# Evaluation of the CSI Model 510$_{SMR900}$ BDA
# For
# Compliance with FCC Guidelines
# For Human Exposure to Radio Frequency
# Electromagnetic Fields

30 May 2002

## *General*

The CSI Model $510_{SMR900}$ Bi-directional amplifier is considered to be a "mobile" device operating in the Land Mobile Service authorized under part 90. As such, the equipment is required to be evaluated for RF exposure if operated below 1.5 GHz with an effective radiated power (ERP) of 1.5 watts or more, as defined in 2.1091 of FCC rules.

### *Downlink*

For the downlink portion of the Model 510 $_{SMR900}$ BDA, the maximum rated output power is not greater than +28dbm (631 mW). As stated in the Model 510 $_{SMR900}$ Manual, the maximum authorized antenna gain is 3 dBi, corresponding to a typical Omni-Directional antenna. Neglecting cable losses, the worst-case EIRP will be 1.26 watts or an ERP of 0.77 watts, (ERP=EIRP/1.64). This is well below the 1.5 watts and therefore excludes the downlink from routine evaluation. The Cautions in the Model 510 $_{SMR900}$ manual clearly define the antenna selection and installation criteria in order to maintain a minimum 20-centimeter separation.

### *Uplink*

For the uplink portion of the BDA, the maximum rated output power is not greater than +28 dbm (631 mW). As stated in the Model 510 $_{SMR900}$ Manual, the maximum authorized antenna gain is 3 dBi, corresponding to a typical Omni-Directional antenna. Neglecting cable losses, the worst case EIRP will be 1.26 watts, or an ERP of 0.77 watts (ERP = EIRP / 1.64). This is well below the 1.5 watts and therefore excludes the uplink from routine evaluation. The Cautions in the Model 510 $_{SMR900}$ manual clearly define the antenna selection and installation criteria required to maintain a minimum 20-centimeter separation.