

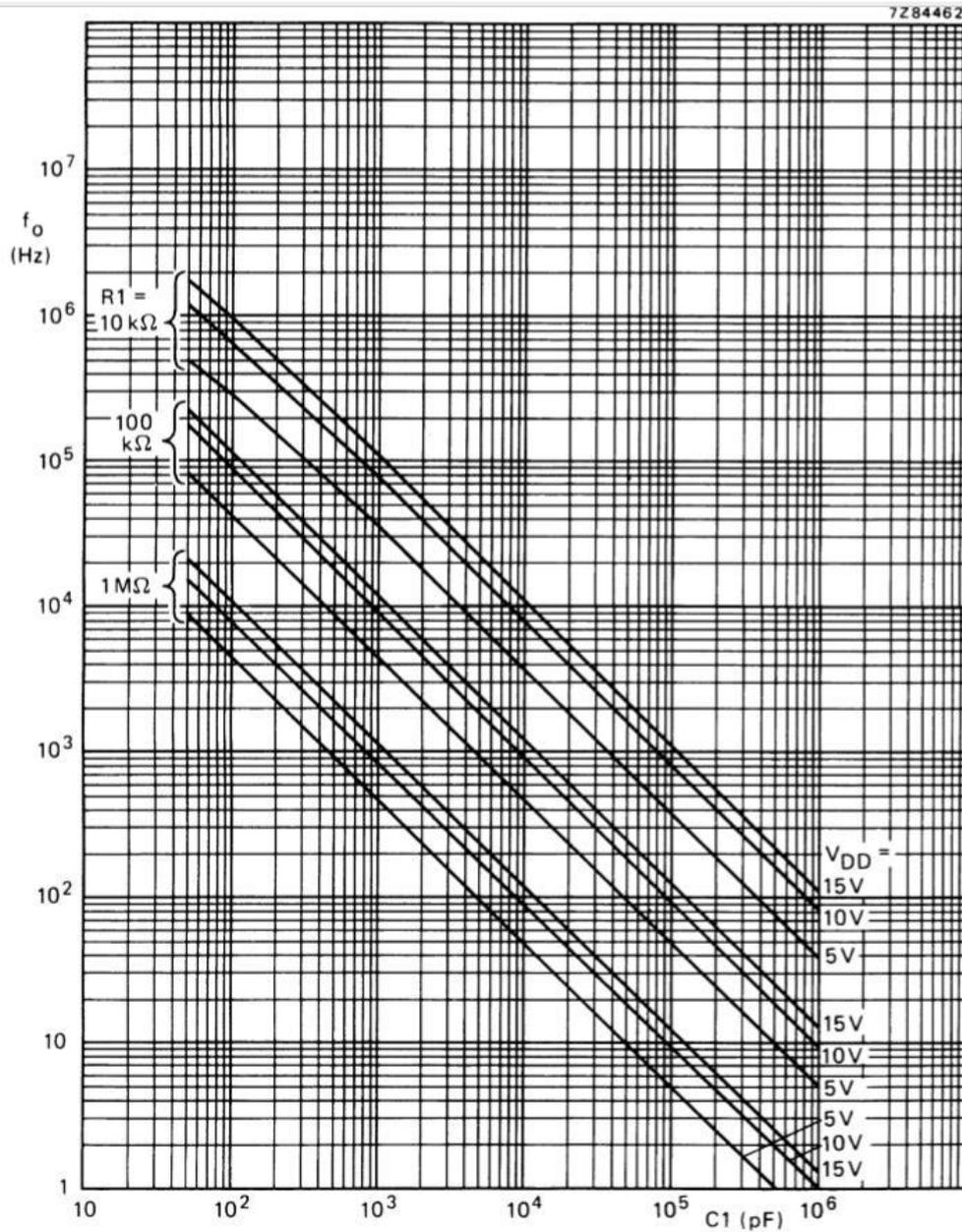
# DM3 Synthèse de fréquence

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Q1.

