

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Kenneth Copeland Ministries**  
**NEWARK, TX**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
October 23, 2017

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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. Operation will be restricted to the bandwidth shown in Section 4 of this report.

## 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 to the minor change notice contained in the report.

### 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.

A minor change notice for this earth station was sent to the below listed carriers with a letter dated 10/23/2017.

Company

AMG Technology Investment Group LLC  
Access MLP Operating LLC  
Air Canopy Internet Services, Inc.  
Alltel Communications LLC - C TX/N LA/AR  
BNSF Railway Company  
BelWave Communications  
BorderCOMM Partners LP  
Brazos Electric Power Cooperative Inc  
CBS Radio Texas Inc  
CITY OF CORSICANA  
Carrollton City of Texas/ACS  
Central Telephone Company of Texas  
Choice wireless LLC  
City of Arlington  
City of Dallas  
City of Lewisville  
City of McKinney  
City of Plano  
Comanche Electric Cooperative Assn  
Conterra Ultra Broadband, LLC  
Cumulus Licensing LLC  
Dallas MTA, L.P.  
Dallas MTA, L.P. - Central Texas  
Denton County  
Devon Energy Corporation  
ENBRIDGE ENERGY COMPANY, INC.  
Enterprise Products Operating, LLC  
FiberLight LLC  
Fort Worth, City of  
Garland, City of  
Global Telecom & Technology Americas  
Grand Prairie, City of  
HILCO Electric Cooperative, Inc.  
Kaufman County Sheriff Department  
Legacy ISP, LLC  
Mesquite, City of  
New Cingular Wireless PCS LLC - N Texas  
New Cingular Wireless PCS LLC - S Texas  
New Cingular Wireless PCS, LLC - OK  
New Source Broadband I LLC

North Central Texas Council of Govt  
North Texas Public Broadcasting Inc.  
Oklahoma RSA 9 Limited Partnership  
Olympic Wireless, LLC  
Oncor License Holdings Company, LLC  
One Ring Networks, Inc.  
RAYTHEON COMPANY  
Radio One Inc  
Rayburn Country Electric Cooperative Inc  
Rhino Communications, Inc  
SBB Holding, LLC  
Speed of Light Broadband  
Station Venture Operations - Ft Worth TX  
T-Mobile License LLC  
Targa Midstream Services LLC  
Tarrant Regional Water District  
Texahoma Cellular Limited Partnership  
Texas RSA 6 Limited Partnership  
Texas RSA 7B1 Limited Partnership  
Texas RSA 9B1 Limited Partnership  
Texas State Dept. of Transportation  
USCOC of Greater Oklahoma, LLC  
United Cooperative Services  
United Electric Cooperative Services Inc  
Uniti Fiber PEG, LLC  
Univision Radio San Francisco, Inc.  
Verizon Wireless (VAW) LLC-C TX/LA/AR  
West Central Wireless LP

## **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: 10/23/2017  
Job Number: 171023COMSTC01

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### Administrative Information

Call Sign E160077  
Licensee Name Kenneth Copeland Ministries

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### Site Information

#### NEWARK, TX

Venue Name KCMTV  
Latitude (NAD 83) 32° 59' 21.0" N  
Longitude (NAD 83) 97° 29' 7.0" W  
Climate Zone A  
Rain Zone 2  
Ground Elevation (AMSL) 235.92 m / 774.0 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 60° W to 139° West Longitude  
Azimuth Range 125.4° to 238.4°  
Corresponding Elevation Angles 34.6° / 31.5°  
Antenna Centerline (AGL) 2.13 m / 7.0 ft

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### Antenna Information

#### Receive

Manufacturer GD Vertex  
Gain / Diameter 44.1 dBi / 4.8 m  
3-dB / 15-dB Beamwidth 1.00° / 2.00°

#### Transmit

GD Vertex  
45.9 dBi / 4.8 m  
0.60° / 1.60°

Max Available RF Power (dBW/4 kHz)  
(dBW/MHz)

#### 1M23G7W - 36M0G7W

-14.0 -14.0  
10.0 10.0

Maximum EIRP (dBW/4 kHz)  
(dBW/MHz)  
(dBW)

31.9 31.9  
55.9 55.9  
56.8 71.44

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

-154.0 dBW/4 kHz 20%  
-131.0 dBW/4 kHz 0.0025%

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### Frequency Information

#### Receive 4.0 GHz

Emission / Frequency Range (MHz) 1M23G7W - 36M0G7W / 3700.0 - 4200.0

#### Transmit 6.1 GHz

1M23G7W - 36M0G7W / 5985.0 - 6085.0  
1M23G7W - 36M0G7W / 6245.0 - 6325.0

Max Great Circle Coordination Distance 316.4 km / 196.5 mi  
Precipitation Scatter Contour Radius 488.1 km / 303.2 mi

