



### Quick start for 5V operation

- Set the Power selector Jumper (JP1) to the 5V position
- Connect GND & Vcc(5V) to either of the 2 available options on the input header.
- Connect your IR output from your microcontroller to one of the IRTx header positions. ٠
- Congratulations you are now ready to use SendIR @ 5V.

### Quick start for 3V3 operation

- Set the Power selector Jumper (JP1) to the 3V3 position
- Connect GND & Vcc(3V3) to either of the 2 available options on the input header.
- Connect your IR output from your microcontroller to one of the IRTx header positions. ٠
- Congratulations you are now ready to use SendIR @ 3V3.

### **IR Power Selector Jumper – JP2**

- JP2 has 2 positions for doubling or tripling the IR Power transmitted
- When one jumper is inserted the power level is doubled
- When both jumpers are inserted the power level is tripled. •
- When no jumper is inserted the power level is standard.
- See also note on Rprog option

# **Input Header**

- GND Ground connection from MCU
- Vcc Power supply from MCU (3->5V DC, typically 3V3 or 5V)
- IRTx Infrared signal from MCU (carrier frequency range 20->500kHz+)
- We have provide 2 positions for each input to support daisy-chaining of SendIR boards.



# Test Points – P2

- There are 4 test-points provided for troubleshooting.
- There should be not connections to test points during normal operation.
- TP1 emitter of Transistor Q1
- TP2 base of transistor Q1
- TP3 collector of transistor Q1 •
- TP4 connection between the 2 (in-series) IR LEDs

### Programming resistor - Rprog

- There is also an option to insert a through-hole resistor to customise the IR power level.
- The IR power is controlled by a 10R resistor for default power •
- IR Power is doubled by inserting 2nd 10R resistor in parallel via JP2 (=5R in total)
- IR Power is tripled by inserting a 3rd 10R resistor in parallel via JP2 (=3R3 in total) •
- Rprog (R4, when installed) is also in parallel with the default and any inserted via JP2. ٠
- If you are planning to install Rprog such that the total resistance will be less than 3R3, then please contact support first, to discuss.

### **Mounting Hole**

• A mounting hole is also provided on the PCB

### **Dual Infrared Emitters**

- Dual IR LEDs are installed by default
- We use high power TSAL6100 as default (see data sheet for details) You can replace one or both of the IR LEDs with others as required (e.g. different angles)
- When operated in 3V3 mode, one of the IR LEDs is disconnected (A1).
- However, you can operate both LEDs in 3V3 mode by removing the jumper from the power selector. In this scenario, both LEDs will operate, but at slightly less efficiency and the indicator LED will be very dim.

### Indicator LED – D2

- By default we insert a red SMD indicator led on the PCB
- This provides a visual indication of when a signal is being sent.
- (see note above when operating both IR LEDs at 3V3, when the LED may be very dim or not visible)



