Instant Internet Evaluation Board II-EVB-630W

User Manual

Version 1.1



International: Connect One Ltd. 20 Atir Yeda Street Kfar Saba 44643, Israel Tel: +972-9-766-0456 Fax: +972-9-766-0461 E-mail: <u>sales@connectone.com</u> http://www.connectone.com USA:

Connect One Semiconductors, Inc. 560 S. Winchester Blvd. Suite 500 San Jose, CA 95128 Tel: 408-572-5675 Fax: 408-572-5601 E-mail: udi@connectone.com http://www.connectone.com

February 2008

Pub. No. 23-3750-11

Program License Agreement

The information in this document is subject to change without notice and shall not be construed as a commitment on the part of Connect One.

Connect One assumes no liability for any errors that may appear in this document.

The software described in this document is furnished under a license agreement and may be used or copied only in accordance with the terms of such a license agreement. It is forbidden by law to copy the software on any medium except as specifically allowed in the license agreement. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including but not limited to photocopying, recording, transmitting via fax and/or modem devices, scanning, and/or information storage and retrieval systems for any purpose without the express written consent of Connect One.

iChip, AT+i and Connect One are trademarks of Connect One Ltd.

Copyright © 2000–2008 Connect One Ltd. All rights reserved.

About This Guide

The purpose of this User Manual is to familiarize prospective customers with the functionality of Connect One's II-EVB-630W using the iChipConfig Utility and AT+i^m commands.

This manual contains the following sections:

Product Overview: Explains the iChip[™] CO2128SEC as the heart of the II-EVB-630W. It describes the product uses and features and provides guidance for using this manual.

Getting Started: Describes the II-EVB-630W package contents, unpacking and installation instructions, and diagrams.

Firmware and Parameters Update: This section explains how to perform firmware and parameters update.

Warranty Statement

Connect One warrants to the Customer that the Products to be delivered hereunder will function in accordance with the specifications published with regard thereto by Connect One, under conditions of normal use and service and when used in accordance with Connect One's instructions, for a period of 12 (twelve) months from shipment by Connect One or its distributor to the customer. Connect One will, at its option, repair or replace Products that fail to perform as aforesaid. The Customer shall ship defective Products to be repaired or replaced to Connect One under warranty at Connect One's expense, and Connect One shall, at its expense, ship the repaired Products or its replacement to the Customer.

In no event will Connect One's liability under the foregoing warranty exceed the purchase price of the defective Products.

The warranty set forth above shall not apply (i) with respect to defects or damage caused by the use of unauthorized parts, the making of unauthorized repairs or improper use or maintenance, (ii) if service or repairs of the allegedly defective Products have been performed by persons other than qualified persons who have been properly trained to perform the same, (iii) if the allegedly defective Products have been affected by alterations, modifications or other tampering or misuse, (iv) if the allegedly defective Products have been removed from their original packaging prior to sale to the end-user or (v) if the allegedly defective Products have been used otherwise than in accordance with Connect One's instructions.

The provisions of the above sections set forth the Customer's sole and exclusive remedies with regard to Product failure. CONNECT ONE MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF PATENT OR OTHER INTELLECTUAL PROPERTY RIGHTS. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE PRODUCTS ARISING FROM ANY COURSE OF DEALING, USAGE OR TRADE OR OTHERWISE. IN NO EVENT SHALL CONNECT ONE BE LIABLE FOR INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES WHETHER UNDER THIS AGREEMENT, IN TORT OR OTHERWISE, OR FOR AN AMOUNT IN EXCESS OF THE ACTUAL AMOUNT PAID BY THE CUSTOMER TO CONNECT ONE FOR THE FAILED PRODUCTS.

TABLE OF CONTENTS

PROGRAM LICENSE AGREEMENT II
ABOUT THIS GUIDEIII
WARRANTY STATEMENTIV
1 PRODUCT OVERVIEW
1.1 ICHIP CO2128SEC — THE II-EVB-630W INTERNET ENGINE 6 1.2 How to Use this Manual 6
2 GETTING STARTED
2.1 WHAT'S IN THE PACKAGE? 8 2.2 ADDITIONAL DOCUMENTATION 8 2.3 UNPACKING AND INSTALLING 9 2.4 CONNECTORS AND SWITCH POSITIONS 12 2.4.1 Connectors. 12 2.4.2 Switches 12 2.4.2 Switches 12 2.4.2 Switches 12 2.5 LED POSITIONS 13 2.6 JUMPER SETTINGS 13 2.7 BILL OF MATERIALS 14 2.7.1 II-EVB-600 Motherboard 14 2.7.2 II-DB-W2SW1 Daughterboard 17 2.8 SCHEMATICS 17 2.9 RUNNING THE ICHIPCONFIG UTILITY 26 2.10 CONFIGURING FOR CONNECTION 27 2.10.1 Dynamic IP Allocation 28 2.10.2 Fixed IP Configuration 28 2.10.2 Fixed IP Configuration 29
3 FIRMWARE AND PARAMETERS UPDATE
3.1 LOCAL FIRMWARE UPDATE