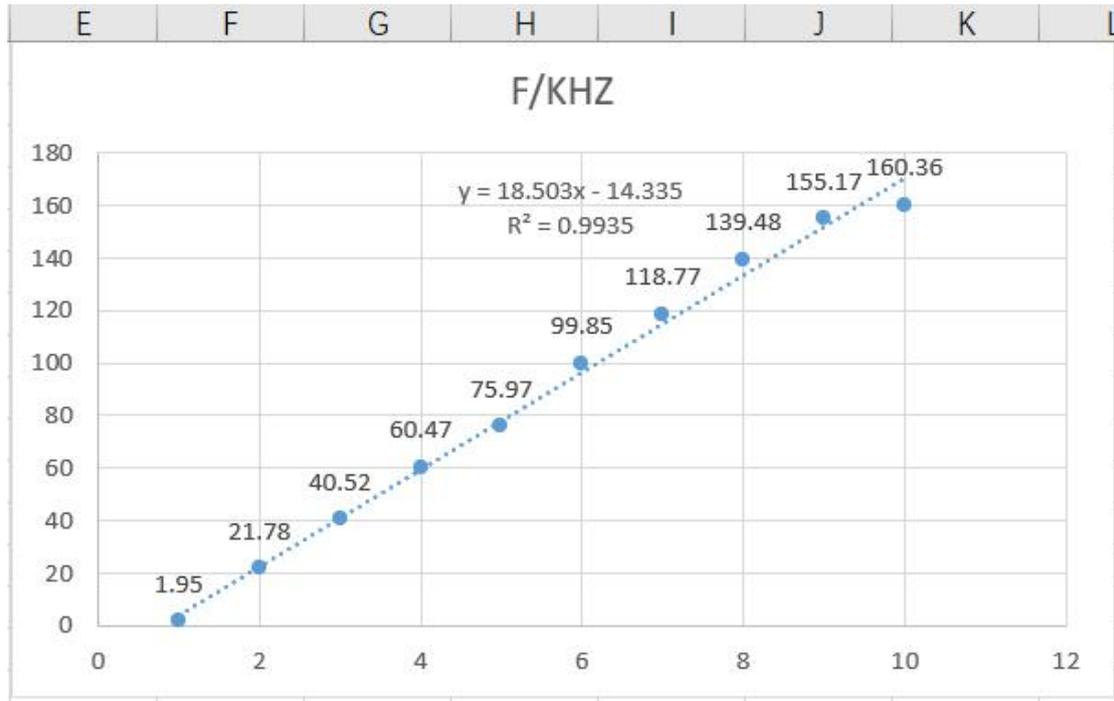
Selon la notice technique

On a vu que quand  $C1 = 1\text{nF}$ ,  $R1 = 10\text{k}$ ,  $R2 = \text{infinie}$ , la fréquence  $f_0 = 85\text{Hz}$ , donc la plage =  $170\text{Hz}$



**Q2.**

**On trace la courbe de frequence par rapport a la tension V**



on peut dire qu'elle est presque lineaire sauf le debut et la fin de la courbe. Et la frequence maximum et 160.37kHz

