

High-Tech Toys 2019

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23&25-Apr-2019

Agenda

- Present toys & gadgets
 - No particular selection
 - No particular order
- Share experiences
- Jump in with comments or questions

High-Tech Toy

- Defined
 - Novelty to others
 - *Necessity* to us
 - Requires all spare cash
- Overwhelming
 - More than can be presented or purchased



Buyer Beware

- Lily Camera 2014
- Following drone
- GPS wristband
- Great video
- Fake footage
- Bankrupt 2017



Tech Trends

Intelligent



AI Foundations



Intelligent Apps
and Analytics



Intelligent Things

Tech Trends

Digital



Digital Twins



Cloud to the Edge



Conversational
Platform



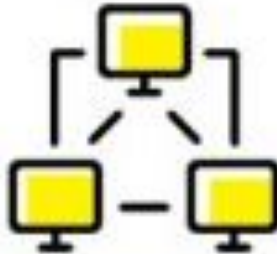
Immersive
Experience

Tech Trends

Mesh



Blockchain



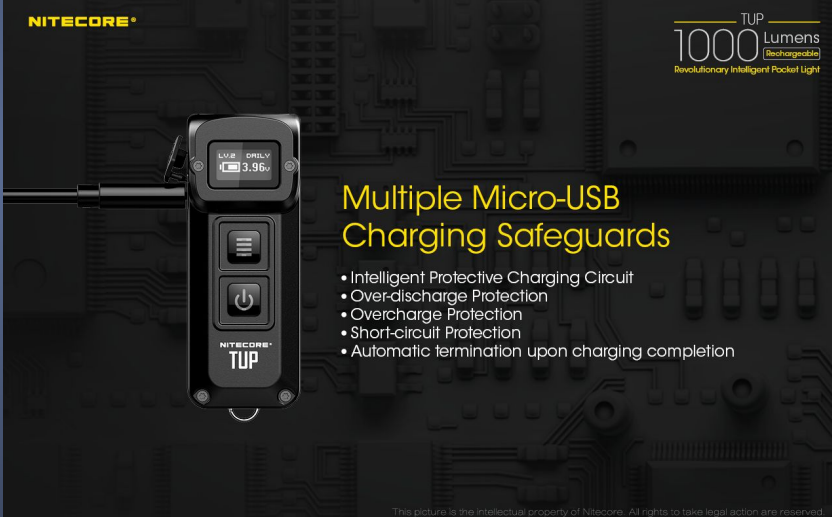
Event-Driven



Continuous Adaptive
Risk and Trust

Gadget of the Year

- Nitecore TUP 1000
- 1-1000-lumens
- Constant-current
- USB charging
- \$61



The image shows a black Nitecore TUP 1000 Lumens Rechargeable Pocket Light against a dark background with a circuit board pattern. The device has a digital display at the top showing 'LOW BATTERY' and '3.96V'. Below the display are three buttons: a menu button, a power button, and a button with a battery icon. The Nitecore logo and 'TUP' are printed at the bottom of the device. A USB cable is plugged into the top of the device.

NITECORE®

TUP
1000 Lumens
Rechargeable
Revolutionary Intelligent Pocket Light

Multiple Micro-USB Charging Safeguards

- Intelligent Protective Charging Circuit
- Over-discharge Protection
- Overcharge Protection
- Short-circuit Protection
- Automatic termination upon charging completion

This picture is the intellectual property of Nitecore. All rights to take legal action are reserved.

mySKY™

Year
2008

- Celestial navigator
- Aims to object
- Identifies in sky
- Science video content
- Mouse to the real world
- \$299



My EDC Flashlight

- ThorFire TG06S
- Dual fuel
 - Lithium 14500
 - Alkaline/Li AA
- 500-Lumen (3v)
- \$17 (\$10 on sale)

5 Modes for Different Daily Use



	High	Mid	Low	Moonlight	Strobe
AA	150 Lumen	80 Lumen	20 Lumen	0.5 Lumen	150 Lumen
14500	500Lumen	200 Lumen	50 Lumen	1 Lumen	500Lumen

Top Drawer Flashlight

- FURY
- INTELLIBEAM™
- Auto-dimming
- Dual fuel
 - Lithium 18650
 - CR123A
- 1500-lumens
- \$216



Flashlight

Year
2008

DUAL SWITCH TECHNOLOGY

The world's first flashlight with on/off activation from either the side or tail switch

