

**Evaluation of the CSI Model 510<sub>smr</sub> BDA  
For  
Compliance with FCC Guidelines  
For Human Exposure to Radio Frequency  
Electromagnetic Fields**

13 September 2000

## ***General***

The CSI Model 510smr Bi-directional amplifier is considered to be a “mobile” device operating in the Specialized Mobile Radio Service authorized under subpart H of part 22 and 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 510smr BDA, the maximum rated output power is +28dbm (631 mW). As stated in the Model 510smr 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 510smr 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 Model 510smr BDA, the maximum rated output power is +28dbm (631 mW). As stated in the Model 510smr 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 510smr manual clearly define the antenna selection and installation criteria in order to maintain a minimum 20-centimeter separation.