$\Rightarrow$ Up to translation, $\rho^* \textcircled{H} = m_2^* \textcircled{H}$.

If we let $z_1 = x_1 + i x_3$, and $z_2 = x_2 + i x_4$, then
$m_2^*(dx_1 \wedge dx_3 + dx_2 \wedge dx_4)$
$= 4(dx_1 \wedge dx_3 + dx_2 \wedge dx_4)$ and
$\rho^*(dx_1 \wedge dx_3 + dx_2 \wedge dx_4) = \rho^*(\frac{1}{2i} d\bar{z}_1 \wedge dz_1 + \frac{1}{2i} d\bar{z}_2 \wedge dz_2)$
$= 4(\frac{1}{2i} d\bar{z}_1 \wedge dz_1 + \frac{1}{2i} d\bar{z}_2 \wedge dz_2)$.

Assume that $\rho$ is represented by $\begin{pmatrix} a & b \\ c & e \end{pmatrix}$.
$\Rightarrow$ $\rho^* dz_1 = a\, dz_1 + b\, dz_2$ $\quad$ $\rho^* dz_2 = c\, dz_1 + e\, dz_2$
$\rho^* d\bar{z}_1 = \bar{a}\, d\bar{z}_1 + \bar{b}\, d\bar{z}_2$ $\quad$ $\rho^* d\bar{z}_2 = \bar{c}\, d\bar{z}_1 + \bar{e}\, d\bar{z}_2$
$\Rightarrow$ By simple computations, we obtain
$|a|^2 + |c|^2 = 4$ $\quad$ $|b|^2 + |e|^2 = 4$
$a\bar{b} + c\bar{e} = 0$
Since $\rho(\Lambda) \subset \Lambda$, where $A = \mathbb{C}^2/\Lambda$, $a, b, c$ and $e$ are integers. $\Rightarrow$ $g \circ \rho = \begin{pmatrix} 2 & 0 \\ 0 & 2 \end{pmatrix} = m_2$.
The possible choices of $g$ are
$\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$, $\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$, $\begin{pmatrix} -1 & 0 \\ 0 & 1 \end{pmatrix}$, $\begin{pmatrix} -1 & 0 \\ 0 & -1 \end{pmatrix}$, $\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$
$\begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix}$ $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$ $\begin{pmatrix} 0 & -1 \\ -1 & 0 \end{pmatrix}$.
$\Rightarrow$ $g^*\omega = \pm \omega$. $\quad \omega = dx_1 \wedge dx_3 + dx_2 \wedge dx_4$
$\Rightarrow$ If $g^*\omega = -\omega$, then $(g \circ \varphi)^* \omega = m_2^* \omega$
$\Rightarrow$ $-4\omega = 4\omega$ $\Rightarrow$ Contradiction.
$\Rightarrow$ If $g^*\omega = \omega$, and $g$ is not the identity, then $g$ induces an automorphism of $B$, and by the assumption,