

GCL Licensee LLC
Response to FCC Form 312, Schedule B, Question E18
Page 1 of 1

Attachment 1: Comsearch Frequency Coordination and Interference Analysis Report

Attachment 2: Information on Microwave Landing System Sites

ATTACHMENT 1

**FREQUENCY COORDINATION AND INTERFERENCE
ANALYSIS REPORT**

Prepared for
GUSA Licensee, LLC
CABO ROJO 3, PR
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
February 15, 2021

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	6
5. CERTIFICATION.....	10

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 01/13/2021.

Company

America-CV Station Group, Inc.
Asociacion Evangelistica Cristo Viene
Catholic, Apostolic & Roman Church in PR
Corp. of Seventh Day Adventists of W Pr
Eastern Television Corporation
Encuentrio Christian Network Corp
JB Media Group
La Cadena Del Milagro, Inc.
Puerto Rico Public Broadcasting Corp.
Ramon A Hernandez
Sistema Universitario Ana G. Mendez, Inc
Spanish Broadcasting System Holding Comp
Teleadoracion Christian Network Inc.
Telecinco Inc.
Telemundo of Puerto Rico
Televiscentro of Puerto Rico, LLC.
WLII/WSUR License Partnership, G.P.

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: 02/15/2021
Job Number: 210113COMSGE01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code ZAIRSA
Licensee Name GUSA Licensee, LLC

Site Information

CABO ROJO 3, PR
Venue Name LPMA3
Latitude (NAD 83) 17° 58' 50.0" N
Longitude (NAD 83) 67° 8' 13.0" W
Climate Zone C
Rain Zone 1
Ground Elevation (AMSL) 63.69 m / 209.0 ft

Link Information

Satellite Type Low Earth Orbit
Mode TR - Transmit-Receive
Modulation Analog and Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 8.69 m / 28.5 ft

Antenna Information

	Receive - FCC32	Transmit - FCC32
Manufacturer	Cobham Satcom	Cobham Satcom
Model	Seatel Tracker T6000	Seatel Tracker T6000
Gain / Diameter	51.2 dBi / 6.0 m	47.5 dBi / 6.0 m
3-dB / 15-dB Beamwidth	0.44° / 0.88°	0.60° / 2.00°
Max Available RF Power (dBW/4 kHz)		10.9
(dBW/MHz)		20.9
Maximum EIRP (dBW/4 kHz)		58.5
(dBW/MHz)		68.5
Interference Objectives:	Long Term -153.0 dBW/MHz 20%	-140.0 dBW/4 kHz 20%
	Short Term -143.0 dBW/MHz 0.01%	-103.0 dBW/4 kHz 0.0025%

Frequency Information

	Receive 7.0 GHz	Transmit 5.1 GHz
Emission / Frequency Range (MHz)	2M50G7D / 6900.0 - 7055.0 1M23G7W - 1M23XXX / 6900.0 - 7055.0 200KG7D / 6900.0 - 7055.0 70K0G7D / 6875.9 - 6879.1 50K0N0N / 6900.0 - 7055.0 7K00G1D / 6875.9 - 6879.1	4M50G7D / 5096.0 - 5250.0 1M23G7W - 1M23XXX / 5096.0 - 5250.0 76K0F2D / 5091.0 - 5092.0 50K0N0N / 5091.0 - 5092.0 40K0G2D / 5091.0 - 5092.0
Max Great Circle Coordination Distance	226.0 km / 140.4 mi	285.0 km / 177.1 mi
Precipitation Scatter Contour Radius	533.2 km / 331.3 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

CABO ROJO 3, PR

Licensee Name GUSA Licensee, LLC
Latitude (NAD 83) 17° 58' 50.0" N
Longitude (NAD 83) 67° 8' 13.0" W
Ground Elevation (AMSL) 63.69 m / 209.0 ft
Antenna Centerline (AGL) 8.69 m / 28.5 ft
Antenna Model Seatel Tracker - 6 meter
Antenna Mode Receive 7.0 GHz Transmit 5.1 GHz
Interference Objectives: Long Term -153.0 dBW/MHz 20% -140.0 dBW/4 kHz 20%
Short Term -143.0 dBW/MHz 0.01% -103.0 dBW/4 kHz 0.0025%
Max Available RF Power 10.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 7.0 GHz		Transmit 5.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	5.51	97.35	10.40	226.00	10.40	285.00
5	4.47	92.39	10.40	226.00	10.40	285.00
10	5.34	87.44	10.40	226.00	10.40	285.00
15	4.14	82.51	10.40	226.00	10.40	285.00
20	2.68	77.63	10.40	226.00	10.40	285.00
25	1.81	72.78	10.40	226.00	10.40	285.00
30	4.04	67.72	10.40	226.00	10.40	285.00
35	5.62	62.68	10.40	226.00	10.40	285.00
40	5.62	57.74	10.40	226.00	10.40	285.00
45	5.88	52.78	10.40	226.00	10.40	285.00
50	6.17	47.82	10.40	226.00	10.40	285.00
55	5.86	42.93	10.40	226.00	10.40	285.00
60	5.12	38.16	10.40	226.00	10.40	285.00
65	4.70	33.40	10.40	226.00	10.40	285.00
70	3.44	28.98	10.40	226.00	10.40	285.00
75	2.29	24.82	10.40	226.00	10.40	285.00
80	1.99	20.63	10.40	226.00	10.40	285.00
85	0.93	17.41	10.40	226.00	10.40	285.00
90	0.37	14.81	10.40	226.00	10.40	285.00
95	0.37	13.07	10.40	226.00	10.40	285.00
100	0.28	13.19	10.40	226.00	10.40	285.00
105	0.00	15.21	10.40	226.00	10.40	285.00
110	0.00	18.17	10.40	226.00	10.40	285.00
115	0.00	21.87	10.40	226.00	10.40	285.00
120	0.00	25.99	10.40	226.00	10.40	285.00
125	0.00	30.36	10.40	226.00	10.40	285.00
130	0.00	34.89	10.40	226.00	10.40	285.00
135	0.00	39.51	10.40	226.00	10.40	285.00
140	0.00	44.21	10.40	226.00	10.40	285.00
145	0.00	48.95	10.40	226.00	10.40	285.00
150	0.00	53.74	10.40	226.00	10.40	285.00
155	0.00	58.54	10.40	226.00	10.40	285.00
160	0.00	63.37	10.40	226.00	10.40	285.00
165	0.00	68.21	10.40	226.00	10.40	285.00
170	0.00	73.06	10.40	226.00	10.40	285.00
175	0.00	77.92	10.40	226.00	10.40	285.00
180	0.00	82.78	10.40	226.00	10.40	285.00
185	0.00	87.65	10.40	226.00	10.40	285.00