1 Product Overview

Connect One's II-EVB-630W offloads IP connectivity tasks from a host processor or device. II-EVB-630W supports effortless integration of many upper-layer Internet protocols using either AT+i[™] commands or the iChipConfig Utility, both of which are described in this document.

II-EVB-630W features include the ability to stream data over TCP or UDP sockets (up to 10 simultaneous active sockets are available) and manage two listening sockets. A secure socket (SSL3/TLS1) is fully supported. Additional features include the ability to send and receive emails with or without attachments, a built-in web server with two internal websites, one for remote control and management of the II-EVB-630W and the other for the device; HTTP, FTP, and Telnet clients; and the SerialNET[™] (Device Server) mode, a plug-and-play operating mode that enables the connection of any device with an RS232 interface to the Internet without changing anything on the device's hardware or software.

1.1 iChip CO2128SEC — The II-EVB-630W Internet Engine

The host processor communicates with the II-EVB-630W via Connect One's highlevel AT+i command set. AT+i commands are simple ASCII characters that are sent across the RS232 interface. The AT+i Application Programming Interface (API) requires writing just a few lines of code on the host processor to implement Internet connectivity.

AT+i commands make it very easy to configure, test, and implement high-level Internet protocols with virtually no understanding of TCP/IP or other Internet protocols. Using AT+i commands, the device only needs to tell the II-EVB-630W what task to perform, but not how to perform it. For example, if the device has to send textual email, after a one-time short configuration of subject, recipient, mail account, etc., the device sends AT+iEMA:

The iChip CO2128SEC inside the II-EVB-630W establishes a connection or uses the existing one, builds the email (headers and content), connects to the SMTP server and sends the email. A status report is sent to the device upon completion. All these actions are completely hidden from the device and only require sending a few characters in addition to the email content. This mode of operation is applicable for all features of the II-EVB-630W.

1.2 How to Use this Manual

iChipConfig Utility is a front-end Windows-based user interface for the AT+i commands. The iChipConfig Utility, combined with the II-EVB-630W, enables quick and full product configuration, serial-based and Web-based updating of firmware, and packaging of a website and parameters file. This functionality is achieved from any device, machine, or system.

Note: From this point onward, this manual assumes that you have the iChipConfig Utility installed. The configuration, running, and testing of the II-EVB-630W is demonstrated via the iChipConfig Utility, although they can also be carried out using AT+i commands. For a complete description of the AT+i interface and commands, refer to the AT+*i Programmer's Manual* on Connect One's website: http://www.connectone.com.

To set up the iChipConfig Utility, refer to the *iChipConfig Utility User Manual*.

The latest version of the iChipConfig Utility can also be found on Connect One's website: <u>http://www.connectone.com</u>.

A reference design for using iChip CO2128SEC with a built-in MAC and external PHY (Davicom DM9161A) and WiFi using Marvell 88W8686 802.11b/g chipset can be found at <u>http://www.connectone.com</u>.

2 Getting Started

This section describes the contents of the II-EVB-630W package, provides additional relevant documentation to enhance and fine-tune the II-EVB-630W functionality, and includes unpacking and first-time configuration instructions. The final section of this chapter offers several ways to test the II-EVB-630W LAN connection.

2.1 What's in the Package?

The II-EVB-630W is a turnkey boxed solution and, as such, is supplied with all necessary accessories. The package includes the following items:

- II-EVB-600W motherboard
- WiFi 802.11b/g daughterboard (BRD-IIDB-W2SW1)
- RS232 male/female cable
- RJ45 Cat 5 100BaseT cable
- RJ11 Phone Cable
- USB A to B Cable
- 110V or 220V power supply
- Two extra iChips CO2128SEC

2.2 Additional Documentation

The II-EVB-630W is built around the iChip CO2128SEC. Great flexibility in configuration and operation of this product can be achieved via proper use of the AT+i commands.

