

# lychee

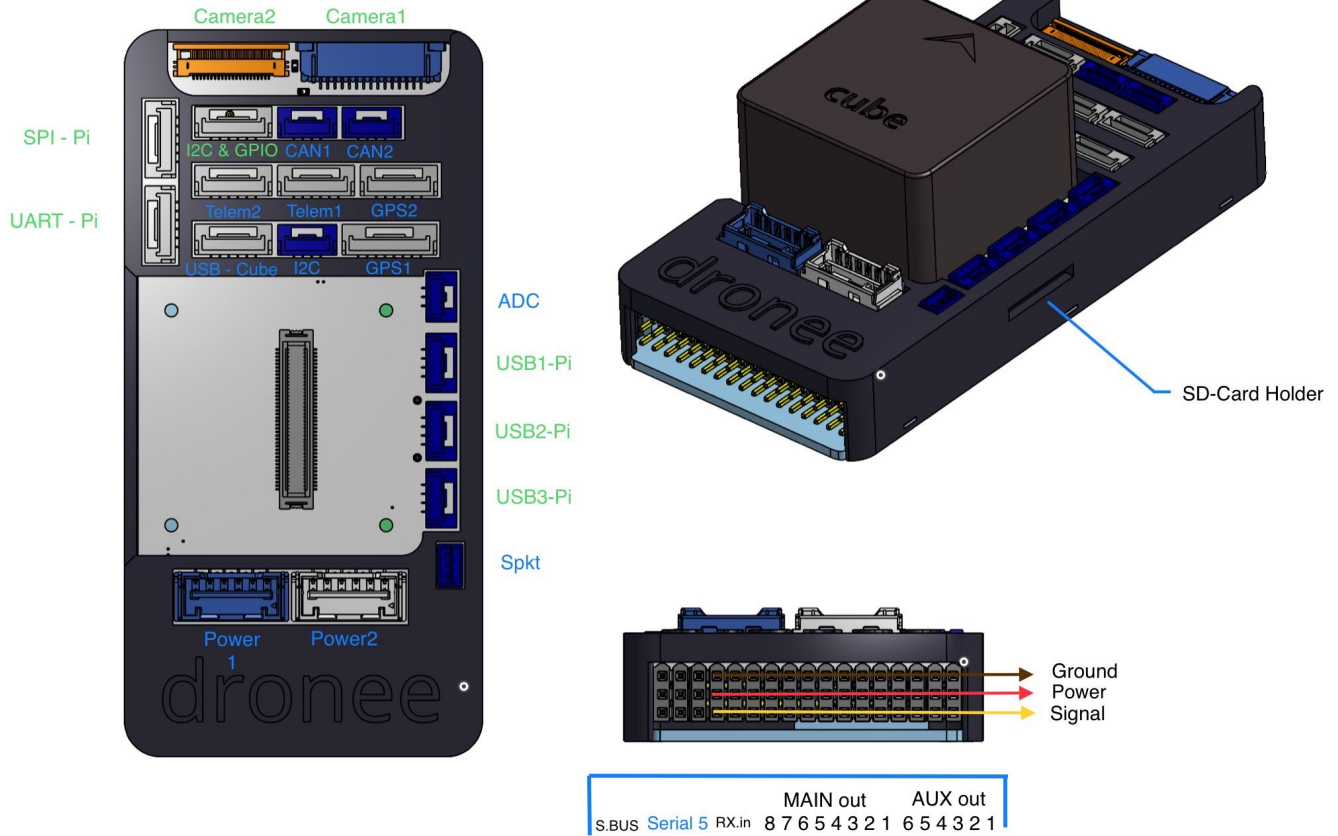
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## Professional UAV Application Development Platform