ADVANCED LED TECHNOLOGY

A brilliant, 130 lumen LED exceeding the output of most tactical lights

MOMENTARY PULSE

Rapidly pulsing the light disorients suspects without revealing the officer's position

OPTIMIZED LAW ENFORCEMENT BEAM

A focused primary beam penetrates darkness up to 120 yards, a secondary 12 foot pool illuminates the immediate periphery

SERRATED LENS SHROUD

Notches alert the user if the light is activated while standing lens down on a surface

COOLING FINS

Machined aluminum thermal sink draws heat away from the lamp module

GRENADE GRIP

No-slip pattern for confidence in wet conditions

RECHARGEABLE

Low maintenance lithium ion cells are resistant to extreme temperatures



Apps of the Year

- Free mobile apps
 - eNIFOG
 - eAUXFOG
- Hardcopy at HRO
 - \$16



Memory

Year
2002

- CF Cards \$0.339/MB
- SDRAM \$0.098/MB
- Memory Stick \$0.624/MB
- Secure Digital \$0.568/MB
- SmartMedia \$0.436/MB
- Microdrive 1GB \$223



USB Drive

- 5x 1-GB
- \$13
- \$0.002598/MB
- 1/240th 2002 price



Chromebook

- Google Pixelbook
 - i7, 16-GB RAM, 512-GB
- Runs Android, too
- \$1321
- (Most < \$300)



Lantern

- 400 Lumen
- Remote Phosphor LEDs
- 4D batteries
- 1000-hr night light
- \$30



Lantern

Year
2008

- Wind-up
- 4-hours runtime
- 5 LEDs
- Wall mount



Honorable Mention

- UST 60-Day LED Lantern
- 508 Lumens on High Setting
- 60 Days Low Mode
- Glows in dark
- 6 “D” batteries
- \$54



Generators

Year
2002

- Weight loss
- Inverted outputs
- CPU controlled throttle
- \$0.53/watt
(\$0.58/watt last year)



Power

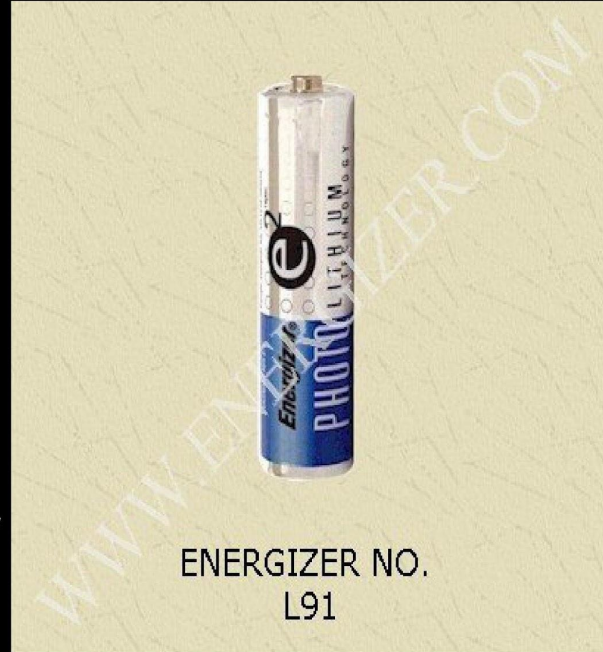
- Goal Zero Yeti 3000
- 3024-Wh/280-Ah
- MPPT included
- WiFi remote port control
- \$3000