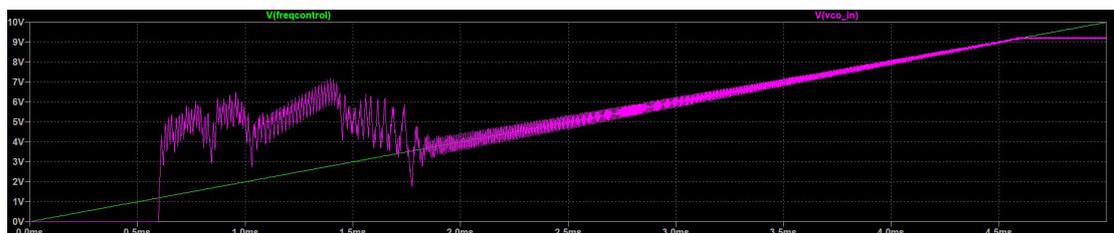
**Q3.**

**Pour le cas croissant,**

**Quand C2 = 100nF, le schema de PC1**



**Quand C2 = 10nF, le schema de PC1**



Quand  $C2 = 100\text{nF}$ , le schema de PC2



Quand  $C2 = 10\text{nF}$ , le schema de PC2



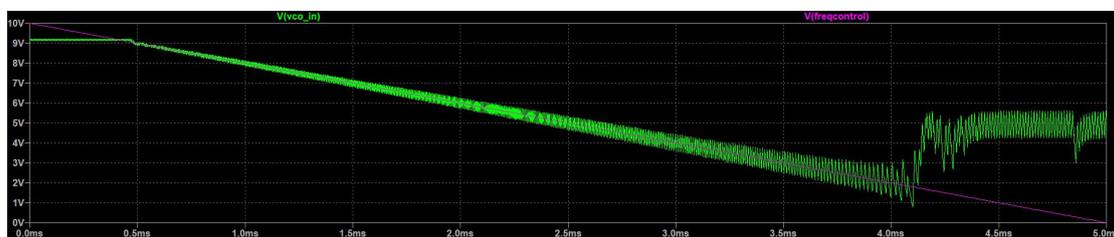
Q4.

Pour le cas decroissant,

Quand  $C2 = 100\text{nF}$ , le schema de PC1



Quand  $C2 = 10\text{nF}$ , le schema de PC1



Quand  $C2 = 100\text{nF}$ , le schema de PC2



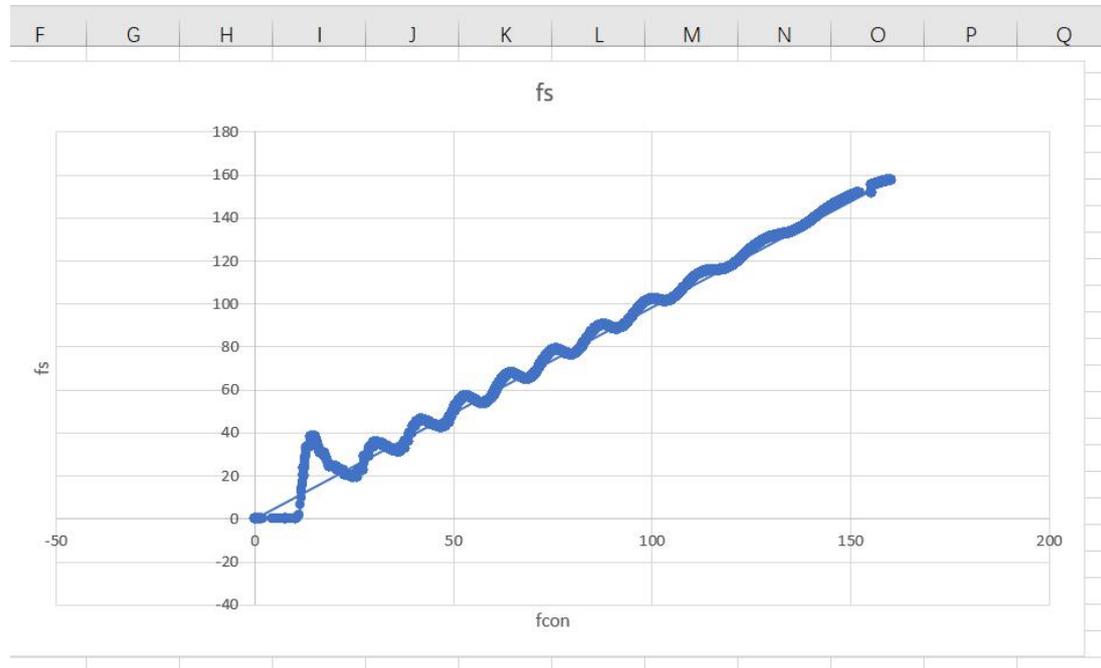
Quand  $C2 = 10\text{nF}$ , le schema de PC2



Q5.

