Startbuymore I34Z1MV35T91UHUJJ59RRB2

Startbuymore ADF4351 RF Signal Generator User Manual

1. Introduction

This manual provides detailed instructions for the safe and efficient operation of your Startbuymore ADF4351 RF Signal Generator. This device is designed for generating RF signals across a wide frequency range, featuring a touch display for intuitive control. Please read this manual thoroughly before using the product to ensure proper functionality and to prevent damage.

Key Features:

- **Touch Screen Interface:** Convenient touch screen for easy operation and control.
- **Wide Frequency Range:** Covers 35 MHz to 4.4 GHz for various applications.
- **Durable Construction:** Made with quality materials for reliability and long-lasting performance.
- **Multiple Control Options:** Controlled via a three-wire SPI interface, ensuring flexibility and compatibility.

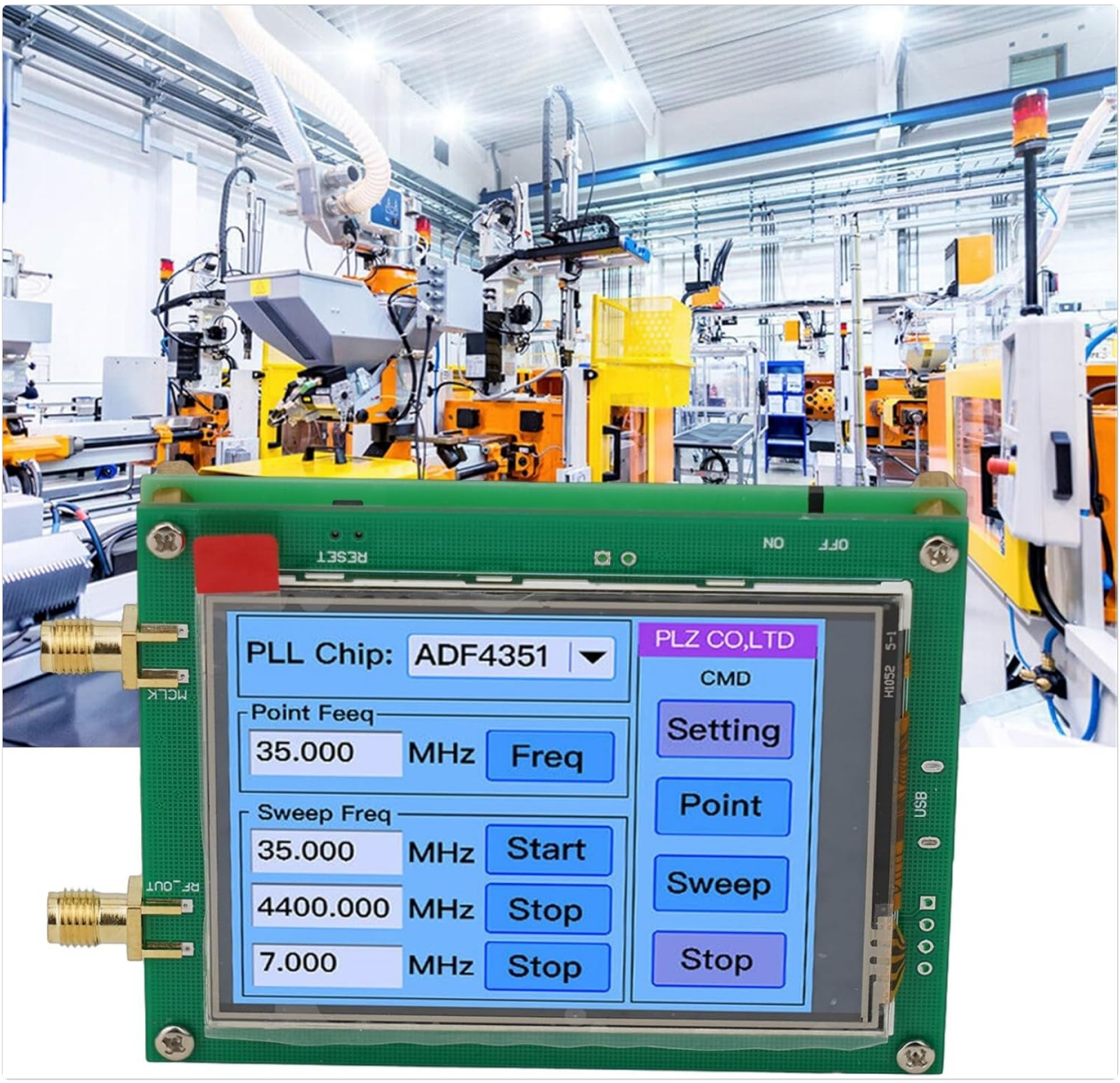

Image 1.1: The ADF4351 RF Signal Generator in a typical operational environment.

2. Safety Information

Observe the following safety precautions to prevent injury and damage to the device:

- **Power Supply:** Use only the specified DC4-9V power supply (typical 5V). Using an incorrect voltage can damage the device.
- **Environment:** Operate the device in a dry, stable environment. Avoid exposure to moisture, extreme temperatures, or direct sunlight.