Batteries

Year
2002

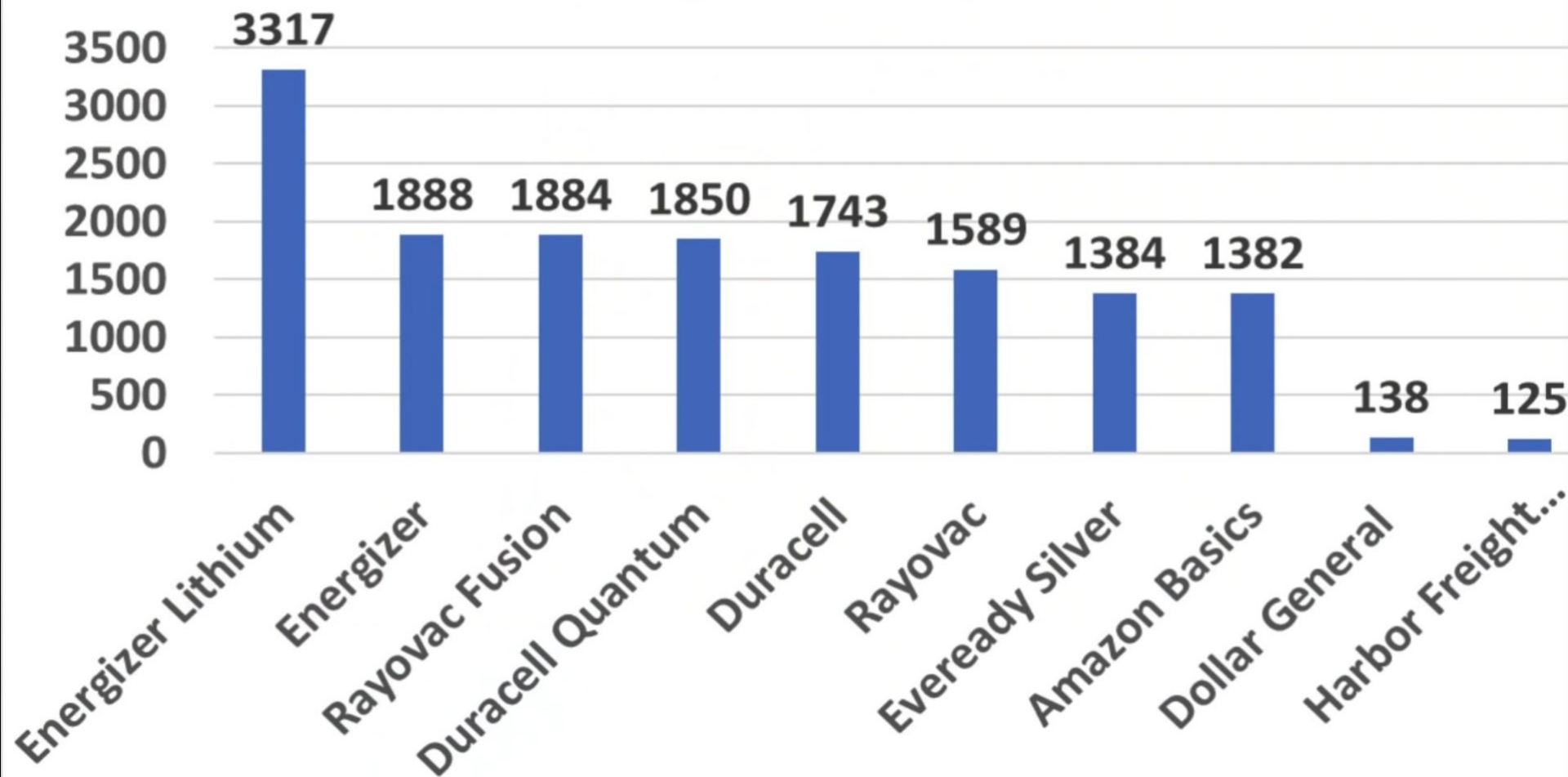
- Premium Alkaline AA
 - Now 3.123-Amp-Hr
 - (2.8-Amp-Hr last year)
 - Surpasses 2.9 Lithium
 - (2.7-Amp-Hr last year)
- D-size Alkaline
 - 18.9-Amp-Hr
- Rechargeable
 - Lithium polymer
 - Highest energy density
 - Ni-MH very popular



