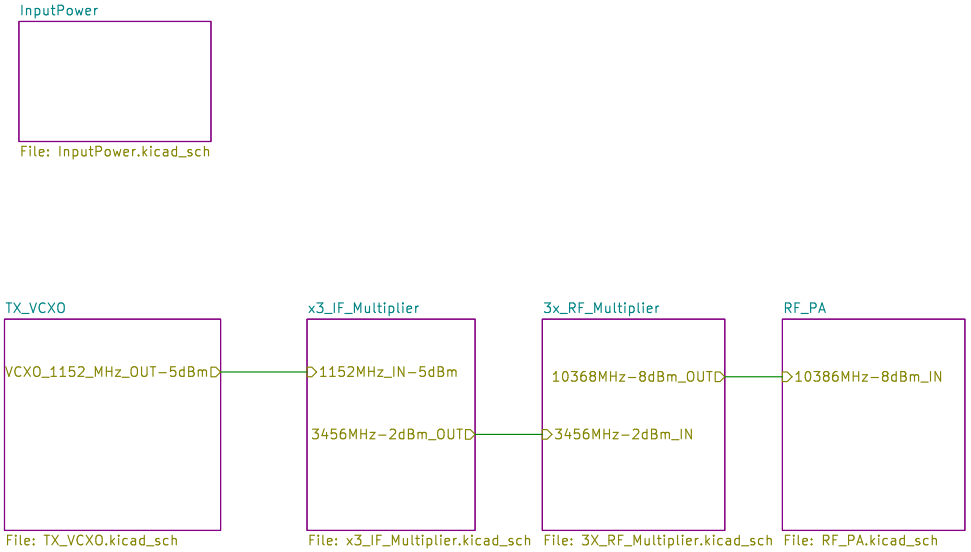

Sheet: / File: 10GHz_VCXO_TX.kicad_sch		
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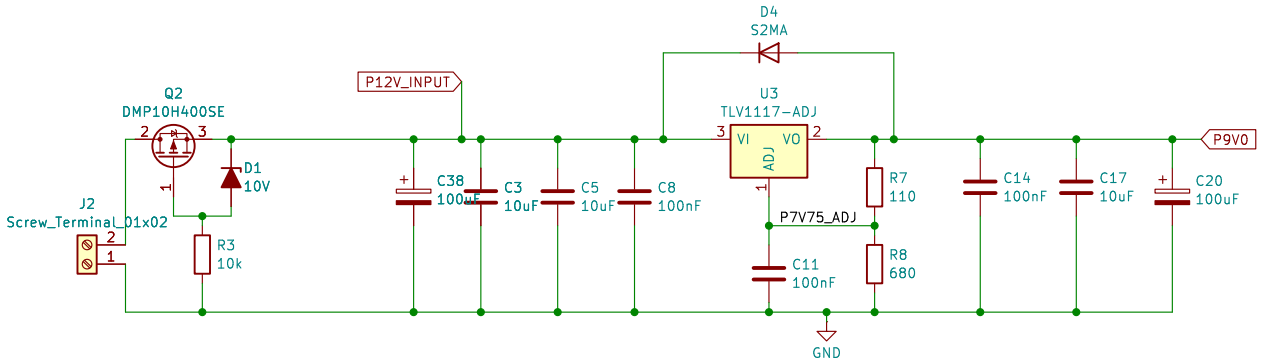
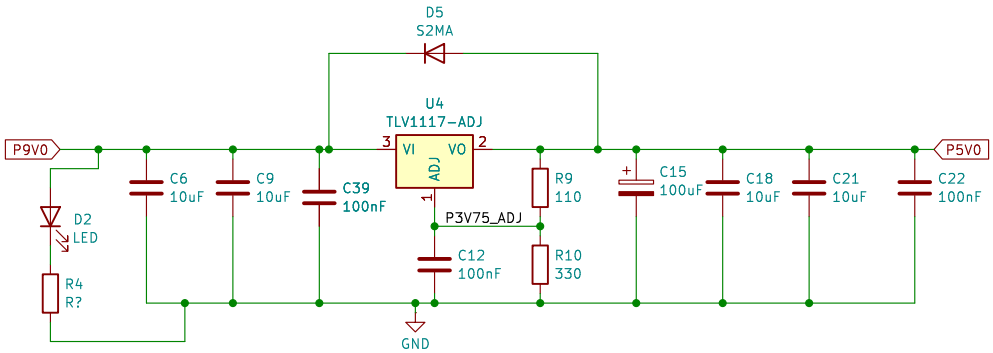
Size: A4	Date: 2024-09-12	**Rev: 1.0**
KiCad E.D.A. 8.0.2		Id: 1/6

