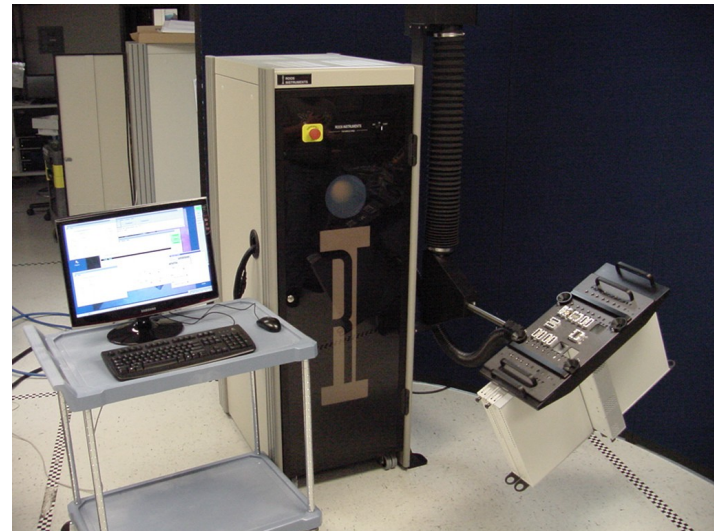




CASSINI RF/ Microwave ATE System Test Design & Best Practice Test Optimization





Test Plan - Comments, Guidelines and Suggestions

- Optimizer - Optimizes over Test Section
- Only add state buttons that are needed
- Changes cost time and money
- Data is displayed in the order listed & not displayed in the order performed
- Parameters set by LVs must be reset in the Disconnect Settings panel



Optimizer: Optimizes over each Test Section

Compiled Delta Settings Shows Test Times

Delta Settings for TestPlan: RFMD3100_F_offset

Test Plan Settings

- Testplan idle Settings
- Section: DC Tests
 - 1. Icc Power Down (Current)
 - 2. Icc Idle High (Current)
 - 3. Icc Idle Low (Current)
- Section: 824 MHz AMPS FH1 Find
 - 1. AMPS Sweep (RelativeVc)
 - 2. AMPS Sweep (RelativeVc)
 - 3. AMPS Sweep (RelativeVc)
 - 4. AMPS Sweep (RelativeVc)
 - 5. AMPS Sweep (RelativeVc)
- Section: 824 MHz AMPS FE1 Find
 - 1. AMPS Sweep (RelativeVc)
 - 2. AMPS Sweep (RelativeVc)
 - 3. AMPS Sweep (RelativeVc)
 - 4. AMPS Sweep (RelativeVc)
 - 5. AMPS Sweep (RelativeVc)
- Section: 824 MHz AMPS FH1 Out
 - 1. Power Gain FH1 (Relative)
 - 2. Operating Current FH1 (C)
- Section: 824 MHz AMPS FE1 Out
 - 1. Power Efficiency FE1 (Re)
 - 2. Operating Current FE1 (C)
- Section: 824 MHz CDMA HP Find
 - 1. CDMA HP Sweep (Relativ)
 - 2. CDMA HP Sweep (Relativ)

Total Testplan Hardware timing
Setup pauses 80435.2 us
Setup Settling Time 220400 us
TOTAL Setup Time 321153.3 us
Measure pauses 264596.8 us
TOTAL Meas Time 379283.0 us
Total Hardware Test Time 700436.3 us
Deltas***



Optimizer: Optimizes each Test Section. Lowest DUT Frequency Measured First

Delta Settings for TestPlan: RFMD3100_F_offset

Section: 824 MHz CDMA ACPr M

1. Alternate Low HP (RelativeVoltageVsTime) Hardware time
2. Adjacent Low HP (RelativeVoltageVsTime) Hardware time
3. Adjacent High HP (RelativeVoltageVsTime) Hardware time
4. Alternate High HP (RelativeVoltageVsTime) Hardware time
5. Alternate Low LP (RelativeVoltageVsTime) Hardware time
6. Adjacent Low LP (RelativeVoltageVsTime) Hardware time
7. Adjacent High LP (RelativeVoltageVsTime) Hardware time
8. Alternate High LP (RelativeVoltageVsTime) Hardware time

Section: 824 MHz AMPS Harmonic

1. 2nd Harmonic FE1 (RelativeVoltageVsTime) Hardware time
2. 3rd Harmonic FE1 (RelativeVoltageVsTime) Hardware time

Section: 849 MHz CDMA HP Find

1. CDMA HP Sweep (RelativeVoltageVsTime) Hardware time
2. CDMA HP Sweep (RelativeVoltageVsTime) Hardware time
3. CDMA HP Sweep (RelativeVoltageVsTime) Hardware time
4. CDMA HP Sweep (RelativeVoltageVsTime) Hardware time
5. CDMA HP Sweep (RelativeVoltageVsTime) Hardware time
6. CDMA HP Sweep (RelativeVoltageVsTime) Hardware time

Section: 849 MHz CDMA Output

1. Channel Power (RelativeVoltageVsTime) Hardware time
2. PrefL_RL (RelativeRms) Hardware time
3. Operating Current (Current) Hardware time
4. Pin (RelativeRms) Hardware time

Section: 849 MHz CDMA LP Find

1. CDMA LP Sweep (RelativeVoltageVsTime) Hardware time
2. CDMA LP Sweep (RelativeVoltageVsTime) Hardware time

1. Alternate Low HP (RelativeVoltageVsTime) Hardware time
Setup pauses 318.4 us
Setup Settling Time 5000 us
TOTAL Setup Time 6049.0 us
Measure pauses 752.6 us
TOTAL Meas Time 2242.6 us
Total Hardware Test Time 8291.6 us
Deltas***
Receiver
FreqOffset --> RiFreqD(-1.98)
IfBw --> narrow
IfGain --> 56
RecLo
FreqOffset --> -1.98
Src12Output
AuxPower --> 824_CDMA_HP_AuxPwrSet_28
StaticDigital
CurrentMeasMax --> RiCurrentD(1.0)
Db1 --> off
MeasureLimit --> RiCurrentD(0.0)
MeasureMode --> none
MeasurePin --> none
MeasureVForce --> RiVoltageD(0.0)
System
Averages --> 16
Testhead



Optimizer: Optimizes each Test Section. Measurement with Lowest Input Power Performed First

Delta Settings for TestPlan: RFMD3100_F_offset

Test Plan Settings

- Testplan idle Settings
- Section: DC Tests**
 - 1. Icc Power Down (Current)
 - 2. Icc Idle High (Current)
 - 3. Icc Idle Low (Current)
- Section: 824 MHz AMPS FH1 Find**
 - 1. AMPS Sweep (RelativeVc)
 - 2. AMPS Sweep (RelativeVc)
 - 3. AMPS Sweep (RelativeVc)
 - 4. AMPS Sweep (RelativeVc)
 - 5. AMPS Sweep (RelativeVc)
- Section: 824 MHz AMPS FE1 Find**
 - 1. AMPS Sweep (RelativeVc)
 - 2. AMPS Sweep (RelativeVc)
 - 3. AMPS Sweep (RelativeVc)
 - 4. AMPS Sweep (RelativeVc)
 - 5. AMPS Sweep (RelativeVc)
- Section: 824 MHz AMPS FH1 Out**
 - 1. Power Gain FH1 (Relative)
 - 2. Operating Current FH1 (C)
- Section: 824 MHz AMPS FE1 Out**
 - 1. Power Efficiency FE1 (Re)
 - 2. Operating Current FE1 (C)
- Section: 824 MHz CDMA HP Find**
 - 1. CDMA HP Sweep (Relativ)
 - 2. CDMA HP Sweep (Relativ)
 - 3. CDMA HP Sweep (Relativ)
 - 4. CDMA HP Sweep (Relativ)

1. CDMA HP Sweep (RelativeRms) Hardware timing
Setup pauses 24.0 us
Setup Settling Time 100 us
TOTAL Setup Time 222.2 us
Measure pauses 5754.7 us
TOTAL Meas Time 7374.7 us
Total Hardware Test Time 7596.9 us
Deltas***
PowerV1
PowerV1 --> RiVoltageD(3.2)
Source2
Power --> RiPowerDbm(0.0)
RfState --> off
Src12Output
AuxPower --> RiPowerDbm(-26.0)
System
Averages --> 16



Test Plan - Comments, Guidelines and Suggestions

- The tester is very fast changing state
- Your part may not be fast, add Pauses
- The tester will find unstable DUT states



Test Plan - Comments, Guidelines and Suggestions

- Fewer Test Sections better than more
- More simple test panels are better than fewer complex test panels
- Duplicate test states/conditions when ever possible
- Be consistent about where you place buttons in a test panel



Test Plan - Comments, Guidelines and Suggestions

- IMD Tests - more Receive Attn is better
- Noise Figure - Use 0 dB Rec Attn.
- Set DB Current Limit = DB I Meas Max.
- Set VI Current Limit \geq VI I Meas Max.
- RF Sources - Levels ≤ -22 to $\geq +13$ dBm
- DMSG - Optimum levels < -5 dBm
- RF Off is < -30 dBm



