

Ka-Band Earth Station – Woodinville, WA.

Frequency Coordination Report

28 GHz



Prepared on Behalf of
SPACE EXPLORATION
HOLDINGS

July 20, 2026



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1. Summary of Results

On behalf of SPACE EXPLORATION HOLDINGS, Comsearch performed a coordination notice under Section 25.203(c) of the FCC's rules for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-band earth station in Woodinville, WA which will transmit at 28¹. 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 July 20, 2026.

There are no unresolved objections 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 Woodinville, WA 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 Ka-band earth station in Woodinville, WA were also sent to the following 28 GHz LTTS licensee. This licensee is authorized to operate temporary fixed operations from 29.1 – 29.25 GHz on a market basis.

Licensee	Authorized Geographic Area
None Identified	

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

¹ The proposed earth station will operate in the 27.5 – 29.1 GHz & 29.5 – 30.0 GHz portion of the Ka-Band

3. 28 GHz UMFUS Coordination

There were four 28 GHz UMFUS licensees identified within the coordination distance of the proposed earth station. The proposed earth station will operate on frequencies that overlap portions of the UMFUS service which includes the following frequency ranges:

27.5 GHz – 27.925 GHz
27.925 GHz – 28.350 GHz

Licensee	Authorized Geographic Area
GeoLinks	Market Based
US Cellular	Market Based
T-Mobile	Market Based
Verizon	Market Based

There were no objections from the UMFUS incumbents within the coordination distance at the end of the coordination period.



4. Earth Station Coordination Data

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

Date: 06/23/2026
Job Number: 260623COMSGE01

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign:
Licensee Code: SPACEX
Licensee Name: SpaceX Services, Inc

Site Information

WOODINVILLE, WA
Venue Name: LITTLE WINE CGW
Latitude (NAD 83): 47° 47' 47.0" N
Longitude (NAD 83): 122° 7' 37.1" W
Climate Zone: A
Rain Zone: 3
Ground Elevation (AMSL): 134.4 m / 440.9 ft

Link Information

Satellite Type: Low Earth Orbit
Mode: TR - Transmit-Receive
Antenna Count: 4
Modulation: Digital
Minimum Elevation Angle: 25.0°
Azimuth Range: 0.0° to 360°
Antenna Centerline (AGL): 1.7 m / 5.6 ft

Antenna Information

Manufacturer:
Model:
Gain / Diameter:
3-dB / 15-dB Beamwidth:

Receive - FCC32

SpaceX
1.47 meter
46.9 dBi / 1.5 m
0.77° / 1.70°

Transmit - FCC32

SpaceX
1.47 meter
49.5 dBi / 1.5 m
0.49° / 1.17°

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

-39.8
-15.8

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

9.7
33.7

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

-151.0 dBW/4 kHz 20%
-128.0 dBW/4 kHz 0.0025%

Frequency Information

Receive 18.0 GHz

Emission / Frequency Range (MHz)
60M0D7W - 480MD7W / 17800.0 - 18600.0
60M0D7W - 480MD7W / 18800.0 - 19300.0

Transmit 28.0 GHz

60M0D7W - 480MD7W / 27500.0 - 29100.0
60M0D7W - 480MD7W / 29500.0 - 30000.0

Max Great Circle Coordination Distance: 225.0 km / 139.8 mi
Precipitation Scatter Contour Radius: 100.0 km / 62.1 mi