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

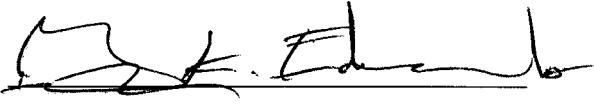
CABO ROJO 3, PR

Licensee Name GUSA Licensee, LLC
Latitude (NAD 83) 17° 58' 50.0" N
Longitude (NAD 83) 67° 8' 13.0" W
Ground Elevation (AMSL) 63.69 m / 209.0 ft
Antenna Centerline (AGL) 8.69 m / 28.5 ft
Antenna Model Seatel Tracker - 6 meter
Antenna Mode Receive 7.0 GHz Transmit 5.1 GHz
Interference Objectives: Long Term -153.0 dBW/MHz 20% -140.0 dBW/4 kHz 20%
Short Term -143.0 dBW/MHz 0.01% -103.0 dBW/4 kHz 0.0025%
Max Available RF Power 10.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 7.0 GHz		Transmit 5.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	92.51	10.40	226.00	10.40	285.00
195	0.00	97.38	10.40	226.00	10.40	285.00
200	0.00	102.24	10.40	226.00	10.40	285.00
205	0.00	107.10	10.40	226.00	10.40	285.00
210	0.00	111.95	10.40	226.00	10.40	285.00
215	0.33	116.83	10.40	226.00	10.40	285.00
220	0.35	121.67	10.40	226.00	10.40	285.00
225	1.16	126.61	10.40	226.00	10.40	285.00
230	3.10	131.77	10.40	226.00	10.40	285.00
235	3.10	136.62	10.40	226.00	10.40	285.00
240	3.83	141.59	10.40	226.00	10.40	285.00
245	2.52	146.04	10.40	226.00	10.40	285.00
250	3.79	151.12	10.40	226.00	10.40	285.00
255	3.98	155.84	10.40	226.00	10.40	285.00
260	3.89	160.31	10.40	226.00	10.40	285.00
265	3.42	164.23	10.40	226.00	10.40	285.00
270	2.57	167.04	10.40	226.00	10.40	285.00
275	2.56	169.07	10.40	226.00	10.40	285.00
280	2.62	169.09	10.40	226.00	10.40	285.00
285	1.66	166.21	10.40	226.00	10.40	285.00
290	0.81	162.40	10.40	226.00	10.40	285.00
295	1.03	158.71	10.40	226.00	10.40	285.00
300	2.76	155.23	10.40	226.00	10.40	285.00
305	4.32	151.12	10.40	226.00	10.40	285.00
310	4.26	146.34	10.40	226.00	10.40	285.00
315	4.89	141.64	10.40	226.00	10.40	285.00
320	5.12	136.80	10.40	226.00	10.40	285.00
325	5.33	131.92	10.40	226.00	10.40	285.00
330	5.83	127.05	10.40	226.00	10.40	285.00
335	6.44	122.16	10.40	226.00	10.40	285.00
340	6.03	117.18	10.40	226.00	10.40	285.00
345	5.84	112.22	10.40	226.00	10.40	285.00
350	6.80	107.31	10.40	226.00	10.40	285.00
355	6.74	102.34	10.40	226.00	10.40	285.00

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: February 15, 2021

ATTACHMENT 2

Information on Microwave Landing System Sites

For the Finca Pascual, Las Palmas, Cabo Rojo, Puerto Rico, Globalstar gateway site, there is one potential MLS site, i.e., Category III airport, within the 200 nautical miles transmit coordination distance. The Las Palmas site is located at (NAD 83) 17-58-50.0 N, 67-08-13.0 W. The airport is:

SJU	San Juan Luis Muñoz Marin International Airport, approximately 69 nautical miles from Las Palmas
-----	---

This airport site is located near San Juan in Carolina, Puerto Rico, and falls outside the 39.8 nautical mile maximum trigger distance for MLS/MSS coordination. In addition, based on a directory used for MLS coordination purposes, and to the best of its knowledge, Globalstar believes that MLS is not active at this airport.