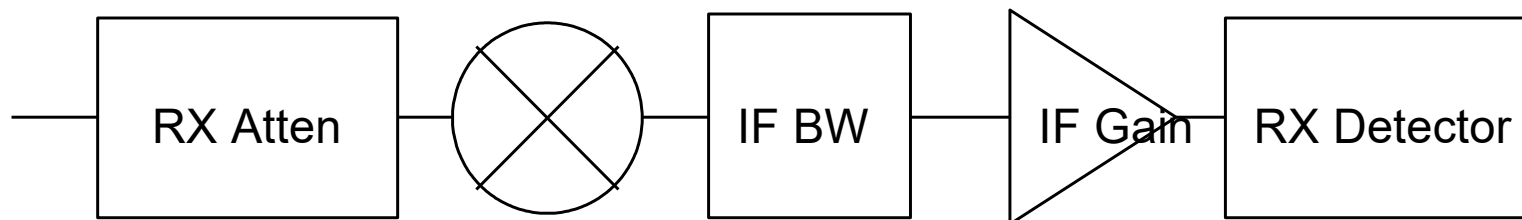
System Receive Gain Adjustment

- Receive Attenuation
- IF Gain
- Signal Dependent
 - Single tone
 - Multi tone
- Measurement Repeatability



Simplified Receive Diagram

- Receive Attenuator
- Mixer
- IF Filter
- IF Amplifier
- Receiver Detector





System Sensitivities

- RI 7100A Receiver Mixer
Saturate (Compression)
Generate Intermodulation Distortion
- Receiver Detector
Compression
"Fold-over"



Single Tone Measurements

- RF Power, S-Parameters, Noise Figure
- Objectives
 - Maximize Power to Receiver
 - Maximize Power to Mixer
 - Set Appropriate IF Gain



Single Tone Method

- Set IF Gain to 20 dB or Lower
- Reduce Rx Atten Until Error Message
- Backoff One Rx Atten Setting
- Increase IF Gain Until Error Message
- Backoff One IF Gain Setting



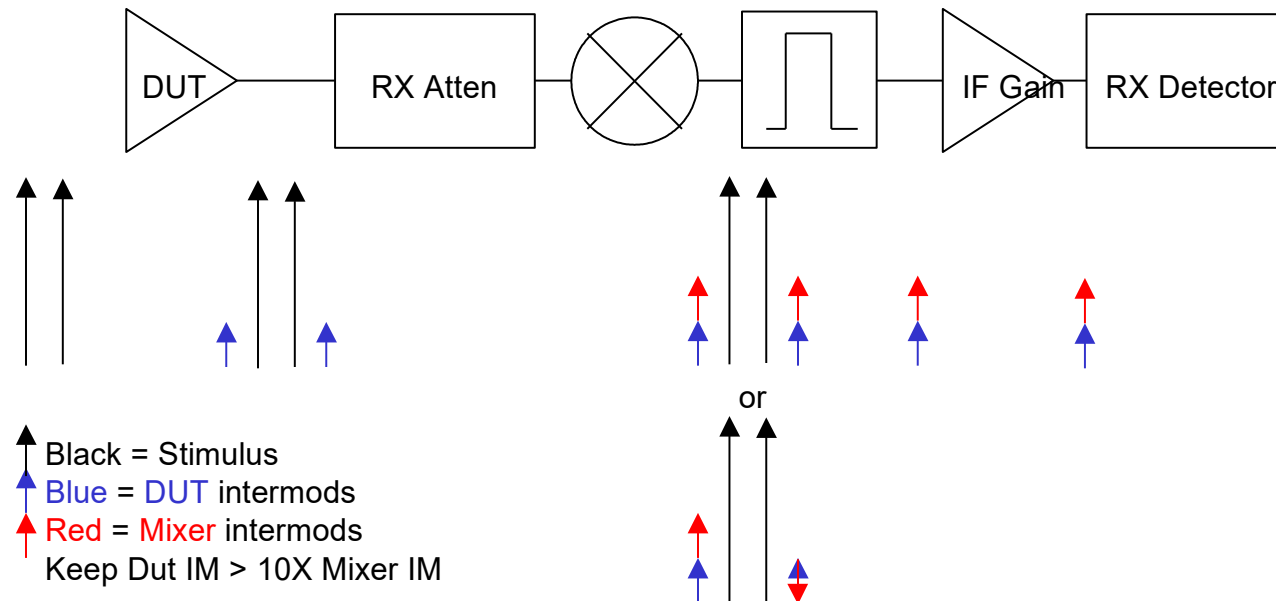
Multi-Tone Measurements

- IM3/5/7 and ACPR
- Measure Device not Tester's Mixer
- Operate in the Mixer's Linear Range
- The Mixer Can Add to or Subtract from the Measurement



Mixer Intermods

- Receive Attenuator Controls Mixer IM Performance and System Noise Floor





Multi-Tone Method

- Measuring Main Tone(s)
 - Not Sensitive to Mixer IMs
 - Use Method for Single Tone
- Measuring IM & ACPR Tones
 - Sensitive to Mixer's IM performance
 - IF Gain usually at or near Maximum (Minimize noise floor)
 - Verify with Spectrum Analyzer (SA)
 - Be careful of SA's intermods!



Measure IM Tone

- Set IF Gain 50/55; Receive Atten 20 dB
- Measure C/I
- Verify with Spectrum Analyzer
 - Go to break point
 - Set Receive input to Aux out
 - Measure C/I
- If Different, Increase RF Attenuator
- Repeat

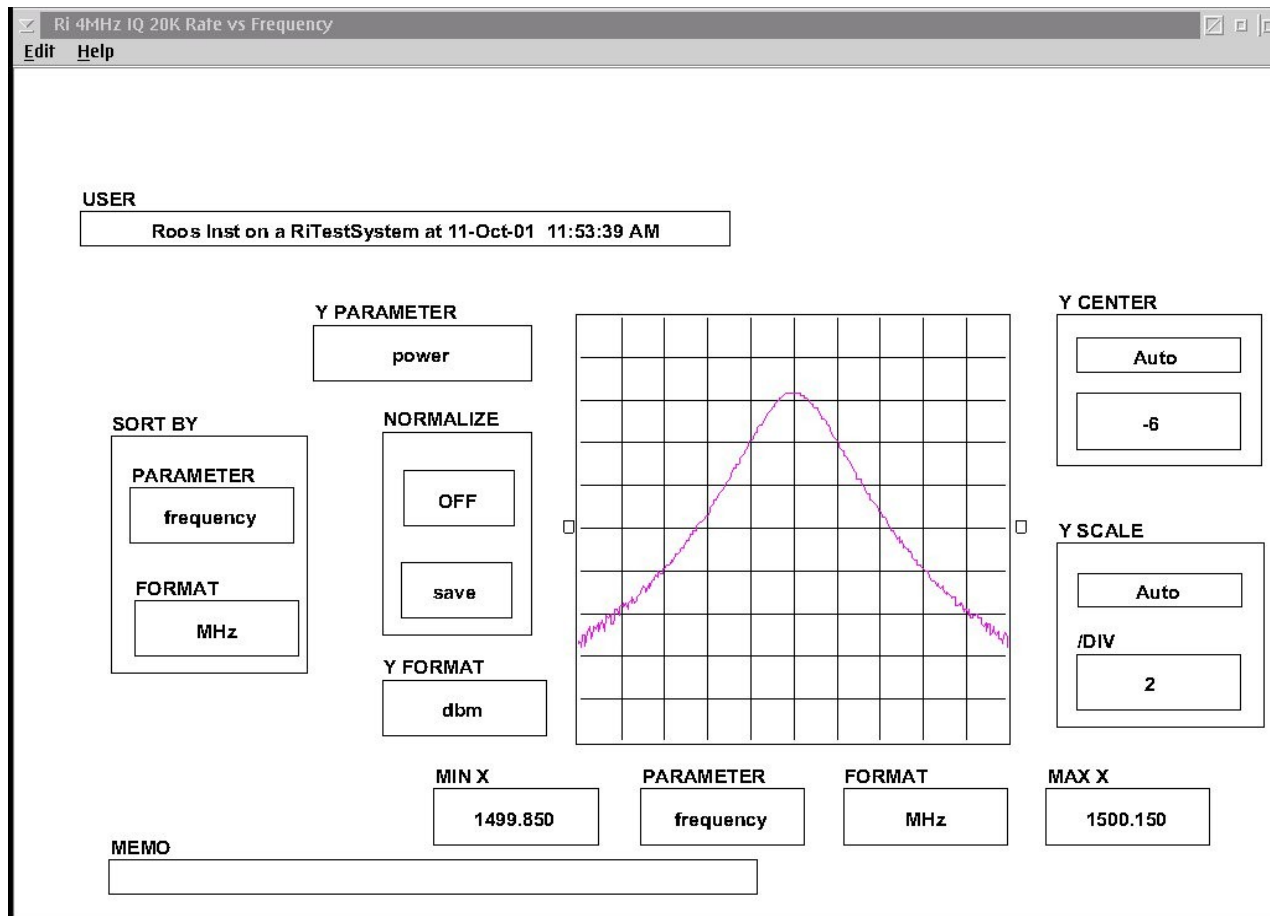


IM Considerations

- Verify High and Low IM Tones
- Use Highest Linear Power DUT Condition
- Typically 20 dB Rx Atten, 55 dB IF Gain
- Too Much Rx Atten Raises Noise Floor



