$$\left(\begin{array}{cc} a_1^1 & a_1^2 \\ a_2^1 & a_2^2 \end{array} \right) \left(\begin{array}{cc} b_1^1 & b_1^2 \\ b_2^1 & b_2^2 \end{array} \right) = \left(\begin{array}{cc} a_1^1 b_1^1 + a_1^2 b_2^1 & a_1^1 b_1^2 + a_1^2 b_2^2 \\ a_2^1 b_1^1 + a_2^2 b_2^1 & a_2^1 b_1^2 + a_2^2 b_2^2 \end{array} \right)$$