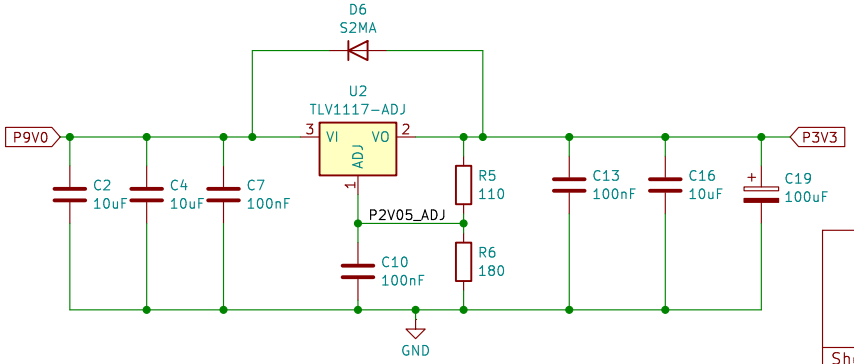


INPUT POLARITY PROTECTION

11mA through ADJ feedback resistors, min 1.7mA load
V_ADJ = 9*R2/(R2+R3)=9*680/(110+680) = 7.75V
<1.3 V dropout



11mA through ADJ feedback resistors, min 1.7mA load
V_ADJ = 5.0*R2/(R2+R3)=5.0*330/(330+110) = 3.75V
<1.3 V dropout



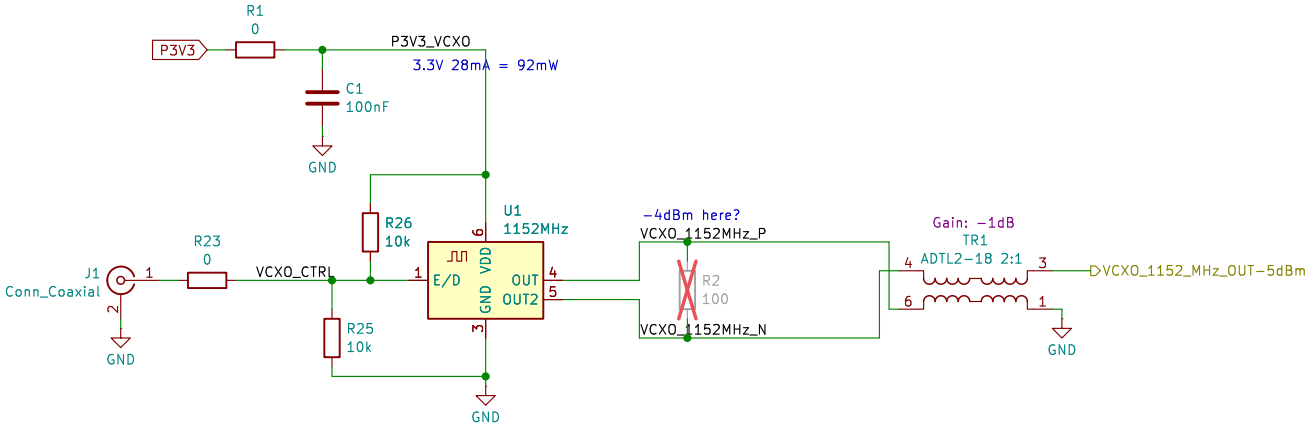
11mA through ADJ feedback resistors, min 1.7mA load
V_ADJ = 3.3*R2/(R2+R3)=3.3*180/(110+180) = 2.05V
<1.3 V dropout

VCXO – 3.3V 28mA = 92mW
LEE-59+ – 9V 65mA = 585mW
LEE-59+ – 9V 65mA = 585mW
PMA2-123LN5+ – 5.0V 30mA = 150 mW
SUM: useful energy 1412 mW
Total 12V current: 188 mA – 2256 mW

Sheet: /InputPower/
File: InputPower.kicad_sch

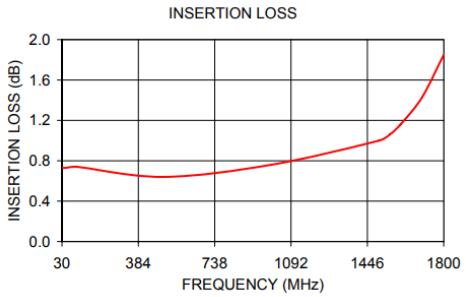
Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.2		Id: 2/6



