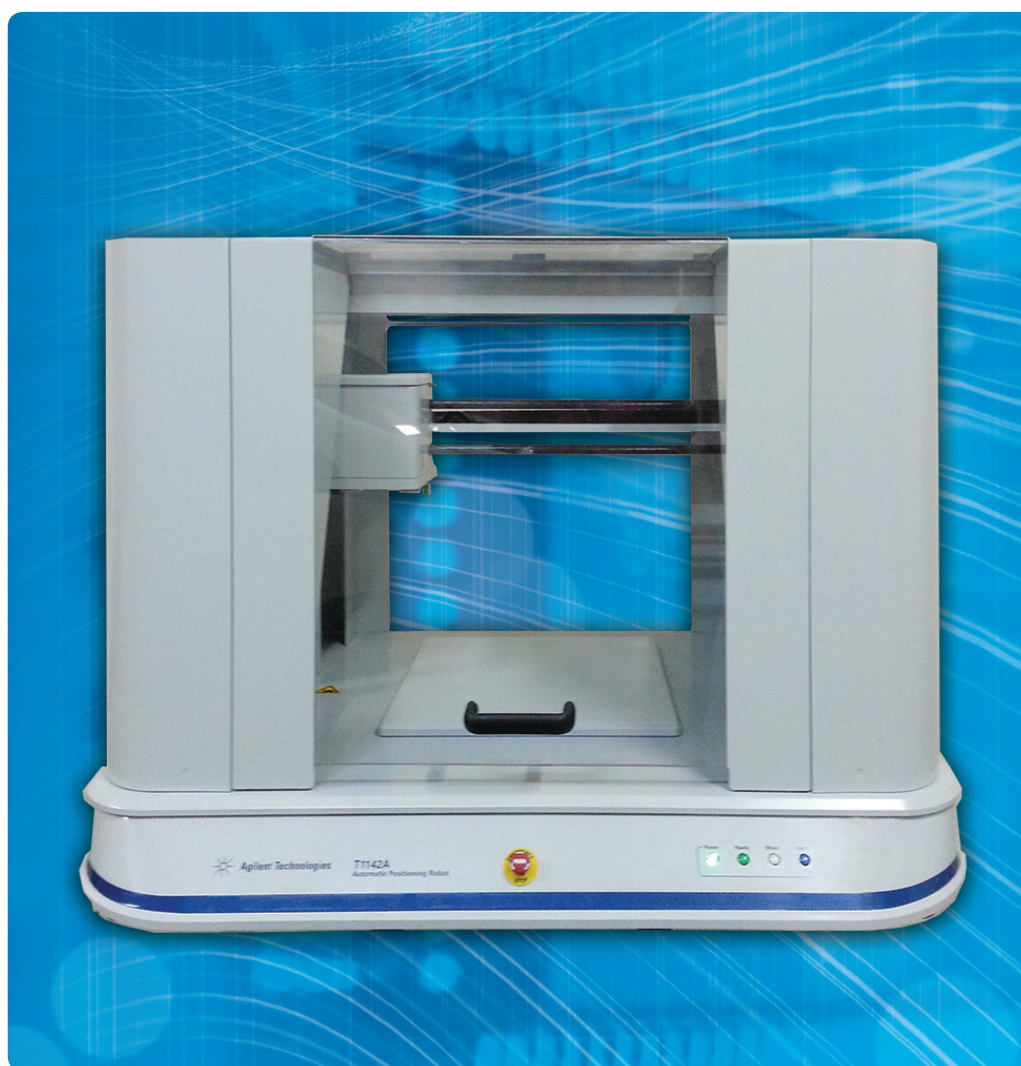


Agilent T1142A Automatic Positioning Robot



Technical Overview



Overview

T1142A Automatic Positioning Robot is the essential tool when developing the testing strategy for RFID and NFC technology. The T1142A automated robot ensures the exact positioning of test antennas when testing a RFID & NFC Device Under Test (DUT).

The RFID and NFC Conformance test specifications require high accuracy positioning of the test antennas when testing a RFID/NFC device, these millimeter accuracy requirements make an automatic positioning solution essential for device manufacturers when running RFID and NFC test campaigns. Agilent technologies has developed a fully automated solution to enabling highly accurate positioning of the test antennas, ensuring reliable and repeatable positioning under Conformance conditions.