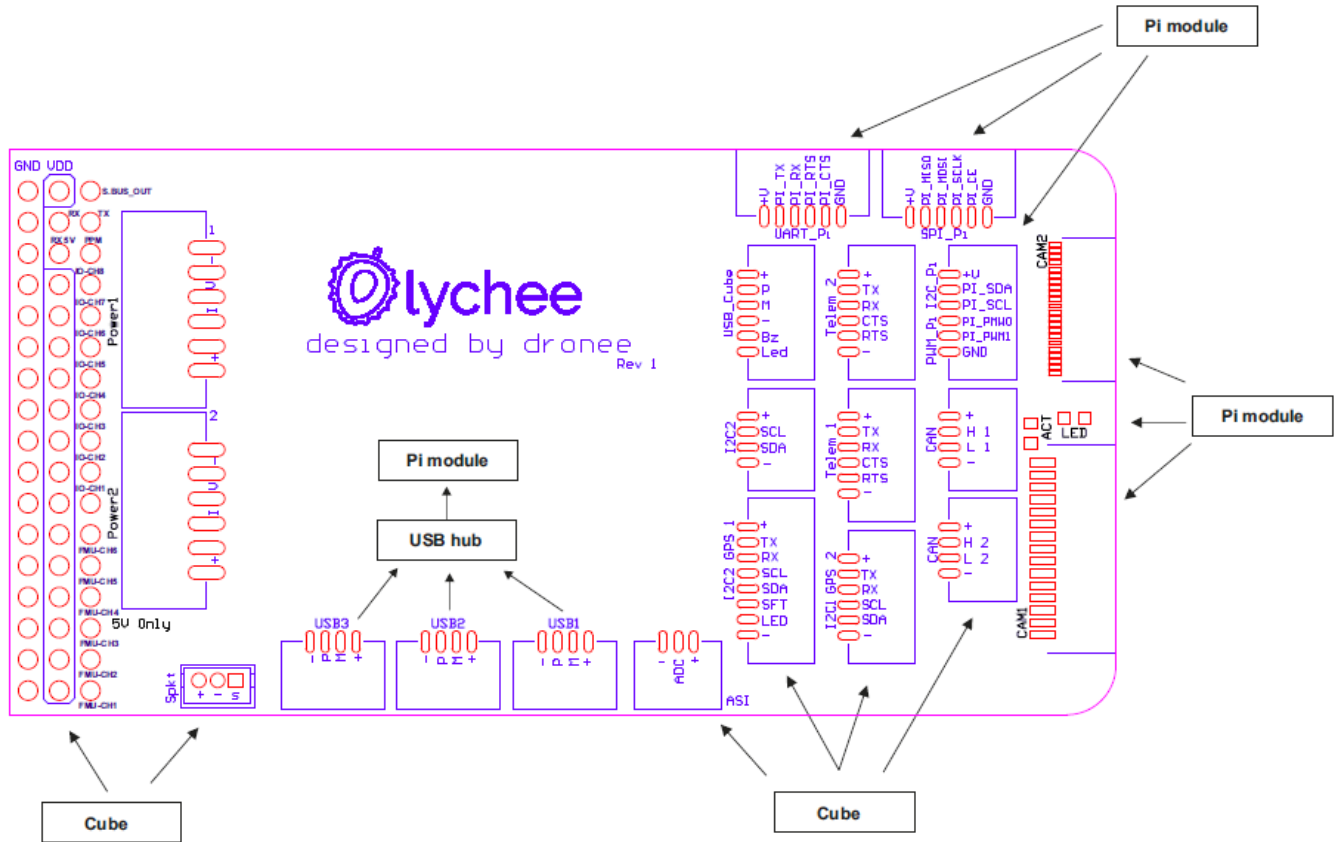
## Connectors / Ports:



\*Connectors written with **green** color are the connectors from **Raspberry pi Compute Module**

\*Connectors written with **blue** color are the connectors from **Cube**

\*All the connectors powered separately from Power supply (**Power1, Power2**) (input power voltage 5-5.3V)



## Lychee Connections:

### Power Connector 6 pos ([ClickMate 6 pos 2.0 mm](#))

Pin#	Name	Dir	Description
1	VDD 5V Brick	in	Supply from power module to Autopilot
2	VDD 5V Brick	in	Supply from power module to Autopilot
3	BATT_Voltage_sens_port	in	Battery voltage sens connector
4	BATT_Current_sens_port	in	Battery current sens connector
5	GND	-	Ground
6	GND	-	Ground