- **Handling:** Handle the device with care. Avoid dropping or subjecting it to strong impacts.
- **Connections:** Ensure all connections (power, SMA, SPI) are secure before powering on the device.
- **Maintenance:** Do not attempt to open or repair the device yourself. Refer to qualified personnel for service.

3. Package Contents

Verify that all items are present in the package:

- 1 x ADF4351 RF Signal Generator

- 1 x USB Cable

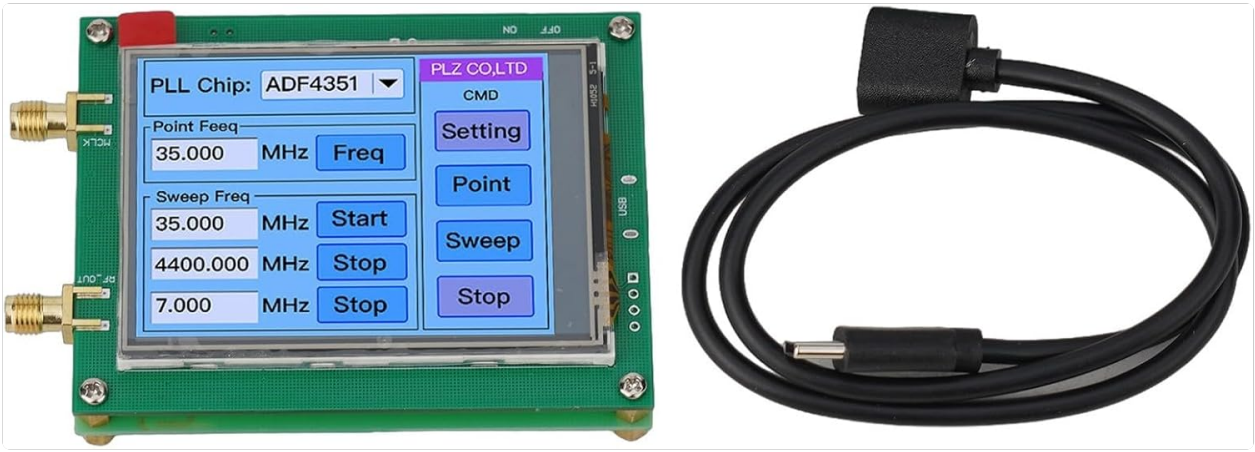

Image 3.1: Contents of the package, including the signal generator and USB cable.

4. Setup

4.1 Power Connection

Connect the provided USB cable to the DC002 interface on the signal generator. Connect the other end of the USB cable to a DC power source providing 4-9V, typically 5V. Ensure the power source is stable and within the specified voltage range.

4.2 Signal Output Connection

The RF signal output is provided via the SMA female connector labeled 'RF OUT'. Connect your measurement equipment or load to this connector using an appropriate SMA cable.

4.3 Control Interface

The device is controlled through a three-wire SPI interface. For advanced integration or custom control, refer to the provided PDF circuit diagram and STM32 test program for pinout details and programming examples.

