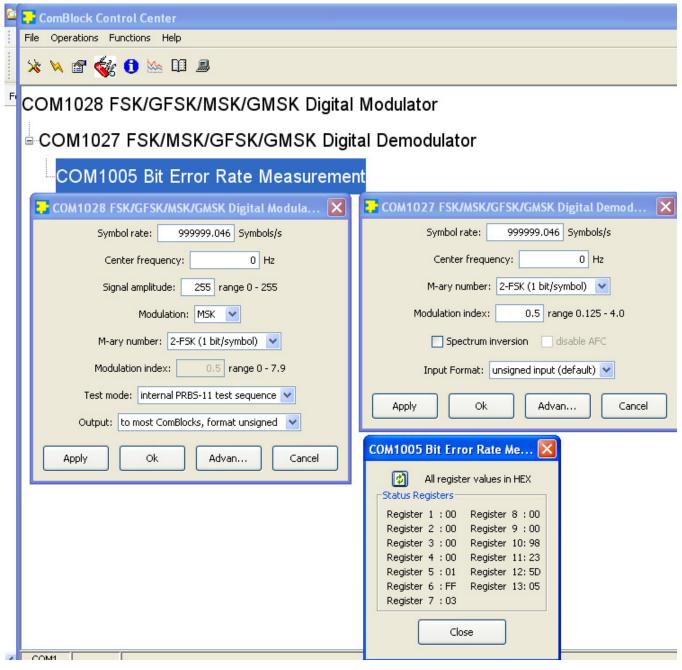
## COM-1028 -> COM-1027 -> COM-1005

## Test conditions:

- 1 Mbit/s 2-MSK, 0 center frequency
- ideal channel: noiseless, no frequency error

Back to back digital modem operations can be verified at baseband. The FSK modulator is configured in signal generator test mode whereby a periodic 2047-bit sequence is being transmitted. The end to end BER is measured using the COM-1005 module.

The settings file 1028\_1027\_1005.stn can be imported using the FilelImport function at the ComBlock Control Center.



Proper operation can be verified as follows

(a) using an oscilloscope probe:

COM-1005 TP1 is high, indicating synchronization with the 2047-bit periodic test pattern

COM-1005 TP3 is low, showing no bit error pulse

COM-1005 TP4 shows regular periodic start of frame pulses every 2047 bits = 208.8 us.

- (b) from the ComBlock control center check the BER (COM-1005 status). It will show no bit errors (REG 1 through 4) and the synchronization bit (REG5 bit0) is high.
- (c) from the ComBlock control center check the demodulator lock status (COM-1027 status, Register REG16 = 3, indicating both signal power detection and AFC lock.

  Register REG12/13/14 should show a frequency error centered around zero with small variations (typically between 0xFF0000 and 0x00FFFF)
- (d) The COM-1027 demodulator 'sees' the following MSK-modulated inputs, visible via ComScope trace 1 signal 1 and trace 2 signal 1. The blue/red traces are the In-band and Quadrature components of the complex input signal respectively.