Effective Receiver Bandwidth





Organizing Your Test Plan

- Define 1st RF state in Global Defaults
- Add Fixture ON to Global Defaults
- Define general test conditions in Section Default Panels
- Define DC tests in 1st or last Section which require the RF Sources to be off
- Define DC tests in 1st or last Section which require the DUT to be turned off



Organizing Your Test Plan

- Define special startup sequences in the Connect Sequence panel or in the 1st Test Section
- Write the tests in the order listed on your test list



Speeding-up Your Test Plan

- VCC Changes & DC Measurements: < 2 msec.
- RF Measurements: <30 msec.
- RF Frequency Moves: <20 msec. (Fast Settle) or <1.5 msec (Freq Offset)
- RF Mechanical Switches: >30 msec. & Expensive
- Minimize RF Source and Receiver Frequency Moves
- Minimize/Eliminate RF Mechanical Switch Changes:
 - Changing RF Ports from Src to Rec or Rec to Src
 - Changing RF Src 1 and RF Src 2 RF Attenuators
- Using the Wide IF Filter is faster than Narrow IF
 - Typically use 16 or less Averages for RF Measure
 - Typically use 32 or less Averages for DC Measure



Speeding-up Your Test Plan 2

- Fast RF Meas: S parameters, RF Power and Phase
- Slow RF Meas: ACPR, Noise Figure, IP3, Harmonics
- Setting a Parameter to a Local Variable Value is very costly : Requires a Mini-Compile
- The Optimizer only Optimizes within a Test Section
- Time Domain vs Freq Domain:
If the RF Receiver can make the Measurement, it is faster with better Frequency & Dynamic Range
- Oscilloscope is designed to measure Pulse Characteristics
Rise/Fall Time, Period, Duty Cycle, etc.
- Receiver is designed to measure Complex Signals:
Amplitude, Phase, Noise, Power, Frequency, etc.



Speeding-up Your Test Plan 3

- Items to Set in Global Defaults
 - Receiver Freq Tracking to Source 1 or System
 - Test Head Parameter to b2
 - RF Ports to Receive or Source
 - Receiver IF Gain
 - Source 1 Freq & Level to first RF Stimulus Signal
 - Source 2 Freq & Level to the first IM Stimulus Signal
 - Source 3 Freq & Level to the first LO Stimulus Signal
- Turning On and Off a RF Source is fast
 - Switching Source 1 Mode to Noise is faster!
- Use Source 1 Mode button to Isolate Src 1 & 2 from DUT



Speeding-up Your Test Plan 4

- Check Compiled Delta Settings to Improve Test Speed
- Look for changes in Receiver & Source Frequency, Attenuator & Test Head Settings, etc.
- Minimize Test State changes by making test conditions exactly the same for as many meas as possible:
i.e. RF Stimulus Levels, Frequencies, Receiver Settings, DC Levels, Current Limits, Ranges, etc.
- Use b1 to test LO Leakage at the DUT's RF Input
- Use Source 1 "back door" for S22 Measurements
- For IM measurements, leave RF Source 1 at the normal stimulus Freq, this saves 2 RF Freq Moves
- Remember DC only measurements still set the Receiver and RF Src's to their Default Frequencies

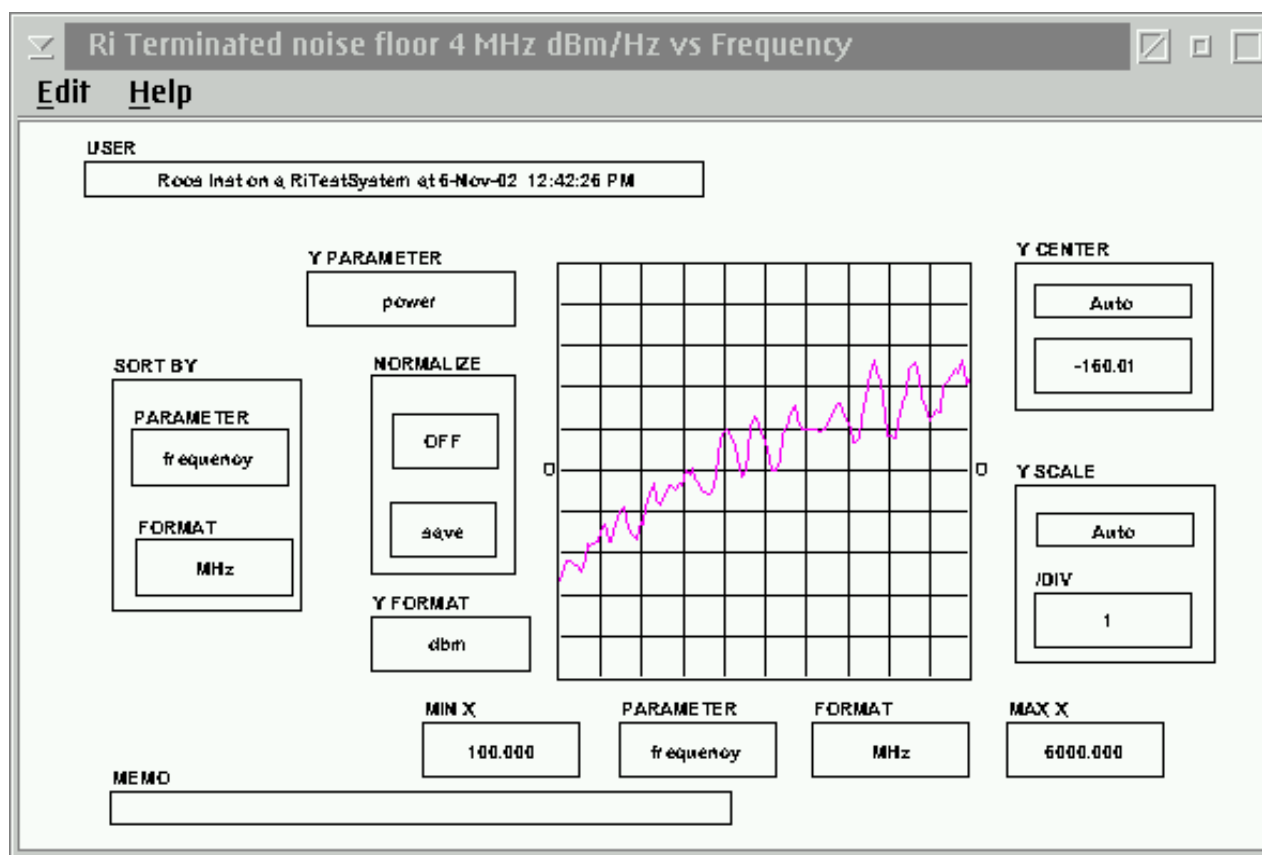


Typical RI 7100A RF ATE Measurement Time

<u>Measurement</u>	<u>Time</u> (msec.)	<u>Std. Dev</u>
Power	2.5	<0.02 dB
Frequency	11.5	<0.5 Hz
S11, S12, S21 & S22	12	0.02 dB (S21)
Noise Figure	26	0.1 dB
Phase Noise	60	0.3 dB
IIP3	78	0.3 dB
P1dB	17.5	0.1 dB
ACLR or ACPR	93	0.4 dB
Harmonic Power	56	0.05 dB
I/Q Mod Phase & Amp	25	0.1 dB, 0.1 deg.
I/Q Demod Phase & Amp	60	0.02 dB, 0.15 deg.
DC Voltage	2	0.025%
DC Current	2	0.03%



