



Recommendation WG 4.90.037

RFI TEST METHODS
EARTH STATION SITE SURVEY MEASUREMENTS:
TEST ANTENNA HEIGHTS FOR MEASUREMENT

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RECOMMENDATION

Subject: RFI Measurements

Title: Earth Station Site Survey Measurements: Test Antenna Heights for Measurement

Recommendation

RFI site survey measurements for a proposed earth station installation are performed to clear interference into the earth station (4 GHz) and also to provide actual data to assist in clearing interference into terrestrial microwave receivers (6 GHz). There are two test antenna heights normally considered for this type of measurement. The first height is considered equal to the nominal height of the earth station subreflector antenna centerline. The second height is considered equal to the top of the earth station antenna.

Since it is not always practical or necessary to measure at the top of the earth station antenna the actual heights used in a survey must be evaluated on a case by case basis. There are several factors to consider, such as:

1. Type of interference cases to be cleared, into the earth station (4 GHz) or into the terrestrial receivers (6 GHz). i
2. Presence or absence of close-in blockage that could make a significant difference in levels measured at the two centerlines.
3. Logistics necessary to achieve the high centerline may be too costly or complex. This may indicate other types of data, such as from a path blockage survey, could be necessary to complement the measurement data acquired.
4. For 6 GHz, pertinent information necessary to convince the terrestrial receivers
Protecting agent of the validity of the measurement data.

A measurement centerline at the equivalent subreflector height is normally considered in clearing 4 GHz interference into the earth station receiver. However, if the earth station site is totally exposed with no local shielding, data taken at this height can also be used to assist in clearing 6 GHz cases. This would apply when it is obvious that, due to the lack of local shielding, data taken at two centerlines would provide the same (continued on next page)

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results. An example of this situation would be a site in the middle of a large open field or on an exposed rooftop.

A measurement centerline equivalent to the top of the earth station antenna is normally used to assist in clearing 6 GHz interference cases into terrestrial receivers where there are questions about the effects of local shielding.

Comparison of measurement data taken at both centerlines is useful to help determine the effects of local shielding. When local shielding is present it is good practice to perform scans with the test antenna pointed at potential reflective or diffractive surfaces, such as building edges used for blockage, towers, guy wires, etc. All measurements should be made in both the vertical and horizontal polarizations of the test antenna.