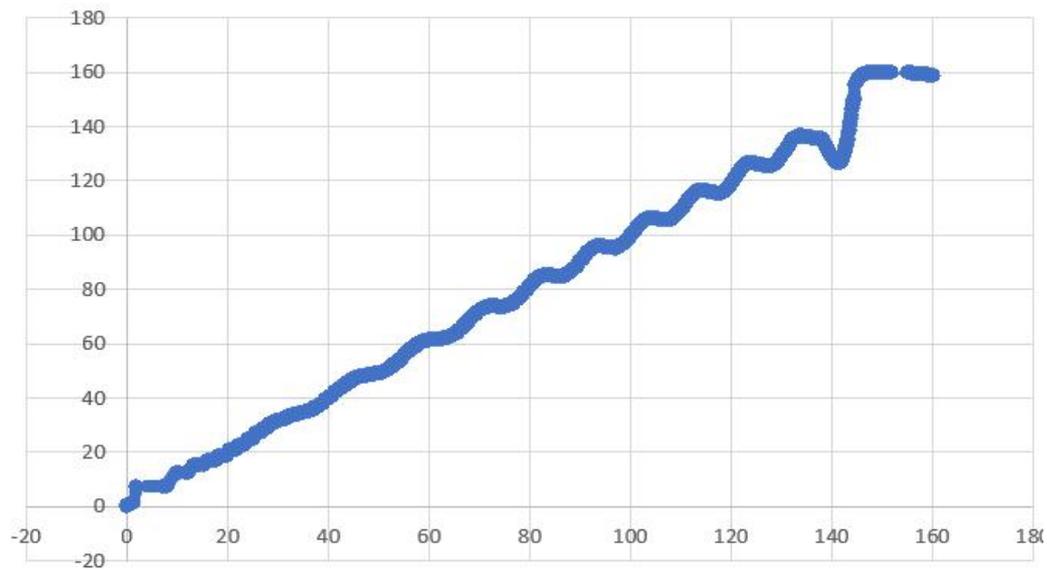
A) Pc2

Quand  $C2 = 100\text{nF}$ , Le cas croissant



$F1 = 10.77\text{kHz}$   $F2 = 160.77\text{kHz}$

Le cas décroissant

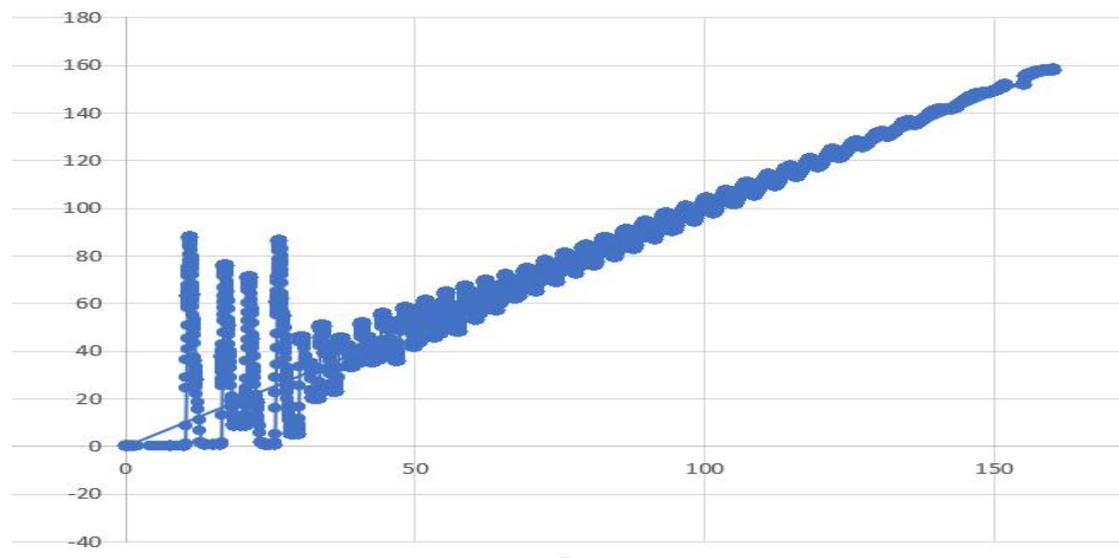


$F1 = 0\text{Hz}$   $F2 = 145.65\text{kHz}$

La plage de capture :  $10.77\text{-}145.65\text{kHz}$

