

N5171B-05

Modification Available Performance Enhancement Service Note

Supersedes:
None

N5171B X-Series EXG Analog Signal Generator

Serial Numbers: ALL

The Problem – Self-Test 401 False Failures with Firmware Versions older than B.01.41

Parts Required:

P/N	Description	Qty.
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NONE

ADMINISTRATIVE INFORMATION

<input type="checkbox"/>	Calibration Required
<input checked="" type="checkbox"/>	Calibration NOT Required

PRODUCT LINE: 15
AUTHOR: MM

ADDITIONAL INFORMATION:

Situation:

Individual Self-Test limits change over time due to changes made to the circuits that they are testing the functionality of. The Self-Test limits in an instrument are updated when a new firmware version is installed. In order to have the latest Self-Test limits in the instrument it is always recommended to have the latest available instrument firmware installed.

With the release of firmware versions B.01.41 the lower limit for the High Band Amplifier 1 Gate Bias test, which is part of Self-Test 401, was changed from -0.9 to -1.3.

Instruments that are failing this part of Self-Test 401 with the older firmware version could possibly pass the same Self-Test after a newer version of the instrument firmware is installed.

To see what Self-Test limits are being used press **Utility, Instrument Info, Self Test, View Test Info**. Then scroll down to highlight test 401 and press **View Details**. If there are no details available press **Return, Run Highlighted** to run that Self-Test, then press **View Details** again. The image below shows the old lower limit of -0.9

FREQUENCY		RF OFF		Self Test	
6.000 000 000 000 GHz		-144.00 dBm			
Test View Name	Value	Lower	Upper	Fail	
Anlg FPGA VCCINT 1.2V	1.16721	1	1.4		
Anlg FPGA VCCAUX 2.5V	2.48261	2.3	2.7		
External +1VP	0.991581	0.9	1.1		
LB Amp 1 Gate Bias	-1.04376	-1.5	-0.6		
LB Amp 2 Gate Bias	-1.02736	-1.4	-0.6		
LB Amp 3 Gate Bias	-1.03777	-1.4	-0.6		
HB Amp 1 Gate Bias	-0.935528	-0.9	-0.1	**	
HB Amp 5 Gate Bias	-1.25325	-1.7	-0.7		
HB Amp 6 Gate Bias	-1.40795	-2	-0.8		

Solution/Action:

Instruments failing the lower limit of Self-Test 401 for the High Band Amplifier 1 Gate Bias test, as shown in the figure above, that have a firmware version older than B.01.41 should be updated with the latest instrument firmware version.

Download the latest firmware at:

http://www.keysight.com/find/exg_firmware

Revision History:

Date	Service Note Revision	Author	Reason for Change
13 Nov 2019	01	MM	As Published