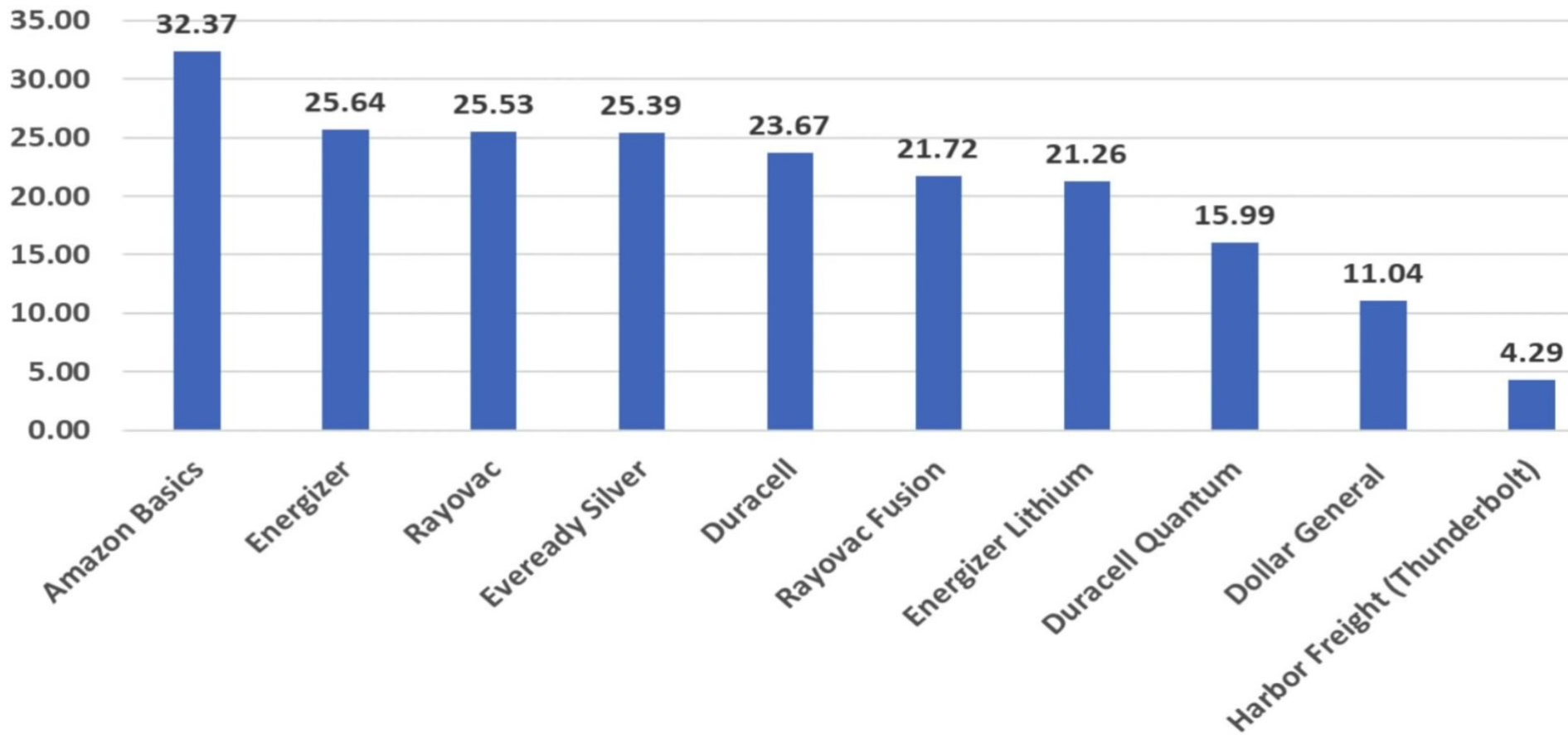
Batteries

- AA test charts follow
- Capacity tests
 - 300-mAh
 - 100-mAh
- Cost
 - How many mAh per penny?

