



WishTree-Duo, v-1.0

"**wishTree-Duo**" is a quick prototyping and PoC development board that enable makers to use all IoT connectivity options- WiFi, Bluetooth, BLE, LoRa and 2G on a single board. It can house both ESP12 and ESP32.

It will help numerous enterprises, engineers, innovators, hobbyist and advanced users to build and test any idea before serious money or effort is put in. Wish any use case, and build the MVP in just hours without much ado. Connect with USB, start exploring.

Salient features:

- Credit card sized board (a little bigger in length actually)
- Runs 5v and 3v3 on-board to connect all types of sensors and displays
- Wired communication: I2C, URAT, micro-USB
- Wireless communication: Wi-Fi, BT, BLE, GSM, LoRa
- Micro-amp level deep-sleep
- On-board 1.5A MOSFET switch; Transistor switch and MOSFET driver
- Coding through Arduino IDE
- Free breadboard space

Features	wishTree-12 (WT12)	wishTree-32 (WT32)	Comes with board?
Controller	ESP8266 (ESP12F)	ESP32 (Wroom32)	yes
WiFi	yes	Yes	yes
Bluetooth	need to attach HC-05	Yes	yes (WT32 only)
LoRa	no	attach RFM95, 866 MHz band in India	no
2G	thru on-board A6 mini adapter	thru on-board A6 mini adapter	no
HTTP	yes	yes	NA
MQTT	yes	yes	NA
On-board voltages	3v3, 5v	3v3, 5v	yes
Vin output	yes	yes	yes
1.5amp MOSFET switch	yes	yes	yes
Transistor switch	yes	yes	yes
Battery run	yes	yes	NA
Wall socket run	yes	yes	NA
USB port	yes	yes	yes
LiPo battery	attachable	attachable	no
Buck/Boost	attachable	attachable	no
battery % sensing	yes	yes	yes
Jumper configurations	yes	yes	yes
Suitable casing	yes	yes	no
On-board test LED	yes	yes	yes
GPIO's	5	20	yes

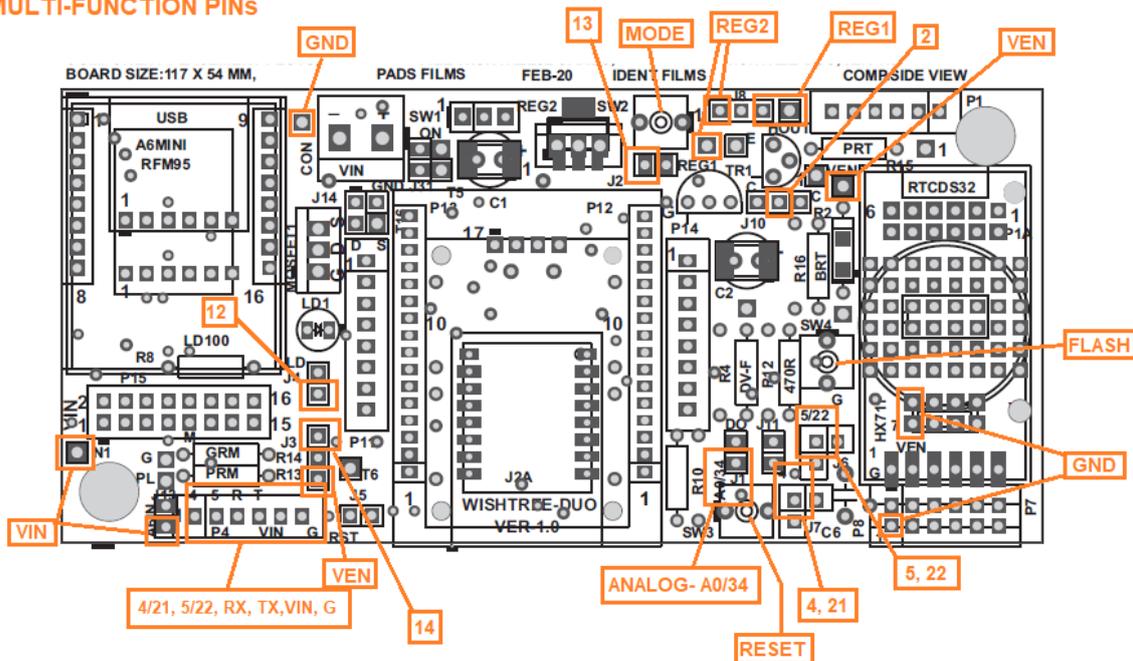
Pin-outs:

Usable pins are divided in 2-parts:

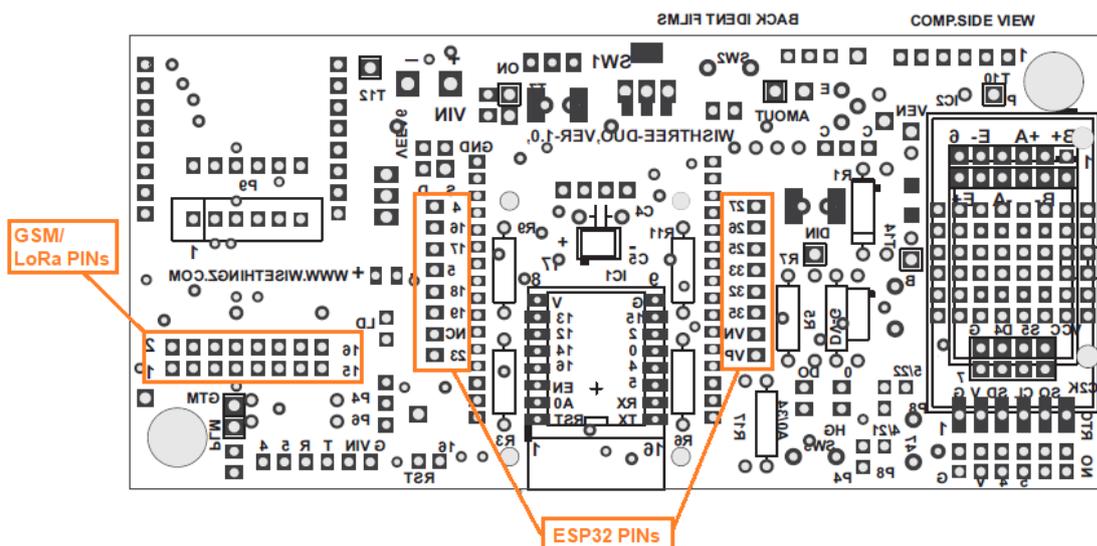
1. Multifunction: This allows various boot options, direct sensor conn, battery-% remain etc.
2. Direct Pins: These are directly exposed GPIO's of ESP32-WROOM

Refer enclosed *schematics dwg.* for further detail.

MULTI-FUNCTION PINS



ESP32 DIRECT PINS



- For easy to use tutorials/videos, please refer www.wisethingz.com/wishtree
- Refer enclosed **API** documentation for building your own application.

Happy learning!!!