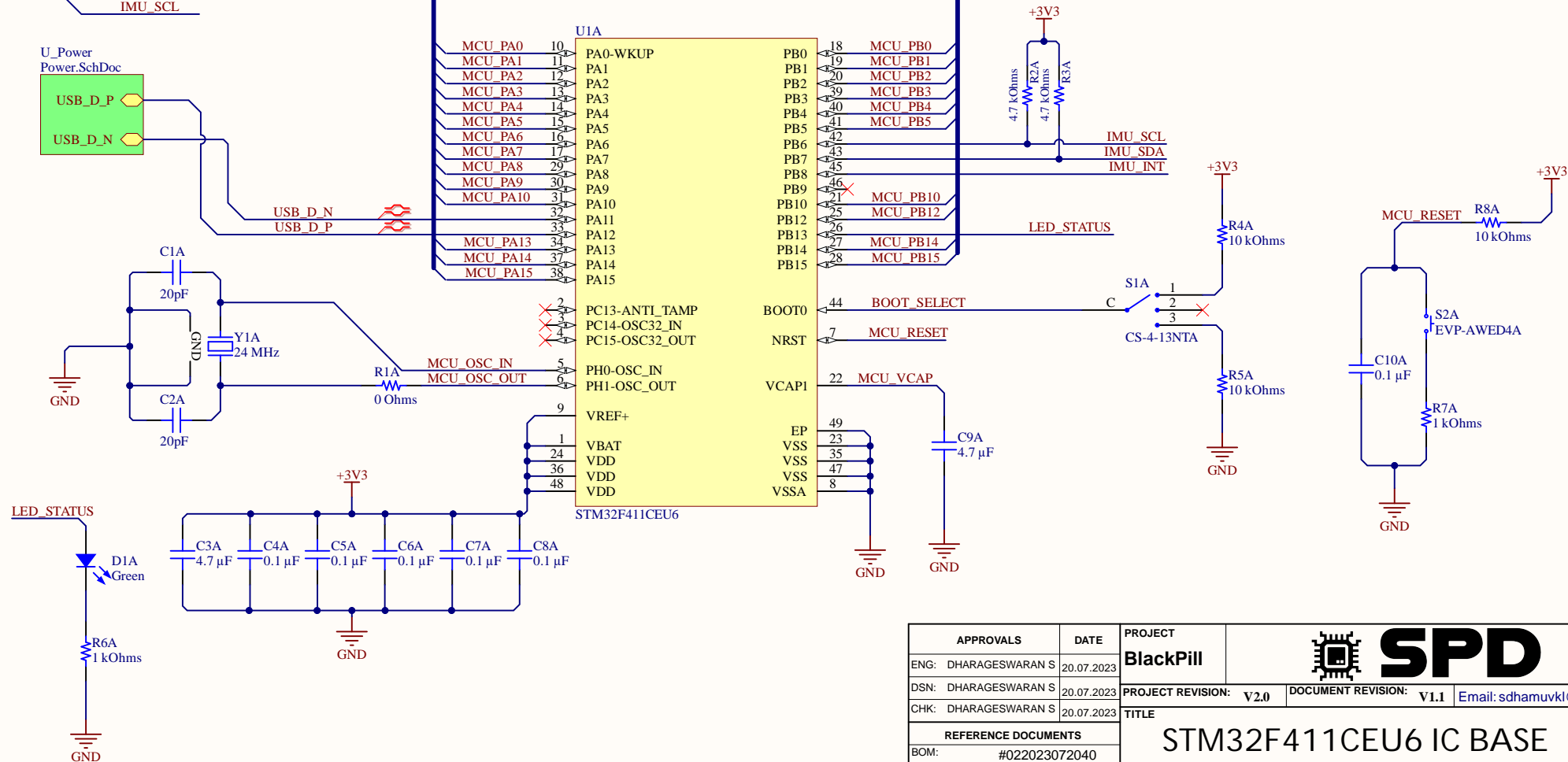
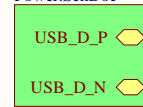
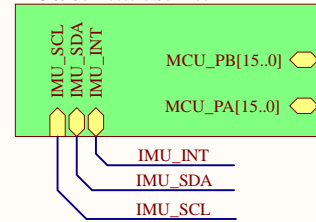



THIS DOCUMENT AND THE DATA DISCLOSED HEREIN OR  
HEREWITH IS THE PROPERTY OF SPD Ind.



@Y1 Given,  $CL = 12 \text{ pF}$   
 $CL = (C1 * C2) / (C1 + C2) + Cp$   
 Parasitic Capacitance of FR-4 PCB  $\approx 2 \text{ pF}$  Approx  
 And  $C1 = C2$ ,  $C \approx 2 * (CL - Cp)$   
 So,  $C \approx 20 \text{ pF}$

Parasitic Capacitance,  
 $C \approx (Eo * Er * W) / H$  &  $Cp = C' * L$   
 Here, W, H, L are width, height, length of the PCB trace.  
 Er is Dielectric Constant of FR-4 PCB  $\approx 4.5$   
 So,  $C' \approx 39.843 \text{ pF/m}$

|                         |  |            |  |   |  |  |  |
|-------------------------|--|------------|--|---|--|--|--|
| APPROVALS               |  | DATE       |  | PROJECT   |  |  <b>SPD</b> |  |
| ENG: DHARAGESWARAN S    |  | 20.07.2023 |  | BlackPill   |  |  |  |
| DSN: DHARAGESWARAN S    |  | 20.07.2023 |  | PROJECT REVISION: V2.0  |  | DOCUMENT REVISION: V1.1  |  |
| CHK: DHARAGESWARAN S    |  | 20.07.2023 |  | Email: sdhamuvkl@gmail.com  |  |  |  |
| REFERENCE DOCUMENTS     |  |            |  | <div> <div>STM32F411CEU6 IC BASE</div> <div> <div> <div>SIZE</div> <div>CAGE CODE</div> <div>DWG NO.</div> <div>REV</div> </div> <div> <div>A4</div> <div>#</div> <div>#022023072000</div> <div>V2.0</div> </div> </div> </div> |  |  |  |
| BOM: #022023072040      |  |            |  |   |  |  |  |
| ASSY DWG: #022023072030 |  |            |  |   |  |  |  |
| FAB DWG: #022023072020  |  |            |  |   |  |  |  |
| PCB DWG: #022023072010  |  |            |  |   |  |  |  |
| SCALE:                  |  | FILE NAME  |  | IC BASE.SchDoc  |  | SHEET 1 OF 3   |  |



