**PROIECT SCIA**

**Simionov Alexandra**

**2131**

ETAJ 1

Sursă semnal:



Amplitudine minimă (pt. câștig maxim PGA): 5.93m

Amplitudine maximă (pt. câștig minim PGA): 14.9m

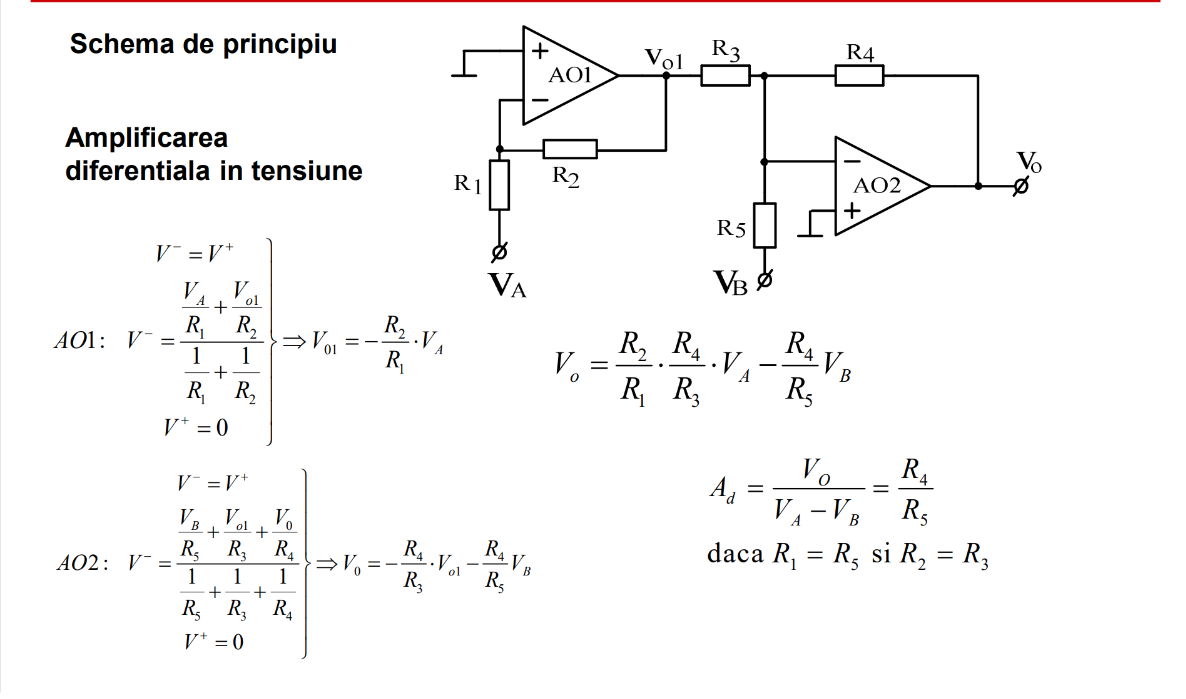
Tip etaj: AI cu 2 AO, inversor intrare V



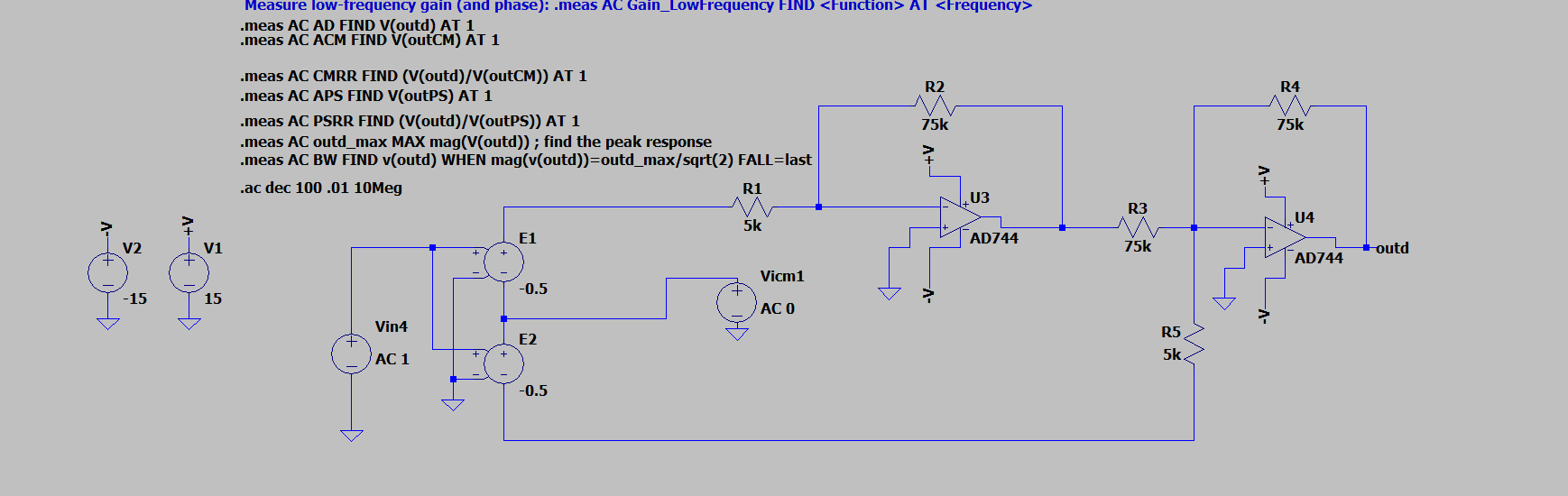
Câștig: 15

Tip AO: AD744: +-15V

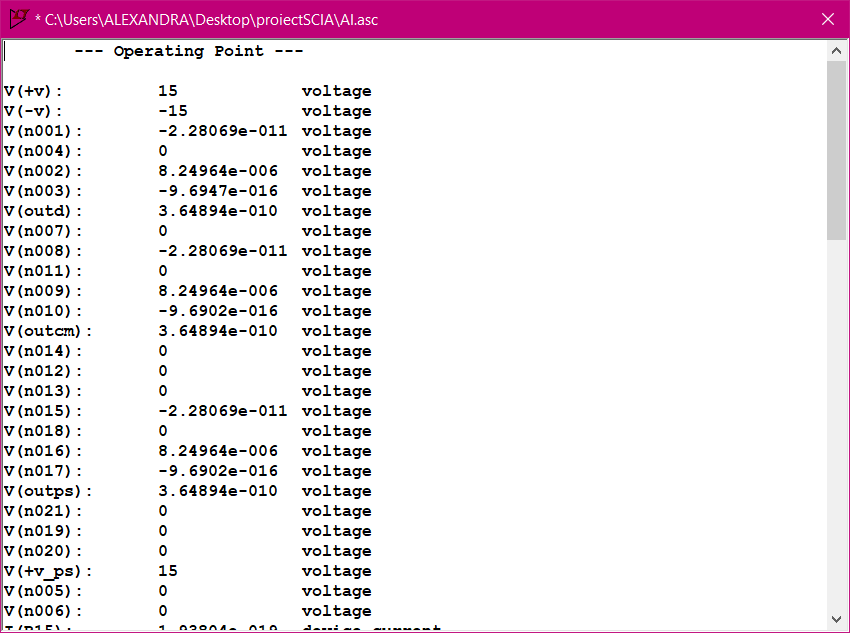
Dimensionare circuitului:



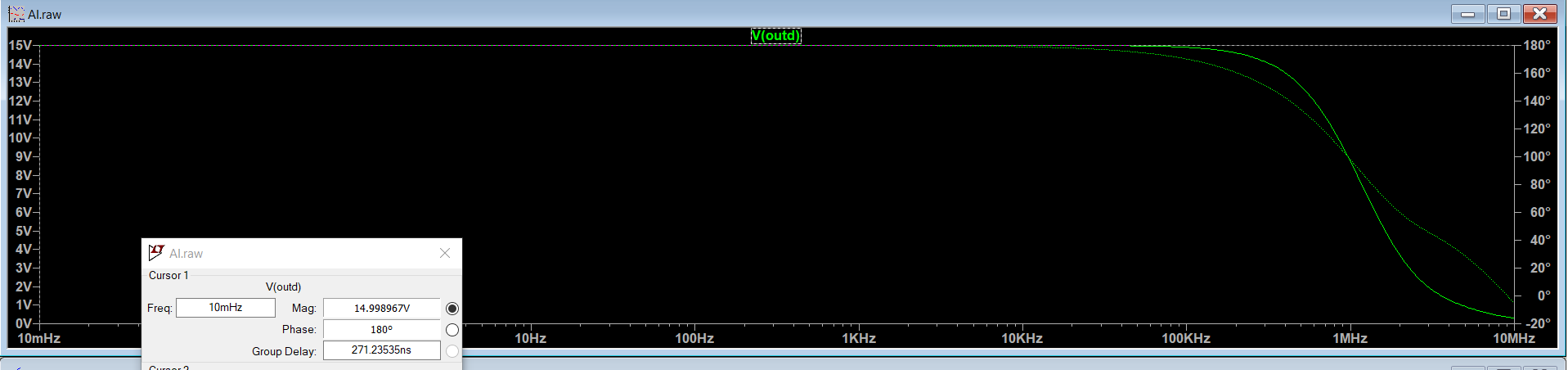
Am ales R1=R5=5k și R2=R3=R4=75k, deoarece R4/R5=15.



