MRS MODULE HOST REVISION 1

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Contents

1	Introduction	1				
2	Dimensions					
3	Connectors 3.1 Connector Placement Drawing	3				
4	Bill Of Materials and Assembly Drawings	4				
5	Schematic					
${f L}$	ist of Figures 1 MRS MODULE HOST: Thumbnail	2				
${f L}$	ist of Tables	4				
	1 MRS MODULE HOST: Bill Of Materials	4				



1 Introduction

MRS Modules are designed to be powered by a drone power supply and to communicate with an Intel NUC onboard computer. However, it is inconvenient to have it plugged into a drone for development and testing. Therefore this Host Board was designed.

This board contains a single UART to USB converter to provide communication between the module's MCU and the developer's laptop.

The 5V is supplied directly from USB, and the "battery voltage" can be provided using the barrel connector and an external power supply.

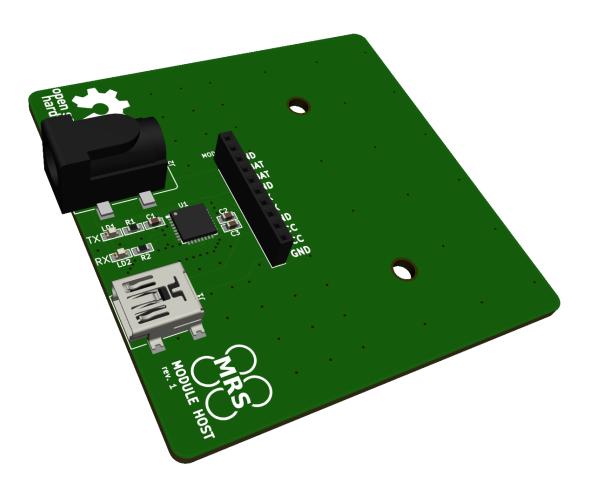


Figure 1: MRS MODULE HOST: Thumbnail



2 Dimensions

The board is 60 mm wide and 60 mm long with mounting holes for an MRS module. The mechanical drawing can be seen in Figure 2 below.

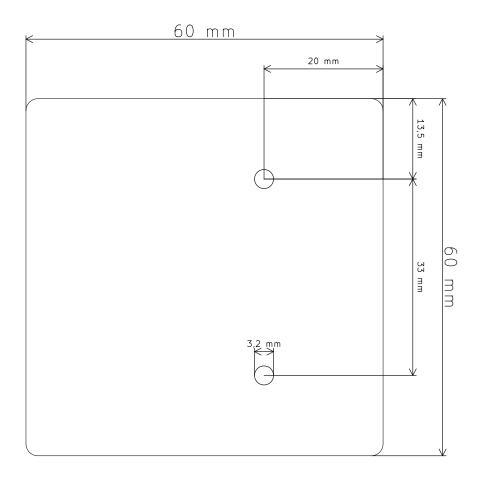


Figure 2: MRS MODULE HOST: Dimensions



3 Connectors

The Module Host Board has connectors only on the top layer. The connector marked as USB B MINI is a standard USB B Mini connector. It provides connectivity between the user's computer and an MRS Module's MCU using an FTDI IC and 5V for the module.

The connector marked as POWER (VBAT) provides power for the rest of the module (if needed). This power source should be in a similar voltage range as a 4S or 6S battery used on drones.

The connector marked as MRS MODULE is a standard connector for MRS Modules, and its pinout is as follows:

MRS						
MODULE						
1	GND					
2	VBAT					
3	VBAT					
4	GND					
5	UART_TX					
6	UART_RX					
7	GND					
8	5V					
9	5V					
10	GND					

3.1 Connector Placement Drawing

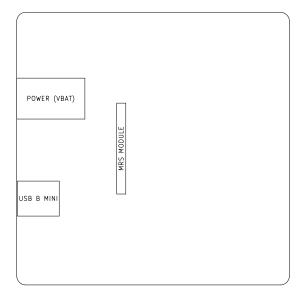


Figure 3: MRS MODULE HOST: Connectors Placement, Top Layer



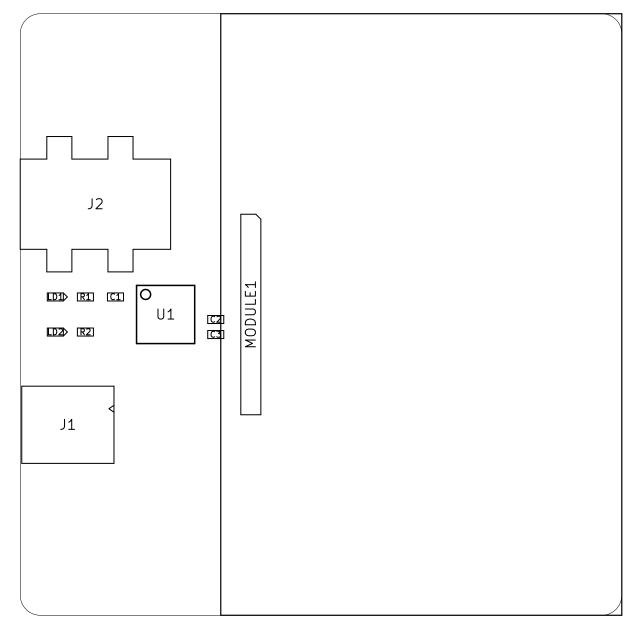
4 Bill Of Materials and Assembly Drawings

#	References	Value	Footprint	Quantity
1	C1	10uF	0603	1
2	C2, C3	0.1uF	0603	2
3	J1	USB2.0B_mini	USB_Mini-B	1
4	J2	Barrel_Jack	ADC-028-2-TR	1
5	LD1, LD2	D_LED_0603_BLUE	0603	2
6	MODULE1	MRS_Module	Header 1x10 2mm pitch	1
7	R1, R2	1k	R0603	2
8	U1	FT232RQ	QFN_32-5x5mm	1

Table 1: MRS MODULE HOST: Bill Of Materials



MRS MODULE HOST rev. 1 ASSEMBLY DRAWING — TOP





5 Schematic

