49.38	-9.88	286.08
105	0.00	46.56	-9.31	289.69
110	0.00	44.05	-8.81	292.96
115	0.00	41.88	-8.38	295.81
120	0.00	40.13	-8.03	298.14
125	0.00	38.85	-7.77	299.87
130	0.00	38.08	-7.62	300.90
135	0.00	37.86	-7.57	301.19
140	0.00	38.20	-7.64	300.73
145	0.00	39.09	-7.82	299.54
150	0.00	40.48	-8.10	297.68
155	0.00	42.33	-8.47	295.22
160	0.00	44.52	-8.90	292.34
165	0.00	46.43	-9.29	289.86
170	0.00	47.86	-9.57	288.02
175	0.00	48.74	-9.75	286.88
180	0.00	49.05	-9.81	286.50
185	0.00	48.74	-9.75	286.88



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## Earth Station Data Sheet

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### Coordination Values

### EARLE, AR

Licensee Name Comcast Cable Communications Management,  
Latitude (NAD 83) 35° 16' 6.4" N  
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Antenna Model Winegard 3.5 meter  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	47.86	-9.57	288.02
195	0.00	46.43	-9.29	289.86
200	0.00	44.52	-8.90	292.34
205	0.00	42.19	-8.44	295.41
210	0.00	39.51	-7.90	298.98
215	0.00	36.53	-7.31	302.99
220	0.00	33.32	-6.33	309.72
225	0.00	29.93	-4.97	319.89
230	0.00	26.81	-3.72	328.85
235	0.00	24.27	-2.56	337.33
240	0.00	22.52	-1.51	345.15
245	0.00	21.74	-1.05	348.65
250	0.00	22.05	-1.23	347.29
255	0.00	23.38	-2.03	341.28
260	0.00	25.60	-3.24	332.38
265	0.00	28.48	-4.39	324.03
270	0.00	31.85	-5.74	314.45
275	0.00	35.57	-7.11	304.30
280	0.00	39.54	-7.91	298.94
285	0.00	43.69	-8.74	293.44
290	0.00	47.97	-9.59	287.88
295	0.00	52.35	-10.00	285.28
300	0.00	56.80	-10.00	285.28
305	0.00	61.31	-10.00	285.28
310	0.00	65.87	-10.00	285.28
315	0.00	70.45	-10.00	285.28
320	0.00	75.06	-10.00	285.28
325	0.00	79.69	-10.00	285.28
330	0.00	84.32	-10.00	285.28
335	0.00	88.97	-10.00	285.28
340	0.00	93.61	-10.00	285.28
345	0.00	98.25	-10.00	285.28
350	0.00	102.88	-10.00	285.28
355	0.00	107.50	-10.00	285.28

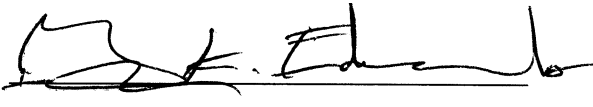
# COMSEARCH

## Earth Station Data Sheet

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

### 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: June 15, 2018

# **COMSEARCH**

## **Earth Station Data Sheet**

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# **FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT**

Prepared for  
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Prepared By:  
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June 15, 2018

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## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
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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**

No great circle interference cases were identified during the interference study of the proposed earth station.

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### 3. SUPPLEMENTAL SHOWING

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Coordination data for this earth station was sent to the below listed carriers with a letter dated 06/15/2018.

Company  
Comsearch

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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: 06/15/2018  
Job Number: 180615COMSGE24

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E170186  
Licensee Code COMWGR  
Licensee Name Comcast Cable Communications Management,

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### Site Information

**EARLE, AR**  
Venue Name  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 65.55 m / 215.1 ft

---

### Link Information

Satellite Type Geostationary  
Mode RO - Receive-Only  
Modulation Digital  
Satellite Arc 60° W to 143° West Longitude  
Azimuth Range 134.4° to 246.1°  
Corresponding Elevation Angles 37.9° / 21.7°  
Antenna Centerline (AGL) 2.74 m / 9.0 ft

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### Antenna Information

**Receive - S40452**  
Manufacturer SCIENTIFIC-ATLANTA, INC  
Model 8345 4.5 METER  
Gain / Diameter 43.3 dBi / 4.5 m  
3-dB / 15-dB Beamwidth 1.20° / 2.50°  
  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