100.0 km / 62.1 mi
100.0 km / 62.1 mi

SPACE EXPLORATION HOLDINGS
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Coordination Values		WOODINVILLE, WA				
Licensee Name		SpaceX Services, Inc				
Latitude (NAD 83)		47° 47' 47.0" N				
Longitude (NAD 83)		122° 7' 37.1" W				
Ground Elevation (AMSL)		134.4 m / 440.9 ft				
Antenna Centerline (AGL)		12.85 m / 42.2 ft				
Antenna Model		SpaceX 1.47 meter				
Antenna Mode		Receive 18.0 GHz		Transmit 28.0 GHz		
Interference Objectives: Long Term		-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz	20%	
		Short Term	-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%
Max Available RF Power		-39.8 (dBW/4 kHz)				
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 18.0 GHz		Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.62	68.40	-10.00	225.00	-10.00	100.00
5	0.64	64.17	-10.00	225.00	-10.00	100.00
10	0.64	60.00	-10.00	225.00	-10.00	100.00
15	0.42	55.83	-10.00	225.00	-10.00	100.00
20	0.00	51.65	-10.00	225.00	-10.00	100.00
25	0.00	47.76	-10.00	225.00	-10.00	100.00
30	0.00	44.03	-10.00	225.00	-10.00	100.00
35	0.00	40.52	-10.00	225.00	-10.00	100.00
40	0.00	37.29	-10.00	225.00	-10.00	100.00
45	0.00	34.41	-10.00	225.00	-10.00	100.00
50	0.00	31.99	-10.00	225.00	-10.00	100.00
55	0.00	30.14	-10.00	225.00	-10.00	100.00
60	0.00	28.97	-10.00	225.00	-10.00	100.00
65	0.00	28.57	-10.00	225.00	-10.00	100.00
70	0.00	28.95	-10.00	225.00	-10.00	100.00
75	0.00	30.11	-10.00	225.00	-10.00	100.00
80	0.00	31.94	-10.00	225.00	-10.00	100.00
85	0.00	34.35	-10.00	225.00	-10.00	100.00
90	0.00	37.22	-10.00	225.00	-10.00	100.00
95	0.23	40.59	-10.00	225.00	-10.00	100.00
100	0.00	43.95	-10.00	225.00	-10.00	100.00
105	0.27	47.81	-10.00	225.00	-10.00	100.00
110	0.00	51.56	-10.00	225.00	-10.00	100.00
115	0.00	55.58	-10.00	225.00	-10.00	100.00
120	0.00	59.70	-10.00	225.00	-10.00	100.00
125	0.00	63.90	-10.00	225.00	-10.00	100.00
130	0.00	68.16	-10.00	225.00	-10.00	100.00
135	0.00	72.47	-10.00	225.00	-10.00	100.00
140	0.00	76.81	-10.00	225.00	-10.00	100.00
145	0.00	81.18	-10.00	225.00	-10.00	100.00
150	0.00	85.56	-10.00	225.00	-10.00	100.00
155	0.00	89.95	-10.00	225.00	-10.00	100.00
160	0.00	94.34	-10.00	225.00	-10.00	100.00
165	0.00	98.72	-10.00	225.00	-10.00	100.00
170	0.00	103.09	-10.00	225.00	-10.00	100.00
175	0.22	107.39	-10.00	225.00	-10.00	100.00
180	0.31	111.67	-10.00	225.00	-10.00	100.00
185	0.00	116.00	-10.00	225.00	-10.00	100.00

SPACE EXPLORATION HOLDINGS
Ka-Band Earth Station – Woodville, WA
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Coordination Values		WOODINVILLE, WA				
Licensee Name		SpaceX Services, Inc				
Latitude (NAD 83)		47° 47' 47.0" N				
Longitude (NAD 83)		122° 7' 37.1" W				
Ground Elevation (AMSL)		134.4 m / 440.9 ft				
Antenna Centerline (AGL)		12.85 m / 42.2 ft				
Antenna Model		SpaceX 1.47 meter				
Antenna Mode		Receive 18.0 GHz		Transmit 28.0 GHz		
Interference Objectives: Long Term		-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz	20%	
		Short Term	0.01%	-128.0 dBW/4 kHz	0.0025%	
Max Available RF Power		-39.8 (dBW/4 kHz)				
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 18.0 GHz		Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	120.20	-10.00	225.00	-10.00	100.00
195	0.00	124.32	-10.00	225.00	-10.00	100.00
200	0.00	128.35	-10.00	225.00	-10.00	100.00
205	0.00	132.24	-10.00	225.00	-10.00	100.00
210	0.00	135.97	-10.00	225.00	-10.00	100.00
215	0.00	139.48	-10.00	225.00	-10.00	100.00
220	0.00	142.71	-10.00	225.00	-10.00	100.00
225	0.00	145.59	-10.00	225.00	-10.00	100.00
230	0.00	148.01	-10.00	225.00	-10.00	100.00
235	0.00	149.86	-10.00	225.00	-10.00	100.00
240	0.00	151.03	-10.00	225.00	-10.00	100.00
245	0.00	151.43	-10.00	225.00	-10.00	100.00
250	0.00	151.05	-10.00	225.00	-10.00	100.00
255	0.00	149.89	-10.00	225.00	-10.00	100.00
260	0.00	148.06	-10.00	225.00	-10.00	100.00
265	0.00	145.65	-10.00	225.00	-10.00	100.00
270	0.00	142.78	-10.00	225.00	-10.00	100.00
275	0.00	139.56	-10.00	225.00	-10.00	100.00
280	0.00	136.05	-10.00	225.00	-10.00	100.00
285	0.00	132.33	-10.00	225.00	-10.00	100.00
290	0.00	128.44	-10.00	225.00	-10.00	100.00
295	0.00	124.42	-10.00	225.00	-10.00	100.00
300	0.00	120.30	-10.00	225.00	-10.00	100.00
305	0.00	116.10	-10.00	225.00	-10.00	100.00
310	0.00	111.84	-10.00	225.00	-10.00	100.00
315	0.00	107.53	-10.00	225.00	-10.00	100.00
320	0.00	103.19	-10.00	225.00	-10.00	100.00
325	0.00	98.82	-10.00	225.00	-10.00	100.00
330	0.00	94.44	-10.00	225.00	-10.00	100.00
335	0.00	90.05	-10.00	225.00	-10.00	100.00
340	0.00	85.66	-10.00	225.00	-10.00	100.00
345	0.21	81.29	-10.00	225.00	-10.00	100.00
350	0.31	76.95	-10.00	225.00	-10.00	100.00
355	0.35	72.63	-10.00	225.00	-10.00	100.00



