

\*\*\*\*\*Default\*\*\*\*\*  
**nano-rp2040-connect**  
**access point**  
**for pico\_w**  
**10/24/22**  
\*\*\*\*\*Default\*\*\*\*\*

Either the pico\_w or the Arduino Nano-RP2040-connect can be used as the access -point.

**This will require minor changes in the file pico-examples/pico\_w/access\_point**

**line 130     const char \*ap\_name = "picow\_test"; ->     const char \*ap\_name = "nanotest";**

**line 132     const char \*password = "password"; ->     const char \*password = "12345678";**

**line 140     IP4\_ADDR(&gw, 192, 168, 4, 1); ->     IP4\_ADDR(&gw, 10, 0, 1, 10);**

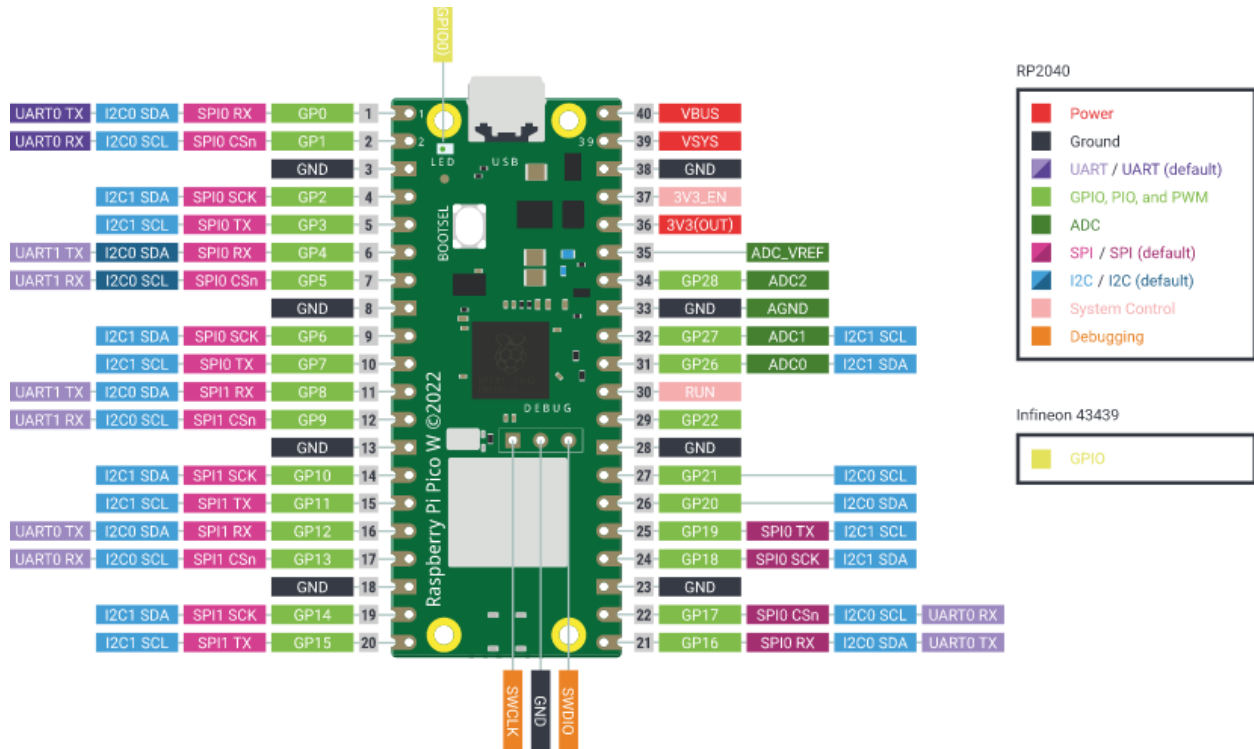
Pico\_W

[https://www.amazon.com/Vis-Viva-Raspberry-Basic-PICO-W/dp/B0BDSPXP2R/ref=mp\\_s\\_a\\_1\\_2?crid=2RQUZH6WT21DV&keywords=pico\\_w&qid=1666627291&srefix=pico\\_w%2Caps%2C269&sr=8-2](https://www.amazon.com/Vis-Viva-Raspberry-Basic-PICO-W/dp/B0BDSPXP2R/ref=mp_s_a_1_2?crid=2RQUZH6WT21DV&keywords=pico_w&qid=1666627291&srefix=pico_w%2Caps%2C269&sr=8-2)