---

### Frequency Information

**Receive 4.0 GHz**  
Emission / Frequency Range (MHz) 36M0G7W / 3700.0 - 4200.0

Max Great Circle Coordination Distance 293.7 km / 182.5 mi  
Precipitation Scatter Contour Radius 575.4 km / 357.5 mi

# COMSEARCH

## Earth Station Data Sheet

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Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	112.10	-12.38	270.60
5	0.00	116.67	-15.37	253.45
10	0.00	116.52	-15.31	253.76
15	0.00	112.84	-12.97	267.09
20	0.00	109.07	-10.51	282.03
25	0.00	105.24	-9.75	286.89
30	0.00	101.36	-9.70	287.20
35	0.00	97.45	-9.70	287.20
40	0.00	93.51	-9.70	287.20
45	0.00	89.56	-9.70	287.20
50	0.00	85.62	-9.70	287.20
55	0.00	81.69	-9.70	287.20
60	0.00	77.78	-9.70	287.20
65	0.00	73.91	-9.70	287.20
70	0.00	70.09	-9.70	287.20
75	0.00	66.34	-9.70	287.20
80	0.00	62.67	-9.70	287.20
85	0.00	59.11	-9.70	287.20
90	0.00	55.69	-9.70	287.20
95	0.00	52.43	-9.70	287.20
100	0.00	49.38	-9.70	287.20
105	0.00	46.56	-9.70	287.20
110	0.00	44.05	-9.70	287.20
115	0.00	41.88	-9.70	287.20
120	0.00	40.13	-9.70	287.20
125	0.00	38.85	-9.70	287.20
130	0.00	38.08	-9.70	287.20
135	0.00	37.86	-9.70	287.20
140	0.00	38.20	-9.70	287.20
145	0.00	39.09	-9.70	287.20
150	0.00	40.48	-9.78	286.71
155	0.00	42.33	-9.76	286.79
160	0.00	44.52	-10.42	282.61
165	0.00	46.43	-10.70	280.87
170	0.00	47.86	-10.70	280.87
175	0.00	48.74	-10.70	280.87
180	0.00	49.05	-11.54	275.68
185	0.00	48.74	-12.70	268.69

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### Coordination Values

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Antenna Model SCIENTIFIC-ATLANTA, INC 8345 4.5 METER  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	47.86	-12.70	268.69
195	0.00	46.43	-11.84	273.88
200	0.00	44.52	-10.70	280.87
205	0.00	42.19	-10.70	280.87
210	0.00	39.51	-10.70	280.87
215	0.00	36.53	-10.70	280.87
220	0.00	33.32	-10.40	282.74
225	0.00	29.93	-8.70	293.68
230	0.00	26.81	-8.70	293.68
235	0.00	24.27	-8.70	293.68
240	0.00	22.52	-8.70	293.68
245	0.00	21.74	-8.70	293.68
250	0.00	22.05	-8.70	293.68
255	0.00	23.38	-8.70	293.68
260	0.00	25.60	-8.70	293.68
265	0.00	28.48	-8.70	293.68
270	0.00	31.85	-9.70	287.20
275	0.00	35.57	-9.70	287.20
280	0.00	39.54	-9.70	287.20
285	0.00	43.69	-9.70	287.20
290	0.00	47.97	-9.70	287.20
295	0.00	52.35	-9.70	287.20
300	0.00	56.80	-9.70	287.20
305	0.00	61.31	-9.70	287.20
310	0.00	65.87	-9.70	287.20
315	0.00	70.45	-9.70	287.20
320	0.00	75.06	-9.70	287.20
325	0.00	79.69	-9.70	287.20
330	0.00	84.32	-9.70	287.20
335	0.00	88.97	-9.70	287.20
340	0.00	93.61	-9.70	287.20
345	0.00	98.25	-9.70	287.20
350	0.00	102.88	-9.70	287.20
355	0.00	107.50	-10.20	284.01

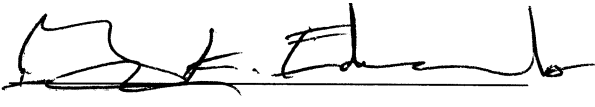
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## Earth Station Data Sheet

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BY: 

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Senior Manager  
COMSEARCH  
19700 Janelia Farm Boulevard  
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DATED: June 15, 2018