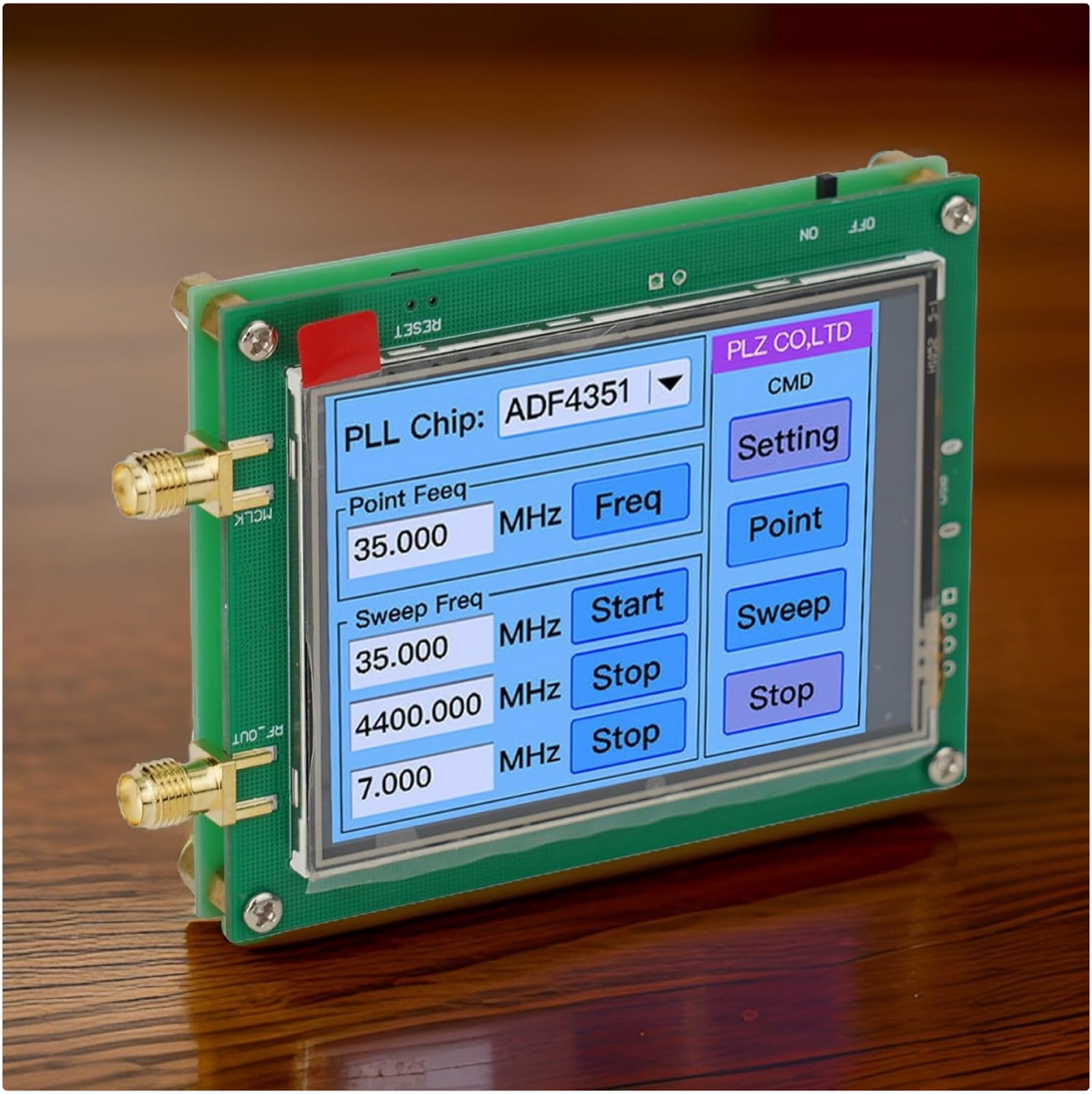

Image 4.1: Front view of the signal generator, highlighting the touch screen and SMA output ports.