\$17,95

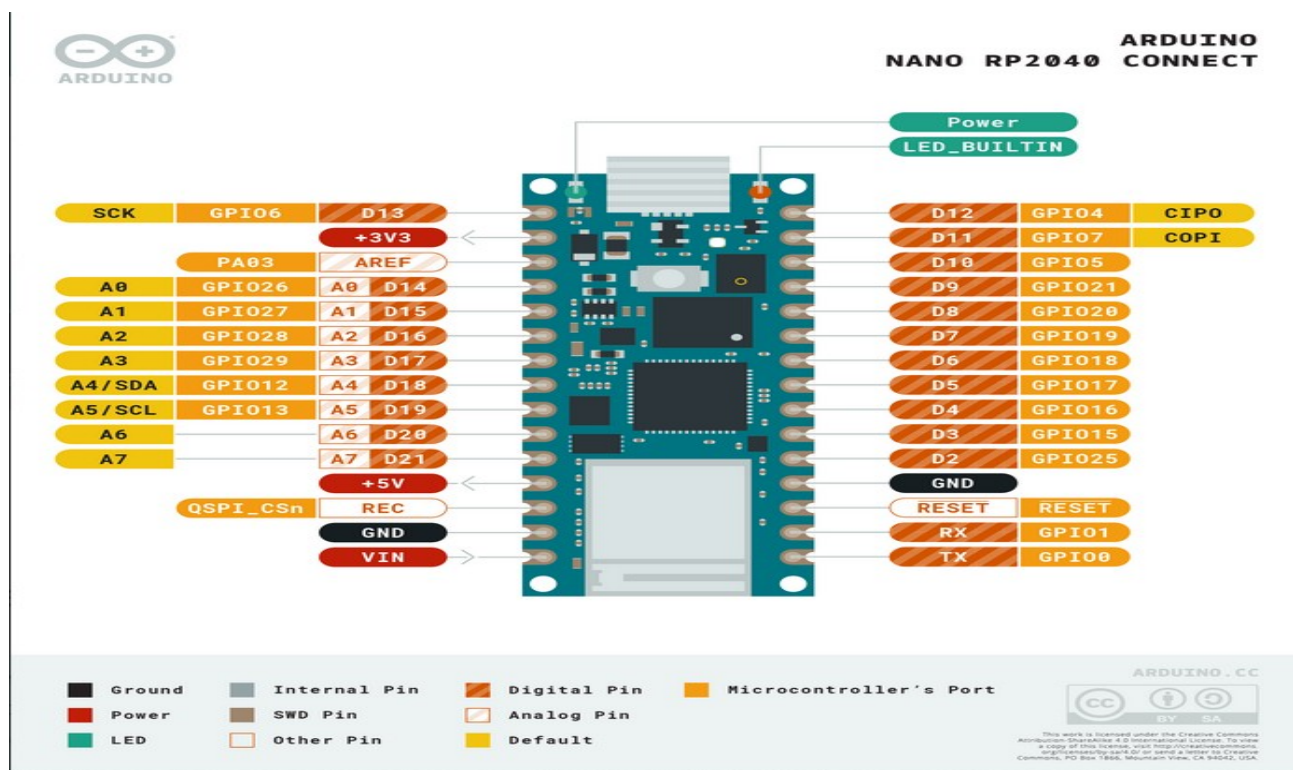


pico\_w pins



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Arduino Nano-RP2040-Connect

\$34.99





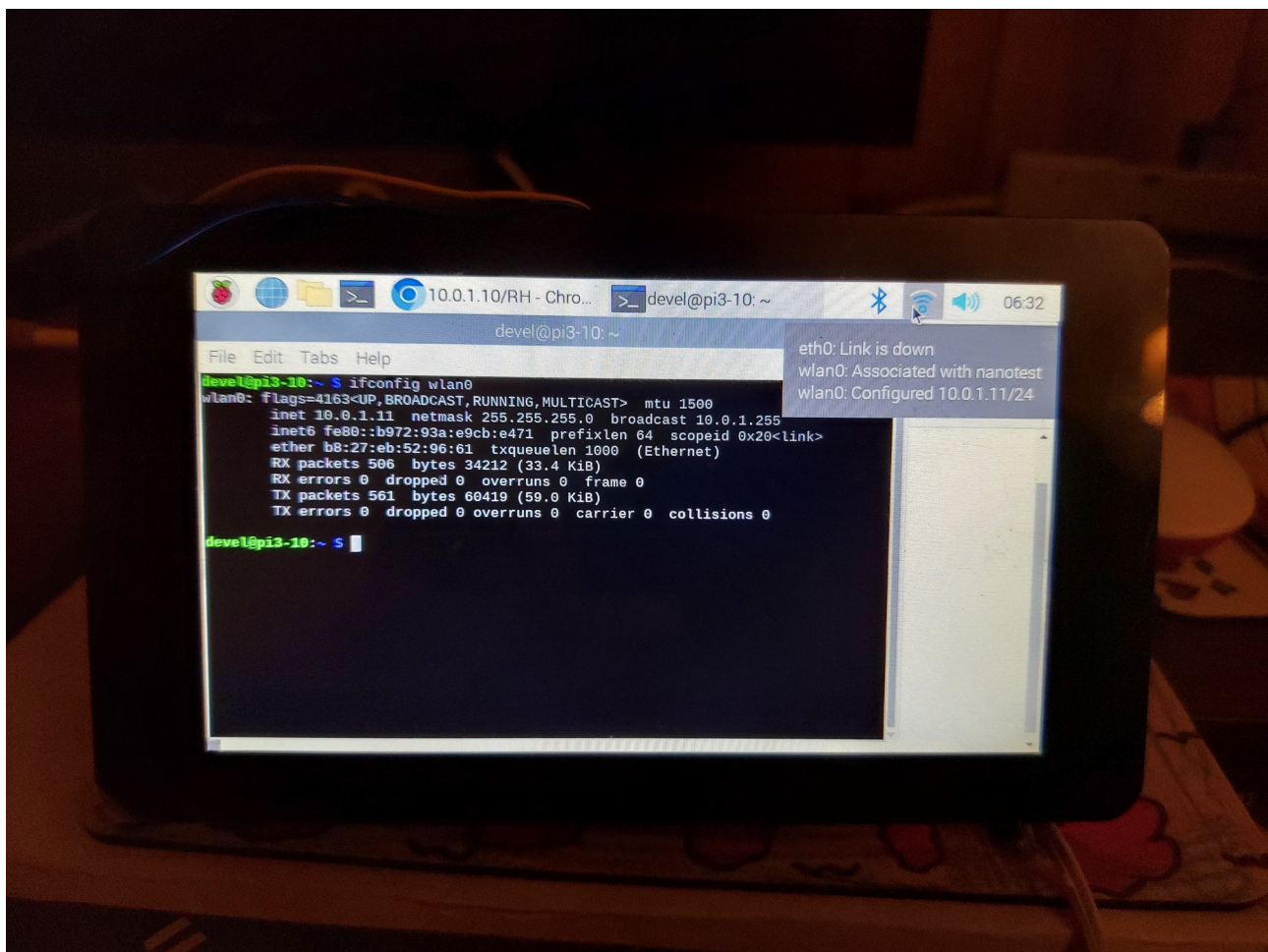
Programmed the Arduino Nano-RP2040-Connect as WIFI access point. This provides a DHCP server.

```
05:54:34.872 -> Access Point Web Server
05:54:35.298 -> Creating access point named: nanotest
05:54:46.500 -> SSID: nanotest
05:54:46.500 -> IP Address: 10.0.1.10
05:54:46.500 -> To see this page in action, open a browser to http://10.0.1.10
```

