|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TriggerBox (Transmitter)** |  | **Parameter** | **Typ.** | **Unit** |
| Based on Qiachip TX118SA-4(433MHz) |  | Vsupply (mini USB) | 5V | V |
|  | TTL input logic level  (BNC trigger in) | < 0.8 (low) > 2 (high) | V |
|  | # Tx channels (K1-K4) | 4 |  |
|  | trigger transmission: | Active Low |  |
|  | power on LED | 1 x green |  |
|  | Tx input active LED | 4 x blue |  |
|  | Tx trigger LED | 1 x red |  |
|  |  | | |
|  |
|  |  |
| **Wireless Receiver** | | **Parameter** | **Typ.** |  |
| Note: populate ANTenna!    Based on Qiachip RX480-E |  | Vsupply | 3.3 – 5 | V |
|  | logic trigger level  (Dx out) | 0 - Vsupply | V |
|  | # Rx channels (D0-D3) | 4 |  |
|  | Receive sensitivity | -108 | dB |
|  | Frequency band | 433±.2 | MHz |
|  | Trigger reception (toggling): | Rising/falling edge |  |
|  | Rx trigger LED | 1 x red |  |
|  | Quiescent current: | ≤ 5 | mA |
|  | Output current: | 10 | mA |
|  | Delay / Jitter Tx edge -> Rx edge | 76.9 ± 18.9 | ms |
|  | Range  (Qiachip datasheet): | >15 | m |
|  | Range  (tested, open field) | >25 | m |

Wireless trigger transceiver extension for the ninjaNIRS, based on on Qiachip TX1182SA-4 and RX480-E. Supports pairing between Rx/Tx components and 4 digital trigger channels that can be individually controlled via schmitt-triggered BNC (TTL level) input or debounced button press. Average delay between trigger transmission and reception is <80ms, jitter (std) 20ms. Range up to 25m (open field).

**Pairing Instructions for Receiver (supplier notes):**

1. Delete existing data: Press learning button 8 times. Response: LED flashes 7 times.
2. Learning remote code: press learning key once, twice or three times (see below).  
   **LED turns on:** learning mode is active. Press any button of the remote control.  
   **LED indicator flashes three times:** learning successfully completed.
3. Test: after the above operation the receiver board can be controlled by the remote control.

**Functions:**

* **Press once:** Inching mode (Momentary Mode)
* **Press twice:** self-Lock Mode (Toggle-Mode of the 4 Channels)
* **Press three times:** interlocked mode (selected channel active and be cleared, if another channel becomes active)

Demonstration of pairing (video):

<https://www.youtube.com/watch?time_continue=2&v=kr3RJoQmPvw>