

Ka-Band Earth Station – Huntsville, AL

Frequency Coordination Report

28 GHz



Prepared on Behalf of
SES Americom

January 25, 2019



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1. Summary of Results

On behalf of SES Americom, Comsearch performed a coordination notice for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-Band earth station in Huntsville, AL, 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 January 24, 2019.

No objections were received from any of the incumbent 28 GHz licensees. Our notification to the incumbents was performed under the assumption that the earth station would be operating on a secondary basis and a contact at SES Americom has been provided in case any concerns may arise in the future.

2. 28 GHz Common Carrier and LTTS Coordination

In accordance with FCC Rules and Regulations, the Ka-Band earth station in Huntsville, AL was prior-coordinated by Comsearch. A notification letter and datasheets for this earth station was sent to the following 28 GHz common carrier fixed microwave licensee. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Frontier Southwest Incorporated	Continental US
BellSouth Telecommunications, LLC (AT&T)	Statewide: Alabama

A notification letter and datasheets for the Ka-Band earth station in Huntsville, AL were also sent to the following 28 GHz local television transmission licensee. 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 27.5 – 28.35 GHz portion of the Ka-Band.

3. 28 GHz UMFUS Coordination

A Notification letter was sent to the following 28 GHz UMFUS licensees. The proposed earth station will operate on frequencies that 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	Channel	Area of Operation
Cellco Partnership (Verizon)	L1, L2	County-Based

No objections were received from the UMFUS incumbents.

4. Earth Station Coordination Data

This section presents the data pertinent to the proposed Ka-Band earth station in Huntsville, AL. 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>

Administrative Information

Status
Licensee Code P3210
Licensee Name SES Americom, Inc.

Site Information

HUNTSVILLE, AL

Venue Name
Latitude (NAD 83) 34° 43' 12.0" N
Longitude (NAD 83) 86° 40' 48.0" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 202.61 m / 664.7 ft

Link Information

Satellite Type Medium Earth Orbit
Mode TR - Transmit-Receive
Modulation Digital
Minimum Elevation Angle 16.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information

Transmit - FCC32

Manufacturer AVL
Model 0.85 meter
Gain / Diameter 46.0 dBi / 0.8 m
3-dB / 15-dB Beamwidth 0.90° / 2.10°

Max Available RF Power (dBW/4 kHz) -16.4
(dBW/MHz) 7.6

Maximum EIRP (dBW/4 kHz) 29.6
(dBW/MHz) 53.6

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) 12M0G7D / 27500.0 - 28350.0

Max Great Circle Coordination Distance 116.9 km / 72.6 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values	HUNTSVILLE, AL
Licensee Name	SES Americom, Inc.
Latitude (NAD 83)	34° 43' 12.0" N
Longitude (NAD 83)	86° 40' 48.0" W
Ground Elevation (AMSL)	202.61 m / 664.7 ft
Antenna Centerline (AGL)	2.74 m / 9.0 ft
Antenna Model	AVL 0.85 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	-16.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.47	107.71	-10.00	100.00
5	0.30	102.90	-10.00	100.00
10	0.37	98.10	-10.00	100.00
15	0.64	93.30	-10.00	100.00
20	0.95	88.48	-10.00	100.00
25	0.67	83.66	-10.00	100.00
30	0.46	78.86	-10.00	100.00
35	0.43	74.06	-10.00	100.00
40	0.45	69.27	-10.00	100.00
45	0.25	64.52	-10.00	100.00
50	0.33	59.75	-10.00	100.00
55	0.48	54.99	-10.00	100.00
60	0.29	50.34	-10.00	100.00
65	0.21	45.71	-9.50	100.00
70	0.00	41.20	-8.37	100.00
75	0.23	36.63	-7.09	100.00
80	0.43	32.17	-5.69	100.00
85	0.00	28.20	-4.26	105.46
90	0.00	24.32	-2.65	109.31
95	0.00	20.90	-1.00	113.27
100	0.00	18.18	0.51	116.91
105	0.33	16.19	1.77	110.04
110	0.45	15.79	2.04	102.18
115	0.45	17.00	1.24	100.03
120	0.89	19.08	-0.01	100.00
125	1.26	22.15	-1.63	100.00
130	1.05	25.98	-3.37	100.00
135	0.99	29.60	-4.78	100.00
140	1.37	32.76	-5.89	100.00
145	1.77	35.70	-6.82	100.00
150	1.40	38.93	-7.76	100.00
155	1.01	41.90	-8.55	100.00
160	0.42	44.71	-9.26	100.00
165	0.00	47.00	-9.80	100.00
170	0.00	48.46	-10.00	100.00
175	0.00	49.36	-10.00	100.00
180	0.00	49.66	-10.00	100.00
185	0.00	49.36	-10.00	100.00

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Antenna Centerline (AGL)	2.74 m / 9.0 ft
Antenna Model	AVL 0.85 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	-16.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	48.46	-10.00	100.00
195	0.00	47.00	-9.80	100.00
200	0.40	44.73	-9.26	100.00
205	0.24	42.50	-8.71	100.00
210	0.00	39.97	-8.04	100.00
215	0.00	36.95	-7.19	100.00
220	0.00	33.70	-6.19	100.82
225	0.36	30.02	-4.93	100.00
230	0.38	26.41	-3.55	100.00
235	0.37	22.76	-1.93	100.00
240	0.35	19.61	-0.31	103.81
245	0.55	17.08	1.18	100.00
250	0.70	15.81	2.03	100.00
255	0.69	16.18	1.77	100.00
260	0.97	17.70	0.80	100.00
265	0.98	20.54	-0.82	100.00
270	1.00	24.07	-2.53	100.00
275	0.91	28.07	-4.21	100.00
280	1.32	32.12	-5.67	100.00
285	1.44	36.51	-7.06	100.00
290	1.70	40.98	-8.31	100.00
295	1.60	45.65	-9.48	100.00
300	1.41	50.38	-10.00	100.00
305	0.88	55.21	-10.00	100.00
310	0.40	60.02	-10.00	100.00
315	0.29	64.79	-10.00	100.00
320	0.31	69.55	-10.00	100.00
325	0.43	74.32	-10.00	100.00
330	0.46	79.12	-10.00	100.00
335	0.47	83.92	-10.00	100.00
340	0.47	88.72	-10.00	100.00
345	0.38	93.53	-10.00	100.00
350	0.63	98.34	-10.00	100.00
355	0.62	103.14	-10.00	100.00

5. Contact Information

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

Contact person:	Dennis Jimeno
Title:	Engineer III, Telecommunications
Company:	Comsearch
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