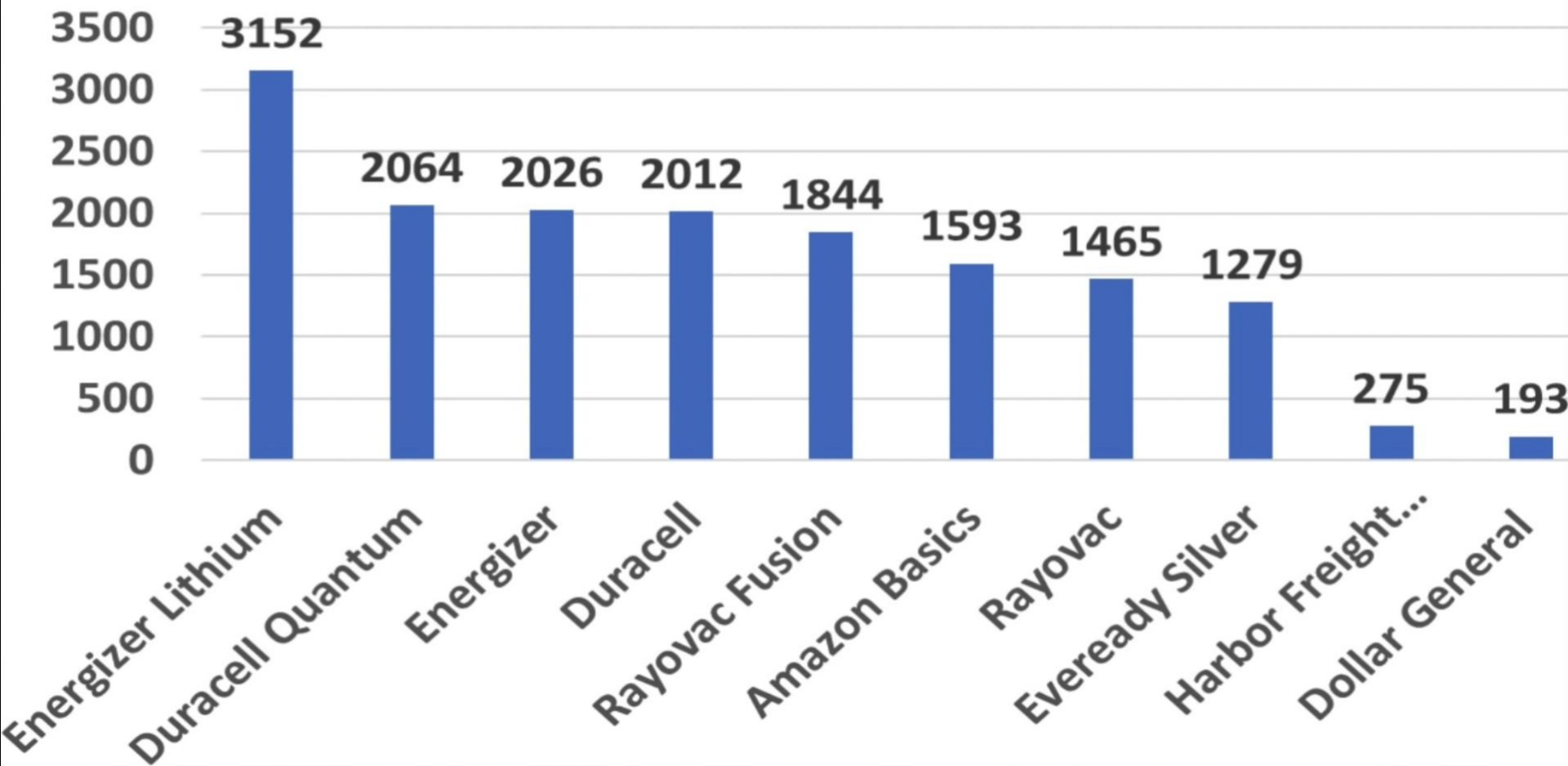
300 MAH Discharge Test



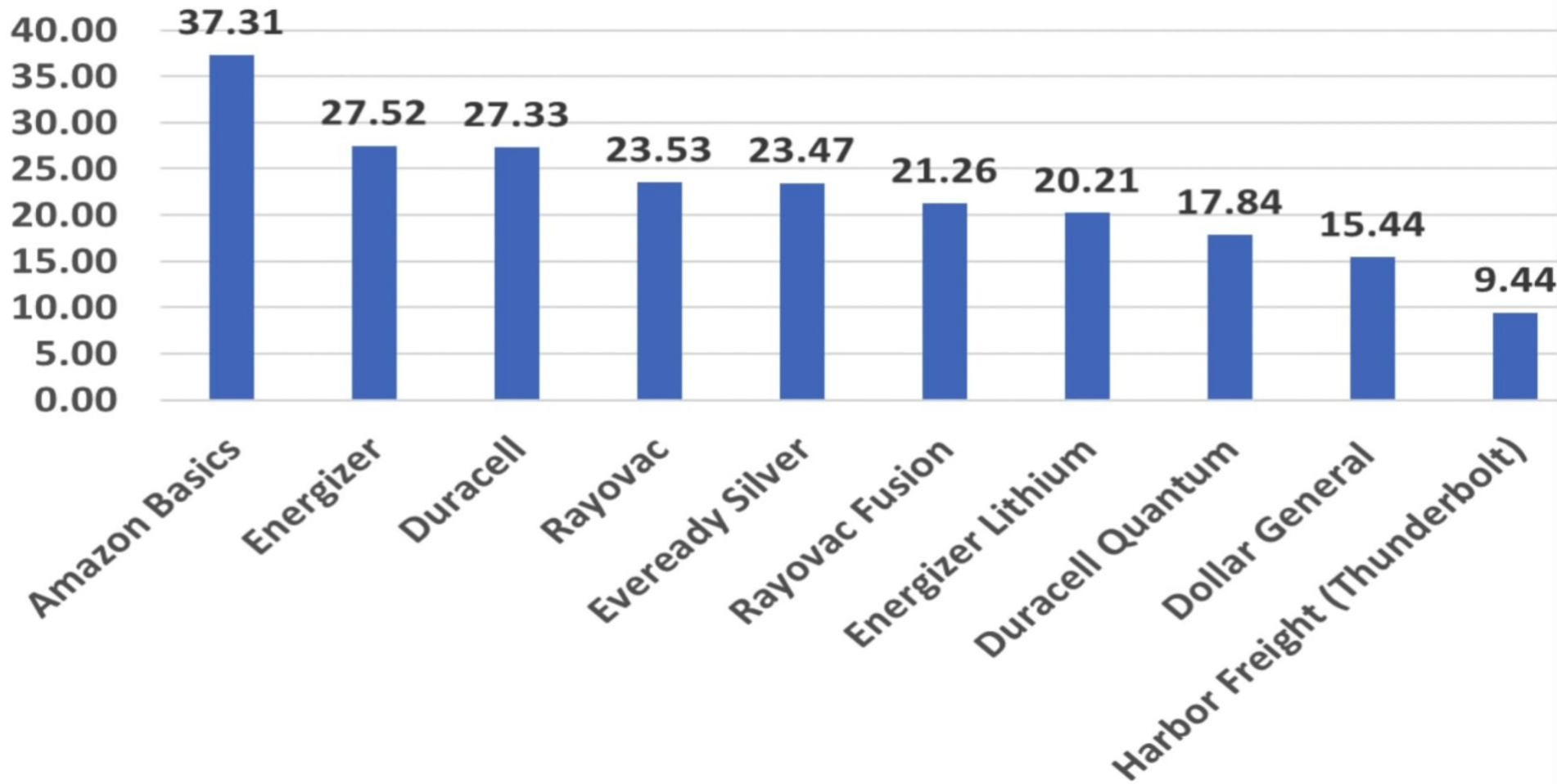
MAH per penny (300 MAH discharge rate) Amazon basics has the best value