5. Operating Instructions

5.1 Navigating the Touch Screen

The device features a touch screen for all operational controls. Tap on buttons and input fields to adjust settings. The main screen typically displays options for 'Point Freq' (point frequency), 'Sweep Freq' (frequency sweep), 'Setting', 'Point', 'Sweep', and 'Stop'.

5.2 Point Frequency Generation

To generate a single, stable frequency:

1. On the main screen, locate the 'Point Freq' section.
2. Tap the frequency input field (e.g., '35.000 MHz') to enter the desired frequency using the on-screen keypad.
3. Tap the 'Freq' button to apply the set frequency.
4. Ensure the output is enabled (if there is a separate ON/OFF control, typically on the side or top).

5.3 Frequency Sweep Generation

To perform a frequency sweep:

1. Locate the 'Sweep Freq' section on the main screen.
2. Tap the 'Start' frequency input field (e.g., '35.000 MHz') to set the sweep's starting frequency.
3. Tap the 'Stop' frequency input field (e.g., '4400.000 MHz') to set the sweep's ending frequency.
4. The step size can be configured, typically 1 KHz, with low-frequency steps down to 0.1 KHz, depending on the crystal frequency. Refer to the 'Setting' menu for step size adjustment.
5. Tap the 'Sweep' button to initiate the frequency sweep.
6. To halt the sweep, tap the 'Stop' button in the 'Sweep Freq' section.

5.4 Frequency Hopping

The device supports frequency hopping functionality. Specific instructions for configuring and executing frequency hopping sequences can be found within the 'Setting' menu or by referring to the detailed programming guide (if provided separately).

