1. PURPOSE

This procedure is used to test and tune the PDL High Power Base and Low power base FINAL assembly.

2. HISTORY

Rev P1 – Initial Release

3. REQUIRED EQUIPMENT

Communications Monitor (Motorola R2570A or equivalent)
DC Power Supply(12V,2A min.) with current meter (BK Model 1688 or equivalent)
Personal Computer (PC) running windows 9X
Printer for the PC (HP 880C)
PDLCONF.EXE - factory version (current revision)
PDLTEST.EXE and C.EXE programs for modem test (current revision)
Data/Power cable (A00470)
BNC(M) to BNC(M) RF Cables
30dB attenuator
HP8591A Spectrum Analyzer

4. PROCEDURE

4.1 Attach the UUT

Connect the UUT to a data/power cable. Connect the antenna port of the UUT to the RFIO connector of the communications monitor. Run PDLTEST with the UUT in packet switched mode.

4.2 Verify PWR LED and Displayed Channel

Turn on power to the UUT. Confirm that the correct channel is displayed and the PWR LED is functioning properly. Indicate pass or fail on the report.

4.3 Frequency Error – Low RF Power

Configure the Communications Monitor to receive at the Local Oscillator frequency corresponding to middle test frequency. Use PDLTEST to adjust the frequency error of the UUT to within the specified range as specified in the test report. Program the modem. Indicate pass or fail on the report. The table below displays a list of Local Oscillator frequencies for the select bands.

TABLE : Local Oscillator Frequency Chart

Frequency Band:	**150-173 MHz**	**Local Oscillator:**	**214.45MHz**
Frequency Band:	**450-470 MHz**	**Local Oscillator:**	**514.30 MHz**

4.4 TX LED

While transmitting, confirm the TX LED is functional. Indicate pass or fail on the report.

4.5 Verify TX Performance : Carrier Power and Spectrum

Configure the communications analyzer to monitor the frequency at the middle of the frequency band. Use PDLTEST to select middle test frequency and Random Data for the UUT. Observe and record the results of the following parameters while transmitting:
- RF output in the LOW power setting and observe the harmonic spectrum
- RF output in the HIGH power setting and observe the harmonic spectrum
- Deviation in the HIGH power setting
- DC Current in the HIGH power setting

Repeat the above test at Low and high frequency of the frequency band.

4.6 CD Level

The Base will be in the high (factory test default) digi-squelch setting. Set the communications analyzer to generate at the middle test frequency. Configure the modem to RX at the middle frequency and verify that the RX LED comes on at the correct generator output level. Perform CDLEV again if required. Indicate pass or fail on the report.

4.7 BER

Perform the BER test and print the results. Indicate pass or fail on the report.

4.8 Leak Test

Perform the leak test. Indicate pass or fail on the report. Attach the side mounting bracket to the case after the leak test has passed.

4.9 PDLCONF

Run PDLCONF, install Default (or OEM Specific as appropriate) Settings and load any customer requested frequencies if specified on the Sales Order. Program and print the configuration. Indicate pass or fail on the report.

4.10 Package the modem

Turn off power to the UUT. Confirm that the serial number on the label matches the PDLCONF printed value. Indicate pass or fail on the report. Attach all of the report sheets together for the modem with the PDLCONF printout on the top and file by serial number.