

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Vyvx , LLC
ENGLEWOOD, CO
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
February 22, 2011

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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

This minor coordination notice is for the addition of digital emission designators to Call Sign E920588. The transmit power for the digital carriers will be -13.01 dBw/4KHz. This power is 12 dB lower than the existing power for the analog carriers. The satellite arc and frequency ranges remain unchanged. All potential interference cases will be 12 dB lower than the cases for the existing parameter.

Due to the minor nature of the notice, this information is for your records only and no response is required.

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 02/22/2011.

Company

AT&T COMMUNICATIONS OF MOUNTAIN STATES
AT&T CORP
Adcom 911
AirLife
BASIN ELECTRIC POWER COOPERATIVE
BNSF Railway Company
Boulder, County of
CBS Communications Services
CBS Television Stations
COLORADO INTERSTATE GAS COMPANY
City of Colorado Springs
Colorado Springs Utilities
ENTRAVISION HOLDINGS, LLC
FONES WEST DIGITAL SYSTEMS INC.
Gray Television Licensee, Inc. (KKTV)
Great Western Communications, LLC
Intermountain Rural Electric Association
International Communications Group, Inc.
LB Tower Company LLC
Larimer County Sheriff's Department
METROPOLITAN AREA NETWORKS, INC.
MHO Networks
Multimedia Holdings Corporation
NE Colorado Cellular, Inc.
New Cingular Wireless PCS LLC -Colorado
New Cingular Wireless PCS, LLC (was WWC)
Open Range Communications
Platte River Power Authority
QWEST CORPORATION
SANGRE DE CRISTO COMMUNICATIONS, INC.
Sprint Communications Company, LP
State of Colorado
Tri State Generation & Transmission
UNITED POWER
Verizon Wireless - Mountain Region
XCEL ENERGY SERVICES INC

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: 02/22/2011
Job Number: 110222COMSTC02

Administrative Information

Call Sign E920588
Licensee Name Vyvx , LLC

Site Information ENGLEWOOD, CO

Latitude (NAD 83) 39° 33' 1.0" N
Longitude (NAD 83) 104° 51' 53.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 1789.1 m / 5869.8 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 60° W to 143° West Longitude
Azimuth Range 122.6° to 231.0°
Corresponding Elevation Angles 25.3° / 29.8°
Antenna Centerline (AGL) 6.1 m / 20.0 ft

Antenna Information

Receive - S41001

Manufacturer SCIENTIFIC-ATLANTA, INC
Model 8002
Gain / Diameter 50.8 dBi / 10.0 m
3-dB / 15-dB Beamwidth 0.60° / 1.00°

Transmit - S61001

SCIENTIFIC-ATLANTA, INC
8002
53.5 dBi / 10.0 m
0.32° / 0.70°

		<u>52K2G7W - 36M0G7W</u>			
Max Available RF Power	(dBW/4 kHz)	-13.01	-13.01		
	(dBW/MHz)	1.93	10.99		
Maximum EIRP	(dBW/4 kHz)	40.49	40.49		
	(dBW/MHz)	51.57	64.49		
	(dBW)	51.57	80.04		
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%

Frequency Information

Receive 4.0 GHz

Emission / Frequency Range (MHz) 51K2G7W - 36M0G7W / 3700.0 - 4200.0

Transmit 6.1 GHz

52K2G7W - 36M0G7W / 5925.0 - 6425.0

Max Great Circle Coordination Distance 284.0 km / 176.5 mi 135.7 km / 84.3 mi
Precipitation Scatter Contour Radius 495.1 km / 307.6 mi 100.0 km / 62.1 mi

