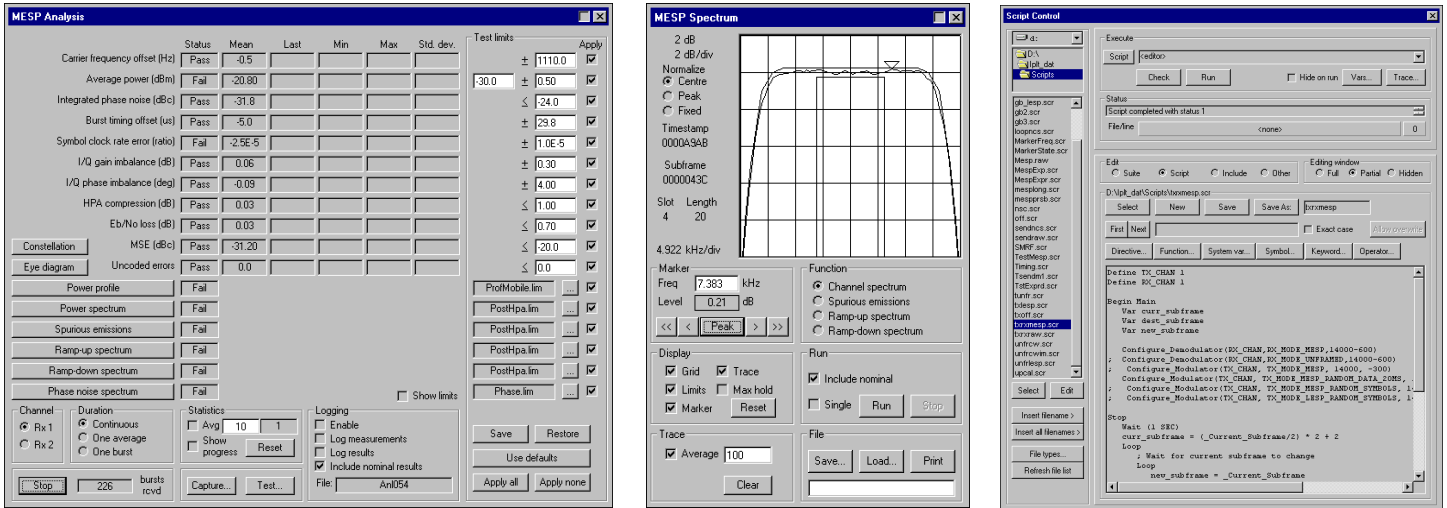




Square Peg Communications Inc.

IPDS MES Physical Layer Tester (IPLT)



Overview

Square Peg Communications Inc.'s IPDS MES Physical Layer Tester (IPLT) is a software application that runs on the generic Physical Layer Tester (PLT) platform. The IPLT supports the testing of physical layer performance and protocol implementation for Mobile Earth Stations implementing Inmarsat Packet Data Services (IPDS / MPDS) and packet based Fleet 77 and Swift 64 services.

The IPLT supports all of the MPDS channel types using state of the art DSP based modem technology. Real time signal analysis is performed on all received bursts in real time.

The IPLT is a powerful and flexible test tool but is easy to use. A familiar Windows based user interface provides easy access to test functions, while a powerful scripting language allows every feature of the IPLT and equipment under test to be exercised in automated testcases and suites.

The IPLT has been successfully used by manufacturers worldwide in the development and type approval of MESS.



