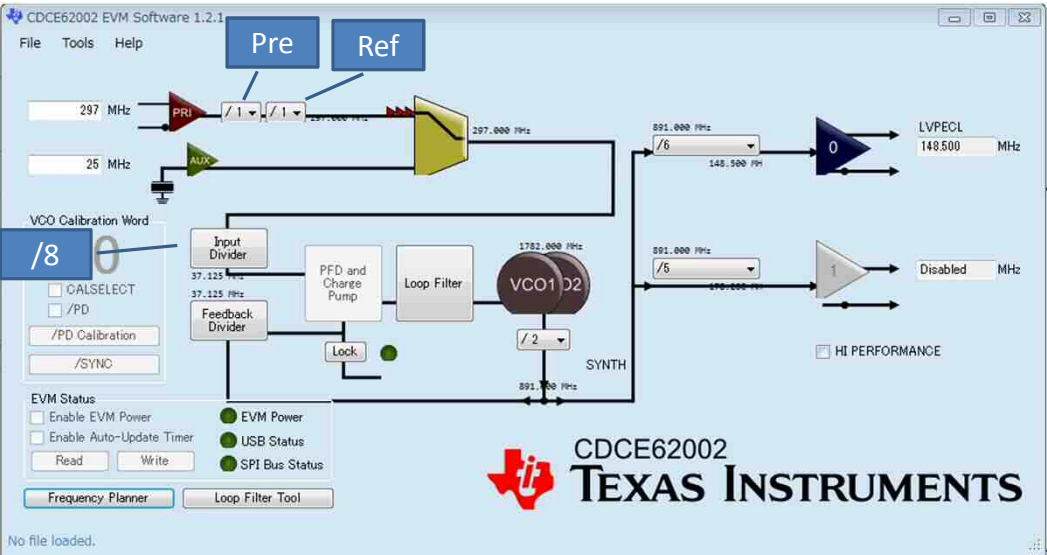


# Maximum Divider Frequency



Frequency Planner generates 148.5MHz from 297MHz using the following parameters.

- Pre divider: /1
- Ref divider: /1
- Input divider: /8

However the PLL can not be locked with these parameters. I changed some parameters as below then it can be locked.

- Pre divider: /1
- Ref divider: /2
- Input divider: /4

I think it is associated with the max spec of the divider.

## 7.4 Timing Requirements

over recommended ranges of supply voltage, load and operating free-air temperature range (unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNIT
REF_IN REQUIREMENTS					
fREF - Diff IN-DIV	Maximum clock frequency applied to reference divider when (Register 0 Bit 9 = 1)		500		MHz
fREF - Diff REF-DIV	Maximum clock frequency applied to reference divider when (Register 0 Bit 9 = 0)		250		MHz
fREF - Single	For single-ended Inputs (LVCMOS) on REF_IN		250		MHz
Duty Cycle	Duty cycle of REF_IN	40%		60%	
INTERNAL TIMING REQUIREMENTS					
fSMUX	Maximum clock frequency applied to smart MUX input		250		MHz
fINDIV	Maximum clock frequency applied to input divider		200		MHz
AUXILIARY_IN REQUIREMENTS					
fREF - Crystal	AT-Cut crystal input	2		42	MHz
Drive level		0.1			mW

- Diff IN-DIV (Reg0 Bit9=1) Max.500MHz
- Diff IN-DIV (Reg0 Bit9=0) Max.???MHz
- Diff REF-DIV(Reg0 Bit9=1) Max.???MHz
- Diff REF-DIV(Reg0 Bit9=0) Max.250MHz

What is different between fREF-Diff IN-DIV and fINDIV?  
I would like to make sure the max spec of the dividers.