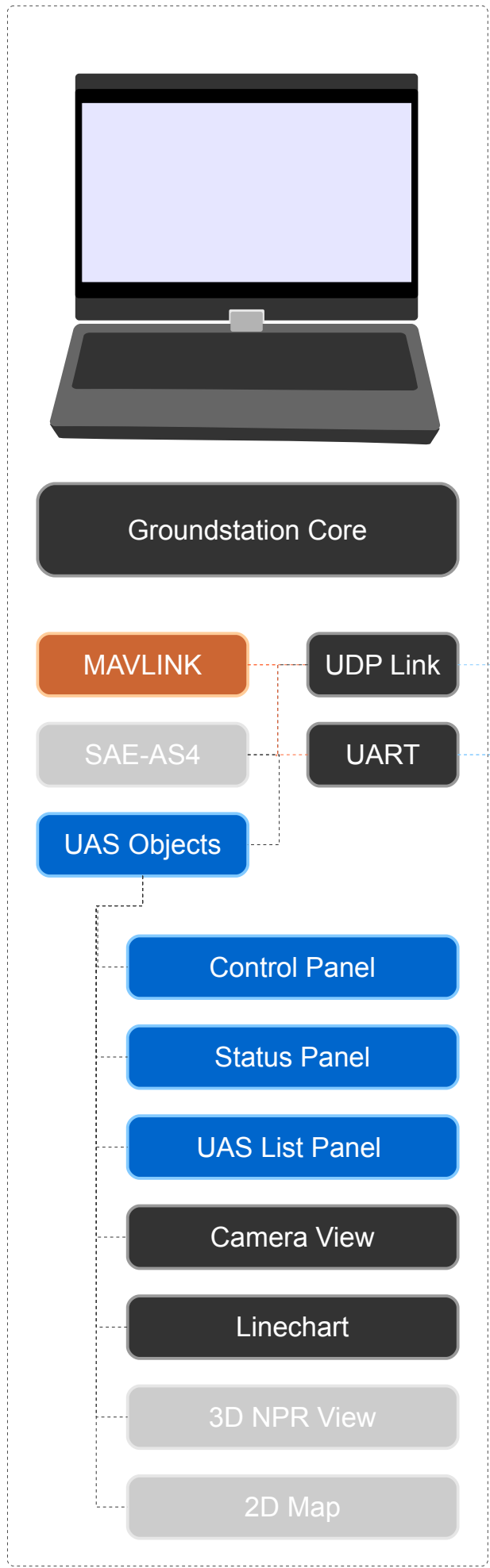
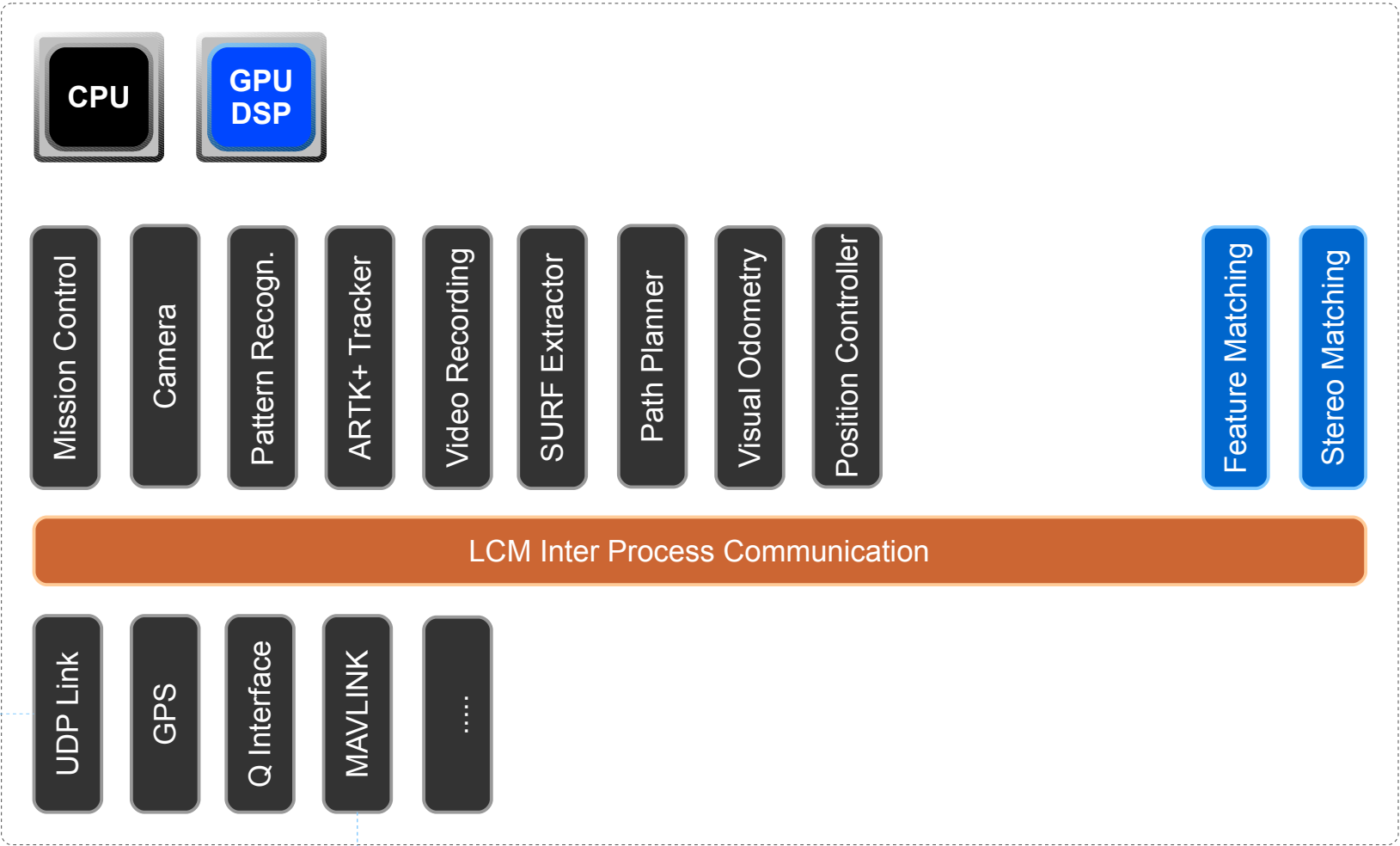


