

WorldVu Development LLC
1785 Greensboro Station Place Tower 3
McLean, VA 22102

Exhibit B: Comsearch Coordination Report & Interference Analysis Report

Ka-Band Earth Station – Guam Docomo, GU

Frequency Coordination Report

28 GHz



Prepared on Behalf of
WorldVu Satellites
Limited

October 27, 2021



Table of Contents

1.	Summary of Results	- 1 -
2.	28 GHz Common Carrier and LTTS Coordination	- 1 -
3.	28 GHz UMFUS Coordination	- 1 -
4.	Earth Station Coordination Data	- 2 -
5.	Contact Information	- 6 -

1. Summary of Results

On behalf of WorldVu Satellites Limited, Comsearch performed a coordination notice under 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 Guam Docomo, GU, 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 October 27, 2021. There are no unresolved case issues with the coordinated site.

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 Guam Docomo, GU was prior-coordinated by Comsearch.

There were no 28 GHz Common Carrier or LTTS Licensees identified in Guam.

3. 28 GHz UMFUS Coordination

A Notification letter was sent to the following 28 GHz UMFUS licensee. 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
PTI Pacifica Inc.	L1, L2	County Based

No objections were received from the UMFUS incumbent.

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

4. Earth Station Coordination Data

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

Job Number: 210916COMSGE07

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign:
Licensee Code: WORSAT
Licensee Name: WorldVu Satellites Limited

Site Information GUAM DOCOMO, GU

Venue Name:
Latitude (NAD 83): 13° 25' 6.4" N
Longitude (NAD 83): 144° 45' 6.2" E
Climate Zone: C
Rain Zone: 4
Ground Elevation (AMSL): 111.09 m / 364.5 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): 2.62 m / 8.6 ft (Previously 2.74 m/9.0 ft)

Antenna Information

		Receive - FCC32	Transmit - FCC32
Manufacturer		Viasat	Viasat
Model		3.7 meter	3.7 meter
Gain / Diameter		54.6 dBi / 3.7 m (Previously 3.5 m)	58.0 dBi / 3.7 m (Previously 3.5 m)
3-dB / 15-dB Beamwidth		0.32° / 0.36°	0.21° / 0.23°
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)		-39.6 -15.6
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)		18.4 42.4
Interference Objectives:	Long Term	-152.4 dBW/MHz	20%
	Short Term	-142.4 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)	2M50G7D, 2M40G7D - 20M0G7D / 17800.0 - 18600.0 2M50G7D, 2M40G7D - 20M0G7D / 18800.0 - 19300.0	1M00G7W, 250MG7D / 27500.0 - 29100.0 1M00G7W, 250MG7D / 29500.0 - 30000.0
Max Great Circle Coordination Distance	149.1 km / 92.6 mi	100.0 km / 62.1 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi	100.0 km / 62.1 mi

