On the other hand, the curvature tensor $\Theta \in A^{2}(T\otimes T^{*})$ is given by

$$\Theta = \sum \Theta_{ij} \frac{\partial}{\partial z_j} \otimes dz_i,$$

where $\Theta_{ij} = \bar\partial \theta_{ij} = -\sum \frac{\partial \Gamma^j_{ik}}{\partial \bar z_\ell} dz_k \wedge d\bar z_\ell$,

so that from the formula

$$\iota(v)\cdot\Theta = -\sum_{i,j,k}\left(\frac{\partial \Gamma^j_{ik}}{\partial \bar z_\ell} v^k \cdot \frac{\partial}{\partial z_j}\otimes dz_i\right) d\bar z_\ell$$

we deduce the desired relation

$$\iota(v)\,\Theta = \bar\partial E.$$

$\ulcorner$ $\Theta = D^2$ and Θ is of type (1,1) by 25.

$$D\frac{\partial}{\partial z_i} = \theta_{ij}\frac{\partial}{\partial z_j} \quad\Rightarrow\quad \Theta\frac{\partial}{\partial z_i} = D\left(\theta_{ij}\frac{\partial}{\partial z_j}\right)$$

$$= d\theta_{ij}\otimes\frac{\partial}{\partial z_j} - \theta_{ij}\wedge D\frac{\partial}{\partial z_j}$$

$$= d\left(\Gamma^j_{ik}\,dz_k\right)\otimes\frac{\partial}{\partial z_j} - \theta_{ij}\wedge\theta_{j\ell}\frac{\partial}{\partial z_\ell}.$$

$$= \underbrace{\bar\partial\left(\Gamma^j_{ik}\,dz_k\right)\otimes\frac{\partial}{\partial z_j}}_{(1,1)\text{ type}} + \underbrace{\partial\left(\Gamma^j_{ik}\,dz_k\right)\otimes\frac{\partial}{\partial z_j} - \theta_{ij}\wedge\theta_{j\ell}\otimes\frac{\partial}{\partial z_\ell}}_{(2,0)\text{ type}}$$

$$\Rightarrow \quad \bar\partial\left(\Gamma^j_{ik}\,dz_k\right)\otimes\frac{\partial}{\partial z_j} - \theta_{ij}\wedge\theta_{j\ell}\otimes\frac{\partial}{\partial z_\ell} = 0$$

$$\Rightarrow \quad \Theta\left(\frac{\partial}{\partial z_i}\right) = \bar\partial\left(\Gamma^j_{ik}\,dz_k\right)\otimes\frac{\partial}{\partial z_j}$$

$$= \frac{\partial \Gamma^j_{ik}}{\partial \bar z_\ell}\, d\bar z_\ell \wedge dz_k \otimes \frac{\partial}{\partial z_j}$$

$$\Theta = \sum \Theta_{ij}\frac{\partial}{\partial z_j}\otimes dz_i. \qquad \Theta\left(\frac{\partial}{\partial z_i}\right) = \sum_j \Theta_{ij}\frac{\partial}{\partial z_j}$$

$$\Rightarrow \quad \Theta_{ij} = \frac{\partial \Gamma^j_{ik}}{\partial \bar z_\ell}\, d\bar z_\ell\wedge dz_k. = -\frac{\partial \Gamma^j_{ik}}{\partial \bar z_\ell}\, dz_k\wedge d\bar z_\ell.$$