Radio Frequency Exposure Information
For InGrid BK410 Keypad
FCC ID: S9PBK410

The InGrid Keypad is a wall mounted unit that provides a user interface the InGrid Wireless Security System. End users would typically approach the Keypad to type an arming or disarming key sequence and then walk away. While the user's hand touches the Keypad, the user's body is typically more than 20 cm away.

Readings from test report:

Maximum output power: 89 mW (19.5 dBm)
Keypad Antenna Gain: 3 dB
EIRP: 178 mW (22.5 dBm)

Mode 1 (Normal operation)

Duty cycle: 769 us/10 ms = 7.69% (measured in single slot transmission)
Average effective output power or EIRP is: 178 mW x 7.69% = 13.7 mW

Mode 2 (Data call)

Data calls are made when a system is reconfigured. Data calls do not have any interaction with the user, so there is no need for the user to be near the Keypad during a data call. During the day to day operation of the system by a typical user, data calls are not required. In many systems, after initial setup of the system on the first day it is possible that data calls are never made again. The length of a data call between two units can range between 20 seconds and 3 minutes. Two slots can be used during a data call.

Under the worst case scenario of a user standing right next to the Keypad during the entire 3 minute duration of a data call between two units, the time average powered over the 30 minute interval (from Table 1 (B) of OET Bulletin 65, Edition 97-01) is:

Duty cycle: (3/30) * (2 slots) * 769 us/10 ms = 1.53%
Average effective output power or EIRP is: 178 mW x 1.53% = 2.74 mW

Conclusion

The power density calculation for Mode 1 (which is higher than Mode 2) is:

$S= PG/4\pi R^2 = 178 * 2/ (4 * \pi * 20^2) = 0.0708$ mW/cm^2.