8devices

Company and products

Who are we?

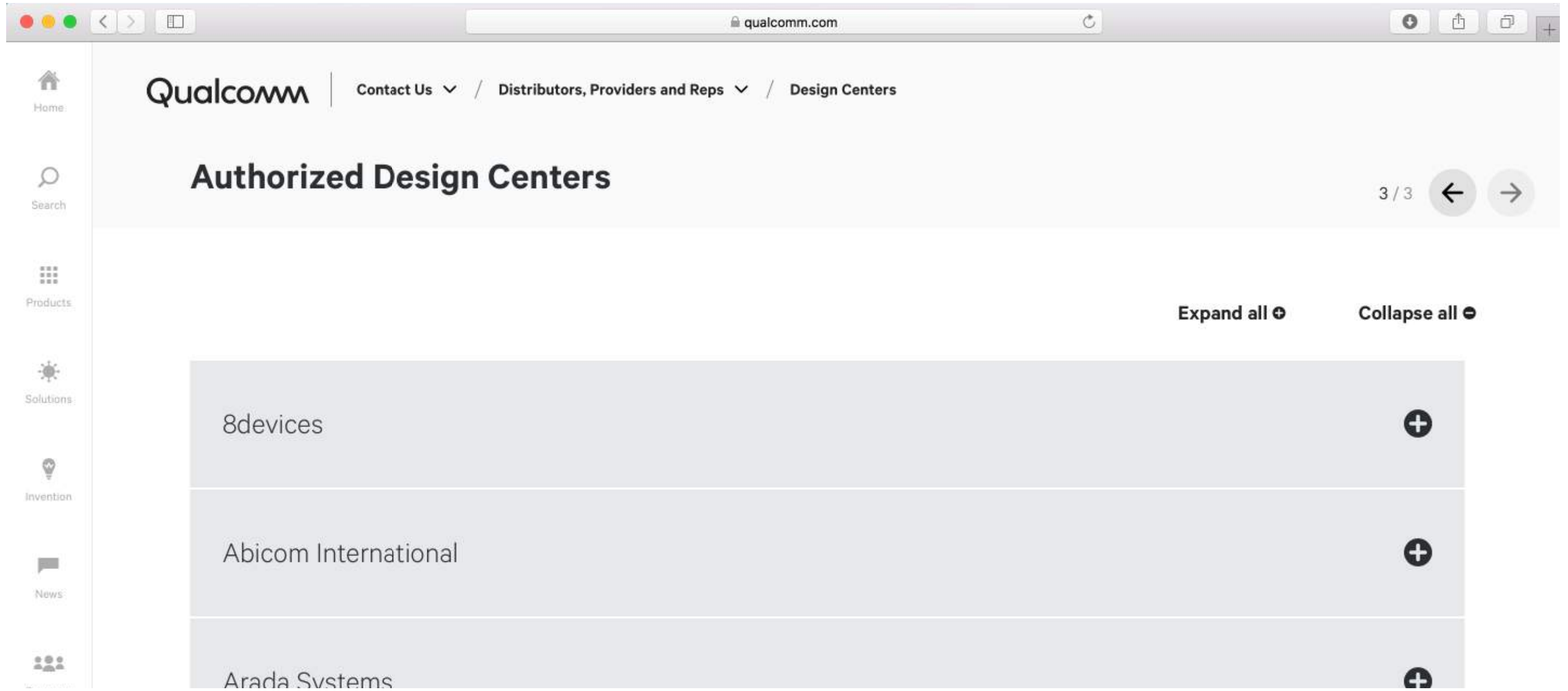
8devices products and services enabling our customers to build connected products by absorbing complexity of RF and digital design, costly type approvals and shortening time to market. Lovering entrance barriers for low volume products and providing high quality economically viable solutions for high volume products in the IoT era.

About us

- Established in 2011
- Headquarters in Vilnius, Lithuania
- Private company
- 50+ employees

Qualcomm ADC

- Authorised design centre of Qualcomm : https://www.qualcomm.com/contact/distributors/design-centers



Core competences

- Hardware development
- Embedded software development
- Prototype production
- Small to mid batch production
- Certification
- Product/ project management

