

## QUICK CARD

### ISDN Primary Rate Interface (PRI) Testing





This quick card describes how to configure and run a DS1 ISDN PRI Terminate Test to validate the provisioning and performance of an ISDN PRI trunk.

- T-BERD/MTS 5800 equipped with the following:
  - Transport software release V31.2.1 or greater
  - C5E1DS1 test option: E1/DS1 Electrical
  - C5DUALPORT test option: Dual Port option (required on T-BERD 5800-100G only)
- Headset (Plantronics M114, Plantronics M210c, or Benertech A310QD recommended)
- One of the following T1 cable sets to connect the T-BERD 5800 DS1 Port(s) to the line under test:
  - Two (2) Bantam to Bantam cables (CB-10615)
  - Dual Bantam to RJ-48C cable (CB-41645)
  - RJ-48C Patch cable (Straight-through or cross-over depending upon equipment under test)



Figure 1: Equipment Requirements

## CONNECT HEADSET AND CONFIGURE AUDIO SETTINGS

1. Press the Power button  to turn on the T-BERD.
2. Connect the headset to the headset jack on the side of the T-BERD.
3. Press the **System** icon  in the top left corner of the screen.
4. Press the Audio icon . Set **Speaker Volume** to the maximum setting and set **Microphone Volume** to the center setting. If desired, you can adjust these settings during the test. The speaker icon  on the top bar of the T-BERD provides a shortcut to this screen.

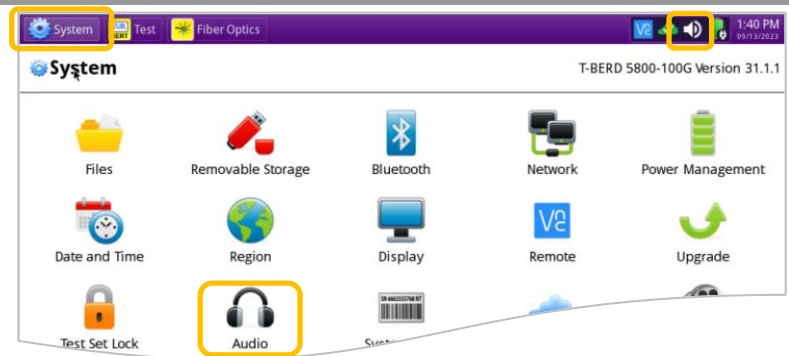


Figure 2: System menu

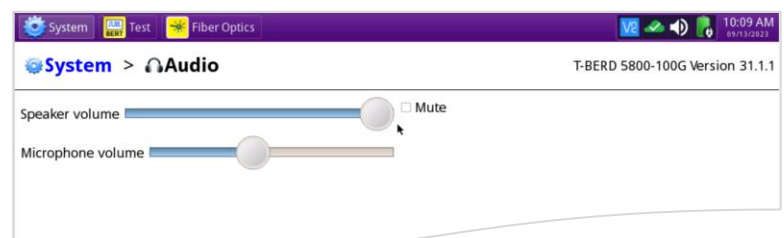


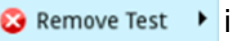

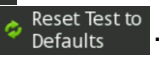



Figure 3: Audio Settings

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### LAUNCH TEST

1. Press the **Test** icon  at the top of the screen to display the **Launch Screen**.
2. Using the **Select Test** menu, Quick Launch menu, or Job Manager, launch the **DS1/DS3 ► DS1 ► DS1 ISDN PRI ► Terminate** test.
  - ▶ Note: If tests have been launched on both Port 1 and Port 2, you must remove the test on Port 1 before launching DS1 ISDN PRI. Tap the  icon next to Port 1 tabs in the Select Test bar or tap  in the Select Test menu to remove the test.
3. Tap  to open the **Tools** Panel and select .
4. Press  to continue.

