SC3221R-C – WCSP HWA DONGLE

User Guide

Abstract: This guide functions as a user guide for the installation and operation of the SC3221R-C with regards to FCC certification testing

6195 Lusk Blvd, Suite 200
San Diego, CA 92121
858-812-1000
www.staccatocommunications.com

STACCATO COMMUNICATIONS

Table of Contents

1. Legal

Staccato Communications
6195 Lusk Boulevard, Suite 200
San Diego, CA 92121
Phone: 858.812.1000
Fax: 858.812.1001
www.staccatocommunications.com

2. Regulatory Notices

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

THIS DEVICE MUST BE INSTALLED IN A LOCATION THAT IS NOT ACCESSIBLE TO THE GENERAL PUBLIC. INSTALL THE DEVICE SO THAT THE ANTENNA IS MORE THAN 20 CM FROM UNSUSPECTING PERSONNEL. FAILURE TO INSTALL THIS DEVICE AS DESCRIBED WILL RESULT IN A FAILURE TO COMPLY WITH FCC RULES FOR RF EXPOSURE AND IS DISCOURAGED. ONLY ANTENNAS APPROVED WITH THE DEVICE MAY BE USED. THIS DEVICE MAY NOT BE CO-LOCATED WITH OTHER TRANSMITTERS WITHOUT FURTHER APPROVAL BY THE FCC.

The device is compliant with 47 CFR 15.519(a)(1):

"A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgement of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting."

Note: Any intentional or unintentional modifications not expressly approved by Staccato Communications or the FCC will void the warranty of the device and the authority of the user to operate the device.

3. Introduction

This document provides installation and operation instructions for the SC3221R-C Certified Wireless USB HWA Dongle. For testing, please follow the step-by-step instructions carefully in order to ensure proper operation.

3.1. SC3221R-C Features

The SC3221R-C Certified Wireless USB HWA Dongle in intended to be plugged directly into a host system (PC) or a generic USB 2.0 hub.

The SC3221R-C includes the following features:

- Fully integrated, single-chip all CMOS ultra-wideband solution compliant with Certified Wireless USB as defined by the USB implementers Forum, WiMedia PHY specification V1.1 and WiMedia MAC specification v1.0.
- Support for all Wireless USB mandatory and optional data rate modes including 53.3, 80, 106.7, 160, 200, 320, 400, and 480 Mbps
- Low power consumption
- Small form factor
- Integrated antenna

3.2. System Requirements

The SC3221R-C software requires a computer system that meets the following minimum requirements:

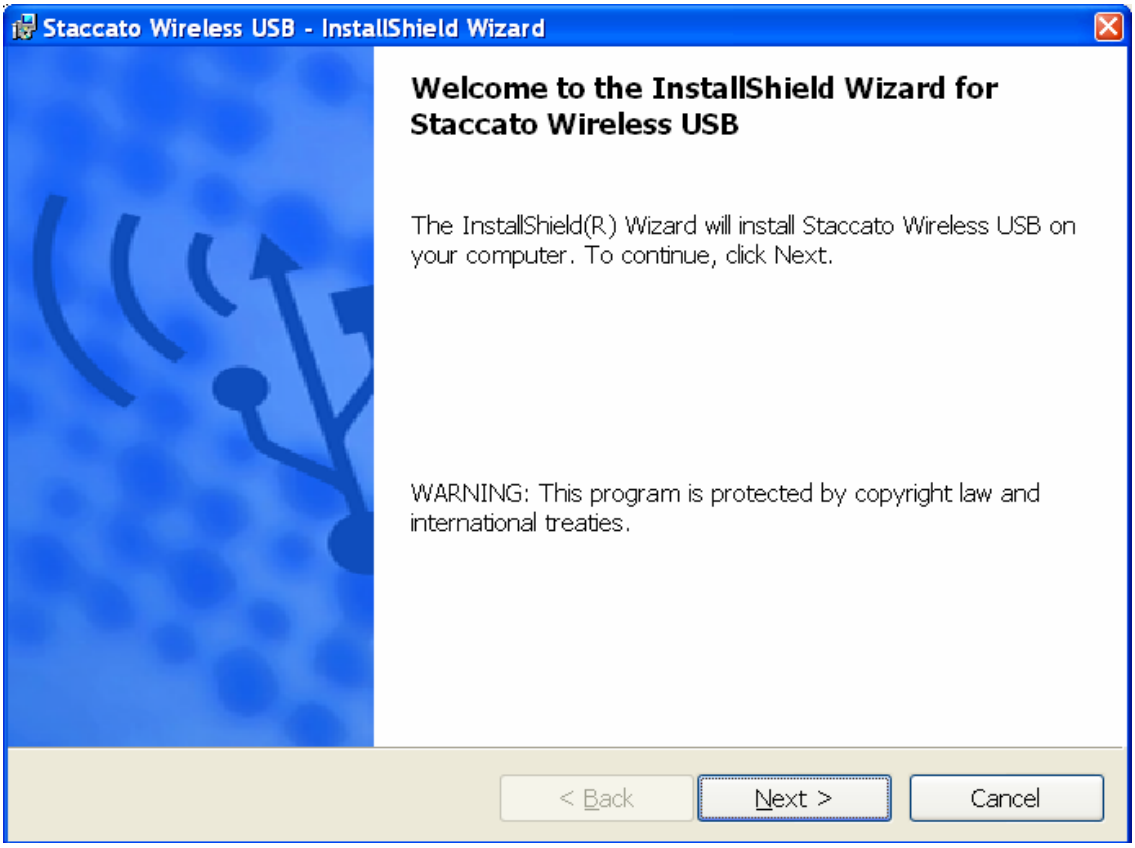
- 1 GHz PC
- Windows XP operating system with SP2 (service pack 2) installed
- One available USB 2.0 port
- Software requirement: Pythonwin (Available on installation CD; executable name: ActivePython-2.4.3.12-win32-x86)

4. Installation

The following steps are required for installation of the software associated with the SC3221R-C:

4.1. Software Installation

Locate the "RIPCORDB_MI_0.1.26" exe installer in the RIPCORDB_MI_0.1.26 folder and double click. This will initiate the installation process.