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June 15, 2018

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Comsearch

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

Date: 06/15/2018  
Job Number: 180615COMSGE25

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E170186  
Licensee Code COMWGR  
Licensee Name Comcast Cable Communications Management,

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### Site Information

#### EARLE, AR

Venue Name  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 65.55 m / 215.1 ft

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### Link Information

Satellite Type Geostationary  
Mode RO - Receive-Only  
Modulation Digital  
Satellite Arc 60° W to 143° West Longitude  
Azimuth Range 134.4° to 246.1°  
Corresponding Elevation Angles 37.9° / 21.7°  
Antenna Centerline (AGL) 2.74 m / 9.0 ft

---

### Antenna Information

#### Receive - C40381

Manufacturer COMTECH ANTENNA SYSTEMS  
Model 3.8 METER PF  
Gain / Diameter 42.9 dBi / 3.8 m  
3-dB / 15-dB Beamwidth 1.40° / 2.80°

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

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### Frequency Information

#### Receive 4.0 GHz

Emission / Frequency Range (MHz) 36M0G7W / 3700.0 - 4200.0

Max Great Circle Coordination Distance 335.6 km / 208.5 mi  
Precipitation Scatter Contour Radius 575.4 km / 357.5 mi

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5	0.00	116.67	-8.77	293.24
10	0.00	116.52	-8.71	293.62
15	0.00	112.84	-8.10	297.65
20	0.00	109.07	-8.10	297.65
25	0.00	105.24	-8.10	297.65
30	0.00	101.36	-8.10	297.65
35	0.00	97.45	-8.10	297.65
40	0.00	93.51	-8.10	297.65
45	0.00	89.56	-8.10	297.65
50	0.00	85.62	-8.10	297.65
55	0.00	81.69	-8.10	297.65
60	0.00	77.78	-8.10	297.65
65	0.00	73.91	-8.10	297.65
70	0.00	70.09	-8.10	297.65
75	0.00	66.34	-8.10	297.65
80	0.00	62.67	-8.10	297.65
85	0.00	59.11	-8.10	297.65
90	0.00	55.69	-8.10	297.65
95	0.00	52.43	-8.10	297.65
100	0.00	49.38	-8.10	297.65
105	0.00	46.56	-8.10	297.65
110	0.00	44.05	-8.10	297.65
115	0.00	41.88	-7.85	299.30
120	0.00	40.13	-7.15	304.04
125	0.00	38.85	-6.87	305.98
130	0.00	38.08	-6.72	307.03
135	0.00	37.86	-6.67	307.33
140	0.00	38.20	-6.74	306.86
145	0.00	39.09	-6.92	305.64
150	0.00	40.48	-7.29	303.09
155	0.00	42.33	-8.03	298.11
160	0.00	44.52	-8.91	292.32
165	0.00	46.43	-9.39	289.21
170	0.00	47.86	-9.67	287.37
175	0.00	48.74	-9.85	286.24
180	0.00	49.05	-9.91	285.86
185	0.00	48.74	-9.85	286.24

# COMSEARCH

## Earth Station Data Sheet

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

### Coordination Values

### EARLE, AR

Licensee Name Comcast Cable Communications Management,  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Ground Elevation (AMSL) 65.55 m / 215.1 ft  
Antenna Centerline (AGL) 2.74 m / 9.0 ft  
Antenna Model COMTECH ANTENNA SYSTEMS 3.8 METER PF  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	47.86	-9.67	287.37
195	0.00	46.43	-9.39	289.21
200	0.00	44.52	-8.91	292.31
205	0.00	42.19	-7.98	298.48
210	0.00	39.51	-7.00	305.07
215	0.00	36.53	-6.41	309.17
220	0.00	33.32	-6.10	311.30
225	0.00	29.93	-6.07	311.51
230	0.00	26.81	-4.82	320.94
235	0.00	24.27	-3.81	328.23
240	0.00	22.52	-3.11	333.33
245	0.00	21.74	-2.80	335.61
250	0.00	22.05	-2.92	334.72
255	0.00	23.38	-3.45	330.81
260	0.00	25.60	-4.34	324.41
265	0.00	28.48	-5.49	316.20
270	0.00	31.85	-6.10	311.30
275	0.00	35.57	-6.21	310.51
280	0.00	39.54	-7.01	305.03
285	0.00	43.69	-8.10	297.65
290	0.00	47.97	-8.10	297.65
295	0.00	52.35	-8.10	297.65
300	0.00	56.80	-8.10	297.65
305	0.00	61.31	-8.10	297.65
310	0.00	65.87	-8.10	297.65
315	0.00	70.45	-8.10	297.65
320	0.00	75.06	-8.10	297.65
325	0.00	79.69	-8.10	297.65
330	0.00	84.32	-8.10	297.65
335	0.00	88.97	-8.10	297.65
340	0.00	93.61	-8.10	297.65
345	0.00	98.25	-8.10	297.65
350	0.00	102.88	-8.10	297.65
355	0.00	107.50	-8.10	297.65