Embedded software development

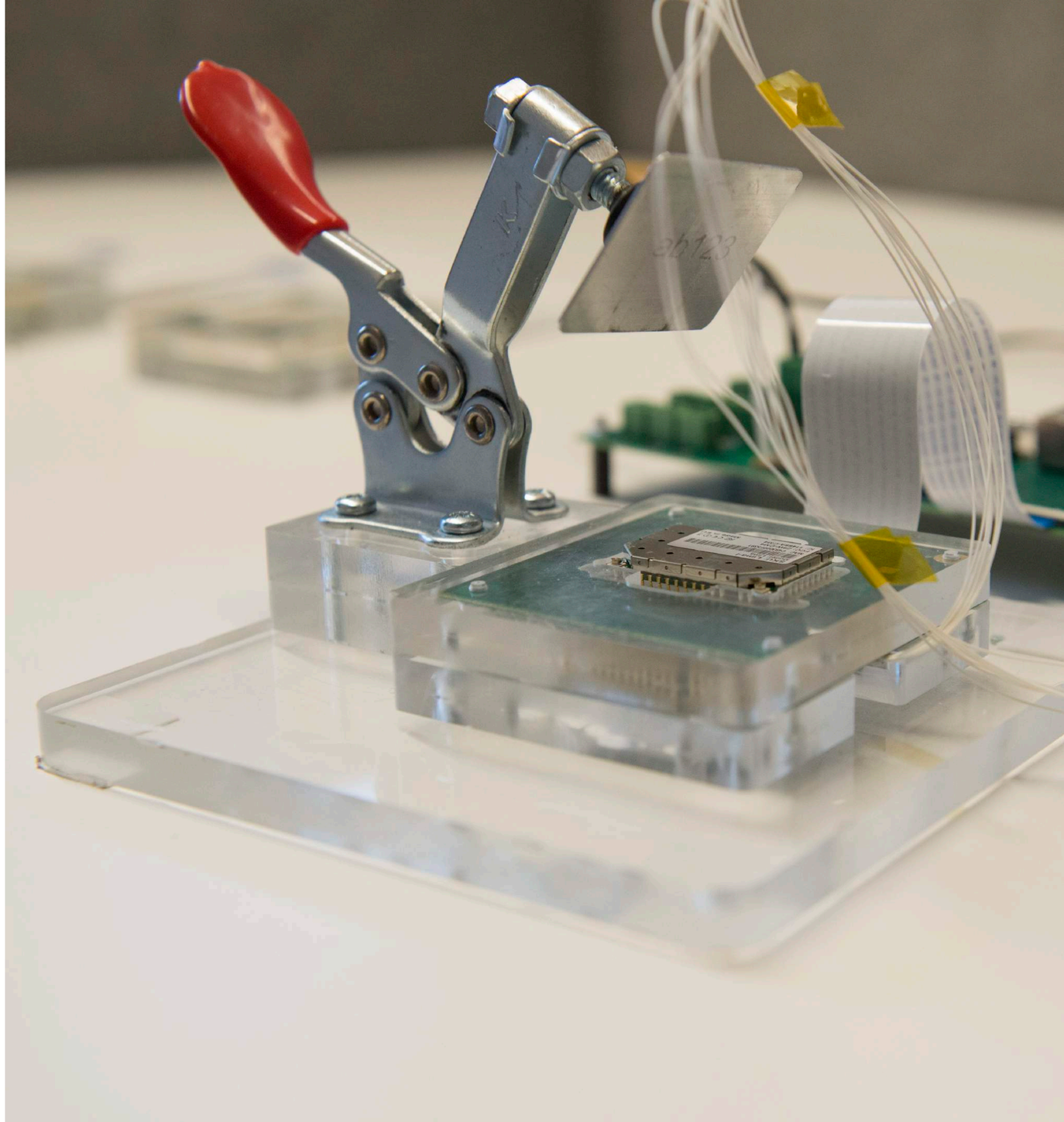
- Expertise:
  - Kernel
  - Drivers
  - Applications
  - GUI
  - OpenWRT/ LEDE

Hardware development

- RF, digital design and layout
- PCB prototyping
- Mechanical design
- Mechanical parts prototyping
- Antenna design
- Antenna prototyping
- Product packing design

