$$\sum_{k=0}^{2^n-1} \frac{1}{2}\Big(|k\rangle \otimes |00\rangle \otimes (a_{k0}|0\rangle + a_{k1}|1\rangle) \\ +|k\rangle \otimes |01\rangle \otimes (a_{k0}|1\rangle + a_{k1}|0\rangle) \\ +|k\rangle \otimes |10\rangle \otimes (a_{k0}|0\rangle - a_{k1}|1\rangle) \\ +|k\rangle \otimes |11\rangle \otimes (a_{k0}|1\rangle - a_{k1}|0\rangle)\Big).$$

Suppose that Alice measures the qubits at positions 2 and 1. If she observes x_2 and x_1, respectively, and informs Bob to apply $Z^{x_2}X^{x_1}$, then after applying Bob's correction operations, we get

$$\sum_{k=0}^{2^n-1}\sum_{j=0}^{1} |k\rangle \otimes |x_2x_1\rangle \otimes a_{kj}|j\rangle = \sum_{k=0}^{2^n-1}\sum_{j=0}^{1} a_{kj}|k\rangle \otimes |x_2x_1\rangle \otimes |j\rangle.$$