

\*\*\*\*\*Default\*\*\*\*\*

## Using module usbmon with with Wireshark to Examine what is sent to pico using picotool 05/16/22

\*\*\*\*\*Default\*\*\*\*\*

I forked <https://github.com/raspberrypi/picotool>

```
git clone git@github.com:develone/picotool.git
```

```
cd picotool
```

```
mkdir build
```

```
cd build
```

```
cmake ..
```

```
make
```

```
sudo ./picotool help
```

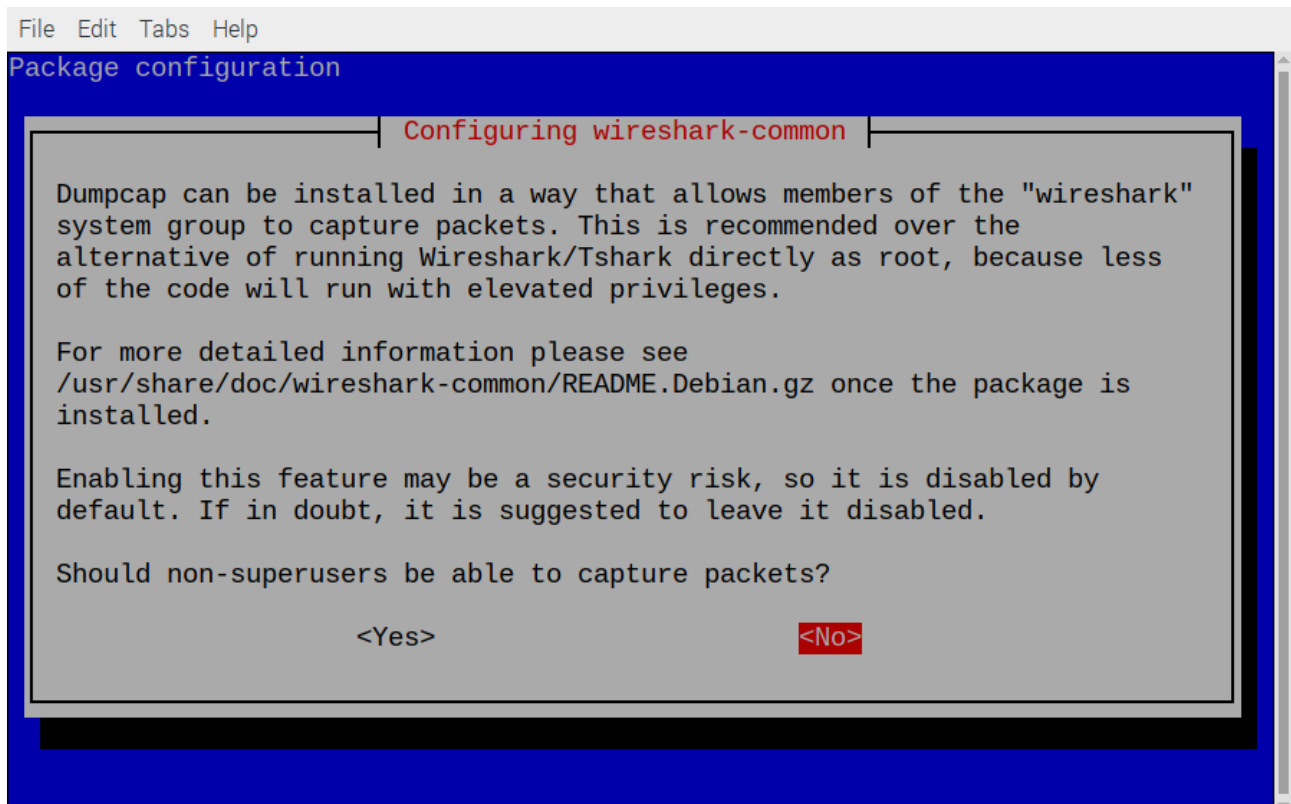
Help pico is found at Appendix A.