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Coordination Values

ENGLEWOOD, CO

Licensee Name Vyvx , LLC
Latitude (NAD 83) 39° 33' 1.0" N
Longitude (NAD 83) 104° 51' 53.0" W
Ground Elevation (AMSL) 1789.1 m / 5869.8 ft
Antenna Centerline (AGL) 6.1 m / 20.0 ft
Antenna Model SCIENTIFIC-ATLANTA, INC 8002
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 -13.01 (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	119.17	-10.20	284.01	-12.00	130.16
5	0.00	114.78	-10.20	284.01	-9.50	135.70
10	0.00	110.35	-10.20	284.01	-9.50	135.70
15	0.00	105.88	-10.20	284.01	-9.50	135.70
20	0.00	101.39	-10.20	284.01	-9.50	135.70
25	0.00	96.88	-10.20	284.01	-9.50	135.70
30	0.00	92.36	-10.20	284.01	-9.50	135.70
35	0.00	87.84	-10.20	284.01	-9.50	135.70
40	0.39	83.30	-10.20	261.54	-9.50	121.79
45	0.48	78.77	-10.20	251.12	-9.50	114.45
50	0.40	74.27	-10.20	259.55	-9.50	120.40
55	0.30	69.80	-10.20	271.12	-9.50	128.34
60	0.45	65.32	-10.20	253.68	-9.50	116.28
65	0.57	60.88	-10.20	243.88	-9.50	109.30
70	0.87	56.43	-10.20	226.10	-9.50	100.00
75	1.00	52.08	-10.20	219.19	-9.50	100.00
80	0.91	47.90	-9.78	226.06	-9.50	100.00
85	0.92	43.80	-8.96	229.94	-9.26	100.00
90	0.84	39.92	-8.18	238.93	-8.47	100.00
95	0.87	36.20	-7.44	241.75	-6.98	102.75
100	0.93	32.74	-6.30	244.58	-6.05	102.36
105	0.92	29.73	-5.09	252.50	-5.39	104.47
110	1.06	27.12	-4.05	252.12	-4.35	102.46
115	1.27	25.11	-3.24	249.46	-3.54	100.00
120	1.34	24.07	-2.83	249.79	-2.94	100.00
125	1.25	24.13	-2.85	252.94	-2.98	101.54
130	1.10	25.21	-3.28	255.62	-3.58	103.68
135	1.15	26.95	-3.98	249.34	-4.28	100.44
140	0.99	29.56	-5.02	248.98	-5.32	101.90
145	0.81	32.54	-6.22	252.52	-6.01	107.79
150	0.80	35.21	-7.24	246.85	-6.58	106.71
155	1.09	37.32	-7.66	229.60	-7.43	100.00
160	1.41	39.05	-8.01	217.73	-8.12	100.00
165	1.29	40.77	-8.35	219.46	-8.65	100.00
170	1.50	41.77	-8.55	212.41	-8.85	100.00
175	1.45	42.53	-8.71	212.93	-9.01	100.00
180	1.42	42.81	-8.76	213.81	-9.06	100.00
185	1.33	42.65	-8.73	216.39	-9.03	100.00

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Antenna Model	SCIENTIFIC-ATLANTA, INC 8002		
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			-13.01 (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	1.83	41.44	-8.49	205.92	-8.79	100.00
195	1.73	40.37	-8.27	207.32	-8.57	100.00
200	1.85	38.66	-7.93	205.71	-7.96	100.00
205	1.86	36.67	-7.53	207.36	-7.17	100.00
210	1.83	34.36	-6.95	210.89	-6.37	100.00
215	1.81	31.89	-5.96	216.46	-5.88	100.00
220	1.65	30.04	-5.22	225.19	-5.51	100.00
225	1.23	29.13	-4.85	241.05	-5.15	100.00
230	1.30	28.51	-4.61	240.19	-4.91	100.00
235	1.40	28.66	-4.66	236.41	-4.96	100.00
240	1.45	29.64	-5.06	232.46	-5.36	100.00
245	1.74	31.11	-5.65	220.00	-5.72	100.00
250	1.69	33.51	-6.60	216.60	-6.20	100.00
255	1.88	36.20	-7.44	207.20	-6.98	100.00
260	1.93	39.39	-8.08	205.21	-8.25	100.00
265	1.91	42.92	-8.78	202.68	-9.08	100.00
270	1.80	46.71	-9.54	202.10	-9.50	100.00
275	1.70	50.65	-10.20	201.66	-9.50	100.00
280	1.68	54.68	-10.20	202.39	-9.50	100.00
285	1.62	58.83	-10.20	203.84	-9.50	100.00
290	1.51	63.07	-10.20	206.75	-9.50	100.00
295	1.46	67.34	-10.20	205.84	-9.50	100.00
300	1.46	71.65	-10.20	205.84	-9.50	100.00
305	1.43	76.00	-10.20	206.58	-9.50	100.00
310	1.28	80.39	-10.20	210.78	-9.50	100.00
315	1.01	84.78	-10.20	218.91	-9.50	100.00
320	0.88	89.17	-10.20	225.90	-9.50	100.00
325	0.85	93.54	-10.20	227.41	-9.50	100.00
330	0.49	97.88	-10.20	250.28	-9.50	113.85
335	0.39	102.21	-10.20	260.87	-9.50	121.32
340	0.00	106.45	-10.20	284.01	-9.50	135.70
345	0.00	110.71	-10.20	284.01	-9.50	135.70
350	0.00	114.92	-10.20	284.01	-9.50	135.70
355	0.00	119.07	-10.20	284.01	-11.94	130.32

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: February 22, 2011