Information Only Service Note

N9020B MXA Signal Analyzer

Serial Numbers: ALL

Selecting Proper CPU Replacement Part Number

The standard CPU used in the N9020B MXA has changed since the product was introduced. The first two versions of the CPU look very similar, but the current CPU is noticeably different. Replacing the CPU with the proper part number will ensure that the analyzer is returned to the end-user with the same performance-level CPU as was installed in the analyzer prior to the repair.

Parts Required:
Refer to Solution / Action below

ADMINISTRATIVE INFORMATION

[[]] Calibration Required	PRODUCT LINE: 12
X Calibration NOT Required	AUTHOR: BDT

ADDITIONAL INFORMATION:

Situation:

The standard CPU used in the N9020B MXA has changed since the product was introduced. The first two versions of the CPU look very similar, but the current CPU is noticeably different. Replacing the CPU with the proper part number will ensure that the analyzer is returned to the end-user with the same performance-level CPU as was installed in the analyzer prior to the repair.

There are <u>two</u> CPU replacement assemblies available:
- N9020-60247   KIT, OPTION PC6/PC6S PROCESSOR BOARD REPLACEMENT
- W1312-60687   CPU Module, Core i3-9100HL, 16GB RAM no HDD
- N9020-60561   PCA Replacement Kit

Solution/Action:
There are several methods to determine what the currently installed CPU type is depending upon whether or not the CPU is functional and whether or not the X-Series Signal Analyzer measurement application is running.

NOTE: The recommended CPU replacements listed in this service note should not be used to upgrade from one type of CPU to another. The N9094BU Windows Operating System and PC Processor / Drive Upgrade is available to obtain the latest CPU and operating systems. Refer also to http://www.keysight.com/find/MXA_upgrades for more information.

Method 1: If CPU is functional, but X-Series SA Measurement Application is not Running
If the CPU is functional to the point that it can display the Windows Desktop, connect a mouse to the analyzer and click Start. Right-click "Computer" or "System" (depending upon operating system) and select Properties. Look for information about Processor. Select the appropriate CPU replacement part number based upon the Processor as shown in Table 1 below.

Table 1. CPU Identification Based Upon Processor

Properties of My Computer	CPU Replacement Part Number
Intel ® Core ™ i7-3615QE CPU @ 2.30 GHz	N9020-60247
Intel ® Core ™ i7-9850HL CPU @ 1.90 GHz	W1312-60687
Intel ® Core ™ i7-9850HE CPU @ 2.70 GHz	N9020-60561

Method 2: If X-Series SA Measurement Application is Running
If the X-Series SA Measurement Application is running, press System, Show, System. Note the Instrument SW Revision. One of the first two entries in the Options list should identify the type of CPU installed. The CPU option will be N9020B-PC6, N9020B-PC6S, N9020B-PC8, or N9020B-PCA. Select the appropriate CPU replacement part number based upon the CPU Option and the Instrument SW Revision as shown in Table 2 below.

Table 2. CPU Identification Based Upon CPU Option and Instrument SW Revision

CPU Option	Instrument SW Revision	CPU Replacement Part Number
N9020B-PC6 Intel ® Core ™ i7-3615QE CPU @ 2.30 GHz, 16 GB	>= A.16.05	N9020-60247
N9020B-PC6S Intel ® Core ™ i7-3615QE CPU @ 2.30 GHz, 16 GB	>= A.25.08	N9020-60247
N9020B-PC8 Intel ® Core ™ i7-9850HL CPU @ 1.90 GHz, 32 GB	Any	W1312-60687
N9020B-PC8 Intel ® Core ™ i7-9850HE CPU @ 2.70 GHz, 32 GB	Any	N9020-60561

NOTE: The CPU replacement part number N9020-60247 is the same for both N9020B-PC6 and N9020B-PC6S. The CPU will be the N9020B-PC6S CPU but will identify as a PC6 if the instrument SW revision is <A.25.08. Functionally, the only difference between the PC6 and PC6S is the that the PC6S includes internal cal memory (referred to as Internal Flash in the Alignment Data Wizard).

Method 3: If CPU is Not Functional
If the CPU is not functional, it will be necessary to determine the installed CPU based upon the part number of the currently installed CPU.

Start with the CPU installed in the MXA. View the CPU from the rear panel of the MXA. The CPU part number, which will begin with "W1312", should appear on a label near the LAN connector. Select the appropriate CPU replacement part number based upon the CPU part number as shown in Table 3 below.

Table 3. CPU Identification Based Upon CPU Part Number

CPU Part Number	CPU Replacement Part Number
W1312-60141	N9020-60247
W1312-60212	N9020-60247
W1312-60214	N9020-60247
W1312-60524	W1312-60687
W1312-60687	W1312-60687
W1312-60561	N9020-60561

Revision History:

Date	Service Note Revision	Author	Reason for Change
29 May 2024	01	Brian Torr	As Published
13 Feb 2024	02	Brian Torr	Add Opt PCA CPU option