Continue with the default installation settings to finish installation.

If XP displays a message warning the user that the driver has not undergone Windows Logo testing, Click "Continue Anyway" to continue with installation.

Note: Currently Microsoft does not have testing facilities in place for Wireless USB drivers.

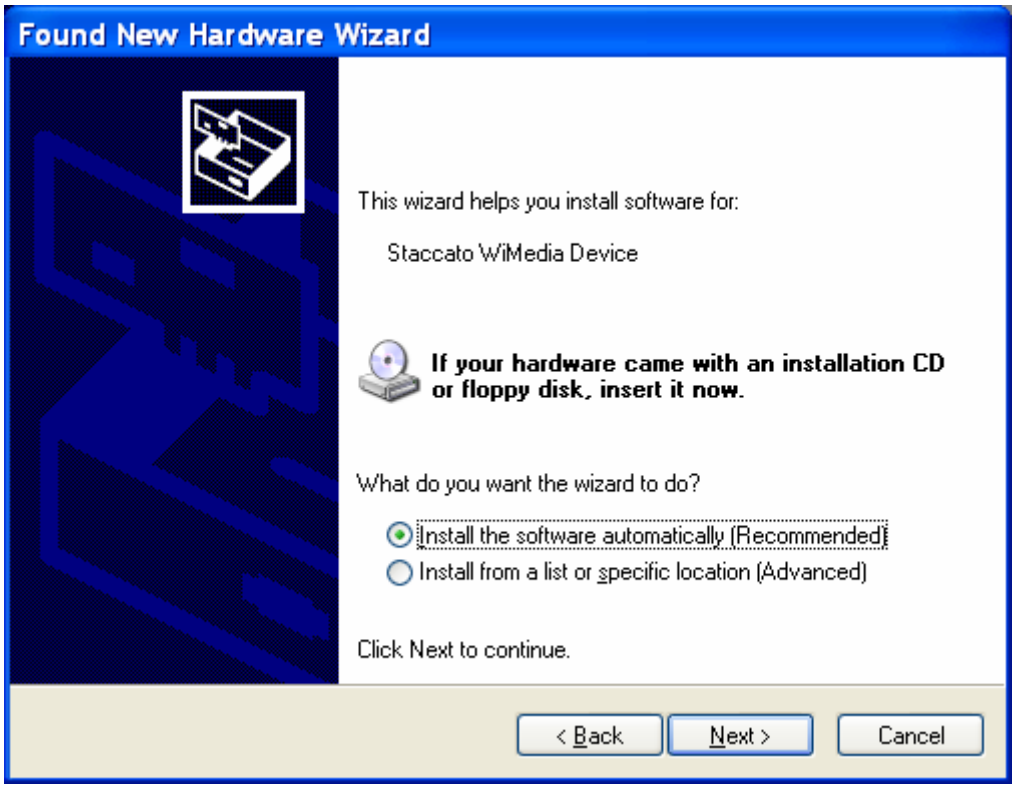
4.2. Hardware/Driver Installation

Plug the SC3221R-C dongle into the host PC or into a generic USB hub connected to the host PC.

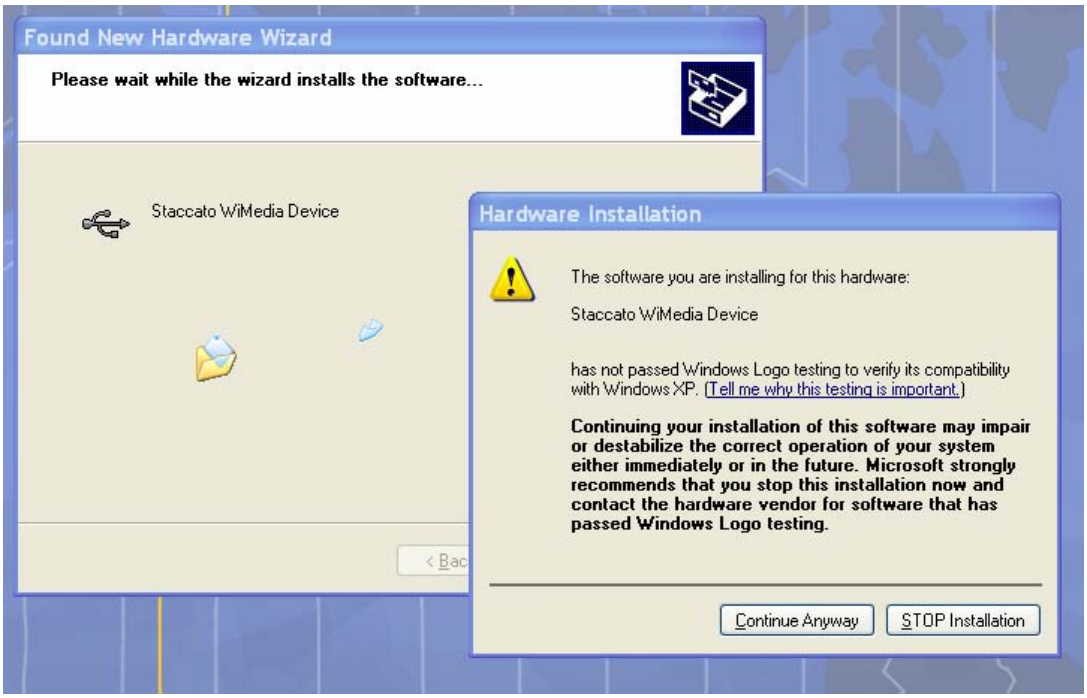
LED D3 should be blinking; LEDs D2 and D4 should be continuous ON.

