



Non-inverting op-amp level shifter (cộng không đảo)

$$V_{out} = [(OUT\_Filter * R11) + (1.65 * R10)] / (R10 + R11)$$
$$Gain = 1 + (R12 / R13)$$
$$ADC\_OUT = V_{out} * Gain$$

Ex: -3.3v → 0v → ADC\_OUT = [(-3.3\*1K)+(1.65\*2K)]/(3K) \* [1+(500/1K)] = 0v

0v → 1.65v → ADC\_OUT = [(0\*1K)+(1.65\*2K)]/(3K) \* [1+(500/1K)] = 1.65v

+3.3v → 3.3v → ADC\_OUT = [(+3.3\*1K)+(1.65\*2K)]/(3K) \* [1+(500/1K)] = 3.3v