144.8 km / 90.0 mi  
100.0 km / 62.1 mi



# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### NEWARK, TX

Licensee Name Kenneth Copeland Ministries  
Latitude (NAD 83) 32° 59' 21.0" N  
Longitude (NAD 83) 97° 29' 7.0" W  
Ground Elevation (AMSL) 235.92 m / 774.0 ft  
Antenna Centerline (AGL) 2.13 m / 7.0 ft  
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 -14.0 (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	116.54	-10.00	285.28	-10.00	132.84
5	0.27	114.69	-10.00	277.06	-10.00	127.44
10	0.37	110.76	-10.00	263.98	-10.00	118.63
15	0.36	106.73	-10.00	265.41	-10.00	119.61
20	0.34	102.66	-10.00	267.74	-10.00	121.19
25	0.40	98.57	-10.00	261.46	-10.00	116.89
30	0.48	94.45	-10.00	252.00	-10.00	110.28
35	0.50	90.31	-10.00	250.25	-10.00	109.03
40	0.42	86.17	-10.00	258.53	-10.00	114.86
45	0.36	82.05	-10.00	265.87	-10.00	119.92
50	0.33	77.95	-10.00	268.78	-10.00	121.89
55	0.36	73.87	-10.00	265.44	-10.00	119.63
60	0.36	69.84	-10.00	265.31	-10.00	119.54
65	0.36	65.87	-10.00	265.30	-10.00	119.53
70	0.42	61.95	-10.00	258.77	-10.00	115.03
75	0.30	58.19	-10.00	272.24	-10.00	124.23
80	0.25	54.54	-10.00	278.47	-10.00	128.38
85	0.23	51.02	-10.00	281.87	-10.00	130.61
90	0.20	47.70	-9.96	285.23	-9.96	132.76
95	0.00	44.74	-9.27	289.99	-9.27	133.58
100	0.20	41.77	-8.52	294.41	-8.52	135.34
105	0.00	39.48	-7.91	298.93	-7.91	137.39
110	0.00	37.45	-7.34	302.80	-7.34	139.06
115	0.23	35.69	-6.81	301.79	-6.81	137.50
120	0.24	34.70	-6.51	302.67	-6.51	137.57
125	0.28	34.30	-6.38	299.40	-6.38	135.18
130	0.29	34.56	-6.46	297.31	-6.46	133.95
135	0.22	35.51	-6.76	303.50	-6.76	138.57
140	0.00	37.18	-7.26	303.32	-7.26	139.29
145	0.23	38.95	-7.76	296.27	-7.76	135.37
150	0.21	41.37	-8.42	294.04	-8.42	134.94
155	0.00	44.25	-9.15	290.75	-9.15	133.90
160	0.00	46.74	-9.74	286.92	-9.74	133.54
165	0.00	48.80	-10.00	285.28	-10.00	132.84
170	0.00	50.34	-10.00	285.28	-10.00	132.84
175	0.00	51.30	-10.00	285.28	-10.00	132.84
180	0.00	51.63	-10.00	285.28	-10.00	132.84
185	0.00	51.30	-10.00	285.28	-10.00	132.84

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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 -14.0 (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	50.34	-10.00	285.28	-10.00	132.84
195	0.00	48.80	-10.00	285.28	-10.00	132.84
200	0.00	46.74	-9.74	286.92	-9.74	133.54
205	0.00	44.25	-9.15	290.75	-9.15	133.90
210	0.00	41.41	-8.43	295.48	-8.43	135.90
215	0.00	38.51	-7.64	300.74	-7.64	138.17
220	0.00	36.00	-6.91	305.72	-6.91	140.34
225	0.00	33.96	-6.27	310.09	-6.27	142.27
230	0.00	32.49	-5.79	314.07	-5.79	143.76
235	0.00	31.66	-5.51	316.04	-5.51	144.65
240	0.00	31.54	-5.47	316.35	-5.47	144.79
245	0.00	32.11	-5.67	314.96	-5.67	144.16
250	0.00	33.36	-6.08	311.44	-6.08	142.87
255	0.00	35.20	-6.66	307.39	-6.66	141.07
260	0.00	37.55	-7.37	302.59	-7.37	138.97
265	0.00	40.32	-8.14	297.39	-8.14	136.72
270	0.00	43.43	-8.94	292.08	-8.94	134.46
275	0.00	46.80	-9.76	286.83	-9.76	133.50
280	0.00	50.38	-10.00	285.28	-10.00	132.84
285	0.00	54.14	-10.00	285.28	-10.00	132.84
290	0.00	58.02	-10.00	285.28	-10.00	132.84
295	0.00	62.01	-10.00	285.28	-10.00	132.84
300	0.00	66.07	-10.00	285.28	-10.00	132.84
305	0.00	70.21	-10.00	285.28	-10.00	132.84
310	0.00	74.39	-10.00	285.28	-10.00	132.84
315	0.00	78.60	-10.00	285.28	-10.00	132.84
320	0.00	82.84	-10.00	285.28	-10.00	132.84
325	0.00	87.10	-10.00	285.28	-10.00	132.84
330	0.00	91.36	-10.00	285.28	-10.00	132.84
335	0.00	95.62	-10.00	285.28	-10.00	132.84
340	0.00	99.87	-10.00	285.28	-10.00	132.84
345	0.00	104.10	-10.00	285.28	-10.00	132.84
350	0.00	108.29	-10.00	285.28	-10.00	132.84
355	0.00	112.44	-10.00	285.28	-10.00	132.84

## 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: October 23, 2017