Found at the site

<https://technolinchpin.wordpress.com/2015/10/23/usb-bus-sniffers-for-linux-system/>

### sudo apt-get install wireshark

Should non-superusers be able to capture packets?



**Be sure and use no.**

**sudo lsmod | grep -i usbmon**

usbmon 32768 0

sudo or as root **modprobe usbmon**

**sudo or as root wireshark**

devel@pi4-27:~/rp2040-freertos-project/build/test-read \$ **sudo ~/picotool/build/picotool load -f -v test-read.elf**

The device was asked to reboot into BOOTSEL mode so the command can be executed.

Loading into Flash: [=====] 100%

Verifying Flash: [=====] 100%

OK

The device was asked to reboot back into application mode.

In the file “~/rp2040-freertos-project/doc/wireshark/w-vusbmon0.pcapng” starting at time 159 7.964170 host 1.72.0 to 830 9.822218.

image 0

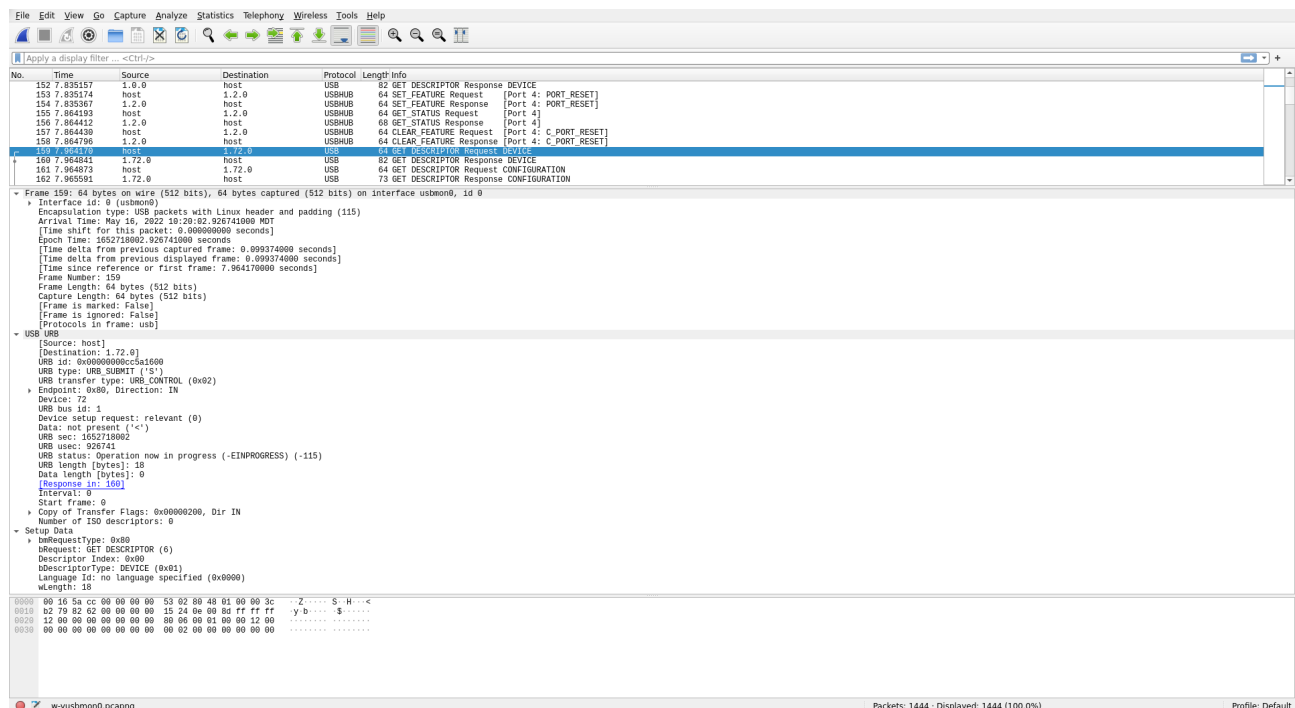


image 1

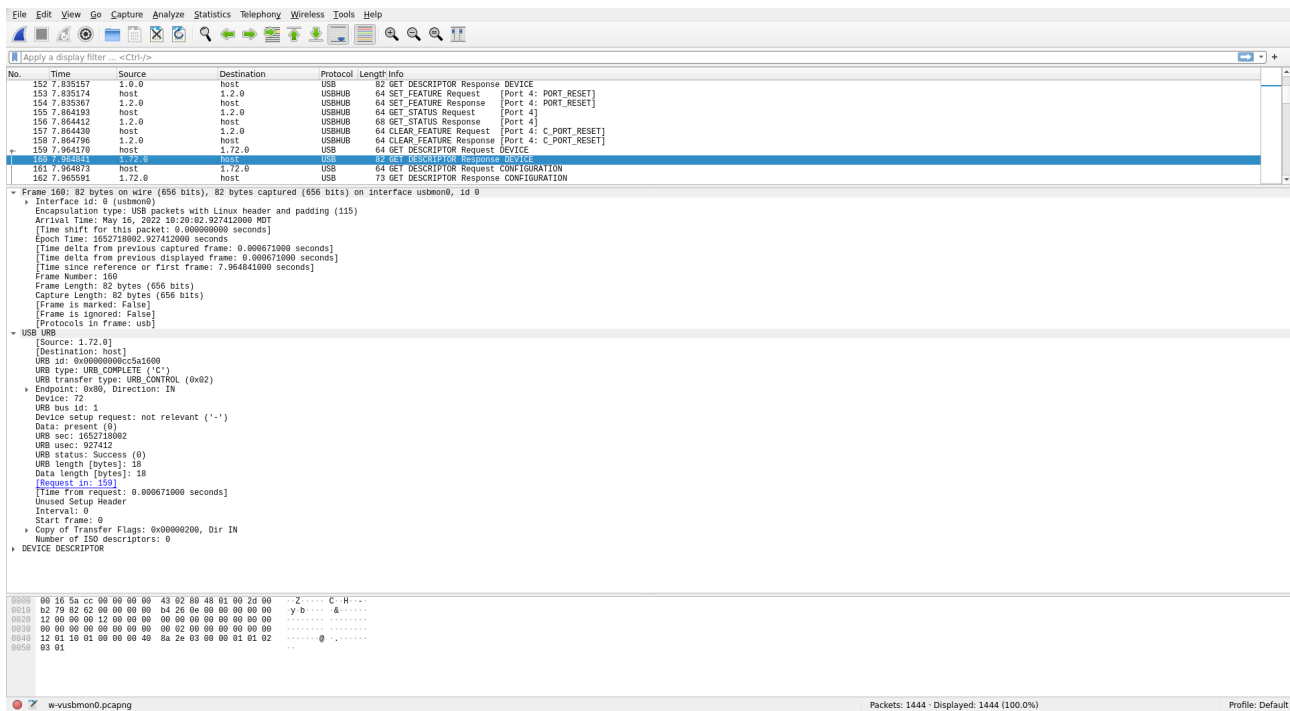


image 2