**Analiza OP**



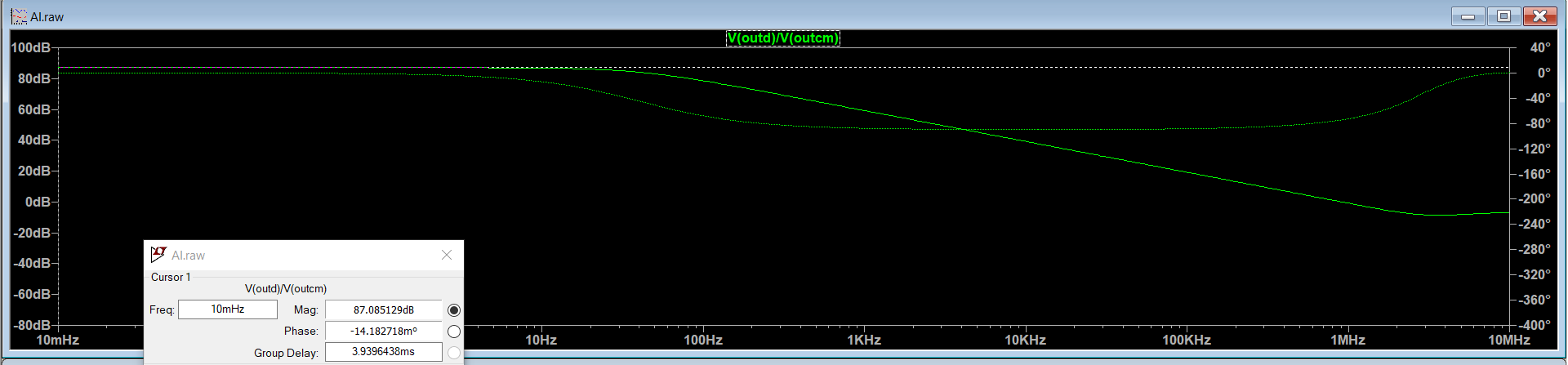
**Analiza AC**

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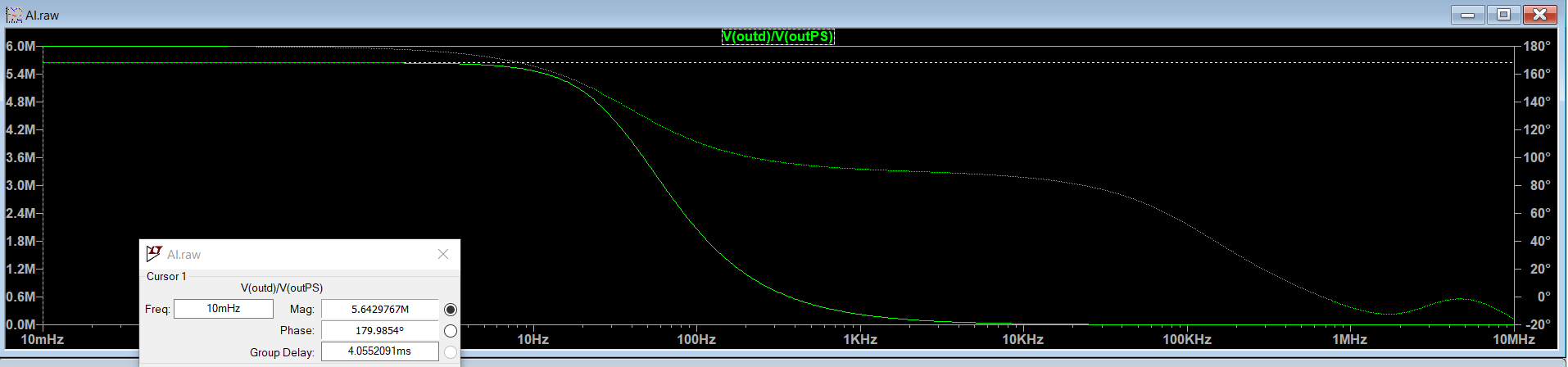
**Banda>Banda filtrului=12.7k**



**CMRR**

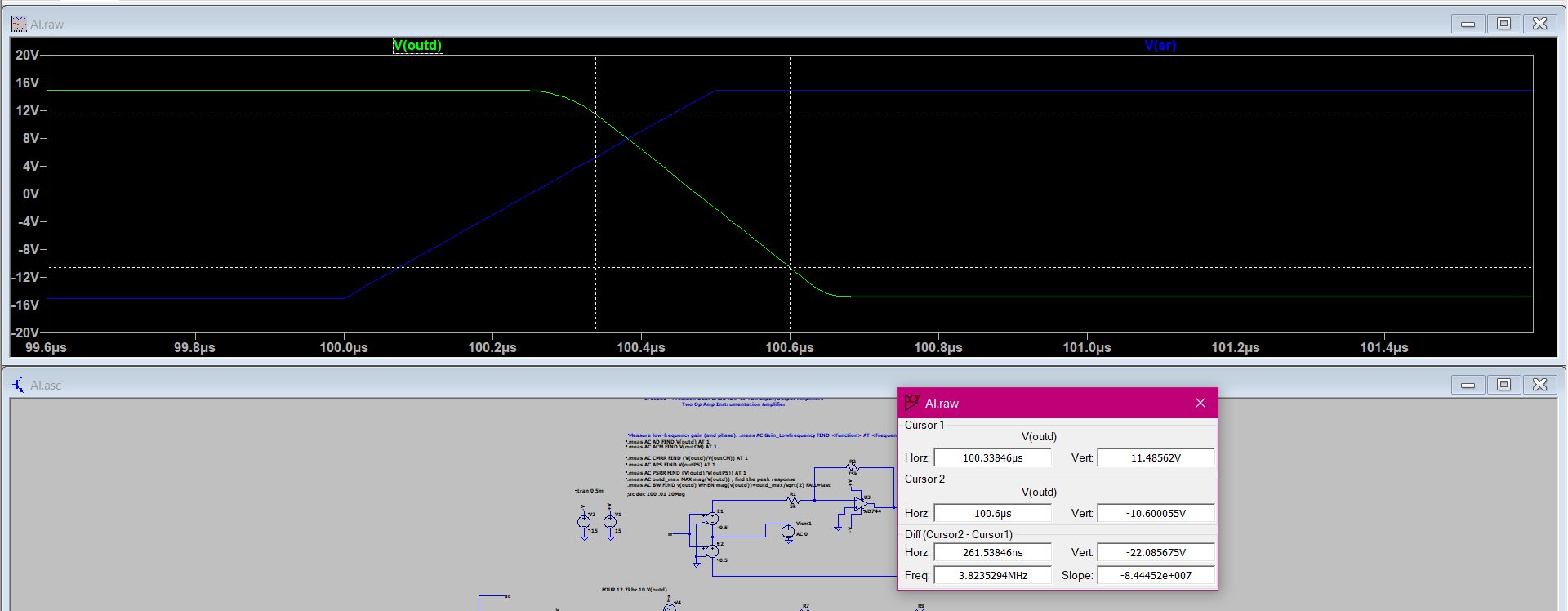


**PSRR**



**Transient**

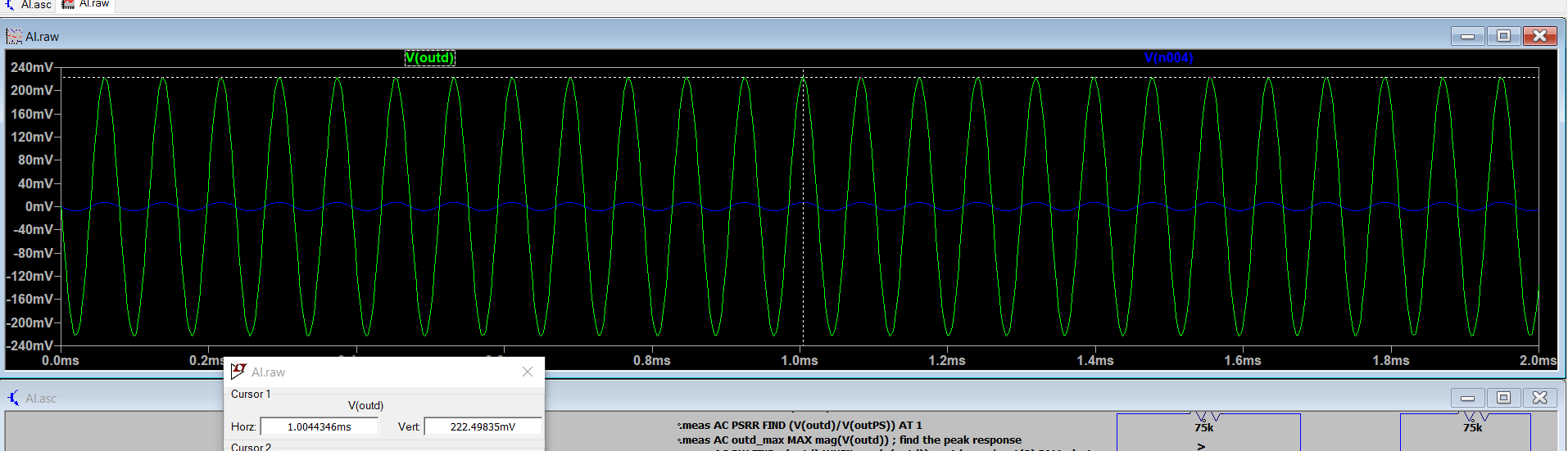
**SR:** Am pus o sursa VPULSE pt SR.

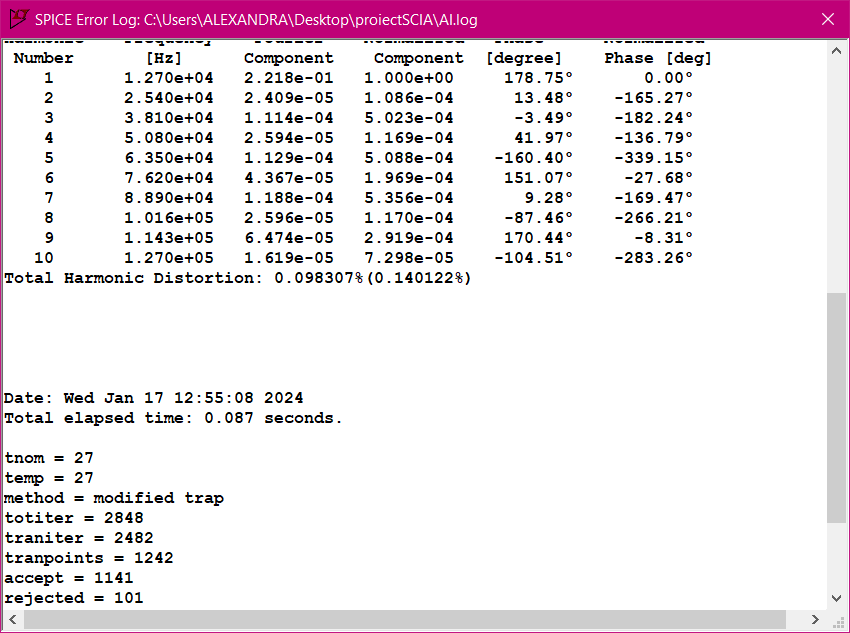


Am facut raportul dintre 22V/261ns si am obtinut 84V/us.