Features Highlights

- Fulfills the NFC Forum Analog RF test requirements.
- Positioning accuracy better than ± 0.5 mm.
- Three independent motors, one per axis.
- Built with non-metallic interference-free materials.
- Provides specified operating volume for small or large devices with weights up to 10 kg.
- Automatically controlled by RIDER RFID HF Test System.
- Calibration Kit available for the user.
- Laser-based sample detection with unmodified NFC Forum reference antennas



T1142A Automatic Positioning Robot

Product Description

T1142A is a three axis positioning system enabling automated positioning of reference antenna over a particular DUT. Its robust structure ensures performance in all user cases, it has been specially designed for testing of different size and weight of DUT's, allowing small devices such as mobile phones but also larger products such as laptops or other kinds of devices.

Exchange of reference antennas is easy for the operator thanks to the included set of clamps which enables adjustment and secure locking of the different reference test antennas during the testing execution. The use of these clamps ensures easy operation of the system by the test operator and reduces test execution time.

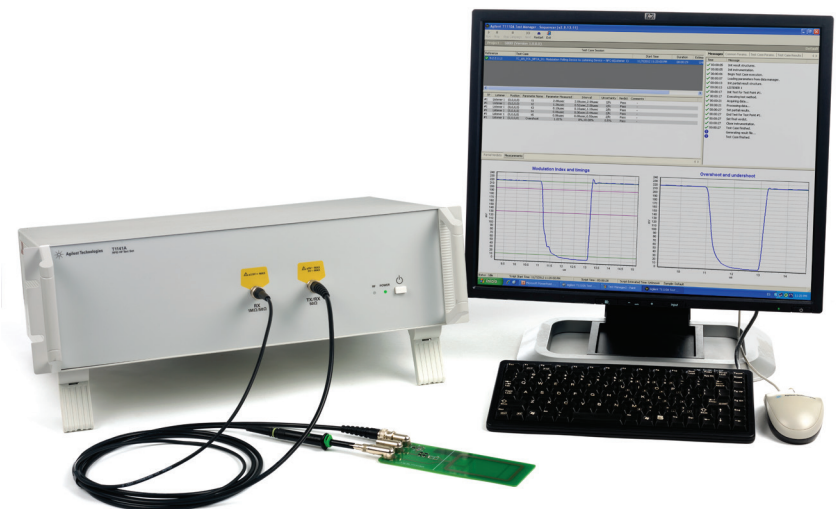
The dimensions of T1142A Automatic Positioning Robot are:

Box	mm/in
Height	832 mm/32,76 in
Width	1100 mm/43,31 in
Depth	800 mm/31,51 in

Regarding safety, the following design considerations have been established:

- The T1142A includes a safety enclosure and a sensor that prevent the system to be on motion while door is open, so that user is protected against any harm during Robot operation
- An Emergency Stop button: included on the front panel of the Robot in a position where it can be pressed fast to immediately stop the robot operation.
- Distance sensor to control automatic approach of the antenna to the DUT on the Z axis.
- HW and SW Limit switches on X and Y axis to restrict movement from a certain point onwards.
- Self limitation of robot speed to ensure safe and accurate operation.

T1142A is commanded by RIDER family test systems through the Test Manager application. The internal driver software offers a flexible interface to modify positioning of the robot. This flexible interface enables the test operator to develop their own test cases as required.



T3111S RIDER RFID HF Conformance Test System

General Data

Control interfaces		
Side panel	Universal Serial Bus	1 x USB Connection
Power Supply		
External AC to DC adapter	Power Supply output	+24 V _{DC}
	Power supply input	100 – 240 V ~ 50-60Hz
	Power Supply consumption	80 W
Dimensions (WxHxD)		1100x832x800 mm

Performance Features

Speed		
X Axis		44 mm/s
Y Axis		19 mm/s
Z Axis		19 mm/s
Threads per mm		
X Axis		32
Y Axis		32
Z Axis		800
Precision (positioning within the NFC Forum defined test volume)		Better than +/- 0.15mm
Effective operation volume (WxHxD)		350x320x320 mm
Free guard area ¹		> 150mm
Maximum DUT dimensions allowed		645x320x645 mm
Maximum DUT weight allowed		10 kg
Warm up time		N/A
Customize bracket for each NFC forum reference antenna (3 reference pollers, 3 reference listeners)		

Other Information

Operation range		
Temperature		15° C to +30° C
Humidity		20% to 90% Non condensing
Storage ranges		
Temperature		-20° C ~ 80° C
Humidity		20% ~ 90% Non condensing
EMC		IEC-61326
Electrical safety		IEC-61010-1
Recommended calibration interval		1 year

Options and Ordering Information

Model/part number	Description
T1142A-F01	Positioning robot with fixed head, three axis of movement
Option number	Description
T1142A-C01	Calibration kit for T1142A

1. Distance from reference antenna to any disturbing elements.



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