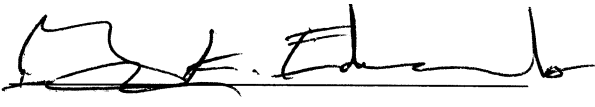
# COMSEARCH

## Earth Station Data Sheet

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

### 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: June 15, 2018

# **COMSEARCH**

## **Earth Station Data Sheet**

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

# **FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT**

Prepared for  
**Comcast Cable Communications Management,  
EARLE, AR  
Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
June 15, 2018

# COMSEARCH

## Earth Station Data Sheet

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

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3. SUPPLEMENTAL SHOWING .....	5
4. EARTH STATION COORDINATION DATA.....	6
5. CERTIFICATION.....	10



# COMSEARCH

## Earth Station Data Sheet

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

## 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**

No great circle interference cases were identified during the interference study of the proposed earth station.

**COMSEARCH**  
**Earth Station Data Sheet**  
19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

### 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 06/15/2018.

Company  
Comsearch

## **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: 06/15/2018  
Job Number: 180615COMSGE26

---

### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E170186  
Licensee Code COMWGR  
Licensee Name Comcast Cable Communications Management,

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### Site Information

#### EARLE, AR

Venue Name  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 65.55 m / 215.1 ft

---

### Link Information

Satellite Type Geostationary  
Mode RO - Receive-Only  
Modulation Digital  
Satellite Arc 60° W to 143° West Longitude  
Azimuth Range 134.4° to 246.1°  
Corresponding Elevation Angles 37.9° / 21.7°  
Antenna Centerline (AGL) 2.74 m / 9.0 ft

---

### Antenna Information

#### Receive - P40371

Manufacturer Satcom  
Model 1344  
Gain / Diameter 41.7 dBi / 3.4 m  
3-dB / 15-dB Beamwidth 1.40° / 2.40°

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

---

### Frequency Information

#### Receive 4.0 GHz

Emission / Frequency Range (MHz) 36M0G7W / 3700.0 - 4200.0

Max Great Circle Coordination Distance 349.0 km / 216.8 mi  
Precipitation Scatter Contour Radius 575.4 km / 357.5 mi

# COMSEARCH

## Earth Station Data Sheet

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

### Coordination Values

### EARLE, AR

Licensee Name Comcast Cable Communications Management,  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Ground Elevation (AMSL) 65.55 m / 215.1 ft  
Antenna Centerline (AGL) 2.74 m / 9.0 ft  
Antenna Model Satcom 3.4m  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	112.10	-10.30	283.38
5	0.00	116.67	-10.30	283.38
10	0.00	116.52	-10.30	283.38
15	0.00	112.84	-10.30	283.38
20	0.00	109.07	-10.30	283.38
25	0.00	105.24	-10.30	283.38
30	0.00	101.36	-10.30	283.38
35	0.00	97.45	-10.30	283.38
40	0.00	93.51	-10.30	283.38
45	0.00	89.56	-10.30	283.38
50	0.00	85.62	-10.30	283.38
55	0.00	81.69	-10.30	283.38
60	0.00	77.78	-10.30	283.38
65	0.00	73.91	-10.30	283.38
70	0.00	70.09	-10.30	283.38
75	0.00	66.34	-10.30	283.38
80	0.00	62.67	-10.30	283.38
85	0.00	59.11	-10.30	283.38
90	0.00	55.69	-10.30	283.38
95	0.00	52.43	-10.30	283.38
100	0.00	49.38	-10.18	284.17
105	0.00	46.56	-9.61	287.75
110	0.00	44.05	-8.92	292.25
115	0.00	41.88	-8.05	297.96
120	0.00	40.13	-7.35	302.68
125	0.00	38.85	-6.84	306.19
130	0.00	38.08	-6.53	308.30
135	0.00	37.86	-6.44	308.90
140	0.00	38.20	-6.58	307.96
145	0.00	39.09	-6.94	305.52
150	0.00	40.48	-7.49	301.73
155	0.00	42.33	-8.23	296.77
160	0.00	44.52	-9.11	291.01
165	0.00	46.43	-9.59	287.92
170	0.00	47.86	-9.87	286.09
175	0.00	48.74	-10.05	284.97
180	0.00	49.05	-10.11	284.59
185	0.00	48.74	-10.05	284.97

