Contents

1 HP 37717B ATM Operating Features

Introduction to ATM 1-1 Physical Measurements 1-1 ATM Layer measurements - Out-of-Service. 1-1 Header Errors 1-1 Cell Errors 1-2 Cell Loss 1-2 Cell Misinsertion 1-2 Cell Transfer Delays 1-2 Cell Delay Variation (CDV) 1-2 1-point CDV 1-3 Cell Delay Variation (CDV) and Non-Conforming Cell Count 1-4 What problems does it cause? 1-4 How can CDV be controlled? 1-4 How can CDV be measured? 1-4 What is a GCRA? 1-5 Constant Bit Rate Application of the GCRA. 1-5 Non-Constant Bit Rate Application of the GCRA. 1-6 Using the 1-Point CDV measurement. 1-6 Analyze the Traffic CDV Profile. 1-6 Verify the Policing Function. 1-7 Traffic Simulation 1-7 OAM Cell Generation 1-9 Distribution Types 1-9 Alarms 1-9 ATM Layer Alarms 1-9 Operation During Alarm Conditions 1-11 HP 37717B ATM Measurement 1-12 Cell Level ATM Testing. Option UKN (USE) 1-12

HP 37717B ATM Features 1-13 Cell Level ATM (Options UKN (USE) 1-13

Traffic Simulation 1-13

Contents

The Test Cell 1-15
Trail Trace 1-16
Alarm and Error Generation 1-16
HEC Errors 1-17
Payload Errors 1-17

2 ATM Testing with the HP 37717B

In-Service Testing 2-1 ATM Layer Testing 2-1 Cell Layer Error Measurement 2-3 Default (Known State) Settings 2-3 ATM In-Service Test Setup Procedure, SDH Interface Example 2-3 Run the In-service ATM Test 2-4 Out of-Service Testing 2-5 ATM Cell Performance Test 2-5 Application 2-5 Default (Known State) Settings 2-5 ATM Cell Performance Test Setup Procedure 2-5 Start the ATM Cell Performance Test 2-9 At the End of the Test (ATM Cell Performance) 2-10 Cell Routing Test 2-11 Cell Congestion Test 2-12 Cell Sync and Header Error Correction Test 2-14 Checking Single Header Error Performance 2-14 Checking Double Header Error Performance 2-15 Constant Bit Rate Service Assessment 2-16

Alarm Testing 2-17