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Federal Communications Commission
Equipment Authorization Division
Application Processing Branch
7435 Oakland Mills Rd.
Columbia, Md. 21046

FCC ID: L6A R6420GN

Subject: RF exposure determination for Research In Motion Limited, GPRS OEM Radio Modems RIM 1902GS (On-board SIM connector) and RIM 1902G (6 pin ZIF FPC connector for off-board SIM), Model R6420GN

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This supplement addresses the RF exposure requirements for FCC certification.

The RIM 1902G/GS radio modems can transmit in two bands: GSM 850 (Tx: 824-849 MHz) and PCS (Tx: 1850-1910MHz). The maximum conducted RF power measured in these bands are:

GSM 850: max RF pwr = 29.5 dBm = 891 mW

PCS: max RF pwr = 30.3 dBm = 1070 mW

These devices are capable of transmitting in one slot per 8-slot frame per the GSM specification, with a frame repetition rate of 217Hz. Customer's can obtain an integrator's kit from RIM which includes one of these radio modems and a 3dBd gain (G) Andrews magnet mount antenna.

The maximum MPE power density ($MPE_S$) that could be expected from these radio modems at a distance of 20 cm can be calculated using this information as follows:

$$\text{Max } MPE_S = \frac{\text{max RF pwr * linear gain}}{4 ? r^2} \times \frac{\text{transmit slots per frame}}{\text{total slots per frame}}$$

For GSM 850: max $MPE_S = 0.072$ mW/cm$^2$

For PCS: max $MPE_S = 0.087$ mW/cm$^2$

The maximum permissible exposure (MPE) limits for general population/uncontrolled exposure for these two bands are:

GSM 850: max $MPE_S$ = f/1500 = 0.55 mW/cm$^2$

PCS: max $MPE_S = 1.0$ mW/cm$^2$

Since the worst case $MPE_S$ determined above are much lower than the limits, compliance is demonstrated.

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