FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

COMCAST of Fresno, Inc.
Coalinga, California

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
April 10, 2007

TABLE OF CONTENTS

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
None

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 February 26, 2007.

Company

American Tower, LLC
CNG Communications, Inc.
The Boeing Company

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:	04/11/2007
Job Number:	070226COMSJC01

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	
Licensee Code	KSEETV
Licensee Name	COMCAST OF FRESNO, INC.

Site Information — COALINGA, CALIFORNIA

Venue Name	
Latitude (NAD 83)	36° 8' 36.7" N
Longitude (NAD 83)	120° 21' 18.8" W
Climate Zone	A
Rain Zone	4
Ground Elevation (AMSL)	202.69 m / 665.0 ft

Link Information

Satellite Type	Geostationary
Mode	RO - Receive-Only
Modulation	Analog and Digital
Satellite Arc	60° W to 143° West Longitude
Azimuth Range	108.6° to 215.3°
Corresponding Elevation Angles	15.1° / 41.7°
Antenna Centerline (AGL)	3.05 m / 10.0 ft

Antenna Information — Receive

Manufacturer	Hughes
Model	4.5 Meter
Gain / Diameter	43.5 dBi / 4.5 m
3-dB / 15-dB Beamwidth	1.10° / 2.00°

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)	36M0F8W / 3700.0 - 4200.0 36M0G7W / 3700.0 - 4200.0
Max Great Circle Coordination Distance	375.6 km / 233.4 mi
Precipitation Scatter Contour Radius	376.8 km / 234.1 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values	**COALINGA, CA**	
Licensee Name	COMCAST OF FRESNO, INC.	
Latitude (NAD 83)	36° 8' 36.7" N	
Longitude (NAD 83)	120° 21' 18.8" W	
Ground Elevation (AMSL)	202.69 m / 665.0 ft	
Antenna Centerline (AGL)	3.05 m / 10.0 ft	
Antenna Model	Hughes 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%

		Receive 4.0 GHz		
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.54	107.94	-10.00	247.07
5	0.51	103.11	-10.00	249.41
10	0.45	98.28	-10.00	255.38
15	0.49	93.44	-10.00	251.38
20	0.53	88.60	-10.00	247.62
25	0.54	83.77	-10.00	247.10
30	0.57	78.93	-10.00	245.01
35	0.51	74.11	-10.00	248.85
40	0.54	69.28	-10.00	247.23
45	0.43	64.49	-10.00	257.07
50	0.37	59.71	-10.00	264.07
55	0.26	54.97	-10.00	277.99
60	0.00	50.29	-10.00	285.28
65	0.00	45.61	-9.48	288.63
70	0.00	40.99	-8.32	296.21
75	0.00	36.45	-7.04	304.79
80	0.00	32.03	-5.64	315.17
85	0.00	27.77	-4.09	326.19
90	0.00	23.79	-2.41	338.48
95	0.00	20.22	-0.65	351.68
100	0.00	17.35	1.02	364.46
105	0.00	15.55	2.21	373.77
110	0.00	15.22	2.44	375.65
115	0.00	16.43	1.61	369.06
120	0.00	18.90	0.09	357.27
125	0.00	22.21	-1.67	344.00
130	0.00	25.85	-3.31	331.85
135	0.33	29.13	-4.61	304.32
140	0.39	32.43	-5.77	289.47
145	0.60	35.42	-6.73	262.94
150	0.83	38.14	-7.53	243.49
155	0.74	40.80	-8.27	244.46
160	1.03	42.79	-8.78	225.49
165	1.36	44.29	-9.16	213.41
170	1.70	45.29	-9.40	205.20
175	1.87	45.92	-9.55	199.98
180	2.07	45.99	-9.57	194.91

COMSEARCH

Earth Station Data Sheet

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

Coordination Values	**COALINGA, CA**	
Licensee Name	COMCAST OF FRESNO, INC.	
Latitude (NAD 83)	36° 8' 36.7" N	
Longitude (NAD 83)	120° 21' 18.8" W	
Ground Elevation (AMSL)	202.69 m / 665.0 ft	
Antenna Centerline (AGL)	3.05 m / 10.0 ft	
Antenna Model	Hughes 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%

Receive 4.0 GHz

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
185	2.30	45.49	-9.45	190.24
190	2.49	44.53	-9.22	187.06
195	2.36	43.38	-8.93	191.37
200	2.16	41.93	-8.56	197.62
205	2.36	40.45	-8.17	195.16
210	2.68	39.32	-7.86	189.37
215	2.87	38.83	-7.73	185.90
220	1.88	40.05	-8.07	206.49
225	1.15	41.51	-8.45	223.51
230	1.86	42.05	-8.59	204.80
235	1.97	43.62	-8.99	199.99
240	2.38	45.36	-9.42	188.72
245	2.34	47.82	-9.99	186.69
250	2.28	50.59	-10.00	188.02
255	2.35	53.51	-10.00	186.50
260	2.43	56.64	-10.00	184.75
265	2.32	60.02	-10.00	187.10
270	2.27	63.51	-10.00	188.36
275	2.38	67.05	-10.00	185.73
280	2.35	70.73	-10.00	186.54
285	1.88	74.57	-10.00	197.75
290	2.15	78.28	-10.00	191.08
295	1.38	82.19	-10.00	208.85
300	1.00	86.01	-10.00	220.37
305	0.77	89.80	-10.00	232.87
310	0.64	93.57	-10.00	240.60
315	0.55	97.31	-10.00	246.25
320	0.42	101.02	-10.00	259.14
325	0.44	104.70	-10.00	256.34
330	0.50	108.35	-10.00	249.62
335	0.48	111.90	-10.00	251.57
340	0.52	115.39	-10.00	248.49
345	0.62	118.80	-10.00	242.15
350	0.56	117.56	-10.00	245.82
355	0.63	112.76	-10.00	241.63

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.

Jeffrey E. Cowles

Jeffrey E. Cowles
Principal Frequency Planner
COMSEARCH
19700 Janelia Farm Blvd.
Ashburn, Va. 20147

DATED: April 10, 2007