

Excerpt from Word97 test report file "005-A92COM320.doc", Attachment 2, pages 25 & 26

Attachment 2

Operate to Test

The Tag-it Commander is the reader in the system. It is designed to operate with loop antennas having dimensions of 7.25" (L) x 3.5" (W) or less. Smaller dimension antennas may be employed in order to address applications that have limited space and shorter read range requirements such as the installation of the Tag-it reader in a printer that would also apply the transponder or read a transponder that had been applied to a page or object that was to be presented to the printer to receive an imprint. Such antennas could be fabricated on a printed wiring board assembly rather than being a wire loop enclosed in a plastic case such as shown in page 2 (Word97 file: "a92SwRIpic.doc"). Smaller loop antennas would radiate a lower level RF field than would the antenna shown in this application. In order to accommodate smaller antennas, TI requests that this modular device be authorized with the following condition pertaining to the antenna:

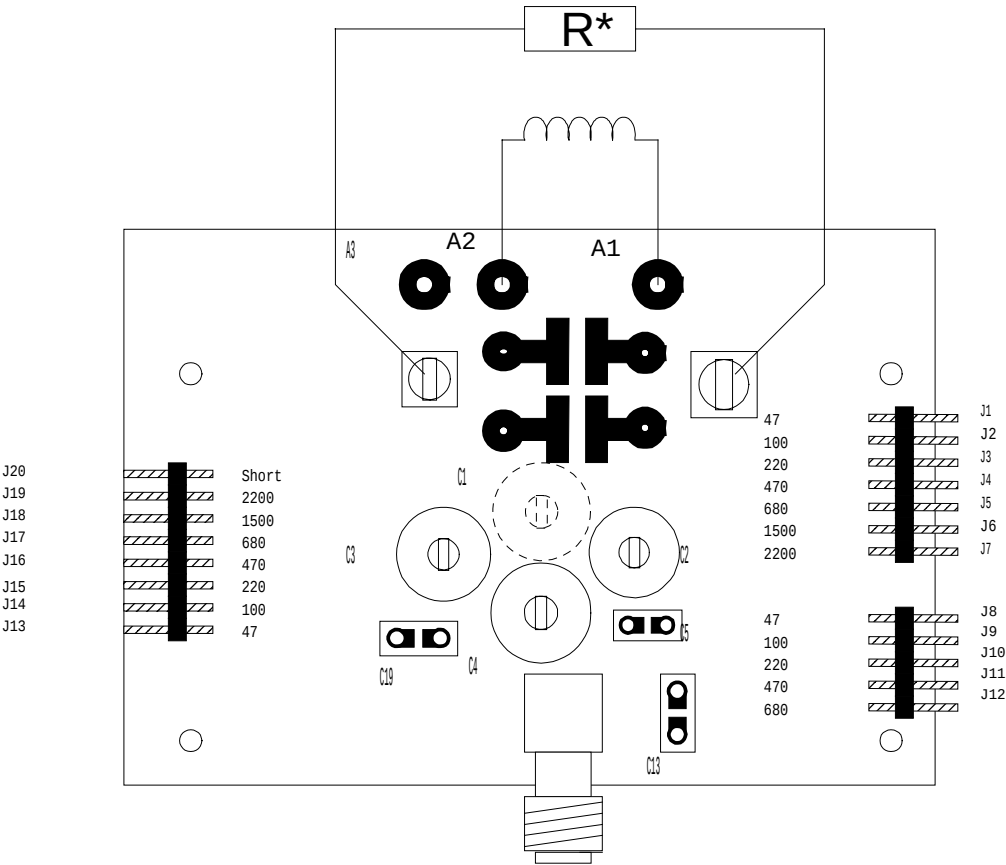
This device is approved for use only with a loop antenna having dimensions that do not exceed 7.25" (L) by 3.5" (W). Versions of this device that use larger antennas must be approved as a Class II permissive change, if applicable, or under a new grant of equipment authorization.

Any antenna connected to this device will need to be matched to the output of the reader. This will require that the Tag-it reader be placed in continuous mode. Note that the adjustments set forth below are not adjustments that are to be made by end users. Instead, they are to be made at the time that any alternative antenna is tested and before the Tag-it reader is incorporated into another device. The following procedure should be used in order to accomplish this adjustment.

Steps:

Note: The following adjustments should be undertaken only by a trained electronics technician.

1. Connect the reader to a 12V /1A DC power source and the RS 232 interface cable to the interface board.
2. Run the Tag-it Navigator demonstration software on the host computer and check connection with command : > Get Commander version <
3. Place transponder (tag) over the antenna
4. Click command >Get Block <, the tag will be recognized with 32 bit default block data column.
5. Click command > Continuous <
6. Click command > Repeat last <, the tag will be continued to be recognized until the tag is removed.
7. Maximum read distance occurs when antenna is fully tuned at 50 Ω impedance and 13.56 MHz. The housing that covers the antenna matching network circuit should be removed and the three capacitors located in board's center should then be adjusted individually in sequence until achieving maximum distance when the tag is parallel with the antenna. Jumpers (J1-J20) are preset and should not be moved.



All variable capacitors are 5 - 90 pF

* Value depends on antenna inductance

Adjustable Antenna Matching Network
Component Placement

Excerpt from Word97 test report file "005-A92COM320.doc", Attachment 6, page 35

Attachment 6

Instruction Manual

Because this device will be incorporated into other devices and will function automatically, there is no separate users manual. However, information required under Part 15 of the Rules will be supplied for insertion into the manuals of devices into which this device is incorporated. The following information will be supplied:

NOTE: This equipment contains a intentional radio frequency radiator approved under the requirements off FCC Rule Part 15. This equipment also contains digital circuitry that has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NO MODIFICATIONS: Modifications to this device shall not be made without the written consent of the party that has been issued the grant of equipment authorization by the Federal Communications Commission for the intentional radiator contained in this device and the party responsible for verifying compliance of this device with the FCC Rules pertaining to emissions from unintentional radiators such as the digital circuitry contained within this device. Unauthorized modifications may void the authority granted under Federal Communications Commission Rules permitting the operation of this device.

Texas Instruments will also prepare a manual that details the handling and installation of this device into other devices. This manual, which will set forth the requirement to incorporate the above language into end user manuals, will be supplied by TI to those companies that purchase the Tag-It™ Commander™ into their products.