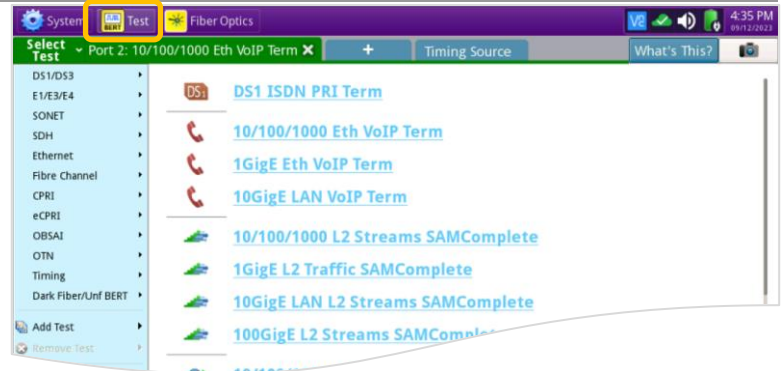


Figure 4: Launch Screen

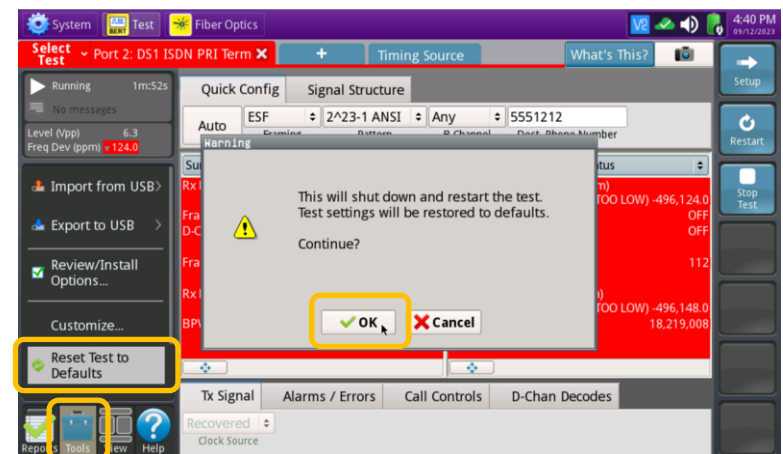


Figure 5: Tools Panel

### CONFIGURE TEST

- The following Information is needed to configure the test:
  - T1 Line Code (B8ZS or AMI)
  - T1 Framing (ESF or D4)
  - ISDN Call Control (National, AT&T 5ESS, Nortel DMS 100)
  - Customer's Billing Telephone Number for the PRI trunk
  - Destination Telephone Number(s) for outbound call testing

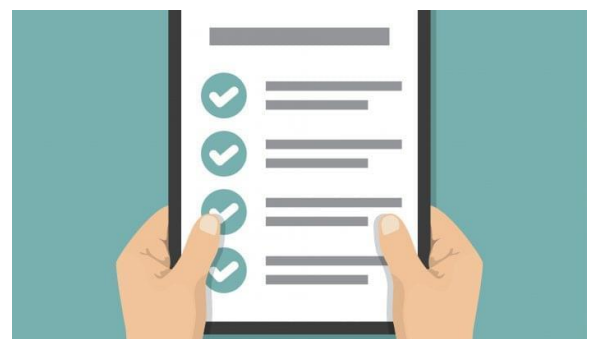



Figure 6: Work Order

## QUICK CARD

### CONFIGURE TEST

1. Press the **Setup** soft key  on the top right side of the screen.

2. Select the indicated folders and configure your test as follows. Leave all other values at default, unless specified in the work order.

Folder	Option	Value(s)
Interface	Rx Input	Term
	Line Code	If unknown, select "B8ZS"
	LBO	0 dB
Framing	Framing	If unknown, select "ESF"
ISDN, General	Emulation	TE Emulation
	Call Control	If unknown, select "NI-2 (National)"
	Numbering Type	Auto
	D Channel	24
ISDN, Call	Call Type	Voice
	B Channel	Any
	Calling Phone Number	Enter Billing Telephone Number for the PBX
	Destination Phone Number	Enter your mobile phone number in the format required for your dialing area (usually 10-digit)
	Call Answer Mode	If you are turning up new service, Select "Prompt." If you are troubleshooting a working line and want to reject inbound calls, select "Reject."