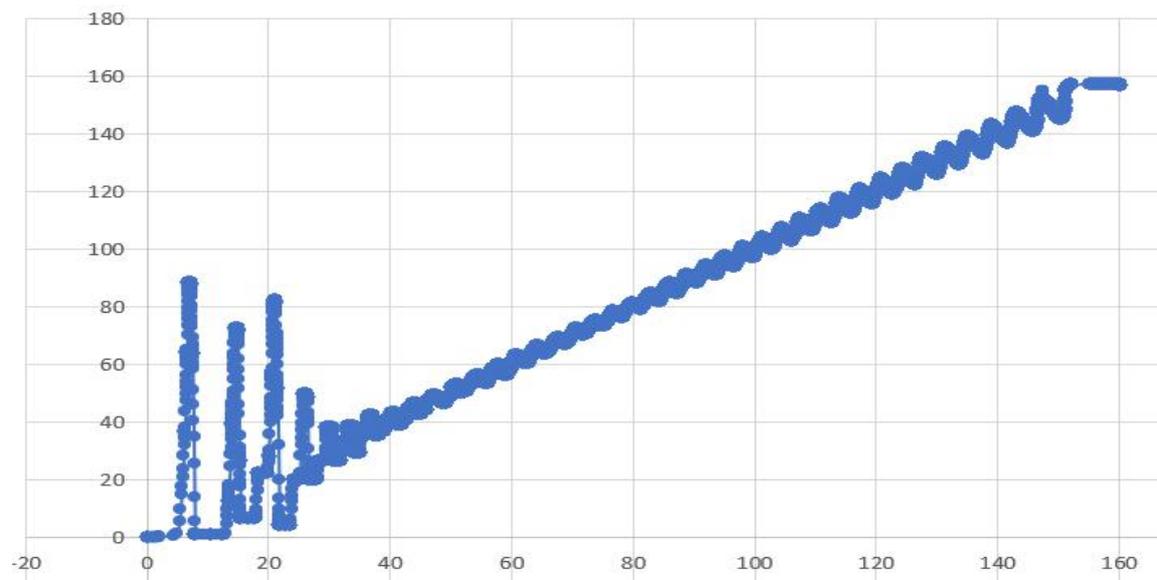
La plage de verrouillage :  $0\text{-}160.34\text{kHz}$

### Quand $C_2 = 10\text{nF}$ , Le cas croissant



$F_1 = 13.31\text{Hz}$   $F_2 = 160\text{kHz}$

### Le cas décroissant



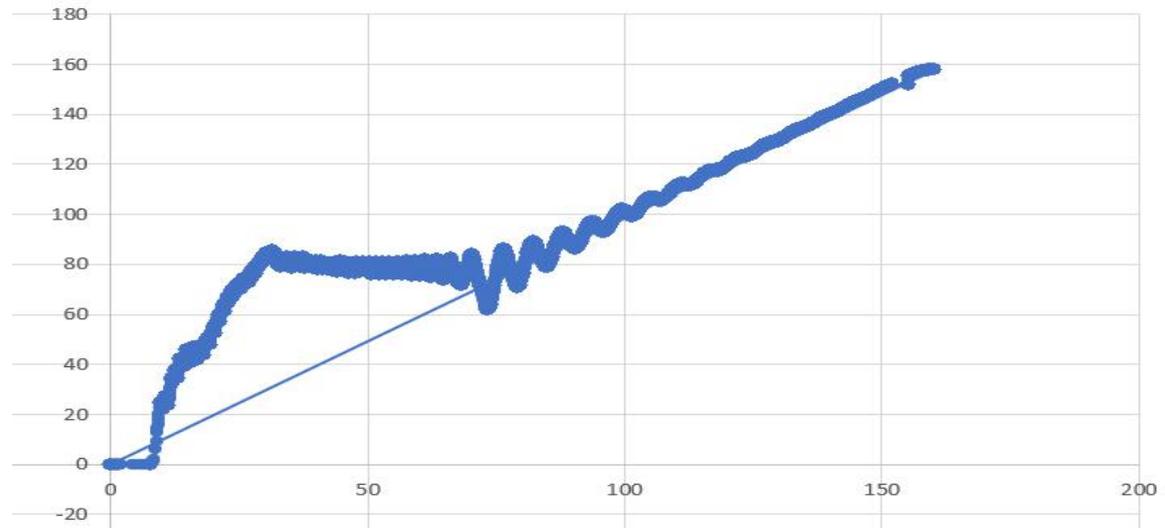
$F_1 = 4.35\text{kHz}$ ,  $F_2 = 151.33\text{kHz}$