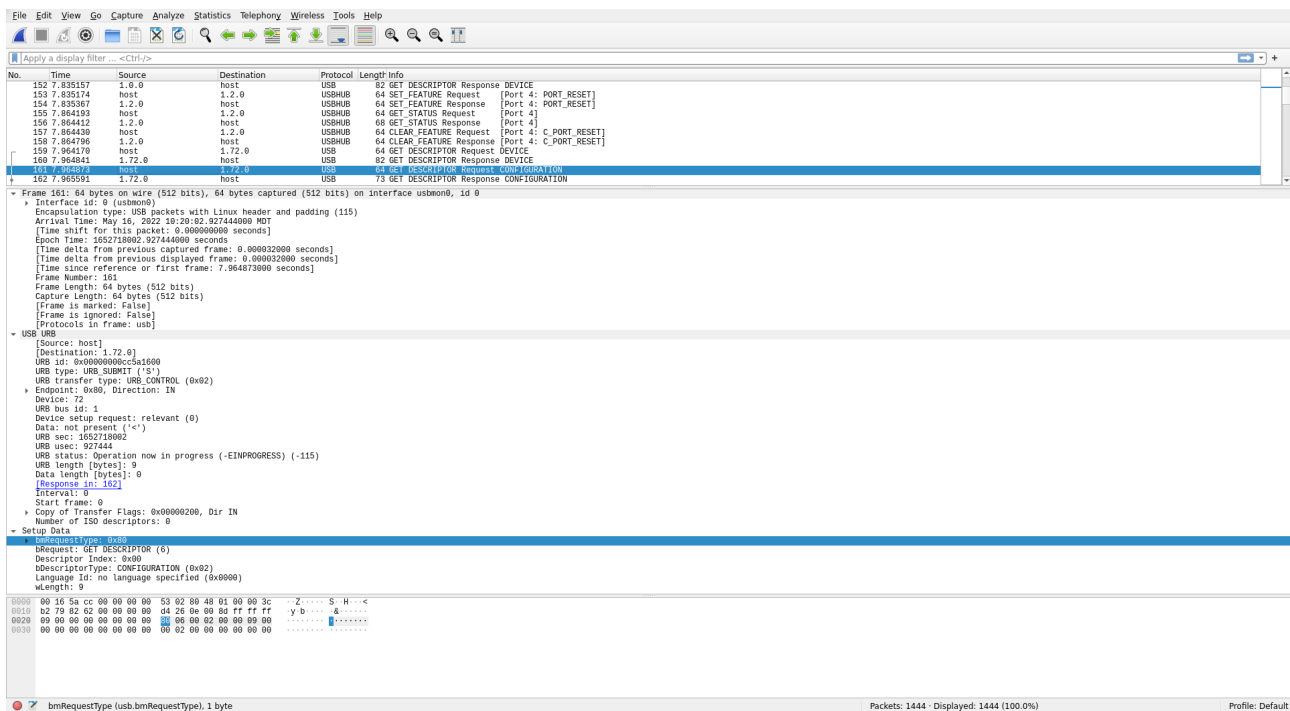


image 3

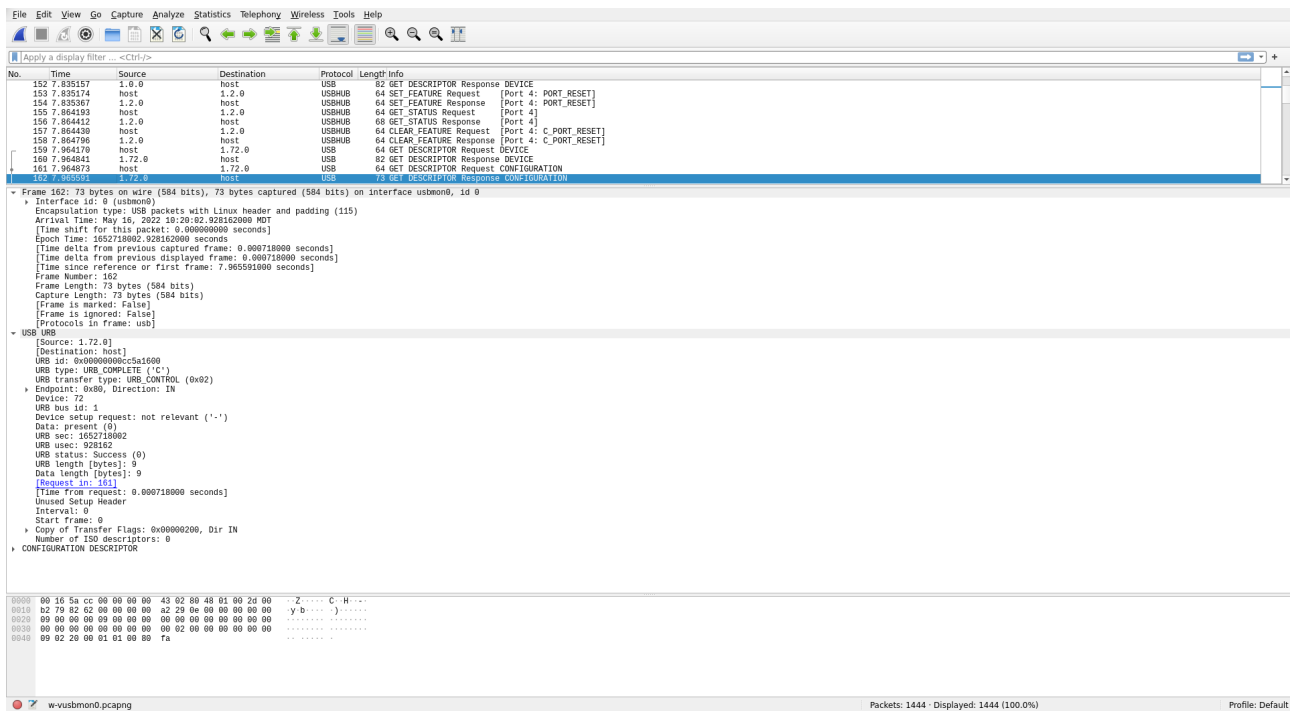


image 4

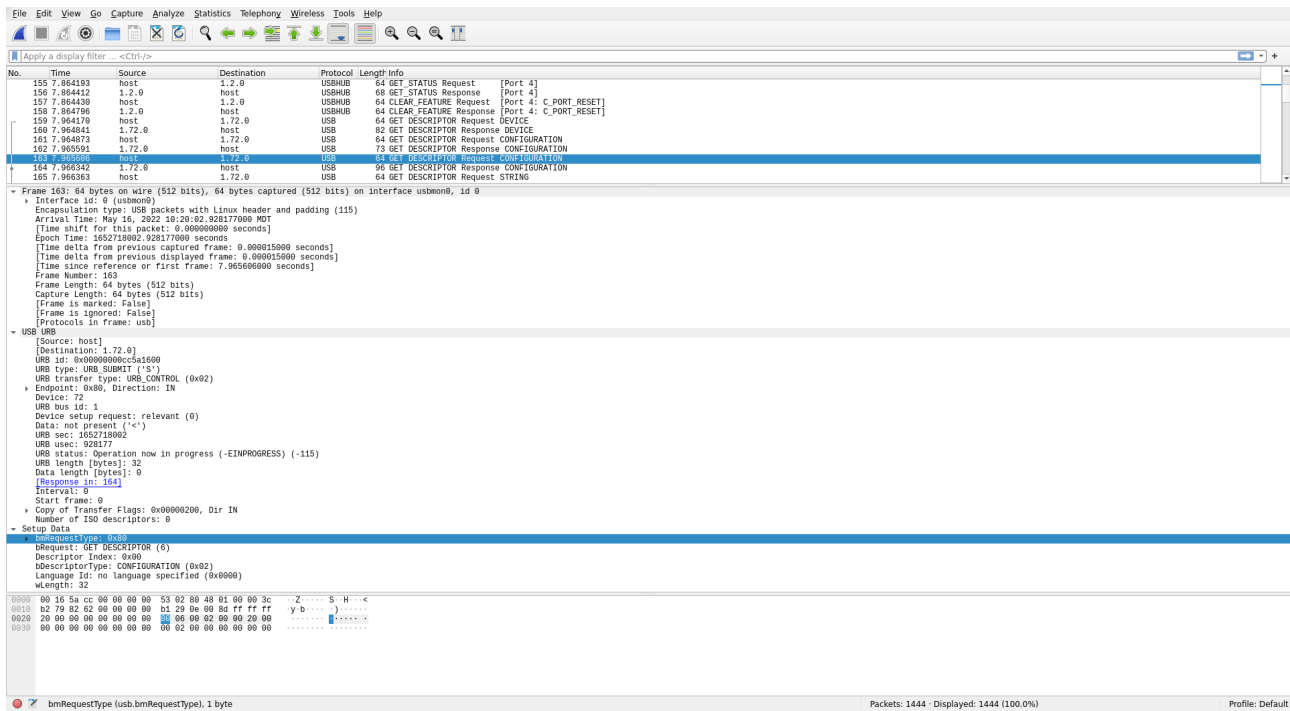


image 5

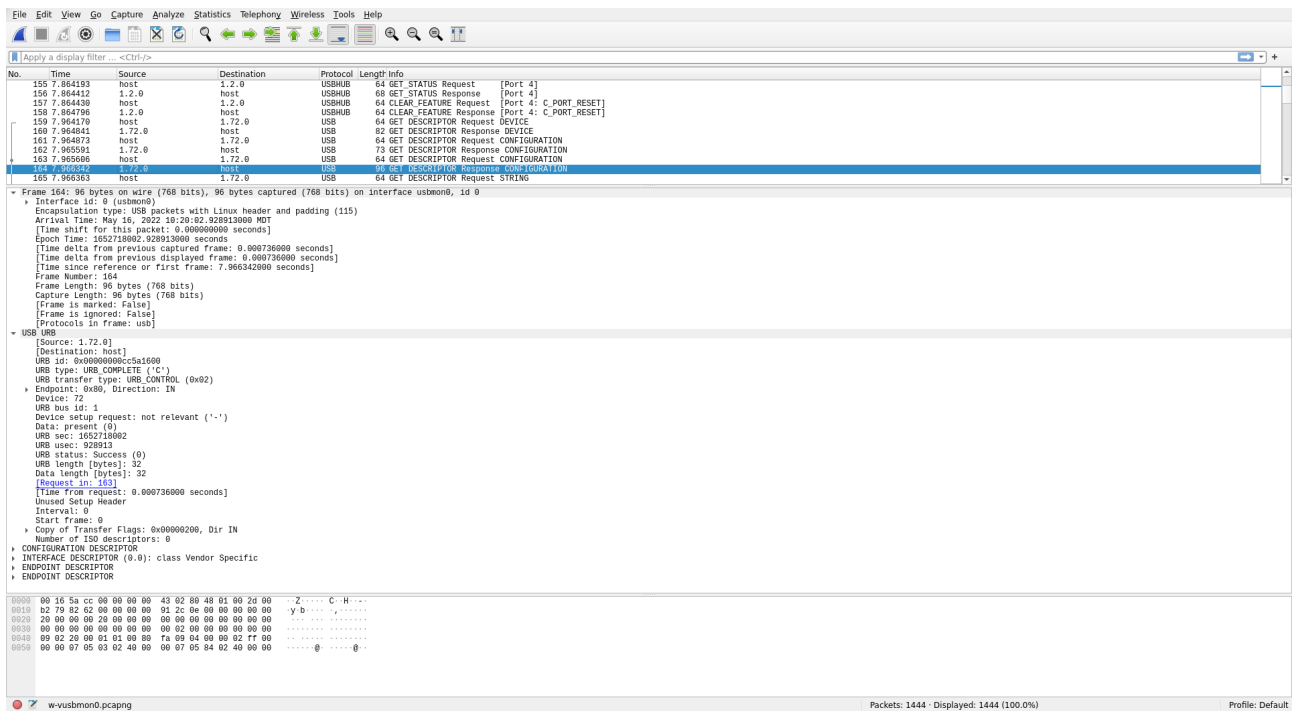
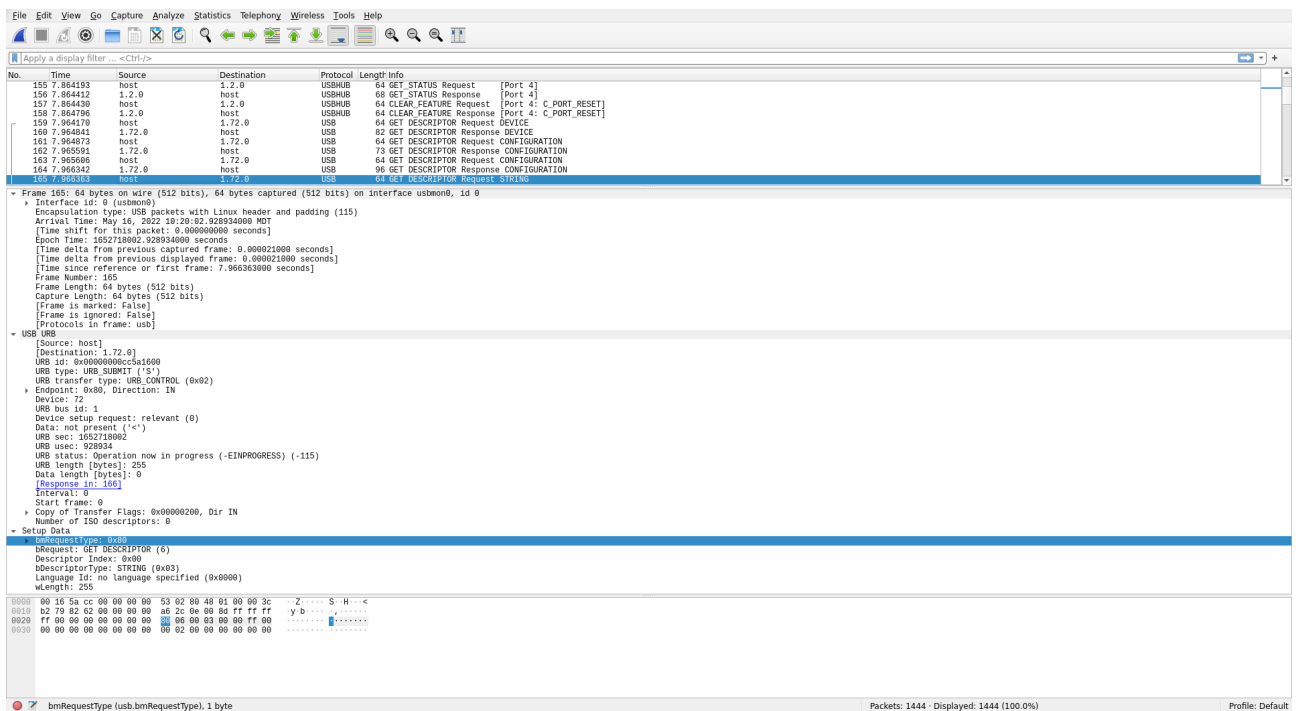


