Peripherals

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12:07 PM

HAL requirements:

PWM: 1 Timer / 4 channels for lat/vert Axes
1 Timer / 4 channels for Axis3/Axis4

SPI: 1 SPI controller for axis ADC's

GPT: 1 Timer for control loop callback (100Hz)
1 Timer for ADC sample command (2kHz)

EXT: 1 interrupt for ADC conversion done

MAC: Enable for use with 1 PHY

USB: 1 USB controller for development port

ADC: 1 ADC for VRef Monitor

GPIO: 8 outputs (Enable/Watchdog per axis)

PWM: TIM4: lat/vert axis outputs
vert axis: PD13:12 (U:V)
lat axis: PD15:14
TIM3: Axis3/Axis4 outputs
Axis3: PC7:6 (U:V)
Axis4: PC9:8

SPI: SPI1: ADC daisy-chain serial bus
NSS: PA4
SCK: PA5
MISO: PA6

GPT: TIM1: Control loop callback
NO I/O for this peripheral
TIM2: ADC convert command callback
NO I/O for this peripheral

EXT: EXTI: ADC conversion done interrupt
SPI_MISO: PE7
EXT channel 7
GPIO input

MAC: MAC: Ethernet PHY interface (RMII)
ETH_RMII_REF_CLK: PA1
ETH_CRS_DV : PA7
ETH_RXD0 : PC4
ETH_RXD1 : PC5
ETH_TX_EN : PB11
ETH_TXD0 : PB12
ETH_TXD1 : PB13
ETH_MDINT : PA3
ETH_MDC : PC1
ETH_MDIO : PA2
MCO1-ETH-CLK : PA8

USB: USB1: USB development port/shell interface
VBUS : PA9
DM : PA11
DP : PA12
ID : PA10

ADC: ADC1: VRef Monitor
VRef_Monitor: PC0

ADC1: Ch10
GPIO: Input

GPIO: GPIOD: Axis Enable/Watchdog outputs

lat: PD11:10

vert: PD6:5

Axis3: PD0:1 (EN:WD)

Axis4: PD2:3