



# Wireless RF Test Enclosures

## JRE USB 2-1 USB 2.0 FILTERED INTERFACE

Easily test all high speed USB 2.0 devices in an RF Shielded test environment

- Passes USB 2.0 signals while rejecting Cellular, WiFi and other signals above 700 MHz
- Single channel USB 2.0 RF filtered interface
- Over 80 db attenuation beyond 800 MHz
- Rugged machined aluminum construction
- Balanced filtering for minimal ringing

The USB 2-1 Filter consists of a USB 2.0 compliant low pass filter inside a machined aluminum housing which provides exceptional RF shielding on all data and power lines. The filter is designed to reject frequencies greater than the Cellular frequencies of 700 MHz while passing data and power between a host computer on one side and a USB device on the other.

Fully USB compliant, correct enumeration process ensures any test 'hiccups' will be properly exchanged between devices, ie: no hang-ups are undetected, a problem when using fiber optic or other such interfaces!

The USB interface consists of a balanced pair of bi-directional data lines and an unbalanced power and return pair. Standard USB Type A connectors are used allowing simple and reliable connection to your USB devices. The data line filters pass the up to 480 Mbps of USB Type 1 or 2 data while providing rejection greater than 80dB from 1 GHz through 6 GHz. The power line filters pass the DC power and return while providing rejection greater than 80dB from 400 MHz through 6 GHz. Included is a USB Type A Male to Male jumper cable.

Tight RF shielding to the enclosure wall is assured by the use of a series of 4-40 size mounting screws (template included for stand alone installation). Tests made on competitive filters utilizing a single hole mount with large securing nut were prone to leakage since the coarse thread pitch does not allow a reliable flat seat against the enclosure wall. Additionally, the single mechanical point of securing the filter is subject to loosening and even a tiny loss of tightness results in leakage. Our specifications are measured with the filter installed in an enclosure - and with the same reliability no matter how many times connectors are inserted or the filter bumped or jostled. The smaller size also allows more filters on the I/O plate.

### FEATURES & BENEFITS

- Reduces interference from Cellular, LTE and WiFi
- Multiple points of attachment secures without rotation or loosening
- Heavy duty machined aluminum case for reliable shielding
- Precision designed filtering for minimal ringing on data lines

### SPECIFICATIONS:

Data Line Balanced Impedance: 90 Ohms typ.

Typical Insertion Loss (data lines):

10 MHz 0.1 dB

250 MHz 1.5 dB

350 MHz 2.0 dB

480 MHz 3.0 dB

800 MHz – 6 GHz > 80 dB

DC Power lines: 0.1 ohms DC, -3 db @ 10 MHz,

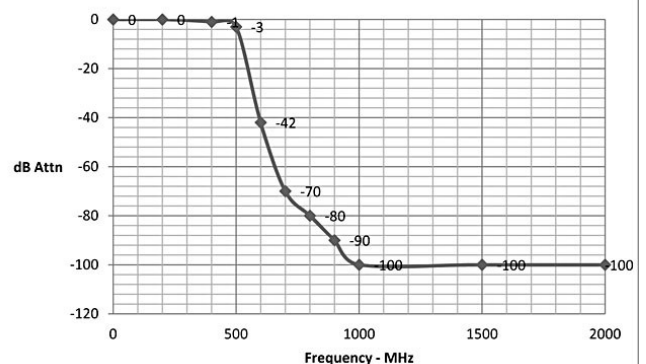
> -60 @ 100 MHz, > -80 db 400 MHz to 6 GHz

### DIMENSIONS

Outside: 2" H x 3.2" W x 0.8" D 50 x 80 x 20 mm



JRE USB 2-1 Filter



JRE USB 2-1 Filtered Interface Adapter

USB Inside: USB 2.0 Type A Female Connector

USB Outside: USB 2.0 Type A Female Connector

Power capability: USB standard or up to 50 VDC at 1 amp

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