

Ka-Band Earth Station – Mountain View, CA

Frequency Coordination Report

28 GHz



Prepared on Behalf of
SES Space & Defense

May 10, 2023



COMSEARCH
A CommScope Company



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1. Summary of Results

On behalf of SES SPACE & DEFENSE, Comsearch performed a coordination notice under Section 25.203(c) and Section 25.136(a)(4) of the FCC’s rules for all existing and proposed terrestrial licenses within the coordination contours of their proposed Experimental Ka-Band earth station in Mountain View, 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 May 10, 2023.

There were no objections from any of the incumbent 28 GHz licensees.

2. 28 GHz Common Carrier and LMDS Coordination

In accordance with FCC Rules and Regulations, the temporary Ka-Band earth station in Mountain View, CA was prior-coordinated by Comsearch. A notification letter and datasheets for this earth station were sent to the following 28 GHz common carrier fixed microwave licensees. These licensees are authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis or local basis.

Licensee	Authorized Geographic Area
None Identified	

A notification letter and datasheets for the temporary Ka-Band earth station in Mountain View, CA were also sent to the following 28 GHz LMDS licensees. These licensees are authorized to operate fixed operations from 29.1 – 29.25 GHz on a market basis.

Licensee	Authorized Geographic Area
Broadband One	Market-Based
GeoLinks	Market-Based

No objections were received from the common carrier or LMDS incumbents.

¹ The proposed earth station will operate in the 29.0975 – 29.9985 GHz portion of the Ka-Band.



3. 28 GHz UMFUS Coordination

The proposed earth station will operate on frequencies that Do Not overlap Channel L1 & L2 of the UMFUS service. The total frequency allocation for Channels L1 & L2 of the UMFUS spectrum appears below.

Channel: **L1** 27.500 - 27.925 GHz
 L2 27.925 - 28.350 GHz

Licensee	Authorized Geographic Area
Not Required	

The Earth Station will not be operating in the UMFUS bands.



4. Earth Station Coordination Data

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



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Job Number: <PCNJobCode>

Administrative Information

Status ENGINEER PROPOSAL
 Call Sign <PCNCallSign>
 Licensee Code SESSPD
 Licensee Name SES Space & Defense

Site Information

MOUNTAIN VIEW, CA

Venue Name
 Latitude (NAD 83) 37° 24' 29.0" N
 Longitude (NAD 83) 122° 4' 21.0" W
 Climate Zone B
 Rain Zone 4
 Ground Elevation (AMSL) 12.06 m / 39.6 ft

Link Information

Satellite Type Low Earth Orbit
 Mode TO - Transmit-Only
 Modulation Digital
 Minimum Elevation Angle 10.0°
 Azimuth Range 0.0° to 360°
 Antenna Centerline (AGL) 0.91 m / 3.0 ft

Antenna Information

Transmit - FCC32

Manufacturer		Optysis	Intellian
Model		Horn Array	mP130 (Parabolic Dish)
Gain / Diameter		30.0 dBi / 16.5 cm (square)	49.0 dBi / 1.25
3-dB / 15-dB Beamwidth		2.30° / 4.60°	0.30° / 0.60°
Max Available RF Power	(dBW/4 kHz)	-51.0	-20.4
	(dBW/MHz)	-27.0	3.6
Maximum EIRP	(dBW/4 kHz)	-21.0	28.6
	(dBW/MHz)	3.0	52.6
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) 500KG7W / 29097.5 – 29998.5

Max Great Circle Coordination Distance 100.0 km / 62.1 mi
 Precipitation Scatter Contour Radius 100.0 km / 62.1 mi



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Coordination Values	MOUNTAIN VIEW, CA	
Licensee Name	SES Space & Defense	
Latitude (NAD 83)	37° 24' 29.0" N	
Longitude (NAD 83)	122° 4' 21.0" W	
Ground Elevation (AMSL)	12.06 m / 39.6 ft	
Antenna Centerline (AGL)	0.91 m / 3.0 ft	
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	-20.4 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	72.50	8.21	100.00
5	0.00	68.38	8.21	100.00
10	0.00	64.32	8.21	100.00
15	0.00	60.34	8.21	100.00
20	0.00	56.44	8.21	100.00
25	0.00	52.67	8.21	100.00
30	0.00	49.05	8.21	100.00
35	0.00	45.62	8.21	100.00
40	0.00	42.42	8.21	100.00
45	0.00	39.53	8.21	100.00
50	0.00	37.01	8.21	100.00
55	0.00	34.95	8.21	100.00
60	0.00	33.43	8.21	100.00
65	0.00	32.53	8.21	100.00
70	0.00	32.30	8.21	100.00
75	0.00	32.76	8.21	100.00
80	0.00	33.88	8.21	100.00
85	0.00	35.59	8.21	100.00
90	0.00	37.81	8.21	100.00
95	0.00	40.46	8.21	100.00
100	0.00	43.46	8.21	100.00
105	0.00	46.74	8.21	100.00
110	0.00	50.24	8.21	100.00
115	0.00	53.92	8.21	100.00
120	0.00	57.73	8.21	100.00
125	0.00	61.66	8.21	100.00
130	0.00	65.67	8.21	100.00
135	0.00	69.76	8.21	100.00
140	0.00	73.89	8.21	100.00
145	0.00	78.06	8.21	100.00
150	0.00	82.26	8.21	100.00
155	0.00	86.48	8.21	100.00
160	0.00	90.71	8.21	100.00
165	0.00	94.93	8.21	100.00
170	0.00	99.15	8.21	100.00
175	0.00	103.34	8.21	100.00
180	0.00	107.50	8.21	100.00
185	0.00	111.62	8.21	100.00



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Longitude (NAD 83)	122° 4' 21.0" W	
Ground Elevation (AMSL)	12.06 m / 39.6 ft	
Antenna Centerline (AGL)	0.91 m / 3.0 ft	
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	-20.4 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	115.68	8.21	100.00
195	0.00	119.66	8.21	100.00
200	0.00	123.56	8.21	100.00
205	0.00	127.33	8.21	100.00
210	0.00	130.95	8.21	100.00
215	0.00	134.38	8.21	100.00
220	0.00	137.58	8.21	100.00
225	0.00	140.47	8.21	100.00
230	0.00	142.99	8.21	100.00
235	0.00	145.05	8.21	100.00
240	0.00	146.57	8.21	100.00
245	0.00	147.47	8.21	100.00
250	0.00	147.70	8.21	100.00
255	0.00	147.24	8.21	100.00
260	0.00	146.12	8.21	100.00
265	0.00	144.41	8.21	100.00
270	0.00	142.19	8.21	100.00
275	0.00	139.54	8.21	100.00
280	0.00	136.54	8.21	100.00
285	0.00	133.26	8.21	100.00
290	0.00	129.76	8.21	100.00
295	0.00	126.08	8.21	100.00
300	0.00	122.27	8.21	100.00
305	0.00	118.34	8.21	100.00
310	0.00	114.33	8.21	100.00
315	0.00	110.24	8.21	100.00
320	0.00	106.11	8.21	100.00
325	0.00	101.94	8.21	100.00
330	0.00	97.74	8.21	100.00
335	0.00	93.52	8.21	100.00
340	0.00	89.29	8.21	100.00
345	0.00	85.07	8.21	100.00
350	0.00	80.85	8.21	100.00
355	0.00	76.66	8.21	100.00



5. Contact Information

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

Contact person:	Gary Edwards
Title:	Senior Manager, Satellite Services
Company:	Comsearch
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