image 6



Appendix A.  
 sudo ./picotool help  
 PICOTOOL:

Tool for interacting with a RP2040 device in BOOTSEL mode, or with a RP2040 binary

SYNOPSIS:

picotool info [-b] [-p] [-d] [-l] [-a] [--bus <bus>] [--address <addr>] [-f]  
 [-F]  
 picotool info [-b] [-p] [-d] [-l] [-a] <filename> [-t <type>]

```
picotool load [-n] [-N] [-v] [-x] <filename> [-t <type>] [-o <offset>]
               [--bus <bus>] [--address <addr>] [-f] [-F]
picotool save [-p] [--bus <bus>] [--address <addr>] [-f] [-F] <filename> [-t
               <type>]
picotool save -a [--bus <bus>] [--address <addr>] [-f] [-F] <filename> [-t
               <type>]
picotool save -r <from> <to> [--bus <bus>] [--address <addr>] [-f] [-F]
               <filename> [-t <type>]
picotool verify [--bus <bus>] [--address <addr>] [-f] [-F] <filename> [-t
               <type>] [-r <from> <to>] [-o <offset>]
picotool reboot [-a] [-u] [--bus <bus>] [--address <addr>] [-f] [-F]
picotool version [-s]
picotool help [<cmd>]
```

#### COMMANDS:

info	Display information from the target device(s) or file. Without any arguments, this will display basic information for all connected RP2040 devices in BOOTSEL mode
load	Load the program / memory range stored in a file onto the device.
save	Save the program / memory stored in flash on the device to a file.
verify	Check that the device contents match those in the file.
reboot	Reboot the device
version	Display picotool version
help	Show general help or help for a specific command

Use "picotool help <cmd>" for more info