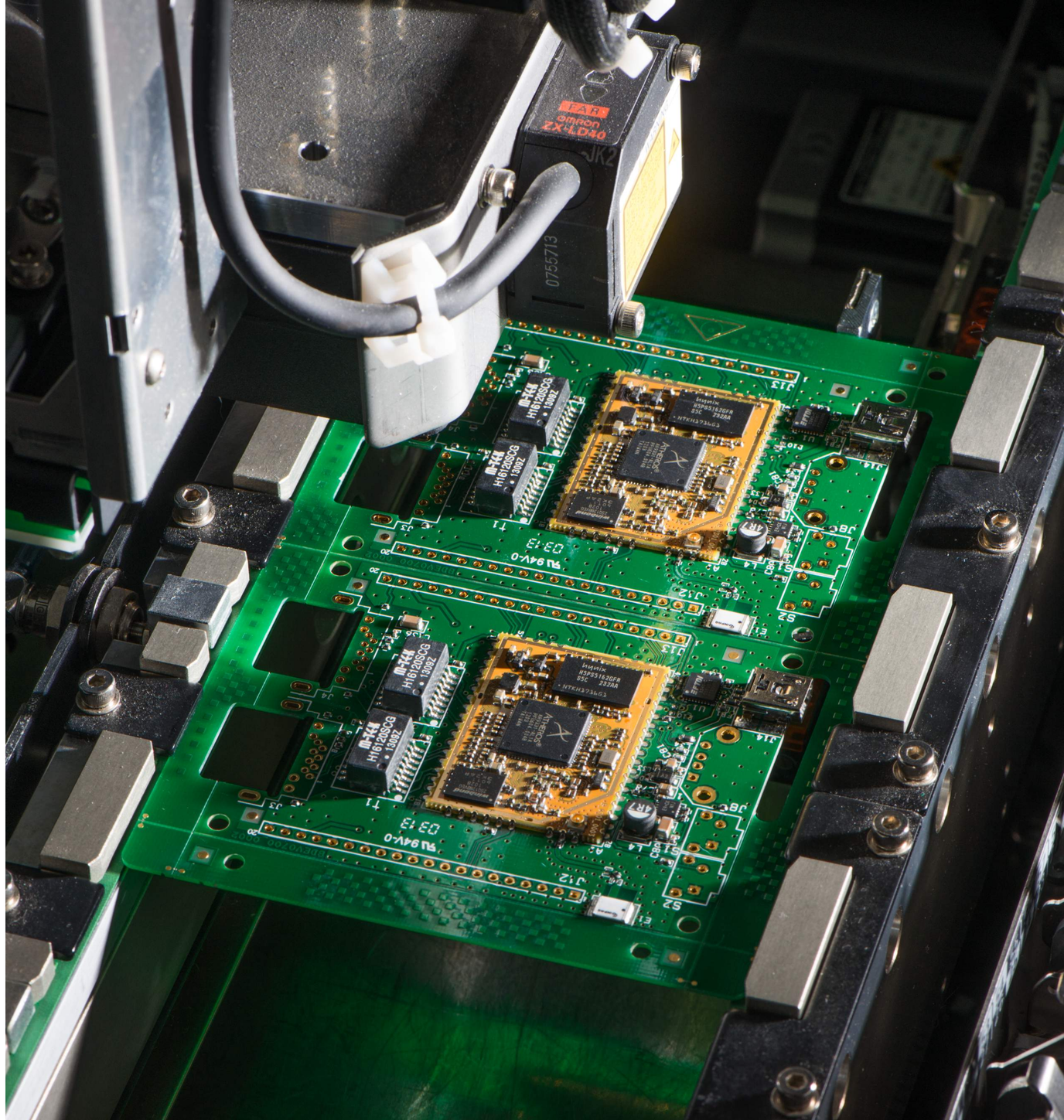
Testing

- RF calibration
- EMC pre-scans
- CE, FCC, IC, Telec testing
- Temperature and ageing testing
- Pre and post production testing
- Software testing and automation



Hardware design and integration services

- We are providing hardware design services helping our customers to integrate our modules in to their products
- We are providing custom hardware design services for large scale and quantity products



Production

- Prototyping services
- Small - medium size electronics production services

Main contract manufacturer

- Founded in 1988
- Public company in Taiwan stock exchange
- 2000+ employees
- 18 SMT lines
- 1.22bn USD revenue in 2017

Accton

Making Partnership Work

Own manufacturing facility

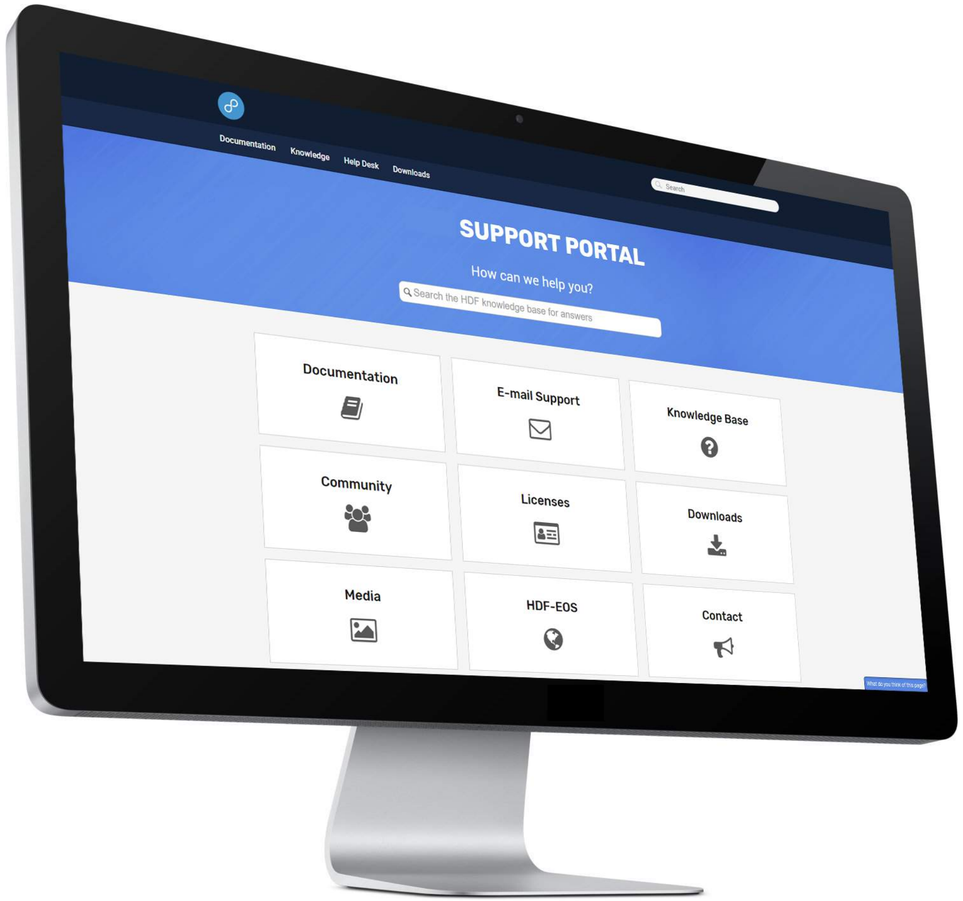
- Good for small to mid-size production

Resources and support

- Wiki
- Forum
- E-mail: support@8devices.com
- Repository (binary packages)
- Github (source code)

