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## Ruggedized Android Tablets and Handhelds for SMBs

By Carla Schroder | Published on: 17-Mar-14

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The biggest money-pit for a small business is downtime. Every minute wasted coddling fragile hardware or waiting for a repair costs real money. When you're [shopping for an Android tablet](#) or phone, consider one of the options from this roundup of ruggedized Android mobile devices. They've all been designed to survive the rigors of mobile life.

"Ruggedized" is one of those squishy marketing words, so you need to match your business's requirements with device specifications such as impact-resistant, scratch-resistant, temperature and humidity tolerance, and water-proof or water-resistant.

All of the companies in our roundup claim the IP65/IP68 and MIL-STD-810G ratings. The IP, or **Ingress Protection Ratings**, standards use easily understandable number codes to measure the degree of protection against intrusions like dust, water, and solid objects. IP65 means a device is sealed against dust, and proofed against water jets sprayed from a nozzle 6.3mm in diameter. An IP68 rating means a device is dustproof and waterproof, and will survive immersion at depths beyond one meter.

The **MIL-STD-810G** is a United States military standard for lab-testing that measures environmental durability for the expected uses of a device. It's not as precise as the IP codes because it's up to the manufacturer to design and run its own testing. If you want to know exactly what the scores mean for anything you're thinking about buying, then you need to get the testing methodology and results from the manufacturer.

You'll find dozens of good, ruggedized Android devices on the market. Our roundup includes four representative samples to give you an idea of features and pricing.

### Rugged Android Mobile Devices

#### 1. Rugged Android by SDG Systems

SDG Systems offers a full line of rugged Android phones and tablets. The company claims device durability ranging from drops of four feet to being run over by a Jeep. The family of [Trimble Juno T41 Android phones](#) is the company's toughest Android smartphone.



**Figure 1:**The Trimble Juno T41 family of rugged Android phones.

The Trimble Juno T41 comes loaded with more features than you'll find on a typical smartphone. It's designed to travel all over the world and supports just about every type of existing connectivity. It's a GSM (Global System for Mobile Communications) phone, so you can go anywhere and connect to any GSM network by plugging in a different SIM (Subscriber Identity Module) card. GSM is the most common type of cell network worldwide. CDMA, the other major cell phone network type, is found mainly in the U.S. Verizon and Sprint are CDMA networks, while AT&T and T-Mobile are GSM networks.

The Juno T41 supports Wi-Fi b/g/n, WWAN (wireless wide-area network), Bluetooth, and 3.75G, which is the current fastest 3G protocol for faster data transfer. It's hard to pin down exactly how fast, and it's an asymmetrical protocol with faster download than upload speeds. Expect around 2 megabits per second uploads and 8 Mbps downloads. The T41 also includes a GPS receiver, a USB 2.0 port, a port for an enhanced GPS antenna, a barcode scanner option, and an optional add-on battery pack. It also sports a sunlight-readable screen protected by Gorilla Glass.

In short, the Trimble Juno T41 is a serious little work beast. Of course all this goodness comes at a price—the base model is about \$1,400, and the top-of-the-line model with all features is nearly \$2,900. It comes with a two-year warranty, and the company has actual service centers for making repairs.

SDG Systems offers less-expensive rugged Android phones and also 7-inch and 10-inch Android tablets. The BP50 and BP70 tablets are dust-proof and waterproof, and claim 1.5 meter drop resistance. Designed for retail environments, these Android tablets feature sunlight-readable screens, Gorilla Glass, magnetic-stripe and smart-card reader, scanner, 3D display, 4G, Wi-Fi, USB, extra-loud speakers, and many more features.

## 2. Panasonic Toughpad

Panasonic has been in the ruggedized computer business for many years, and the company's Toughbooks are the best ruggedized laptops. But Panasonic also makes convertible tablets, handhelds, and **tablets**. The Toughpad JT-B1 is a compact 7-inch Android tablet loaded with features: user-replaceable battery, a sunlight-readable no-glare screen, magnesium chassis, and all the usual connectivity options: 4G, Bluetooth, Wi-Fi, USB, and **Near-Field Communication** (NFC), which means you can use it as a walkie-talkie. These start at about \$1,200.



**Figure 2: The Panasonic Toughpad Android tablet.**

The Toughpad FZ-A1 is a 10-inch tablet that includes a hardware encryption module, which improves performance by taking the load of encrypting and de-encrypting away from the host processor. Panasonic claims that this is the only Android tablet that meets the **FIPS 140-2 Level 2 security standard**. Both tablets come with a 3-year warranty. The base price starts around \$1,250.

## 3. Kyocera Torque Smartphone

Android phone and tablets from both SDG and Panasonic are expensive, and you certainly get a lot for your money. But what if you need something more affordable? The **Kyocera Torque** is a 4G Sprint Android phone that you can get for as little as a penny, with a two-year Sprint contract. Without a contract it'll set you back \$329.

It's impact-resistant waterproof, dustproof, and it handles temperature extremes. You might **enjoy this amusing video** documenting its survival at the hands of Bear Gryll in a waterpark. It's a little bulkier than a typical phone, with a nice grippy exterior and raised bezel for extra screen protection.



**Figure 3: Kyocera Torque**

The Torque doesn't have a speaker, but rather what Kyocera calls "smart sonic receiver technology." It turns sound into vibrations that are carried to your eardrum by contact with your head, which supposedly delivers clearer sound in noisy environments. If this means people have to hold the device to their ears instead of at arm's length and shouting in its general direction, then I'm all for it.

#### RangerX Rugged Android Tablet

I like the **RangerX rugged 10-inch Android tablet** because of the name. Oh all right, *and* because it has a lot of features other rugged tablets don't have: 192GB maximum storage, Android 4.2.2, and optional **HDMI** and Gigabit Ethernet. It's one of the lightest rugged tablets at just 2.2 pounds. It comes with only a one-year warranty, which seems a little odd because Xplore Technology has been making good rugged portable computers for almost fifteen years, so its well-established.



**Figure 4: Xplore Technology's RangerX Android tablet.**

RangerX includes all the usual features present in the other tablets: sunlight-readable screen, optional 4G, Bluetooth, Wi-Fi, GPS, two cameras, speaker and microphone, and all the goodies that come with Android. The price comes in around \$1,400, depending on options.

Compared to standard smartphones and tables, all of these rugged Android devices carry pretty stiff price tags. But consider what you get: they all come with a lot more features than typical consumer-grade devices, and they offer a longer lifespan. Equally important when calculating your ROI: remember to factor in the cost of business interruptions that come from using cheaper portables that can't stand up to hard use.

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