### Backup Power Connector 6 pos ([ClickMate 6 pos 2.0 mm](#))

Pin#	Name	Dir	Description
1	VDD 5V Brick	in	Supply from power module to Autopilot
2	VDD 5V Brick	in	Supply from power module to Autopilot
3	AUX_BATT_VOL_TAGE_SENS	in	Aux battery voltage sens connector
4	AUX_BATT_CUR RENT_SENS	in	Aux battery current sens connector
5	GND	-	Ground
6	GND	-	Ground

### I2C (Cube)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply to peripheral from Autopilot
2	SCL	in/out	SCL, 5V level, pull-up on Autopilot
3	SDA	in/out	SDA, 5V level, pull-up on Autopilot
4	GND	-	Ground

### CAN ([CAN1](#) and [CAN2](#))

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply to peripheral from Autopilot
2	CAN_H	in/out	12v
3	CAN_L	in/out	12v
4	GND	-	Ground

UART (*TELEM1*, *TELEM2*)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply from power module to Autopilot
2	MCU_TX	out	3.3V-5.0V TTL level, TX of Autopilot
3	MCU_RX	in	3.3V-5.0V TTL level, RX of Autopilot
4	MCU_CTS (TX)	out	3.3V-5.0V TTL level or TX of Autopilot
5	MCU_RTS (RX)	in	3.3V-5.0V TTL level or RX of Autopilot
6	GND	-	Ground

GPS1 (*I2C*, *GPS*)

Pin#	Name	Dir	Description
1	VCC 5V	in	Supply from power module to Autopilot
2	GPS_RX	in	3.3V-5.0V TTL level, TX of Autopilot
3	GPS_TX	out	3.3V-5.0V TTL level, RX of Autopilot
4	SCL	in	3.3V-5.0V I2C1
5	SDA	in/out	3.3V-5.0V I2C1
6	BUTTON	out	Signal shorted to GND on press
7	BUTTON_LED	out	LED Driver for Safety Button
8	GND	-	Ground

Spkt (*Spektrum*)

Pin#	Name	Dir	Description
1	VDD 3v3	out	Independent supply 3v3
2	IO USART1 RX	in	
3	GND	-	Ground

GPS2 (*I2C-2*, *UART4*)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply from power module to Autopilot
2	MCU_TX	out	3.3V-5.0V TTL level, TX of Autopilot
3	MCU_RX	in	3.3V-5.0V TTL level, RX of Autopilot
4	SCL	out	3.3V-5.0V I2C2
5	SDA	in	3.3V-5.0V I2C2
6	GND	-	Ground

UART-Pi (*RPI Compute Module*)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply from power source
2	TX	out	3.3V-5.0V TTL level, TX of RPI
3	RX	in	3.3V-5.0V TTL level, RX of RPI
4	RTS (RX)	in	3.3V-5.0V TTL level or TX of RPI
5	CTS (TX)	out	3.3V-5.0V TTL level or RX of RPI
6	GND	-	Ground

SPI-Pi (*RPI Compute Module*)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply from power source
2	MISO	-	
3	MOSI	-	
4	SCLCK	-	
5	CE	-	
6	GND	-	Ground

I2C & GPIO – Pi (*RPI Compute Module*)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply from power source
2	SDA	in	SDA 0 on RPI CM3
3	SCL	out	SCL 0 on RPI CM3
4	PWM 0	In/out	GPIO 12 on RPI CM3
5	PWM 1	In/out	GPIO 13 on RPI CM3
6	GND	-	Ground

USB 1, USB 2, USB 3 -Pi (*USB out from Raspberry Pi CM3*)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply from power source
2	D+	in/out	3.3v
3	D-	in/out	3.3v
4	GND	-	Ground

USB - cube (*BUZZER, USB, LED*)

Pin#	Name	Dir	Description
1	VCC 5V	out	Supply from power source
2	D+	in/out	3.3v
3	D-	in/out	3.3v
4	GND	-	Ground
5	BE LED	out	Boot / Error Led (FW updates)
6	BUZZER	out	VBAT (8.4 - 42V)

ADC (*Analog from Cube*)

Pin#	Name	Dir	Description
1	VDD 5V	out	Supply from power source
2	Pressure sense in	in	
3	GND	-	Ground

CAMERA1 - Raspberry pi CSI 1

CAMERA2 - Raspberry Pi CSI 2

ACT LED - SD Card Status indicator

LED – LED connected to GPIO 27