

List of Phase Models' Parameters				
Parameter of the phase Model	Value	Parameter of the 4rd Gen Prototype	Value	Comment
ω_k	$60 \cdot 2\pi \cdot 10^9 Hz$	$\omega_k = 2\pi f_k$	$60 \cdot 10^9 Hz$	intrinsic SLL frequency
K_k^{VCO}	$2\pi \cdot 1 \cdot 10^9 Hz/V$	$K_{VCO}^{prebias}$	$1 \cdot 10^9 Hz/V$	sensitivity of the VCO at f_{VCO}^{out}
A_k^{bias}	...	$A_k^{prebias}$...	pre-bias voltage of the VCO at f_{VCO}^{out}
τ^{cc}	$0...10ns$	τ^{cc}	$0...10ns$	cross-coupling time-delay
A_k	$113mV$ peek to peek	A_k	$113mV$ peak to peak	The amplitude of the signal coming from the divider
A_l	$113mV$ peek to peek	A_l	$113mV$ peak to peak	The amplitude of the signal coming from the other SLL
G_l	6.19	G_l	6.19	The amplification of signal coming from other SLLS
G_k	6.19	G_k	6.19	The amplification of signal coming from divider
G_k^{PD}	3.26	G_k^{PD}	3.26	The gain of the PD
G^{VGA}	0.5....2	G^{VGA}	0.5....2	The variable gain of the VGA
$A_k^{PD,offset}$	$0.837V$	$A_k^{PD,offset}$	The DC offset Voltage of the PD
G_k^{LF}	1	G_k^{LF}	$0 dB$	loop filter gain
ω^c	$100 \dots 800 MHz$	ω^c	$100 \dots 800 MHz$	range of cut off frequency
v_k	4 or 8	v_k	4 or 8	division of the VCO's frequency
K_k	$....Hz/V$	$K_k = K_k^{VCO} G_k \cdot G_l A_k A_l G_k^{PD} G^{VGA} G_k^{LF} / 2$...	coupling strength