The release package includes documentation about the AT+i Protocol, including the *AT*+*i Programmer's Manual*.

For the sake of simplicity, the II-EVB-630W configuration and operation is described in this document mainly through the iChipConfig Utility.

The release package contains the iChipConfig Utility and the *iChipConfig Utility User Manual*.

Note: Because documentation, utilities and firmware files change from time to time, be sure to check for the latest version on Connect One's website: http://www.connectone.com.

2.3 Unpacking and Installing

The II-EVB-630W installation is simple and all the required accessories are supplied with the device.

The II-EVB-630W is provided pre-configured to work with either LAN or WiFi using COM0 on the II-EVB-630W as host interface. For additional configuration options check section <u>2.5 Jumper Settings</u>.

> To install the II-EVB-630W and connect it to a LAN network:

 Connect the RJ45 cable to the II-EVB-630W RJ45 port as shown in the figure below. Connect the other end of the cable to a 10/100BaseT or 100BaseT Ethernet switch or hub.



Note: To connect the II-EVB-630W directly to a PC Ethernet controller, a cross cable is required (not supplied).



2 Connect the RS232 male side of the cable to the II-EVB-630W RS232 port and the female side to your device or PC's COM port.

3 Connect the power supply to the DC jack on the II-EVB-630W and apply power. The Link LED (yellow) on the RJ45 should now be on and the Activity LED (green) should blink occasionally, indicating network traffic.

> To install the II-EVB-630W and connect it to a WiFi Network:

- 1. Make sure a WiFi 802.11b/g Access Point is properly configured and powered.
- 2. Connect the RS232 male side of the cable to the II-EVB-630W RS232 port and the female side to your device or PC's COM port.



3. Connect the power supply to the DC jack on the II-EVB-630W and apply power.

2.4 **Connectors and Switch Positions**

2.4.1 Connectors

	Name	Туре	Function
1	J2A	HEADER 17X2	CO2128 EXTENSION
2	J2B	HEADER 13X2	CO2128 EXTENSION
3	J2C	HEADER 17X2	CO2128 EXTENSION
4	J2D	HEADER 13X2	CO2128 EXTENSION
5	J1	HEADER 20X2	EBI BUS(for CO2128)
6	J2	HEADER 20X2	EBI BUS(for CO2128)
7]4	HEADER 10X2	HPI (for CO2128)
8	J5	DB9 – FEMALE	COM0 (for CO2128)
9	J6	HEADER 5X2	SSC(for CO2128)
10	J7	RJ11	Telephone Line (from UART1)
11	J8	DB9 –MALE	COM1
12	J9	RJ45	10/100BaseT
13	J10	HEADER 4X1	TWI
14	J11	SIM CARD	SIM CARD
15	J12	HEADER 6X1 SPI1	
13	J13	HEADER 6X1	SPIO
14	J14	DB9 – FEMALE	COM2
15	J15	USB-A	USB Host
16	J16	DC-JACK	POWER Supply
17	J17	USB-B	USB Device
18	J18	BLOCK 2 Pin	Analog Input
19	J19	HEADER 8X2	MII EXTENSION
20	J20	HEADER 5X2	MII EXTENSION

2.4.2 Switches

	Name	Туре	Function
1	SW1	PUSH BOTTOM	MSEL
2	SW2	PUSH BOTTOM	RESET
3	SW3	TOGGLE SWITCH	POWER On/Off

2.5 LED Positions

	Name	Туре	Function
1	D1	G.LED	RXD0
2	D2	G.LED	TXD0
3	D3	G.LED	DTR1
4	D4	G.LED	CD1
5	D5	G.LED	RXD1
6	D6	G.LED	TXD1
7	D7	G.LED	RXD2
8	D8	G.LED	TXD2
9	D9	R.LED iChip Error	
10	D13	G.LED	FW_RDY
11	D14	R.LED	3V VDDIO
12	D17	G.LED	DATA READY
13	D19	R.LED	5V For USB Host
14	D20	R.LED	1.2V