Windows will detect new hardware. When the found new hardware wizard is shown, select "Yes, this time only" in response to connecting to windows update then click "next".

Choose the "Install the software automatically (Recommended)" and hit "Next"



Windows XP will display a message warning the user that the driver has not undergone Windows Logo testing, Click "Continue Anyway" to continue with installation.



On completion of installation the following window will show on the screen. Hit "Finish" and that completes the software installation process.

5. Operation

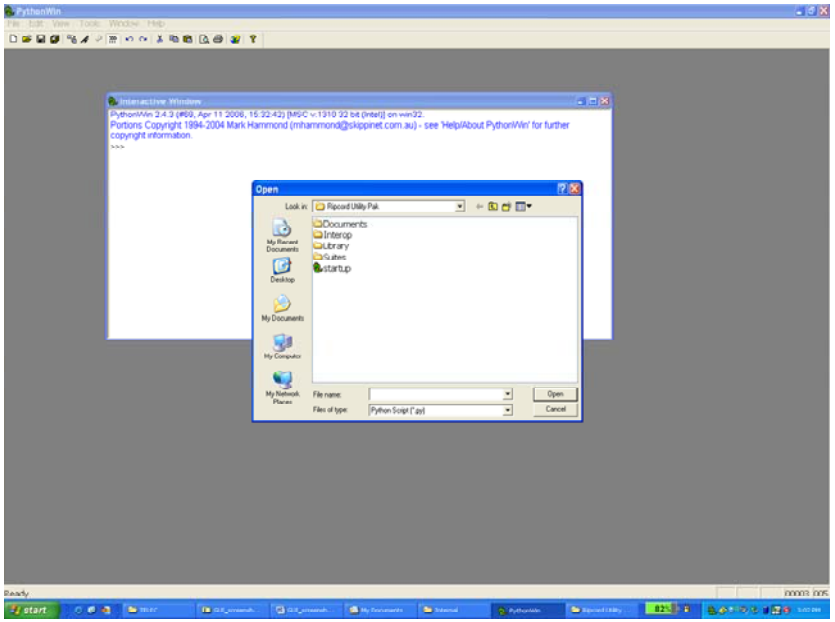
Prior to operation, the SC3221R-C should be plugged in to the PC. Ensure that the hardware installation has been successfully completed. The device will be visible in the Windows Device Manager under "Universal Serial Bus Controllers" when viewing in "Devices by type" mode selected from the "View" dropdown menu.

REFER TO STEPS 1 – 9 ON FOLLOWING PAGES.

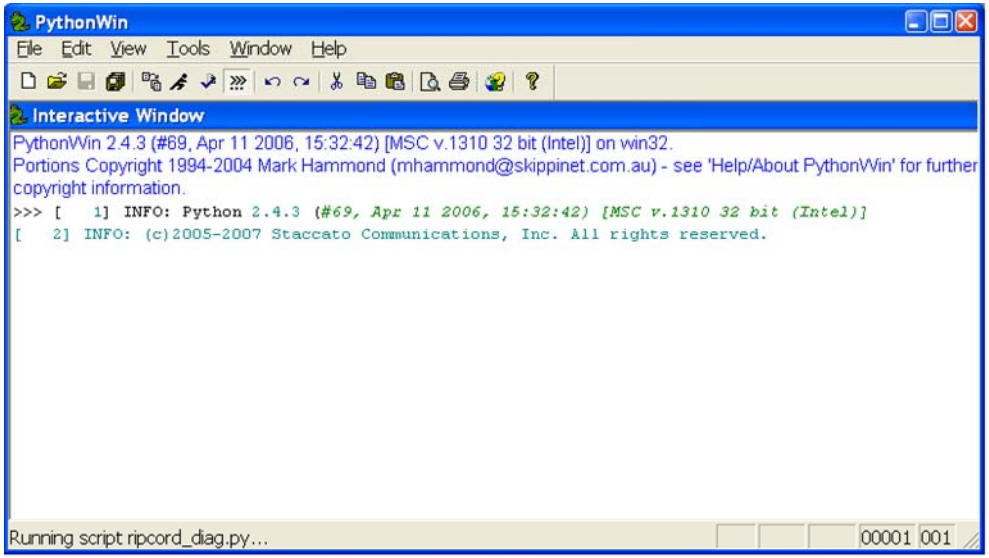
6. Support

Staccato Communications provides a support team to help debug any issues that may arise including any deviations from the installation or operation of the SC3221R-C as listed in this document. For assistance, please e-mail support@staccatocommunications.com for assistance or call 858-812-1000 and ask to be transferred to the Applications Engineering team.