5. Contact Information

For questions or information regarding the Ka, Q/V-band Frequency Coordination Report, please contact:

Contact person:	Gary Edwards
Title:	Senior Manager, Satellite Services
Company:	Comsearch
Address:	21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
Telephone:	703-726-5662
Email:	GEdwards@Comsearch.com
Web site:	www.comsearch.com

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
SpaceX Services, Inc
WOODINVILLE, WA
Satellite Earth Station

Prepared By:
COMSEARCH
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166
July 20, 2026

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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

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.

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 06/23/2026.

Company

10Band LLC
AT&T Mobility Spectrum LLC - Washington
AT&T Mobility Wireless Ops Hldgs - WA
Accel Net, Inc.
Astound Broadband, LLC
BNSF Railway Company
Bates Technical College
Battle Ground Public Schools
Bellevue Community College (KBCS)
Cellco Partnership - Washington
Christian Broadcasting of Yakima
Cowlitz County Fire District #5
Cyberdyne Networks, Inc.
Day Management Corporation
Dish Wireless LLC
Everett MSO, Inc
Everett MSO, Inc.
Gigabeam Internet, LLC
Grays Harbor, County of
ISP Industries LLC
Kitsap911
Kittcom
Kuiper Systems LLC
NCI Data.com, LLC
New Cingular Wireless PCS LLC-Washington
Northwest Open Access Network
Okanagan County Electric Cooperative Inc
Olympic Wireless, LLC
PUD #1 of Clallam County
Pacific Bell Tel Com dba AT&T California
Pick Two LLC
PocketiNet Communications Inc.
Port of Tacoma
Public Utility District No 1 of Okanogan
Puget Sound Energy, Inc
Qwest Corporation
Rotschy, Inc.
Seattle FCC License Sub, LLC
Seattle SMSA Limited Partnership
Seattle's Best Internet, LLC

Seattle, City of
Snohomish County 911
St. Anthony Hospital
Startouch, Inc.
Swedish Medical Center
T-Mobile MW LLC
The Boeing Company
Thurston 9-1-1 Communications
USCC Wireless Holdings, LLC
Union Pacific Railroad Company
University Of Washington
Washington Broadband, Inc.
Washington State of Dept of Transportat
Westgate Communications, LCC
Whatcom County Sheriff's Office
Wholesail Networks LLC
Wiline Spectrum Holdings LLC
Wireless Networks, LLC
Ziplay Fiber Northwest, LLC
Ziplay Wireless, LLC

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: 06/23/2026
Job Number: 260623COMSGE01

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign:
Licensee Code: SPACEX
Licensee Name: SpaceX Services, Inc

Site Information

WOODINVILLE, WA
Venue Name: LITTLE WINE CGW
Latitude (NAD 83): 47° 47' 47.0" N
Longitude (NAD 83): 122° 7' 37.1" W
Climate Zone: A
Rain Zone: 3
Ground Elevation (AMSL): 134.4 m / 440.9 ft

Link Information

Satellite Type: Low Earth Orbit
Mode: TR - Transmit-Receive
Antenna Count: 4
Modulation: Digital
Minimum Elevation Angle: 25.0°
Azimuth Range: 0.0° to 360°
Antenna Centerline (AGL): 1.7 m / 5.6 ft

Antenna Information

Manufacturer:
Model:
Gain / Diameter:
3-dB / 15-dB Beamwidth:

Receive - FCC32

SpaceX
1.47 meter
46.9 dBi / 1.5 m
0.77° / 1.70°

Transmit - FCC32

SpaceX
1.47 meter
49.5 dBi / 1.5 m
0.49° / 1.17°

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

-39.8
-15.8

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

9.7
33.7

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

-151.0 dBW/4 kHz 20%
-128.0 dBW/4 kHz 0.0025%

Frequency Information

Emission / Frequency Range (MHz)

