

Exhibit A

Section 25.136 Demonstration

Pursuant to 47 C.F.R. § 25.115, Intelsat License LLC, as debtor in possession (“Intelsat”), herein seeks authority to operate two identical gateway earth stations (together, the “Riverside Gateways”) co-located in Riverside, CA. The first proposed gateway earth station (“Riverside Gateway 1”) will communicate with Intelsat 40e (S3066) at 91° W.L. The second proposed gateway earth station (“Riverside Gateway 2”) will communicate with Galaxy 30 (S3016) at 125° W.L. as the gateway’s primary point of communication and Intelsat 40e as its secondary point of communication. The technical details of the proposed earth station are provided in the Form 312.

Both Riverside Gateways will utilize 9.4-meter antennas and operate in Ka-band, including the 27.5-28.35 GHz frequency band, which may be licensed pursuant to Section 25.136(a)(4) of the Federal Communications Commission’s (“FCC” or “Commission”) rules.¹ This Exhibit addresses the four conditions for earth stations operating in the 27.5-28.35 GHz frequency band as specified in this rule.

I. Section 25.136(a)(4)(i) – Earth Stations per County

Section 25.136(a)(4)(i) requires that “there are no more than two other authorized earth stations operating in the 27.5-28.35 GHz band within the county where the proposed earth station is located.”² The Riverside Gateways will be at the Riverside teleport, which is located in Riverside County, CA. At the time of this application’s submission, there is only one authorized earth station, Call Sign E160066, in Riverside County operating in the 27.5-28.35 GHz band (the “Grandfathered Earth Station”).³ Thus, the limit on the total number of earth stations in Riverside County operating in the 27.5-28.35 GHz band will not be exceeded.

II. Section 25.136(a)(4)(ii) – Population (Waiver Request)

Section 25.136(a)(4)(ii) requires that “the area in which the earth station generates a PFD, at 10 meters above ground level, of greater than or equal to $-77.6 \text{ dBm/m}^2/\text{MHz}$, together with the similar area of any other earth station authorized pursuant to [Section 25.136(a)], does not cover, in the aggregate, more than the amount of population of the UMFUS license area within which the earth station is located as noted in table 1 [of Section 25.136(a)(4)(ii)].”⁴ Where the population within the UMFUS license area is greater than 450,000, the maximum permitted aggregate population within $-77.6 \text{ dBm/m}^2/\text{MHz}$ PFD contour of earth stations must not exceed 0.1 percent of the population in the

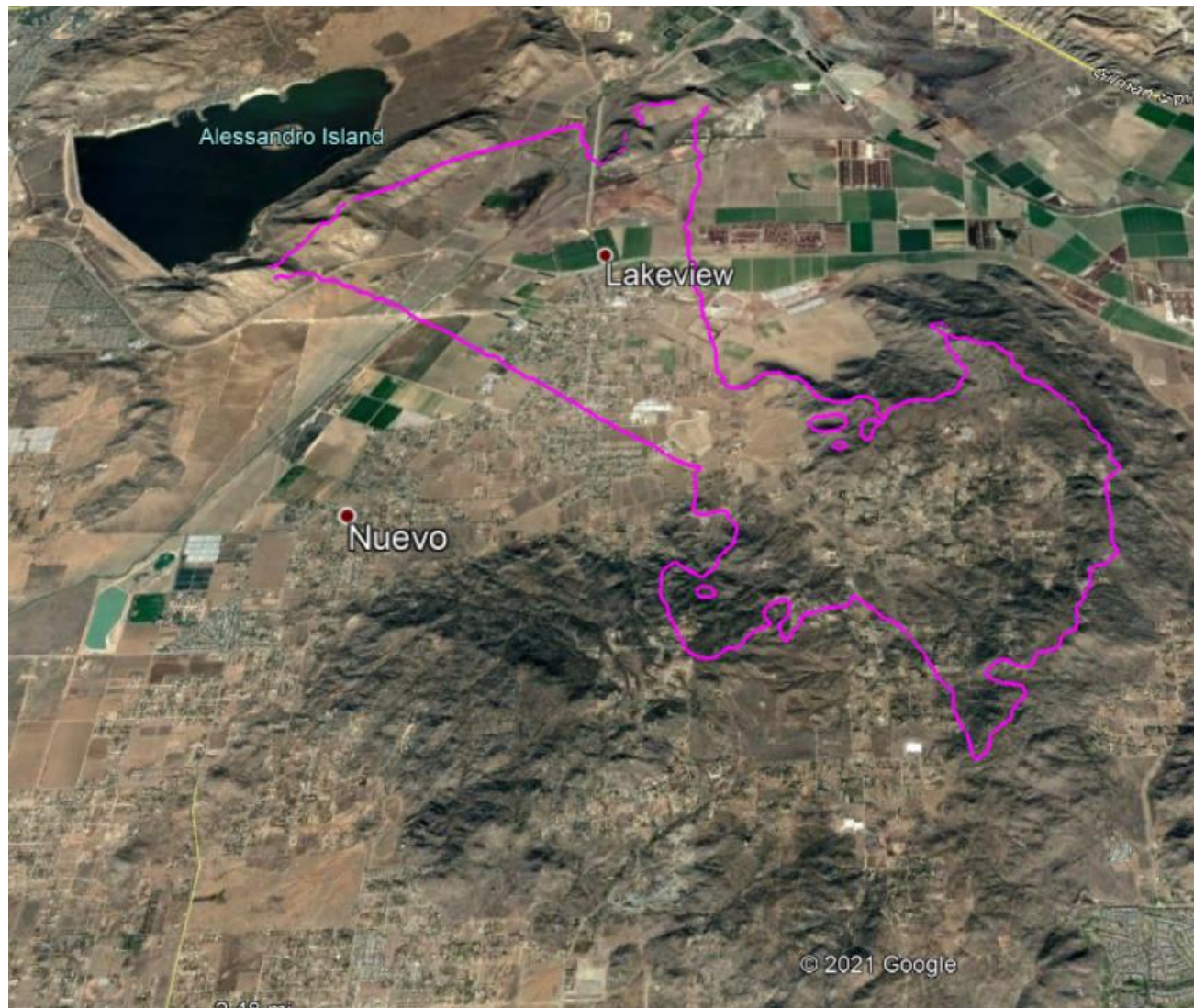
¹ 47 C.F.R. § 25.136(a)(4). Unless otherwise stated, all references to rule sections in this document refer to sections in Title 47 of the Code of Federal Regulations.