Dedicated support portal

- New knowledge-base (wiki)
- Dedicated accounts
- Support issue history
- Growing FAQ section



New knowledge-base

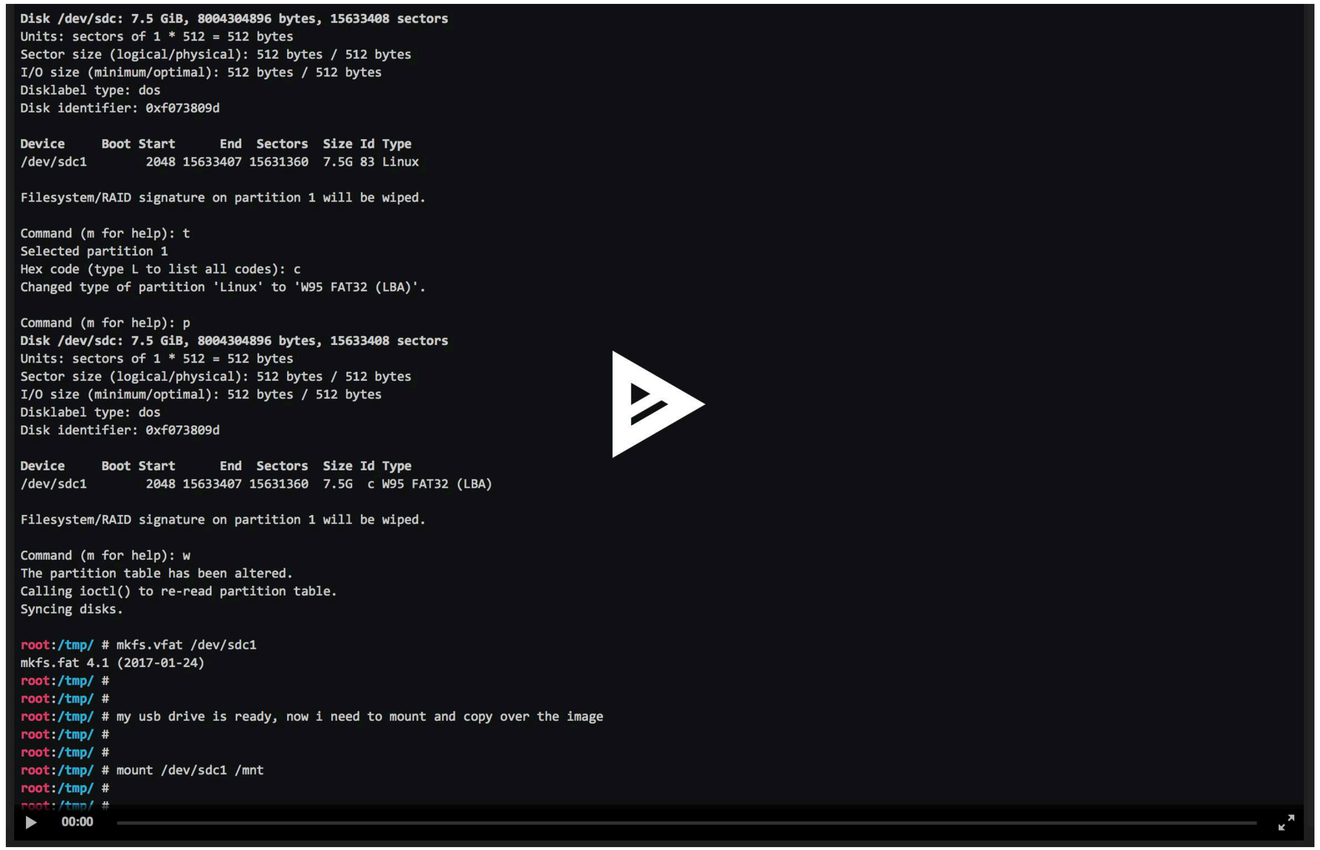
- Prepared by experienced company
- Wiki format
- Individual page for each product
- Software and hardware information
- Pre-built software images

Topics:

- *Pre-boot tier* - setting up the required build environment
- *Boot tier* - transfer and boot instructions generated in first tier
- *Post-boot tier* - board specific features and usage of various distribution-specific user space tools