100 MAH Discharge Test



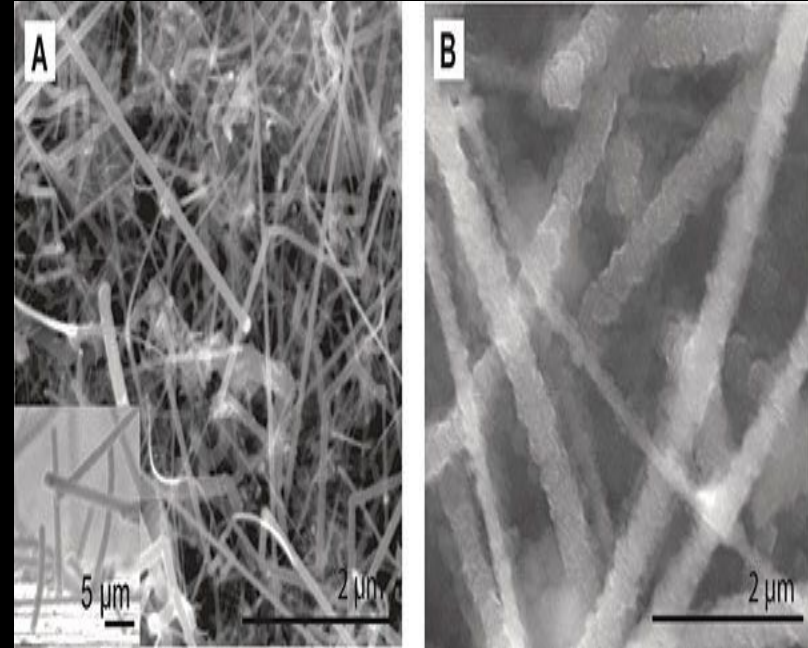
MAH per penny (100 MAH discharge rate)



Rechargeable Batteries

Year
2008

- Nanowire lithium
 - Silicon nanowires hold more lithium
- 10x existing charge
- 20-day cellphone capacity



Backcountry Comms

- Garmin inReach Mini
- Not PLB
- 4-oz
- Pairs smartphone
- Fees (\$12-100/mo)
- \$350



Dual-Band HT

Year
2008

- ICOM IC-91AD
- VHF
- UHF
- D-STAR digital
- PC remote control
- \$450



Personal Locator

- Ocean Signal PLB1
- Registered PLB
- COSPAS/SARSAT is very reliable
- No messaging
- No fees
- \$280 + batt repl



MURS Radio

Year
2002

- Where is MURS?
 - 5-Ch
 - 150-MHz
- 2nd year MIA

Hot Tub Hammock

- Gas water heater, water pump, battery, strainer, treatment pellets & fondue pot
- 158 backers pledged \$77,706



