

FCC Part 22 Transmitter Certification

Test Report

FCC ID: SO4YX510-CEL

FCC Rule Part: CFR 47 Part 22 Subpart H

ACS Report Number: 06-0291-22H

Manufacturer: Wireless Extenders
Equipment Type: Cellular Bi-Directional Signal Booster
Model: YX510-CEL

RF Exposure

General Information:

Applicant: Wireless Extenders
 ACS Project: 06-0291C
 FCC ID: SO4YX510-CEL
 Device Category: Uplink – Fixed, Downlink - Mobile
 Exposure Conditions: Uncontrolled/General Population

Technical Information:

Note: Multiple antennas are available with this device. Antennas specified below indicate the antennas with the maximum gain for each path.

UPLINK:

Antenna Type: Yagi
 Antenna Gain Maximum: 15dBi
 Max Transmitter Output Power: 25.48dBm
 Max System EIRP: 40.48dBm / 11.2W
 Operating Configuration: Fixed

DOWNLINK:

Antenna Type: Directional Panel
 Antenna Gain Maximum: 6dBi
 Max Transmitter Output Power: 3.94dBm
 Max System EIRP: 9.94dBm / 0.010W
 Operating Configuration: Mobile

NOTE: Multiple antennas are available for both the uplink and downlink applications. Listed above are antennas with the highest gain.

MPE Calculation

The Power Density (mW/cm²) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Calculations were performed at the frequencies with the highest output power as determined during testing.

Maximum Permissible Exposure (MPE)								
General Population/Uncontrolled Exposure								
Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm ²)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm ²)	Configuration
836	25.48	0.56	353.18	15	31.623	40	0.555	Uplink
894	3.94	0.60	2.48	6	3.981	20	0.002	Downlink

Installation Guidelines

End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.