# COMSEARCH

## Earth Station Data Sheet

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

### Coordination Values

### EARLE, AR

Licensee Name Comcast Cable Communications Management,  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Ground Elevation (AMSL) 65.55 m / 215.1 ft  
Antenna Centerline (AGL) 2.74 m / 9.0 ft  
Antenna Model Satcom 3.4m  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	47.86	-9.87	286.10
195	0.00	46.43	-9.59	287.92
200	0.00	44.52	-9.11	291.01
205	0.00	42.19	-8.18	297.14
210	0.00	39.51	-7.10	304.38
215	0.00	36.53	-5.91	313.24
220	0.00	33.32	-4.63	322.34
225	0.00	29.93	-3.29	332.03
230	0.00	26.81	-2.66	336.61
235	0.00	24.27	-2.01	341.44
240	0.00	22.52	-1.31	346.68
245	0.00	21.74	-1.00	349.02
250	0.00	22.05	-1.12	348.11
255	0.00	23.38	-1.65	344.09
260	0.00	25.60	-2.42	338.40
265	0.00	28.48	-3.00	334.15
270	0.00	31.85	-4.04	326.56
275	0.00	35.57	-5.53	315.95
280	0.00	39.54	-7.11	304.29
285	0.00	43.69	-8.77	293.19
290	0.00	47.97	-9.89	285.96
295	0.00	52.35	-10.30	283.38
300	0.00	56.80	-10.30	283.38
305	0.00	61.31	-10.30	283.38
310	0.00	65.87	-10.30	283.38
315	0.00	70.45	-10.30	283.38
320	0.00	75.06	-10.30	283.38
325	0.00	79.69	-10.30	283.38
330	0.00	84.32	-10.30	283.38
335	0.00	88.97	-10.30	283.38
340	0.00	93.61	-10.30	283.38
345	0.00	98.25	-10.30	283.38
350	0.00	102.88	-10.30	283.38
355	0.00	107.50	-10.30	283.38

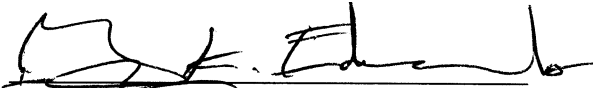
# COMSEARCH

## Earth Station Data Sheet

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

### 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: June 15, 2018



# **COMSEARCH**

## **Earth Station Data Sheet**

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

# **FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT**

Prepared for  
**Comcast Cable Communications Management,  
EARLE, AR  
Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
June 15, 2018

# COMSEARCH

## Earth Station Data Sheet

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

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4. EARTH STATION COORDINATION DATA.....	6
5. CERTIFICATION.....	10

# COMSEARCH

## Earth Station Data Sheet

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

## 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**

No great circle interference cases were identified during the interference study of the proposed earth station.

# COMSEARCH

## Earth Station Data Sheet

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

### 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 06/15/2018.

Company  
Comsearch

## **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: 06/15/2018  
Job Number: 180615COMSGE27

---

### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E170186  
Licensee Code COMWGR  
Licensee Name Comcast Cable Communications Management,

---

### Site Information

#### EARLE, AR

Venue Name  
Latitude (NAD 83) 35° 16' 6.4" N  
Longitude (NAD 83) 90° 29' 11.2" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 65.55 m / 215.1 ft

---

### Link Information

Satellite Type Geostationary  
Mode RO - Receive-Only  
Modulation Digital  
Satellite Arc 60° W to 143° West Longitude  
Azimuth Range 134.4° to 246.1°  
Corresponding Elevation Angles 37.9° / 21.7°  
Antenna Centerline (AGL) 2.74 m / 9.0 ft

---

### Antenna Information

#### Receive - S40462

Manufacturer SCIENTIFIC-ATLANTA, INC  
Model 4.6M PRIME FOCUS  
Gain / Diameter 43.5 dBi / 4.6 m  
3-dB / 15-dB Beamwidth 1.20° / 2.20°

