

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Atlas Space Operations
Harmon, Guam
UHF Satellite Earth Station

Prepared By:
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1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated terrestrial facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily and without harmful interference to local in-band and adjacent band licensee. Operation in the spectrum identified will have no restrictions due to interference considerations.

2. SUMMARY OF RESULTS

Using both the IBFS and ULS databases from the FCC, the license records for Guam for 400-402 MHz and 449-451 MHz were pulled. The IBFS database yielded one license for the 400-402 pull, a call sign of E160038 for applicant Spire Global, Inc. at a frequency of 402-403, however this license was pulled the next year, yielding it currently inactive. There was also one license that was also withdrawn at the 449-451 frequency for the same company (with same call sign as well), but that license was also withdrawn.

The ULS database pull yielded two licenses, one of which was canceled for the applicant Sorensen Pacific Broadcasting, Inc. with the call sign of KPF271. The other license remains active until 2/1/2022 for the applicant Guam Educational Radio Foundation with the call sign KPN725 at the frequency 450.35 MHz.

The contact information for the one active licensee, Guam Educational Radio Foundation was collected:

Licensee Information:

Guam Educational Radio Foundation
Phone Number: 6717348930
Email: marketing.kprg@gmail.com
Address: 303 University Drive UoG Station, Mangilao, GU, 96923
Website Contact Form: <https://www.kprgfm.com/main/index.php?key=contact>

Site Information:

Site Name: Mount Barrigada, Agana BAS Remote Pickup Site
Call Sign: KPN725
Ground Elevation: 195
Latitude: 13.545 N
Longitude: 144.9242 E
Frequency: 450.35 MHz
Power Output: 30
Power EIRP: 189.3

The local Society of Broadcast Engineers (SBE) Coordinator for Guam is Robert Kelley, at Guamtech, Ph. 671-648-4262, fax 202-318-2437, email rkelley@guamtech.com. A coordination request was initiated via email on November 27, 2018. This was followed up by another email on January 25th, 2019. Attempts at coordination via telephone were made on January 3rd and January 25th. No response was received.

| Table 1 - Atlas Interference Calculations for Uplink at 450.2 MHz | | |
|---|---------|--|
| Victim Channel Freq. | 450.35 | MHz |
| Victim BW | 50 | kHz |
| Victim Start Freq | 450.325 | MHz |
| Victim Stop Freq | 450.375 | MHz |
| Atlas Channel Freq | 450.2 | MHz |
| Atlas BW | 30 | kHz |
| Atlas Start Freq | 450.185 | MHz |
| Atlas Stop Freq | 450.215 | MHz |
| Frequency Separation between Atlas Tx and Victim Rx | 0.11 | MHz |
| Receiver Noise Level | -136 | dBW/MHz, from license |
| Protection Criteria, I/N | -6 | dB, per ITU-R |
| Protection Criteria | -142 | dBW |
| Frequency of operation | 450.2 | MHz |
| Wavelength | 0.66591 | meters |
| Bandwidth | 30 | kHz |
| RF Power | 20 | W |
| Atlas Transmit Main Beam EIRP | 29.01 | dBW/30 kHz |
| Path losses required to clear | 171.010 | dB |
| Path Over-the-Horizon Clutter | 20 | Local above terrain blockage sources |
| Tx Off-Axis Discrimination | 1 | dB |
| Victim Receiver Off-axis Discrimination | 1 | dB, est |
| Filter Selectivity of Tx and RX | 72.01 | $43 + 10 \cdot \log(P)$, 250% Separation |
| Path losses required to clear | 77.0 | dB |
| Distance to Clear using local shielding, discrimination, filter response, and free space loss | 0.4 | km, in general unless collocated with transmitter the remote pick-up receiver should not experience any harmful interference |



Figure 1 – Atlas E/S site and GERP Broadcast Auxiliary Remote Pickup Fixed Site. Remote pickups within 19km of Fixed site.

3. 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.

| | |
|-------------------------|--------------------------------|
| Licensee Name: | ATLAS Space Operations, Inc |
| Street: | 10850 E Traverse Hwy, Ste 3355 |
| City, Stat, Zip | Traverse City, MI 49684 |
| Contact | Hanna Pritchard |
| Phone Number: | 231-598-6184 |
| E-Mail: | hpritchard@atlasground.com |
| Site Name | Harmon |
| Latitude | 13 ° 30 ' 48.8 " N |
| Longitude | 144 ° 49 ' 31.1 " E |
| Site Elevation | 72.02 meters |
| Antenna | |
| Make | M2 Antenna Systems |
| Model | 450CP34/400CP30 |
| Gain (TX) | 16.0 dBi at .450 |
| Gain (RX) | 16.2 dBi at .401 |
| Carrier | |
| Frequency Span | 450.185 450.215 |
| Emission Designator | 30K0F1D |
| EIRP (dBW) | 29 |
| EIRP Density (dBW/4kHz) | 20.3 |
| Satellite | BlackSky Global, NGSO |

4. 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 74, 90, 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:



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DATED: February 19, 2019