

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

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General

The CSI Model 510pcs Bi-directional amplifier is considered to be a “mobile” device operating in the Personal Communications Service authorized under part 24. As such, the equipment is required to be evaluated for RF exposure if operated above 1.5 GHz with an effective radiated power (ERP) of 3.0 watts or more, as defined in 2.1091 of FCC rules.

Downlink

For the downlink portion of the Model 510pcs BDA, the maximum rated output power is +23dBm (200 mW). As stated in the Model 510pcs Manual, the maximum authorized antenna gain is 8 dBi, corresponding to a Co-Linear 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 3.0 watts ERP limit and therefore excludes the downlink from routine evaluation. The Cautions in the Model 510pcs manual clearly define the antenna selection and installation criteria in order to maintain a minimum 20-centimeter separation.

Uplink

For the downlink portion of the Model 510pcs BDA, the maximum rated output power is +23dBm (200 mW). As stated in the Model 510pcs Manual, the maximum authorized antenna gain is 8 dBi, corresponding to a Co-Linear 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 3.0 watts ERP limit and therefore excludes the downlink from routine evaluation. The Cautions in the Model 510pcs manual clearly define the antenna selection and installation criteria in order to maintain a minimum 20-centimeter separation.

Conclusion

Because of the low output power and antenna gains, both the uplink and downlink will satisfy the requirements for RF Exposure per FCC rules 1.1311.