

# STEUSB311 USB3.1 SuperSpeed USB Interface



**USB3.1 GEN-1, 5Gbps..  
-90 DB 500 MHZ TO 8 GHZ!**

- ✓ Passes up to SuperSpeed USB3.1 at 5Gbps
- ✓ Downward compatible to USB2.0 Highspeed 480Mbps, USB1.1 Fullspeed at 12Mbps, and USB Lowspeed at 1.5Mbps
- ✓ RF Isolation >90 dB from 500 MHz to 8 GHz
- ✓ Full rejection of T-Mobile's new Band-71 600MHz LTE service and other LTE bands
- ✓ DCP and CDP charging mode with auto-detect and DCP mode indicator
- ✓ Easy and convenient single hole mount for an RF tight installation on any RF chamber or screen room environment
- ✓ Solid milled port savers and strain relief prevent connector damage from robust duty cycles and cable tension abuse

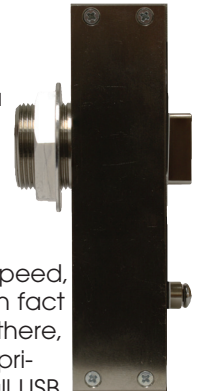
## GET AHEAD OF TECHNOLOGY TODAY!

As we described in our 4K video RF Isolated Interface, in our decades and decades of being the leading manufacturer of RF Shielded Test Enclosures, we have met every I/O challenge in the industry. Beginning with our popular USB2.0 interface, we then took on Ethernet with a vengeance with the first -90dB down Gigabit interface with full 802.3af/at PoE detection and compatibility. Then we did the impossible, and brought you the same Ethernet features at the blazing 10,000 Mbps speed of 10GbE Ethernet.

But the challenge didn't stop there. We then brought you our world famous 4K video interface giving you a video passband beyond 2160p while maintaining a minimum RF isolation of greater than -85dB down from 600 Mhz to 8 GHz! Quite the engineering feat with a good portion of the passband for such video resolution falls right in the middle of the RF reject band!

## WE DID IT AGAIN!

Just like our HDMI Interface, because of the overlapping reject and pass bands required for USB3.1 Superspeed, we based our interface on the same digital design as our 4K HDMI Interface. That wasn't new to us and in fact we merely had to effectively pass data at 5Gbps while maintaining a very wide reject band. We started there, but then addressed other application issues frequently embedded with USB3.x such as DCP, CDP, and proprietary DC charging modes. Once again, the result was an easy to install interface, fully compatible with all USB speeds, formats, and charging modes!



- ✓ Fully compatible with USB3.1 Superspeed at 5 Gbps
- ✓ RF insertion loss >90 dB from 500 MHz to 8 GHz
- ✓ Fully compatible with T-Mobile's deployment of Band-71 622 MHz LTE service
- ✓ Fully compatible with DCP, CDP, and proprietary device DC charging protocols up to 2.2A
- ✓ Automatic detection and display of DCP charging mode
- ✓ Backwards compatible to all previous and slower USB speeds, protocols, and standards
- ✓ Compact and RF-tight easy to field install single-hole form factor
- ✓ Single hole installation interchangeable with our other USB2.0 interfaces
- ✓ Integrated physical port protection

## FUTURE PROOFED!

Competitive USB filtered interfaces were often based on typical Pi-Netowrk filters with a reject band from 1 GHz to 6 GHz. Ramsey Electronics® was the first RF Isolation test company to realize that the newly deployed 4G LTE bands of some carriers were based at 700 MHz. Even our first USB2.0 and Ethernet Interfaces were designed and tested down to the 700 MHz LTE bands for future use. But it doesn't stop there.

With the ongoing refarming of UHF frequency assignments, we went one step further and lowered the reject band of our USB3.1 Superspeed interface down to 500 MHz to be ready for tomorrow! T-Mobile has already deployed their Band-71 626 MHz LTE band in the US and has promised a rapid rollout throughout the US. Not only is our USB3.1 Superspeed interface fully compatible with their new service it is designed down to 500 Mhz for the next band refarming! Yes, Ramsey Electronics® has your back today for the technologies currently in development for tomorrow!

## 90 dB ISOLATION FROM 500 MHz TO 8 GHz!

In the cellular world, with Macrosites, Microsites, Picosites, Femtosites, AWS sites, and 3rd party bi-directional range extenders all being in close proximity to your test site, overall RF isolation is paramount. Likewise, in the WiFi world, as 28 dBm wireless 802.11ac WAP's and routers are now commonplace, your test environment needs to be locked down tight at both 2.4 GHz and 5.0 GHz. Our USB3.1 Interface maintains a typical conductive insertion loss greater than 90 dB from 500 MHz to 8 GHz. Beyond conductive insertion loss, radiated RF isolation is maintained well over 100 dB down by our design, bonding, and mounting standards used throughout all of our interfaces.