QSG videos

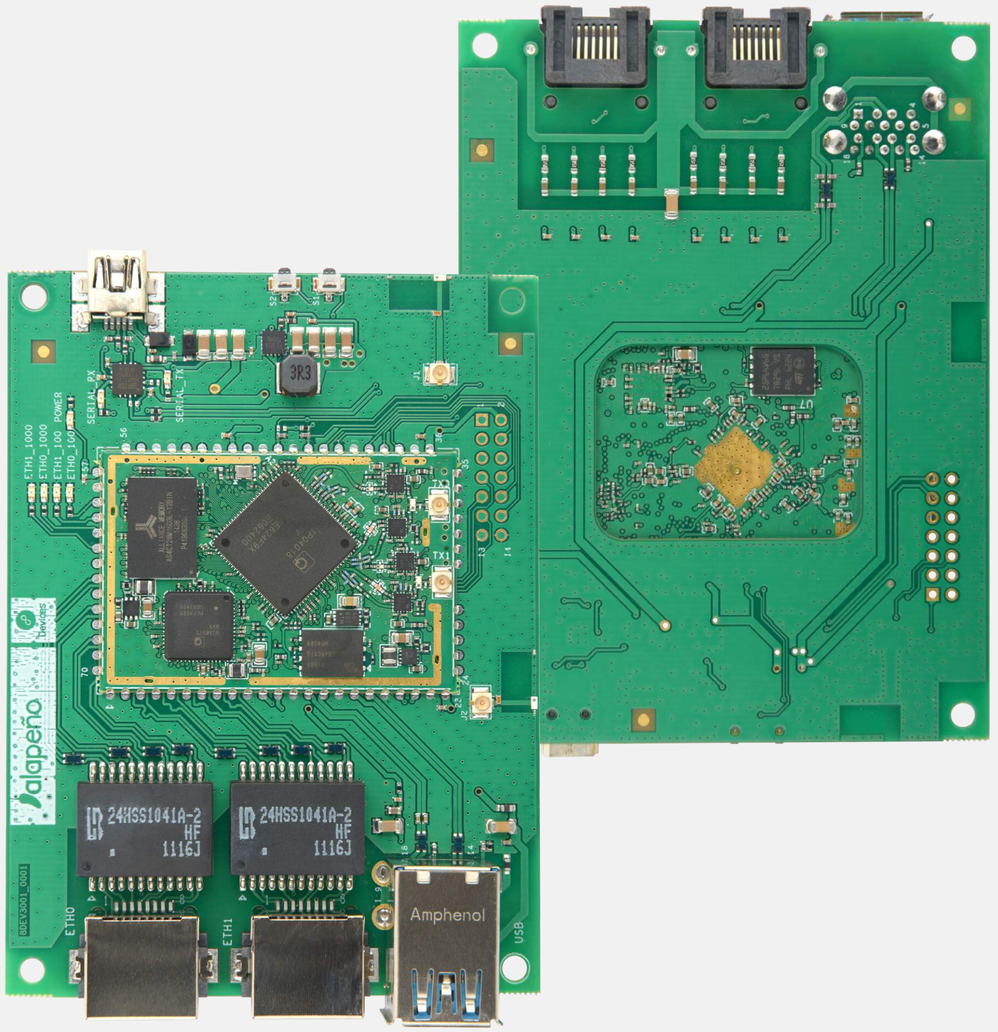
- Based on ASCIINEMA
- Recording of terminal window
- Copy and paste
- Easy to embed