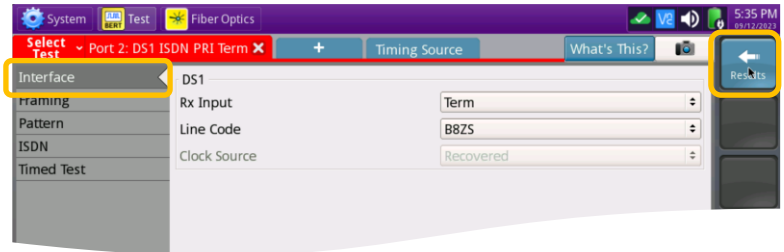


Figure 7: Setup, Interface

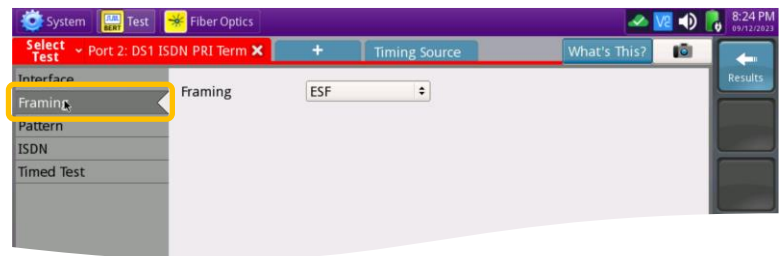


Figure 8: Setup, Framing

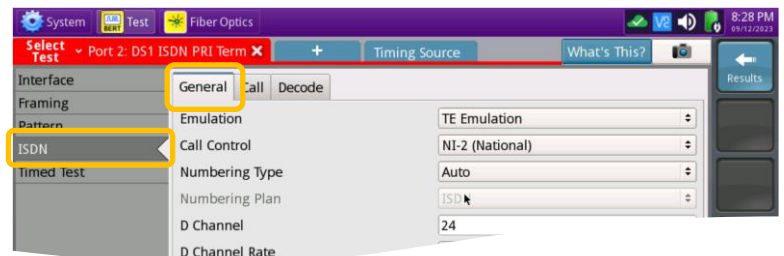


Figure 9: Setup, ISDN/General

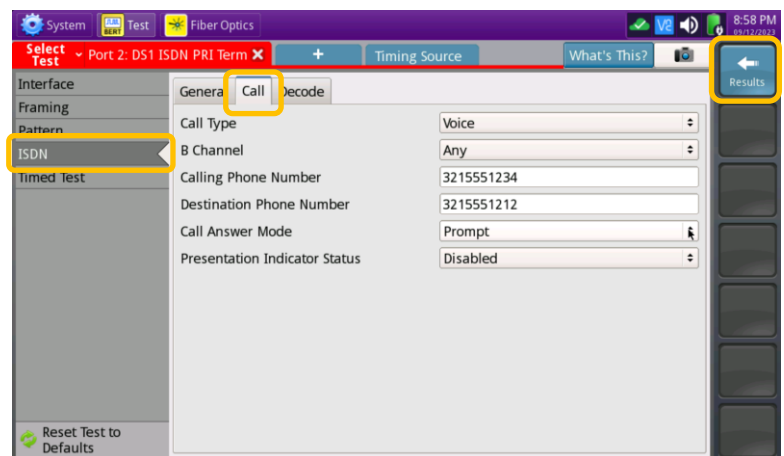



Figure 10: Setup, ISDN/Call

3. Press the **Results** soft key  to view the Test Results screen.

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### CONNECT TO LINE UNDER TEST

- T-BERD 5811 AND T-BERD 5822 mainframes have both RJ-48C and bantam ports. You may use either port with Bantam to Bantam, Dual Bantam to RJ-48C, RJ-48C straight through, or RJ-48C crossover cables to connect the T-BERD to the line under test.
- T-BERD 5882 and T-BERD 5800-100G mainframes have an RJ-48C port. Dual Bantam to RJ-48C, RJ-48C straight through, or RJ-48C crossover cables may be used to connect the T-BERD to the line under test.
- Some access devices require cross-over cables, while others require straight through cables.