Specifications

TRANSMIT CAPABILITIES

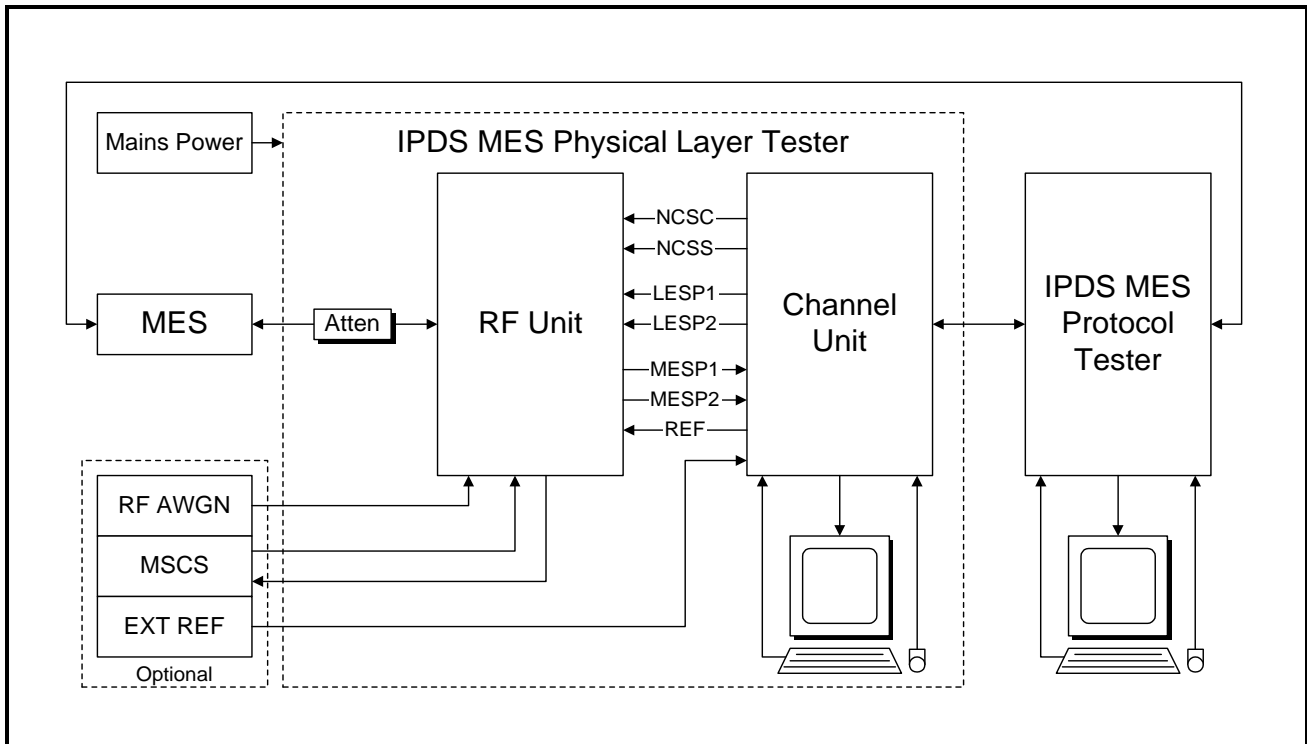
- NCS modulators **2 simultaneous**
- LESP/MESP modulators **2 simultaneous**
- LESP/MESP channel impairments

Independently-specifiable parameters:

- Fixed carrier frequency error
- Peak Doppler rate/offset
- Reacquisition carrier offset
- Adjacent channel interference
- Co-channel interference
- I/Q phase imbalance
- I/Q gain imbalance
- Continuous phase noise
- Discrete phase noise (99 Hz from carrier)
- Fading bandwidth, C/M ratio, differential delay
- Phase jump size, interval
- Transmission path delay

RECEIVE CAPABILITIES

- MESP demodulators **2 simultaneous**
- MESP signal analysis **1 selected MESP channel**
- Burst capture (raw samples and soft decisions)
- Burst replay (from raw samples)



IPLT CONFIGURATION

(Not all components are required for all test applications)

RECEIVE CAPABILITIES (continued)

- | | |
|----------------------|---|
| MESP signal analysis | <p>Selectable pass/fail limits for measurements:</p> <ul style="list-style-type: none"> ▪ Carrier frequency offset ▪ Average power ▪ Integrated phase noise ▪ Burst timing offset ▪ Symbol clock rate error ▪ I/Q gain and phase imbalance ▪ Constellation mean-squared error ▪ HPA compression ▪ Eb/No loss ▪ Uncoded errors ▪ Power profile ▪ Power spectrum ▪ Out-of-band emissions ▪ Ramp-up/ramp-down emissions ▪ Phase noise spectrum |
|----------------------|---|

LOGGING CAPABILITIES

- | | |
|----------------------|--|
| General | <p>Protocol Tester interface messages
 Transmitted/received PDUs
 MESP user data
 Test sequence progress and outcome
 System events, faults, and abnormal conditions</p> |
| MESP signal analysis | <p>Signal analysis measurements
 Signal analysis statistics
 Raw input samples
 Demodulator soft decisions</p> |

SCRIPT CAPABILITIES

- | | |
|---------------|--|
| General | <p>Looping and conditional structures
 User-defined variables and procedures
 Compile-time symbol substitution
 Conditional compilation
 User input and interaction
 Logging and displaying events and results
 Integrated development environment</p> |
| IPLT-specific | <p>Configuring and controlling modulators and demodulators
 Sending LESP and MESP PDUs
 Sending NCS SUs
 Receiving MESP PDUs
 Generating signal blockage events
 Sending and receiving messages to simulate the Protocol Tester</p> |



Contact Us

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