1

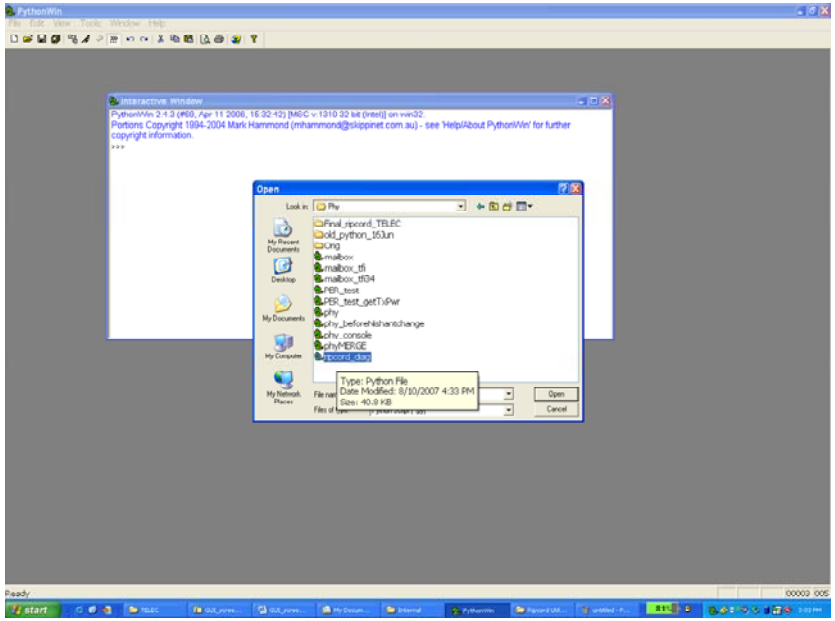


- Launch Pythonwin IDE from start-Program files
- Open startup.py in C:\Program Files\Staccato\Ripcord Utility Pak directory
- Hit ‘F5’ to run startup.py when opened

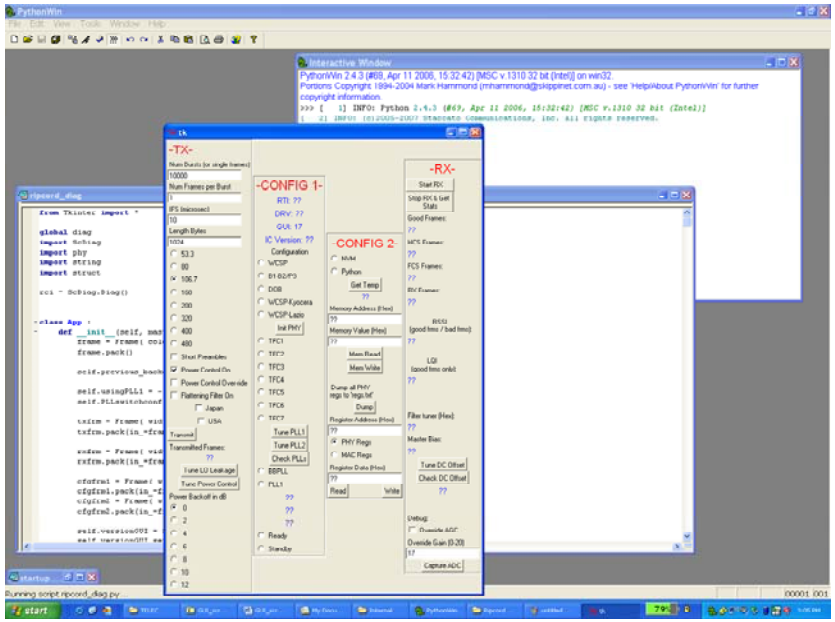


- On successful run, the Interactive window in Pythonwin should look like this
- **CAUTION: If ‘red’ error text appears in this window between steps 1-8, unplug / plug dongle, close / restart Pythonwin and repeat all steps**

2

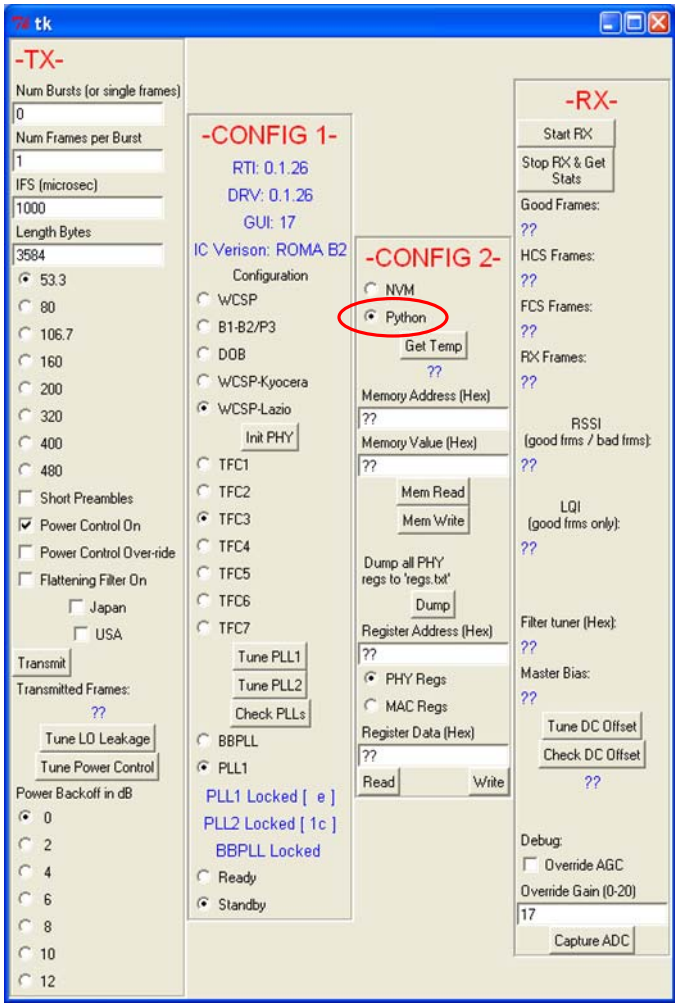


- Open ripcord_diag.py in C:\Program Files\Staccato\ Ripcord Utility Pak\Interop\Phy directory
- Hit ‘F5’ to run ripcord_diag.py when opened