2.6 Jumper Settings

	Name	Setting
1	JP2	1-2 ONREG Pin=0 working with external VDD core ; 2-3 ONREG Pin=1 working with internal VDD core
2	JP3	ON –External VDDCore (For CO2064)
3	JP5	ON –External VDDCore (For CO2128)
4	JP6	ON- Enable 1K Pull-up Resistor On HPI_nWAIT signal. (HPI_Wait_Enable For CO2128)
5	JP7	ON- Enable COM0 (only when HPI is disabled) (For CO2128)
6	JP8	ON – Power to J6 Connector (SSC) (For CO2128)
7	JP9	ON- Enable HPI (For CO2128)
8	JP10	ON- Enable Socket Modem (on UART1)
9	JP11	ON- Enable COM1
10	JP12	ON – Power to J10 Connector (TWI)
11	JP13	ON- Enable 1K Pull-up Resistor On TWI_TWD signal.
12	JP14	ON- Enable 1K Pull-up Resistor On TWI_TWCK signal.
13	JP15	ON- Enable SIM CARD

14	JP16	ON- SIM Card 3V ; OFF SIM Card 5V
15	JP17	ON- Enable SIM Card Interrupt
16	JP18	ON – Power to J12 Connector (SPI1)
17	JP19	ON – Power to J13 Connector (SPI0)
18	JP20	ON – Enable SPI1 Flash
19	JP21	1-2 = COM0+SSC ; 2-3 = HPI
20	JP22	1-2 = MII ; 2-3 = RMII+COM1
21	JP23	1-2 = S.C ; 2-3 = SPI0
22	JP24	1-2 = SPI1 ; 2-3 = TWI
23	JP25	1-2 = LAN_EN ; 2-3 = LAN_DIS;
24	JP26	1-2 = BYPASS ROM ;2-3 = ENGAGE ROM
25	JP27	1-2 = UHP_EN ; 2-3 = UHP_DIS
26	JP28	ON – COM2 Enable COM2_EN
27	JP29	ON – Enable Parallel Flash (For CO2128)

2.7 Bill of Materials

2.7.1 II-EVB-600 Motherboard

Quantity	Reference	Part
	C1.C2.C3.C4.C5.C6.C7.C13.C14.C18.C22	
	,C23,C24,C25,C26,C27,C28,C29,C30,C31	
	,C32,C37,C41,C43,C44,C49,C50,C51,C52	
	,C55,C57,C59,C60,C65,C66,C67,C68,C71	
	,C72,C73,C74,C75,C76,C77,C78,C81,C82	
	,C86,C90,C91,C98,C99,C102,C103,C105,	
59	C106,C110,C111,C112	100NF
4	C15,C16,C33,C34	22PF
	C17,C20,C42,C56,C58,C79,C88,C92,	
10	C108,C113	10UF/16V
6	C35,C36,C39,C80,C107,C109	1UF/16V
	C45,C46,C47,C48,C61,C62,C63,C64,C83,	
13	C84,C85,C87,C93	470NF
2	C53,C54	1NF/3KV
2	C69,C70	100UF/16V
3	C94,C95,C104	47PF
2	C96,C97	1000UF/25V
2	C100,C101	15PF
10	D1,D2,D3,D4,D5,D6,D7,D8,D14,D17	G.LED

1	D10	1N4001
1	D11	MUR115
3	D12,D15,D16	LL4148
3	D13,D19,D20	R.LED
1	D18	1.2V
1	F1	RXE020
4	5V,1.2V,3.3V,GND	TP
	JP2,JP21,JP22,JP23,JP24,JP25,	
8	JP26,JP27	JMP3
19	JP3,JP5,JP6,JP7,JP8,JP9,JP10, JP11,JP12,JP13,JP14,JP15,JP16,JP17, JP18,JP19,JP20,JP28,JP29	JUMPER
2	J1,J2	HEADER 20X2 FEM
2	J2C,J2A	HEADER 17X2
2	J2D,J2B	HEADER 13X2
1	J4	HEADER 10x2
2	J5,J14	DB9 FEM
2	J6,J20	HEADER 5X2 MALE
1	J7	RJ11
1	J8	DB9 MALE
1	J9	ERNI
1	J10	CON4
1	J11	SIM CARD
2	J12,J13	CON6
1	J15	USB-A
1	J16	DC-JACK
1	J17	USB-B
1	J18	CON2
1	J19	HEADER 8X2
1	LS1	HPE1206
1	L1	2961666681
7	L2,L5,L8,L9,L10,L11,L12	BK2125HM601
1	L4	68UH/1A
1	P1	POT
12	R62,R65,R78,R79,R80,R90,R91,R92,R93, R145,R146	10K
1	RV1	DSS-301L
7	R2,R50,R85,R87,R94,R136,R149	0
42	R7,R8,R9,R10,R11,R12,R13,R14,R15, R16,R17,R18,R19,R20,R21,R22,R23,R24, R25,R26,R27,R28,R29,R30,R31,R32,R33, R34,R35,R36,R37,R38,R39,R40,R41,R42, R43,R44,R45,R46,R47,R48	33