² 47 C.F.R. § 25.136(a)(4)(i).

³ See *Satellite Communications Services Information; Actions Taken*, Report No. SES-01979, File No. SES-MOD-20170607-00626 (Aug. 2, 2017) (Public Notice). First licensed prior to July 14, 2016, this existing earth station may operate without providing interference protection to stations in the Upper Microwave Flexible Use Service (“UMFUS”) pursuant to Section 25.136(a)(2) of the Commission’s rules. See *Satellite Communications Services Information; Actions Taken*, Report No. SES-01869, File No. SES-LIC-20160330-00358 (July 20, 2016) (Public Notice). See generally 47 C.F.R. § 25.136(a)(2).

⁴ 47 C.F.R. § 25.136(a)(4)(i)(ii).

UMFUS license area.⁵ Riverside County has a population of 2,418,185 people,⁶ and 0.1% of the population is 2,418 people. In this case, the PFD contour of the Grandfathered Earth Station alone—covering 2,844 people—exceeds the population limit provided in Section 25.136(a)(4)(ii). Intelsat derived the PFD contour of the Grandfathered Earth Station based on the technical parameters of the existing licensee and the antenna pattern defined in Section 25.209 of the Commission’s rules.⁷ This PFD contour is shown in Figure 1 below. Intelsat then calculated the population by superimposing the contour onto the census blocks within the county,⁸ as shown in Appendix B below, and using the actual area method.⁹



⁵ *Id.* § 25.136(a)(4)(i)(ii), Table 1.

⁶ See <https://www.census.gov/quickfacts/riversidecountycalifornia>.

⁷ See 47 C.F.R. § 25.209.

⁸ See US Census bureau data, <https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html>.

⁹ Under the actual area method, the population within the contour is calculated based on the proportion of the census geographic area covered by the PFD contour.

Figure 1. PFD Contour for Grandfathered Earth Station (Call Sign E160066)

Combined with the Riverside Gateways, Intelsat calculates that 2,879 people will be covered by the aggregate PFD contour. To make this determination, Intelsat calculated an aggregate PFD contour and superimposed the aggregate contour onto the census blocks within the county. Figure 2 below shows PFD contours for the aggregate (red contour), the Grandfathered Earth Station (pink contour), and the proposed Riverside Gateways (blue contours¹⁰). The aggregate PFD contour expands coverage slightly in the northwest and southwest directions compared to the Grandfathered Earth Station PFD contour.

