Numevater

Absmum $= \left| \int_v^\infty p(y) \int \mathbb{1}[\|z\| > y\eta] \sum_{k=1}^{D} b_k(z) y^k \, p(z)\,dz \, dy \right|$

here ~~since~~ $b_D = \frac{\det(\Lambda(t\omega))}{\sigma^2}$

$$\le \int_v^\infty y^D p(y) |b_D| \times \mathbb{P}(\|z\| > y\eta)\, dy$$

$$+ \sum_{k=0}^{D-1} \int_v^\infty |y|^k p(y) \int |b_k(z)|\, p(z)\,dz\, dy$$

y

$$\le \overset{\textcircled{1}}{\int_v^\infty y^D p(y) |b_D|\, dy} \times \mathbb{P}(\|z\| > v\eta)$$

(as $y \geq v \Rightarrow \mathbb{P}(\|z\| > y\eta) \leq \mathbb{P}(\|z\| > v\eta)$)

$$+ \sum_{k=0}^{D-1} \underset{\textcircled{2}}{\int_v^\infty |y|^k p(y)} \int |b_k(z)|\, p(z)\,dz\, dy.$$

$$\textcircled{1} = |b_D|$$

$$+ \left(\text{poly of degree } D\text{-}2\right) \times e^{-u^2/2\sigma^2} + \text{Constant}$$