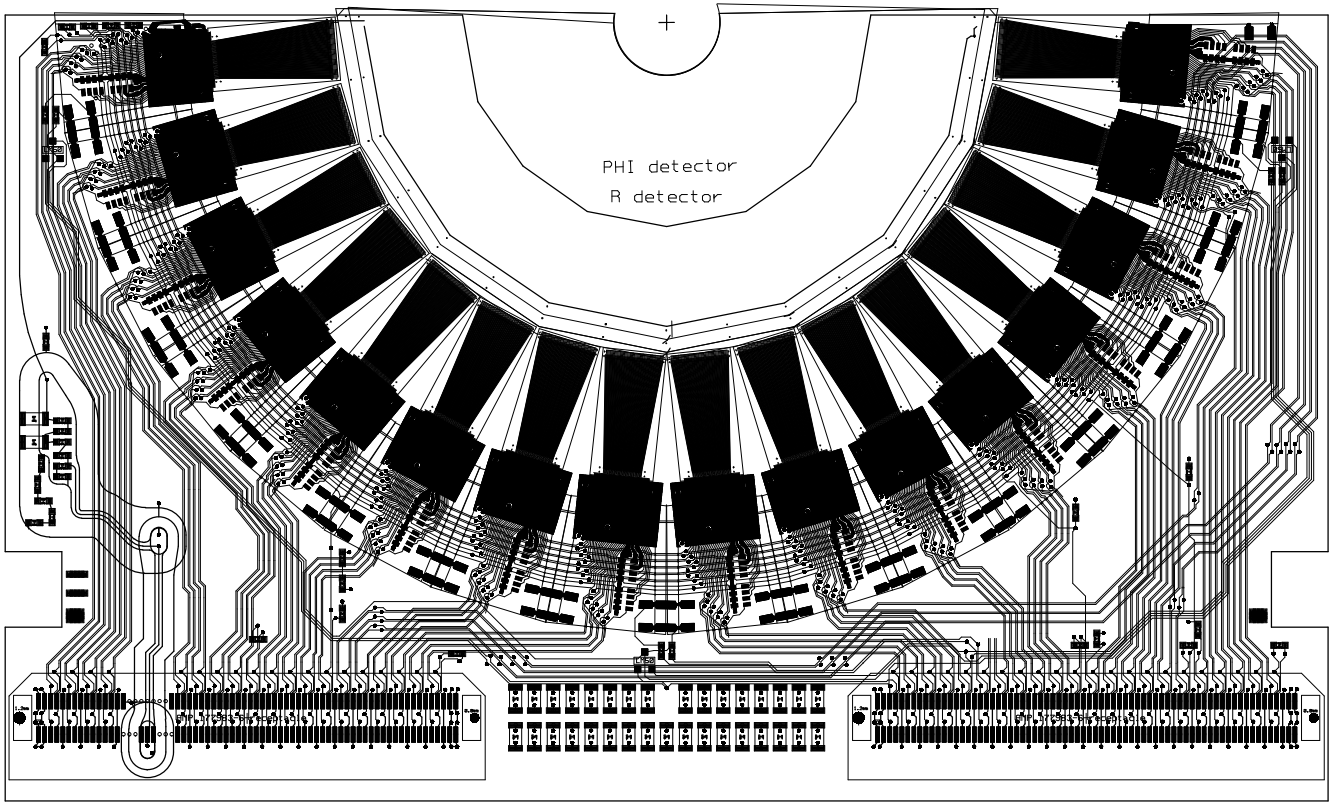
PHI detector
R detector