

Ka-Band Earth Station – Nuevo, CA

Frequency Coordination Report

28 GHz



Prepared on Behalf of
Intelsat License LLC

November 8, 2016



COMSEARCH
A CommScope Company

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1. Summary of Results

On behalf of Intelsat, Comsearch performed a coordination notice for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-Band earth station in Nuevo, CA, which will transmit at 28 GHz¹. Prior-notification letters were sent to the licensees and a copy of the notification data is provided in section four of this report. The earth station coordination was finalized on November 7, 2016.

No objections were received from any of the incumbent 28 GHz licensees.

2. 28 GHz Common Carrier and LTTS Coordination

In accordance with FCC Rules and Regulations, the Ka-Band earth station in Nuevo, CA was prior-coordinated by Comsearch. A notification letter and datasheet for this earth station were sent to the following 28 GHz common carrier fixed microwave licensees on October 7, 2016. These licensees are authorized to operate temporary fixed operations from 27.5 – 29.5 GHz over a designated geographic area.

Licensee	Authorized Geographic Area
Frontier	Continental US
M.U.T. Licensing, LLC	Statewide: California

A notification letter and datasheet for the Ka-Band earth station in Nuevo, CA were also sent to the following 28 GHz local television transmission licensee on October 7, 2016. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Information Super Station, LLC	Continental US

No objections were received from the common carrier or local television transmission service incumbents.

¹ The proposed earth station will operate in the 28.351 – 28.354 GHz portion of the Ka-Band.

3. 28 GHz LMDS Coordination

Typically, satellite operations in the lower portion of the Ka-Band overlap with Block A of the LMDS service. However, in this case the proposed earth station will operate on frequencies that fall between the portions of contiguous spectrum allocated to Block A. Therefore, no LMDS coordination was required. The total frequency allocation for Block A of the LMDS spectrum appears below.

Block A: 27.500-28.350 GHz
 29.100-29.250 GHz
 31.075-31.225 GHz

4. Earth Station Coordination Data

This section presents the data pertinent to the proposed Ka-Band earth station in Nuevo, CA. This data was circulated to all incumbent licensees in the shared 28 GHz frequency ranges.

COMSEARCH**Earth Station Data Sheet**

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5662 <http://www.comsearch.com>

Date: 10/07/2016
Job Number: <PCNJobCode>

Administrative Information

Status: TEMPORARY (Operation from 12/07/2016 to 12/17/2016)
Call Sign: <PCNCallSign>
Licensee Code: INTELS
Licensee Name: Intelsat License LLC

Site Information**NUEVO, CA**

Venue Name: EHOSTAR-19
Latitude (NAD 83): 33° 47' 42.7" N
Longitude (NAD 83): 117° 5' 22.5" W
Climate Zone: A
Rain Zone: 4
Ground Elevation (AMSL): 571.87 m / 1876.2 ft

Link Information

Satellite Type: Geostationary
Mode: TO - Transmit-Only
Modulation: Digital
Satellite Arc: 44° W to 190° West Longitude
Azimuth Range: 99.6° to 260.3°
Corresponding Elevation Angles: 5.3° / 5.5°
Antenna Centerline (AGL): 5.49 m / 18.0 ft

Antenna Information**Transmit - FCC32**

Manufacturer: General Dynamics
Model: 9.2 meter KAFMA
Gain / Diameter: 65.4 dBi / 9.2 m
3-dB / 15-dB Beamwidth: 0.08° / 0.16°

Max Available RF Power (dBW/4 kHz): 2.0
(dBW/MHz): 26.0

Maximum EIRP (dBW/4 kHz): 67.4
(dBW/MHz): 91.4

Interference Objectives: Long Term: -151.0 dBW/4 kHz 20%
Short Term: -128.0 dBW/4 kHz 0.0025%

Frequency Information**Transmit 28.0 GHz**

Emission / Frequency Range (MHz): 1M00FXD / 28351.5 - 28353.5

Max Great Circle Coordination Distance: 366.4 km / 227.7 mi
Precipitation Scatter Contour Radius: 109.9 km / 68.3 mi

