

# Installation Note

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## Agilent Technologies ESA-E Series Spectrum Analyzers High Stability Frequency Reference (Option 1D5) Retrofit Kit



Part Number E4401-90484

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## High Stability Frequency Reference (Option 1D5)

Products Affected: .....	ESA E4402B ESA E4404B ESA E4405B ESA E4407B
Serial Numbers: .....	US4421, MY4421, SG4421 and later
Options: .....	1D5
To Be Performed By: .....	(X) Agilent Service Center (X) Personnel Qualified by Agilent (X) Customer
Verification Time: .....	1.5 Hours
Estimated Installation Time: .....	0.25 Hours

### Introduction

This kit contains the parts and instructions to install Option 1D5. No tools are required.

### Installation Kit Parts List

Item	Description	Item Number
1	High Stability Frequency Reference Installation Note	this note
2	Option Upgrade Entitlement Certificate	---

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## Procedure

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**CAUTION** Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assemblies should be performed at a static-safe workstation. Refer to the documentation that pertains to your instrument for information about static-safe workstations and ordering static-safe accessories.

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### Firmware Revision Verification

1. Turn on the analyzer and wait for the power-on alignments to complete. Check that there are no error messages displayed.
2. Press **System, More, Show System**. Make a note of the firmware revision.
3. Upgrade Option 1D5 will not function properly unless the spectrum analyzer has firmware version A.14.00 or later installed. Since this version of firmware was introduced in the serial number range mentioned above, your analyzer should have version A.14.00 or later already installed. If the analyzer firmware version is less than A.14.00, the firmware can be downloaded via the world-wide web at [http://www.agilent.com/find/esa\\_firmware](http://www.agilent.com/find/esa_firmware).

### Obtaining a License Key and Activating the Option

The entitlement certificate supplied in this kit allows you to obtain a license key from our Agilent website so you can enable this upgrade option. Once you have retrieved the license key, you can begin the process of activating the option

1. Press **System, More, More, Licensing, Option**. When you press **Option**, the alpha editor will be activated. For instructions on using the alpha editor, refer to the *Agilent Technologies ESA Spectrum Analyzers User's Guide*.
2. Use the alpha editor to enter the three-character designation for the option, in this case, "1D5", that you want to activate.
3. Press **Enter** when done.
4. Press **License Key**. When you press **License Key** the alpha editor will be activated.
5. Use the alpha editor and the numeric keypad to enter the 12-character license key number (for example: D7C374DABD5B) for the option that you want to activate.
6. Press **Enter** when done.
7. Press **Activate** to turn on the option.
8. If the option and license key entries were correct, a message stating "Option Activated" will appear on the analyzer display.

## Adjust the High Stability Frequency Reference

1. Use the Adjustment Software (not supplied) to perform the 10 MHz Reference Frequency Adjustment and the 50 MHz Amplitude Reference Adjustment. Details regarding the TME field software can be found at <http://www.agilent.com/find/calibrationsoftware>. Select the Technical Support link and review the N7800A Calibration & Adjustment Software Getting Started Guide.

## Functional Testing

1. Press **System, More, Show System** to verify existence of Option 1D5.
2. To test the functionality and performance of this option, execute the following performance verification tests located in the *Agilent Technologies ESA Spectrum Analyzers Calibration Guide*.
  - 10 MHz Precision Reference Frequency Accuracy
  - Noise Sidebands
  - Residual FM
  - Absolute Amplitude Accuracy
  - Frequency Response
  - Displayed Average Noise Level
  - Residual Responses
3. If you have problems performing any of these tests, contact the nearest Agilent Technologies sales and service office listed in the troubleshooting chapter of the *Agilent Technologies ESA Spectrum Analyzers User's Guide*.