La plage de capture : 13.31---151.33kHz

La plage de verrouillage : 4.35---160kHz

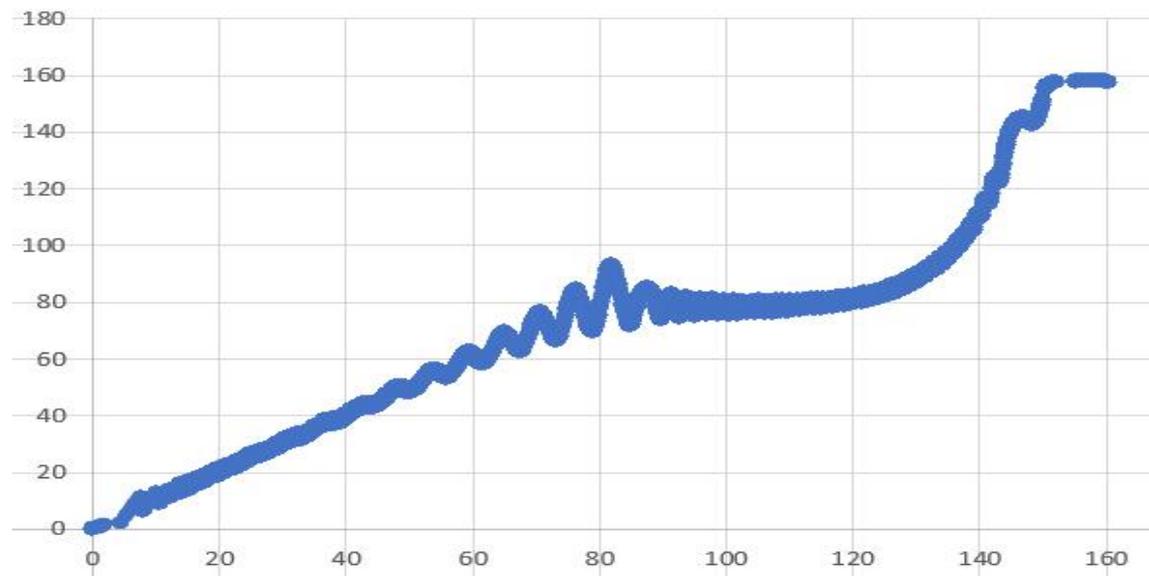
## B) Pc1

Quand  $C2 = 100\text{nF}$ , Le cas croissant



$F1 = 8.05\text{kHz}$   $F2 = 160\text{kHz}$

Le cas décroissant

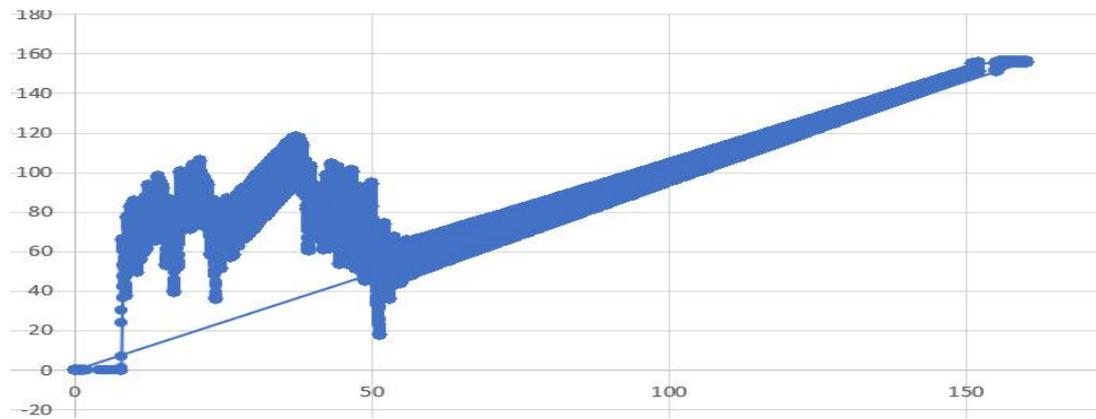


$F1 = 0$ ,  $F2 = 150.29\text{kHz}$

La plage de capture : 8.05-150.29kHz

