

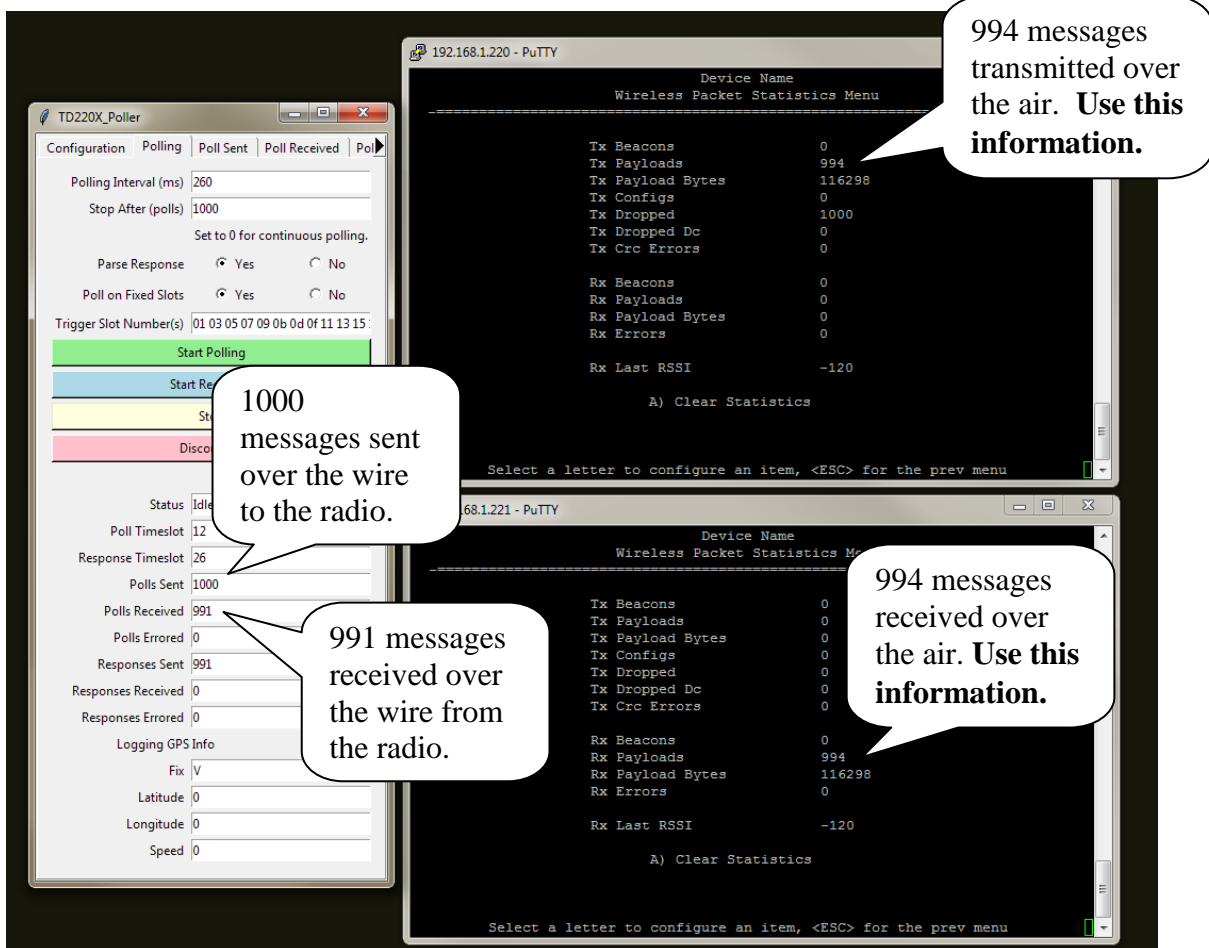
Introduction

GE MDS has made a polling utility available to send and receive data between TD220X radios. This is the *TD220X_Poller*, found on the TD220X community portal (http://supportcentral.ge.com/products/sup_products.asp?prod_id=181796). This utility, while useful, is not an instrument-grade utility for a couple of reasons:

1. It runs on a PC where other applications are also running, changing the timing of sending and receiving messages vs. the regimented TDMA timing used by the TD220X radio.
2. It uses PC's UDP facility, which is not 100% reliable on sending and receiving messages to and from the radio.

What to Do?

If your evaluation requires exact results for messages sent vs. messages received over the air, it is recommended that you use the radios' built in wireless statistics to obtain packets sent from one radio and packets received by the other. Please refer to the screenshot below.



The screenshot displays the *TD220X_Poller* utility interface and two PuTTY terminal windows showing wireless statistics. The utility window shows a configuration for 1000 polls, with a status table indicating 991 polls received. The terminal windows show 994 messages transmitted and 994 messages received over the air.

Configuration	Value
Polling Interval (ms)	260
Stop After (polls)	1000
Parse Response	Yes
Poll on Fixed Slots	Yes
Trigger Slot Number(s)	01 03 05 07 09 0b 0d 0f 11 13 15

Status	Value
Polls Sent	1000
Polls Received	991
Responses Sent	991
Responses Received	0

Device Name	Value
Tx Beacons	0
Tx Payloads	994
Tx Payload Bytes	116298
Tx Configs	0
Tx Dropped	1000
Tx Dropped Dc	0
Tx Crc Errors	0
Rx Beacons	0
Rx Payloads	0
Rx Payload Bytes	0
Rx Errors	0
Rx Last RSSI	-120

In this screenshot, the TD220X_Poller indicates it sent 1000 polls. Only 994 of these were transmitted over the air, however. The receive radio was able to receive all 994 over the air. The TD220X_Poller application, however, indicates it only received 991 polls over the Ethernet connection. In this case, the PER should be calculated as $(1 - Pr/Ps)$ or $(1 - 994/994)$ or 0% and not $(1 - 991 / 1000)$ or 0.9%.

Conclusion

If attention is paid to the wireless statistics reported by polled radios instead of the indications of the TD220X_Poller program, accurate PER can be measured.