|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Function | Comments | Prototype | Bringup priority |
| 1a | Turn-on |  | Yes | 1 |
| 1b | Standard shutdown |  | Yes | 1 |
| 1c | E-shutdown | Ignore OTP for the prototype. | Yes | 1 |
| 2 | Fan control | Open loop OK for prototype | Yes | 1 |
| 3 | SPI interface and A/D | need input voltage measurement, calculation of rms of input voltage, zero-crossing detection | Partial? | 2 |
| 4 | 1-ph relay turn-on and zero-crossing detection |  | Yes | 2 |
| 5 | UART | Need to transmit measurement of 28V input through DCDC1 RS485. Other information not needed for prototype. | Partial? | 3 |
| 6 | Input UVP | Requires rms calculations with running average | Yes | 5 |
| 7 | TCU Interface (hardware only) |  | Yes | 4 |
| 8 | Status discrete |  | Yes | 4 |
| 9 | Lamp Indication (w/o OVP?) |  | Yes | 4 |
| 10 | System reset |  | Yes | 4 |
| 11 | Status message |  | Yes | 4 |
|  | Input OVP |  | No | N/A |
|  | Output OVP | Prototype will handle that by individual power supplies | No | N/A |
|  | OTP |  | No | N/A |
|  | OCP |  | N/A (built into supplies) | N/A |
|  | I\_sns |  | No | N/A |
|  | Current offset measurement |  | No | N/A |
|  | Ethernet communication |  | No | N/A |
|  | eMMC | Make sure that there is a safety shutdown for low 12V voltage designed before sending out firmware for the eMMC | No | N/A |
|  | Elapsed time |  | No | N/A |
|  | BIT |  | No | N/A |
|  | Log file |  | No | N/A |
|  | Serial number |  | No | N/A |
|  | Neutral status determination |  | No | N/A |
|  | Capacitor EOL |  | No | N/A |
|  |  |  |  |  |

# SBC functions – Priority and Prototype Requirements