**Liniaritate:**

Amplvin\*A=15\*14.9m=223.5m





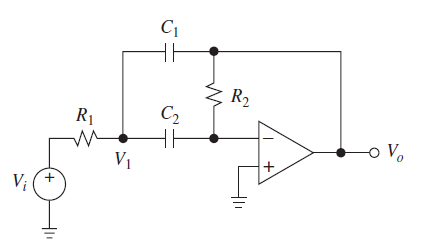
ETAJ 2

Dimensionarea circuitului:

BW: 9k

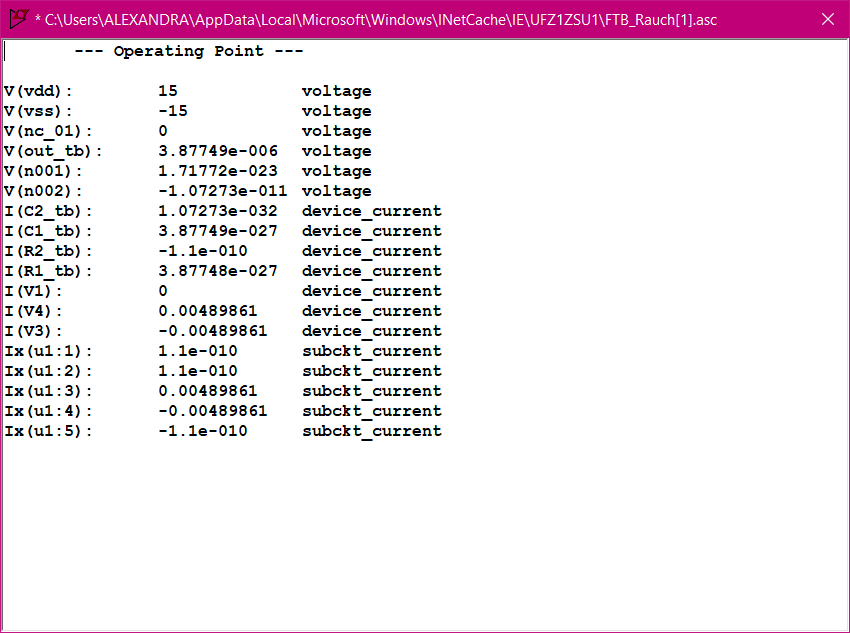
Q: 1.41

H0=-2Q^2=-4=12db

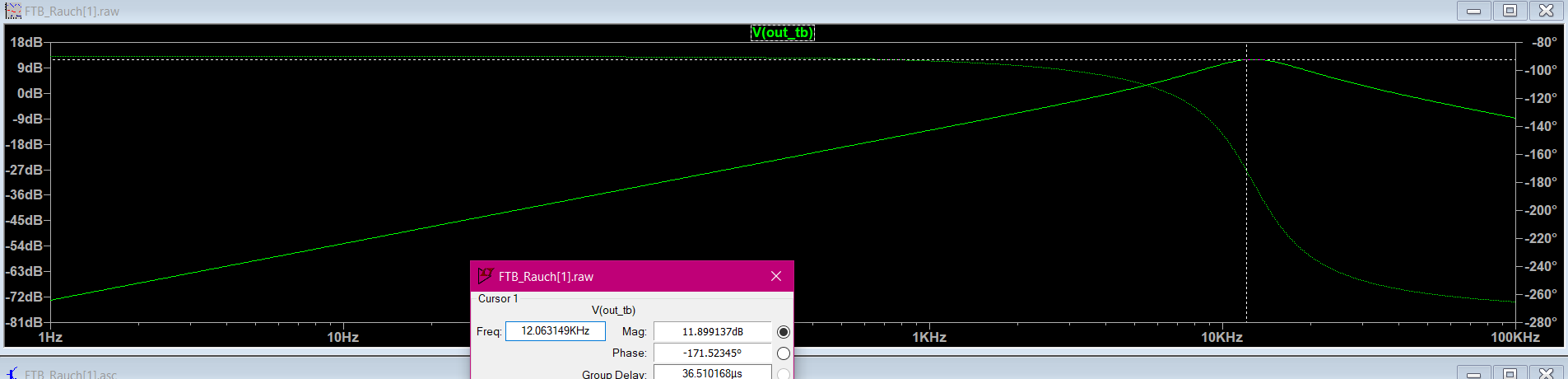


Am ales C1=C2=1n, am calculat f=Q\*BW=12.7k, de unde am obținut R1=4.43k, și R2=35.3k.

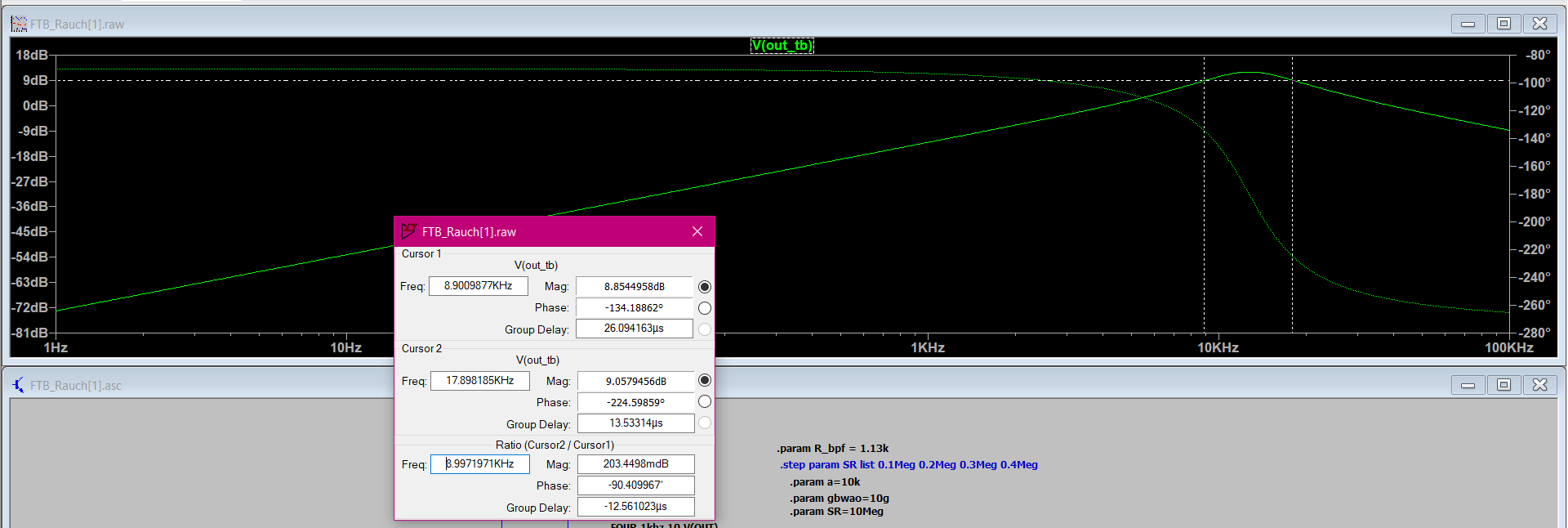
**Analiza OP**



**Analiza AC**

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**Banda=9k**

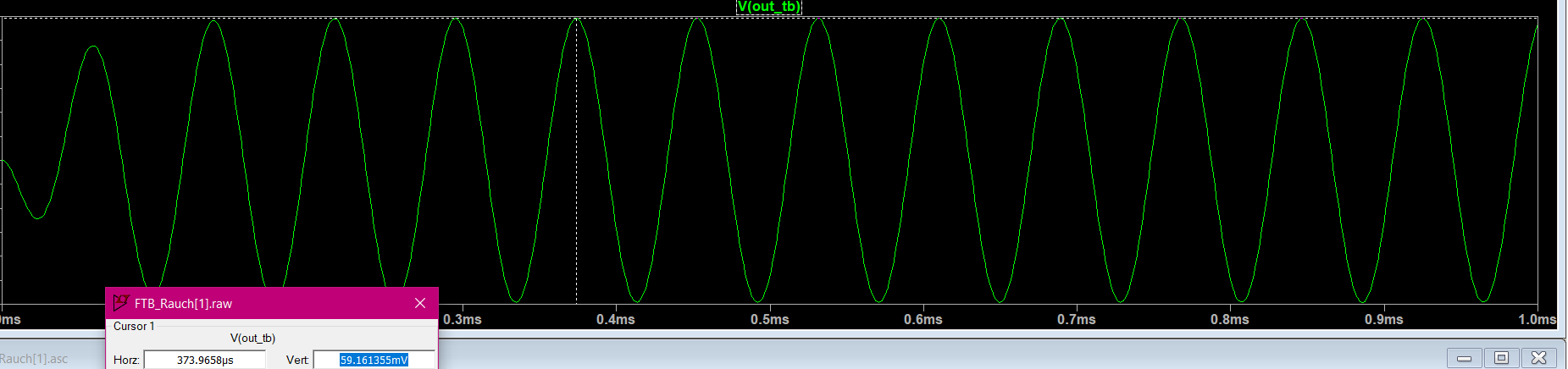
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**Transient:**

