

Preliminary Specification

CFM1-USB31-AB Single Channel Lab Grade Type A/B USB 3.1 Gen 2 Filter

Designed to reject frequencies greater than 500MHz while passing data between USB 2.0 or USB 3.0 devices. Ideal for LTE band rejection. The unit supports SS+ (10Gbps), SS (5Gbps), HS (480Mbps), FS (12Mbps) and LS (1.5Mbps).

The unit also filters USB power and supports the USB v1.2 enhanced battery charging specification. Provides BC v1.2 charging both, with or without a host connected to the upstream (Type B) port. With no host connected, the unit can function as a dedicated charging port, supporting both the BC v1.2 specification at 1.5 Amps as well as supporting proprietary charging such as Apple devices at up to 2.2 Amps.

Isolation through the filter is greater than 80 dB from 500MHz through 8GHz on all signal and power lines. The unit is compatible with Type A and Type B USB 2.0 cables as well as Type A and Type B USB 3.0/3.1 cables. Two status LEDs indicate power supply health and downstream charging port status.

Specifications:

Electrical:

Data line Balanced Impedance: 100Ω typ. Power In: 10V-15V DC, 2.0A

Power Pair:

500MHz - 8000MHz > 80dB rejection

BC v1.2 mode: up to 1.5A at 5V (always available - both with and without a host connected) Proprietary mode: up to 2.2A at 5V (available when no host is connected (dedicated charge mode))

USB 2 and USB 3 data pairs:

USB 2 pair supports HS (480Mbps), FS (12Mbps) and LS (1.5Mbps)

USB 3 pairs support SS+ (10Gbps), SS (5Gbps)

All Pairs: 500MHz - 8000MHz > 80dB rejection

Indicator LEDs:

Red: Power OK

Amber: Dedicated Charge Mode Available (no Host detected)

Physical:

Dimensions: 4.0"L x 3.25"W x 0.935"D, plus pipe

Connectors:

USB 3.1 Type A female (pipe)

USB 3.1 Type B female (non-pipe)

DC Power Jack, accept 2.1mm x 5.5mm x 9.5mm plug

Mounting: 0.65" long, 1.0"-20 threaded pipe with nut and lock washer