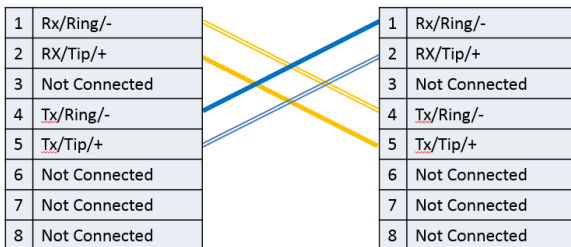


Figure 11: RJ-48C Crossover Cable

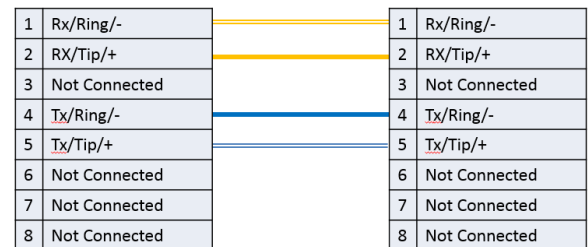




Figure 12: RJ-48C Straight Through Cable

### RUN TEST

1. Using drop-down menus , select **"Call/Status"** for the right results display.
2. Press the **Restart** soft key  .
3. Verify the following:
  - ▶ **Summary** LED is green.
  - ▶ **Signal Present** LED is green.
  - ▶ **Frame Sync** LED is green.
  - ▶ **D Chan Ready** LED is green

If the specified LEDs are not green, check your cables (Tx and Rx may be reversed) and check Setup values (page 3).

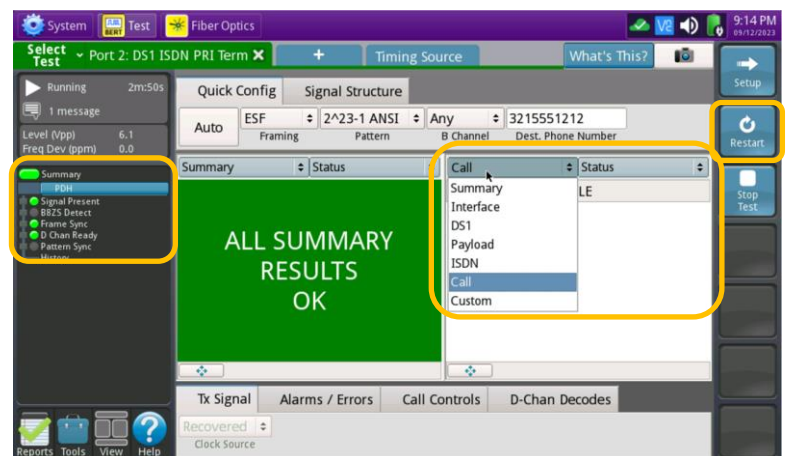



Figure 13: Results, Interface/Signal

## QUICK CARD

### INBOUND CALL TESTING

1. Using your cell phone, dial the billing telephone number (BTN) for the PBX (or dial the temporary “test” number if the BTN has not been ported).
2. In the T-BERD’s Actions Panel, select the **Call Controls** tab. Allow the call to ring at least 2 times. Confirm the Ring back tone is heard on your cell phone and tap  to answer the call.

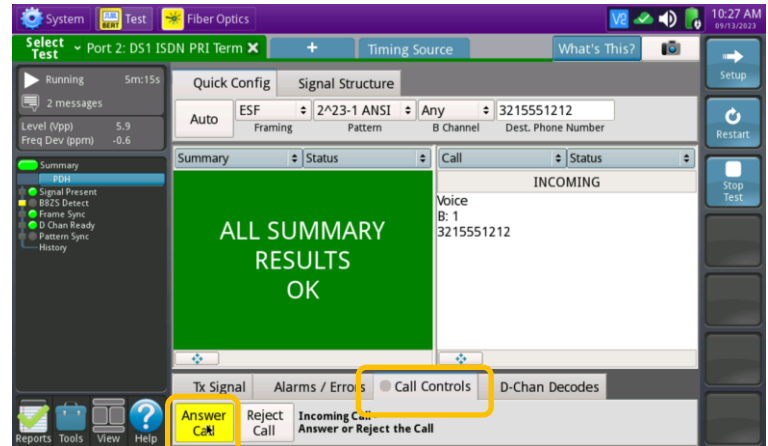


Figure 14: Results, Incoming call

3. Put on the headset. If the headset includes an on/off switch and volume control, turn it on and adjust the volume to the desired level.
4. Confirm that voice is heard, and voice quality is acceptable on both the T-BERD’s headset and the Cell Phone. If static is heard on your cell phone, move the microphone boom farther away from your mouth to avoid overdriving the microphone.

