

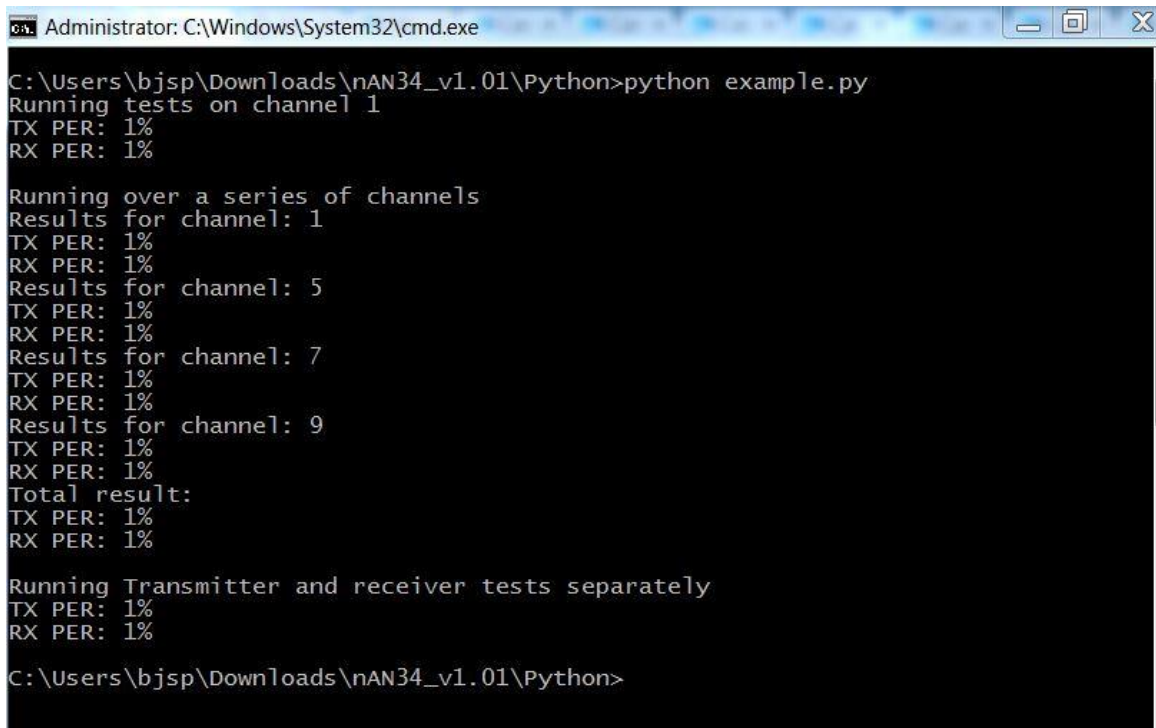
DTM Test Setup

- 1 Download the nAN-34 App note and the python scripts from the product page, using [this](#) link.
- 2 Flash both the DUT and the nRF51 DK kit with the DTM Example(SDK-folder/examples/dtm)
- 3 Open the example.py python script found in the Python folder in the nAn34_v1.01 zip-file. Edit the TestSerialPortName and GoldenSerialPortName to match the COM-ports that the DUT and nRF51 DK are connected to. (Just open Device Manager >> Ports to see the COM port number)
- 4 If you do not have Python, download it from [here](#) and add python.exe to your Windows path.

To run the test just open a terminal window in the nAn34_v1.01/Python folder and type in the following

Python example.py

With 0db attenuation the output should be like below



```
Administrator: C:\Windows\System32\cmd.exe
C:\Users\bjsp\Downloads\nAN34_v1.01\Python>python example.py
Running tests on channel 1
TX PER: 1%
RX PER: 1%

Running over a series of channels
Results for channel: 1
TX PER: 1%
RX PER: 1%
Results for channel: 5
TX PER: 1%
RX PER: 1%
Results for channel: 7
TX PER: 1%
RX PER: 1%
Results for channel: 9
TX PER: 1%
RX PER: 1%
Total result:
TX PER: 1%
RX PER: 1%

Running Transmitter and receiver tests separately
TX PER: 1%
RX PER: 1%

C:\Users\bjsp\Downloads\nAN34_v1.01\Python>
```

Adjust the attenuation level so that the packet loss is close to 30%, i.e. the DUT is barely passing. With the nRF51 DK, I had to set the attenuation to 50dB, see the screenshot below. Please note that you might have to set the attenuation level higher or lower.

```
Administrator: C:\Windows\System32\cmd.exe
C:\Users\bjsp\Downloads\NaN34_v1.01\Python>python example.py
Running tests on channel 1
TX PER: 19%
RX PER: 16%

Running over a series of channels
Results for channel: 1
TX PER: 15%
RX PER: 19%
Results for channel: 5
TX PER: 21%
RX PER: 25%
Results for channel: 7
TX PER: 22%
RX PER: 24%
Results for channel: 9
TX PER: 18%
RX PER: 19%
Total result:
TX PER: 19%
RX PER: 21%

Running Transmitter and receiver tests separately
TX PER: 21%
RX PER: 24%

C:\Users\bjsp\Downloads\NaN34_v1.01\Python>
```

If the attenuation level is too high then no packets will go through, i.e. 100% percent packet loss, for the nRF51 Dk this was 55dB.

```
Administrator: C:\Windows\System32\cmd.exe
C:\Users\bjsp\Downloads\NaN34_v1.01\Python>python example.py
Running tests on channel 1
Transmitter test Packeterrorrate to high at 98%
TX PER: N/A%
RX PER: N/A%

Running over a series of channels
Transmitter test Packeterrorrate to high at 97%
Results for channel: 1
TX PER: N/A%
RX PER: N/A%
Transmitter test Packeterrorrate to high at 100%
Results for channel: 5
TX PER: N/A%
RX PER: N/A%
Transmitter test Packeterrorrate to high at 99%
Results for channel: 7
TX PER: N/A%
RX PER: N/A%
Transmitter test Packeterrorrate to high at 98%
Results for channel: 9
TX PER: N/A%
RX PER: N/A%
Total result:
TX PER: 100%
RX PER: 100%

Running Transmitter and receiver tests separately
Transmitter test Packeterrorrate to high at 99%

C:\Users\bjsp\Downloads\NaN34_v1.01\Python>
```