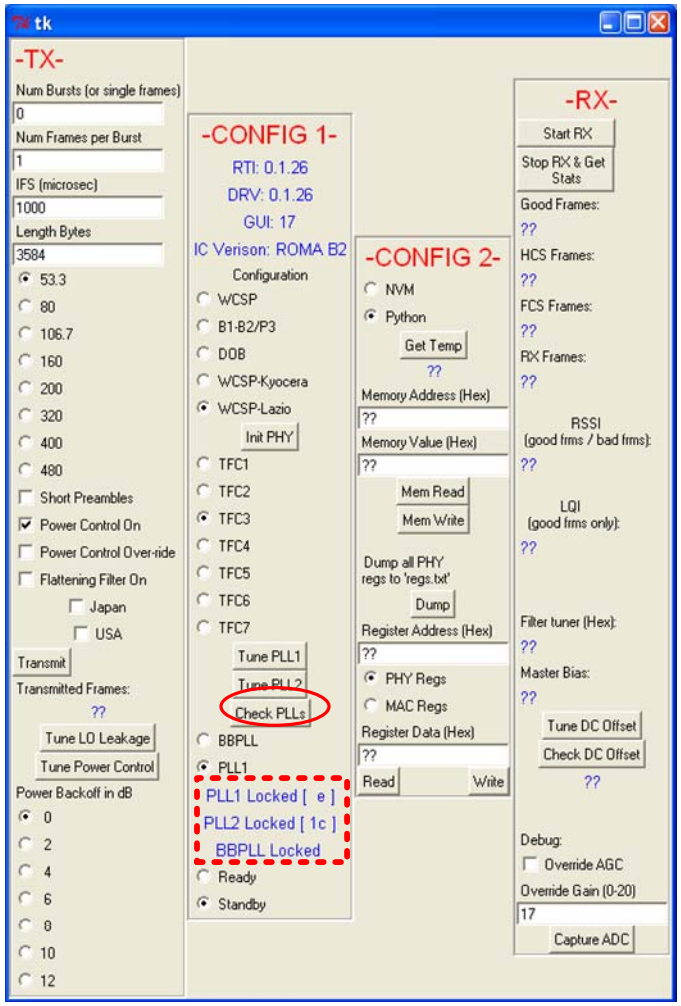
- ‘tk’ window should launch as shown above