Coordination Values	GUAM DOCOMO, GU		
Licensee Name	WorldVu Satellites Limited		
Latitude (NAD 83)	13° 25' 6.4" N		
Longitude (NAD 83)	144° 45' 6.2" E		
Ground Elevation (AMSL)	111.09 m / 364.5 ft		
Antenna Centerline (AGL)	2.62 m / 8.6 ft		
Antenna Model	Viasat 3.7 meter		
Antenna Mode	Receive 18.0 GHz		
Interference Objectives: Long Term	-152.4 dBW/MHz	20%	Transmit 28.0 GHz -151.0 dBW/4 kHz 20%
Short Term	-142.4 dBW/MHz	0.01%	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power	-39.6 (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	0.00	80.29	11.53	149.10	12.0	100.00
5	0.00	77.72	11.53	149.10	12.0	100.00
10	0.00	75.21	11.53	149.10	12.0	100.00
15	0.00	88.28	11.53	149.10	12.0	100.00
20	0.00	70.49	11.53	149.10	12.0	100.00
25	0.00	68.30	11.53	149.10	12.0	100.00
30	0.00	96.36	11.53	149.10	12.0	100.00
35	0.00	99.00	11.53	149.10	12.0	100.00
40	0.00	101.59	11.53	149.10	12.0	100.00
45	0.00	104.12	11.53	149.10	12.0	100.00
50	0.00	59.89	11.53	149.10	12.0	100.00
55	0.00	108.90	11.53	149.10	12.0	100.00
60	0.00	58.06	11.53	149.10	12.0	100.00
65	0.00	57.55	11.53	149.10	12.0	100.00
70	0.00	57.30	11.53	149.10	12.0	100.00
75	0.00	116.90	11.53	149.10	12.0	100.00
80	0.00	57.66	11.53	149.10	12.0	100.00
85	0.00	119.79	11.53	149.10	12.0	100.00
90	0.00	120.90	11.53	149.10	12.0	100.00
95	0.00	121.75	11.53	149.10	12.0	100.00
100	0.00	122.34	11.53	149.10	12.0	100.00
105	0.00	63.10	11.53	149.10	12.0	100.00
110	0.00	122.70	11.53	149.10	12.0	100.00
115	0.00	122.45	11.53	149.10	12.0	100.00
120	0.00	121.94	11.53	149.10	12.0	100.00
125	0.00	71.10	11.53	149.10	12.0	100.00
130	0.00	120.11	11.53	149.10	12.0	100.00
135	0.00	118.84	11.53	149.10	12.0	100.00
140	0.00	117.34	11.53	149.10	12.0	100.00
145	0.00	115.63	11.53	149.10	12.0	100.00
150	0.00	113.75	11.53	149.10	12.0	100.00
155	0.00	86.32	11.53	149.10	12.0	100.00
160	0.00	109.51	11.53	149.10	12.0	100.00
165	0.00	91.72	11.53	149.10	12.0	100.00
170	0.00	94.41	11.53	149.10	12.0	100.00
175	0.00	102.28	11.53	149.10	12.0	100.00
180	0.00	99.71	11.53	149.10	12.0	100.00
185	0.00	97.08	11.53	149.10	12.0	100.00

Coordination Values	GUAM DOCOMO, GU		
Licensee Name	WorldVu Satellites Limited		
Latitude (NAD 83)	13° 25' 6.4" N		
Longitude (NAD 83)	144° 45' 6.2" E		
Ground Elevation (AMSL)	111.09 m / 364.5 ft		
Antenna Centerline (AGL)	2.62 m / 8.6 ft		
Antenna Model	Viasat 3.7 meter		
Antenna Mode	Receive 18.0 GHz		
Interference Objectives: Long Term	-152.4 dBW/MHz	20%	Transmit 28.0 GHz -151.0 dBW/4 kHz 20%
Short Term	-142.4 dBW/MHz	0.01%	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power	-39.6 (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	0.00	94.41	11.53	149.10	12.0	100.00
195	0.00	107.20	11.53	149.10	12.0	100.00
200	0.00	89.01	11.53	149.10	12.0	100.00
205	0.00	111.70	11.53	149.10	12.0	100.00
210	0.00	83.64	11.53	149.10	12.0	100.00
215	0.00	115.63	11.53	149.10	12.0	100.00
220	0.00	78.41	11.53	149.10	12.0	100.00
225	0.00	118.84	11.53	149.10	12.0	100.00
230	0.00	73.44	11.53	149.10	12.0	100.00
235	0.00	121.15	11.53	149.10	12.0	100.00
240	0.00	68.87	11.53	149.10	12.0	100.00
245	0.00	122.45	11.53	149.10	12.0	100.00
250	0.00	122.70	11.53	149.10	12.0	100.00
255	0.00	122.66	11.53	149.10	12.0	100.00
260	0.00	61.55	11.53	149.10	12.0	100.00
265	0.00	121.75	11.53	149.10	12.0	100.00
270	0.00	120.90	11.53	149.10	12.0	100.00
275	0.00	58.25	11.53	149.10	12.0	100.00
280	0.00	57.66	11.53	149.10	12.0	100.00
285	0.00	116.90	11.53	149.10	12.0	100.00
290	0.00	115.14	11.53	149.10	12.0	100.00
295	0.00	113.21	11.53	149.10	12.0	100.00
300	0.00	111.13	11.53	149.10	12.0	100.00
305	0.00	58.85	11.53	149.10	12.0	100.00
310	0.00	106.56	11.53	149.10	12.0	100.00
315	0.00	61.16	11.53	149.10	12.0	100.00
320	0.00	62.66	11.53	149.10	12.0	100.00
325	0.00	99.00	11.53	149.10	12.0	100.00
330	0.00	96.36	11.53	149.10	12.0	100.00
335	0.00	93.68	11.53	149.10	12.0	100.00
340	0.00	70.49	11.53	149.10	12.0	100.00
345	0.00	72.80	11.53	149.10	12.0	100.00
350	0.00	75.21	11.53	149.10	12.0	100.00
355	0.00	82.92	11.53	149.10	12.0	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
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
WorldVu Satellites Limited
GUAM DOCOMO, GU
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
October 27, 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 09/16/2021.