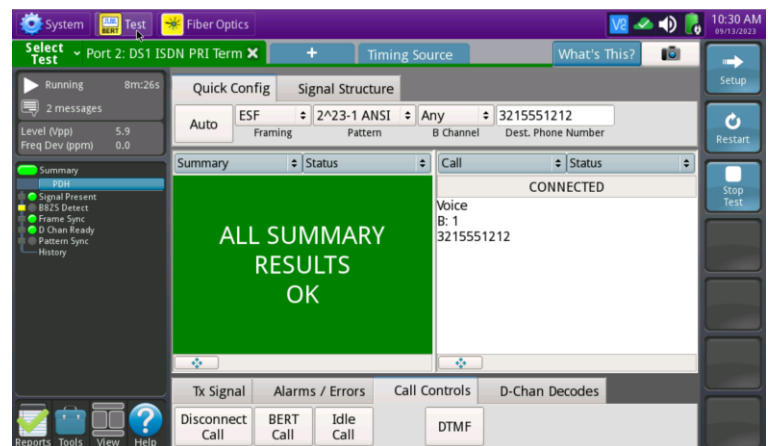


Figure 15: Results, Connected call

5. Hang up the call from your cell phone. Verify that the call status on the T-BERD changes to **IDLE**.

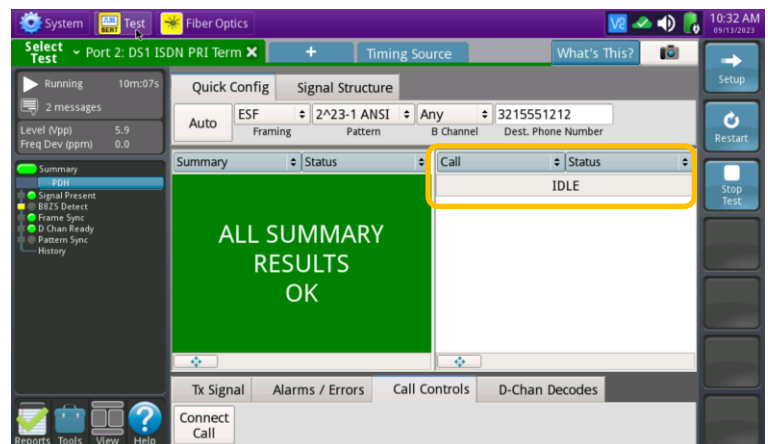






Figure 16: Results, Disconnected

## QUICK CARD

### OUTBOUND CALL TESTING

- In the T-BERD's Actions Panel, tap . The T-BERD will transmit a SETUP message to initiate the call. Call status is displayed in the right Results Group.
- Answer the incoming call on your cell phone. "CONNECTED" indicates that the call setup was successful. If the call fails, a cause code will be displayed.
- Converse and confirm that voice quality is acceptable on the T-BERD and the Cell Phone.
- In the T-BERD's Actions Panel, tap  to disconnect the call.
- In the T-BERD's Quick Config menu, change "Destination Phone Number" to the next number in the call plan.
- In the T-BERD's Actions Panel, tap . The T-BERD will transmit a SETUP message to initiate the call.
- Converse and confirm that voice quality is acceptable on the T-BERD and for the called party.
- In the T-BERD's Actions Panel, tap  to disconnect the call.
- Repeat steps 5 through 8 for all numbers in the call plan. Call Plans may include:
  - Toll Free numbers
  - Local off-network and numbers
  - Local on-network numbers
  - Long Distance numbers
  - International numbers
  - Blocked Calls
  - n11 numbers such as 411 (directory assistance), 611 (customer service), and 911 (emergency services)
- Troubleshooting Tip: If outbound calls fail with cause code "Invalid Number Format", tap the **Setup** soft key and change the "Numbering Type" setting from "Auto" to "Local" or "National."