3



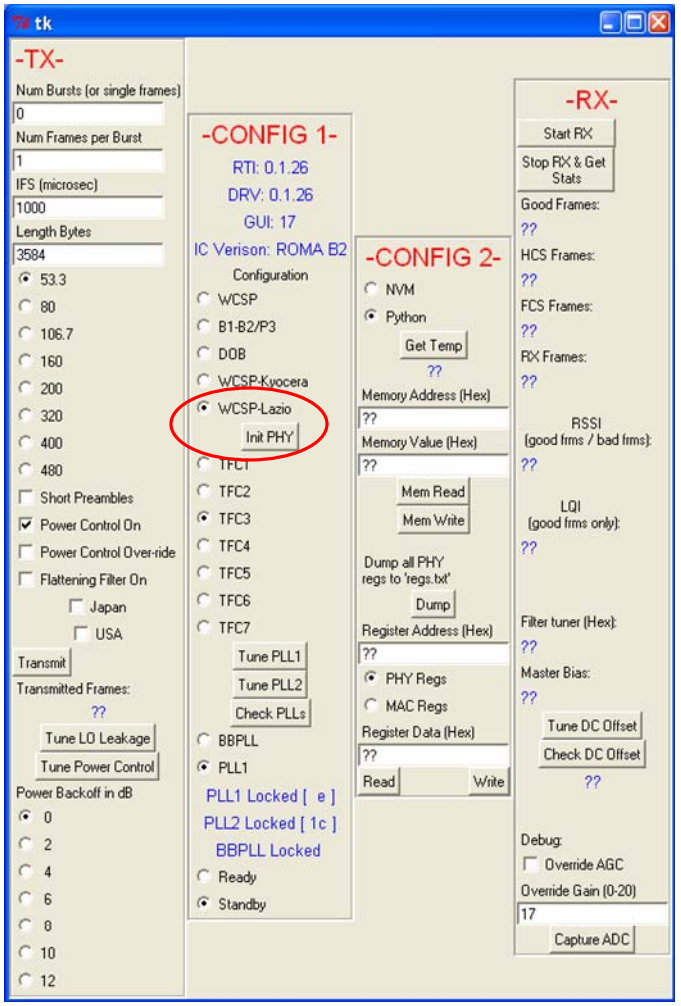
- ❑ Check python button as indicated

4

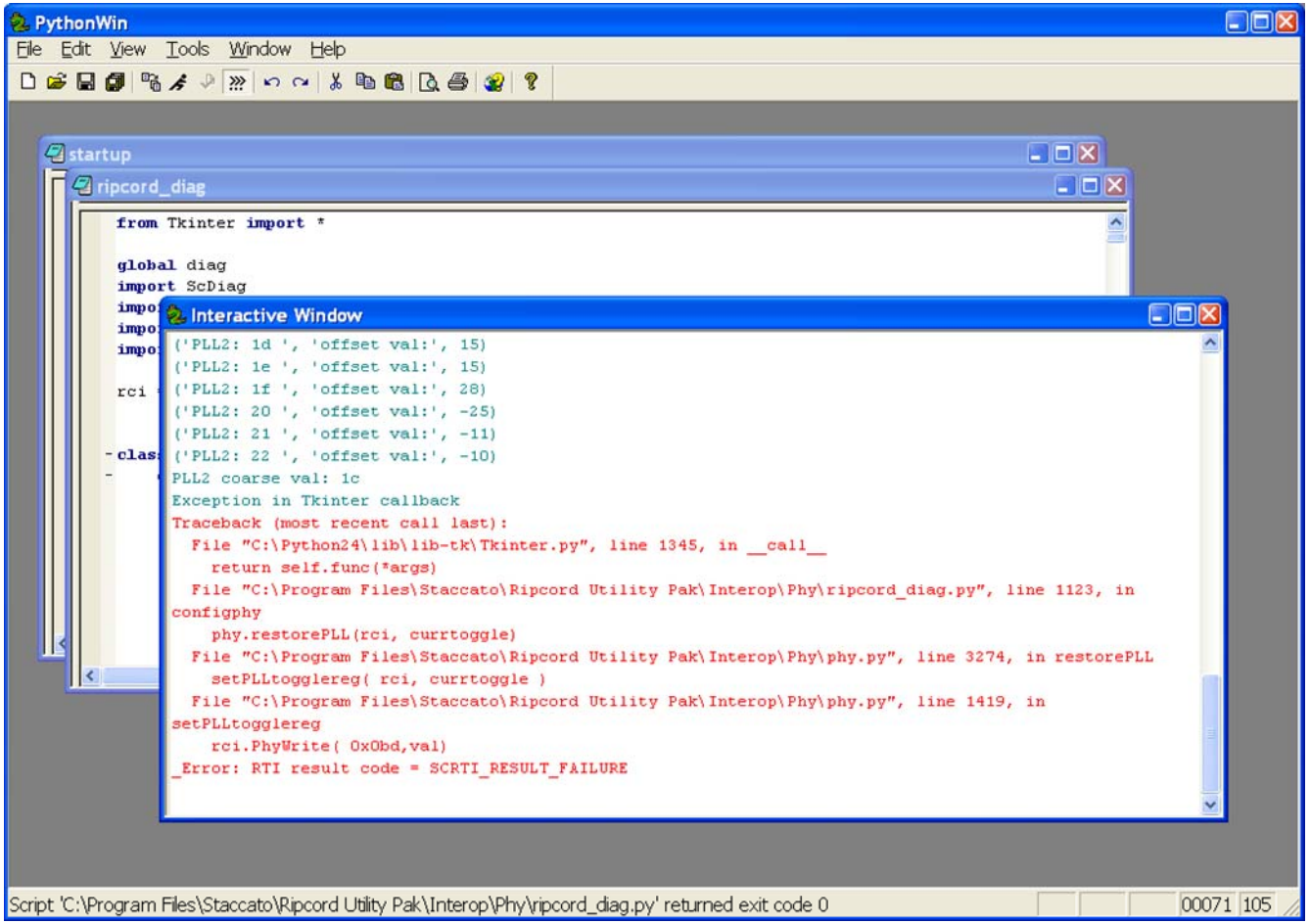


- ❑ Hit ‘Check PLLs’ button
- ❑ At this point you should see the display indicated in the red block. PLL1, PLL2 and BBPLL must indicate ‘Locked’ in order to proceed.

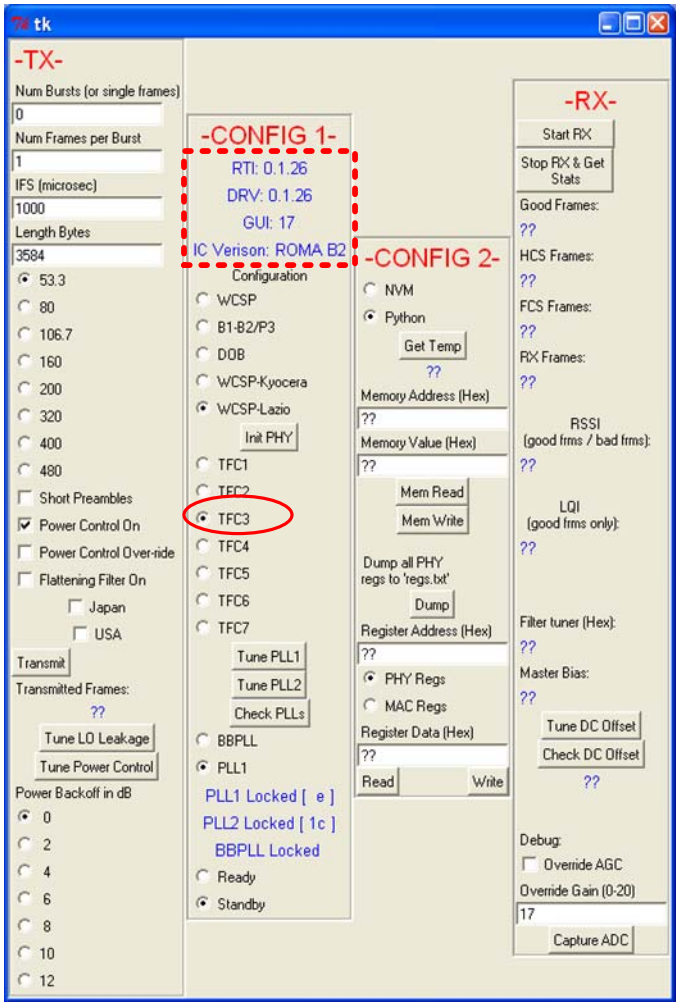
5



- ❑ Check WCSP-Lazio button and then hit Init PHY button as indicated in figure above.
- ❑ Wait for 20-30 seconds to complete
- ❑ Check the Pythonwin Interactive window as shown in the following figure

