A point dipole with a dipole moment of \( \vec{\mu} \) is at the center of your reference space. The electrostatic potential is a scalar point function and in this situation equals;

\[ \psi(r) = \frac{1}{4\pi} \left( \frac{1}{\varepsilon_0} \right) \left( \frac{\langle r \cdot \vec{\mu} \rangle}{r^3} \right) \]  

where \( \vec{\mu} \) and \( \varepsilon_0 \) are constants.

Using Maxwells' idea of Electric field strength, \( |E| = - (\text{gradient of the scalar point function}) \), confirm by algebraic manipulations or deny with conviction (much more algebraic manipulation) that:

\[ |i><i|E| = - \left( \frac{1}{4\pi} \right) \left( \frac{1}{\varepsilon_0} \right) \left[ r^2 \vec{\mu} \cdot \vec{\mu} - 3x \left( \frac{\langle r \cdot \vec{\mu} \rangle}{r^5} \right) \right] \]