PDA

Year
2002

- Handspring Treo 90 \$299
- COMPAQ IPAQ H3950 \$599
- RIM 957 Blackberry \$479
- Gartner projects 15.5 million PDAs will be shipped in 2002
 - Up from 2001 sales of 13 million units
 - Far cry from the 2000 shipment growth of 114 percent
- Palm held 57% of the PDA operating system market in 2001
 - Pocket PC at 18.5%



Mobile Phones

Year
2002

- 3G digital GPRS
 - Combined phone and organizer
 - Microsoft Word and Excel
 - Internet Browser
 - Windows Media Player
 - Instant Messaging
- Satellite
 - Iridium
 - Concentrating on maritime & aviation
 - Globalstar
 - Finished 1st year of continuous service
 - \$0.17/minute package rates



Cellphone

Year
2008

- iPhone
- iPod
- Camera (2-MP)
- Wi-Fi
- AT&T crippled
- Great display



Best Phone

- Samsung Galaxy S9 Plus
- 3500-mAh
- Android 8
- Excellent low-light cameras
- \$425



Emergency Tool

Year
2008

- BodyGard tool
- Crank power
- Blinking light
- Radio
- Siren
- Pill box
- \$22



Best Laptop

- Huawei MateBook X Pro
- Intel Core i5 - i7
 - 8th gen
- 13.9-inch 3K
 - Odd 3,000 x 2,080
- \$925



Blu-ray beats HD-DVD

Year
2008

- Goldmund Eidos 20 BD
- AC-Curator power
- Mechanical grounding
- Magnetic damper
- Less picture jitter?
- \$16K
 - *Sixteen thousand and 00/100 dollars*



Best 4K TV

- Samsung QE65Q9FN
- Full Array Local Dimming (FALD)
- QLED Quantum Dots
- Great HDR
 - Upscaling
- \$2998



TV

Year
2002

- Sampo 42" Plasma display
- Fan-less video monitor
- Built-in speakers and amplifier
 - Features BBE® and SRS® Surround Sound processing
- Slim 3.74" design
- \$3700



Game Console

- PS4 Pro
- First 4K HDR Sony console
- No Ultra HD Blu-ray?
- Best online deals
- \$399



Fitness Tracker

- Moov Now
- NO
 - Heart rate
 - Waterseals
- YES
 - Cheap \$58
 - 6-mo battery
 - Steps, sleep, fitness, running technique



Camera

Year
2008

- Nikon Coolpix S51c
- 8-MP digital sensor
- Wireless to Flickr
- E-mail built-in



Camera

- Nikon Z6
- 24.5-MP
- Shooting: 12-fps
- Movies: 4K@30p
- 273-point autofocus
- \$1997



Tablet

- iPad Pro 11
- Laptop power
- Pencil clips on
 - Finally!
- Missing 3.5mm jack
- \$794



Watch

- Samsung Galaxy Watch
- Tizen OS
- Battery: 4-days on 46-mm
- \$208



VR Headset

- HTC Vive
- Partner: Valve
- 1080p screen per eye
 - 110-degree FOV
- Play space
13x13-feet
- \$499



Noise-Cancelling Headphones

- Sony WH-1000XM3
- 30-h battery
- USB-C charging
- \$294



Alarm! Clock

Year
2008

- Jig-saw alarm
- Throws pieces in the air & sounds off
- The "Wakee" assembles puzzle to turn it off
- \$97



sUAS (Drones)

- Models

- DJI Phantom 4 Pro \$1499
- Autel Robotics EVO \$999
- DJI Mavic 2 Zoom \$1249
- Parrot Anafi \$699
- DJI Mavic Air \$799
- DJI Spark \$499
- Yuneec Typhoon H Pro \$1899
- Ryze Tello \$99

- FAA 14 CFR §107 regulations

- Racing

- Toys

- Cameras

- Small v. large

- Load-carrying

- Tethered

Test Instrument

- Impulse 7000DP Defibrillator/Pace maker Tester
- AED compatibility
- 12-lead ECG simulation
- \$6000



