Modification Recommended Service Note

Supersedes:
NONE

N9030B X-Series Signal Analyzer

Serial Numbers: See appendix

The Problem
Signal amplitude loss can occur above 3.6 GHz tuned frequency on option 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:

KEYSIGHT TECHNOLOGIES

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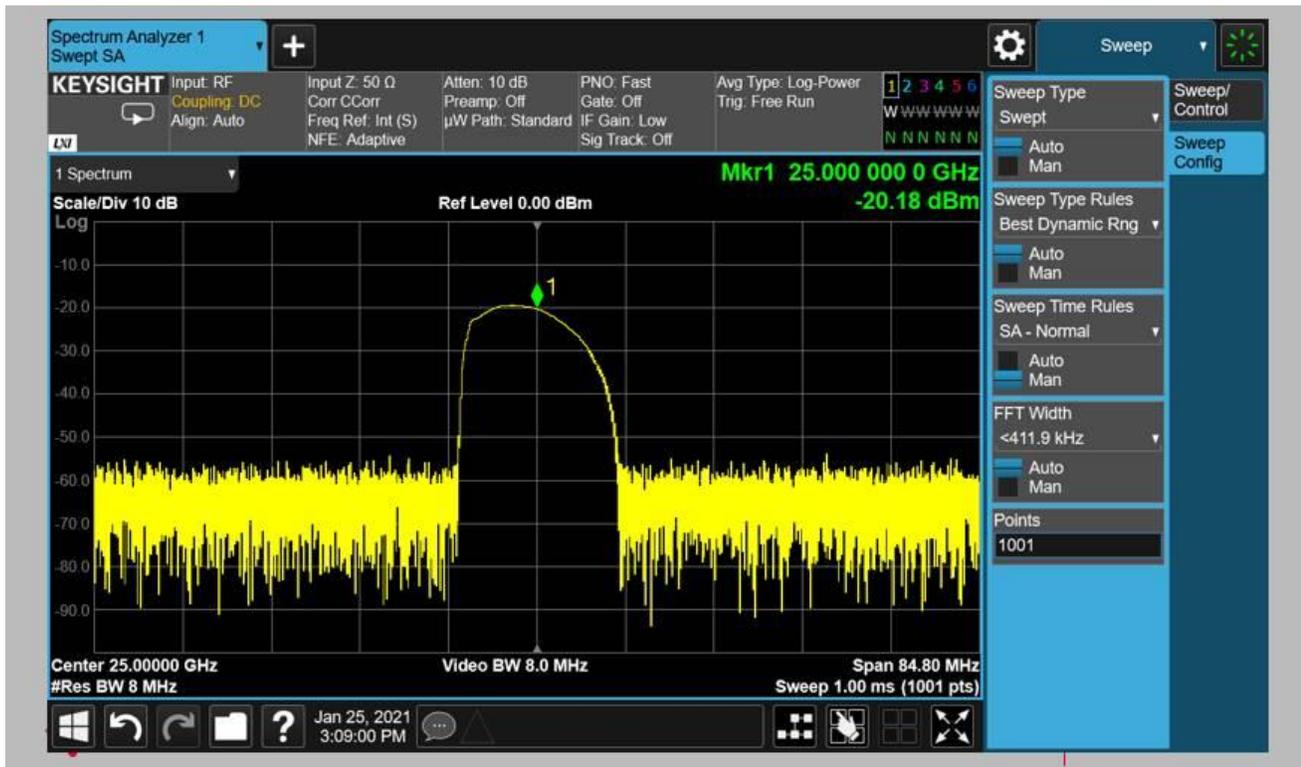
The issue only appears on instruments with upper frequency ranges of 44 GHz or 50 GHz, and with the serial number ranges shown above.