Avout(măs)=59.1m

Avin=14.9m

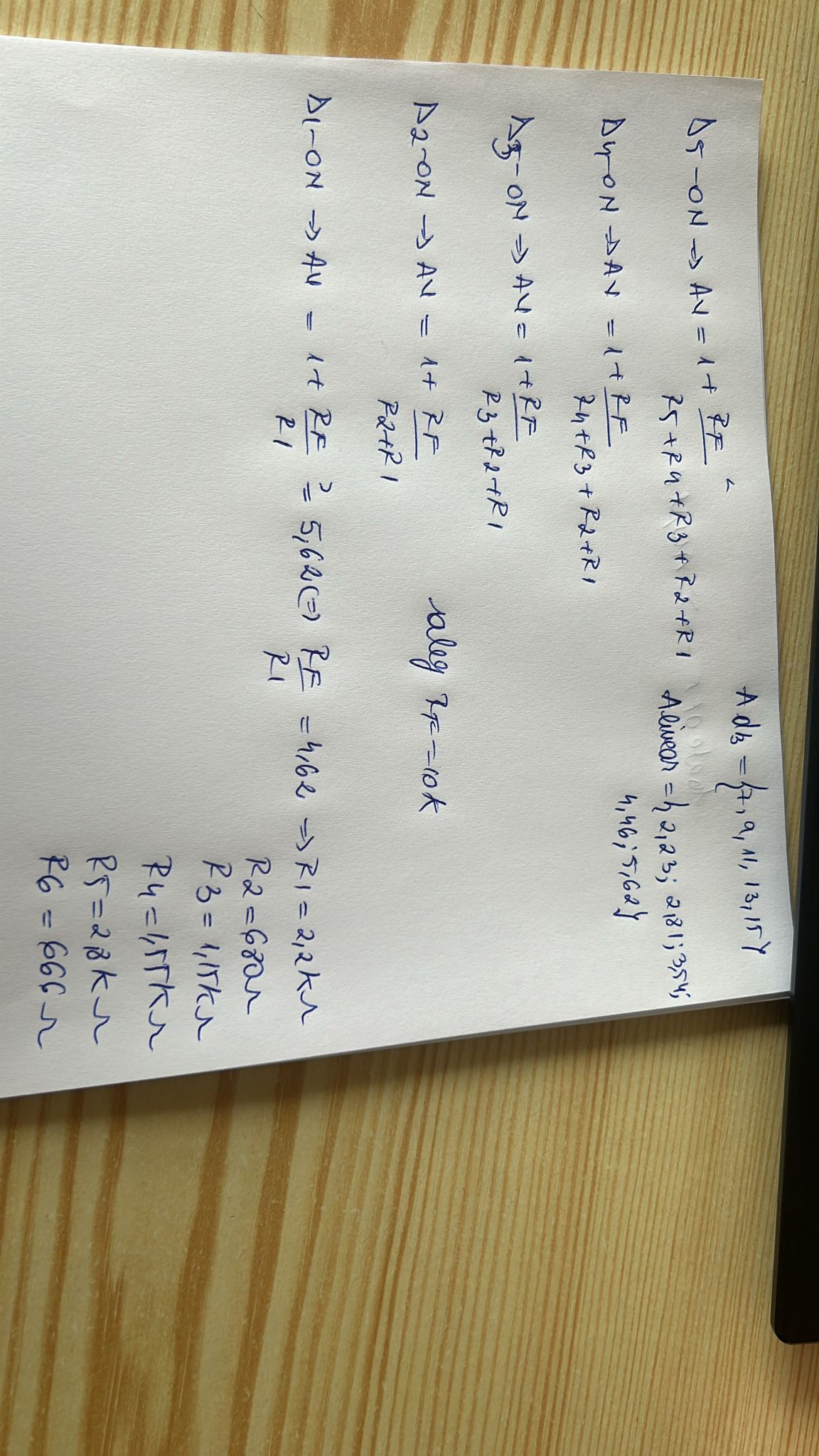
H0=-4 => Avout=H0\*Avin=59.6mV



Etaj 3

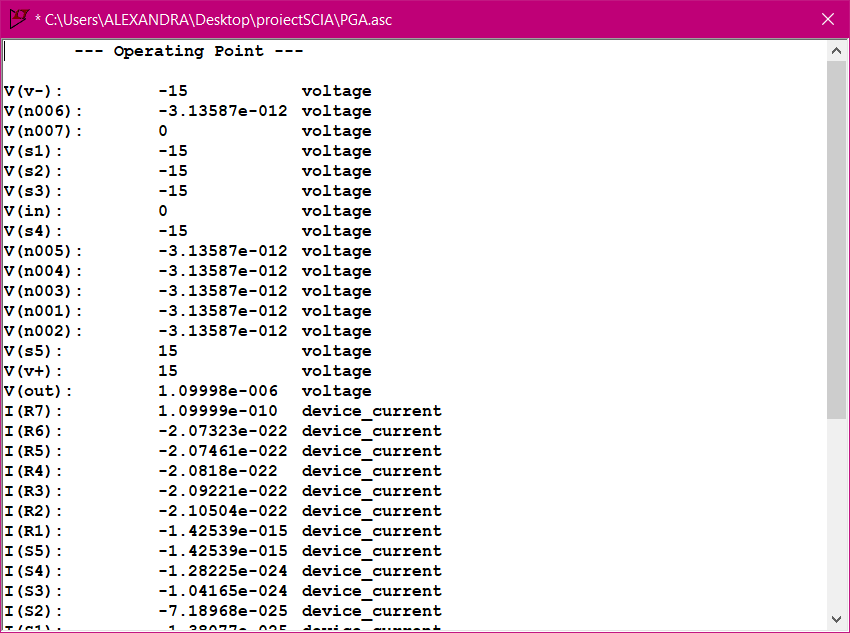


Dimensionarea circuitului:

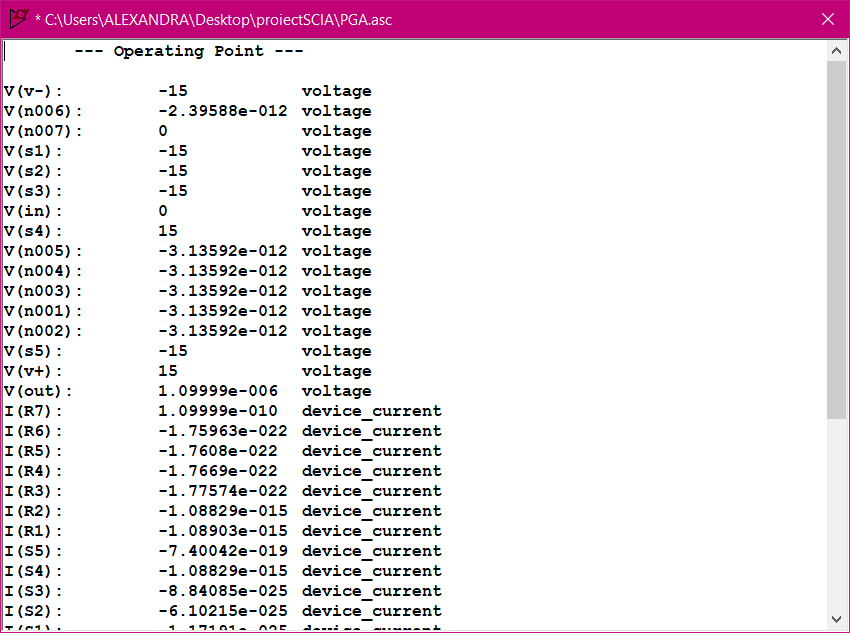


**Analiza OP**

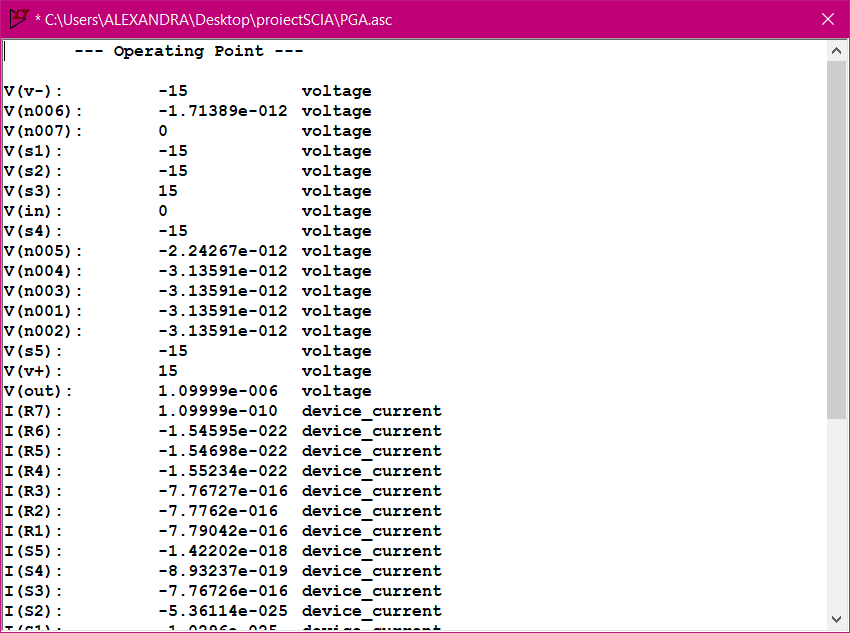
**S5-ON**



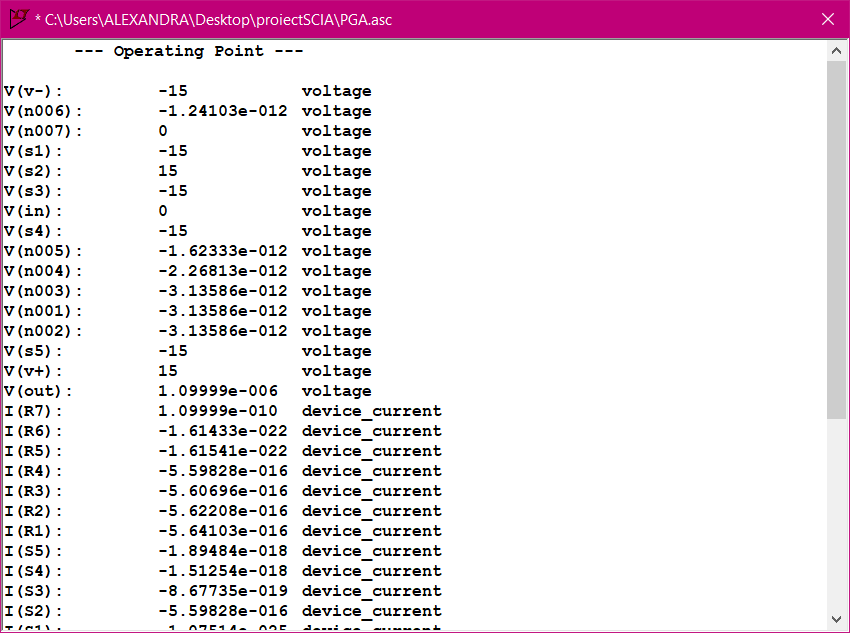
**S4-ON**



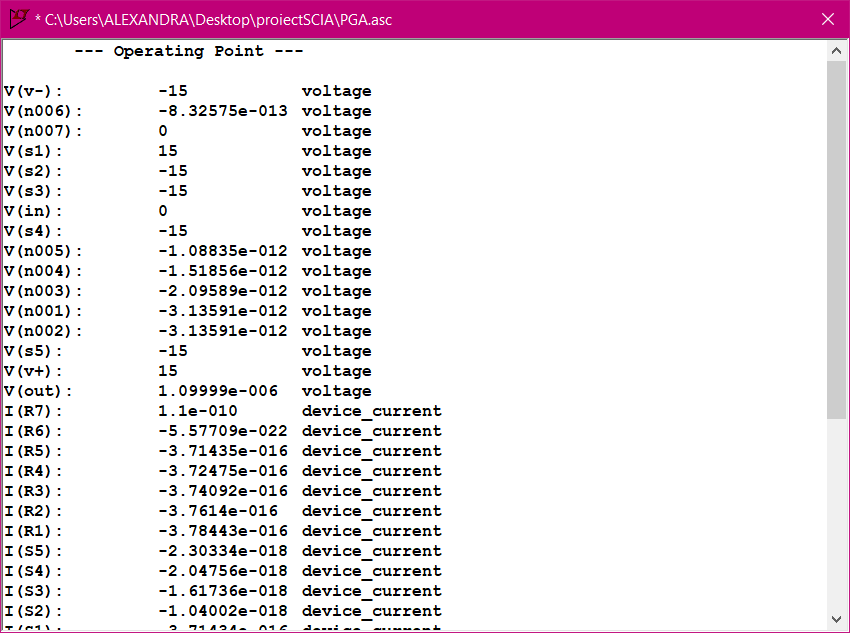
**S3-ON**



**S2-ON**

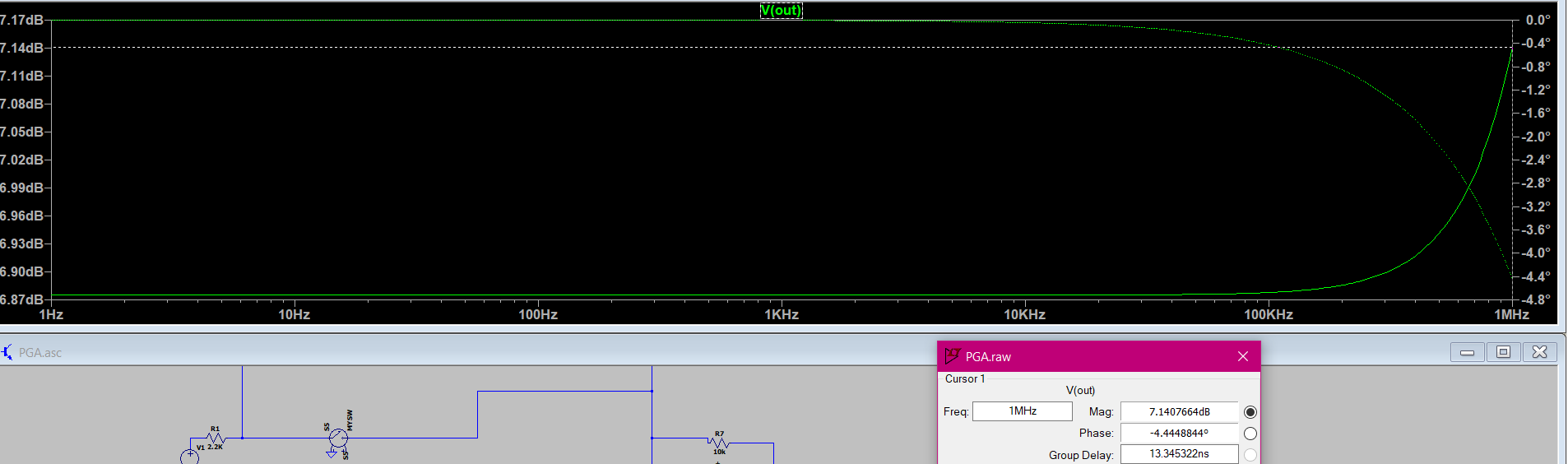


**S1-ON**

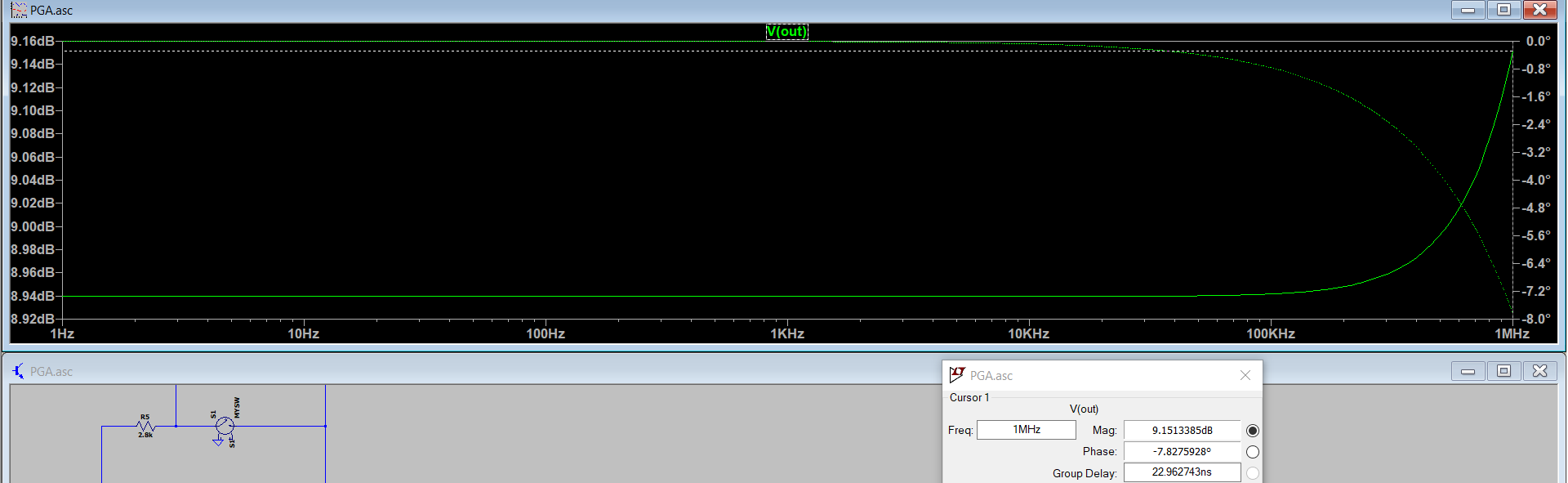


**Analiza AC**

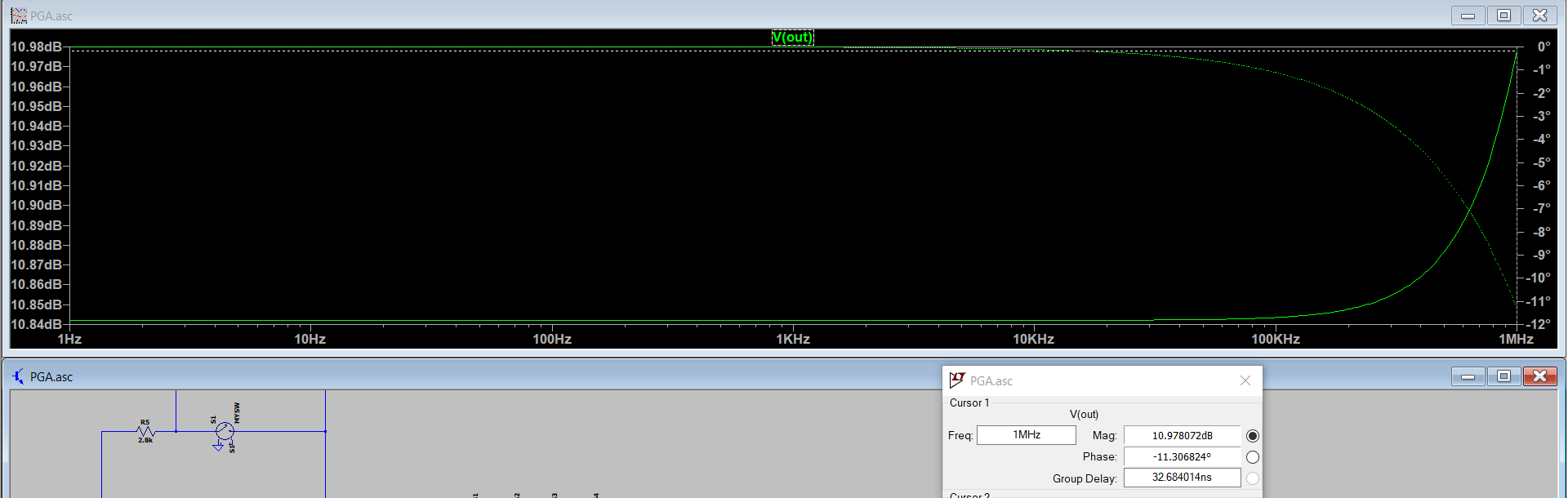
**S1-ON=>7db**

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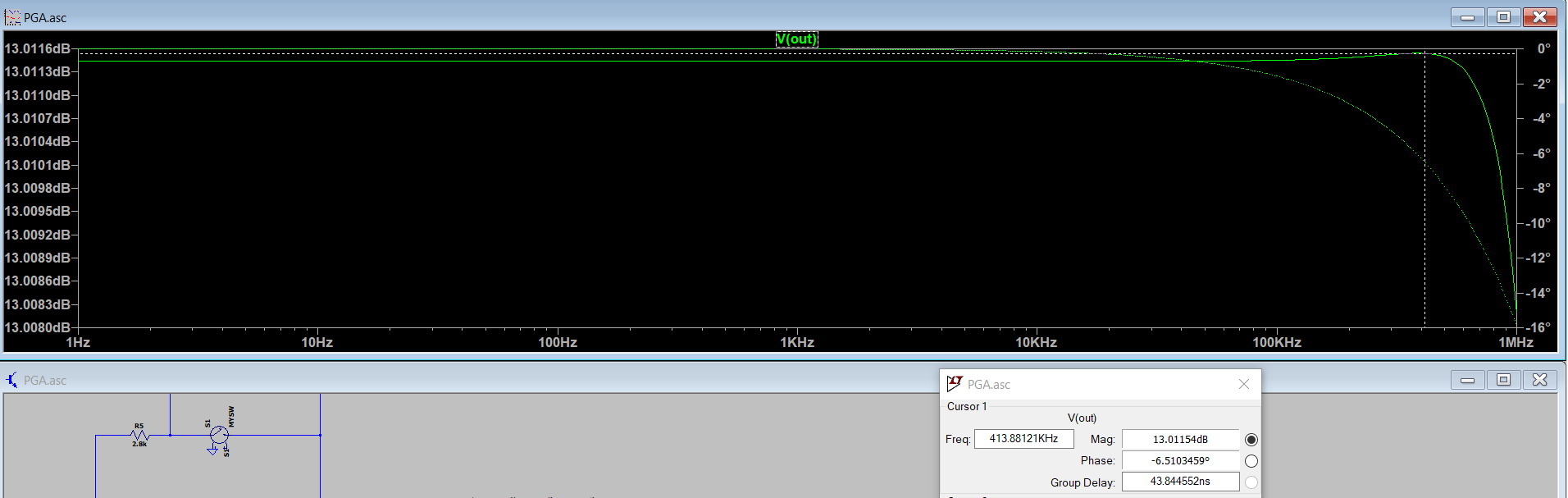