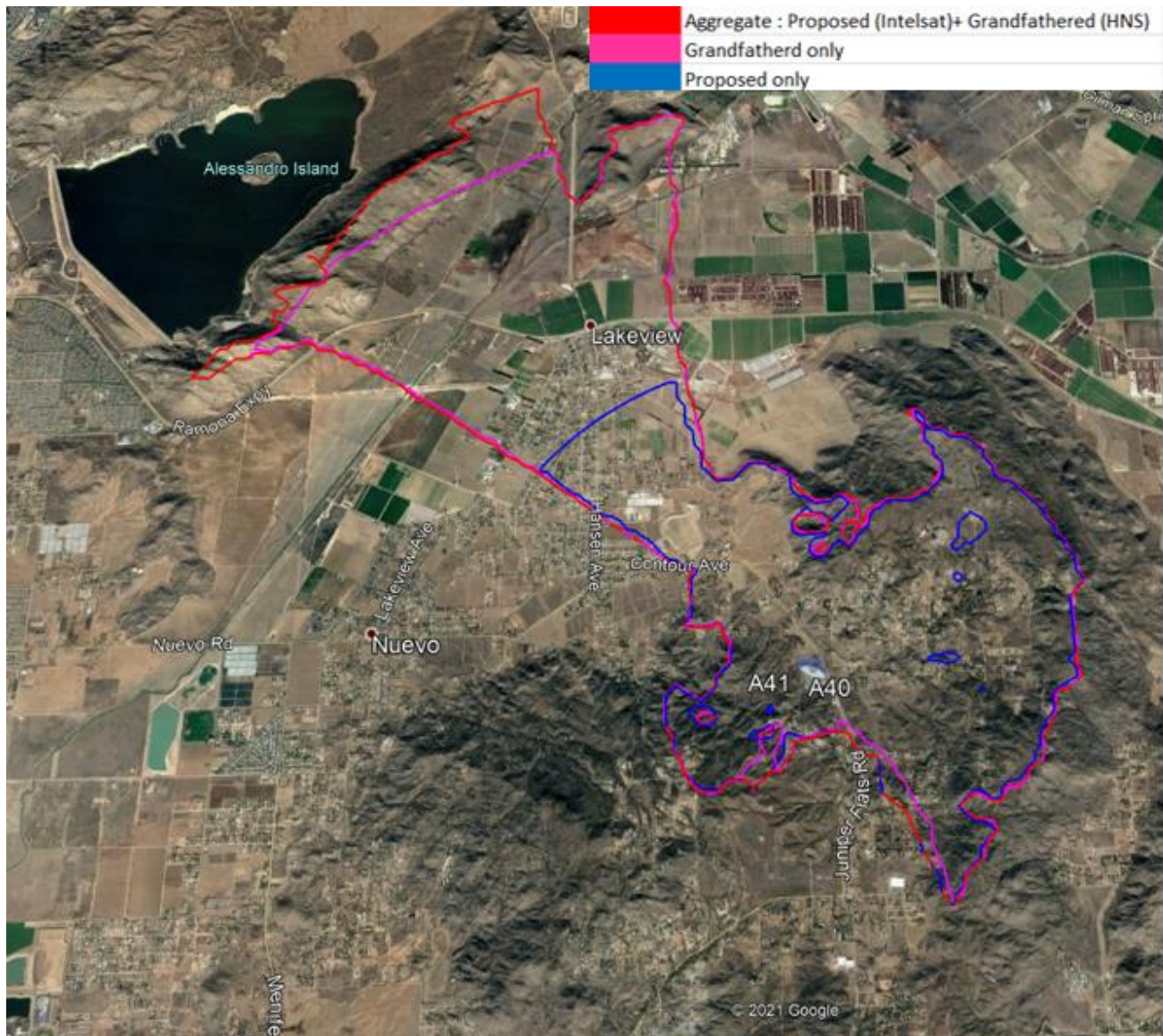


Figure 2. PFD Contours for Aggregate, Grandfathered Earth Station, and Proposed Riverside Gateways

¹⁰ The methodology and parameters used to derive the PFD contour for the proposed earth stations are provided in Appendix A

Intelsat requests waiver of Section 25.136(a)(4)(ii) of the Commission's rules. The Commission may grant waiver for good cause shown.¹¹ In determining whether waiver is appropriate, the Commission should "take into account considerations of hardship, equity, or more effective implementation of overall policy."¹² Good cause exists to waive Section 25.136(a)(4)(ii) because waiver would not undermine the purpose of the rule. Intelsat calculates that the population covered by the aggregate PFD contour is 2,879 people—only 35 people more than the population covered by the PFD contour of the Grandfathered Earth Station. In adopting Section 25.136, the Commission sought to allow Fixed Satellite Service ("FSS") gateway operations in the 27.5-28.35 GHz band on a limited basis and in such a manner as to mitigate the impact on the deployment of UMFUS in the band. Section 25.136(a)(4)(ii) in particular sets out to limit the population that would be affected by the deployment of FSS gateway earth stations. Addition of the Riverside Gateways at the existing Riverside Teleport and alongside the Grandfathered Earth Station, which may operate already without providing interference protection to UMFUS stations, will have a *de minimis* impact on the deployment of UMFUS in Riverside County. Grant of the requested waiver would therefore serve the public interest by allowing Intelsat to meet ever growing demands for satellite broadband to businesses, government, and individual users without materially changing the environment for UMFUS operations.

Should the Commission deny the request for waiver, Intelsat asks that the Commission grant this application with a condition that Intelsat take immediate corrective action upon receipt of any complaint of actual interference occurring outside the PFD contour of the Grandfathered Earth Station.

III. Section 25.136(a)(4)(iii) - Federal Highways & Major Event Venues (Waiver Request)

Section 25.136(a)(4)(iii) requires that "the area in which the earth station generates a PFD, at 10 meters above ground level, of greater than or equal to $-77.6 \text{ dBm/m}^2/\text{MHz}$ does not contain any major event venue, urban mass transit route, passenger railroad, or cruise ship port" or, together with the similar area of any other earth station authorized pursuant to Section 25.136(a), any "Interstate, Other Freeways and Expressways, or Other Principal Arterial," as defined by the Federal Highway Administration ("FHWA").¹³

The proposed Riverside Gateway PFD contour does not contain any major event venue, urban mass transit route, passenger railroad, or cruise ship port. Additionally, as shown in Figure 2 above, there are no Interstate, Other Freeways and Expressways, or Other Principal Arterial roads in the aggregate PFD contour that were not already included in the PFD contour of the Grandfathered Earth Station. Out of an abundance of caution and to the extent necessary, however, Intelsat requests waiver of Section 25.136(a)(4)(iii) of the Commission's rules.¹⁴ Good cause exists to waive Section 25.136(a)(4)(iii) because waiver would not undermine the purpose of the rule.¹⁵ The aggregate PFD

¹¹ 47 C.F.R. § 1.3.

¹² *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

¹³ 47 C.F.R. § 25.136(a)(4)(iii). *See also* 23 C.F.R. § 470.105(b); Federal Highway Administration, HEPGIS, <https://hepgis.fhwa.dot.gov/fhwagis/>.

¹⁴ *See infra* Section II. The Commission may grant waiver for good cause shown. 47 C.F.R. § 1.3. In determining whether waiver is appropriate, the Commission should "take into account considerations of hardship, equity, or more effective implementation of overall policy." *WAIT Radio*, 418 F.2d at 1159.