Company

DoCoMo Pacific, Inc.

PTI Pacifica Inc.

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: 10/24/2021
Job Number: 210916COMSGE07

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign:
Licensee Code: WORSAT
Licensee Name: WorldVu Satellites Limited

Site Information GUAM DOCOMO, GU

Venue Name:
Latitude (NAD 83): 13° 25' 6.4" N
Longitude (NAD 83): 144° 45' 6.2" E
Climate Zone: C
Rain Zone: 4
Ground Elevation (AMSL): 111.09 m / 364.5 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): 2.62 m / 8.6 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer	Viasat	Viasat
Model	3.7 meter	3.7 meter
Gain / Diameter	54.6 dBi / 3.7 m	58.0 dBi / 3.7 m
3-dB / 15-dB Beamwidth	0.32° / 0.36°	0.21° / 0.23°
Max Available RF Power (dBW/4 kHz)		-39.6
		(dBW/MHz) -15.6
Maximum EIRP (dBW/4 kHz)		18.4
		(dBW/MHz) 42.4
Interference Objectives:	Long Term	-152.4 dBW/MHz 20%
	Short Term	-142.4 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)	2M50G7D, 2M40G7D - 20M0G7D / 17800.0 - 18600.0	1M00G7W, 250MG7D / 27500.0 - 29100.0
	2M50G7D, 2M40G7D - 20M0G7D / 18800.0 - 19300.0	1M00G7W, 250MG7D / 29500.0 - 30000.0
Max Great Circle Coordination Distance	149.1 km / 92.6 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

GUAM DOCOMO, GU

Licensee Name	WorldVu Satellites Limited		
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Interference Objectives: Long Term	-152.4 dBW/MHz	20%	Transmit 28.0 GHz
Short Term	-142.4 dBW/MHz	0.01%	-151.0 dBW/4 kHz 20%
Max Available RF Power			-128.0 dBW/4 kHz 0.0025%
			-39.6 (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	0.00	80.29	11.53	149.10	12.00	100.00
5	0.00	82.92	11.53	149.10	12.00	100.00
10	0.00	75.21	11.53	149.10	12.00	100.00
15	0.00	88.28	11.53	149.10	12.00	100.00
20	0.00	70.49	11.53	149.10	12.00	100.00
25	0.00	68.30	11.53	149.10	12.00	100.00
30	0.00	66.25	11.53	149.10	12.00	100.00
35	0.00	64.37	11.53	149.10	12.00	100.00
40	0.00	62.66	11.53	149.10	12.00	100.00
45	0.00	61.16	11.53	149.10	12.00	100.00
50	0.00	59.89	11.53	149.10	12.00	100.00
55	0.00	58.85	11.53	149.10	12.00	100.00
60	0.00	58.06	11.53	149.10	12.00	100.00
65	0.00	57.55	11.53	149.10	12.00	100.00
70	0.00	57.30	11.53	149.10	12.00	100.00
75	0.00	57.34	11.53	149.10	12.00	100.00
80	0.00	57.66	11.53	149.10	12.00	100.00
85	0.00	119.79	11.53	149.10	12.00	100.00
90	0.00	120.90	11.53	149.10	12.00	100.00
95	0.00	121.75	11.53	149.10	12.00	100.00
100	0.00	122.34	11.53	149.10	12.00	100.00
105	0.00	122.66	11.53	149.10	12.00	100.00
110	0.00	122.70	11.53	149.10	12.00	100.00
115	0.00	122.45	11.53	149.10	12.00	100.00
120	0.00	121.94	11.53	149.10	12.00	100.00
125	0.00	121.15	11.53	149.10	12.00	100.00
130	0.00	120.11	11.53	149.10	12.00	100.00
135	0.00	118.84	11.53	149.10	12.00	100.00
140	0.00	117.34	11.53	149.10	12.00	100.00
45	0.00	115.63	11.53	149.10	12.00	100.00
150	0.00	113.75	11.53	149.10	12.00	100.00
155	0.00	111.70	11.53	149.10	12.00	100.00
160	0.00	109.51	11.53	149.10	12.00	100.00
165	0.00	107.20	11.53	149.10	12.00	100.00
170	0.00	104.79	11.53	149.10	12.00	100.00
175	0.00	102.28	11.53	149.10	12.00	100.00
180	0.00	99.71	11.53	149.10	12.00	100.00
185	0.00	97.08	11.53	149.10	12.00	100.00