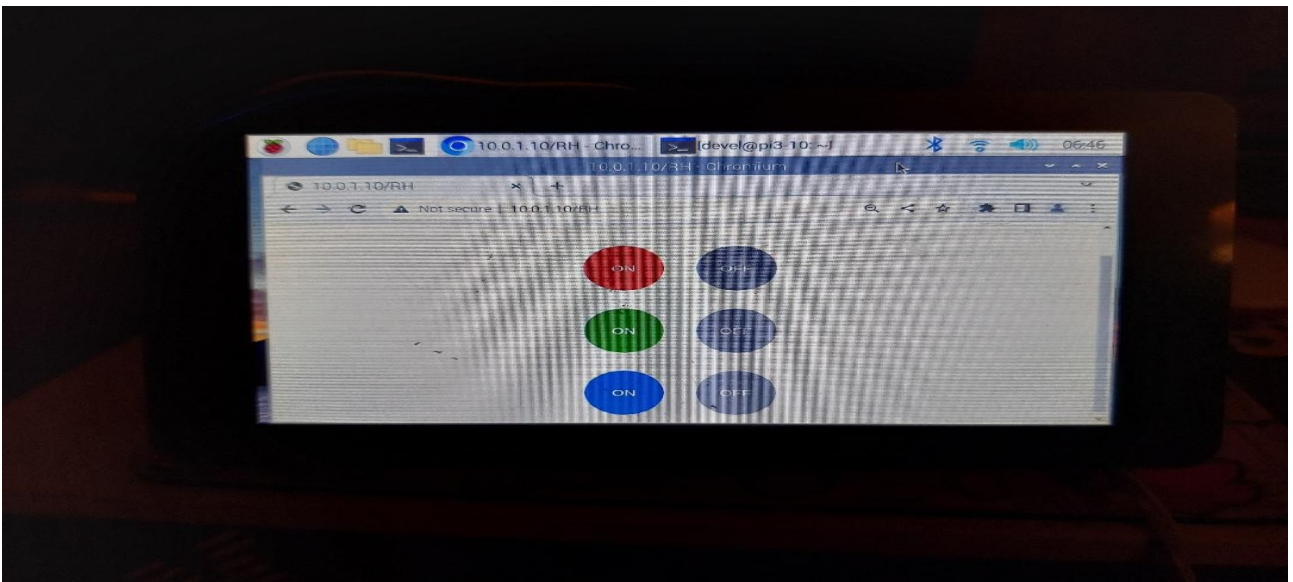
☒ Autoscroll ☒ Show timestamp

Newline 115200 baud Clear output

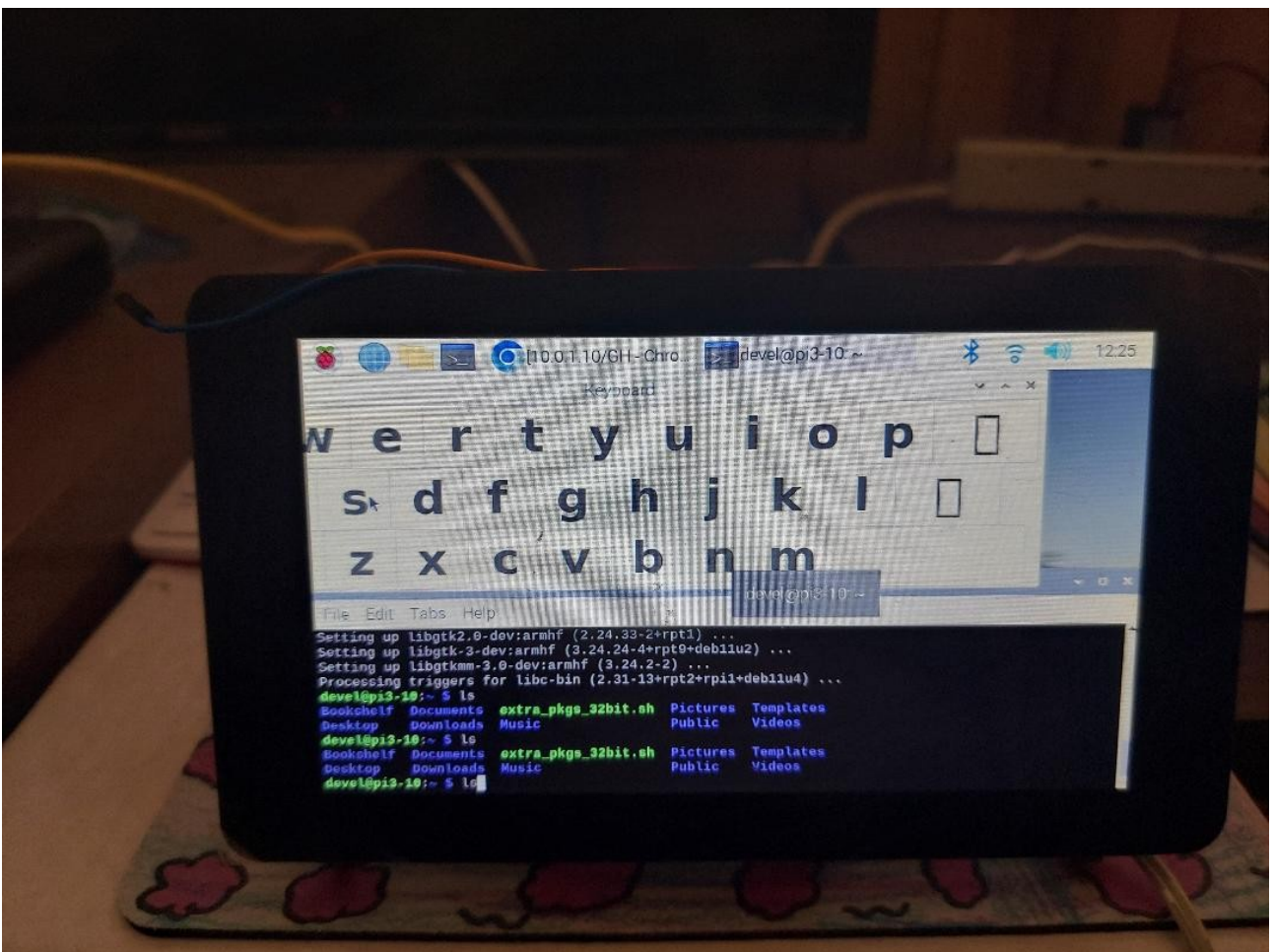
Two Raspberry Pi3B with 7 inch displays were used as remotes on this network. The IP assigned to pi3-10 was 10.0.1.11. The IP assigned to pi3-11 was 10.0.1.12.