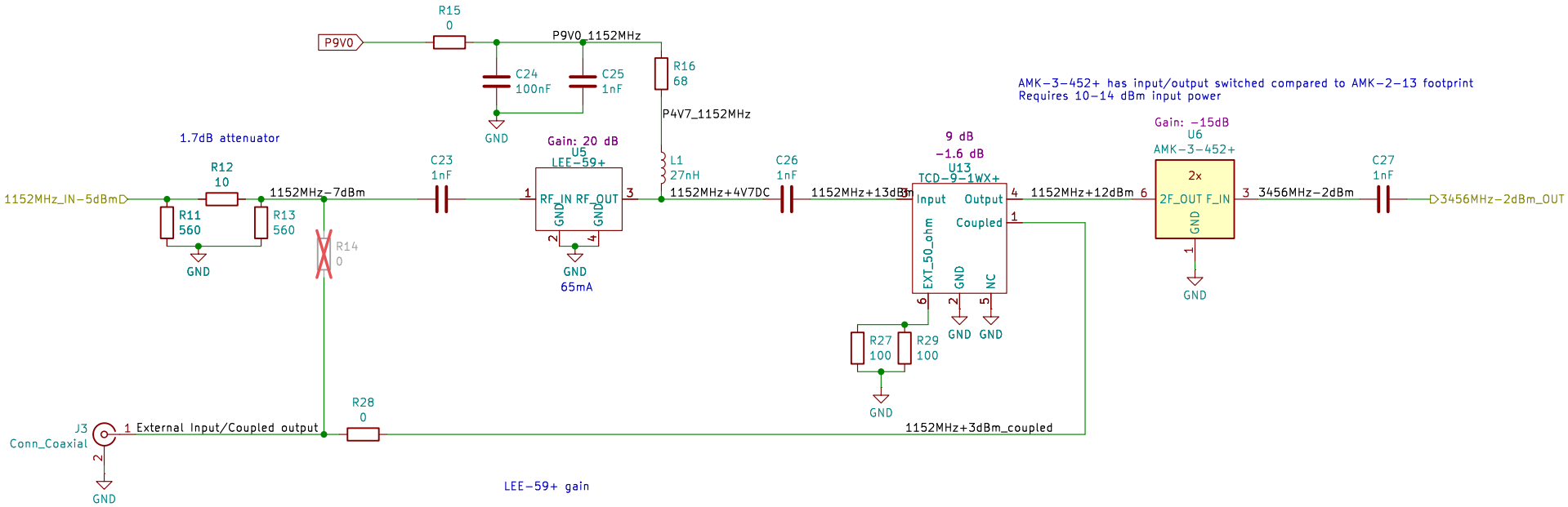
Always enabled. Internal pull up
LVDS output
100 ppm pulling range
1.65V nominal frequency 1152 MHz
−4dBm = 10 log ((200mV * 200mV / 100ohm) / 1mW)

30−1800MHz 1:2 RF Transformer



Sheet: /TX_VCXO/		
File: TX_VCXO.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.2		Id: 3/6

9V 65mA = 585mW



LEE−59+ gain

Electrical Specifications at 25°C and 65mA, unless noted

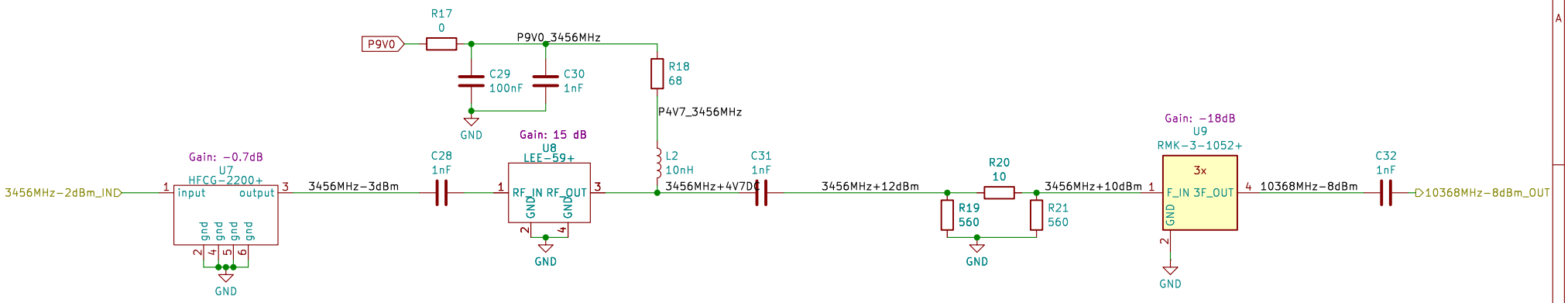
Parameter		Min.	Typ.	Max.	Units
Frequency Range*		DC		5	GHz
Gain	f=0.1 GHz	—	20.6	—	dB
	f=1 GHz	—	20.3	—	
	f=2 GHz	17.8	19.7	—	
	f=4 GHz	—	15.8	—	
	f=5 GHz	—	13.8	—	
	f=8 GHz	—	7.6	—	
Input Return Loss	f= DC to 3 GHz		14		dB

