Modification Recommended Service Note

Supersedes:
NONE

N9021B X-Series Signal Analyzer

Serial Numbers: See appendix

The Problem
Signal amplitude loss can occur above 3.6 GHz tuned frequency on option 532 (32 GHz), 544 (44 GHz) or option 550 (50 GHz) analyzers.

Parts Required:
NONE. Software update only.

ADMINISTRATIVE INFORMATION

ACTION CATEGORY:	[[]] ON SPECIFIED FAILURE [[X]] AGREEABLE TIME	STANDARDS LABOR: 0.5 Hours				
LOCATION CATEGORY:	X CUSTOMER INSTALLABLE [[]] ON-SITE (active On-site contract required) X SERVICE CENTER [X] CHANNEL PARTNERS	SERVICE: INVENTORY:	[[]] RETURN [[]] SCRAP [[]] SEE TEXT	USED PARTS:	[[]] RETURN [[]] SCRAP [[]] SEE TEXT	
AVAILABILITY: PRODUCT'S SUPPORT LIFE		NO CHARGE AVAILABLE UNTIL: 2-15-2022				
	[[]] Calibration Required X Calibration NOT Required	PRODUCT LINE: 12 AUTHOR: BS				

ADDITIONAL INFORMATION:

Situation:

Calibration values on certain disk image versions causes the preselector filter used above 3.6 GHz to be swept too quickly and this will result in measured amplitude loss. The amount of loss will vary and depends on whether the Preselector Center routine was performed, the frequency span setting, and the Sweep Time Rules setting, where the default Sweep Time Rules setting is Normal, which allows faster sweeps than the Accuracy setting.

If you want to verify the problem, set up the analyzer as shown in this screen shot. A 25 GHz signal at -15 dBm is provided by a signal source. Notice the signal is distorted, and the amplitude is 5 dB lower than expected.

The issue only appears on instruments with upper frequency ranges of 32 GHz, 44 GHz or 50 GHz, and with the serial numbers shown below.

Solution/Action:
There are two possible courses of action.

Action 1.
1. Download and install instrument software A.28.07 or later. This software version ignores the calibration values on the instrument disk image that cause the issue.
2. Perform the built-in Characterize Preselector routine.
   Press **System** (the gear icon in the upper right portion of the instrument screen), **Alignments**, **Advanced**, **Characterize Preselector**.

 Instrument software is available at:
https://www.keysight.com/find/xseries_software

Action 2.
Applicable to Keysight service centers.
A utility is available if you have a PC that can remotely control the signal analyzer via LAN, GPIB or USB, and you can install the VEE run time engine on the PC. The utility will modify the calibration values on the analyzer's disk image and trigger the Characterize Preselector routine.
The instrument software does not need to be updated

Download the utility from http://sa.support.keysight.com/XSA/YTF_util/YTF_Fix.vxe

The VEE runtime engine can be installed from:
https://www.keysight.com/main/software.jspx?ckey=2213956&id=2213956&lc=eng&cc=US

Carefully enter the instrument's VISA address into the upper right box and click Run Script.
For example, if an instrument is connected to a common LAN router with an external PC, then the VISA address would be in the format of: TCPIP0::192.168.0.2::inst0::INSTR, where 192.168.0.2 is the instrument's IP address.
The utility will complete the changes to the instrument's disk image and then perform the Characterize Preselector routine that takes a few minutes.
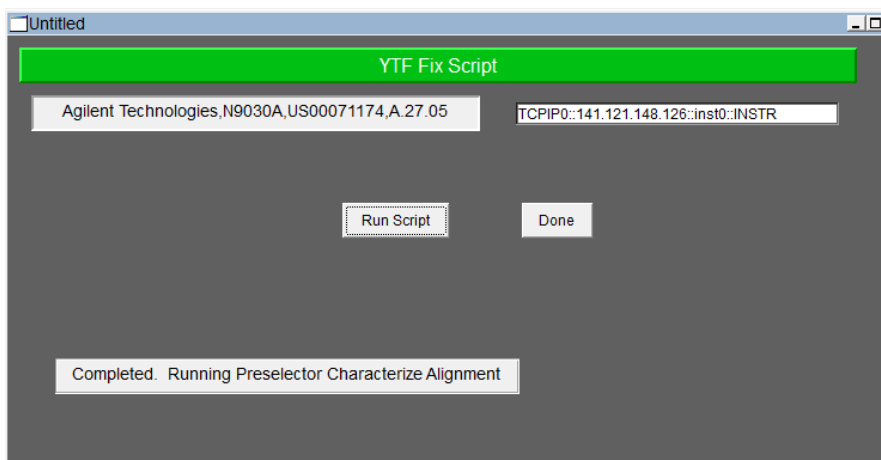
Revision History:

Date	Service Note Revision	Author	Reason for Change
15 Feb 2021	01	Bill Scharf	As Published

Appendix:

MY59310220	MY59310221	MY59310222	MY59310224	MY60080109	MY60080111
MY60080118	MY60080121	MY60080122	MY60080123	MY60080124	MY60080125
MY60080126	MY60080127	MY60080128	MY60080129	MY60080130	MY60080131
MY60080132	MY60080133	MY60080134	MY60080135	MY60080136	MY60080137
MY60080138	MY60080139	MY60080140	MY60080141	MY60080142	MY60080143
MY60080144	MY60080145	MY60080146	MY60080147	MY60080148	MY60080149
MY60080150	MY60080152	MY60080153	MY60080154	MY60080156	MY60080157
MY60080158					