



21515 Ridgetop Circle, Suite 300
Sterling, VA 20166
703-726-5500
Fax 703-726-5596

December 18, 2023

Office of the Secretary
Federal Communications Commission
Washington, DC 20554

Re: Call Sign: E960131
Site: Tempe, AZ
Ka-Band Transmit/Receive Earth Station

Dear Sir:

This letter is to confirm that the Transmit/Receive Earth Station located in Tempe, Arizona, (33° 20' 32.2" N, 111° 53' 48.5" W - NAD83) and with the technical parameters noted on the attached datasheet and under the ownership of Iridium Constellation LLC, has been under our continuous monitoring and frequency protection service. We have been monitoring all new frequency coordinations on their behalf and maintaining their participation in the frequency coordination process as specified in part 101 of the FCC Rules and Regulations.

We have been protecting this link on behalf of Iridium Constellation LLC. The technical parameters listed (including frequencies) have not changed and have been protected continuously since the site was coordinated. There are no outstanding protection case issues or objections from any licensed or applied-for licenses in the shared bands of operation.

If you have any questions, or require additional information, please don't hesitate to call me on (703) 726-5656 or by email at DMeyer@Comsearch.com

Sincerely,
COMSEARCH

David E. Meyer
Senior Manager
Frequency Protection Services

COMSEARCH**Earth Station Data Sheet**

21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
(703)726-5662 <http://www.comsearch.com>

Date: 06/26/2023
Job Number: <PCNJobCode>

Administrative Information

Status ENGINEER PROPOSAL
Call Sign <PCNCallSign>
Licensee Code ZIRIDI
Licensee Name Iridium Satellite LLC

Site Information**TEMPE, AZ**

Venue Name
Latitude (NAD 83) 33° 20' 32.2" N
Longitude (NAD 83) 111° 53' 48.5" W
Climate Zone A
Rain Zone 5
Ground Elevation (AMSL) 362.7 m / 1190.0 ft

Link Information

Satellite Type Low Earth Orbit
Mode TR - Transmit-Receive
Modulation Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 4.88 m / 16.0 ft

Antenna Information**Receive - FCC32****Transmit - FCC32**

Manufacturer Scientific-Atlanta
Model 3 meter
Gain / Diameter 54.0 dBi / 3.0 m
3-dB / 15-dB Beamwidth 0.40° / 0.70°

Scientific-Atlanta
3 meter
57.4 dBi / 3.0 m
0.24° / 0.45°

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

(1) -12.3 (2) -23.7
11.7 0.3

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

45.1 33.7
69.1 57.7

Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -150.2 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)
200KF9D / 19400.2 - 19405.0
14M0G7W / 19400.0 - 19600.0

(1) 1M00F9D / 29102.0
(1) 1M00F9D / 29298.0
(2) 14M0G7W / 29100.0 - 29300.0

Max Great Circle Coordination Distance 142.1 km / 88.3 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**

21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
 (703)726-5662 <http://www.comsearch.com>

Coordination Values**TEMPE, AZ**

Licensee Name	Iridium Satellite LLC				
Latitude (NAD 83)	33° 20' 32.2" N				
Longitude (NAD 83)	111° 53' 48.5" W				
Ground Elevation (AMSL)	362.7 m / 1190.0 ft				
Antenna Centerline (AGL)	4.88 m / 16.0 ft				
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	-150.2 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%	
Max Available RF Power			-23.7 (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	0.00	78.82	2.60	142.10	11.50	100.00
5	0.00	74.36	2.60	142.10	11.50	100.00
10	0.00	69.92	2.60	142.10	11.50	100.00
15	0.00	65.51	2.60	142.10	11.50	100.00
20	0.00	61.15	2.60	142.10	11.50	100.00
25	0.00	56.86	2.60	142.10	11.50	100.00
30	0.00	52.64	2.60	142.10	11.50	100.00
35	0.00	48.52	2.60	142.10	11.50	100.00
40	0.00	44.53	2.60	142.10	11.50	100.00
45	0.00	40.72	2.60	142.10	11.50	100.00
50	0.00	37.14	2.60	142.10	11.50	100.00
55	0.00	33.87	2.60	142.10	11.50	100.00
60	0.00	30.99	2.60	142.10	11.50	100.00
65	0.00	28.65	2.60	142.10	11.50	100.00
70	0.00	26.97	2.60	142.10	11.50	100.00
75	0.00	26.08	2.60	142.10	11.50	100.00
80	0.00	26.08	2.60	142.10	11.50	100.00
85	0.00	26.95	2.60	142.10	11.50	100.00
90	0.00	28.61	2.60	142.10	11.50	100.00
95	0.00	30.95	2.60	142.10	11.50	100.00
100	0.00	33.81	2.60	142.10	11.50	100.00
105	0.00	37.08	2.60	142.10	11.50	100.00
110	0.00	40.66	2.60	142.10	11.50	100.00
115	0.00	44.46	2.60	142.10	11.50	100.00
120	0.00	48.45	2.60	142.10	11.50	100.00
125	0.00	52.56	2.60	142.10	11.50	100.00
130	0.00	56.78	2.60	142.10	11.50	100.00
135	0.00	61.08	2.60	142.10	11.50	100.00
140	0.00	65.43	2.60	142.10	11.50	100.00
145	0.00	69.84	2.60	142.10	11.50	100.00
150	0.00	74.28	2.60	142.10	11.50	100.00
155	0.00	78.74	2.60	142.10	11.50	100.00
160	0.00	83.22	2.60	142.10	11.50	100.00
165	0.00	87.71	2.60	142.10	11.50	100.00
170	0.00	92.21	2.60	142.10	11.50	100.00
175	0.00	96.70	2.60	142.10	11.50	100.00
180	0.00	101.18	2.60	142.10	11.50	100.00
185	0.00	105.64	2.60	142.10	11.50	100.00