¹⁵ *See id.* In adopting Section 25.136, the Commission sought to allow FSS gateway operations in the 27.5-28.35 GHz band on a limited basis and in such a manner as to mitigate the impact on the

contour of the grandfathered earth station and the proposed Riverside Gateways do not impact additional roads specified in 25.136(a)(4)(iii) compared with the Grandfathered Earth Station, which may operate already without providing interference protection to UMFUS stations. Grant of the requested waiver would therefore serve the public interest by allowing Intelsat to meet ever growing demands for satellite broadband to businesses, government, and individual users without changing the environment for UMFUS operations.

IV. Section 25.136(a)(4)(iv) - Coordination with UMFUS Licensees

Section 25.136(a)(4)(iv) requires that applicants have “successfully completed frequency coordination with the UMFUS licensees operating within the area in which the earth station generates a PFD, at 10 meters above ground level, of greater than or equal to $-77.6 \text{ dBm/m}^2/\text{MHz}$ with respect to existing facilities constructed and in operation by the UMFUS licensee.”¹⁶ Intelsat has provided a Frequency Coordination Report, which demonstrates Intelsat’s completion of frequency coordination, as Appendix C.

deployment of UMFUS in the band. Section 25.136(a)(4)(iii) in particular sets out to limit the effect on federal highways and major event venues from the deployment of FSS gateway earth stations.

¹⁶ 47 C.F.R. § 25.136(a)(4)(iv).

Appendix A

Intelsat derived the PFD contours using Visualyse Professional.¹ The analysis used the International Telecommunication Union (“ITU”) Recommendation P.525-4 propagation model and ITU Recommendation P.452-16 with a 10% time. To model the received emission by an UMFUS receiver in any possible direction, Intelsat used a reference antenna defined at a 10-meter height above ground, with omni-directional pattern and isotropic receive gain. In the simulations, this reference antenna was moved around the gateway, and the value of received power was measured at each location. The simulation modeled the terrain profile using the NASA Shuttle Radar Topography Mission 3-Arc-Second Digital Terrain Elevation Data.

For the PFD contours, no clutter or polarization loss has been assumed and the power spectral density will not increase to accommodate for rain fade.

The Riverside Gateways were modeled using the following earth station parameters provided in Form 312, Schedule B for the 27.5-28.35 GHz band.

Site Location	Riverside, CA
County	Riverside
Antenna Coordinates	33°47'43.90"N 117°5'20.60"W

Parameters	RVS -A40	RVS – A41
Antenna pointing	91W	125W
Power density (dBW/MHz)	-7	-7
Antenna size (m)	9.4	9.4
Peak gain (dBi)	65.8	65.8
Elevation (deg)	41.8	49.8

¹ For more information visit: <https://www.transfinite.com/content/professional>.

Appendix B

Figure 1 below shows the aggregate PFD contour on Google Earth overlaying U.S. census blocks.