Typical RI 7100A Noise Floor <-155 dBm/Hz to 6 GHz

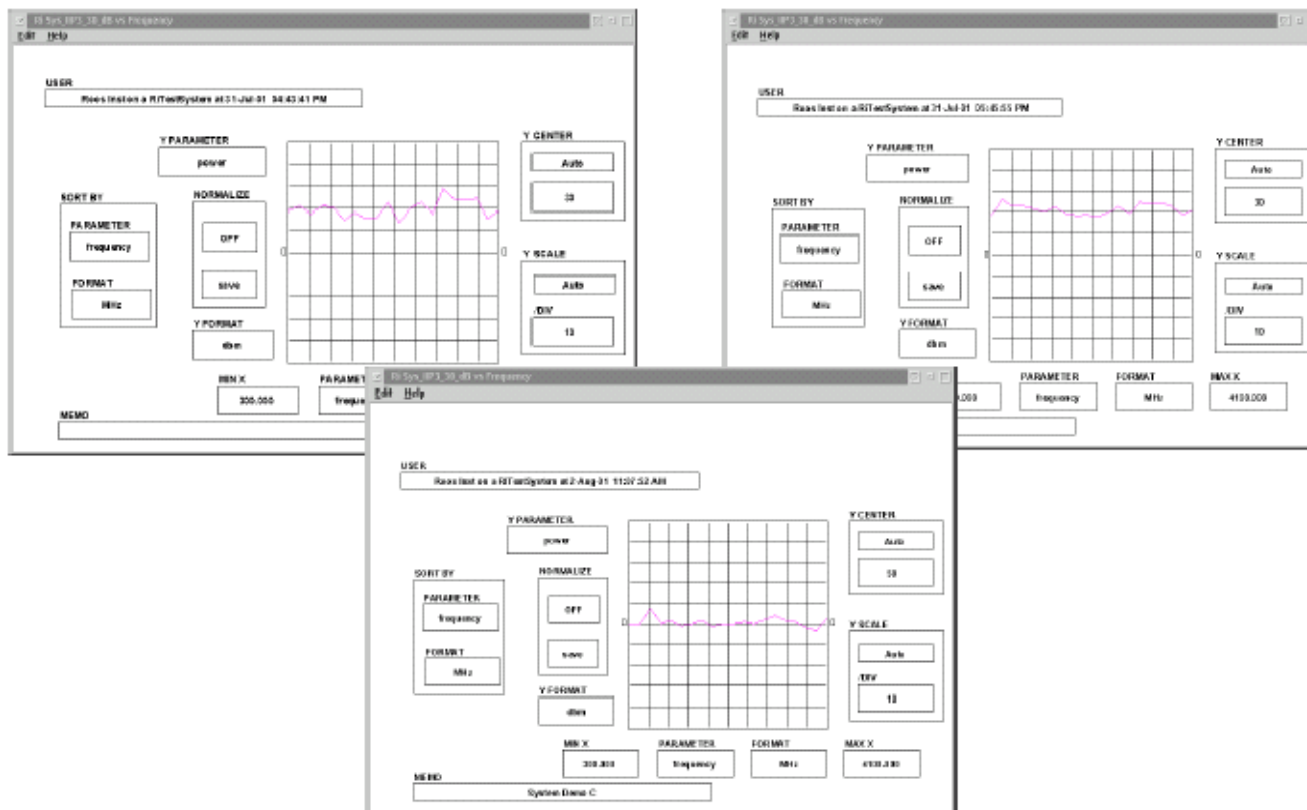




Typical Test System IIP3

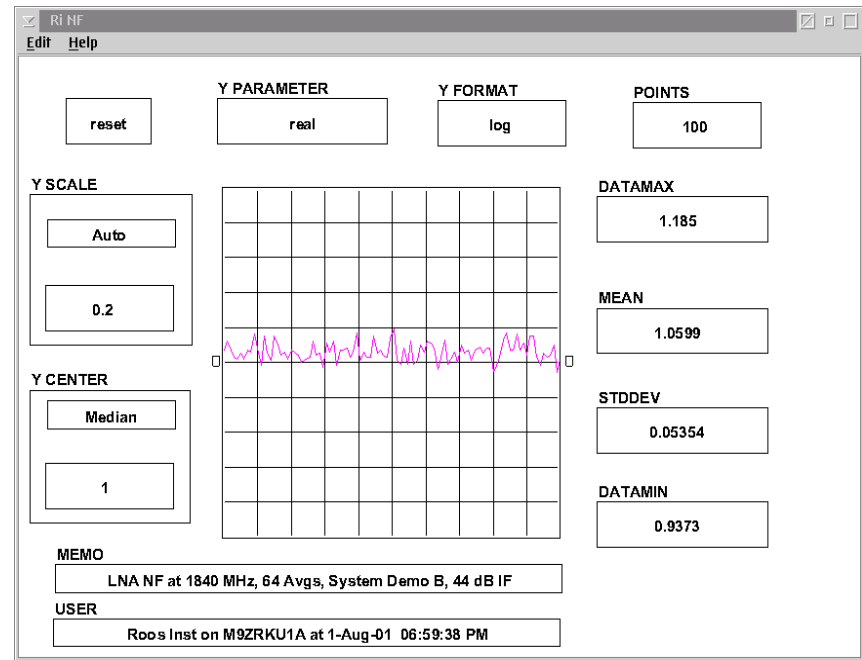
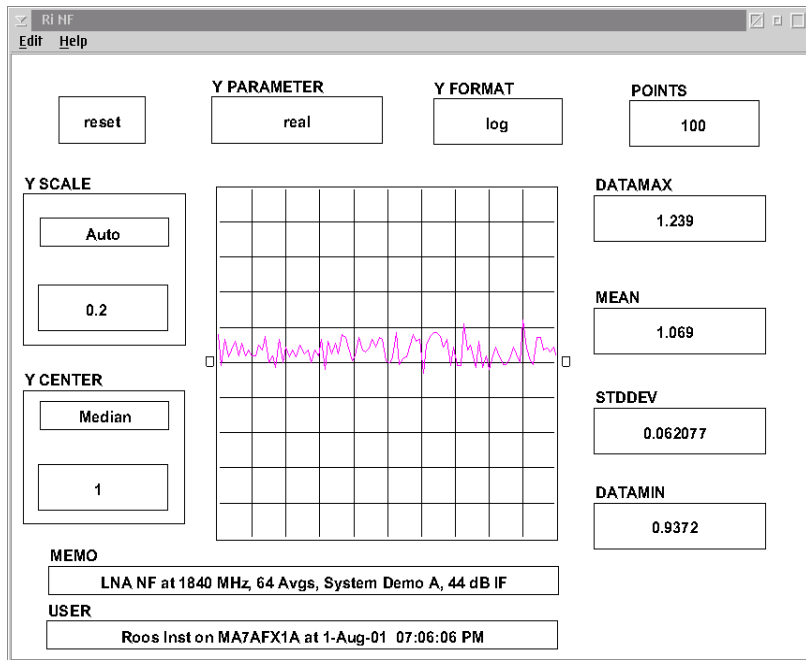
+49 dBm

