

RF PATH STUDIES/ SITE SURVEY SERVICES

When using 900 MHz frequencies, successful system operation is dependent upon a sufficient rf path existing between the communication points. This is especially critical for Spread Spectrum radios where a near line of sight path needs to be established. To assure that these requirements are met, Safetran strongly recommends that an rf path study be performed.

The following rf path studies are available from Safetran as a service for our customers using Safetran's R/Link and Safetran's Spread Spectrum Radio products. These studies require varying degrees of service by Safetran and the customer.

LEVEL I - PROPAGATION/PATH ANALYSIS

Customer will provide, as minimum, the following site-specific information:

- General location
- Location considerations/specifics, topography, access, constraints
- Longitude & latitude
- Antenna support structure details
- RF power output
- RF transmission line, connectors and antenna specifications
- RF Tx/Rx frequencies
- RF path description (LOS, distance, obstructions)
- Transceiver equipment details
- Type and location of associated MCP/WCP or BCP equipment and Spread Spectrum Radio

Safetran Systems Corporation Provided Deliverables to Include:

- Path Analysis Predictions (point-to-point)
- Expected Rx signal levels
- PAC - Predicted area of coverage
- HAAT - Height above average terrain
- DHAAT - Directional height above average terrain
- Recommended height and azimuth of antennas
- Recommended material list
- Recommended grounding and power distribution practices

Available Options:

- Prepared F.C.C. license application forms (FCC600's)
- Prepared F.A.A. forms and exhibits

LEVEL II - PROPAGATION/PATH ANALYSIS FOR POINT-TO-POINT SYSTEM

Customer will provide, as minimum, the following:

- Location and access information
- RF Tx/Rx frequencies
- Transceiver equipment specifications
- Type and location of associated MCP/WCP or BCP
- Flagman/watchman protection, pilot and rail transportation as necessary

Safetran Systems Corporation will perform actual field site survey to obtain information necessary in order to provide:

- All on-site data
- Photographic record of site details
- Expected Rx signal levels
- Path analysis predictions (point-to-point)
- PAC - Predicted area of coverage
- HAAT - Height above average terrain
- DHAAT - Directional height above average terrain
- Recommended height and azimuth of antennas
- Recommended material list
- Recommended grounding and power distribution practices

Available Options:

- Prepared F.C.C. license application forms (FCC600's)
- Prepared F.A.A. forms and exhibits

LEVEL III - SSR/RHDLINK SYSTEM POINT-TO-POINT PATH TESTS

Customer will provide, as minimum, the following:

- Location and access information
- Flagman/watchman protection, pilot and rail transportation as necessary

Safetran Systems Corporation (typically two engineers) will perform on-site tests utilizing:

- Spread Spectrum radios and HD/Link modules
- Antennas and portable masts
- Spectrum analyzer

Conduct actual field site survey to obtain information necessary in order to provide:

- All on-site data
- Photographic record of site details
- Expected Rx signal levels
- Path analysis predictions (point-to-point)
- Recommended height and azimuth of antennas
- Recommended material list
- Recommended grounding and power distribution practices

Available Options:

- Prepared F.A.A. forms and exhibits