Jalapeño

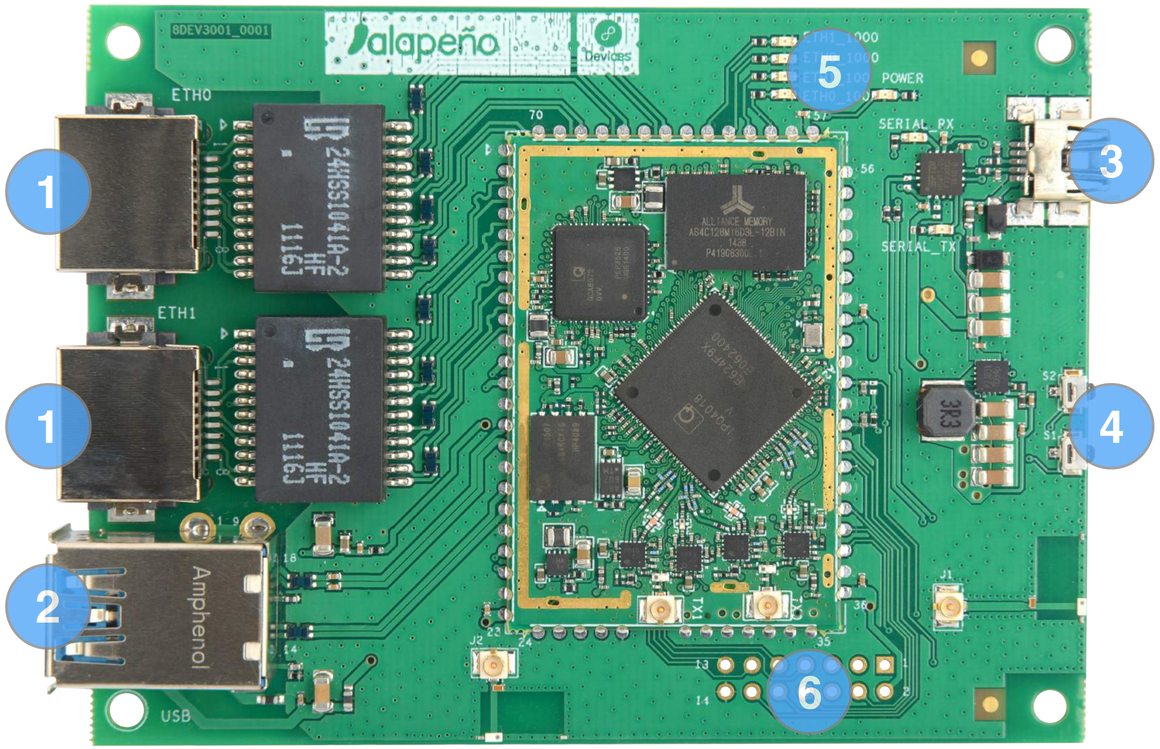
Jalapeño

- QCA4018 SoC based dual side module
- Dual concurrent radio with Wave2 11ac
- 23 dBm output power (per radio)
- 256 MB DDR3 RAM
- 128 MB NAND and 8 MB NOR flash
- 2 x 1000 Base-T interfaces
- High speed interfaces: USB 3.0
- Other interfaces: USB 2.0, TDM, I^2S, SPI, UART, GPIO
- 3.3V DC power
- Size 32 by 47 mm
- 2 x U.FL/ IPEX external antenna connectors



Jalapeño highlights

- Powerful quad core 700MHz CPU Cortex A7 CPU with NEON (high-performance media engine)
- Hardware NAT engine
- USB3, USB2, I2S, UART, GPIO
- Security: Crypto engine, Secure boot, Trust Zone: PRNG
- Two 802.11ac (Wave 2) radios for simultaneous 2.4 and 5 GHz (2x2) operation with dedicated CPU cores (Tensilica)
- 20, 40, 80 MHz channel bandwidth
- 867 Mbps datarate on 5 GHz and 300 Mbps datarate on 2 GHz



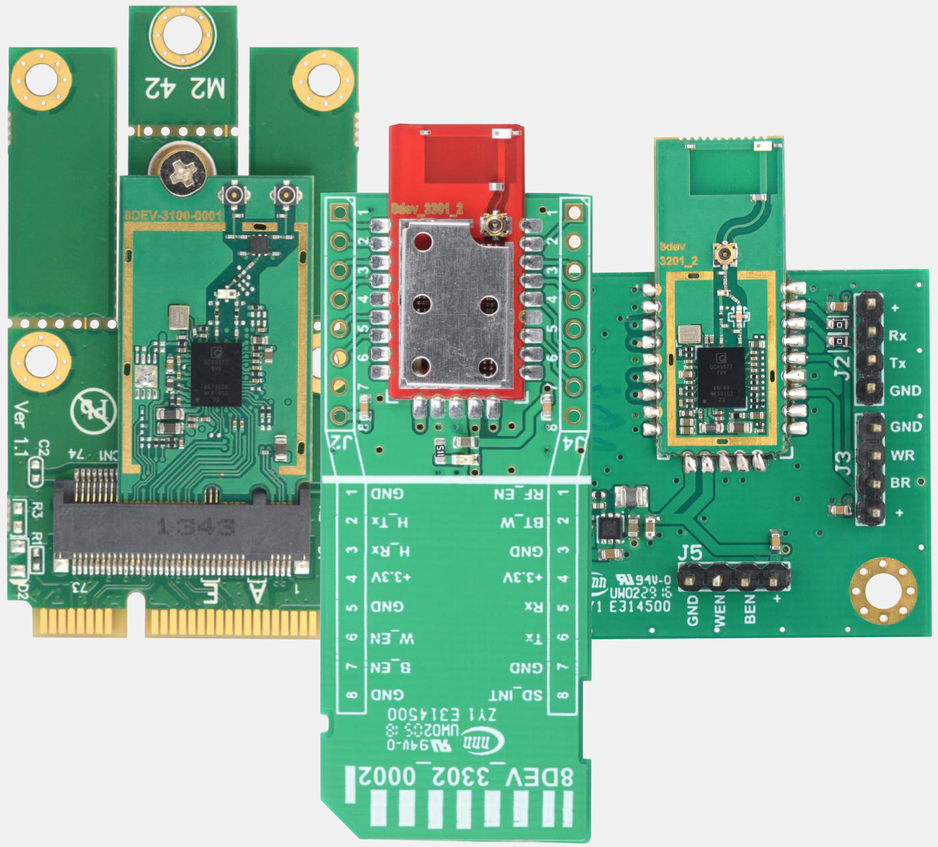
1 - 2 x 1000 BaseT Ethernet ports
2 - 2 x USB A sockets (2.0 and 3.0)
3 - Mini-USB A socket (console + power)

