$$A\_{V1}=1+\frac{2∙R\_{F}}{R\_{G}} und V\_{out}=V\_{in}∙A\_{V1}$$

$$A\_{V2}=\frac{R\_{2}}{R\_{1}} und V\_{out}=\left(V\_{in+}-V\_{in-}\right)∙A\_{V2}$$

$$R\_{eq,t1}=R\_{S,t1}+\frac{R\_{G,t1}∙R\_{F,t1}}{R\_{G,t1}+R\_{F,t1}}=560Ω+\frac{560Ω∙1kΩ}{560Ω+1kΩ}=778,75Ω$$

 $e\_{t1,opv}=1,1 {nV}/{\sqrt{Hz}}$ $e\_{t1,th}=0,13∙\sqrt{R\_{eq,t1}}$ $i\_{t1,opv}=2,2 {pA}/{\sqrt{Hz}}$

$$e\_{t1}=\sqrt{e\_{t1,opv}^{2}+e\_{t1,th}^{2}+\left(i\_{t1,opv}∙R\_{eq, t1}\right)^{2}}=4,16{nV}/{\sqrt{Hz}}$$

$$e\_{t1}=\sqrt{\left(1,1 {nV}/{\sqrt{Hz}}\right)^{2}+\left(0,13∙\sqrt{778,75Ω}\right)^{2}+\left(2,2 {pA}/{\sqrt{Hz}}∙778,75Ω\right)^{2}}$$

$$e\_{t1,out}=e\_{t1}∙A\_{V1}=4,16{nV}/{\sqrt{Hz}}∙4,571=19,02{nV}/{\sqrt{Hz}}$$

 $R\_{eq,t2}=R\_{S,t2}+\frac{R\_{1}∙R\_{2}}{R\_{1}+R\_{2}}=2∙\frac{560Ω∙1kΩ}{560Ω+1kΩ}=717,95Ω$ $R\_{S,t2}=\frac{R\_{1}∙R\_{2}}{R\_{1}+R\_{2}}$

 $e\_{t2,opv}=1,1 {nV}/{\sqrt{Hz}}$ $e\_{t2,th}=0,13∙\sqrt{R\_{eq,t2}}$ $i\_{t2,opv}=2,2 {pA}/{\sqrt{Hz}}$

$$e\_{t2}=\sqrt{e\_{t2,opv}^{2}+e\_{t2,th}^{2}+\left(i\_{t2,opv}∙R\_{eq, t2}\right)^{2}+\left(2∙e\_{t1,out}\right)^{2}}=27,19{nV}/{\sqrt{Hz}}$$

$$e\_{t2}=\sqrt{\left(1,1 {nV}/{\sqrt{Hz}}\right)^{2}+\left(0,13∙\sqrt{717,95Ω}\right)^{2}+\left(2,2 {pA}/{\sqrt{Hz}}∙717,95Ω\right)^{2}+2∙\left(19,02{nV}/{\sqrt{Hz}}\right)^{2}}$$

$$e\_{out}=e\_{t2}∙A\_{V2}=27,19{nV}/{\sqrt{Hz}}∙1,786=48,55{nV}/{\sqrt{Hz}}$$

$$A\_{V}=A\_{V1}∙A\_{V2}=4,571∙1,786=16,327$$

$$e\_{in}=^{e\_{out}}/\_{A\_{V}}=^{48,55{nV}/{\sqrt{Hz}}}/\_{16,327}=2,97{nV}/{\sqrt{Hz}}$$