

# Ka-Band Earth Station – Hillsdale, MI

## Frequency Coordination Report

28 GHz



Prepared on Behalf of  
ViaSat, Inc.

May 7, 2021



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## 1. Summary of Results

On behalf of ViaSat, Inc., Comsearch issued 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 Hillsdale-MI, which will transmit at 28 GHz<sup>1</sup>. Prior-notification emails 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 April 30, 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 Hillsdale, MI was prior-coordinated by Comsearch. A notification email, datasheet and Google Earth file showing the area around the site outside which the -77.6 dBm/m<sup>2</sup> per MHz threshold value is not exceeded 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 |
|----------|----------------------------|
| Frontier | Nationwide                 |

A notification email, datasheet and Google Earth file showing the area around the site outside which the -77.6 dBm/m<sup>2</sup> per MHz threshold value is not exceeded for the Ka-Band earth station in Hillsdale, MI 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.

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<sup>1</sup> The proposed earth station will operate in the 27.5 – 29.1 GHz & 29.5 – 30.0 GHz portion of the Ka-Band.

### 3. 28 GHz UMFUS Coordination

Two 28 GHz UMFUS licensees were identified 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

| Licensee | Authorized Geographic Area |
|----------|----------------------------|
| Verizon  | Market Based               |

No objections were received from the UMFUS incumbents within coordination distance.

## 4. Earth Station Coordination Data

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

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Date:                             | 03/30/2021                          |
| Job Number:                       | 210330COMSNR18                      |
| <b>Administrative Information</b> |                                     |
| Status                            | ENGINEER PROPOSAL                   |
| Call Sign                         |                                     |
| Licensee Code                     | Viasat                              |
| Licensee Name                     | ViaSat, Inc                         |
| <b>Site Information</b>           |                                     |
| Venue Name                        | HILLSDALE, MI                       |
| Latitude (NAD 83)                 | 41° 51' 16.23" N                    |
| Longitude (NAD 83)                | 84° 21' 52.70" W                    |
| Climate Zone                      | A                                   |
| Rain Zone                         | 2                                   |
| Ground Elevation (AMSL)           | 278.64 m / 914.2 ft                 |
| <b>Link Information</b>           |                                     |
| Satellite Type                    | Geostationary                       |
| Mode                              | TO - Transmit-Only                  |
| Modulation                        | Digital                             |
| Satellite Arc                     | 78° W to 91° West Longitude         |
| Azimuth Range                     | 170.5° to 189.9°                    |
| Corresponding Elevation Angles    | 41.2° / 41.2°                       |
| Antenna Centerline (AGL)          | 1.5 m / 4.9 ft                      |
| <b>Antenna Information</b>        |                                     |
| <b>Transmit - VES001</b>          |                                     |
| Manufacturer                      | Viasat Inc.                         |
| Model                             | 13001XX                             |
| Gain / Diameter                   | 52.6 dBi / 2.4 m                    |
| 3-dB / 15-dB Beamwidth            | 0.40° / 0.80°                       |
| Max Available RF Power            | (dBW/4 kHz) -42.5                   |
|                                   | (dBW/MHz) -18.5                     |
| Maximum EIRP                      | (dBW/4 kHz) 9.5                     |
|                                   | (dBW/MHz) 33.5                      |
| Interference Objectives:          | Long Term -141.0 dBW/4 kHz 20%      |
|                                   | Short Term -118.0 dBW/4 kHz 0.0025% |
| <b>Frequency Information</b>      |                                     |
| <b>Transmit 28.0 GHz</b>          |                                     |
| Emission / Frequency Range (MHz)  | 464MG7D / 27500.0 - 29500.0         |
| Coordination Distance             | 0.4 km / 0.25 mi                    |

## **5. Contact Information**

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

|                 |                                                                      |
|-----------------|----------------------------------------------------------------------|
| Contact person: | Naveen Raghavan                                                      |
| Title:          | Engineering Manager                                                  |
| Company:        | Comsearch                                                            |
| Address:        | 19700 Janelia Farm Blvd., Ashburn, VA 20147                          |
| Telephone:      | 703-726-5648                                                         |
| Email:          | <a href="mailto:nraghavan@Comsearch.com">nraghavan@Comsearch.com</a> |
| Web site:       | <a href="http://www.comsearch.com">www.comsearch.com</a>             |