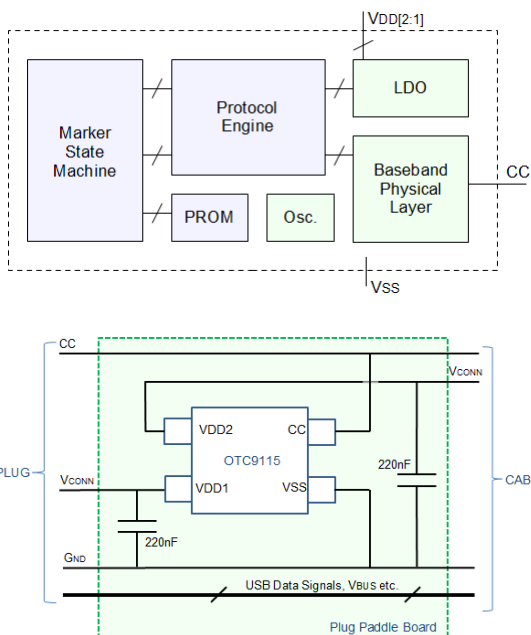


Features

- USB-C E-marker chip
- USB-IF Certified PD
- Occupies < 1 sq. mm board area
- WLCSP 4 Pins, 0.8x0.8 mm @0.4mm Pitch
- DFN and SOT23 packages also available
- Power of <5mW @ 5V, less than 20% of competing solutions
- Requires 4 SMTs
- 5V Supply from Vbus in the cable



Recommended Applications

- USB-C active cables
- Power “bricks” for USB-C devices

iND80001 – “Lodestar”

USB-C E-marker Cable Chip for USB PD 2.0

Device Description

iND80001 is a cable marker chip for active USB-C cables, supporting USB intelligent PD (Power Delivery) 2.0 standard at up to 100W. The device integrates the marker state machine, protocol engine, LDO regulator and baseband physical layer into the smallest device available.

Lodestar supports USB-C cables offering power delivery of up to 100W, along with USB 3.1 Gen 2 speeds of 10Gbps and is fully compliant to the USB PD 2.0 spec. An integrated PROM can be programmed through the vendor message protocol and supports custom vendor requirements.

Proven, mature solution, based on an existing port chip and demonstrated at USB IOP in 2014. The integrated state machine has been verified across multiple cables and ports. Passed USB-IF certification as PD and currently used by several cable products.

An integrated protocol Engine implements the low level protocol and logic PHY functions required by the standard, such as CRC generation and testing, 4b5b coding, BMC coding, clock recovery, and SERDES.

The marker state machine provides the subset of device functions required to recognize vendor messages and return responses based on PROM data. Support software for rapid evaluation of production test and an evaluation PCB are available now.

Package options include WLCSP for the smallest solution at less than 1 square mm, with 2x2mm DFN-6 option available. indie also provides a paddle board reference design with 4-layer PCB assembly. Can easily be integrated into small USB-C connectors.

Ordering Information

| Device Name | Platform | Temp Range | Package | Pins |
|-------------|--------------|--------------|------------------|-----------------------|
| iND80001 | USB-C cables | -40C to +85C | 0.8x0.8 mm WLCSP | 4 Pins @ 0.4 mm Pitch |