Test Script 3004_1202_4004.stn

COM-3004 70 MHz receiver ->
     COM-1202 PSK/APSK/QAM Modem ->
       COM-4004 70 MHz modulator ->
         Loopback to input

Objective: Illustrate the COM-1202 operation at 4 Mbits/s (2 MSymbols/s QPSK) with 70 MHz input and output.

Configuration: Connect a USB cable between the PC and the COM-1202. Import the settings 3004_1202_4004.stn from the File | Import menu. The configurations should be as shown below:

COM4004 70 MHz IF Modulator Basic Settings

IF Center Frequency: 69999998 Hz

Gain Control: 180

☐ 10 MHz External Frequency Reference

☐ Unmodulated Test Mode

☑ Output On

Apply | Ok | Advan... | Cancel

COM3004 IF receiver [20 - 90 MHz] Basic Settings

Frequency Selection: 0

Frequency 0: 69999999 Hz

Frequency 1: 19999999 Hz

Frequency 2: 89999998 Hz

Frequency 3: 0 Hz

Frequency 4: 0 Hz

Frequency 5: 0 Hz

Frequency 6: 0 Hz

Frequency 7: 0 Hz

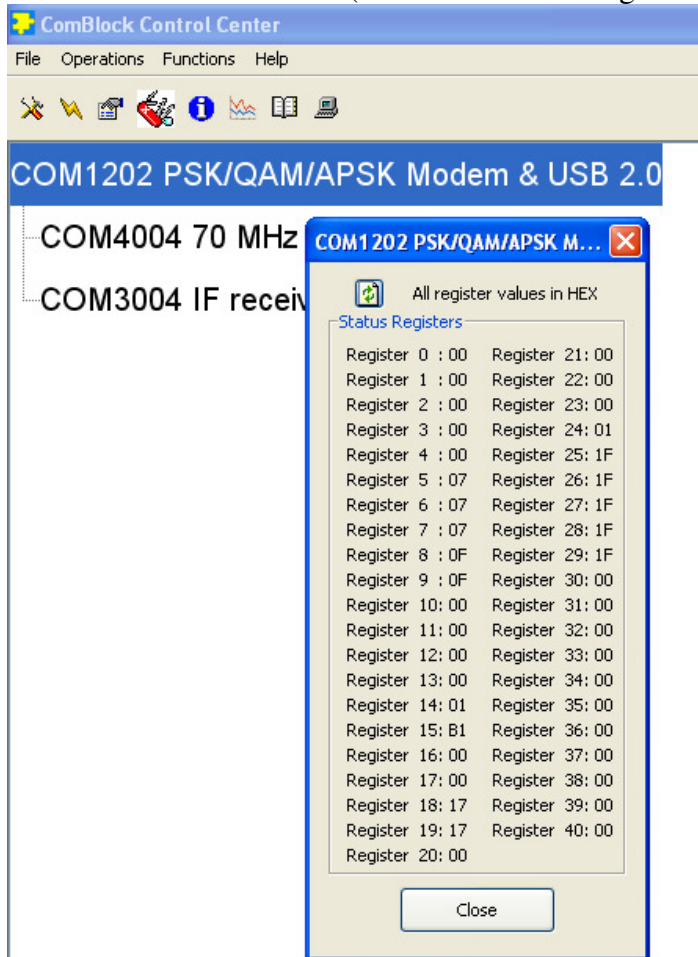☐ 10 MHz External Frequency Reference

☐ External Trigger

Number of Frequency Hopping Steps: 3

Apply | Ok | Advan... | Cancel

Observe:

1. COM-1202 TP8 is high, indicating BER measurement lock
2. COM-1202 TP9 is low, indicating no bit errors
3. COM-1202 TP10 shows periodic pulses (start of PRBS11 sequence) at a frequency of 4Mbits/s/2047 = 1.954 KHz.
4. BER measurement is zero (COM-1202 status registers 20 through 23)

5. 5VDC Power consumption: 2.1A
6. ComScope Trace 2 Signal 1 shows a small amount of noise at the optimum sampling instant (due to the non-linear behavior of the COM-3004 when the input signal is too strong). Adding an attenuator (30-40 dB) between the COM-4004

output and the COM-3004 input is recommended.