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Coordination Values		NUEVO, CA	
Licensee Name		Intelsat License LLC	
Latitude (NAD 83)		33° 47' 42.7" N	
Longitude (NAD 83)		117° 5' 22.5" W	
Ground Elevation (AMSL)		571.87 m / 1876.2 ft	
Antenna Centerline (AGL)		5.49 m / 18.0 ft	
Antenna Model		General Dynamics 9.2 meter	
Antenna Mode		Transmit 28.0 GHz	
Interference Objectives: Long Term		-151.0 dBW/4 kHz	20%
	Short Term	-128.0 dBW/4 kHz	0.0025%
Max Available RF Power		2.0 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.57	99.57	-10.00	111.26
5	1.80	94.59	-10.00	100.00
10	1.73	89.60	-10.00	100.00
15	2.10	84.61	-10.00	100.00
20	2.52	79.61	-10.00	100.00
25	2.88	74.61	-10.00	100.00
30	3.54	69.61	-10.00	100.00
35	3.16	64.62	-10.00	100.00
40	3.28	59.62	-10.00	100.00
45	3.22	54.63	-10.00	100.00
50	2.79	49.65	-10.00	100.00
55	2.51	44.67	-9.25	100.00
60	2.57	39.68	-7.96	100.00
65	3.39	34.65	-6.49	100.00
70	3.06	29.68	-4.81	100.00
75	3.02	24.70	-2.82	100.00
80	3.83	19.66	-0.34	100.00
85	3.13	14.76	2.77	100.00
90	3.08	9.86	7.16	100.43
95	2.59	5.35	13.79	130.93
100	2.74	2.62	21.53	336.05
105	3.42	5.52	13.45	117.11
110	3.66	9.40	7.67	100.00
115	3.69	13.36	3.85	100.00
120	3.85	17.18	1.12	100.00
125	3.61	21.16	-1.14	100.00
130	4.13	24.55	-2.75	100.00
135	3.69	28.42	-4.34	100.00
140	4.09	31.57	-5.48	100.00
145	3.95	34.87	-6.56	100.00
150	2.80	38.68	-7.69	100.00
155	3.89	40.48	-8.18	100.00
160	4.48	42.20	-8.63	100.00
165	4.94	43.53	-8.97	100.00
170	5.93	43.82	-9.04	100.00
175	6.05	44.43	-9.19	100.00
180	6.91	43.80	-9.04	100.00
185	7.72	42.77	-8.78	100.00

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Coordination Values	NUEVO, CA
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Ground Elevation (AMSL)	571.87 m / 1876.2 ft
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Antenna Model	General Dynamics 9.2 meter
Antenna Mode	Transmit 28.0 GHz
Interference Objectives: Long Term	-151.0 dBW/4 kHz 20%
Short Term	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power	2.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	6.62	43.16	-8.88	100.00
195	5.99	42.57	-8.73	100.00
200	5.78	41.07	-8.34	100.00
205	5.84	38.88	-7.74	100.00
210	5.99	36.23	-6.98	100.00
215	6.59	32.92	-5.94	100.00
220	6.83	29.64	-4.80	100.00
225	7.07	26.14	-3.43	100.00
230	6.00	23.33	-2.20	100.00
235	5.97	19.67	-0.34	100.00
240	5.78	15.99	1.90	100.00
245	5.61	12.20	4.84	100.00
250	5.66	8.20	9.15	100.00
255	4.56	4.84	14.87	105.47
260	4.51	1.01	31.93	366.43
265	4.35	4.84	14.88	108.21
270	4.39	9.77	7.26	100.00
275	4.10	14.77	2.77	100.00
280	4.43	19.73	-0.38	100.00
285	4.31	24.73	-2.83	100.00
290	2.91	29.81	-4.86	100.00
295	2.17	34.84	-6.55	100.00
300	0.92	39.92	-8.03	101.31
305	0.00	44.97	-9.32	137.38
310	0.00	49.93	-10.00	135.55
315	0.00	54.89	-10.00	135.55
320	0.00	59.86	-10.00	135.55
325	0.00	64.83	-10.00	135.55
330	0.00	69.80	-10.00	135.55
335	0.00	74.78	-10.00	135.55
340	0.00	79.75	-10.00	135.55
345	0.00	84.73	-10.00	135.55
350	0.00	89.71	-10.00	135.55
355	0.00	94.68	-10.00	135.55



5. Contact Information

For questions or information regarding the 28 GHz Frequency Coordination Report, please contact:

Contact person:	Joanna Lynch
Title:	Manager, Spectrum & Data Solutions
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
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