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.
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.
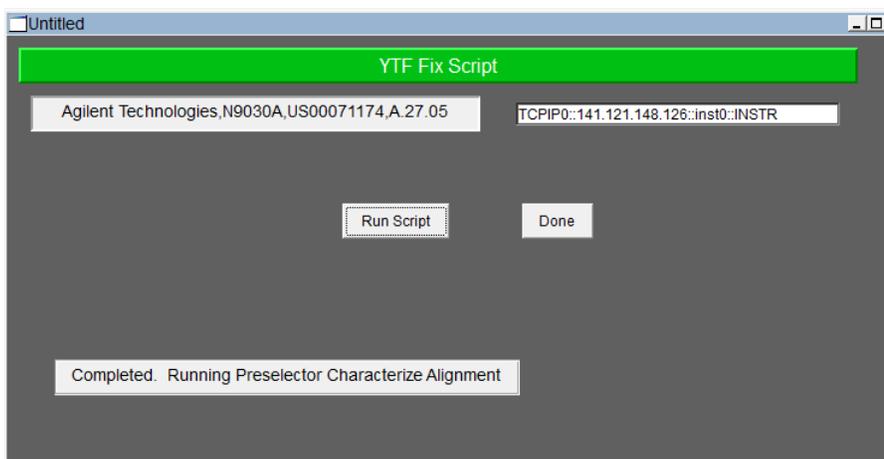
Revision History:

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

Appendix:

MY57143686	MY57143691	MY57143724	MY57143737	MY57143812	MY57143817
MY57143830	MY57143832	MY57143866	MY57143894	MY57144201	MY57144205
MY57144252	MY57144267	MY57144277	MY57144281	MY57144319	MY57144321
MY57144346	MY60070156	MY60070158	MY60070204	MY60070205	MY60070215
MY60070230	MY60070231	MY60070263	MY60070289	MY60070290	MY60070292
MY60070294	MY60070295	MY60070305	MY60070306	MY60070307	MY60070308
MY60070314	MY60070315	MY60070320	MY60070332	MY60070349	MY60070354
MY60070355	MY60070368	MY60070369	MY60070370	MY60070372	MY60070374
MY60070386	MY60070387	MY60070388	MY60070389	MY60070390	MY60070404
MY60070410	MY60070411	MY60070412	MY60070413	MY60070414	MY60070415
MY60070416	MY60070417	MY60070418	MY60070419	MY60070420	MY60070421
MY60070422	MY60070423	MY60070424	MY60070425	MY60070426	MY60070427
MY60070428	MY60070429	MY60070430	MY60070431	MY60070432	MY60070433
MY60070499	MY60070500	MY60070501	MY60070502	MY60070503	MY60070504
MY60070505	MY60070506	MY60070507	MY60070508	MY60070509	MY60070510
MY60070511	MY60070512	MY60070513	MY60070514	MY60070515	MY60070516
MY60070517	MY60070519	MY60070531	MY60070533	MY60070534	MY60070535
MY60070536	MY60070542	MY60070544	MY60070545	MY60070546	MY60070547
MY60070555	MY60070556	MY60070557	MY60070558	MY60070559	MY60070560
MY60070561	MY60070562	MY60070563	MY60070564	MY60070568	MY60070569
MY60070570	MY60070571	MY60070572	MY60070573	MY60070574	MY60070575
MY60070576	MY60070577	MY60070578	MY60070579	MY60070580	MY60070581
MY60070583	MY60070592	MY60070593	MY60070594	MY60070596	MY60070597
MY60070599	MY60070602	MY60070608	MY60070609	MY60070610	MY60070615
MY60070622	MY60070630	MY60070631	MY60070632	MY60070633	MY60070634
MY60070635	MY60070637	MY60070638	MY60070646	MY60070647	MY60070648
MY60070649	MY60070656	MY60070657	MY60070679	MY60070680	MY60070681
MY60070683	MY60070684	MY60070688	MY60070689	MY60070690	MY60070691
MY60070692	MY60070693	MY60070697	MY60070703	MY60070704	MY60070705
MY60070710	MY60070714	MY60070721	MY60070722	MY60070730	MY60070731
MY60070734	MY60070735	MY60070736	MY60070738	MY60070739	MY60070740
MY60070741	MY60070743	MY60070744	MY60070745	MY60070805	MY60070807
MY60070810	SG57142100	SG57142106	SG57142126	SG60070107	SG60070114
SG60070116	SG60070117	SG60070118	SG60070126	SG60070131	