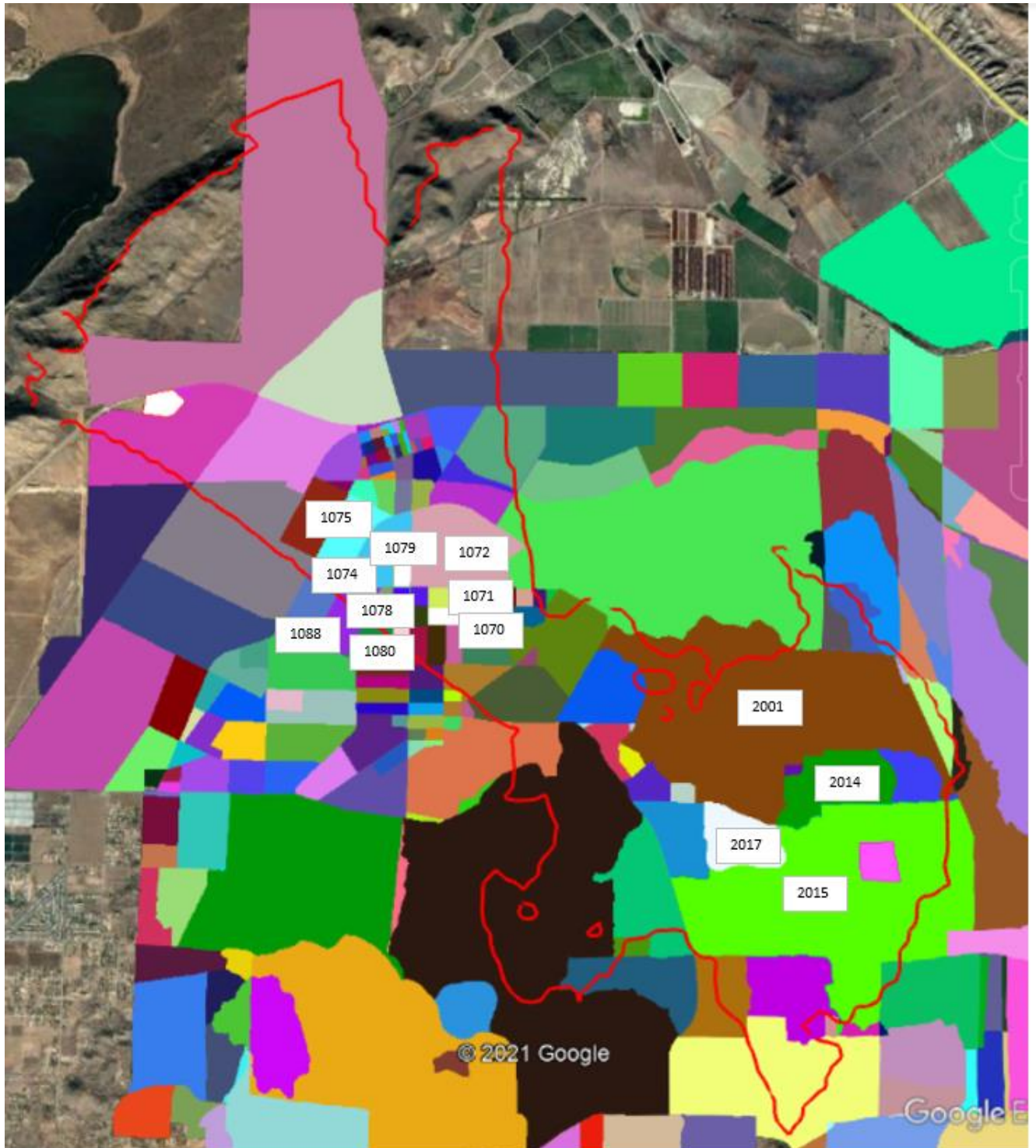


Figure 1: Aggregate PFD contour projected onto US census blocks

Note: These U.S. census blocks are some examples of the blocks where population based on contour coverage was above 50.

Each of the census blocks and total population that falls within the aggregate PFD contour is listed in the Table below. The population in the PFD contours, using the actual area method, for both the Grandfathered Earth Station and the aggregate PFD contours is also provided. The rows that are shown in blue are census blocks where the aggregate PFD contour resulted in an increase in the population contained in the PFD contour compared with the Grandfathered Earth Station PFD contour.

**Population within the Grandfathered Earth Station and Aggregate PFD contours at the
Riverside Teleport**

Census block #	Total Population		Grandfathered		Aggregate		Additional population
			Approx Contour Coverage	Population based on contour coverage	Approx Contour Coverage	Population based on contour coverage	
TOTAL	3727		81%	2844	82%	2879	35
060651000	156		35%	55	40%	62	7
060651003	88		25%	22	30%	26	4
060651004	45		20%	9	50%	23	14
060651005	13		90%	12	90%	12	0
060651006	0		10%	0	10%	0	0
060651007	6		50%	3	50%	3	0
060651007	0		0%	0	0%	0	0
060651008	0		100%	0	100%	0	0
060651008	0		20%	0	20%	0	0
060651009	0		100%	0	100%	0	0
060651010	0		100%	0	100%	0	0
060651010	0		100%	0	100%	0	0
060651011	15		100%	15	100%	15	0
060651012	0		100%	0	100%	0	0
060651013	14		100%	14	100%	14	0
060651014	0		100%	0	100%	0	0
060651014	0		100%	0	100%	0	0
060651024	20		10%	2	20%	4	2
060651025	49		75%	37	80%	39	2
060651026	13		10%	1	11%	1	0
060651026	15		20%	3	20%	3	0
060651028	10		100%	10	100%	10	0
060651029	0		0%	0	0%	0	0
060651030	22		100%	22	100%	22	0
060651031	16		10%	2	10%	2	0
060651032	12		90%	11	90%	11	0
060651033	6		100%	6	100%	6	0
060651034	51		100%	51	100%	51	0
060651035	33		100%	33	100%	33	0
060651035	33		5%	2	5%	2	0
060651036	16		100%	16	100%	16	0

060651037	28		100%	28	100%	28	0
060651038	8		100%	8	100%	8	0
060651039	1		100%	1	100%	1	0
060651040	20		100%	20	100%	20	0
060651041	33		100%	33	100%	33	0
060651042	46		100%	46	100%	46	0
060651043	37		100%	37	100%	37	0
060651044	21		100%	21	100%	21	0
060651045	31		100%	31	100%	31	0
060651046	20		100%	20	100%	20	0
060651047	6		100%	6	100%	6	0
060651048	22		100%	22	100%	22	0
060651049	0		100%	0	100%	0	0
060651050	11		100%	11	100%	11	0
060651051	6		100%	6	100%	6	0
060651052	6		100%	6	100%	6	0
060651053	20		100%	20	100%	20	0
060651054	33		100%	33	100%	33	0
060651055	29		100%	29	100%	29	0
060651056	48		100%	48	100%	48	0
060651057	45		100%	45	100%	45	0
060651058	38		100%	38	100%	38	0
060651059	0		100%	0	100%	0	0
060651060	0		100%	0	100%	0	0
060651061	25		100%	25	100%	25	0
060651062	73		100%	73	100%	73	0
060651063	44		75%	33	75%	33	0
060651064	8		100%	8	100%	8	0
060651066	23		80%	18	80%	18	0
060651067	27		95%	26	95%	26	0
060651068	0		100%	0	100%	0	0
060651069	3		100%	3	100%	3	0
060651070	67		100%	67	100%	67	0
060651071	93		100%	93	100%	93	0
060651072	127		95%	121	95%	121	0
060651073	0		100%	0	100%	0	0
060651074	197		100%	197	100%	197	0
060651075	268		95%	255	95%	255	0
060651076	13		100%	13	100%	13	0
060651077	31		100%	31	100%	31	0
060651078	54		100%	54	100%	54	0
060651079	71		100%	71	100%	71	0
060651080	85		80%	68	80%	68	0
060651081	5		95%	5	95%	5	0
060651082	7		100%	7	100%	7	0
060651083	56		80%	45	80%	45	0
060651085	50		5%	3	5%	3	0