	R51,R53,R54,R55,R56,R57,R58,R59,R60,	
16	R61,R63,R71,R72,R73,R98,R115	100K
	R66,R67,R74,R75,R76,R77,R88,R89,	
15	R113,R114,R128,R130,R134,R143,R147	470
2	R68,R69	2Ω
1	R70	10
4	R81,R82,R83,R84	49.9 1%
1	R86	6.8K1%
	R95,R96,R97,R99,R100,R101, R102,	
	R103, R104, R105, R125,	
	R127,R129,R132,R133,R137,	
23	R138,R139,R140,R141,R142, R144,R148	NC
	R106,R107,R108,R109,R110,R111,R112,	
9	R117,R135	3K
1	R116	100
1	R118	300
4	R119,R121,R123,R124	27
3	R120,R122,R126	15K
1	R131	4.7K
2	SW1,SW2	TACK_SW
1	SW3	SWITCH
1	U1B	CO2128
1	U2	29LV800BT-70EC
1	U3	NC7S04
3	U4,U11,U17	SP3243ECA
1	U5	74HCT245
2	U6,U10	74LV244
3	U7,U12,U18	74LVX240M
1	U8	MT34000SMI
1	U9	LM386
1	U13	F4100-50MHZ
1	U14	DM9161A
1	U15	LTC1755
1	U16	M25P40-A
1	U19	LT1086CM
1	U20	TPS76912
1	U21	LM2591HVS-3.3
1	U22	TS5A3159
2	U23,U26	AD8030
1	U24	SP708RCN
1	U27	LM75A
2	Y1,Y2	12MHZ

Quantity	Reference	Part
2	C6,C8	100UF/6.3V
5	C9,C11,C14,C15,C16	100NF
2	C10,C13	1NF
1	D1	G.LED
		HEADER 20X2
2	J1,J2	MALE
1	J3	SMA
1	L2	68UH/1A
1	R1	0
1	R3	330
4	R6,R7,R9,R10	100K
1	R11	N.C
1	U5	W2SW0001

2.7.2 II-DB-W2SW1 Daughterboard

2.8 Schematics

















2.9 Running the iChipConfig Utility

> To invoke the iChipConfig Utility:

1 Select **Programs > ConnectOne > iChipConfig** from the Windows **Start** menu. The *iChip Configuration Tools* window is displayed:

🧇 i(Chip C	onfigura	tion tools							
Eile	<u>T</u> ools	Wizards	Host<->iChip option:	s <u>S</u> erial Ports	Serial <u>N</u> ET	Options	Help			
	Click	on the de	sired operation ico	Conr	nect') ne	€ ™			
		Quick	Configuration	Site Pack		Send E	mail	Scri	ipt Tool	
		Full C	onfiguration	iChip site Up via HTTP	doader	Receive	e Email	Cha plus	nge iChip s platform	
				WWW				P (S S	
		iChip	Uploader	Dumb Termi	inal	Get URI	L	Exit		
		1101 1011 0110 0111	0010 0001 1111 0010				>			
Read					Port	COM5		Baud	Rate: 115200	

2 Select the desired operation by clicking the appropriate icon.

When an icon is selected (except \mathbf{Exit}), the iChipConfig utility attempts to locate the II-EVB-630W on one of the PC's COM ports.

Schurron	Baud Rate	
СОМ1	115200	
iChip was not found. Another program may be us Please select a port and pri again. Press Cancel to skip search	4800 9600 19200 38400 57600 115200 256000	
	Scan 🗖	

If the II-EVB-630W is not located, the *Serial Settings* dialog box is displayed:

This dialog box is also displayed if you select **Serial Ports** from the menu bar.

- **3** From the **Serial Port** drop-down list, select the PC COM port to which the II-EVB-630W is connected.
- 4 In the *Baud Rate* area:
 - Select the exact **Baud Rate** used by the II-EVB-630W.
 -or-
 - Select **Scan** if you don't know the baud rate.

If **Scan** is selected, the iChipConfig Utility runs through the various baud rates until the correct baud rate is found. The following message is displayed:

iChipConfig		×
iChip foun	d. Port: 1 Baud r	ate: 115200

Note: If the iChipConfig Utility still fails to find the II-EVB-630W, make sure that there is no open application, such as Palm HotSync, occupying the port. Switch to a different COM port and try **Scan** again. After iChipConfig has found the baud rate, you can easily change it using the **Serial Settings** dialog box.

