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$$W \supset X \Phi \bar{\Phi}, \quad \langle X \rangle = M + \theta^2 F$$

$$\mathcal{L}_{@\mu} = \int d^2\theta \underbrace{S(X,\mu)}_{\text{holomorphic at the 1-loop level ?}} W^{a\alpha} W^a_\alpha + \text{h.c.} \quad + \quad W^{a\alpha} W^a_\alpha \Big|_{\text{no }\theta} = \lambda^{a\alpha}\lambda^a_\alpha$$

$$\Rightarrow \left(S|_0 \, W^{a\alpha} W^\alpha_a \big|_{\theta\theta} + S|_{\theta\theta} \, \lambda^{a\alpha}\lambda^a_\alpha \right) + \text{h.c.}$$

$$\longrightarrow \left[\frac{1}{4} (W^{a\alpha} W^\alpha_a)_{\theta\theta} + \frac{S|_{\theta\theta}}{4 S|_0} \lambda^{a\alpha}\lambda^a_\alpha \right] + \text{h.c.}$$

$$\therefore M_a = -\frac{S|_{\theta\theta}}{2 S|_0} = -\frac{1}{2} \left(\frac{X}{S} \frac{\partial S}{\partial X} \right) \Big|_0 \frac{F}{M} = -\frac{1}{2} \frac{\partial \ln S}{\partial \ln X} \Big|_0 \frac{F}{M}$$

One can check w. $S = \sum_k C_k \left(\frac{X}{\mu} \right)^k$

$$\mathcal{L}_{@\mu} = \int d^4\theta \, Z(X, X^\dagger) \, Q^\dagger Q$$

$$= \int d^4\theta \left[Z + \frac{\partial Z}{\partial X} \theta^2 F + \frac{\partial Z}{\partial X^\dagger} \bar{\theta}^2 F^\dagger + \frac{\partial Z}{\partial X \partial X^\dagger} \theta^4 F F^\dagger \right] \Big|_{X=M} Q Q^\dagger$$

$$\longrightarrow \int d^4\theta \left(1 + \left[\frac{1}{Z} \frac{\partial^2 Z}{\partial X \partial X^\dagger} - \frac{1}{Z^2} \frac{\partial Z}{\partial X} \frac{\partial Z}{\partial X^\dagger} \right] \theta^4 F F^\dagger \right) \Big|_{X=M} Q Q^\dagger$$

$$= \int d^4\theta \left[1 + \left(\frac{\partial^2 \ln Z}{\partial \ln X \, \partial \ln X^\dagger} \right)_{X=M} \frac{F F^\dagger}{M M^\dagger} \right] Q Q^\dagger$$

$$\therefore \tilde{m}_Q^2 = - \frac{\partial^2 \ln Z}{\partial \ln X \, \partial \ln X^\dagger} \frac{F^\dagger M}{M^\dagger M}$$

$$\mathcal{L} \supset \frac{1}{4} (W^{a\alpha} W^a_\alpha + \text{c.c.})_{\theta\theta}$$
$$= \frac{1}{4} \left(-\frac{1}{2} F^{a\mu\nu} F^a_{\mu\nu} + 2i \bar{\lambda} \bar{\sigma}^\mu D_\mu \lambda \right) + \text{c.c.}$$
$$= -\frac{1}{4} F^{a\mu\nu} F^a_{\mu\nu} + i \bar{\lambda} \bar{\sigma}^\mu D_\mu \lambda,$$

$$\mathcal{L}_{\text{SUSY}} \supset -\frac{1}{2} M_a (\lambda\lambda + \text{h.c.}) + \cdots$$

$$Z Q Q^\dagger \left[\left(1 + \frac{1}{Z} \frac{\partial Z}{\partial X} \theta^2 F \right) \left(1 + \frac{1}{Z} \frac{\partial Z}{\partial X^\dagger} \bar{\theta}^2 F^\dagger \right) + \frac{1}{Z} \frac{\partial^2 Z}{\partial X \partial X^\dagger} \theta^4 F F - \frac{1}{Z^2} \frac{\partial Z}{\partial X^\dagger} \frac{\partial Z}{\partial X} \theta^4 F^\dagger F \right]$$

$$= Q' Q'^\dagger \left(1 - \frac{1}{Z} \frac{\partial Z}{\partial X} \theta^2 F \right) \left(1 - \frac{1}{Z} \frac{\partial Z}{\partial X^\dagger} \bar{\theta}^2 F^\dagger \right)$$

$$\left[(\quad) (\quad) + \cdots \right]$$