N1921A-01

S E R V I C E N O T E

Supersedes:
none

Agilent P-Series Power Sensor Wide Band Power Sensors

Serial Numbers: Product starts from this MY 45241216 and above
Model N1921A-ATO-43898

Crack on sensor casing after MIL-PRF-28800F Class 3 Temperature Cycle test and Temperature/Humidity test

To Be Performed By: Agilent-Qualified Personnel or Customer

Parts Required:

P/N	Description	Qty.
N1920-20001	New Shell for P-Series Wideband Sensor	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION: **MODIFICATION RECOMMENDED**			
ACTION CATEGORY:	[[]] IMMEDIATELY [[]] ON SPECIFIED FAILURE X AGREEABLE TIME	STANDARDS: LABOR: 0.5 Hours	
LOCATION CATEGORY:	[[]] CUSTOMER INSTALLABLE [[]] ON-SITE X SERVICE CENTER	SERVICE INVENTORY: [[]] RETURN X SCRAP [[]] SEE TEXT	USED PARTS: [[]] RETURN X SCRAP [[]] SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	AGILENT RESPONSIBLE UNTIL: 1st April 2009 for All Warranty Unit.	
AUTHOR: Alvin Khoo	PRODUCT LINE: WC		
ADDITIONAL INFORMATION:			

Agilent Technologies

March 13, 2007

Situation:

Sensor casing (N192x) crack issue found after customer has carried out a more stringent Temperature Cycle test and Temperature/Humidity test compliance to Class 3 MIL-PRF-28800F requirement, the housing of the sensor was cracked. Therefore our sensor product engineer and the cross functional team have come out the action plan to develop the new sensor casing for this P-Series power sensor which can withstand this Class 3 MIL-PRF-28800F stringent test to meet the customer, US Navy requirement.

Qualification Test Results:

The tests below have been run thoroughly to qualify this new sensor casing with part number N1920-20001.

A) Assembly

1. Assemble 4 units of Fluffy power sensor with new plastic casing
2. Record any difficulties in assembly (especially fitting)
3. All findings are to be recorded and reported to Engineer after assembly process

Results

- No abnormalities

B) Temperature Cycle Test

1. Take the 4 built units to perform temperature cycle test using US Navy (MIL-PRF-28800F, Class 3) testing profile.
2. Record visual findings.

Results

- No abnormalities
- Please refer to pictures

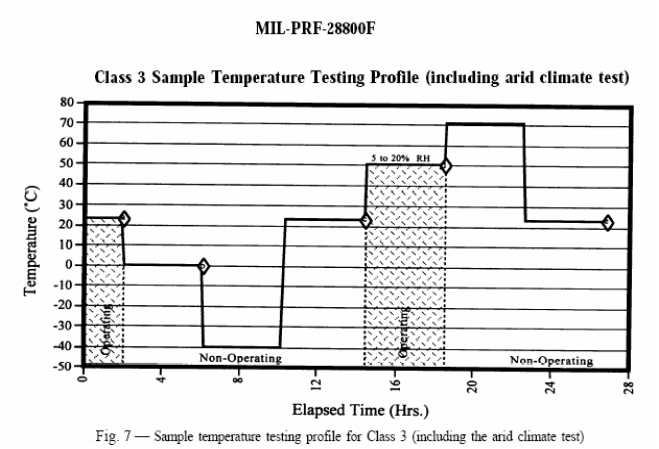


Fig. 7 — Sample temperature testing profile for Class 3 (including the arid climate test)

C) Humidity

1. Take the 4 built units to perform humidity test using US Navy (MIL-PRF-28800F, Class 3) testing profile.
2. Record visual findings.

Results

- No abnormalities
- Please refer to pictures

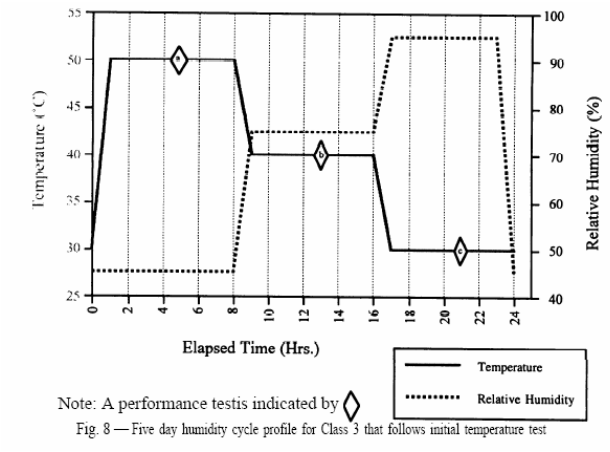


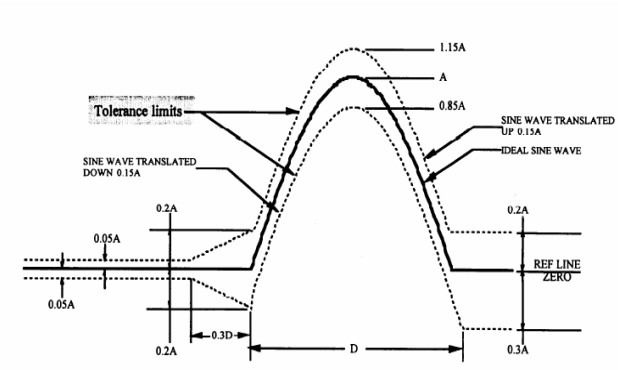
Fig. 8 — Five day humidity cycle profile for Class 3 that follows initial temperature test

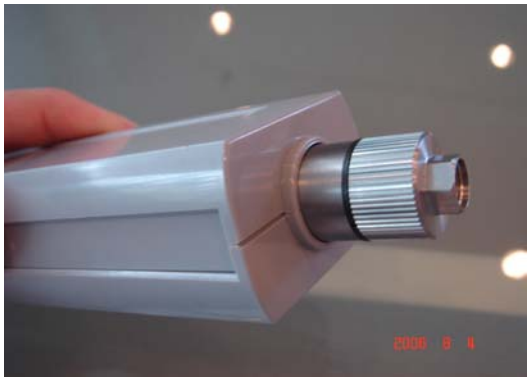
D) Shock

1) Take the 4 built units to perform shock test using US Navy (MIL-PRF-28800F, Class 3) testing profile.
2) Record visual findings.

Results

- No abnormalities.
- Please refer to pictures**.**





E) Vibration

1) Take the 4 built units to perform vibration test using US Navy (MIL-PRF-28800F, Class 3) testing profile
2) Record visual findings

Results

- No abnormalities.
- Please refer to pictures

TABLE 3. Random vibration profile by class.

Class	Duration per axis (minutes)	Frequency (Hz)	Slope (dB/Octave)	PSD (g^2/Hz)
1	60	10-1000 1000-2000 2000	0 -6 -	.04 - .01
2	30	10-500	0	.03
3, 4	10	5-100 100-137 137-350 350-500 500	0 -6 0 -6 -	.015 - .0075 - .0039

Conclusion

Based on the reliability test results shown in above, this new P-series power sensor's casing with part number N1920-20001 can be phased in production and capable to replace the old sensor casing in the term of reliability. Figures below are the New VS Old sensor casing outlook and also the dimension for both plastic casings.

Dimensions comparison between Old and New Plastic Shell

	Old shell (mm)	New Shell (mm)
Length	110.5	105.3
Width	39.4	42
Height	13.5	13.8

CAUTION

- Do not dismantle the front panel.
- Do not touch the 1mW reference.
- Once the front panel is dismantled or 1mW is affected, service and calibration are needed.
- Information about verification of 1mW is documented in service guide.