**S2-ON=>9db**

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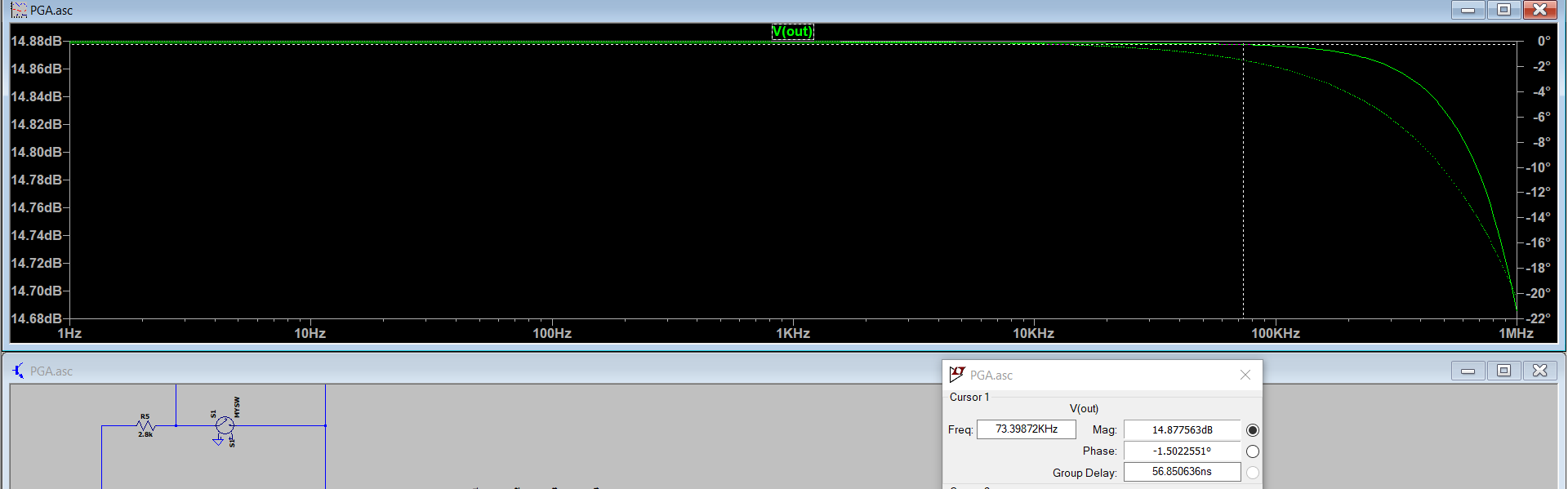
**S3-ON=>11db**

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**S4-ON=>13db**

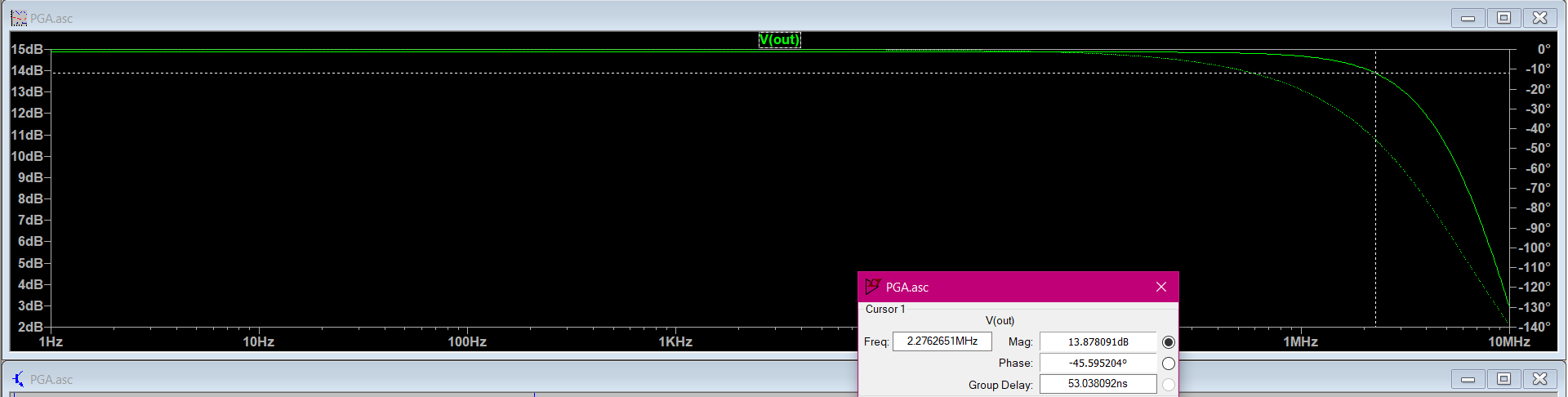
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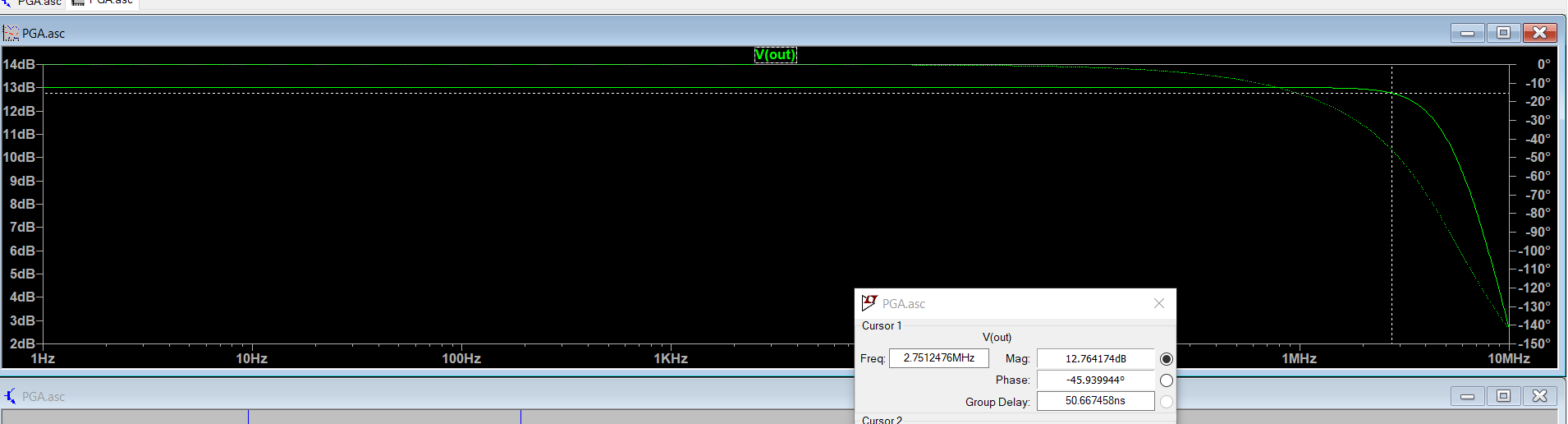
**S5-ON=>15db**

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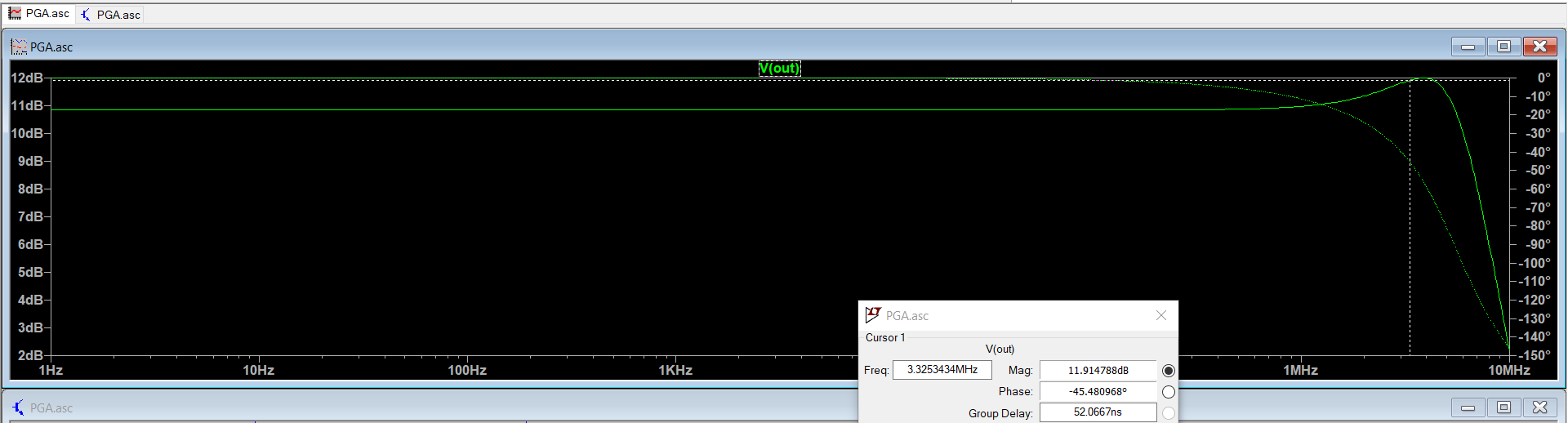
**Banda PGA>Banda filtrului=12.7k**

