Intermittent Technology / QuinLED.info LED power usage charts
13/05/2020 v0.65

All tests run through QuinLED v2r5p
WLED v 0.9.1 on ESP8266
See http://quinled.info/2020/03/12/digital-led-power-usage/

General information
All LED strips: 60LEDs/m and/or 300LEDs total (unless otherwise noted!)
Power injection begin, middle, end
Most strips purchased from BTF-Lighting (NOT: APA102)
All measurements taken after being set 15s

Idle Total	**5v**	**4,4 Watt**	Power supply	5v	4 Watt	QuinLED	5v	0,4 Watt
(PSU Idle + QuinLED Idle)	**12v**	**1,58 Watt**	Idle	12v	1,12 Watt	Idle	12v	0,46 Watt

Tests 300 LEDs
(Power Usage in Watt)

	5v	5v	5v	5v	12v	12v	12v
	WS2812b	WS2812b-Eco	SK6812	APA102	WS2815	BTF2815 (ucs1903)	GS8208
Notes							*interpolated from 1m/60LEDs
LEDs Off	5,90	5,00	6,30	6,43	9,70	10,30	---
LEDs Pure Red 100%	25,54	23,90	21,20	34,55	51,00	47,02	61,75
LEDs Pure Red 50%	15,10	13,50	13,20	21,40	27,90	28,03	28,50
LEDs Pure Green 100%	25,50	23,10	21,20	34,50	50,40	46,83	62,20
LEDs Pure Green 50%	15,00	13,00	13,10	21,10	27,40	27,97	28,50
LEDs Pure Blue 100%	25,50	14,20	21,20	34,00	50,00	46,55	62,85
LEDs Pure Blue 50%	15,40	9,10	13,30	20,90	28,00	27,95	28,50
LEDs RGB White 100%	65,00	46,80	49,00	88,10	48,60	46,69	61,00
LEDs RGB White 50%	33,90	24,80	26,30	45,40	27,00	28,07	27,60
LEDs (No-RGB)W White 100%	N/A	N/A	35,30	N/A	N/A	N/A	N/A
LEDs (No-RGB)W White 50%	N/A	N/A	20,10	N/A	N/A	N/A	N/A
LEDs RGB White + W 100%	N/A	N/A	76,20	N/A	N/A	N/A	N/A
LEDs RGB White + W 50%	N/A	N/A	39,40	N/A	N/A	N/A	N/A
Effect 1 (Police All) 100%	25,50	18,60	21,20	34,50	50,00	46,84	63,05
Effect 1 (Police All) 50%	15,40	11,30	13,40	20,20	28,00	28,43	28,50
Effect 2 (Loading/Default (Orange)) 100%	11,00	9,40	10,10	14,50	17,90	18,91	25,00
Effect 2 (Loading/Default (Orange)) 50%	8,20	6,90	8,00	10,00	13,10	14,81	22,00
Effect 3 (Rainbow) 100%	25,50	19,60	21,00	34,20	39,40	37,80	43,90
Effect 3 (Rainbow) 66%	18,40	13,90	15,70	25,10	27,90	28,74	29,00
Effect 3 (Rainbow) 33%	11,50	8,40	10,50	14,50	17,00	18,30	22,15

Legenda:
Highest 12v
Highest 5v
Lowest

Shots for in Video/Photo Light Level Comparison
Red 100%
Green 100%
Blue 100%
White 100%

Simple conclusions:
- ws2812b-eco uses the least amount of power

- 12v strip is easier to wire, but will use more power
  - 12v strip like the ws2815 burn off power per LED when not full white, so is very inefficient

- APA102 is by far the brightest
  - APA102 can also use the most power (but uses it for more light, unlike 12v ws2815)

- sk6812 is the only strip with dedicated white LED