COMSEARCH**Earth Station Data Sheet**

21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
 (703)726-5662 <http://www.comsearch.com>

Coordination Values**TEMPE, AZ**

Licensee Name	Iridium Satellite LLC				
Latitude (NAD 83)	33° 20' 32.2" N				
Longitude (NAD 83)	111° 53' 48.5" W				
Ground Elevation (AMSL)	362.7 m / 1190.0 ft				
Antenna Centerline (AGL)	4.88 m / 16.0 ft				
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	-150.2 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%	
Max Available RF Power			-23.7 (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	110.08	2.60	142.10	11.50	100.00
195	0.00	114.49	2.60	142.10	11.50	100.00
200	0.00	118.85	2.60	142.10	11.50	100.00
205	0.00	123.14	2.60	142.10	11.50	100.00
210	0.00	127.36	2.60	142.10	11.50	100.00
215	0.00	131.48	2.60	142.10	11.50	100.00
220	0.00	135.47	2.60	142.10	11.50	100.00
225	0.00	139.28	2.60	142.10	11.50	100.00
230	0.00	142.86	2.60	142.10	11.50	100.00
235	0.00	146.13	2.60	142.10	11.50	100.00
240	0.00	149.01	2.60	142.10	11.50	100.00
245	0.00	151.35	2.60	142.10	11.50	100.00
250	0.00	153.03	2.60	142.10	11.50	100.00
255	0.00	153.92	2.60	142.10	11.50	100.00
260	0.00	153.92	2.60	142.10	11.50	100.00
265	0.00	153.05	2.60	142.10	11.50	100.00
270	0.00	151.39	2.60	142.10	11.50	100.00
275	0.00	149.05	2.60	142.10	11.50	100.00
280	0.00	146.19	2.60	142.10	11.50	100.00
285	0.25	142.76	2.60	142.10	11.50	100.00
290	0.24	139.21	2.60	142.10	11.50	100.00
295	0.00	135.54	2.60	142.10	11.50	100.00
300	0.00	131.55	2.60	142.10	11.50	100.00
305	0.00	127.44	2.60	142.10	11.50	100.00
310	0.00	123.22	2.60	142.10	11.50	100.00
315	0.00	118.92	2.60	142.10	11.50	100.00
320	0.00	114.57	2.60	142.10	11.50	100.00
325	0.00	110.16	2.60	142.10	11.50	100.00
330	0.00	105.73	2.60	142.10	11.50	100.00
335	0.00	101.26	2.60	142.10	11.50	100.00
340	0.00	96.78	2.60	142.10	11.50	100.00
345	0.00	92.29	2.60	142.10	11.50	100.00
350	0.00	87.79	2.60	142.10	11.50	100.00
355	0.00	83.30	2.60	142.10	11.50	100.00

Ka-Band Earth Station – Tempe, AZ

Frequency Coordination Report

28 GHz



Prepared on Behalf of
Iridium Constellation LLC

July 27, 2016



Table of Contents

1.	Summary of Results	- 1 -
2.	28 GHz Common Carrier and LTTS Coordination	- 1 -
3.	28 GHz LMDS Coordination	- 2 -
4.	Earth Station Coordination Data	- 3 -
5.	Contact Information	- 7 -

1. Summary of Results

On behalf of Iridium Constellation, Comsearch performed a coordination notice for all existing and proposed terrestrial licenses within the coordination contours of their existing Ka-Band earth station in Tempe, Arizona, 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 July 27, 2016.