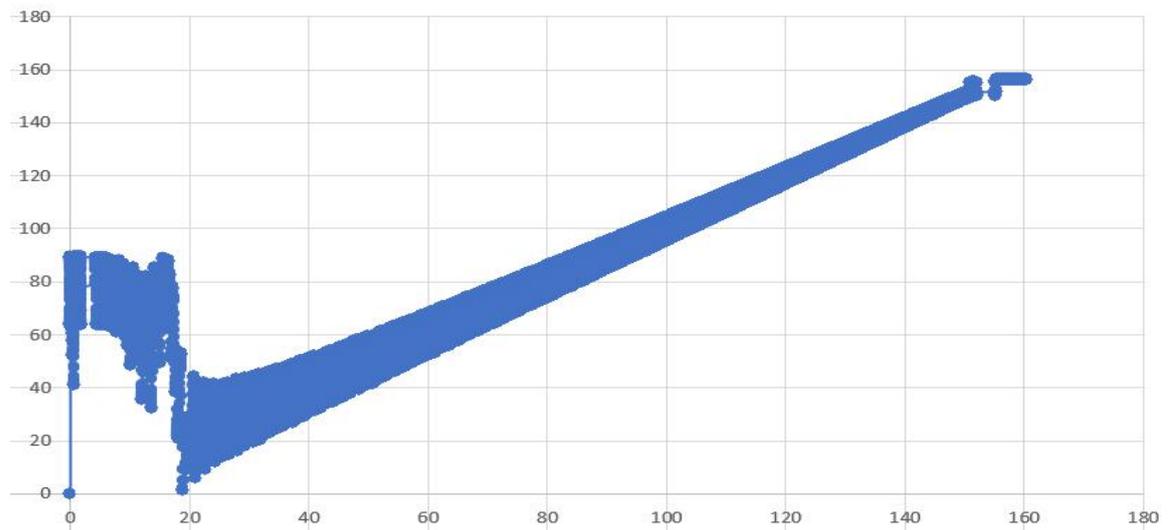
La plage de verrouillage : 0-160kHz

Quand C2 = 10nF , Le cas croissant



F1 = 7.78, F2 = 157.20kHz

Le cas décroissant



F1=0, F2=155.22kHz

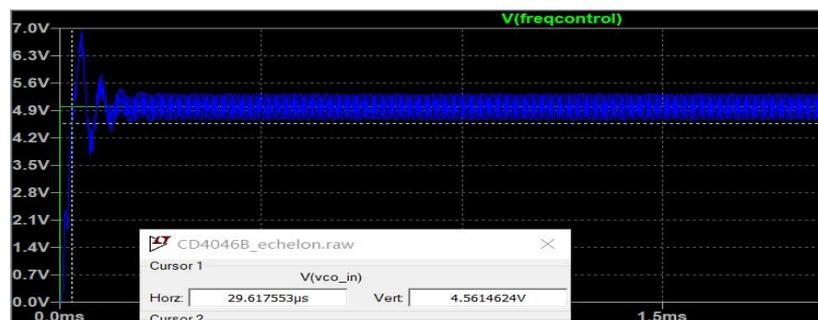
La plage de capture : 7.78-155.22kHz

La plage de verrouillage : 0-157.20kHz

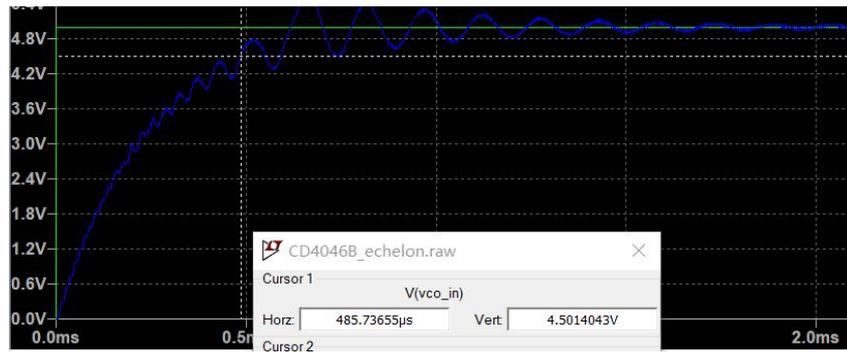
Q3.1.

