4288A-06

S E R V I C E N O T E

Supersedes:
NONE

4288A 1 kHz/1 MHz Capacitance Meter

Serial Numbers: MY41101668/MY41101970

E 21 Save Failed problem on Save function and OVLD display problem on Multi Compensation function

This service note describes symptoms and remedy for the problem that E 21 **Save failed** is displayed when Save key is pressed and that **OVLD** is displayed when Multi Compensation is performed at specific scanner channels.

To Be Performed By: Agilent-Qualified Personnel

Parts Required:
None

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION: **MODIFICATION RECOMMENDED**			
ACTION CATEGORY:	[ ] IMMEDIATELY [X] ON SPECIFIED FAILURE [ ] AGREEABLE TIME	STANDARDS: LABOR: 0.5 Hours	
LOCATION CATEGORY:	[ ] CUSTOMER INSTALLABLE [ ] ON-SITE [X] SERVICE CENTER	SERVICE INVENTORY: [ ] RETURN [ ] SCRAP [ ] SEE TEXT	USED PARTS: [ ] RETURN [ ] SCRAP [ ] SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	AGILENT RESPONSIBLE UNTIL:	EOS
AUTHOR: HH	PRODUCT LINE: WN		
ADDITIONAL INFORMATION:			

Agilent Technologies

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Situation:

There is possibility that the 4288A with specified serial numbers may exhibit the following symptoms:

(1) E 21 **Save failed** is displayed when Save key is pressed to save instrument setup data in internal EEPROM. (E 22 **Recall failed** is displayed when Rcl key is pressed.)

(2) **OVLD** is displayed when Multi Compensation is performed for specific scanner channels shown below:

- Open/Short compensation at channel 5, 26, 37 and 58
- Load compensation at channel 2, 8, 14, 20, 26, 37, 43, 49, 55 and 61

These symptoms are caused by data loss or incomplete data memory due to incorrect EEPROM installed. When Atmel AT28HC256N (incorrect EEPROM) is used in place of Intersil X28HC256 (correct EEPROM), the instrument setup data and multi compensation data cannot be correctly written in the EEPROM because of difference in memory page configuration between them.

Solution/Action:

When the 4288A is in for service because of the aforementioned symptoms, perform the following procedure:

1. Verify that Atmel AT28HC256N EEPROM is installed on the A1 Main Board of the faulty 4288A.
2. Update the firmware of the 4288A. (Install Revision 1.24 or later version firmware in the 4288A.)
3. Send the following GPIB command to the 4288A to initialize the EEPROM:
   OUTPUT 717;"TEST:USRCal:INIT"
   Verify that "E-113 Undefined header" is not displayed on the 4288A LCD.
4. Press Blue key and Config key. Select **Rev** with left arrow (⇐) key and press Enter key to make the 4288A display firmware revision number.
5. Verify that the displayed firmware revision number is consistent with the installed firmware.

Note: This problem has been fixed on the firmware Rev. 1.24 because the firmware was modified so that data can be correctly saved whichever EEPROM the 4288A is using.
No replacement parts are required.
The firmware update does not influence adjustments and performance test results.

Confirmation Checks:

To confirm that the symptoms are removed, perform the following checks:
[Save/Recall function**]**
Save arbitrary instrument setup and recall it. Neither E 21 **Save failed** nor E 22 **Recall failed** should be displayed. Finally, press Blue and Reset keys to initialize the 4288A.
[Multi Compensation**]**
1. Press Blue and Reset keys.
2. Press Blue and Scanner keys.
3. Set to **Scanner: On**, **Channel = 2** and **LoadRef: Multi** , then Exit the setting function.
4. Press Blue and Load keys.
5. Select **ColVal** and press Enter key.
6. Select **MeasVal** and press Enter key.
7. **Measured[2:Cp]=+100.000nF** or **Measured[2:Cs]=+100.000nF** should be displayed.
8. Press Enter key.
9. **Measured[2:D]=+0.00000** should be displayed.
10. Exit the setting function. Finally, press Blue and Reset keys to initialize the 4288A.