

## ULA Atlas / ORB-4 Mission

Table 1 contains a list of Government provided ground and airborne based systems that will be used for either Vehicle Tracking (5.69GHz) or Vehicle Destruct (421 MHz) or the TDRSS airborne assets (13.4 – 14.05 GHz), used for relaying our S-Band telemetry to the White Sands Complex (WSC) or the Guam Remote Ground Terminal (GRGT) during our mission profile.

Table 2 contains a list of Government provided ground and airborne based receiving systems that will be used to receive vehicle telemetry (2211 MHz) or GPS data (2287.5MHz) from the launch vehicle during the mission profile. This list does not identify the TDRSS ground station locations that TDRSS will be communicating with.

ULA has provided an asset identifier, area location, transmitter function, the specific transmitter operating frequency, and the Geographical Coordinates for ground and airborne systems, and a longitudinal location for the TDRSS Satellite Systems. ULA suggests using the area location and geographical coordinates for identification purposes.

If you have any questions, please contact ULA representative, Jim Hope at 303.269.5416 or via email at [james.d.hope@ulalaunch.com](mailto:james.d.hope@ulalaunch.com)

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**Table 1 – US Government Provided Transmitting Ground and Airborne Assets**

Government Ground Assets	Transmitter Location / Function	Geographical Coordinates
EASTERN TEST RANGE	United States Florida Kennedy Space Center <b>Vehicle Tracking: 5.69 GHz</b>	North Latitude (DD-MM-SS) 28° 28' 43" West Longitude (DD-MM-SS) 80° 40' 30"
ROZENDAL	United States Florida Kennedy Space Center <b>Vehicle Destruct: 421 MHz</b>	North Latitude (DD-MM-SS) 28° 26' 22 " West Latitude (DD-MM-SS) 80° 35' 54 "
CAS ORBIT	United States Florida Kennedy Space Center <b>Vehicle Destruct: 421 MHz</b>	North Latitude (DD-MM-SS) 28° 26' 22 " West Longitude (DD-MM-SS) 80° 35' 54 "
ROZENDAL/MELPAR	United States Florida Kennedy Space Center <b>Vehicle Destruct: 421 MHz</b>	North Latitude (DD-MM-SS) 28° 26' 22 " West Longitude (DD-MM-SS) 80° 35' 54 "
CANOGA	United States Florida Kennedy Space Center <b>Vehicle Destruct: 421 MHz</b>	North Latitude (DD-MM-SS) 28° 26' 22 " West Longitude (DD-MM-SS) 80° 35' 54 "
BROADBEAM/DATRON	United States Florida Tequesta 18205 Southeast County Line Rd <b>Vehicle Destruct: 421 MHz</b>	North Latitude (DD-MM-SS) 26° 58' 58 " West Longitude (DD-MM-SS) 80° 06' 30 "
EASTERN TEST RANGE	United States Florida Patrick Air Force Base <b>Vehicle Tracking: 5.69 GHz</b>	North Latitude (DD-MM-SS) 28° 13' 35" West Longitude (DD-MM-SS) 80° 35' 58"
TDRSS	Satellite Systems  <b>DownLink: 13.4 - 14.05 GHz</b>	<b>Inclination - 0 degrees (Average)</b> <b>Longitudinal Locations (Assigned ~30-60 days prior to ILC)</b> TDRSS 275 and one of the following AOR/POR Locations) AOR: TDRS 41 or TDRS 46 POR: TDRS 168 or TDRS 171 AOR: Atlantic Operational Region POR: Pacific Operational Region

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**Table 2 – US Government Provided Receiving Ground and Airborne Assets**

Government Ground Assets	Receiver Location/Function	Geographical Coordinates	GPS - MT 2287.5 MHz	Vehicle TLM 2211 MHz
TEL-4	United States Florida CCAFS  GPS / S-Band: 2200-2300 MHz	Latitude (DD-MM-SS) N 28° 27' 36"  Longitude W 80° 39' 0"	X	X
JDMTA	United States Florida JDMTA  GPS / S-Band: 2200-2300 MHz	Latitude (DD-MM-SS) N 26° 58' 48"  Longitude W 80° 6' 36"	X	X
BOSS	United States New Hampshire New Boston AFS  GPS / S-Band: 2200-2300 MHz	Latitude (DD-MM-SS) N 42° 56' 46"  Longitude W 288° 22' 12"	X	X
LION	United Kingdom Borden Hampshire  S-Band: 2200-2300 MHz	Latitude (DD-MM-SS) N 51° 6' 54"  Longitude W 359° 5' 38"		X
REEF	British Indian Ocean Territory Diego Garcia Island  S-Band: 2200-2300 MHz	Latitude (DD-MM-SS) S 07° 16' 12"  Longitude E 72° 22' 12"		X
TDRSS	Satellite Systems  S-Band: 2200-2300 MHz	Inclination - 0 degrees (Average) W Longitudinal Locations TDRS 041 TDRS 275		X