4 - Buttons (reset and user - GPIO connected)
5 - External LEDs
6 - 2.45 mm pitch prototyping area holes

Mighty beans

Mighty beans

- Based on QCA 9337 chipset
- Dual radio design + bluetooth
- 18 dBm output power on Wi-Fi radio (MCS 7)
- Surface mount dual side modules
- External and integrated antenna options
- BLUE bean - (Wi-Fi) USB + (BT) USB
- RED bean - (Wi-Fi) SDIO 3.0 + (BT) UART
- BLACK bean - (Wi-FI) PCIe + (BT) USB
- 3.3V DC power



Mighty bean highlights

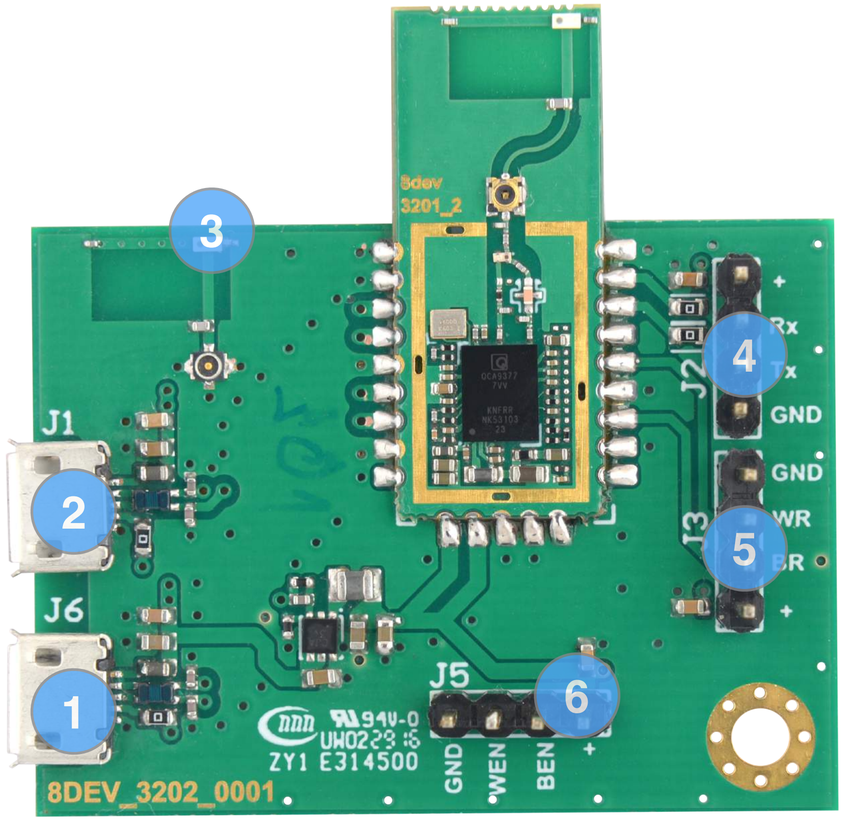
- Daul band 802.11 a/b/g/n/ac 1x1 radio
- MU-MIMO support
- 433 Mbps datarate
- 20, 40, 80 MHz channel bandwidth
- Bluetooth v4.2 (low energy)
- Integrated and external antenna versions
- Linux and Windows 10 drivers available
- Sizes: (no antenna) - 17 x 12 mm, with antenna - 24 x 12 mm for USB and SDIO

Mighty bean main applications

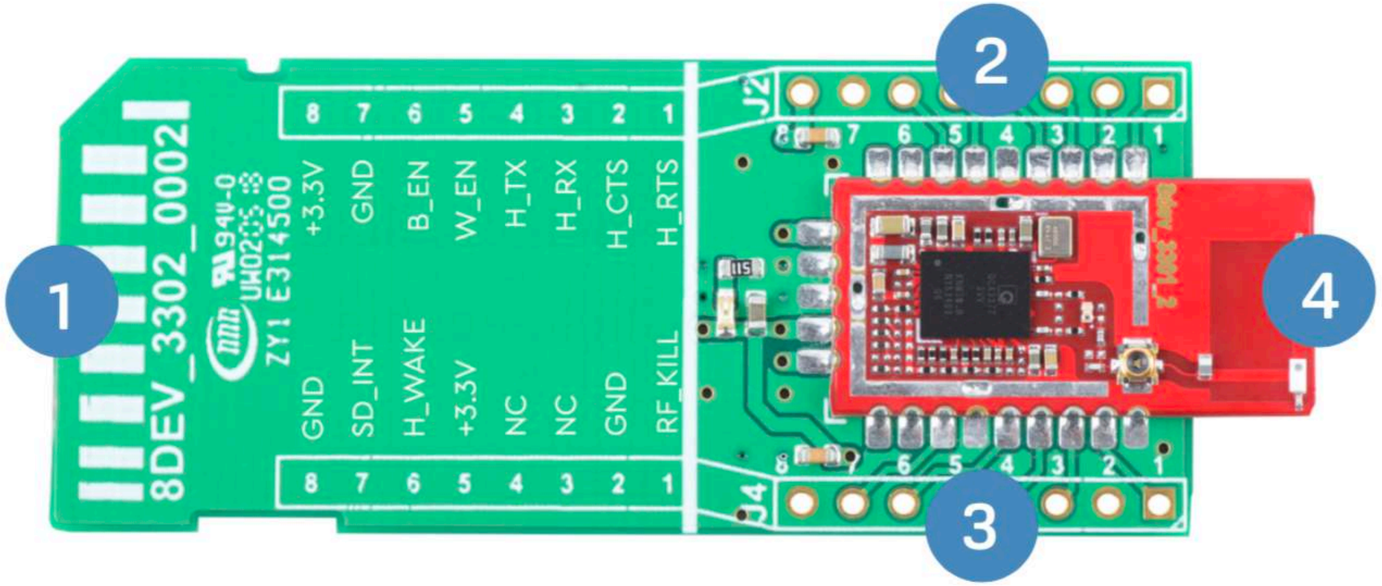
- Internet of things (IoT)
- Smart appliances
- Wireless gaming
- Home automation
- Industrial automation
- Infotainment

