

## Fundamental and harmonic suppression comparison of three generic LEDs with capacitor bypasses

Injected signal = ~ 1 ma at 500 Hz									Injected signal = ~ 1 ma at 5000 Hz								
No Bypass			6.8 uF Bypass			33 uF Bypass			No Bypass			6.8 uF Bypass			33 uF Bypass		
	Measured		Measured	Diff.		Measured	Diff.		Measured		Measured	Diff.		Measured	Diff.		
<b>Green LED</b>	F1	-45	F1	-45	0	F1	-51	-6	F1	-45	F1	-55	-10	F1	-57	-12	
	F2	-88	F2	-92	-4	F2	-113	-25	F2	-88	F2	-117	-29	F2	-125	-37	
<b>Yellow LED</b>	F1	-50	F1	-51	-1	F1	-54	-4	F1	-50	F1	-57	-7	F1	-59	-9	
	F2	-88	F2	-88	0	F2	-100	-12	F2	-86	F2	-106	-20	F2	-111	-25	
<b>Red LED</b>	F1	-51	F1	-51	0	F1	-54	-3	F1	-51	F1	-57	-6	F1	-59	-8	
	F2	-92	F2	-93	-1	F2	-105	-13	F2	-92	F2	-111	-19	F2	-117	-25	

### Key

- Best suppression of fundamental F1
- Best suppression of 2<sup>nd</sup> harmonic F2
- Greatest change in F1 level from bypass
- Greatest change in F2 level from bypass

### Notes

1. All readings with LED under test biased at 10 ma DC with IXYS integrated CCS
2. Excitation signal 1 volt P-P AC injected via 1000 ohm resistor into LED-CCS junction
3. Measurement system noise floor ~ -125 dB
4. Measured values have no absolute reference of relevance and are for comparing devices only
5. Solen film caps used for bypasses
6. Models or manufacturers of LEDs unknown
7. Equipment used: M-Audio Audiophile USB audio card and AudioRightmark software