060651086	53		40%	21	40%	21	0
060651087	82		5%	4	5%	4	0
060651088	213		30%	64	30%	64	0
060651089	48		85%	41	85%	41	0
060651092	22		90%	20	90%	20	0
060651093	0		0%	0	0%	0	0
060651094	0		0%	0	0%	0	0
060651095	0		0%	0	0%	0	0
060651096	0		0%	0	0%	0	0
060651108	2		100%	2	100%	2	0
060651110	131		20%	26	20%	26	0
060652000	0		100%	0	100%	0	0
060652000	0		0%	0	0%	0	0
060652001	79		100%	79	100%	79	0
060652001	125		80%	100	81%	101	1
060652001	79		100%	79	100%	79	0
060652002	15		40%	6	40%	6	0
060652002	0		0%	0	0%	0	0
060652002	15		4%	1	5%	1	0
060652003	0		100%	0	100%	0	0
060652003	20		100%	20	100%	20	0
060652003	20		20%	4	20%	4	0
060652004	2		100%	2	100%	2	0
060652005	0		0%	0	0%	0	0
060652006	10		100%	10	100%	10	0
060652006	10		100%	10	100%	10	0
060652007	4		100%	4	100%	4	0
060652008	0		0%	0	0%	0	0
060652009	10		95%	10	95%	10	0
060652010	0		0%	0	0%	0	0
060652013	0		0%	0	0%	0	0
060652014	63		100%	63	100%	63	0
060652015	69		80%	55	85%	59	4
060652016	23		100%	23	100%	23	0
060652017	84		100%	84	100%	84	0
060652018	46		100%	46	100%	46	0
060652029	0		100%	0	100%	0	0
060652030	22		100%	22	100%	22	0
060652041	11		5%	1	5%	1	0
060652000(2)	0		100%	0	100%	0	0

Appendix C

Ka-Band Earth Station – Nuevo, CA

Frequency Coordination Report

28 GHz



Prepared on Behalf of
INTELSAT LICENSE
LLC

October 5, 2021



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1. Summary of Results

On behalf of INTELSAT LICENSE LLC, 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 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 with a power correction notice on October 5, 2021.

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 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
AT&T	California
Crosslink Networks	California
Frontier	Nationwide

A notification letter and datasheets for the Ka-Band earth station in Nuevo, CA 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 – 29.1 GHz & 29.25 – 29.5 GHz portion of the Ka-Band.

3. 28 GHz UMFUS Coordination

There were two 28 GHz UMFUS licensees within the coordination distance of the proposed earth station. 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

UMFUS Licensee	Authorized Geographic Area
T-Mobile	Market-Based
Verizon	Market-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 Nuevo, CA. This data was circulated to all incumbent licensees in the shared 28 GHz frequency ranges.

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	NUEVO
Licensee Code	INTELS
Licensee Name	Intelsat License LLC

Site Information

NUEVO, CA

Venue Name	
Latitude (NAD 83)	33° 47' 43.9" N
Longitude (NAD 83)	117° 5' 20.6" W
Climate Zone	A
Rain Zone	4
Ground Elevation (AMSL)	569.32 m / 1867.8 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	Digital
Satellite Arc	91° W to 125° West Longitude
Azimuth Range	138.6° to 194.0°
Corresponding Elevation Angles	41.8° / 49.8°
Antenna Centerline (AGL)	10.0 m / 32.8 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer		ASC		ASC	
Model		9.4m-Ka		9.4m-Ka	
Gain / Diameter		62.0 dBi / 9.4 m		65.8 dBi / 9.4 m	
3-dB / 15-dB Beamwidth		0.50° / 1.00°		1.10° / 2.20°	
Max Available RF Power	(dBW/4 kHz)				
	(dBW/MHz)				
Maximum EIRP	(dBW/4 kHz)	-20.6			
	(dBW/MHz)	3.4			
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%

Frequency Information

Receive 18.0 GHz

Transmit 28.0 GHz

Emission / Frequency Range (MHz)	1M00G7W - 140MG7W / 17800.0 - 18800.0	1M00G7W - 140MG7W / 27500.0 - 29100.0
	1M00G7W - 140MG7W / 19200.0 - 19400.0	1M00G7W - 140MG7W / 29250.0 - 29500.0
	1M00G7W - 140MG7W / 19600.0 - 20200.0	
Max Great Circle Coordination Distance	136.2 km / 84.6 mi	100.0 km / 62.1 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi	100.0 km / 62.1 mi

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
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5858
Fax:	703-726-5599
Email:	DJimeno@Comsearch.com
Web site:	www.comsearch.com

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Intelsat License LLC
NUEVO, CA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
September 14, 2021

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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 08/17/2021.

