

Special Temporary Authorization
File No.: 0743-EX-ST-2011

**Exhibit 1: Mobile Area of Operation, Antenna Pointing
Information, and Stop Buzzer Contacts**

L-3 Communications
Communications Systems – West
Salt Lake City, Utah
December 12, 2011

L-3 Communications, Communication Systems – West
 Special Temporary Authorization
 File No.: 0743-EX-ST-2011

Applicant Background:

L-3 Communication Systems-West is a leader in developing communications systems for high-performance intelligence collection, imagery processing and satellite communications for Department of Defense (DoD) and other government agencies. The company provides high-data rate, wideband, secure, real-time communications systems for surveillance, reconnaissance and other airborne intelligence collection systems.

Location of Testing

All testing covered by this STA will be performed in the vicinity of Salt Lake City, Utah, within Salt Lake County. The base terminal will be located on the rooftop of the L-3 Communications facility at 640 North 2200 West, Salt Lake City, UT 84116. The mobile terminal, which will only operate on the halt, will operate from three locations to the southeast but within line-of-sight of the base, at ranges up to 33.9 km. The locations of the base and mobile sites are shown in a Google Earth map in Figure 1, and listed along with angles and ranges to the base in Table I.

Table I. Base and Mobile terminal locations and pointing angles

	Latitude	Longitude	Elev. (m)	Range from Mobile Site to Base (km)	Azimuth from Mobile Site to Base (deg)	Azimuth from Base to Mobile Site (deg)	Elevation Angle from Base to Mobile Site (deg)
Base	40° 46' 59" N	111° 57' 08" W	1292	-	-	-	-
Mobile Site 1	40° 41' 28" N	111° 47' 14" W	1568	17.3	306	126	0.9
Mobile Site 2	40° 34' 55" N	111° 47' 33" W	1609	26.1	329	149	0.6
Mobile Site 3	40° 29' 15" N	111° 51' 09" W	1646	33.9	346	166	0.5

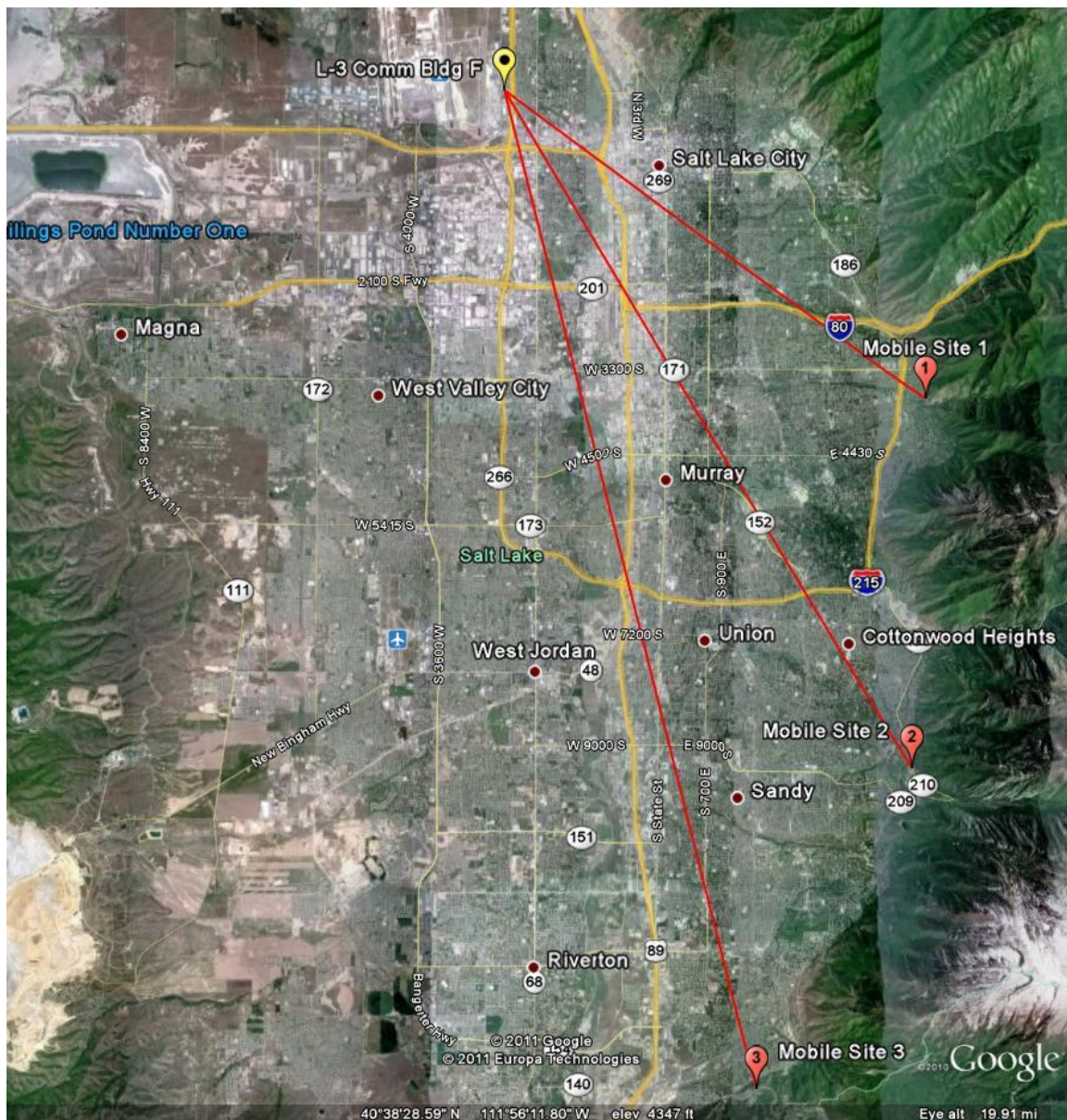


Figure 1. Locations of base terminal and mobile terminal sites 1-3.

Antennas and Antenna Pointing

The antenna is an integral part of the PTP45600 unit, which measures 14.5 inches square when viewed broadside to the antenna face. The antenna radiation pattern is not available, but the manufacturer states the beamwidth as 11° and the gain as 21.5 dBi. Polarization is dual linear, horizontal and vertical. Transmissions are made simultaneously in both polarizations.

Antennas are manually pointed on both ends of the link. Since transmissions will only occur while the mobile unit is stopped, no tracking is necessary once the antennas are successfully aligned for each mobile site. The azimuth pointing angle for each terminal (base, mobile) and each site is shown in Table I. Since the difference in elevation between the base and mobile is always very small compared to the range, the elevation pointing angles do not significantly deviate from 0°, given the antenna beamwidth of approximately 11°. The antenna elevation angle will only be varied only if surface reflections are problematic.

Stop Buzzer Contacts:

In the event of interference caused by the experiment, the following individuals will be responsible for ensuring that transmissions cease as soon as possible after notification:

Primary: Bing Shen (801)706-0270 (cell)

Backup: Rick Kunz (801)628-3602 (cell)