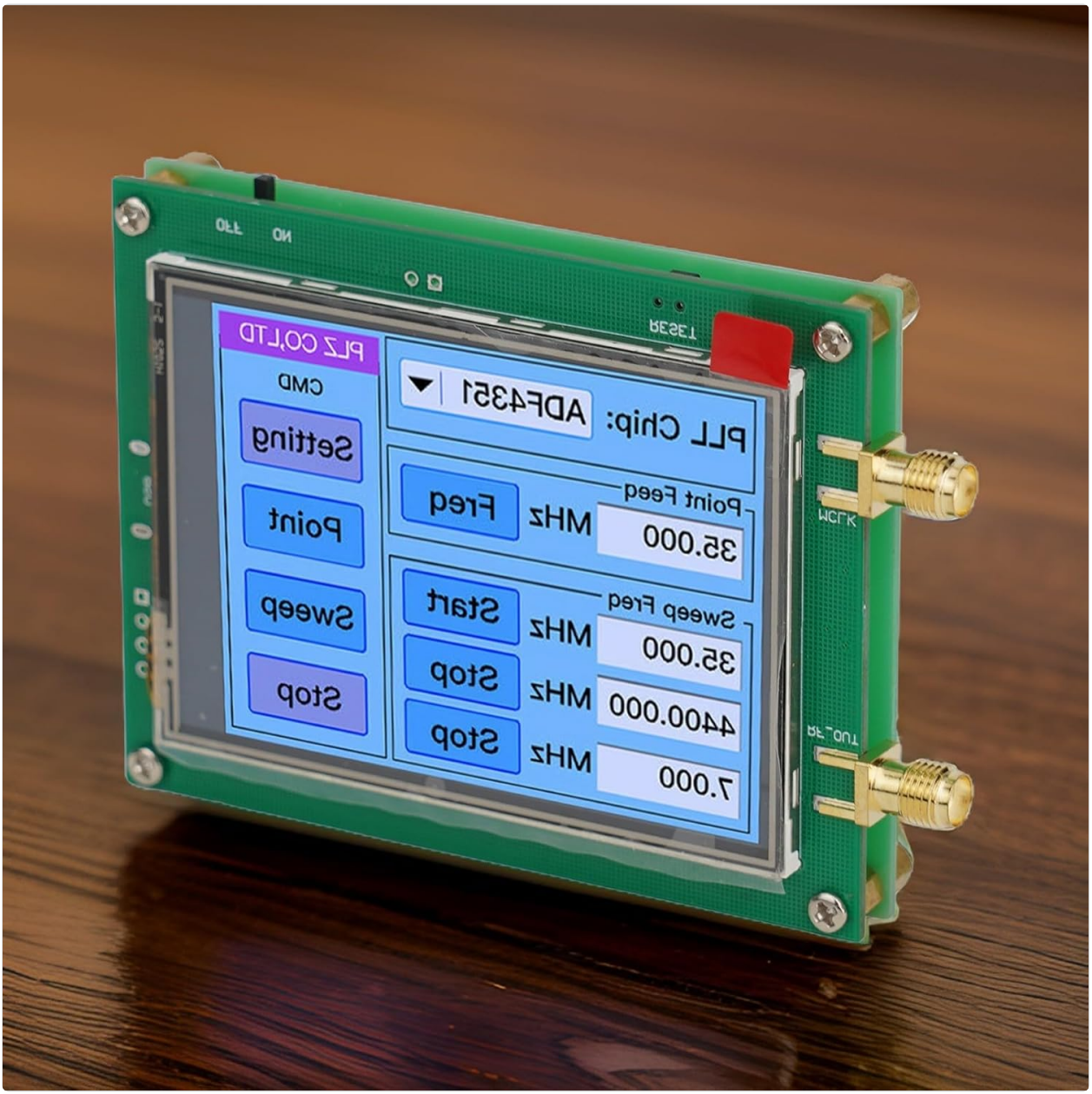

Image 5.1: Detailed view of the touch screen interface, showing frequency input fields and control buttons.

6. Maintenance

6.1 Cleaning

To clean the device, gently wipe the exterior with a soft, dry cloth. For the touch screen, use a screen-specific cleaning solution and a microfiber cloth. Do not use abrasive cleaners or solvents, as these can damage the surface.

6.2 Storage

When not in use, store the signal generator in a cool, dry place, away from direct sunlight and excessive dust. Keep it in its original packaging or a protective case to prevent physical damage.

6.3 Firmware Updates

Periodically check the manufacturer's website for any available firmware updates. Updates may provide performance enhancements or new features. Follow the specific instructions provided with any firmware update package.

7. Troubleshooting

This section addresses common issues you might encounter:

Problem	Possible Cause	Solution
Device does not power on	Incorrect or no power supply connected	Ensure a stable DC 4-9V (typical 5V) power supply is connected correctly. Check the USB cable for damage.
No RF signal output	Output not enabled, incorrect frequency setting, or faulty SMA connection	Verify the output is enabled on the device. Check the frequency settings on the touch screen. Ensure the SMA cable is securely connected to both the generator and the measurement equipment.
Touch screen unresponsive	Temporary software glitch or physical damage	Restart the device by disconnecting and reconnecting power. If the issue persists, contact support.
Inaccurate frequency output	Environmental factors or internal calibration issue	Ensure the device is operating within specified environmental conditions. If accuracy issues persist, contact support for potential calibration.

8. Specifications

Feature	Specification
Model Number	I34Z1MV35T91UHUJJ59RRB2
Output Frequency Range	ADF4351: 35 MHz - 4.4 GHz
Power Supply Mode	DC002 interface, DC 4-9V (typical 5V)
Output Signal Interface	SMA Female
Control Mode	Three-wire SPI
Output Signal Types	2.2-4.4 GHz fundamental wave (sine wave); 35 MHz - 2.2 GHz fundamental wave frequency division (square wave)

Feature	Specification
Crystal Oscillator	Default ±50ppm 25 MHz imported active crystal oscillator
Frequency Step Size	Configurable, typically 1 KHz (low frequency steps down to 0.1 KHz)
Product Dimensions	5.12 x 4.33 x 1.18 inches
Item Weight	3.56 ounces
Manufacturer	Startbuymore

9. Warranty and Support

Specific warranty information for this product may vary. Please refer to the purchase documentation or contact your retailer for details regarding warranty coverage and terms.

For technical support, troubleshooting assistance beyond what is covered in this manual, or inquiries about repairs, please contact Startbuymore customer service or your authorized dealer. Have your product model number (I34Z1MV35T91UHUJJ59RRB2) and purchase details ready when contacting support.