So, we first look through the string and find ECSC{ lol ... nope.. Try Harder! It is all about ports!, so I started looking through the ports. The malformed packets caught my eye, since their source ports are 10069, 10067, etc. which looks like flag characters in ASCII + 10000. After a bit of manual checking I figured that is actually the case, so made a command to filter for malformed packets (with reset flag set), get the source ports, subtract 10000 and print as characters. I also filtered a 10001 and 80 which appeared in the capture for some reason.

tshark -r ping-pong.pcapng -Y "tcp.flags.reset == 1" -T fields -e tcp.srcport -e udp.srcport | awk '\$1 != $10001 \&\& $1 != 80 {printf "%c", $1-10000}$ '

This commands gives the flag.

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