A) PC1

Quand C2 = 10nF

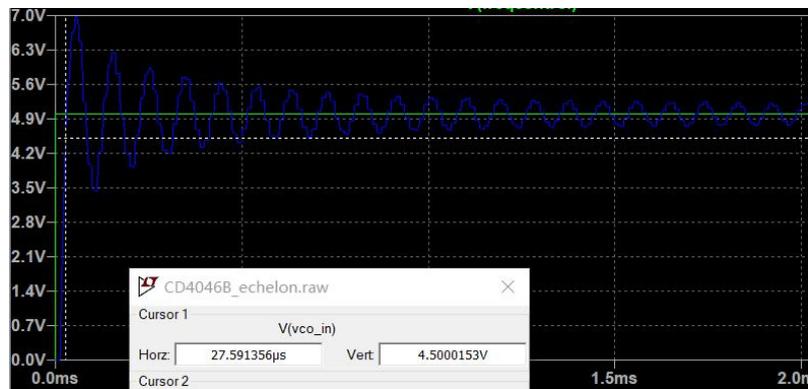


**Quand C2 = 100nF**

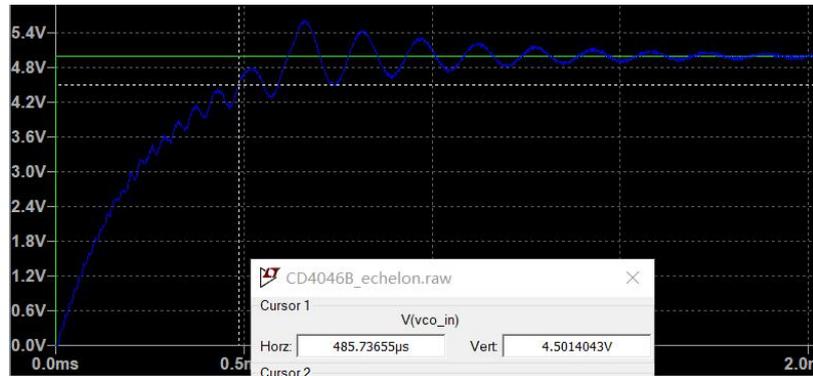


**B) PC2**

**Quand C2 = 10nF**



**Quand C2 = 100nF**



**Q3.2.**

**PC1 C2 = 10nF      T = 29.62 µs**

**PC1 C2 = 100nF    T = 485.74 µs**

**PC2 C2 = 10nF      T = 27.59 µs**

**PC2 C2 = 100nF    T = 485.74 µs**

**Q3.3.**