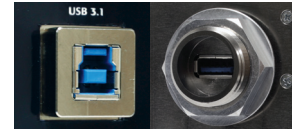
Like our other matching interfaces, our USB3.1 Interface is designed inside a finely milled block of aluminum that is machined to a fine thread single hole mount. To be upward/downward field compatible (subject to space availability) with all of our USB interfaces and connectors, we utilized our standard 1" hole. With the provided flange nut, lockwasher, and mesh EMI gaskets, the interface is 100% bonded to your mounting surface, without question.

### BUILT-IN PORT SAVERS!



Solid milled Strain Relief!

To protect the integral USB3 connectors from lateral stress damage we added integral solid milled tension surrounds on both the internal "A" and external "B" connectors. In addition, the outside of the unit includes a solid milled strain relief post to clamp or cable-tie your test cable to protect the USB3 "B" connector from accidental cable over-tensions. This puts an end to broken I/O ports and connectors! We even include TWO double shielded USB3 A/B cables for your test applications!



Solid milled USB3 port protection!

### UNIVERSAL USB BATTERY CHARGING COMPATIBLE!

Once again, to future-proof the USB3.1 Interface, we designed it to automatically switch between DCP or CDP as determined by the connections detected. DCP when not passing data between host and client, implementing either BC V1.2 or proprietary charging as appropriate. CDP, implementing the BC V1.2 charging standard when a host is connected.

Fully compatible with BC v1.2 and proprietary DCP protocols, the interface will automatically detect a USB data host connection. When a host is detected, the interface will follow BC v1.2 standards and provide 5VDC at 1.5A max to the device, with or without data present. When a host is not detected, the interface DCP LED illuminates, and handshakes with the device to determine its charging requirements or limitations.

If a high current charging mode is detected (Apple proprietary, DCP, etc.), the interface automatically provides that current up to a maximum of 3A. If no high current charging mode is detected at the device, standard 5VDC at 1.5A is provided available to the device per BC v1.2 standards.

### RF ISOLATION... CAN ONLY BE AS EFFECTIVE AS YOUR WORST I/O!

If you're using 100pF filtered DB9's for your Ethernet feedthroughs, the effective RF isolation will be less than 43 dB.

Likewise if you're using 10pF filtered DB9's for your USB applications, the effective isolation will be less than 9dB! In today's crowded RF spectrum, with high power WAPs literally everywhere, that just doesn't cut it.

Check out our full line of high performance RF isolated interfaces, where we typically keep you >85-90 dB down, from USB3.1 to 4K video, and everywhere in-between!

#### SPECIFICATIONS

##### GENERAL

Product Part Number:	STEUSB311
UPC	871183005379
Outside Dimensions:	4.0"H x 3.25"W x 1.1"D (101.6mmH x 82.55mmW x 27.94mmD)
Weight:	1.6 lbs (.73kg) with nut, and RF gaskets
Construction:	Milled aluminum, AMS-C-26074 Class-4 Electroless Nickel plated
Mounting:	Single 1.0" OD hole with provided EMI collar gaskets, and 1.0 -20 UNF nut (.610"/15.49mm max panel thickness)
External Connection:	USB3 Type-B shielded female, protected and strain relieved
Internal Connection:	USB3 Type-A shielded female, protected and strain relieved
USB Cables Provided:	2ea 7' double shielded USB3.1 A/B cable
Power Supply Provided:	12VDC, 2A, 90-260VAC, 50/60Hz, global blades

##### TECHNICAL

USB Standard:	USB 3.1 Gen-1
Data Modes:	Superspeed, 5 Gbps (USB3.1 Gen-1) Highspeed, 480 Mbps (USB2.0) Fastspeed, 12 Mbps (USB1.1) Lowspeed, 1.5 Mbps (USB)
Charging Standard:	BC v1.2
Charging Modes:	5VDC, 1.5A (BC v1.2) 5VDC, 2.2A (3A max) auto detect (DCP, CDP, Apple, etc)
DCP Mode Indicator:	Amber LED
Device Power Indicator:	Red LED
RF Insertion Loss, Vbus:	>90 dB, 500 MHz - 8 GHz
RF Insertion Loss, Data:	>90 dB, 500 MHz - 8 GHz
Availability:	In-stock for immediate delivery
Available Versions:	STE RF Test Enclosure installed option Individual stand-alone accessory for customer installation OEM bulk (Contact Ramsey Electronics®)

Note: Specifications are average achieved and certified final test measurement values. Subject to change and revisions. Not responsible for typographical errors and omissions.



USB3.1 SuperSpeed    10GbE PoE Ethernet    10GbE 8-Line Data & Ethernet    Gigabit PoE Ethernet    Gigabit 8-Line Data & Ethernet



HDMI 4K Video    USB2.0 High Speed    CE Global Power Interface    Universal 20-Line Power & Control



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STEUSB311\_Rev-B