

V2.1 EVB VERSION!

22th Aug changed V3.2 on this page to V2.0 as per PCB
 v1.0.13TH AUG C7879 WAS 12.10 NOW DCASE
 VERSION IS FOR MICROCHIP EVB MODULE.

Aug 8th SEE SHT 2 for alt Pcs
 _3.2 show all relays in reset position, correct relay ref #s
 _3.1 added 1uf cap near TP4056 & 2 x 10nf caps
 _3 140721 ADDED 3.5mm SMT & ANODE DUAL LED TO BATT
 _1 130721 CORRECTED PINS ON MAIN PIC

ATU-10 by N7DDC

Title		ATU-10 S&H DRAFT EVB		DRAWN BY VK3PE	
Size: A3	Number:	Revision: V2.0 pcb	(C) VK3PE 2021		
File:		Date: 5-Sep-2021	Time: 12:58:43	Sheet 1	of 2

THIS IS THE Microchip EVAL MODULE VERSION v2.1 5th Sept 2021 (VK3PE)

Microchip PIC16F18877 Evaluation board (EVB)

This Schematic is for a version of N7DDC's "ATU-10" tuner PCB.

It has been designed to use the Microchip PIC16F1877 Evaluation Board [EVB] (Note: 40pin version) instead of harder to solder surface mount parts. ie tiny!

The EVB plugs into my PCB Version 2.0 or later. With this module there is no need to program the 'USB' PIC16F1454 as it's already done on the module.

You only need to program the larger PIC16F18877 device which is very simple:-

You will need the .hex file for the ATU-10 from N7DDC's Github act and when you plug the module into your PC, it should allow a window to pop up with a file in it. Simply copy and paste the .HEX file into that window. The LED on the EVB will go red then green in a few seconds, signifying that the PIC has been programmed with the ATU-10 code. Very simple.

The PCB itself has been designed to fit into either of two extruded aluminium cases available on eBay, AliExpress, Amazon etc

The case should be 100mm long and either 88 or 82mm wide. (82mm is much cheaper)

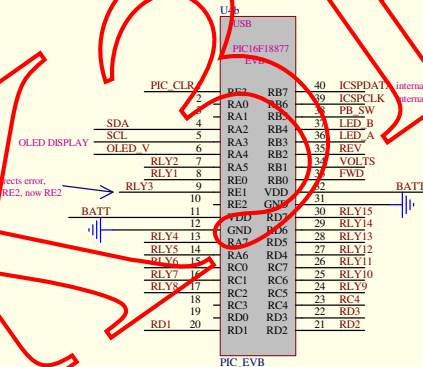
The two cases available are 1) 100 x 82 x 27mm and 2) 100 x 88 x 38, the latter case is same as used on the Tri-Band uSDX rig by WB2CBA

For the narrower case, you need to remove a section of the PCB which is marked on the board. Use a fine tooth hacksaw and then a file to do the final fit into the case. The fit should be 'firm' but not tight.

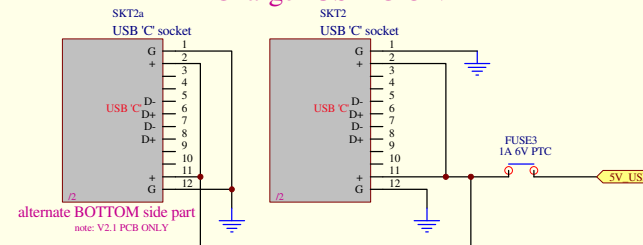
For the 27mm high case, you may need to remove the push button switch on the top of the EVB in order to fit in the case.

**** The original ATU-10 case (100 x 71 x 25mm) is NOT SUITABLE. ****

Run the EVB module from 5v_usb!
unsolder the '3v3' link on the EVB & bridge across the '5v' pads



Charger USB-C ONLY



The PCB for this project isATU-10_EVB_V2.x.PCB.....

Aug 19th for V2.0 PCB
DRAFT 030821 VK3PE

4rd Sept now V2.1 (error fixed: RLY3 should goto 'RE1' NOT 'RE2')
See: PCB is now V2.1
Added text box description
23th Aug changed V3.2 on this page to V2.0 as per PCB
AUG 8th CORRECTED PINOUT TO RLY 46
AND 'VOLTS' AND 'REV' PINS

EVALUATION MODULE VERSION			
Size: A3	Number:	Revision: V2.0 PCB	(C) VK3PE 2021
Date: 5-Sep-2021		Time: 13:04:49	Sheet 2 of 2