**S5-ON**

Am masurat la -45 de grade:   
**S4-ON**

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**S3-ON**

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**S2-ON**

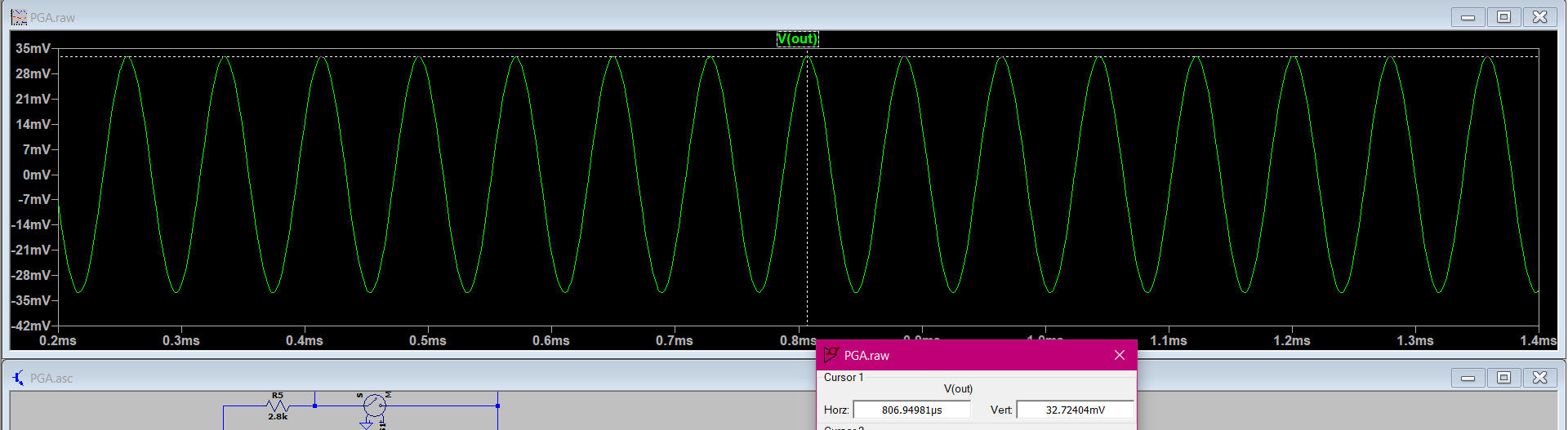
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**S1-ON**

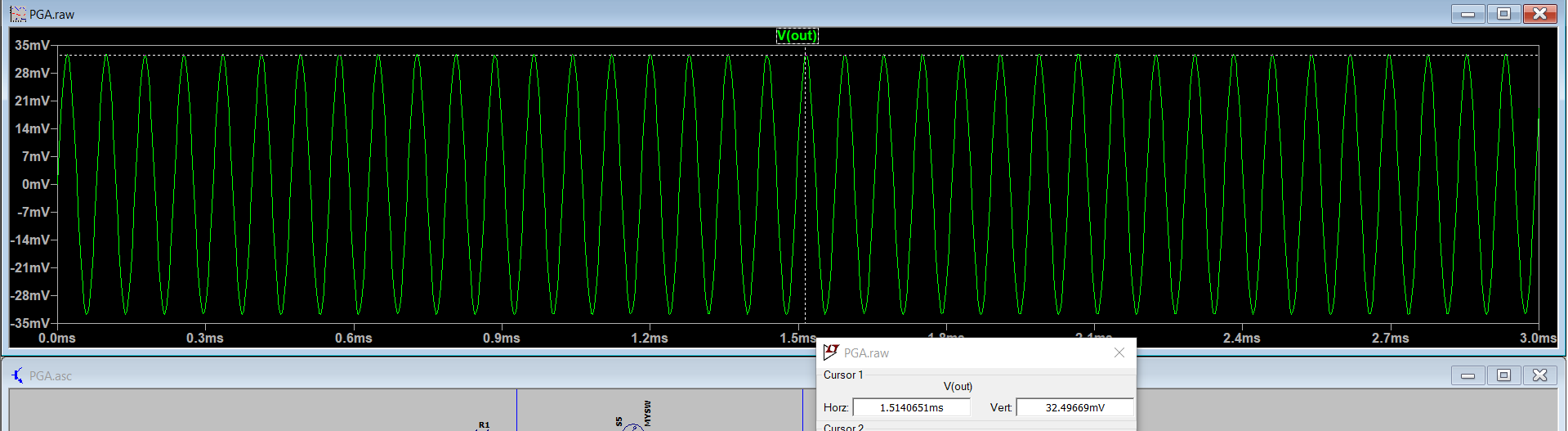
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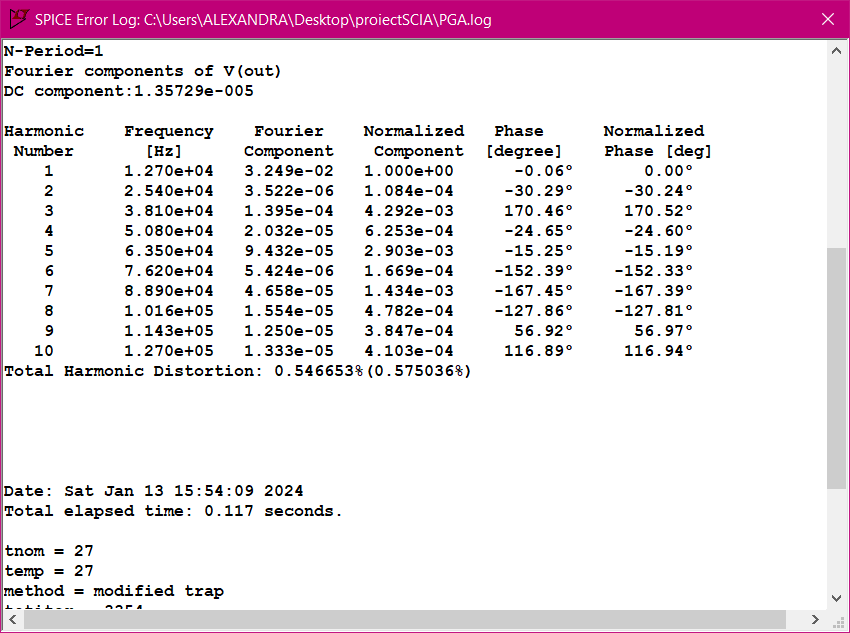
**Transient**

Pt câștig maxim și amplitudine minima



Pt câștig minim și amplitudine maxima

THD<1%:

