

Modification Available Performance Enhancement Service Note

Supersedes:
N1078A-03

N1078A Optical/Electrical Clock Recovery

Serial Numbers: US000000000-US60420000, MY000000000-MY60420000

An enhanced version of FPGA code is available which will significantly improve CDR locking speed when using Bandwidth Loop Tuning or Jitter Spectrum Analysis (JSA).

Parts Required:
NONE

ADMINISTRATIVE INFORMATION

X Calibration Required	PRODUCT LINE: 8F
☐ Calibration NOT Required	AUTHOR: MM

ADDITIONAL INFORMATION:

This upgrade is to be performed at a Keysight Factory. Service Centers do not have FPGA upgrade capability.

CCC instructions for service order booking: Enter "CDR 2019 FPGA Upgrade" in the description field, SAC = UA, and SPN = RCL5A. Pricing and additional booking details are available in Services Delivery Console.

Situation:

A new version of FPGA code, “CDR 2019”, has been introduced which allows for faster CDR locking speed (up to a 4x improvement) when using Bandwidth Loop Tuning or Jitter Spectrum Analysis (JSA).

When neither Bandwidth Loop Tuning nor JSA are used, there will be no improvement in CDR locking speed.

For N1078As which shipped prior to the introduction of the new FPGA code, a paid upgrade is available.

Identifying FPGA version:

All units shipped with serial numbers greater than xx60420000 have CDR 2019 installed. Most units with lower serial numbers were shipped with older FPGA code, however, it is recommended that you confirm the FPGA version before purchasing this upgrade.

To determine if your instrument has CDR 2019 installed, using FlexDCA 6.70 (or later), save a Support Info file from the FlexDCA Help > About dialog. This will place a file called “FlexDcaSupport.zip” on the desktop. Open the “SystemInfo.txt” file found in the Support Info .zip file. Scroll down to the FPGA section and look for the CDR 2019 entry:

CDR 2019: Yes → Unit already has new FPGA. No upgrade required.

CDR 2019: No → Unit has older FPGA version. Upgrade may be ordered, if desired.

FPGA (Slot 1):
ID, Cfg, Opt: HydraPlus, 0x0, 0x0
FPGA HW SW BRD: 0x01, 0x0, 0x0, 0x4
CDR 2019: Yes
CDR FPGA Rev: 0x01

Ordering the CDR 2019 FPGA upgrade:

This upgrade is quotable as a service. To order, contact your local Keysight support representative or visit support.keysight.com (select ‘Request Repair or Calibration’), and request the “CDR 2019 FPGA Upgrade for N1078A”.

Revision History:

Date	Service Note Revision	Author	Reason for Change
26 Jan 2021	01	MM	As Published
31 July 2025	02	MM	Admin Info/Upgrade Location Updated