

1 ADC : $I_{max} = 2 \text{ mA}$

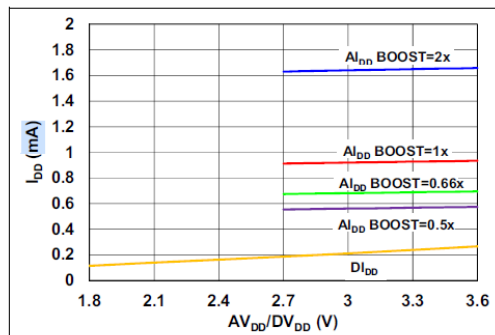


FIGURE 2-37: Current Consumption vs. AV_{DD} and DV_{DD} .

1 DAC : $I_{max} = 2.25 \text{ mA}$

POWER REQUIREMENTS					
V_{DD}	4.5	5.5	4.5	5.5	V
I_{DD} (Normal Mode) ⁴					
$V_{DD} = 4.5 \text{ V to } 5.5 \text{ V}$	1.0	1.5	1.0	1.5	mA
$V_{DD} = 4.5 \text{ V to } 5.5 \text{ V}$	1.8	2.25	1.7	2.25	mA
I_{DD} (All Power-Down Modes) ⁵					
$V_{DD} = 4.5 \text{ V to } 5.5 \text{ V}$	0.4	1	0.4	1	μA

All digital inputs at 0 or V_{DD} ,
DAC active, excludes load current
 $V_{IH} = V_{DD}$ and $V_{IL} = \text{GND}$
Internal reference off
Internal reference on
 $V_{IH} = V_{DD}$ and $V_{IL} = \text{GND}$

8 AOP : $I_{max} = 8 * 2.25 = 18 \text{ mA}$

POWER SUPPLY				
Power Supply Rejection Ratio	PSRR	$V_S = \pm 2.0 \text{ V to } \pm 18 \text{ V}, -40^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$	90	dB
Supply Current/Amplifier	I_{SY}	$V_O = 0 \text{ V}, -40^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$	2.0	mA
Supply Current/Amplifier	I_{SY}	$V_S = \pm 18 \text{ V}, -40^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$	2.25	mA

1 STM32 F411RE : $I_{max} = 100\mu\text{A} * 100 (\text{Mhz}) = 10 \text{ mA}$ pour F_{max} sans périphériques

- Power consumption
 - Run: $100 \mu\text{A}/\text{MHz}$ (peripheral off)
 - Stop (Flash in Stop mode, fast wakeup time): $42 \mu\text{A}$ Typ @ 25°C ; $65 \mu\text{A}$ max @ 25°C
 - Stop (Flash in Deep power down mode, slow wakeup time): down to $9 \mu\text{A}$ @ 25°C ; $28 \mu\text{A}$ max @ 25°C
 - Standby: $1.8 \mu\text{A}$ @ 25°C / 1.7 V without RTC; $11 \mu\text{A}$ @ 85°C @ 1.7 V
 - V_{BAT} supply for RTC: $1 \mu\text{A}$ @ 25°C
- Core: Arm[®] 32-bit Cortex[™]-M4 CPU with FPU, Adaptive real-time accelerator (ART Accelerator[™]) allowing 0-wait state execution from Flash memory, frequency up to 100 MHz , memory protection unit, $125 \text{ DMIPS}/1.25 \text{ DMIPS}/\text{MHz}$ (Dhrystone 2.1), and DSP instructions

Somme des courants max = $2 + 2.25 + 18 + 10 = 32.25 \text{ mA}$

On utilise un régulateur TLV713 Capacitor-Free, 150-mA , Low-Dropout Regulator With Foldback Current Limit for Portable Devices.

Il délivre un courant de sortie de 150 mA au maximum, ce qui permet d'alimenter les périphériques de la carte dans la limite de $150 - 32.25 = 117.75 \text{ mA}$.