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

---

### Frequency Information

#### Receive 4.0 GHz

Emission / Frequency Range (MHz) 36M0G7W / 3700.0 - 4200.0

Max Great Circle Coordination Distance 347.5 km / 215.9 mi  
Precipitation Scatter Contour Radius 575.4 km / 357.5 mi

# COMSEARCH

## Earth Station Data Sheet

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

### Coordination Values

### EARLE, AR

Licensee Name Comcast Cable Communications Management,  
Latitude (NAD 83) 35° 16' 6.4" N  
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Antenna Model SCIENTIFIC-ATLANTA, INC 4.6M PRIME FOCUS  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	112.10	-10.50	282.12
5	0.00	116.67	-10.50	282.12
10	0.00	116.52	-10.50	282.12
15	0.00	112.84	-10.50	282.12
20	0.00	109.07	-10.50	282.12
25	0.00	105.24	-10.50	282.12
30	0.00	101.36	-10.50	282.12
35	0.00	97.45	-10.50	282.12
40	0.00	93.51	-10.50	282.12
45	0.00	89.56	-10.50	282.12
50	0.00	85.62	-10.50	282.12
55	0.00	81.69	-10.50	282.12
60	0.00	77.78	-10.50	282.12
65	0.00	73.91	-10.50	282.12
70	0.00	70.09	-10.50	282.12
75	0.00	66.34	-10.50	282.12
80	0.00	62.67	-10.50	282.12
85	0.00	59.11	-10.50	282.12
90	0.00	55.69	-10.50	282.12
95	0.00	52.43	-10.50	282.12
100	0.00	49.38	-10.38	282.91
105	0.00	46.56	-9.81	286.47
110	0.00	44.05	-9.12	290.94
115	0.00	41.88	-8.25	296.63
120	0.00	40.13	-7.55	301.33
125	0.00	38.85	-7.27	303.24
130	0.00	38.08	-7.12	304.29
135	0.00	37.86	-7.07	304.59
140	0.00	38.20	-7.14	304.12
145	0.00	39.09	-7.32	302.92
150	0.00	40.48	-7.69	300.38
155	0.00	42.33	-8.43	295.45
160	0.00	44.52	-9.31	289.71
165	0.00	46.43	-9.79	286.64
170	0.00	47.86	-10.07	284.82
175	0.00	48.74	-10.25	283.70
180	0.00	49.05	-10.31	283.32
185	0.00	48.74	-10.25	283.70



# COMSEARCH

## Earth Station Data Sheet

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

### Coordination Values

### EARLE, AR

Licensee Name Comcast Cable Communications Management,  
Latitude (NAD 83) 35° 16' 6.4" N  
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Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	47.86	-10.07	284.82
195	0.00	46.43	-9.79	286.64
200	0.00	44.52	-9.31	289.71
205	0.00	42.19	-8.38	295.82
210	0.00	39.51	-7.40	302.35
215	0.00	36.53	-6.81	306.41
220	0.00	33.32	-5.83	313.84
225	0.00	29.93	-4.47	323.46
230	0.00	26.81	-3.22	332.49
235	0.00	24.27	-2.21	339.96
240	0.00	22.52	-1.51	345.18
245	0.00	21.74	-1.20	347.51
250	0.00	22.05	-1.32	346.60
255	0.00	23.38	-1.85	342.60
260	0.00	25.60	-2.74	336.04
265	0.00	28.48	-3.89	327.63
270	0.00	31.85	-5.24	317.98
275	0.00	35.57	-6.61	307.73
280	0.00	39.54	-7.41	302.31
285	0.00	43.69	-8.97	291.89
290	0.00	47.97	-10.09	284.69
295	0.00	52.35	-10.50	282.12
300	0.00	56.80	-10.50	282.12
305	0.00	61.31	-10.50	282.12
310	0.00	65.87	-10.50	282.12
315	0.00	70.45	-10.50	282.12
320	0.00	75.06	-10.50	282.12
325	0.00	79.69	-10.50	282.12
330	0.00	84.32	-10.50	282.12
335	0.00	88.97	-10.50	282.12
340	0.00	93.61	-10.50	282.12
345	0.00	98.25	-10.50	282.12
350	0.00	102.88	-10.50	282.12
355	0.00	107.50	-10.50	282.12

## 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: June 15, 2018