3 Testers (30 dB Rec Attenuation)





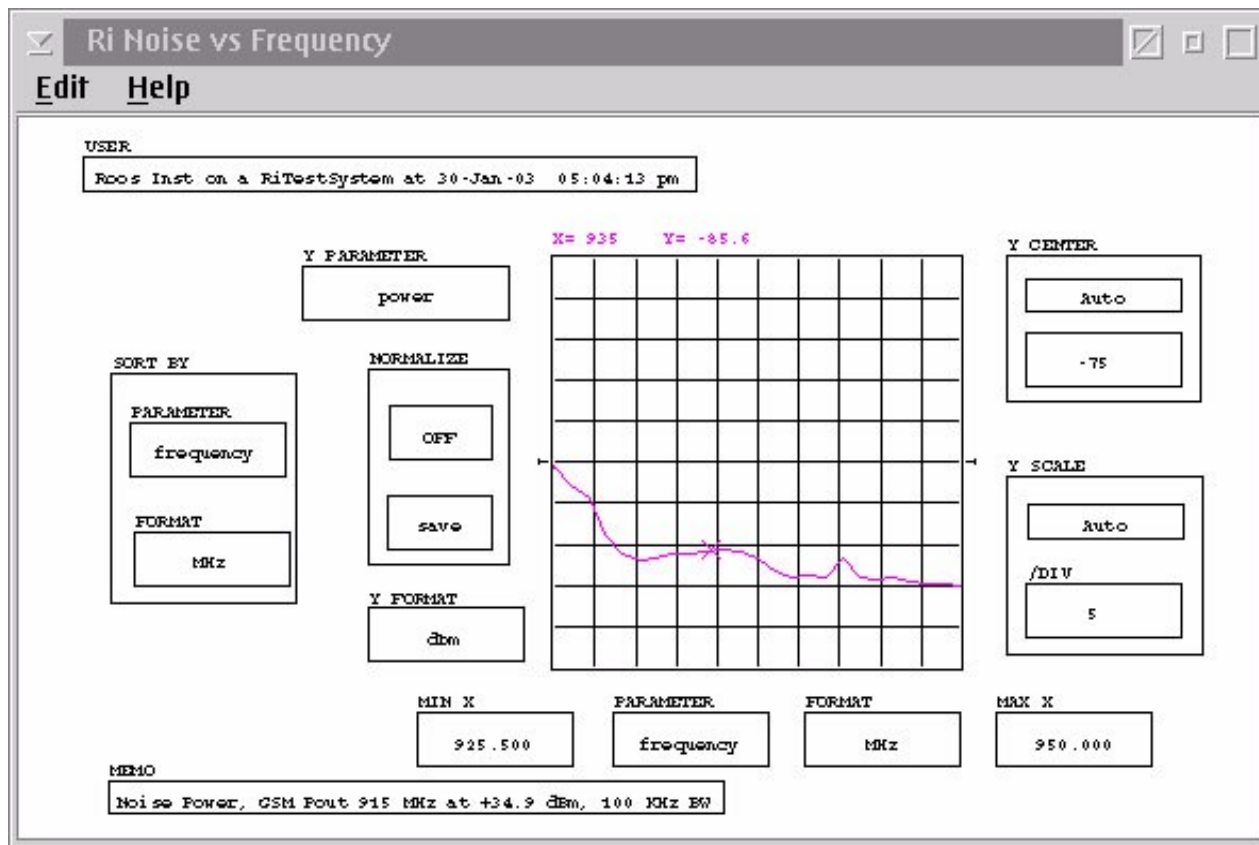
1 dB Noise Figure – Two Testers





Noise Floor Measurements

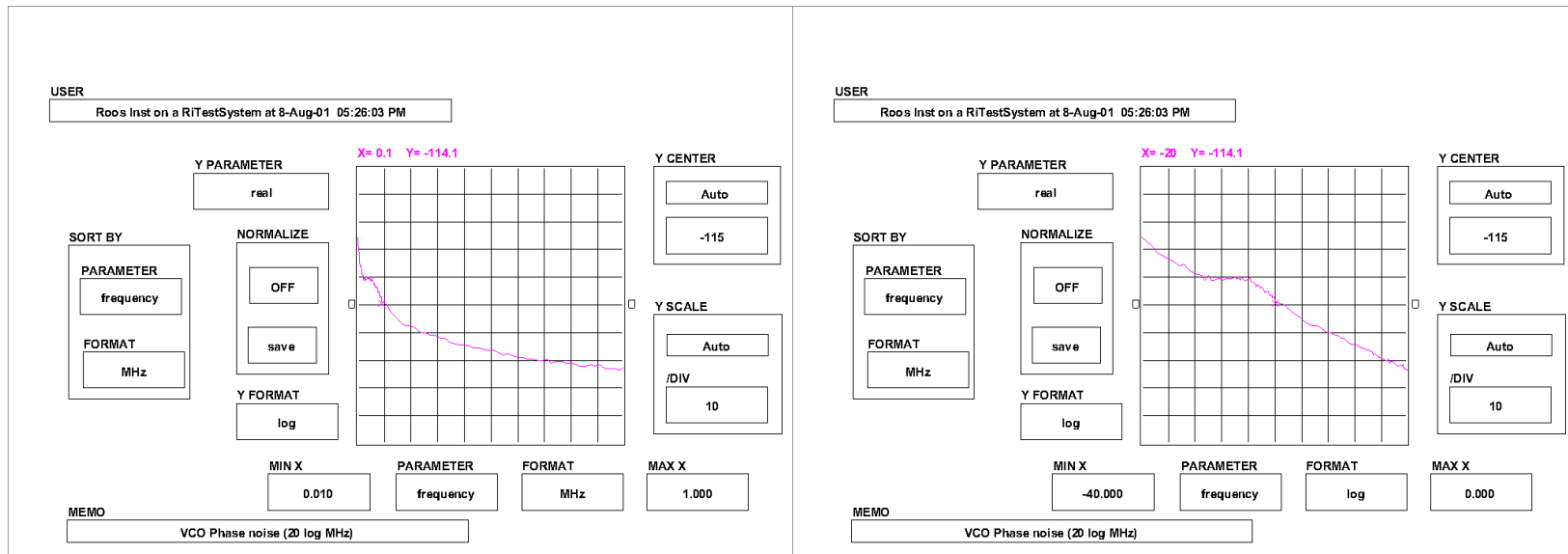
Pout +34.9 dBm, Noise Floor <-85 dBm





VCO Phase Noise Measurements

-114 dBc/Hz at 100 kHz Offset
-137 dBc/Hz at 1 MHz Offset





Production Measurement Performance Limits

<u>DUT</u>	<u>Measurement</u>	<u>Performance</u>
LNA	Noise Figure IIP3	<1.0 dB >+25 dBm
PA	CDMA ACPR1 CDMA ACPR2	<-60 dBc <-70 dBc
Mixer	Noise Floor	<-150 dBm/Hz
PLL/VCO	Phase Noise	<-114 dBc/Hz @ 100 kHz <-137 dBc/Hz @ 1 MHz



Production Measurement Performance Limits cont.

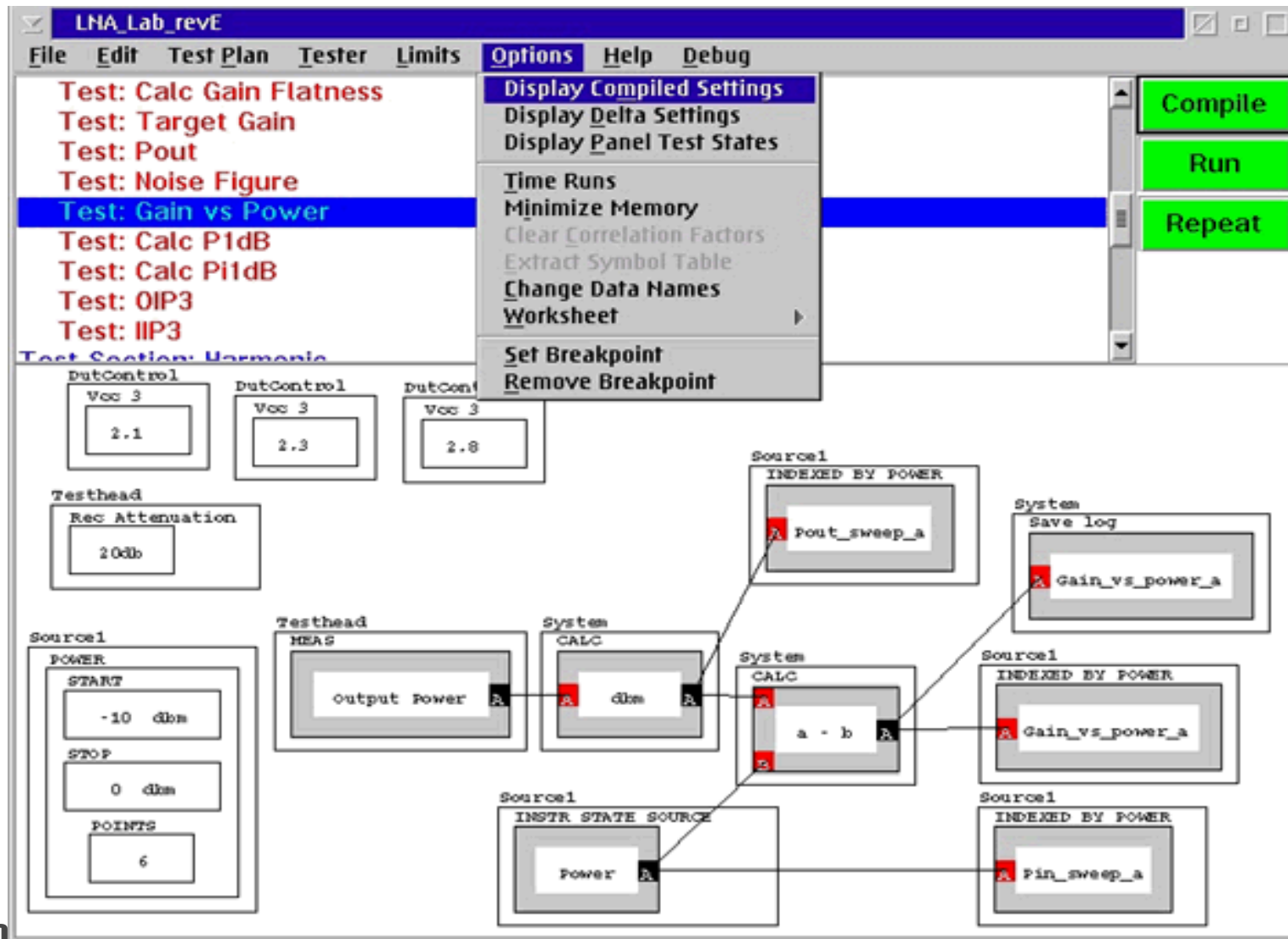
<u>DUT</u>	<u>Measurement</u>	<u>Performance</u>
Dividers	Frequency	<1 Hz Resolution to 20 GHz
I/Q Mod	Phase Match	<0.1 degree
	Amplitude Match	<0.025%
	LO Rejection	<-60 dBS
	Image Rejection	<-70 dBS
I/Q Demod	Phase Match	<0.1 degree
	Amplitude Match	<0.1 dB



Debugging and Breakpointing

- Measurement Order and Test Flow
- Setting a Breakpoint

Measurement Order and Test Flow





Test Section Optimization

Delta Settings for TestPlan: LNA_Lab_revE

Test Plan Settings

- Testplan idle Settings
- Section: Current Tests
 - 1. IDD (Current)
 - 2. Igcq (Current)
- Section: RF Tests
 - 1. S-Parameters Bi-directional
 - 2. Noise Figure (RelativeRms)
 - 3. Calc P1dB (CalcOnly)
 - 4. Gain Flatness (TwoPort)
 - 5. Noise Figure (RelativeRms)
 - 6. Pout (TwoPort)
 - 7. Gain vs Power (TwoPort)
 - 8. Gain vs Power (TwoPort)
 - 9. Gain vs Power (TwoPort)
 - 10. Gain vs Power (TwoPort)**
 - 11. Gain vs Power (TwoPort)
 - 12. Gain vs Power (TwoPort)
 - 13. Gain vs Power (TwoPort)
 - 14. Gain vs Power (TwoPort)
 - 15. Gain vs Power (TwoPort)
 - 16. Gain vs Power (TwoPort)
 - 17. Gain vs Power (TwoPort)
 - 18. Gain vs Power (TwoPort)

10. Gain vs Power (TwoPort) Hardware timing

Setup pauses 1.2 us
Setup Settling Time 200 us
TOTAL Setup Time 326.7 us
Measure pauses 1090.3 us
TOTAL Meas Time 6709.9 us
Total Hardware Test Time 7036.6 us

****Deltas*******

DutControl
Vcc3 --> RiVoltageD(2.1)

Source1
Power --> RiPowerDbm(-8.0)
SrcPower --> RiPowerDbm(5.58445626e-1)

