

Ka-Band Earth Station – Miramar, FL

Frequency Coordination Report

28 GHz



Prepared on Behalf of
Thales Avionics, Inc

September 4, 2019



COMSEARCH
A CommScope Company

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1. Summary of Results

On behalf of Thales Avionics, Inc, 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 Miramar, FL, 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 September 3, 2019.

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 Miramar, FL 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 or local basis.

Licensee	Authorized Geographic Area
BellSouth Telecommunications, LLC (AT&T)	Statewide: Florida
Frontier Southwest Incorporated	Nationwide

A notification letter and datasheets for the Ka-Band earth station in Miramar, FL 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	Nationwide

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
Straight Path Spectrum, LLC (Verizon)	L1, L2	County Based
T-Mobile License LLC	L1, L2	County Based
Wireless Distribution Services Inc.	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 Miramar, FL. This data was circulated to all incumbent licensees in the shared 28 GHz frequency ranges.

Date: 08/14/2019
Job Number:

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code THAAVI
Licensee Name Thales Avionics, Inc

Site Information

MIRAMAR, FL
Venue Name
Latitude (NAD 83) 25° 58' 55.2" N
Longitude (NAD 83) 80° 20' 20.4" W
Climate Zone B
Rain Zone 1
Ground Elevation (AMSL) 1.21 m / 4.0 ft

Link Information

Satellite Type Medium Earth Orbit
Mode TO - Transmit-Only
Modulation Digital
Minimum Elevation Angle 18.5°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 3.66 m / 12.0 ft

Antenna Information

Transmit - FCC32
ThinKom Ka2517
Manufacturer
Gain / Diameter 30.4 dBi / 0.4 m
3-dB / 15-dB Beamwidth 0.90° / 2.10°

Max Available RF Power (dBW/4 kHz) -18.7
(dBW/MHz) 5.3

Maximum EIRP (dBW/4 kHz) 11.7
(dBW/MHz) 35.7

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) 5M12G7D / 27500.0 - 28350.0

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



Coordination Values	MIRAMAR, FL
Licensee Name	Thales Avionics, Inc
Latitude (NAD 83)	25° 58' 55.2" N
Longitude (NAD 83)	80° 20' 20.4" W
Ground Elevation (AMSL)	1.21 m / 4.0 ft
Antenna Centerline (AGL)	3.66 m / 12.0 ft
Antenna Model	ThinKom Ka2517
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	-18.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	94.27	-9.00	100.00
5	0.00	89.27	-9.00	100.00
10	0.00	84.27	-9.00	100.00
15	0.00	79.27	-9.00	100.00
20	0.00	74.27	-9.00	100.00
25	0.00	69.27	-9.00	100.00
30	0.00	64.27	-9.00	100.00
35	0.00	59.27	-9.00	100.00
40	0.00	54.27	-9.00	100.00
45	0.00	49.27	-9.00	100.00
50	0.00	44.27	-9.00	100.00
55	0.00	39.27	-9.00	100.00
60	0.00	34.27	-9.00	100.00
65	0.00	29.27	-9.00	100.00
70	0.00	24.27	-9.00	100.00
75	0.00	19.27	-9.00	100.00
80	0.00	14.27	-9.00	100.00
85	0.00	9.27	-9.00	100.00
90	0.00	4.27	-9.00	100.00
95	0.00	0.73	-9.00	100.00
100	0.00	5.73	-9.00	100.00
105	0.00	10.73	-9.00	100.00
110	0.00	15.73	-9.00	100.00
115	0.00	20.73	-9.00	100.00
120	0.00	25.73	-9.00	100.00
125	0.00	30.73	-9.00	100.00
130	0.00	35.73	-9.00	100.00
135	0.00	40.73	-9.00	100.00
140	0.00	45.73	-9.00	100.00
145	0.00	50.73	-9.00	100.00
150	0.00	55.73	-9.00	100.00
155	0.00	60.73	-9.00	100.00
160	0.00	65.73	-9.00	100.00
165	0.00	70.73	-9.00	100.00
170	0.00	75.73	-9.00	100.00
175	0.00	80.73	-9.00	100.00
180	0.00	85.73	-9.00	100.00
185	0.00	90.73	-9.00	100.00

Coordination Values	MIRAMAR, FL
Licensee Name	Thales Avionics, Inc
Latitude (NAD 83)	25° 58' 55.2" N
Longitude (NAD 83)	80° 20' 20.4" W
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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	-18.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	95.73	-9.00	100.00
195	0.00	100.73	-9.00	100.00
200	0.00	105.73	-9.00	100.00
205	0.00	110.73	-9.00	100.00
210	0.00	115.73	-9.00	100.00
215	0.00	120.73	-9.00	100.00
220	0.00	125.73	-9.00	100.00
225	0.00	130.73	-9.00	100.00
230	0.00	135.73	-9.00	100.00
235	0.00	140.73	-9.00	100.00
240	0.00	145.73	-9.00	100.00
245	0.00	150.73	-9.00	100.00
250	0.00	155.73	-9.00	100.00
255	0.00	160.73	-9.00	100.00
260	0.00	165.73	-9.00	100.00
265	0.00	170.73	-9.00	100.00
270	0.00	175.73	-9.00	100.00
275	0.00	179.27	-9.00	100.00
280	0.00	174.27	-9.00	100.00
285	0.00	169.27	-9.00	100.00
290	0.00	164.27	-9.00	100.00
295	0.00	159.27	-9.00	100.00
300	0.00	154.27	-9.00	100.00
305	0.00	149.27	-9.00	100.00
310	0.00	144.27	-9.00	100.00
315	0.00	139.27	-9.00	100.00
320	0.00	134.27	-9.00	100.00
325	0.00	129.27	-9.00	100.00
330	0.00	124.27	-9.00	100.00
335	0.00	119.27	-9.00	100.00
340	0.00	114.27	-9.00	100.00
345	0.00	109.27	-9.00	100.00
350	0.00	104.27	-9.00	100.00
355	0.00	99.27	-9.00	100.00



5. Contact Information

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

Contact person:	Dennis Jimeno
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