$$X_H(p) = \sum_{i=1}^{4} b_i, \quad b_i = \begin{cases} 1 & \text{if } x_{2i-1} = 0 \text{ and } (x_{2i} = 1 \text{ or } x_{2i+1} = 1) \\ 0 & \text{otherwise} \end{cases}$$

$$n_1(p) = \sum_{i=1}^{4} x_{2i-1} \vee x_{2i}$$

$$n_2(p) = \sum_{i=1}^{4} x_{2i} \vee x_{2i+1}$$