The access point also provides a web server to control the RGB Led on the Nano-RP2040-Connect.



Adding a virtual keyboard will make it easier to do the field tests.



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Press CTRL-A Z for help on special keys

Connecting to WiFi...  
Connected.

Ready, running iperf server at 10.0.1.13  
Completed iperf transfer of 10 MBytes @ 8.3 Mbits/sec  
Total iperf megabytes since start 10 Mbytes

iperf -c 10.0.1.13

-----  
Client connecting to 10.0.1.13, TCP port 5001  
TCP window size: 43.8 KByte (default)  
-----

[ 3] local 10.0.1.11 port 43808 connected with 10.0.1.13 port 5001  
[ ID] Interval Transfer Bandwidth  
[ 3] 0.0000-10.0892 sec 10.0 MBytes 8.31 Mbits/sec

Client/Server

cmake -DPICO\_BOARD=pico\_w -DTEST\_TCP\_SERVER\_IP="10.0.1.13" -  
DWIFI\_SSID="nanotest" -DWIFI\_PASSWORD="12345678" ..

cmake -DPICO\_BOARD=pico\_w -DTEST\_TCP\_SERVER\_IP="10.0.1.14" -  
DWIFI\_SSID="nanotest" -DWIFI\_PASSWORD="12345678" ..

openocd -f interface/raspberrypi-swd.cfg -f target/rp2040.cfg -c "program  
pico\_w/wifi\_scan/picow\_wifi\_scan\_poll.elf verify reset exit"

Press CTRL-A Z for help on special keys

Performing wifi scan

ssid: nanotest	rssi: -50 chan: 3 mac: 30:c6:f7:01:8f7
ssid: ATTtpHTfPi	rssi: -11 chan: 1 mac: cc:ab:2c:c7:5e5
ssid: ATT3TV6WQs	rssi: -70 chan: 1 mac: c8:52:61:4e:d25
ssid: ATTtpHTfPi	rssi: -12 chan: 1 mac: cc:ab:2c:c7:5e5
ssid: nanotest	rssi: -51 chan: 3 mac: 30:c6:f7:01:8f7
ssid: ATT3TV6WQs	rssi: -71 chan: 1 mac: c8:52:61:4e:d25
ssid: House	rssi: -74 chan: 3 mac: c4:41:1e:4e:c35
ssid: nanotest	rssi: -53 chan: 3 mac: 30:c6:f7:01:8f7
ssid: nanotest	rssi: -51 chan: 3 mac: 30:c6:f7:01:8f7
ssid:	rssi: -71 chan: 3 mac: ca:41:1e:4e:c35
ssid:	rssi: -76 chan: 3 mac: ca:41:1e:4e:c35
ssid: ATTjw8tqXi	rssi: -82 chan: 6 mac: f4:17:b8:de:a65
ssid: ATTtpHTfPi	rssi: -46 chan: 1 mac: cc:ab:2c:c7:5e5
ssid: ATT47CJH5z_EXT	rssi: -70 chan: 11 mac: 3c:84:6a:46:987
ssid: ATT47CJH5z_EXT	rssi: -73 chan: 11 mac: 3c:84:6a:46:987
ssid: ATT47CJH5z_EXT	rssi: -73 chan: 11 mac: 3c:84:6a:46:987
ssid: ATT47CJH5z_EXT	rssi: -71 chan: 11 mac: 3c:84:6a:46:987
ssid: ATT47CJH5z_EXT	rssi: -74 chan: 11 mac: 3c:84:6a:46:987

```
openocd -f interface/raspberrypi-swd.cfg -f target/rp2040.cfg -c "program
pico_w/ipperf/picow_iperf_server_background.elf verify reset exit"
```

```
openocd -f interface/raspberrypi-swd.cfg -f target/rp2040.cfg -c "program
pico_w/tcp_server/picow_tcpip_server_background.elf verify reset exit"
```