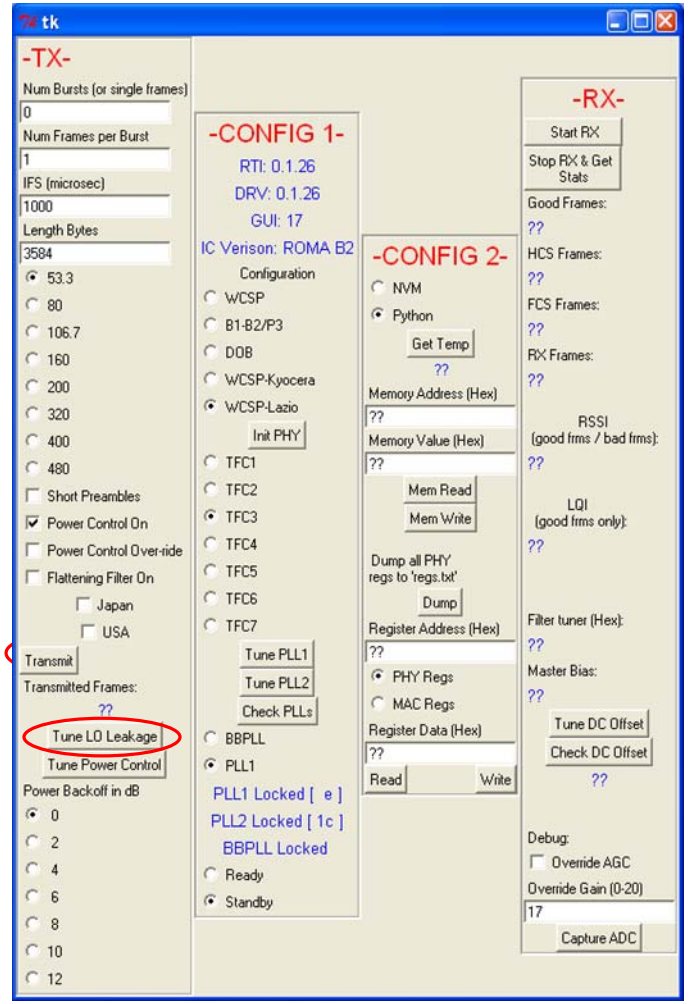


- **IF the Pythonwin interactive window displays the error message as shown above (between steps 1 and 8) do the following :**
  - Unplug the dongle (power off)
  - Close Pythonwin
  - Plug in the dongle (power on)
  - Launch Pythonwin and repeat all steps



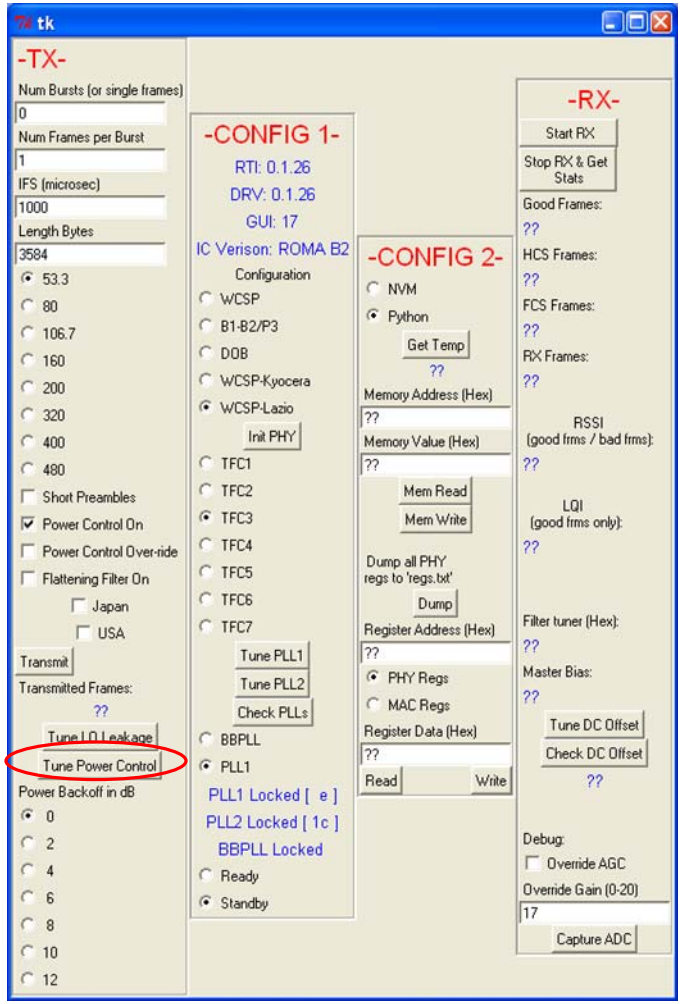
- <u>Check before proceeding:</u> The 'dashed' red block shown in figure must contain the corresponding RTI, DRV, GUI and IC version. If the information does not appear, please power off EUT, retart software and repeats previous steps.
- Check the desired TFC button as indicated in the figure above