Company

AT&T Mobility Spectrum LLC - Southern CA
Aerioconnect Inc
Air Sites 2000 LLC
Anaheim City, of
Antilles Wireless LLC
CCS Wireless, Inc.
California Internet, L.P
California Resources Corporation
California, State of
CamTech Broadband
Cellco Partnership - Southern California
City of Irvine Public Safety
City of Monrovia
City of Montebello
City of Newport Beach
City of Oceanside
City of Poway
City of Riverside
City of San Bernardino, MWD
City of West Covina
City of Whittier
Clearwire Spectrum Holdings III, LLC
Conterra Ultra Broadband, LLC
Corona, City of, Dept of Water & Power
Craig Wireless
DRS Global Enterprise Solutions, Inc.
Disneyland Resort
Eastern Municipal Water District
Eastern Riverside County Interoperable C
El Monte Police Department
Embee Technologies
Fireline Network Solutions Inc.
Foothill Transit
Frontier California Inc.
Gilmond, Daniel
Global Telecom & Technology Americas
Inland Empire Utilities Agency
JetWire, Inc.
LT-WR, LLC
Lightwave Broadband LLC

Loma Linda University Health
Long Beach, City of (WCD)
Los Angeles County Dept of Public Works
Los Angeles County FCC Licensing Section
Los Angeles County Metro Transit Auth
Los Angeles Regional Interoperable Comm
Los Angeles SMSA Ltd. Partnership
MHO Networks
Metropolitan Water Dist of So California
Mobile Relay Associates Inc.
Mojave Water Agency
Moreno Valley City California
Moulton Niguel Water District
NBC Telemundo License LLC
New Cingular Wireless PCS - Los Angeles
New Cingular Wireless PCS LLC -San Diego
New Cingular Wireless PCS, LLC - S/E CAL
Nextel West Corporation
Nextel of California Inc.
Nextweb Inc
North County Fire Protection District
Olympic Wireless, LLC
One Internet America, LLC
One Ring Networks, Inc.
Pacific Bell Tel Com dba AT&T California
Pacific Lightwave Inc
Palm Springs Unified School District
Palomar Broadband
Pasadena Area Community College Dist
Pomona College - KSPC
Quest Diagnostics Incorporated
Regents of the University of California
Regents of the University of California
San Bernardino County of California
San Diego Broadband
San Diego Gas & Electric Company
San Diego, City of
Santa Fe Irrigation District
Santa Margarita Water District
Sky Valley Network LLC
Skyriver Communications
South Orange County Community College Di
Southern California Edison Company
Southern California Gas Company
Southern California Telephone Company
Spectrum Pacific West, LLC
Sprint Spectrum LLC
Sprint Telephony PCS, L.P.
Sprintcom, Inc
Sun Microwave
T-Mobile License LLC
THUMS Long Beach Company
Tara Broadcasting, LLC
Time Warner Cable Pacific West LLC
Towerstream Corp.
Turn Wireless, LLC

Ultimate Internet Access, Inc
Union Pacific Railroad Company
Verizon Wireless (VAW) LLC (Southern CA)
Walnut Valley Water District
West End Communications Authority
Western Broadband Inc.
Western Municipal Water District
WiLogic, Inc
Wiline Spectrum Holdings LLC
WirelessGuys, Inc.
Wisprenn
XO Communications, LLC
ZRay Technologies Corporation
iHM Licenses, 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: 09/14/2021
Job Number: 210817COMSGE04

Administrative Information

Status ENGINEER PROPOSAL
Call Sign NUEVO
Licensee Code INTELS
Licensee Name Intelsat License LLC

Site Information

Venue Name **NUEVO, CA**
Latitude (NAD 83) 33° 47' 43.9" N
Longitude (NAD 83) 117° 5' 20.6" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 569.32 m / 1867.8 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 91° W to 125° West Longitude
Azimuth Range 138.6° to 194.0°
Corresponding Elevation Angles 41.8° / 49.8°
Antenna Centerline (AGL) 10.0 m / 32.8 ft

Antenna Information

		Receive - FCC32	Transmit - FCC32
Manufacturer		ASC	ASC
Model		9.4m-Ka	9.4m-Ka
Gain / Diameter		62.0 dBi / 9.4 m	65.8 dBi / 9.4 m
3-dB / 15-dB Beamwidth		0.50° / 1.00°	1.10° / 2.20°
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)		-20.6 3.4
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)		45.2 69.2
Interference Objectives:	Long Term Short Term	-156.0 dBW/MHz 20% -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	Transmit 28.0 GHz
Emission / Frequency Range (MHz)	1M00G7W - 140MG7W / 17800.0 - 18800.0 1M00G7W - 140MG7W / 19200.0 - 19400.0 1M00G7W - 140MG7W / 19600.0 - 20200.0	1M00G7W - 140MG7W / 27500.0 - 29100.0 1M00G7W - 140MG7W / 29250.0 - 29500.0
Max Great Circle Coordination Distance	136.2 km / 84.6 mi	100.0 km / 62.1 mi
Precipitation Scatter Contour Radius	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

