

**Powerdesign Microlab Robot****25.07.2006**

All Values in Ampere

**Gecko3**

Part	external sources				internal sources			
	Battery		3,3 V		2,5 V		1,2 V	
	Typ	Max	Typ	Max	Typ	Max	Typ	Max
FPGA (max. Power without heat sink)			0.002	0.020	0.160	0.220	0.550	2.500
2*RAM (Burst Mode)					0.180	0.450		
EZ-USB			0.050	0.085				
EEPROM			0.001	0.003				
SPI Flash			0.010	0.024				
Nordic RF-Modem			0.001	0.200				
Ethernet PHY			0.100	0.150				
LEDs (2*Ethernet, 8*FPGA, 2*EZ-USB)			0.040	0.060				
1,2 V DC/DC Converter (efficiency: 85%)	0.210	0.954						
2,5 V LDO			0.374	0.737				
<b><u>Total Gecko3</u></b>	<b><u>0.210</u></b>	<b><u>0.954</u></b>	<b><u>0.578</u></b>	<b><u>1.279</u></b>	<b><u>0.340</u></b>	<b><u>0.670</u></b>	<b><u>0.550</u></b>	<b><u>2.500</u></b>

**Colibri**

Part	external sources				internal sources			
	Battery		3,3 V		Analog 3,3 V		5 V	
	Typ	Max	Typ	Max	Typ	Max	Typ	Max
Colibri Module (max. at 312 MHz)			0.200	0.900				
SD Card			0.050	0.100				
Video DAC			0.015	0.025	0.070	0.080		
LEDs (2*Ethernet, 8*Colibri))			0.030	0.050				
2*USB Devices							0.200	0.300
3,3 V LDO (Analog 3,3 V)	0.077	0.088						
5 V DC/DC Converter (efficiency: 85%)	0.318	0.477						
<b><u>Total Colibri</u></b>	<b><u>0.395</u></b>	<b><u>0.565</u></b>	<b><u>0.295</u></b>	<b><u>1.075</u></b>	<b><u>0.070</u></b>	<b><u>0.080</u></b>	<b><u>0.200</u></b>	<b><u>0.300</u></b>

**Robot Chassis**

Part	external sources				internal sources			
	5 V USB		external Supply		Battery		3,3 V	
	Typ	Max	Typ	Max	Typ	Max	Typ	Max
2*Motor					0.100	0.600		
2*Encoder							0.050	0.010
Motor Driver								
IR Sensor							0.090	0.150
3,3 V DC/DC Converter (efficiency: 85%)					1.063	2.638		
Battery Charge Current	0.300	0.500	0.300	0.500				
<b><u>Total Robot Chassis</u></b>	<b><u>0.300</u></b>	<b><u>0.500</u></b>	<b><u>0.300</u></b>	<b><u>0.500</u></b>	<b><u>1.163</u></b>	<b><u>3.238</u></b>	<b><u>0.140</u></b>	<b><u>0.160</u></b>

**Total System Power**

	Battery		3,3 V		external Supply	
	Typ	Max	Typ	Max	Typ	Max
		<b><u>1.768</u></b>	<b><u>4.757</u></b>	<b><u>1.013</u></b>	<b><u>2.514</u></b>	<b><u>2.068</u></b>