Back from buildCRCTable

0xd3 0x1 0x2e

Connecting to WiFi...

Connected.

Starting server at 10.0.1.13 on port 4242

Client connected

Writing 2048 bytes to client

tcp\_server\_sent 1460

tcp\_server\_sent 588

Waiting for buffer from client

tcp\_server\_recv 1460/0 err 0

tcp\_server\_recv 588/1460 err 0

tcp\_server\_recv buffer ok

Writing 2048 bytes to client

tcp\_server\_sent 1460

tcp\_server\_sent 588

Waiting for buffer from client

tcp\_server\_recv 1460/0 err 0

tcp\_server\_recv 588/1460 err 0

tcp\_server\_recv buffer ok

Writing 2048 bytes to client

tcp\_server\_sent 1460

tcp\_server\_sent 588

Waiting for buffer from client

tcp\_server\_recv 1460/0 err 0

tcp\_server\_recv 588/1460 err 0

tcp\_server\_recv buffer ok

Writing 2048 bytes to client

tcp\_server\_sent 1460

tcp\_server\_sent 588

Waiting for buffer from client

tcp\_server\_recv 1460/0 err 0

tcp\_server\_recv 588/1460 err 0

tcp\_server\_recv buffer ok

Writing 2048 bytes to client

tcp\_server\_sent 1460

tcp\_server\_sent 588

Waiting for buffer from client

tcp\_server\_recv 1460/0 err 0

tcp\_server\_recv 588/1460 err 0

tcp\_server\_recv buffer ok

Writing 2048 bytes to client

tcp\_server\_sent 1460

tcp\_server\_sent 588

Waiting for buffer from client

```
tcp_server_recv 1460/0 err 0
tcp_server_recv 588/1460 err 0
tcp_server_recv buffer ok
Writing 2048 bytes to client
tcp_server_sent 1460
tcp_server_sent 588
Waiting for buffer from client
tcp_server_recv 1460/0 err 0
tcp_server_recv 588/1460 err 0
tcp_server_recv buffer ok
Writing 2048 bytes to client
tcp_server_sent 1460
tcp_server_sent 588
Waiting for buffer from client
tcp_server_recv 1460/0 err 0
tcp_server_recv 588/1460 err 0
tcp_server_recv buffer ok
Writing 2048 bytes to client
tcp_server_sent 1460
tcp_server_sent 588
Waiting for buffer from client
tcp_server_recv 1460/0 err 0
tcp_server_recv 588/1460 err 0
tcp_server_recv buffer ok
Writing 2048 bytes to client
tcp_server_sent 1460
tcp_server_sent 588
Waiting for buffer from client
tcp_server_recv 1460/0 err 0
tcp_server_recv 588/1460 err 0
tcp_server_recv buffer ok
test success
```

```
openocd -f interface/raspberrypi-swd.cfg -f target/rp2040.cfg -c "program
pico_w/tcp_client/picow_tcpip_client_background.elf verify reset exit"
```

```
Connecting to WiFi...
Connected.
Connecting to 10.0.1.13 port 4242
Waiting for buffer from server
recv 1460 err 0
recv 588 err 0
Writing 2048 bytes to server
tcp_client_sent 1460
tcp_client_sent 588
Waiting for buffer from server
recv 1460 err 0
recv 588 err 0
Writing 2048 bytes to server
tcp_client_sent 1460
tcp_client_sent 588
Waiting for buffer from server
```



[illegible]