****State Changes*******

State
(DutControl 'compileConfigVcc3:' RiVoltageD(2.8) RiVoltageD(2.1) 1)
(Source1 'compileConfigSrcPower:' RiPowerDbm(-1.44155437) RiPower
(Source1 'compileConfigRfState:' on on 9)
Settle 200 uSec
Measure
(Testhead TwoPort 1)



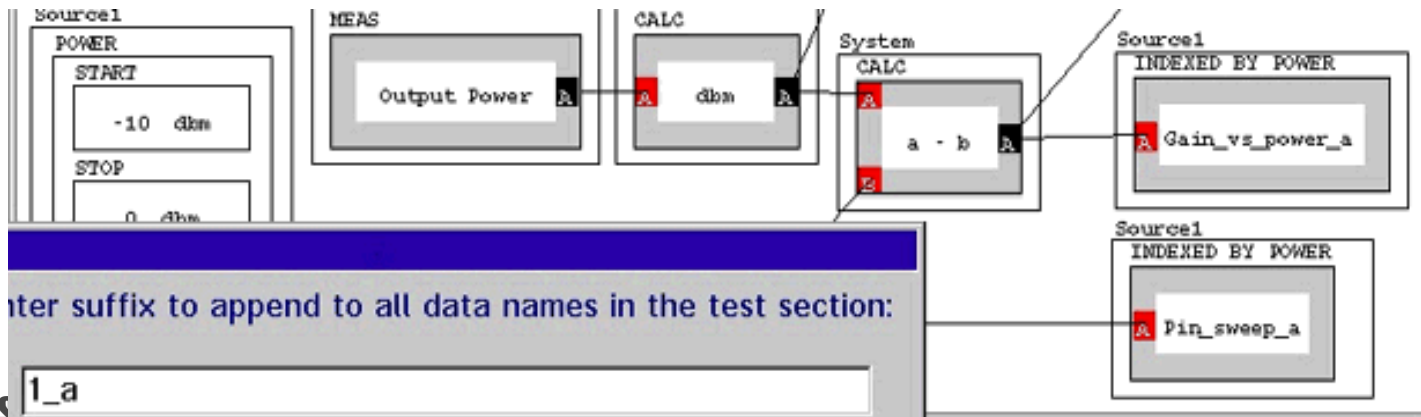
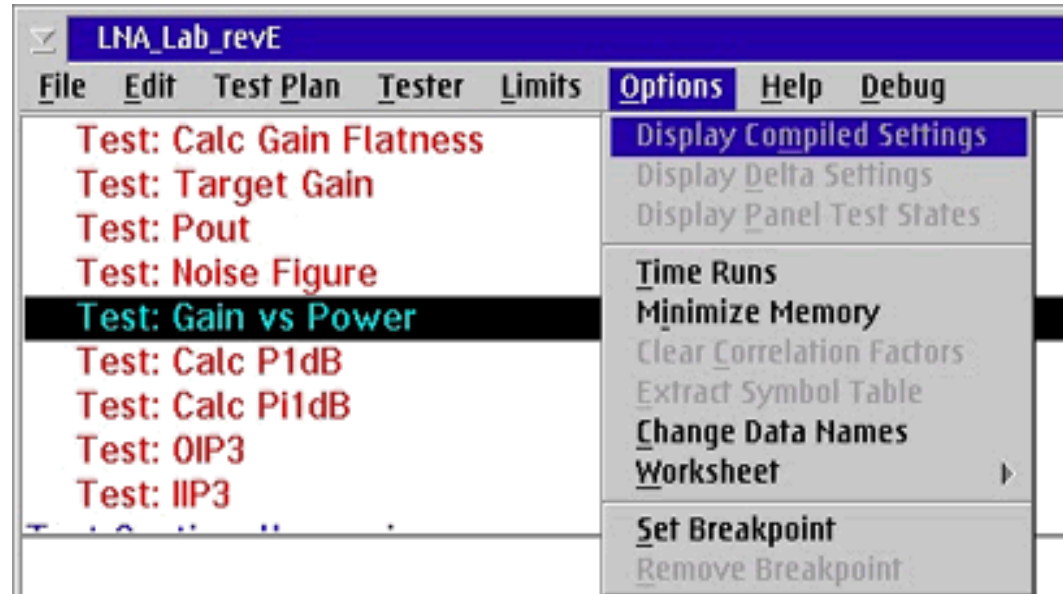
Multiple States in a Panel

The screenshot shows a software window titled "Panel State Indexes for 'Gain vs Power'". The window has a menu bar with "File", "Edit", "Smalltalk", and "Help". The main content is a table with three columns: "State Index", "DutControl Vcc3", and "Source1 Power". The table lists 18 states, each with a unique combination of voltage and power levels.

State Index	DutControl Vcc3	Source1 Power
1	RiVoltageD(2.1)	RiPowerDbm(-10.0)
2	RiVoltageD(2.1)	RiPowerDbm(-8.0)
3	RiVoltageD(2.1)	RiPowerDbm(-6.0)
4	RiVoltageD(2.1)	RiPowerDbm(-4.0)
5	RiVoltageD(2.1)	RiPowerDbm(-2.0)
6	RiVoltageD(2.1)	RiPowerDbm(0.0)
7	RiVoltageD(2.3)	RiPowerDbm(-10.0)
8	RiVoltageD(2.3)	RiPowerDbm(-8.0)
9	RiVoltageD(2.3)	RiPowerDbm(-6.0)
10	RiVoltageD(2.3)	RiPowerDbm(-4.0)
11	RiVoltageD(2.3)	RiPowerDbm(-2.0)
12	RiVoltageD(2.3)	RiPowerDbm(0.0)
13	RiVoltageD(2.8)	RiPowerDbm(-10.0)
14	RiVoltageD(2.8)	RiPowerDbm(-8.0)
15	RiVoltageD(2.8)	RiPowerDbm(-6.0)
16	RiVoltageD(2.8)	RiPowerDbm(-4.0)
17	RiVoltageD(2.8)	RiPowerDbm(-2.0)
18	RiVoltageD(2.8)	RiPowerDbm(0.0)



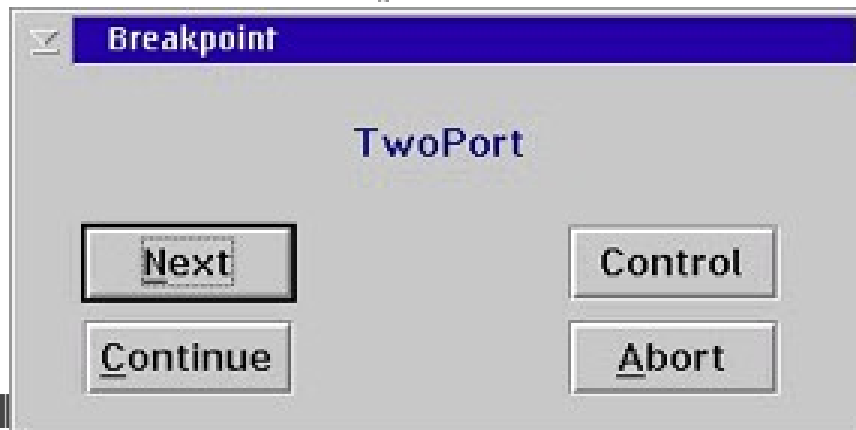
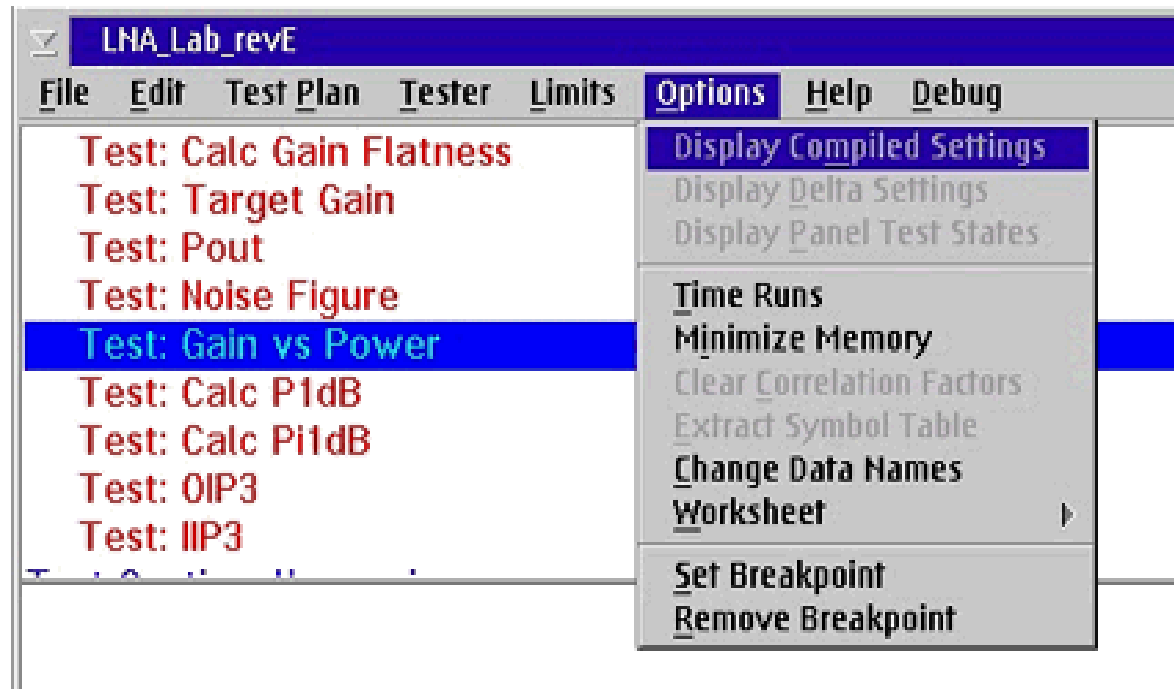
Copy a Test or Test Section