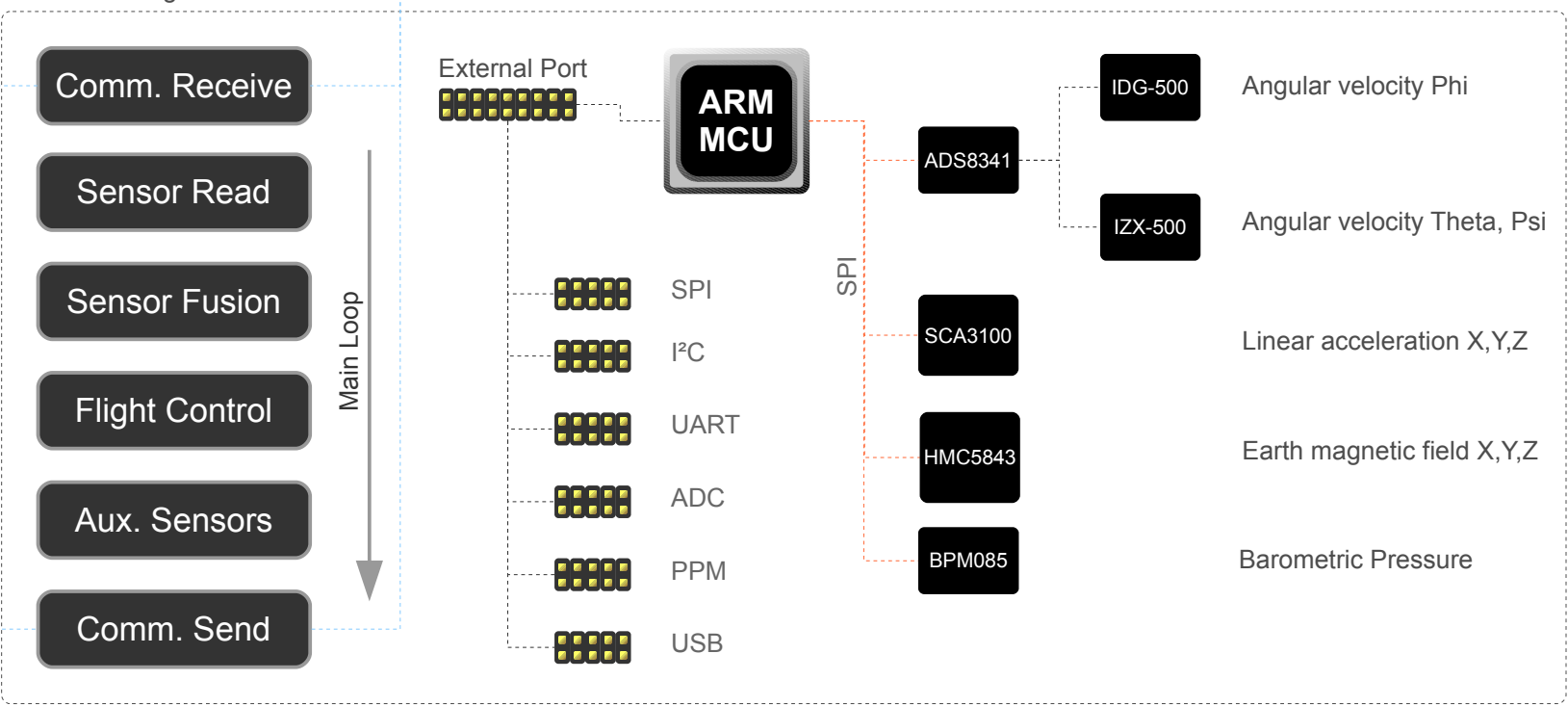
Groundstation on Tablet PC

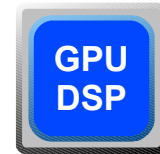
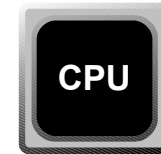
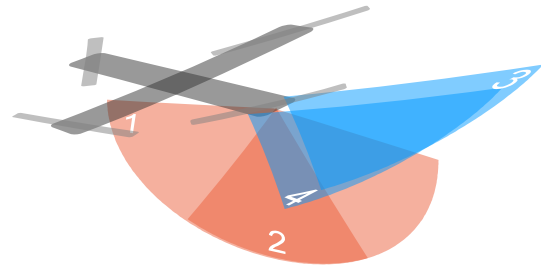


Gumstix Overo Fire / COMExpress board



PIXHAWK flight board





Camera 1
5-point
180°



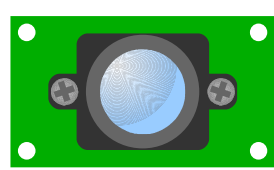
Camera 2
5-point scale
60° / 4.0 mm



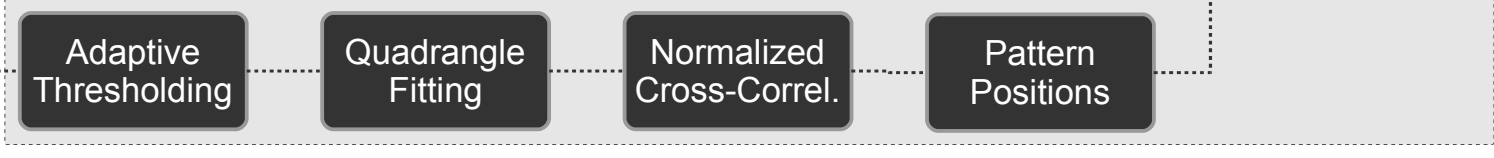
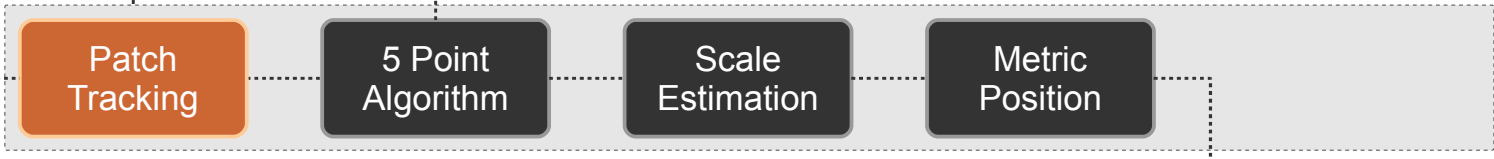
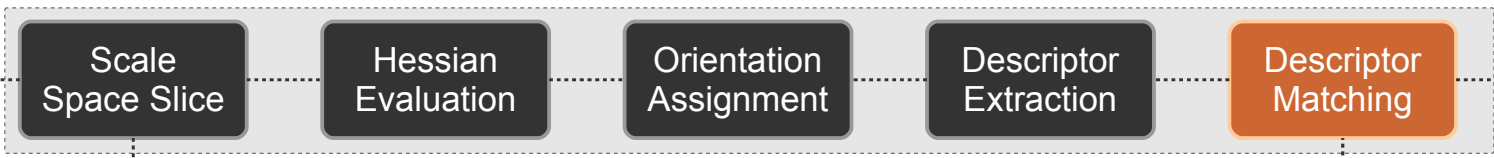
Camera 3
Stereo left
60° / 4.0 mm



Camera 4
Stereo right
60° / 4.0 mm



LCM Camera Hub



Matched features

State Estimator

FastSLAM

Position Controller

RRD Path Planner

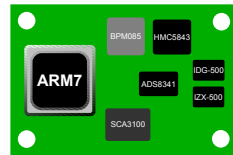
Motor Interface

Obstacles

Camera images

LCM Inter Process Communication

Inertial
Measurement
Unit
10 DoF



Camera 1
5-point
180°



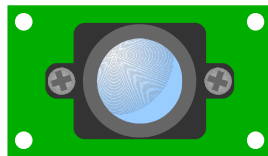
Camera 2
5-point scale
60° / 4.0 mm



Camera 3
Stereo left
60° / 4.0 mm



Camera 4
Stereo right
60° / 4.0 mm



SURF
Extractor

Position
Matching

Kalman
Filter

Vectoring
Controller

Position
Controller

Stereo
Matching

Obstacle
Detection

Obstacles

Attitude
Controller

Motor
Controller