Power consumption

Testing scenario	Power, W
Booting	0.05
Idle	0.1
2G 802.11N	0.15
2G 802.11AC	0.2
5G 802.11N	0.2
5G 802.11AC	0.26
Bluetooth	0.12



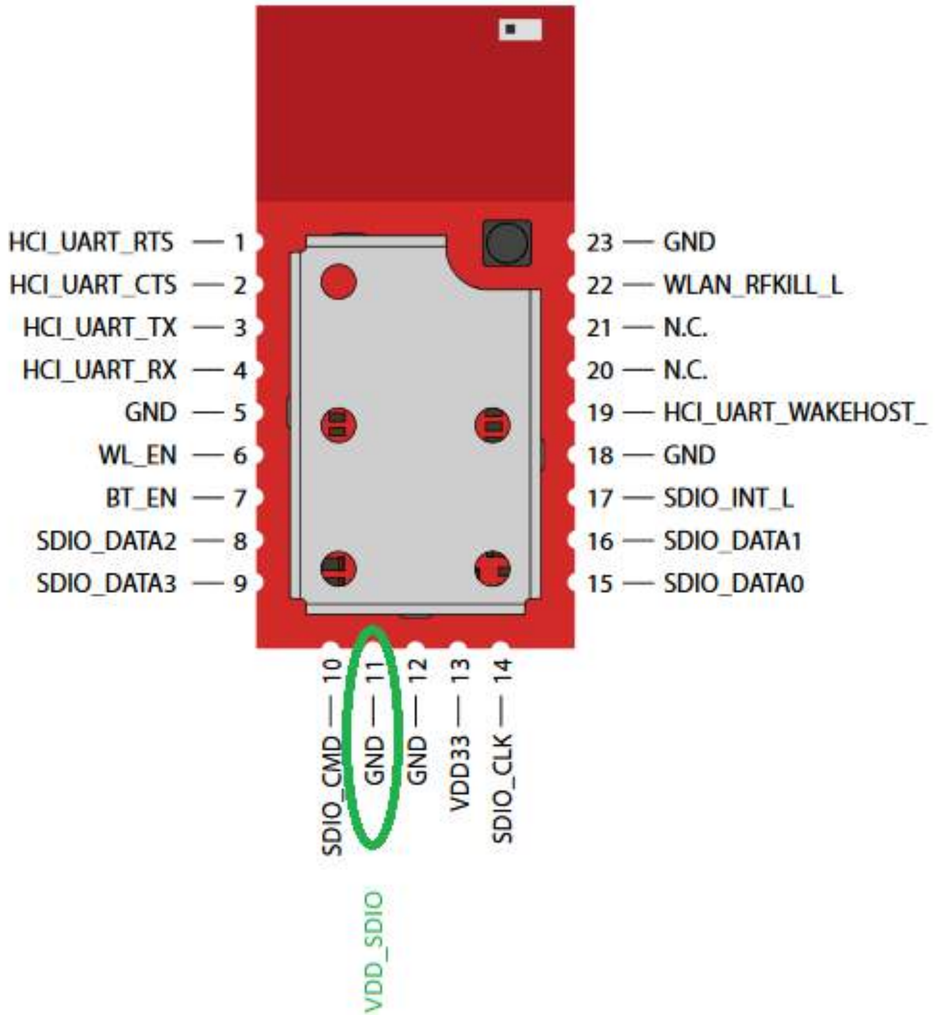
1 - Wi-Fi
2 - Bluetooth
3 - Dual-band antenna
4 - UART serial
5 - Turn of WLAN and BT
6 - WLAN/ BT enable



1 - SDIO interface
2, 3 - Module breakout for accessing HCI UART and other functionality
4 - RED bean module

RED bean update

- Current version is OK and supports SDIO 2.0 speeds
- Issue wit SDIO 3.0 speed support due to lack of 1.8V power input
- No 11 GND pin was replaced with an additional I/O for 1.8 or 3.3V
- Building new samples for testing now
- Heading to do certification for BLUE bean and RED bean



Thank You