

MODIFICATION RECOMMENDED –
CORRECTS MANUFACTURING OR DESIGN DEFECTS

N4906A-01

S E R V I C E N O T E

Supersedes:
NONE

N4906A 3Gb/s SerialBERT

Serial Numbers: [0000A00000 / 9999Z99999]

Incorrect frequency or high jitter when using internal clock source may require replacement of Pattern Generator Clock Path Assembly.

To Be Performed By: Agilent-Qualified Personnel

Parts Required:

P/N	Description	Qty.
86130-69002	Clock Path Bd – Refurbished	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:		
MODIFICATION RECOMMENDED		
ACTION CATEGORY:	<input type="checkbox"/> IMMEDIATELY <input checked="" type="checkbox"/> ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS: LABOR: 1.0 Hours + CAL
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> SERVICE CENTER	SERVICE X RETURN INVENTORY: <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	USED X RETURN PARTS: <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AGILENT RESPONSIBLE UNTIL: 26 Jan 2007		
AUTHOR: RBS PRODUCT LINE: 8F		
ADDITIONAL INFORMATION:		

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January 28, 2004

Situation:

The A2A1 Clock Path Assembly may require replacement to resolve data and clock amplifier output performance degradation when using the internal clock source (synthesizer). A defective A2A1 assembly may cause excessive jitter on the data amplifiers, or may result in a doubling of the output frequency (e.g. set 1.0GHz, and displayed frequency is 2.0GHz).

This problem is **ONLY** evident when using the internal clock source since the prescaler/divider IC (U2, P/N 1GC1-4210) on A2A1 is bypassed when using an external clock source.

Elevated operating temperatures such as those found at the top of equipment racks can accelerate the time to failure of the IC (U2) (N4906A Operating Specification 10C-45C).

Solution/Action:

1. Confirm the instrument behavior is due to a defective A2A1 assembly.
 - a. Problem is **NEVER** evident when using external clock source.
 - b. Frequency doubling problem goes away when using internal clock source above 1.5GHz
2. Once confirmed, replace A2A1 (Clock Path Assy) and re-calibrate A2 (Pattern Generator) assembly.

NOTE: A2A1 U2 (1GC1-4210) is reworked in the factory. It requires special soldering techniques to ensure good ground-plane bonding on the IC underside.