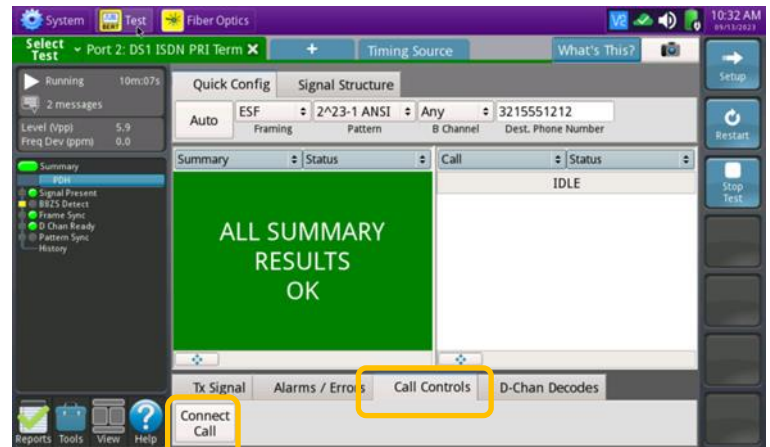


Figure 17: Results, Connect Call

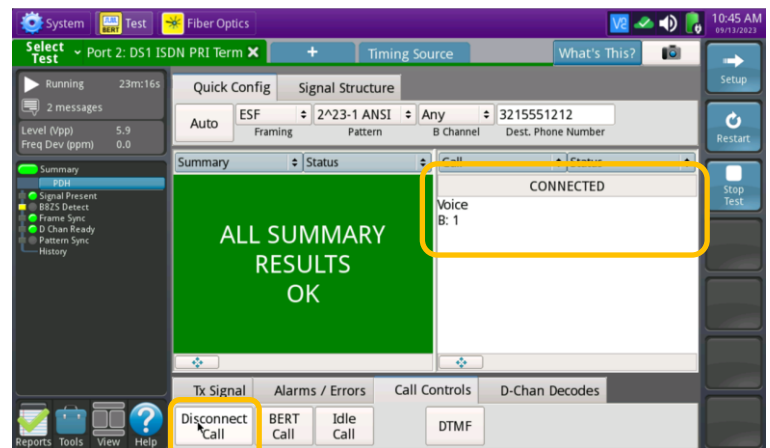


Figure 18: Results, Connected call

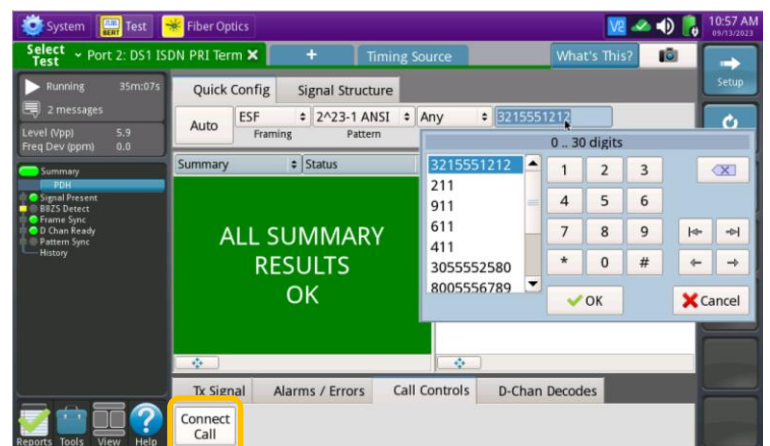

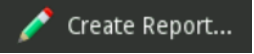



Figure 19: Results, Call Plan Testing

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### CREATE REPORT

1. Tap  to open the **Reports** Panel and select .
2. Tap .
3. A report will be saved to the T-BERD 5800's **/bert/reports** folder.

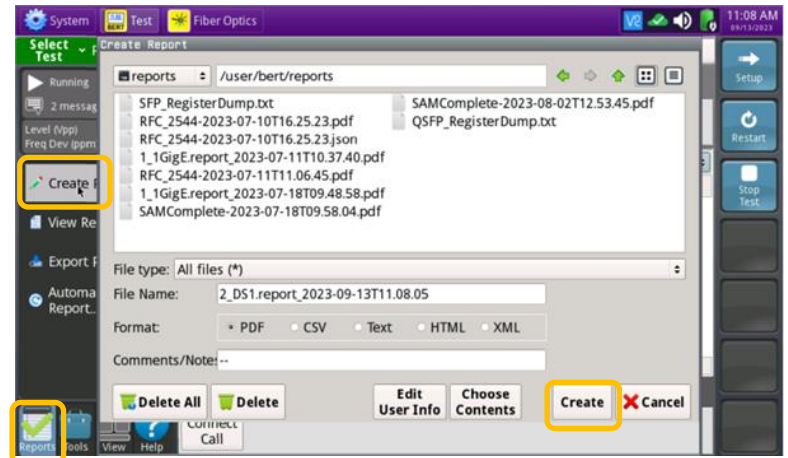


Figure 20: Create Report