NUEVO, CA

Licensee Name	Intelsat License LLC				
Latitude (NAD 83)	33° 47' 43.9" N				
Longitude (NAD 83)	117° 5' 20.6" W				
Ground Elevation (AMSL)	569.32 m / 1867.8 ft				
Antenna Centerline (AGL)	10.0 m / 32.8 ft				
Antenna Model	ASC 9.4 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			-20.6 (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	0.83	124.52	-10.00	100.21	-10.00	100.00
5	2.17	122.11	-10.00	100.00	-10.00	100.00
10	1.82	118.59	-10.00	100.00	-10.00	100.00
15	2.23	115.28	-10.00	100.00	-10.00	100.00
20	2.54	111.79	-10.00	100.00	-10.00	100.00
25	2.73	108.14	-10.00	100.00	-10.00	100.00
30	3.50	104.53	-10.00	100.00	-10.00	100.00
35	3.26	100.63	-10.00	100.00	-10.00	100.00
40	3.31	96.76	-10.00	100.00	-10.00	100.00
45	3.18	92.85	-10.00	100.00	-10.00	100.00
50	2.84	88.95	-10.00	100.00	-10.00	100.00
55	2.52	85.08	-10.00	100.00	-10.00	100.00
60	2.59	81.23	-10.00	100.00	-10.00	100.00
65	3.42	77.25	-10.00	100.00	-10.00	100.00
70	3.17	73.47	-10.00	100.00	-10.00	100.00
75	3.14	69.72	-10.00	100.00	-10.00	100.00
80	3.77	65.81	-10.00	100.00	-10.00	100.00
85	3.36	62.33	-10.00	100.00	-10.00	100.00
90	3.29	58.87	-10.00	100.00	-10.00	100.00
95	2.73	55.82	-10.00	100.00	-10.00	100.00
100	2.78	52.64	-10.00	100.00	-10.00	100.00
105	3.48	49.22	-10.00	100.00	-10.00	100.00
110	3.67	46.34	-9.65	100.00	-9.65	100.00
115	3.56	43.99	-9.08	100.00	-9.08	100.00
120	3.78	41.72	-8.51	100.00	-8.51	100.00
125	3.69	40.13	-8.09	100.00	-8.09	100.00
130	4.30	38.34	-7.59	100.00	-7.59	100.00
135	3.78	38.17	-7.54	100.00	-7.54	100.00
140	4.05	37.77	-7.43	100.00	-7.43	100.00
145	3.93	38.33	-7.59	100.00	-7.59	100.00
150	3.21	39.98	-8.05	100.00	-8.05	100.00
155	3.40	41.24	-8.38	100.00	-8.38	100.00
160	3.81	42.77	-8.78	100.00	-8.78	100.00
165	4.28	44.13	-9.12	100.00	-9.12	100.00
170	4.49	45.21	-9.38	100.00	-9.38	100.00
175	5.37	45.09	-9.35	100.00	-9.35	100.00
180	5.54	45.17	-9.37	100.00	-9.37	100.00
185	6.23	44.24	-9.15	100.00	-9.15	100.00

COMSEARCH

Earth Station Data Sheet

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Coordination Values

NUEVO, CA

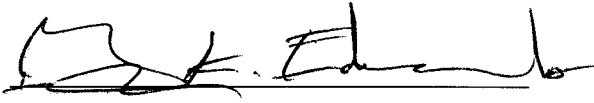
Licensee Name	Intelsat License LLC				
Latitude (NAD 83)	33° 47' 43.9" N				
Longitude (NAD 83)	117° 5' 20.6" W				
Ground Elevation (AMSL)	569.32 m / 1867.8 ft				
Antenna Centerline (AGL)	10.0 m / 32.8 ft				
Antenna Model	ASC 9.4 meter				
Antenna Mode	Receive 18.0 GHz				
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	Transmit 28.0 GHz	-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	-20.6 (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	6.21	43.74	-9.02	100.00	-9.02	100.00
195	6.00	43.81	-9.04	100.00	-9.04	100.00
200	5.72	44.40	-9.18	100.00	-9.18	100.00
205	5.42	45.44	-9.43	100.00	-9.43	100.00
210	6.26	45.82	-9.53	100.00	-9.53	100.00
215	6.05	47.59	-9.94	100.00	-9.94	100.00
220	7.24	48.53	-10.00	100.00	-10.00	100.00
225	6.15	51.66	-10.00	100.00	-10.00	100.00
230	5.43	54.65	-10.00	100.00	-10.00	100.00
235	5.73	57.15	-10.00	100.00	-10.00	100.00
240	5.59	60.12	-10.00	100.00	-10.00	100.00
245	5.72	63.11	-10.00	100.00	-10.00	100.00
250	5.07	66.57	-10.00	100.00	-10.00	100.00
255	4.45	70.07	-10.00	100.00	-10.00	100.00
260	4.37	73.40	-10.00	100.00	-10.00	100.00
265	4.17	76.82	-10.00	100.00	-10.00	100.00
270	4.28	80.22	-10.00	100.00	-10.00	100.00
275	3.92	83.73	-10.00	100.00	-10.00	100.00
280	4.35	87.18	-10.00	100.00	-10.00	100.00
285	3.02	90.67	-10.00	100.00	-10.00	100.00
290	2.44	94.04	-10.00	100.00	-10.00	100.00
295	0.80	97.18	-10.00	101.53	-10.00	100.00
300	0.48	100.34	-10.00	115.75	-10.00	100.00
305	0.00	103.36	-10.00	136.18	-10.00	100.00
310	0.00	106.42	-10.00	136.18	-10.00	100.00
315	0.00	109.40	-10.00	136.18	-10.00	100.00
320	0.00	112.28	-10.00	136.18	-10.00	100.00
325	0.00	115.04	-10.00	136.18	-10.00	100.00
330	0.00	117.65	-10.00	136.18	-10.00	100.00
335	0.00	120.10	-10.00	136.18	-10.00	100.00
340	0.00	122.34	-10.00	136.18	-10.00	100.00
345	0.00	124.36	-10.00	136.18	-10.00	100.00
350	0.00	126.13	-10.00	136.18	-10.00	100.00
355	0.00	126.89	-10.00	136.18	-10.00	100.00

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
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: September 14, 2021