

# Ka-Band Earth Station – Nuevo, CA

## Frequency Coordination Report

28 GHz



Prepared on Behalf of  
Intelsat License LLC

October 28, 2014



**COMSEARCH**  
A CommScope Company



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## 1. Summary of Results

On behalf of Intelsat License LLC, 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 GHz<sup>1</sup>. 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 October 24, 2014.

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 licensee on October 3, 2014. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Verizon	Continental US

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 3, 2014. 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.

<sup>1</sup> The proposed earth station will operate in the 28.351 – 28.353 GHz portion of the Ka-Band.



### **3. 28 GHz LMDS Coordination**

Typically, satellite operations in the lower portion of the Ka-Band will 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.



Date: 09/29/2014  
Job Number: <PCNJobCode>

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**Administrative Information**

Status: TEMPORARY (Operation from 12/01/2014 to 04/01/2015)  
Call Sign: <PCNCallSign>  
Licensee Code: INTELS  
Licensee Name: Intelsat License LLC

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**Site Information** **NUEVO, CALIFORNIA**

Venue Name  
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): 571.8 m / 1876.0 ft

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**Link Information**

Satellite Type: Low Earth Orbit  
Mode: TO - Transmit-Only  
Modulation: Digital  
Minimum Elevation Angle: 5.0°  
Azimuth Range: 0.0° to 360°  
Antenna Centerline (AGL): 7.32 m / 24.0 ft

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**Antenna Information**

Manufacturer: GD Satcom  
Model: 9.2 Meter  
Gain / Diameter: 65.4 dBi / 9.2 m  
3-dB / 15-dB Beamwidth: 0.08° / 0.16°

**Transmit**

Max Available RF Power	(dBW/4 kHz)	2.5	
	(dBW/MHz)	26.5	
Maximum EIRP	(dBW/4 kHz)	67.9	
	(dBW/MHz)	91.9	
	(dBW)	91.4	
Interference Objectives:	Long Term	-151.0 dBW/4 kHz	20%
	Short Term	-128.0 dBW/4 kHz	0.0025%

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**Frequency Information**

Emission / Frequency Range (MHz): **Transmit 28.0 GHz**  
900KFXD / 28351.0  
900KFXD / 28353.0

Max Great Circle Coordination Distance: 347.9 km / 216.2 mi  
Precipitation Scatter Contour Radius: 108.1 km / 67.2 mi



**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)	571.8 m / 1876.0 ft		
Antenna Centerline (AGL)	7.32 m / 24.0 ft		
Antenna Model	GD Satcom 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	2.5 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	1.10	76.42	-10.00	256.40
5	2.21	72.41	-10.00	256.40
10	1.96	68.21	-10.00	256.40
15	2.70	64.35	-10.00	256.40
20	2.63	60.34	-10.00	256.40
25	2.53	56.42	-10.00	256.40
30	3.49	53.12	-10.00	256.40
35	3.37	49.49	-10.00	256.40
40	3.30	46.08	-10.00	256.40
45	3.29	42.94	-10.00	256.40
50	2.99	39.88	-10.00	256.40
55	2.53	37.01	-10.00	256.40
60	2.78	35.18	-10.00	256.40
65	3.42	34.29	-10.00	256.40
70	3.17	33.18	-10.00	256.40
75	3.22	33.01	-7.96	269.20
80	3.72	33.95	-4.20	292.90
85	3.36	34.69	0.77	324.20
90	3.38	36.37	4.53	347.90
95	2.49	37.81	4.53	347.90
100	2.99	40.84	4.53	347.90
105	3.50	44.15	4.53	347.90
110	3.76	47.52	4.53	347.90
115	3.70	50.90	4.53	347.90
120	3.92	54.61	4.53	347.90
125	3.84	58.30	4.53	347.90
130	4.39	62.35	4.53	347.90
135	3.90	66.11	4.53	347.90
140	4.15	70.18	4.53	347.90
145	4.15	74.23	4.53	347.90
150	3.50	78.23	4.53	347.90
155	3.92	82.42	4.53	347.90
160	4.24	86.59	4.53	347.90
165	4.67	90.72	4.53	347.90
170	4.76	94.84	4.53	347.90
175	5.29	98.89	4.53	347.90
180	5.93	102.84	4.53	347.90



**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)	571.8 m / 1876.0 ft	
Antenna Centerline (AGL)	7.32 m / 24.0 ft	
Antenna Model	GD Satcom 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	2.5 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
185	6.64	106.67	4.53	347.90
190	6.27	110.66	4.53	347.90
195	6.62	114.40	4.53	347.90
200	6.08	118.36	4.53	347.90
205	5.57	122.26	4.53	347.90
210	5.90	125.67	4.53	347.90
215	6.19	128.89	4.53	347.90
220	7.25	131.37	4.53	347.90
225	6.91	134.47	4.53	347.90
230	5.70	138.01	4.53	347.90
235	6.01	140.03	4.53	347.90
240	5.66	142.19	4.53	347.90
245	5.56	143.65	4.53	347.90
250	5.18	144.83	4.53	347.90
255	4.53	145.68	4.53	347.90
260	4.64	145.14	4.53	347.90
265	4.36	144.37	4.53	347.90
270	4.36	142.76	4.53	347.90
275	4.44	140.59	0.77	324.20
280	3.74	138.60	-4.20	292.90
285	3.10	136.12	-7.96	269.20
290	2.46	133.26	-10.00	256.40
295	0.80	130.61	-10.00	256.40
300	0.61	126.91	-10.00	256.40
305	0.00	123.21	-10.00	256.40
310	0.00	119.13	-10.00	256.40
315	0.00	114.99	-10.00	256.40
320	0.00	110.78	-10.00	256.40
325	0.00	106.52	-10.00	256.40
330	0.00	102.23	-10.00	256.40
335	0.00	97.91	-10.00	256.40
340	0.00	93.58	-10.00	256.40
345	0.00	89.24	-10.00	256.40
350	0.00	84.90	-10.00	256.40
355	0.00	80.57	-10.00	256.40





## **5. Contact Information**

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

Contact person:	Joanna Lynch
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