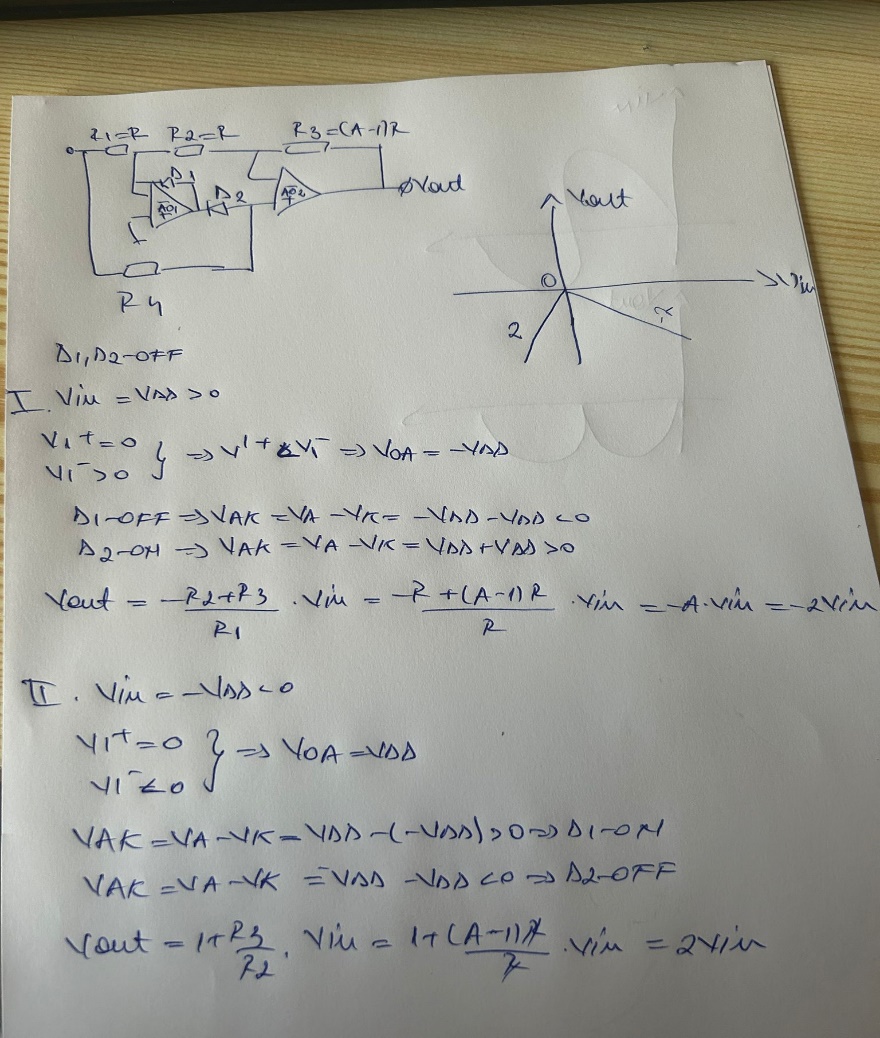


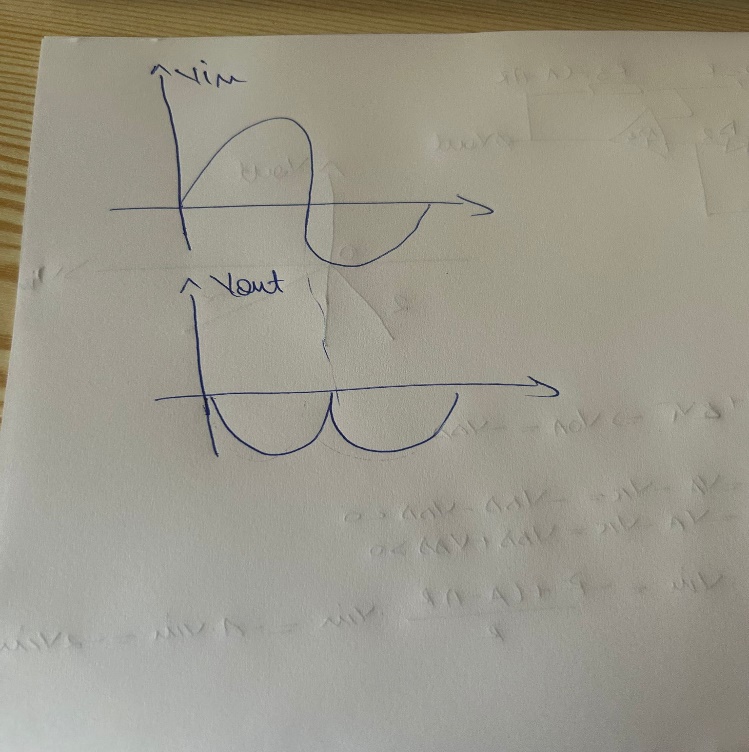
ETAJ 4



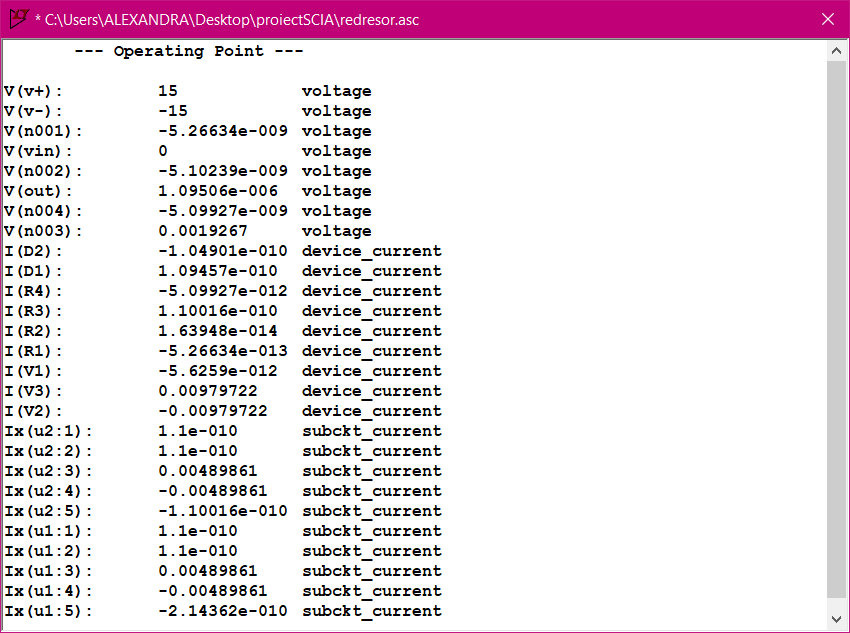
Dimensionarea circuitului:

Am ales R1=R2=R3=10k si R4=1k

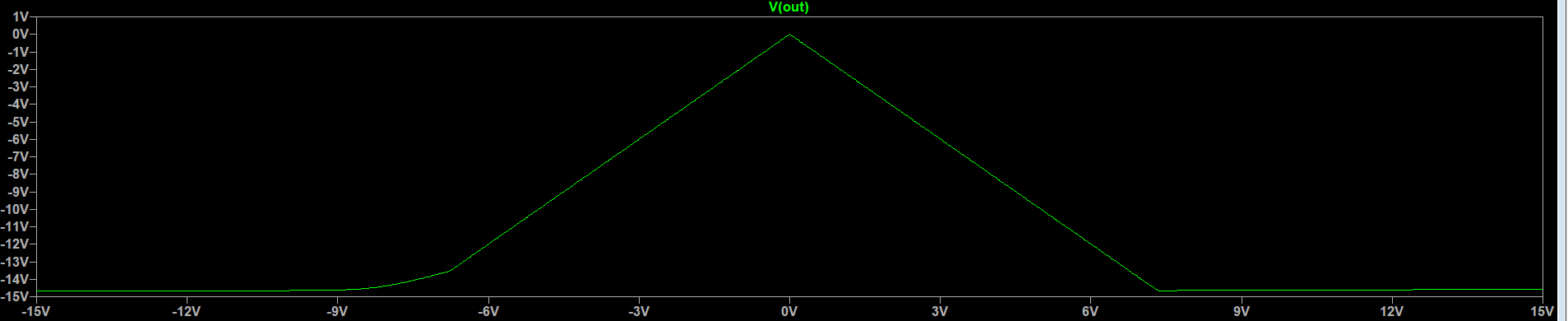




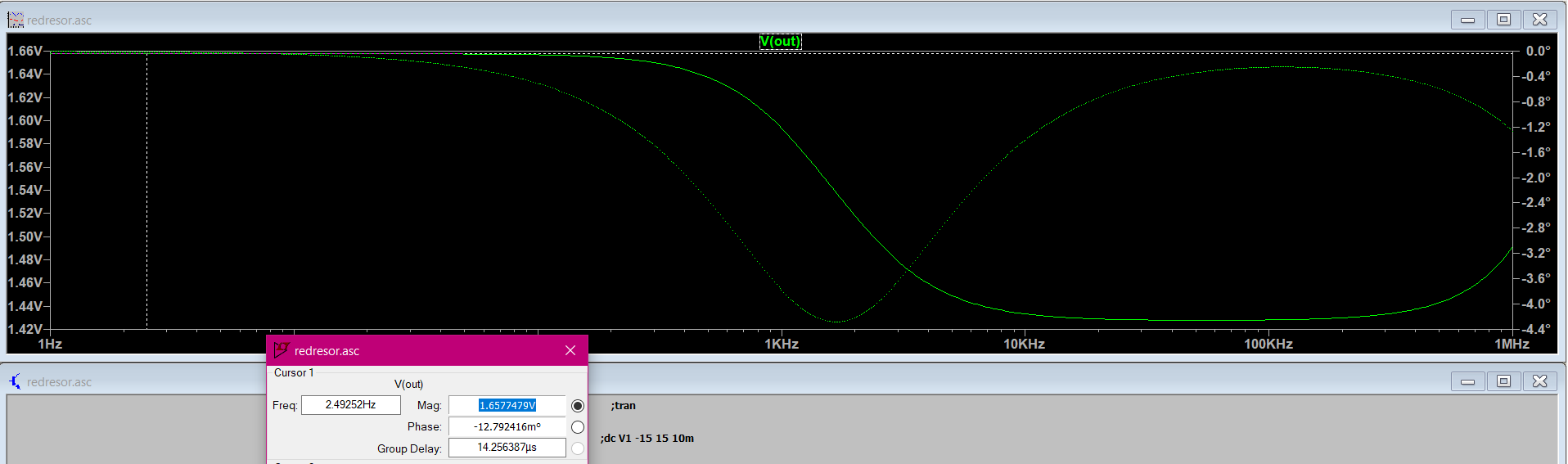
**Analiza OP**



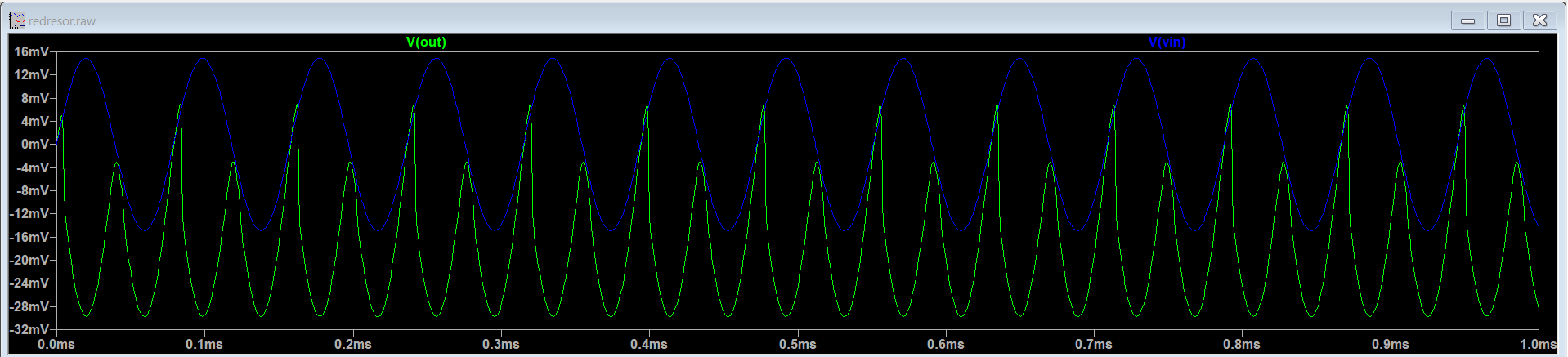
**Analiza DC**

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**Analiza AC –** castig de 2, iese 1,7.

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**Transient**

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**Domeniul liniar>specs-**