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

GUAM DOCOMO, GU

Licensee Name	WorldVu Satellites Limited		
Latitude (NAD 83)	13° 25' 6.4" N		
Longitude (NAD 83)	144° 45' 6.2" E		
Ground Elevation (AMSL)	111.09 m / 364.5 ft		
Antenna Centerline (AGL)	2.62 m / 8.6 ft		
Antenna Model	Viasat 3.7 meter		
Antenna Mode	Receive 18.0 GHz		Transmit 28.0 GHz
Interference Objectives: Long Term	-152.4 dBW/MHz	20%	-151.0 dBW/4 kHz 20%
Short Term	-142.4 dBW/MHz	0.01%	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power			-39.6 (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	0.00	94.41	11.53	149.10	12.00	100.00
195	0.00	91.72	11.53	149.10	12.00	100.00
200	0.00	89.01	11.53	149.10	12.00	100.00
205	0.00	111.70	11.53	149.10	12.00	100.00
210	0.00	113.75	11.53	149.10	12.00	100.00
215	0.00	115.63	11.53	149.10	12.00	100.00
220	0.00	117.34	11.53	149.10	12.00	100.00
225	0.00	118.84	11.53	149.10	12.00	100.00
230	0.00	120.11	11.53	149.10	12.00	100.00
235	0.00	121.15	11.53	149.10	12.00	100.00
240	0.00	121.94	11.53	149.10	12.00	100.00
245	0.00	122.45	11.53	149.10	12.00	100.00
250	0.00	122.70	11.53	149.10	12.00	100.00
255	0.00	122.66	11.53	149.10	12.00	100.00
260	0.00	122.34	11.53	149.10	12.00	100.00
265	0.00	121.75	11.53	149.10	12.00	100.00
270	0.00	120.90	11.53	149.10	12.00	100.00
275	0.00	119.79	11.53	149.10	12.00	100.00
280	0.00	118.45	11.53	149.10	12.00	100.00
285	0.00	116.90	11.53	149.10	12.00	100.00
290	0.00	115.14	11.53	149.10	12.00	100.00
295	0.00	113.21	11.53	149.10	12.00	100.00
300	0.00	111.13	11.53	149.10	12.00	100.00
305	0.00	108.90	11.53	149.10	12.00	100.00
310	0.00	106.56	11.53	149.10	12.00	100.00
315	0.00	104.12	11.53	149.10	12.00	100.00
320	0.00	101.59	11.53	149.10	12.00	100.00
325	0.00	99.00	11.53	149.10	12.00	100.00
330	0.00	96.36	11.53	149.10	12.00	100.00
335	0.00	93.68	11.53	149.10	12.00	100.00
340	0.00	90.99	11.53	149.10	12.00	100.00
345	0.00	88.28	11.53	149.10	12.00	100.00
350	0.00	85.59	11.53	149.10	12.00	100.00
355	0.00	82.92	11.53	149.10	12.00	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: October 24, 2021