Sheet: /x3_IF_Multiplier/
File: x3_IF_Multiplier.kicad_sch

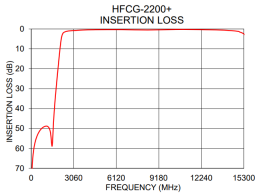
Title:

Size: A4 | Date: | **Rev:**
KiCad E.D.A. 8.0.2 | Id: 4/6

9V 65mA = 585mW



3dB cutoff at 2200 MHz



1.7dB attenuator

Requires 7−13 dBm input power

LEE−59+ gain

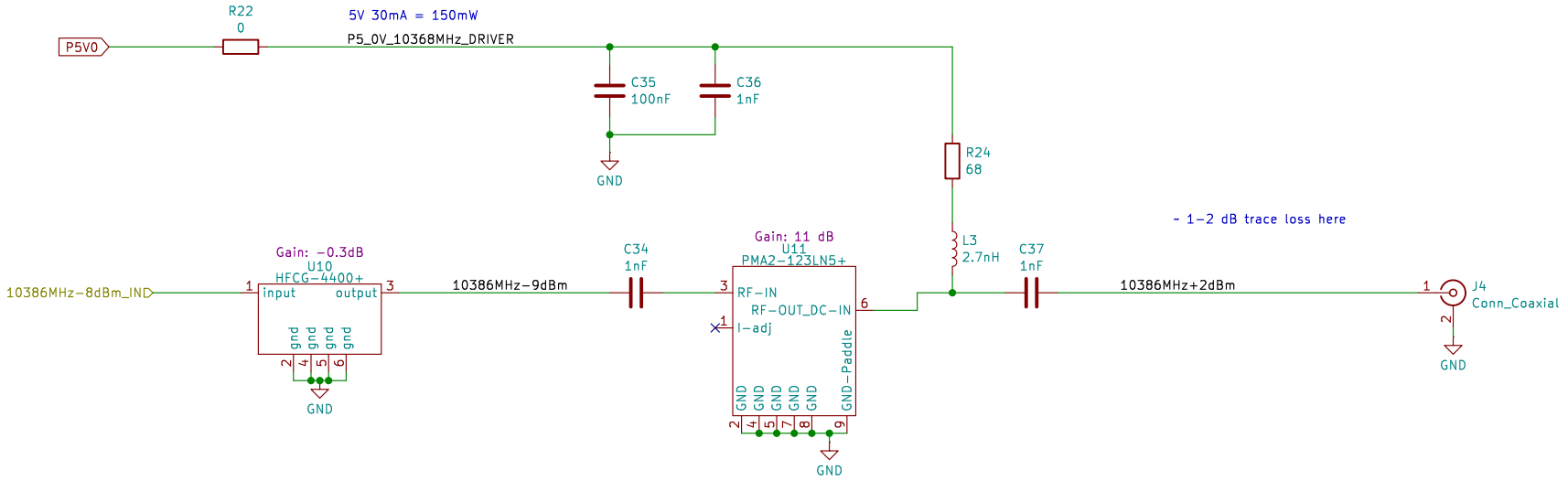
Electrical Specifications at 25°C and 65mA, unless noted

Parameter		Min.	Typ.	Max.	Units
Frequency Range*		DC		5	GHz
Gain	f=0.1 GHz	—	20.6	—	dB
	f=1 GHz	—	20.3	—	
	f=2 GHz	17.8	19.7	—	
	f=4 GHz	—	15.8	—	
	f=5 GHz	—	13.8	—	
	f=8 GHz	—	7.6	—	
Input Return Loss	f= DC to 3 GHz		14		dB

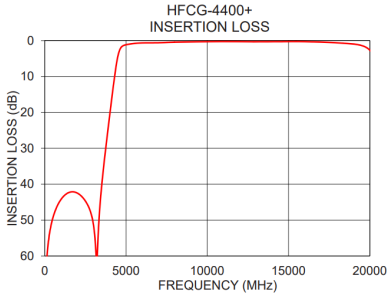
Sheet: /3x_RF_Multiplier/
File: 3X_RF_Multiplier.kicad_sch

Title:

Size: A4 | Date: | **Rev:**
KiCad E.D.A. 8.0.2 | Id: 5/6



3dB cutoff at 4400 MHz



Gain: 11.6dB
OP1dB: 11.6 dB
OIP3: 23.5 dB
At 10.0 GHz

Sheet: /RF_PA/		
File: RF_PA.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.2		Id: 6/6