7



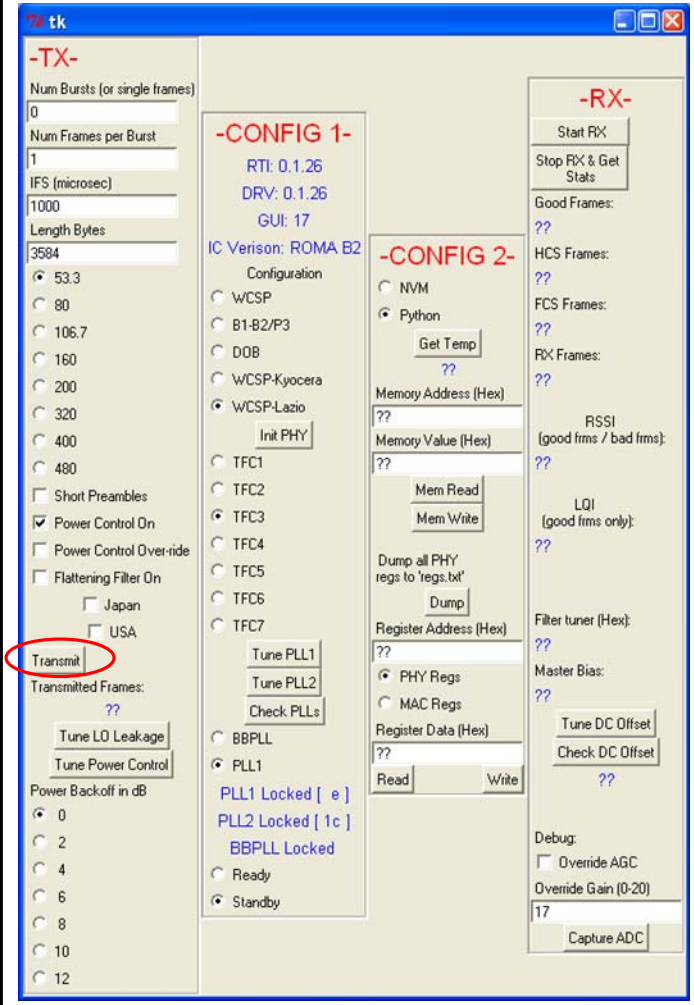
- ❑ Hit Tune LO Leakage button as shown in figure

8

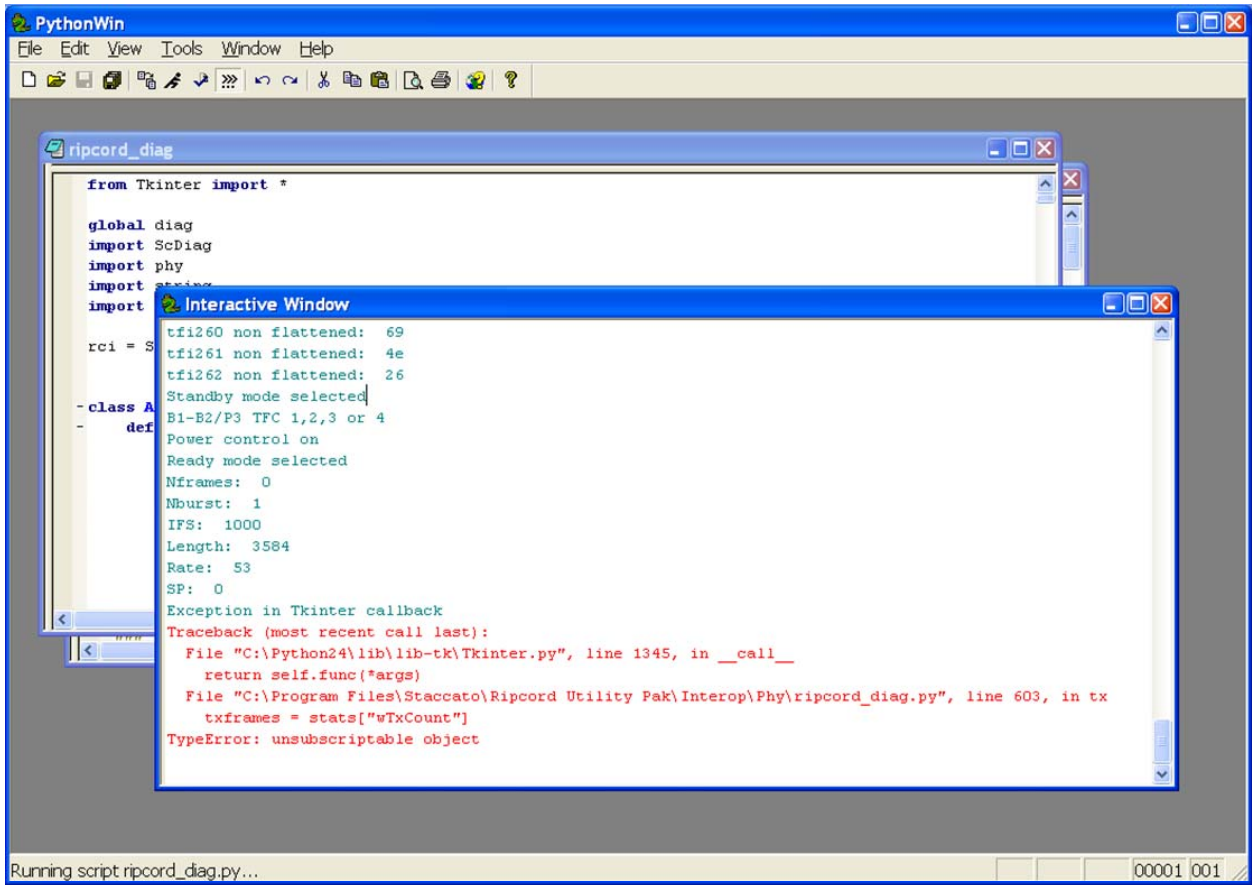


- ❑ Hit Tune Power Control button as shown in figure

9



- ❑ <u>Confirm the following before proceeding</u>:
  - ❑ 53.3 button should be checked
  - ❑ Num bursts (or single frame) = 0
  - ❑ Num Frames per Burst = 1
  - ❑ IFS (microsec) = 1000
  - ❑ Length Bytes = 3584
  - ❑ Hit Transmit button
  - ❑ NOTE: At this step the interactive window will display an error as shown in the following figure, IGNORE the message



- The Pythonwin interactive window will display an error message at this point, IGNORE this message
- To abort transmission please power off (unplug the dongle) the radio

- Things to keep in mind to prevent EUT damage:
  - In <u>continuous transmit</u> mode the EUT will heat up rapidly. Please ensure that the EUT is powered off when measurements are completed

END OF DOCUMENT