Knife Contents

Year
2008

- 2.5" 60% Serrated locking blade
- Nail file, nail cleaner
- Corkscrew
- Adjustable pliers with wire crimper and cutter
- Removable screwdriver bit adapter
- 2.5" Blade for Official World Scout Knife
- Spring-loaded, locking needle-nose pliers with wire cutter
- Removable screwdriver bit holder
- Phillips head screwdriver bit 0
- Phillips head screwdriver bit 1
- Phillips head screwdriver bit 2
- Flat head screwdriver bit 0.5mm x 3.5mm
- Flat head screwdriver bit 0.6mm x 4.0mm
- Flat head screwdriver bit 1.0mm x 6.5mm
- Magnetized recessed bit holder
- Double-cut wood saw with ruler (inch & cm)
- Bike chain rivet setter, removable 5mm allen wrench, screwdriver for slotted and philips head screws
- Removable tool for adjusting bike spokes, 10mm hexagonal key for nuts
- Removable 4mm curved allen wrench with philips head screwdriver
- Removable 10mm hexagonal key
- Patented locking philips head screwdriver
- Universal wrench
- 2.4" Springless scissors with serrated, self-sharpening design
- 1.65" Clip point utility blade
- Philips head screwdriver
- 2.5" Clip point blade
- Golf club face cleaner
- 2.4" Round tip blade
- Patented locking screwdriver, cap lifter, can opener

- Mineral crystal magnifier with precision screwdriver
- Compass, straight edge, ruler (in./cm)
- Telescopic pointer
- Fish scaler, hook disgorging, line guide
- Shortix laboratory key
- Micro tool holder
- Micro tool adapter
- Micro scraper - straight
- Micro scraper - curved
- Laser pointer with 300 ft. range
- Metal saw, metal file
- Flashlight
- Micro tool holder
- Phillips head screwdriver 1.5mm
- Screwdriver 1.2mm
- Screwdriver .8mm
- Fine fork for watch spring bars
- Reamer
- Pin punch 1.2mm
- Pin punch .8mm
- Round needle file
- Removable tool holder with expandable receptacle
- Removable tool holder
- Special self-centering screwdriver for gunsights
- Flat philips head screwdriver
- Chisel-point reamer
- Mineral crystal magnifier, fork for watch spring bars, small ruler
- Extension tool
- Spring-loaded, locking flat nose-nose pliers with wire cutter
- Removable screwdriver bit holder
- Phillips head screwdriver bit 0
- Phillips head screwdriver bit 1
- Phillips head screwdriver bit 2
- Flat head screwdriver bit 0.5mm x 3.5mm
- Flat head screwdriver bit 0.6mm x 4.0mm
- Flat head screwdriver bit 1.0mm x 6.5mm
- Magnetized recessed bit holder
- Tire tread gauge

Solar Power

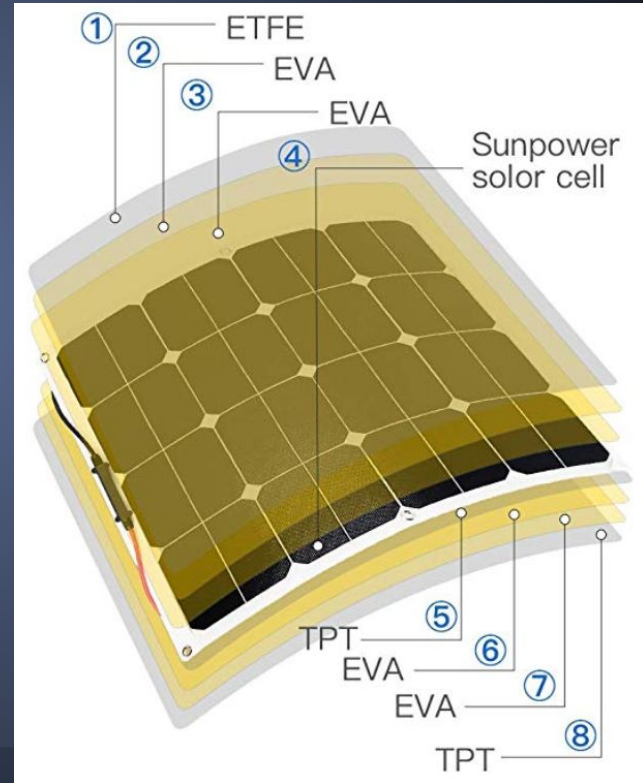
Year
2002

- 75-Watts
- \$359
- 4.78/watt
 - (\$4.65/watt last year)



Flexible Solar

- 50-watt
- 18-volt
- ETFE Surface
- Bends 260-deg
- \$90
- \$1.80/watt
 - 38% 2002 price



Q&A

- Questions
- Answers
- Comments
- Wrap Up

