

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**One Ministries, Inc**  
**SANTA ROSA, CA**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
July 30, 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

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.

No 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 07/30/2018.

Company

Pacific Bell Tel Com dba AT&T California

## **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: 07/30/2018  
Job Number: 180730COMSTC12

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### Administrative Information

Licensee Code ONEMIN  
Licensee Name One Ministries, Inc

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### Site Information

**SANTA ROSA, CA**  
Venue Name AUXILIARY STUDIO  
Latitude (NAD 83) 38° 32' 2.5" N  
Longitude (NAD 83) 122° 38' 54.0" W  
Climate Zone A  
Rain Zone 3  
Ground Elevation (AMSL) 235.21 m / 771.7 ft

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### Link Information

Satellite Type Geostationary  
Mode RO - Receive-Only  
Modulation Digital  
Satellite Arc 58° W to 143° West Longitude  
Azimuth Range 106.4° to 210.8°  
Corresponding Elevation Angles 11.0° / 40.6°  
Antenna Centerline (AGL) 2.44 m / 8.0 ft

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### Antenna Information

**Receive**  
Manufacturer DAWNCo  
Model 3.0M  
Gain / Diameter 40.0 dBi / 3.0 m  
3-dB / 15-dB Beamwidth 1.00° / 2.00°

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) 30K0G7W - 36M0G7W / 3700.0 - 4200.0  
30K0F3W - 36M0F3W / 3700.0 - 4200.0

Max Great Circle Coordination Distance 267.3 km / 166.1 mi  
Precipitation Scatter Contour Radius 386.2 km / 239.9 mi

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### Coordination Values

### SANTA ROSA, CA

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Ground Elevation (AMSL) 235.21 m / 771.7 ft  
Antenna Centerline (AGL) 2.44 m / 8.0 ft  
Antenna Mode Receive 4.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20%  
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	10.17	106.45	-10.00	100.00
5	8.50	101.44	-10.00	100.00
10	8.02	96.44	-10.00	103.61
15	8.67	91.45	-10.00	100.00
20	9.66	86.45	-10.00	100.00
25	9.48	81.45	-10.00	100.00
30	8.61	76.46	-10.00	100.00
35	10.47	71.45	-10.00	100.00
40	11.84	66.45	-10.00	100.00
45	13.68	61.48	-10.00	100.00
50	15.29	56.55	-10.00	100.00
55	15.86	51.61	-10.00	100.00
60	15.82	46.64	-9.72	100.00
65	16.13	41.70	-8.50	100.00
70	16.65	36.82	-7.15	100.00
75	16.51	31.87	-5.59	100.00
80	18.67	27.45	-3.96	100.00
85	19.76	23.08	-2.08	100.00
90	20.81	19.06	-0.00	100.00
95	21.38	15.38	2.32	100.00
100	21.48	11.81	5.20	100.00
105	22.33	8.82	8.37	145.29
110	23.20	5.94	12.66	109.82
115	23.46	2.74	21.06	150.48
120	24.14	0.50	39.63	267.27
125	24.04	3.25	19.21	137.54
130	23.78	6.43	11.79	102.54
135	23.36	9.54	7.51	100.00
140	22.81	12.58	4.51	100.00
145	21.99	15.63	2.15	100.00
150	20.10	19.41	-0.20	100.00
155	19.02	22.21	-1.67	100.00
160	16.56	26.06	-3.40	100.00
165	15.51	28.28	-4.29	100.00
170	14.16	30.49	-5.10	100.00
175	11.61	33.57	-6.15	100.00
180	10.45	34.92	-6.58	100.00
185	8.29	36.87	-7.17	112.56



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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	6.45	38.06	-7.51	130.15
195	4.55	38.80	-7.72	149.86
200	4.10	37.83	-7.44	158.62
205	4.24	36.73	-7.13	157.87
210	4.49	36.10	-6.94	154.66
215	4.44	36.35	-7.01	155.01
220	4.32	37.26	-7.28	155.73
225	5.84	37.20	-7.26	136.41
230	6.43	38.61	-7.67	129.80
235	6.92	40.62	-8.22	122.25
240	7.54	42.99	-8.83	113.27
245	6.83	46.57	-9.70	117.34
250	7.06	49.77	-10.00	113.65
255	8.68	52.53	-10.00	100.00
260	10.65	55.53	-10.00	100.00
265	13.01	58.79	-10.00	100.00
270	14.24	62.71	-10.00	100.00
275	16.36	66.64	-10.00	100.00
280	17.19	71.01	-10.00	100.00
285	17.66	75.50	-10.00	100.00
290	18.13	80.06	-10.00	100.00
295	18.91	84.64	-10.00	100.00
300	20.01	89.28	-10.00	100.00
305	18.41	93.92	-10.00	100.00
310	17.32	98.48	-10.00	100.00
315	15.72	102.89	-10.00	100.00
320	14.91	107.27	-10.00	100.00
325	14.13	111.56	-10.00	100.00
330	14.05	115.91	-10.00	100.00
335	13.30	120.00	-10.00	100.00
340	14.27	124.54	-10.00	100.00
345	14.26	121.39	-10.00	100.00
350	13.41	116.42	-10.00	100.00
355	12.29	111.44	-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: July 30, 2018