Receive 18.0 GHz

60M0D7W - 480MD7W / 17800.0 - 18600.0
60M0D7W - 480MD7W / 18800.0 - 19300.0

Transmit 28.0 GHz

60M0D7W - 480MD7W / 27500.0 - 29100.0
60M0D7W - 480MD7W / 29500.0 - 30000.0

Max Great Circle Coordination Distance: 225.0 km / 139.8 mi
Precipitation Scatter Contour Radius: 100.0 km / 62.1 mi

100.0 km / 62.1 mi
100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values	WOODINVILLE, WA
Licensee Name	SpaceX Services, Inc
Latitude (NAD 83)	47° 47' 47.0" N
Longitude (NAD 83)	122° 7' 37.1" W
Ground Elevation (AMSL)	134.4 m / 440.9 ft
Antenna Centerline (AGL)	12.85 m / 42.2 ft
Antenna Model	SpaceX 1.47 meter
Antenna Mode	Receive 18.0 GHz
Interference Objectives: Long Term	-156.0 dBW/MHz 20%
Short Term	-146.0 dBW/MHz 0.01%
Max Available RF Power	-39.8 (dBW/4 kHz)
	Transmit 28.0 GHz
	-151.0 dBW/4 kHz 20%
	-128.0 dBW/4 kHz 0.0025%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 18.0 GHz		Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.62	68.40	-10.00	225.00	-10.00	100.00
5	0.64	64.17	-10.00	225.00	-10.00	100.00
10	0.64	60.00	-10.00	225.00	-10.00	100.00
15	0.42	55.83	-10.00	225.00	-10.00	100.00
20	0.00	51.65	-10.00	225.00	-10.00	100.00
25	0.00	47.76	-10.00	225.00	-10.00	100.00
30	0.00	44.03	-10.00	225.00	-10.00	100.00
35	0.00	40.52	-10.00	225.00	-10.00	100.00
40	0.00	37.29	-10.00	225.00	-10.00	100.00
45	0.00	34.41	-10.00	225.00	-10.00	100.00
50	0.00	31.99	-10.00	225.00	-10.00	100.00
55	0.00	30.14	-10.00	225.00	-10.00	100.00
60	0.00	28.97	-10.00	225.00	-10.00	100.00
65	0.00	28.57	-10.00	225.00	-10.00	100.00
70	0.00	28.95	-10.00	225.00	-10.00	100.00
75	0.00	30.11	-10.00	225.00	-10.00	100.00
80	0.00	31.94	-10.00	225.00	-10.00	100.00
85	0.00	34.35	-10.00	225.00	-10.00	100.00
90	0.00	37.22	-10.00	225.00	-10.00	100.00
95	0.23	40.59	-10.00	225.00	-10.00	100.00
100	0.00	43.95	-10.00	225.00	-10.00	100.00
105	0.27	47.81	-10.00	225.00	-10.00	100.00
110	0.00	51.56	-10.00	225.00	-10.00	100.00
115	0.00	55.58	-10.00	225.00	-10.00	100.00
120	0.00	59.70	-10.00	225.00	-10.00	100.00
125	0.00	63.90	-10.00	225.00	-10.00	100.00
130	0.00	68.16	-10.00	225.00	-10.00	100.00
135	0.00	72.47	-10.00	225.00	-10.00	100.00
140	0.00	76.81	-10.00	225.00	-10.00	100.00
145	0.00	81.18	-10.00	225.00	-10.00	100.00
150	0.00	85.56	-10.00	225.00	-10.00	100.00
155	0.00	89.95	-10.00	225.00	-10.00	100.00
160	0.00	94.34	-10.00	225.00	-10.00	100.00
165	0.00	98.72	-10.00	225.00	-10.00	100.00
170	0.00	103.09	-10.00	225.00	-10.00	100.00
175	0.22	107.39	-10.00	225.00	-10.00	100.00
180	0.31	111.67	-10.00	225.00	-10.00	100.00
185	0.00	116.00	-10.00	225.00	-10.00	100.00

Earth Station Data Sheet

Coordination Values

Licensee Name	SpaceX Services, Inc
---------------	----------------------

Latitude (NAD 83) 47° 47' 47.0" N

Longitude (NAD 83) 122° 7' 37.1" W

Ground Elevation (AMSL) 134.4 m / 440.9 ft

Antenna Centerline (AGL) 12.85 m / 42.2 ft

Antenna Model SpaceX 1.47 meter

Antenna Mode Receive 18.0 GHz

Transmit 28.0 GHz

Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz	20%
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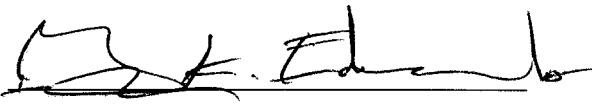
Short Term	-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz 0.0025%
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Max Available RF Power	-39.8 (dBW/4 kHz)
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5. CERTIFICATION

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.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166

DATED: July 20, 2026