Chips

1. Switch Regulator (Far-end)

1. Input:5v , 3.7V

2. Output: 2.5V (As low as possible, reduce voltage drop in linear regulator)

V_{OUT} (V)	R1 (kΩ)	R2 (kΩ)	L (μH)
3.3	450	100	2.2
2.5	320	100	2.2
1.8	200	100	2.2
1.2	100	100	2.2
1.0	66	100	2.2

3. Power Dissipation (W)

P_D	Power Dissipation (On PCB, T_A = +25℃)	SOT-23-5	0.4
		W-DFN2020-6 (Type US)	1.89

4. Frequency

1.5MHz

效率和尺寸的权衡

如果提高开关频率，则外置的电感和电容器可小型化

如果提高开关频率，则开关损耗引起效率会下降

如果提高开关频率，则纹波会变小，噪声也有降低倾向

如果提高开关频率，则瞬态响应会变佳

开关频率	～数百kHz	1MHz～
部件尺寸	大	小
效率	升上	下降
噪声	大	小
纹波	大	小
瞬态响应	慢	快

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2. LDO (Near - End)

Reference:

1. Output Voltage Noise / Power-Supply Ripple Rejection:

TPS7A470:

Output Voltage Noise:
4 μV_{RMS} (10 Hz, 100 kHz)
Power-Supply Ripple Rejection:
– 82 dB (100 Hz)
– ≥ 55 dB (10 Hz, 10 MHz)

AP2127:

High Ripple Rejection:
68dB @ f = 1kHz, 54dB @ f = 10kHz

Low Output Noise: 60μV_{RMS} @V_{OUT} = 0.8V

2. Dropout Voltage

TPS7A470:

$V_{(DO)}$	Dropout voltage	V_I = 95% $V_{O(nom)}$, I_O = 0.5 A		216	mV
		V_I = 95% $V_{O(nom)}$, I_O = 1 A		307 450	mV

AP2127:

Low Dropout Voltage: 170mV @ 300mA for V_{OUT} = 3.3V,
140mV @ 300mA for V_{OUT} = 4.75V

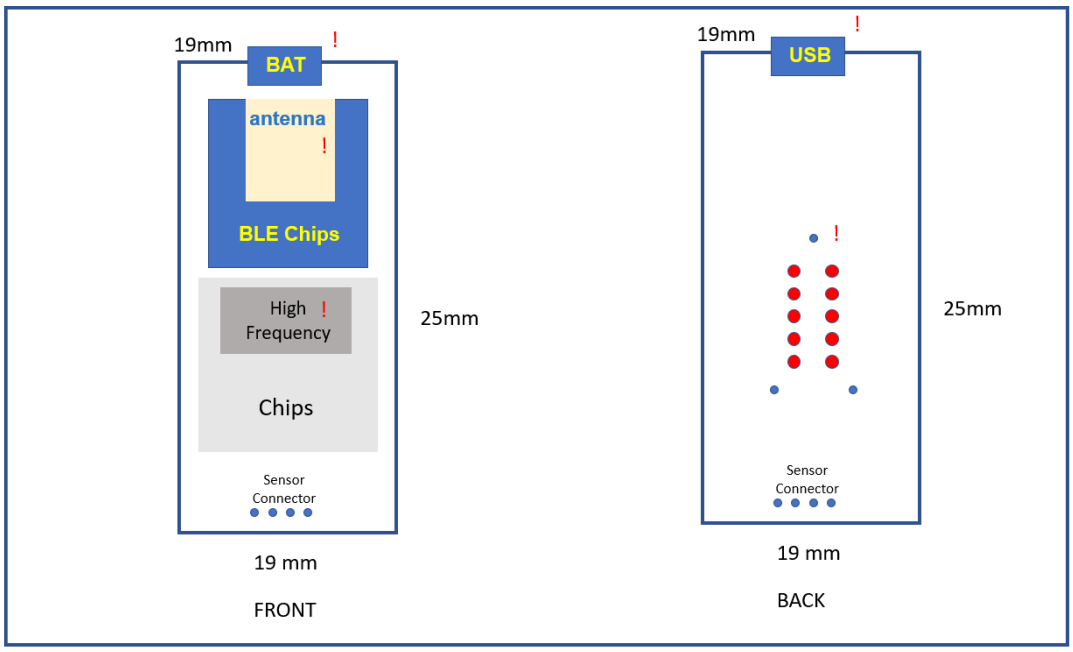
Output Current

~ 200mA

3. Analog Switch

resistance **0.4 Ω maximum on resistance at 125°C** **0.08 Ω maximum on resistance flatness at 125°C**
Speed c **35 ns switching times**

PCB Layout



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Package
http://www.tag-connect.com/