













### I2C Mode

PI5USB216Q supports 1MHz up-to-1.2V I2C for device configuration and status readback. This controller is enabled after SCL and SDA pins are sampled high shortly after de-assertion of RSTN. Otherwise, pin mode is enabled. In I2C mode, the registers can be accessed by I2C read/write transaction to 7-bit slave address 0x2C.

| Address | Register  | Type | Reset Value | Bit 7  | Bit 6  | Bit 5 | Bit 4   | Bit 3 | Bit 2   | Bit 1 | Bit 0 |
|---------|-----------|------|-------------|--|--|-------|---|-------|---|-------|-------|
| 00h     | Reserved  | RW   | 00000000b   | Reserved   |  |       |   |       |   |       |       |
| 01h     | Control   | RW   | 0000xxxxb   | Receiver Equalization Level<br>00 (Lowest)<br>01<br>10<br>11 (Highest) | Boost/Pre-emphasis Level                               |       |   |       | Receiver Sensitivity Level<br>00 (Lowest)<br>01<br>10<br>11 (Highest) |       |       |
|         |           |      |             |  | Coarse<br>00 (Lowest)<br>01<br>10<br>11 (Highest)      |       | Fine<br>00 (Lowest)<br>01<br>10<br>11 (Highest) |       |   |       |       |
|         |           |      |             |  | Default value set by BOOST pin sampling during startup |       |   |       | Default value set by SEN pin sampling during startup                  |       |       |
| 02h     | Device ID | R    | 10110000b   | Device ID: 10110   |  |       |   |       | Revision: 000   |       |       |

## Device Functional Modes

### Low Speed (LS) Mode/Full Speed (FS) Mode

PI5USB216Q automatically detects a LS/FS connection and does not enable signal compensation. In pin mode, CD pin is asserted high.

### High Speed (HS) Mode

PI5USB216Q automatically detects a HS connection and will enable signal compensation. In pin mode, CD and HS pins are asserted high.

### OTG Mode/B.C.1.2 Mode

PI5USB216Q does not enable signal compensation for OTG or B.C.1.2 signals. In pin mode, CD pin is asserted low.

### Shutdown Mode

PI5USB216Q is disabled when its RSTN pin is asserted low. In shutdown mode the USB channel is still fully operational, but there is neither signal compensation nor any indication from the CD or HS pin as to the status of the channel.