No objections were received from any of the incumbent 28 GHz licensees. Our notification to the LMDS incumbents was performed under the assumption that the earth station would be operating on a non-interference basis in relation to primary LMDS Block A operations. A contact at Iridium Constellation 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 Tempe, Arizona 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 licensee on June 21, 2016. This licensee is authorized to operate temporary fixed operations from 27.5 to 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Frontier	Continental US

A notification letter and datasheet for the Ka-Band earth station in Tempe, Arizona were also sent to the following 28 GHz local television transmission licensee on June 21, 2016. This licensee is authorized to operate temporary fixed operations from 27.5 to 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 29.1 – 29.3 GHz portion of the Ka-Band.

3. 28 GHz LMDS Coordination

A Notification letter was sent to the following 28 GHz LMDS licensees on June 21, 2016. The proposed earth station will operate on frequencies that overlap Block A of the LMDS service. 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

Licensee	Market	Market Name
EchoStar	BTA347 ²	Phoenix, AZ
Nextlink / XO ³	BTA347	Phoenix, AZ
Nextlink / XO	BTA447	Tucson, AZ

No objections were received from the LMDS incumbents.

² The Iridium Constellation earth station is located inside BTA347.

³ XO Communications is leasing spectrum from EchoStar in the Phoenix, AZ Basic Trading Area (BTA).



4. Earth Station Coordination Data

This section presents the data pertinent to the Ka-Band earth station in Tempe, Arizona. This data was circulated to all incumbent licensees in the shared 28 GHz frequency ranges.

Date: 06/23/2016
Job Number: 160620COMSGE04

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign: E960131
Licensee Code: IRICON
Licensee Name: Iridium Constellation LLC

Site Information

Venue Name: **TEMPE, AZ**
Latitude (NAD 83): 33° 20' 32.2" N
Longitude (NAD 83): 111° 53' 48.5" W
Climate Zone: A
Rain Zone: 5
Ground Elevation (AMSL): 362.7 m / 1190.0 ft

Link Information

Satellite Type: Low Earth Orbit
Mode: TR - Transmit-Receive
Modulation: Digital
Minimum Elevation Angle: 5.0°
Azimuth Range: 0.0° to 360°
Antenna Centerline (AGL): 4.88 m / 16.0 ft