ROOS INSTRUMENTS



Setting a Breakpoint





RI Interactive Control Window

The screenshot shows a software window titled "D:\RIAPPS\testsys\Gen3Demo Controller". The menu bar includes "Tester", "Instrument", "Measurements", and "Help". A list on the left contains "Source1", "Source2", "Source3", "Source4", "Src120output", and "Src30output". The "control panel" menu is open, showing "calibration", "debug", and "modulation". The main control area includes:

- Frequency: 925 Mhz
- Alc Mode: fast
- Power: -10 dbm
- Freq Offset: 0 Mhz
- Rf State: ON
- Fast Settle: OFF
- INFO ONLY section:
 - Freq: 925 Mhz
 - Src Power: -1.44 dbm
 - Power Correction: 8.56 db



Interactive DC Measurements

The screenshot shows the 'Gen3 Demo Controller' software interface. The title bar indicates the path 'D:\RIAPPS\testsys\Gen3Demo Controller'. The menu bar includes 'Tester', 'Instrument', 'Measurements', and 'Help'. A list on the left contains 'Aux Source', 'Dut', 'DutControl', 'gainCompres', 'intermod', and 'IOMeter'. The main area displays several measurement controls:

- Device Power 1: open
- Device Power 2: open
- Device Power 3: open
- Device Power 4: open
- Device Power 5: open
- Device Power 6: open
- Device Power 7: open
- Device Power 8: open
- Vcc 3: 2.2
- Vcc 4: 0
- DutControl: Current Meas Max (0.1), Measure (Vcc5), Measure Bw (fast), CURRENT MEAS (0.023794)



Interactive RF Measurements

control panel

Select the wave parameter for measurement. A1 is incident, B1 is reflected from the input, B2 is the voltage out of the device and A2 is the voltage into the device output

Frequency: 925 Mhz

Input: 1 - 2 (.1 - 20 input

If Bw: 4 Mhz

If Gain: 30*

POWER DBM: 18.142

NOISE DBM/HZ: -81.663

RMS DBM: -18.603

Test Parameters: a1, a2, b1, b2



Receiver Measurement Types

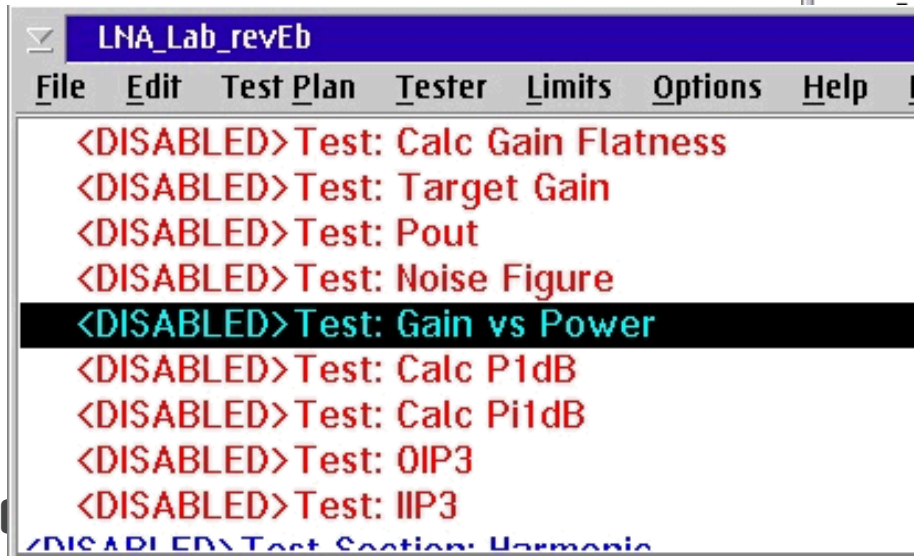
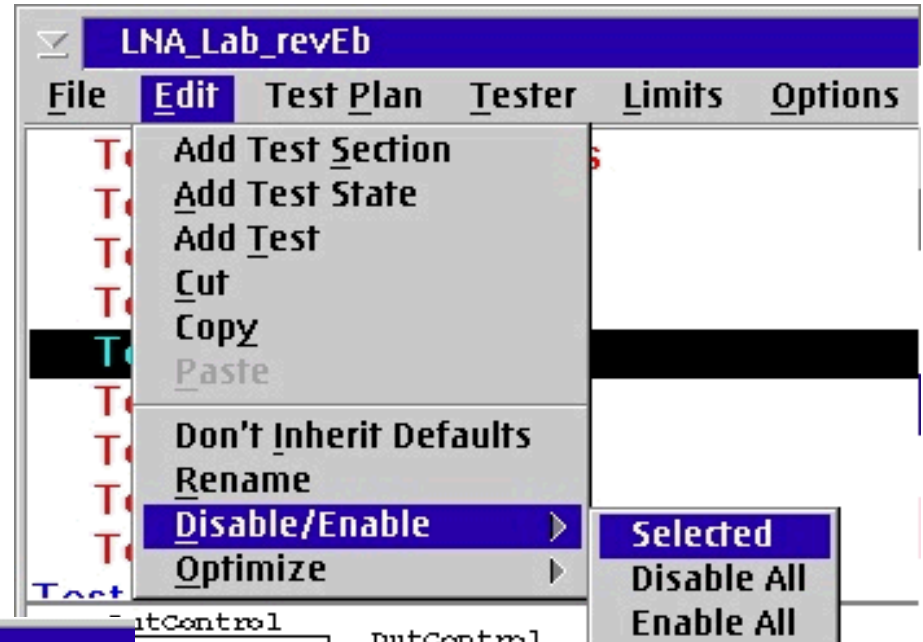
The screenshot shows a software window titled "D:\RIAPPS\testsys\Gen3Demo Controller" with a menu bar containing "Tester", "Instrument", "Measurements", and "Help". A list of measurement types is shown on the left, with "Receiver" selected. The description for "Receiver" is: "Measures the Noise voltage using the RMS detector and converts it to dbm per Hz. Fully corrected for the path. BW is from 100Khz to 5 Mhz from the receive frequency".

The main display area is titled "Testhead" and contains several data fields:

Parameter	Value
Frequency	925 Mhz
Input	1 - 2 (.1 - 20 input
If Bw	4 Mhz
If Gain	30*
POWER DBM	7.3879
NOISE DBM/HZ	-78.288
RMS DBM	-9.8612



Test Disable Usage





Data Viewers

The screenshot shows a software window titled "LNA_Lab_revEb" with a menu bar (File, Edit, Test Plan, Tester, Limits, Options, Help, Debug). The main area lists several tests, with "Test: Gain vs Power" selected and highlighted in black. To the right are three green buttons: "Compile", "Run", and "Repeat".

A "Select Viewer" dialog box is open, listing viewer options: "Moving Strip Chart", "Polar", "Rectangular", "Smith Chart", "Strip Chart" (which is highlighted), and "Validation Plot". The dialog has "Select" and "Cancel" buttons at the bottom.