Antenna Information

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

Receive - FCC32

Scientific-Atlanta
3.0 meter
54.0 dBi / 3.0 m
0.40° / 0.70°

Transmit - FCC32

Scientific-Atlanta
3.0 meter
57.4 dBi / 3.0 m
0.24° / 0.45°

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

(1) -12.3 (2) -23.7
11.7 0.3

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

45.1 33.7
69.1 57.7

Interference Objectives: Long Term
Short Term

-156.0 dBW/MHz 20%
-150.2 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

200KF9D / 19400.2 - 19405.0
14M0G7W / 19400.0 - 19600.0

Transmit 28.0 GHz

(1) 1M00F9D / 29102.0
(1) 1M00F9D / 29298.0
(2) 14M0G7W / 29100.0 – 29300.0

Max Great Circle Coordination Distance
Precipitation Scatter Contour Radius

142.1 km / 88.3 mi
100.0 km / 62.1 mi

100.0 km / 62.1 mi
100.0 km / 62.1 mi

Coordination Values		TEMPE, AZ	
Licensee Name		Iridium Constellation LLC	
Latitude (NAD 83)		33° 20' 32.2" N	
Longitude (NAD 83)		111° 53' 48.5" W	
Ground Elevation (AMSL)		362.7 m / 1190.0 ft	
Antenna Centerline (AGL)		4.88 m / 16.0 ft	
Antenna Model		Scientific-Atlanta 3 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
	Short Term	-150.2 dBW/MHz	0.01% -128.0 dBW/4 kHz 0.0025%
Max Available RF Power		-12.3 (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	0.00	78.82	2.60	142.10	11.50	100.00
5	0.00	74.36	2.60	142.10	11.50	100.00
10	0.00	69.92	2.60	142.10	11.50	100.00
15	0.00	65.51	2.60	142.10	11.50	100.00
20	0.00	61.15	2.60	142.10	11.50	100.00
25	0.00	56.86	2.60	142.10	11.50	100.00
30	0.00	52.64	2.60	142.10	11.50	100.00
35	0.00	48.52	2.60	142.10	11.50	100.00
40	0.00	44.53	2.60	142.10	11.50	100.00
45	0.00	40.72	2.60	142.10	11.50	100.00
50	0.00	37.14	2.60	142.10	11.50	100.00
55	0.00	33.87	2.60	142.10	11.50	100.00
60	0.00	30.99	2.60	142.10	11.50	100.00
65	0.00	28.65	2.60	142.10	11.50	100.00
70	0.00	26.97	2.60	142.10	11.50	100.00
75	0.00	26.08	2.60	142.10	11.50	100.00
80	0.00	26.08	2.60	142.10	11.50	100.00
85	0.00	26.95	2.60	142.10	11.50	100.00
90	0.00	28.61	2.60	142.10	11.50	100.00
95	0.00	30.95	2.60	142.10	11.50	100.00
100	0.00	33.81	2.60	142.10	11.50	100.00
105	0.00	37.08	2.60	142.10	11.50	100.00
110	0.00	40.66	2.60	142.10	11.50	100.00
115	0.00	44.46	2.60	142.10	11.50	100.00
120	0.00	48.45	2.60	142.10	11.50	100.00
125	0.00	52.56	2.60	142.10	11.50	100.00
130	0.00	56.78	2.60	142.10	11.50	100.00
135	0.00	61.08	2.60	142.10	11.50	100.00
140	0.00	65.43	2.60	142.10	11.50	100.00
145	0.00	69.84	2.60	142.10	11.50	100.00
150	0.00	74.28	2.60	142.10	11.50	100.00
155	0.00	78.74	2.60	142.10	11.50	100.00
160	0.00	83.22	2.60	142.10	11.50	100.00
165	0.00	87.71	2.60	142.10	11.50	100.00
170	0.00	92.21	2.60	142.10	11.50	100.00
175	0.00	96.70	2.60	142.10	11.50	100.00
180	0.00	101.18	2.60	142.10	11.50	100.00
185	0.00	105.64	2.60	142.10	11.50	100.00

Coordination Values		TEMPE, AZ			
Licensee Name		Iridium Constellation LLC			
Latitude (NAD 83)		33° 20' 32.2" N			
Longitude (NAD 83)		111° 53' 48.5" W			
Ground Elevation (AMSL)		362.7 m / 1190.0 ft			
Antenna Centerline (AGL)		4.88 m / 16.0 ft			
Antenna Model		Scientific-Atlanta 3 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	-150.2 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%
Max Available RF Power			-12.3 (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	110.08	2.60	142.10	11.50	100.00
195	0.00	114.49	2.60	142.10	11.50	100.00
200	0.00	118.85	2.60	142.10	11.50	100.00
205	0.00	123.14	2.60	142.10	11.50	100.00
210	0.00	127.36	2.60	142.10	11.50	100.00
215	0.00	131.48	2.60	142.10	11.50	100.00
220	0.00	135.47	2.60	142.10	11.50	100.00
225	0.00	139.28	2.60	142.10	11.50	100.00
230	0.00	142.86	2.60	142.10	11.50	100.00
235	0.00	146.13	2.60	142.10	11.50	100.00
240	0.00	149.01	2.60	142.10	11.50	100.00
245	0.00	151.35	2.60	142.10	11.50	100.00
250	0.00	153.03	2.60	142.10	11.50	100.00
255	0.00	153.92	2.60	142.10	11.50	100.00
260	0.00	153.92	2.60	142.10	11.50	100.00
265	0.00	153.05	2.60	142.10	11.50	100.00
270	0.00	151.39	2.60	142.10	11.50	100.00
275	0.00	149.05	2.60	142.10	11.50	100.00
280	0.00	146.19	2.60	142.10	11.50	100.00
285	0.24	142.76	2.60	142.10	11.50	100.00
290	0.23	139.21	2.60	142.10	11.50	100.00
295	0.00	135.54	2.60	142.10	11.50	100.00
300	0.00	131.55	2.60	142.10	11.50	100.00
305	0.00	127.44	2.60	142.10	11.50	100.00
310	0.00	123.22	2.60	142.10	11.50	100.00
315	0.00	118.92	2.60	142.10	11.50	100.00
320	0.00	114.57	2.60	142.10	11.50	100.00
325	0.00	110.16	2.60	142.10	11.50	100.00
330	0.00	105.73	2.60	142.10	11.50	100.00
335	0.00	101.26	2.60	142.10	11.50	100.00
340	0.00	96.78	2.60	142.10	11.50	100.00
345	0.00	92.29	2.60	142.10	11.50	100.00
350	0.00	87.79	2.60	142.10	11.50	100.00
355	0.00	83.30	2.60	142.10	11.50	100.00



5. Contact Information

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

Contact person:	Joanna Lynch
Title:	Manager, Spectrum & Data Solutions
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5711
Fax:	703-726-5599
Email:	jlynch@comsearch.com
Web site:	www.comsearch.com