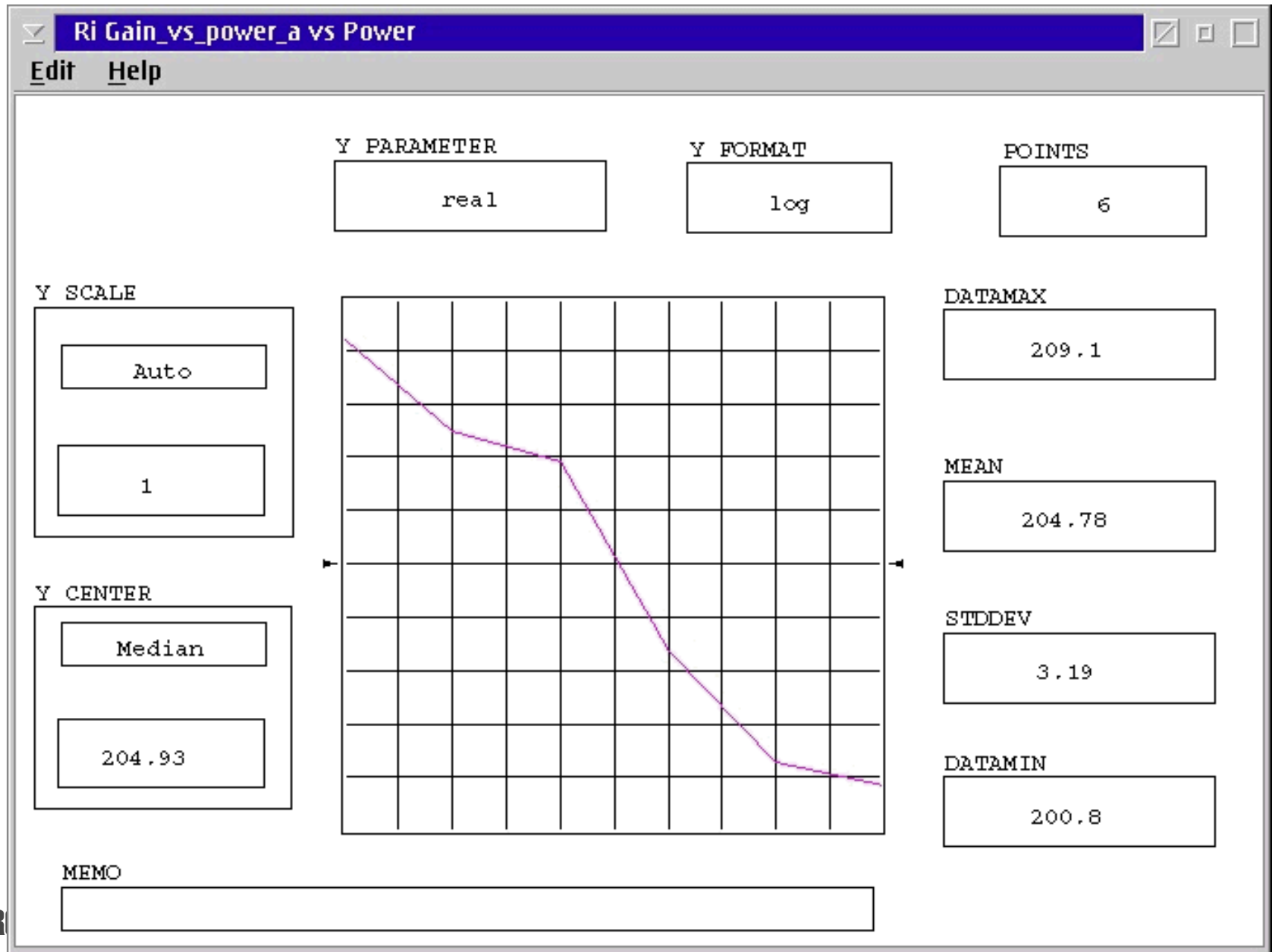
The background shows a block diagram with the following components:

- Testhead**: Rec Attenuation (20db)
- Source1**: POWER (START: -10 dbm, STOP: 0 dbm, POINTS: 6)
- Testhead**: MEAS (Output Power)
- System**: CALC (dbm)
- Source1**: INSTR STATE SOURCE (Power)
- Source1**: INDEXED BY POWER (Pin_sweep_a)

Connections are shown between the MEAS block and the CALC block, and between the INSTR STATE SOURCE block and the INDEXED BY POWER block.

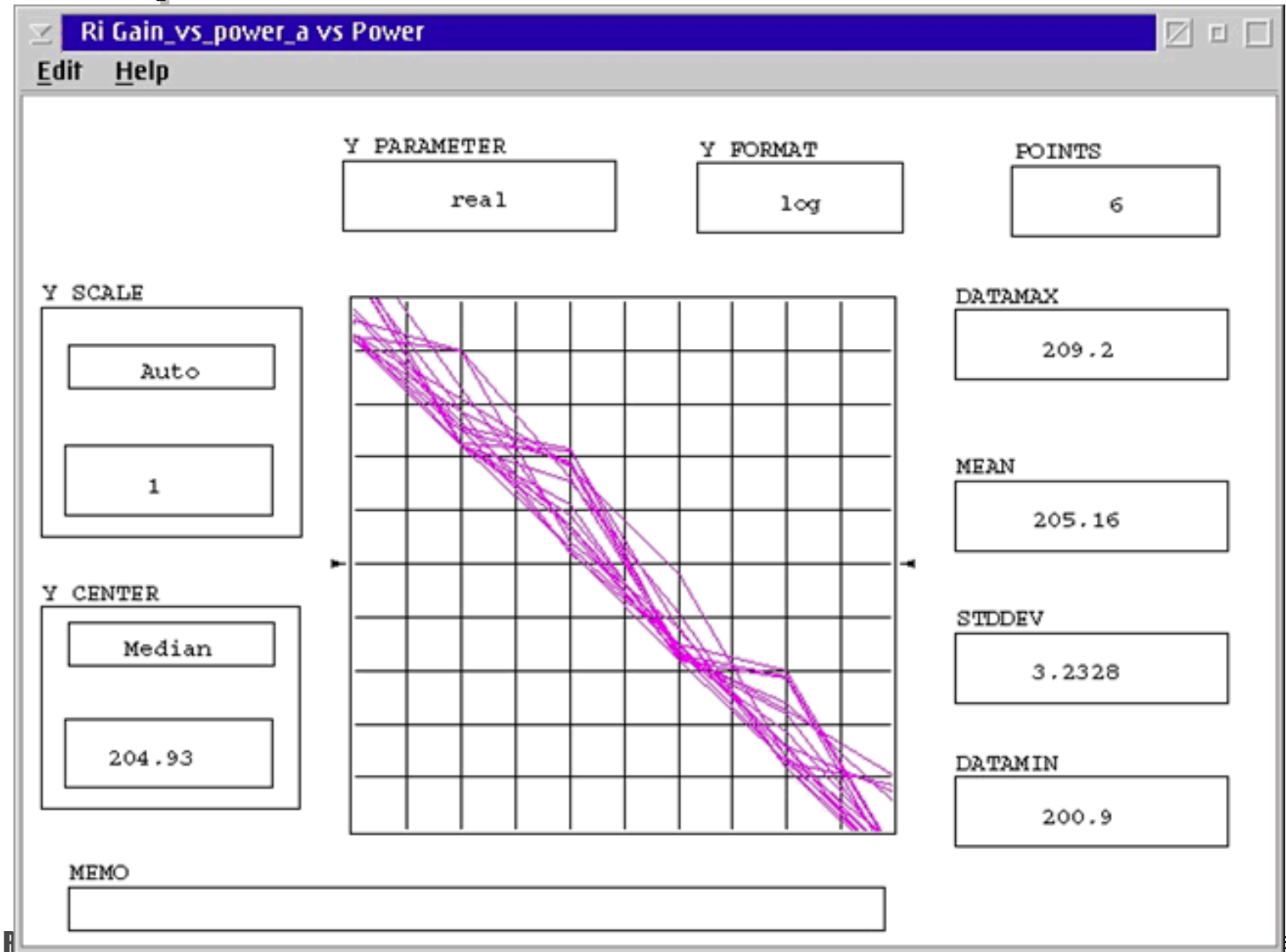


Single Variable Data Viewers





Overpaint Function





Single Event Repetitive Measurements

The screenshot displays the LNA_Lab_revEb software interface. The main window has a menu bar with File, Edit, Test Plan, Tester, Limits, Options, Help, and Debug. A list of tests is shown, with 'Test: Pout' selected. To the right of the test list are three green buttons: 'Compile', 'Run', and 'Repeat'. Below the test list is a diagram of the measurement setup. It includes a 'Source1' block with 'Power' set to '-12 dbm'. A 'Testhead' block labeled 'MEAS' contains an 'Output Power' measurement point. This is connected to a 'System' block labeled 'CAL' which also shows 'Output Power' in 'dbm'. The signal then flows to another 'System' block labeled 'CAL' which shows 'Output Power' in 'Pout_a'. A 'Select Viewer' dialog box is open over the diagram, listing options: 'Moving Strip Chart', 'Polar', 'Rectangular', 'Smith Chart', 'Strip Chart', and 'Validation Plot'. The dialog has 'Select' and 'Cancel' buttons.



Moving Strip Chart Display

The image displays two screenshots of a software interface for a 'Ri Pout' window, illustrating a moving strip chart display. The interface includes control fields for parameters, scale, center, and statistics, along with a central grid for the strip chart.

Top Screenshot:

- Y PARAMETER: power
- Y FORMAT: dbm
- POINTS: 11
- Y SCALE: Auto
- Y CENTER: Median
- STATISTICS: DATAMAX: 181.8, MEAN: 180.81, STDDEV: 0.54128, DATAMIN: 180.1
- Timestamp: 27-Jun-05 11:20:52 am

Bottom Screenshot:

- Y PARAMETER: power
- Y FORMAT: dbm
- POINTS: 155
- Y SCALE: Auto
- Y CENTER: Median
- Y CENTER Value: 181
- STATISTICS: DATAMAX: 182, MEAN: 180.73, STDDEV: 0.58613, DATAMIN: 180.1
- MEMO: (empty)
- USER: Roos Inst on a RiTestSystem at 27-Jun-05 11:20:52 am



Debugging Tips

- Check active Calibration data for anomalies
- Check each measurement for optimal RF Attenuator and IF Gain settings (max S/N).
- Measurement must "Fit" in the Receiver's 70 dB instantaneous Dynamic Range
- Small changes (1 to 5 dB) in Device Power Level can be large if using all the dynamic range. (i.e. measure a 50 to 60 dB carrier to tone.)
- Setting resolution in the RF Attenuator is 10 dB steps and the IF Gain is 6 dB