2.10 Configuring for Connection

To connect on the LAN side, the II-EVB-630W needs basic LAN settings, such as IP Address, Subnet, and Gateway IP address. There are two ways to configure this set of parameters:

- Dynamic IP Allocation (Via DHCP).
- Fixed IP Configuration (Via User Assignment).

2.10.1 Dynamic IP Allocation

By default, the II-EVB-630W is configured to gain LAN access via a DHCP server. Therefore, if a DHCP server is present, there is no need for additional configuration.

Default settings can be restored using the **AT+iFD** command, which you can issue in the *Dumb Terminal* window. **AT+iFD** will revert all parameters to factory defaults.

1 Specific configuration for acquiring LAN settings via DHCP can be carried out from the *Quick Configuration* window in the figure below:

🧇 iChip plus Quick Configure	
File	
Conne	ect ⊃ ne™
- iChip parameters ISP Telephone number	General parameters
User name	Destination email address
Password	Return email address
🗖 Blind dial	POP3 Server
iChip LAN parameters Default IP address Assigned IP address 0 0 0	Mailbox
Sub Net MAC address 0 0 0 FFFFFFFFFFF	Mailbox password
Gateway	DIIS1
☐ Use DHCP ☐ Use IP Finder	DHS2
iChip type: CO2128-D iChip plus (LAN platform)	Firmware ver : ID721q01 2.12.2007
Serial num : FFFFFFF	Boot block : 0204 6.9.2007
Save	Close
Ready	Port: COM5 Baud Rate: 115200

- 2 Select the Use DHCP checkbox and click Save.
- **3** To activate these settings, recycle power to the II-EVB-630W.

Note: II-EVB-630W supports DHCP Server extensions. This means that if your server's assignees have additional LAN settings, such as an SMTP server, the II-EVB-630W automatically configures and uses these settings.

2.10.2 Fixed IP Configuration

To configure the II-EVB-630W to work with a fixed IP address, the following parameters must be configured:

- **1** Use the *Quick Configuration* screen to set the following parameters:
 - **IP Address** (**DIP**): Set it to the IP address you want the II-EVB-630W to have.
 - Subnet (SNET)
 - IP Gateway (IPG)
- 2 Click Save and recycle power to the II-EVB-630W.

These settings can also all be configured using the AT+i commands - **AT+iDIP**, **AT+iSNET** and **AT+iIPG**. Full details about these commands can be found in the *AT+i Programmer's Manual*.

2.11 Testing the Connection

The connection can be tested using any operation that causes the II-EVB-630W to send/receive information. For example, sending and receiving data over a socket, sending emails, or opening an FTP session.

One of the simplest ways to test the connection is using the web client, as it requires no additional configuration. Assuming the LAN is connected to the Internet, you can use the client on the iChipConfig Utility to run the following test:

1 From the Main menu, select the Get URL option.

The *iChip Configuration Tools* window is displayed:

🗇 iChip Configuration tools	
File	
Connect ⊃ ne™	
Options	
URL	
http://www.walla.com/	
Save as	
C:\walla.html	
▼ Show in browser	
Status:	
GetClose	
Ready Port: COM1 Bau	ud Rate: 11520(🏼 🎢

- **2** Type the full path of the URL you want to retrieve.
- **3** Select **an existing path** for the file in order to save the URL page.
- **4** Select the **Show in browser** option to automatically open your web browser and show the contents that the II-EVB-630W retrieved.
- **5** Click **Get** to retrieve the file.

Note: If the path you enter is not a full path to an object, such as JPG, file, or HTML page, enter "/" to enable II-EVB-630W to find the default page specified for this URL.

6 The same option can be carried out using, for example, the following AT+i command: AT+iRLNK:<u>http://www.google.com/</u>.

3 Firmware and Parameters Update

This section describes the II-EVB-630W local firmware and parameters update procedures. It also describes how to create and use parameter files (*.RPF).

3.1 Local Firmware Update

The II-EVB-630W can be updated locally via the **Tools > CO2128/2064 Monitor Mode** command, or via the iChip Uploader feature of the iChipConfig Utility. First time installation of the firmware must be done via Monitor Mode. Successive firmware updates can be performed using the iChip Uploader, which is a much faster procedure that does not require re-installation of the boot loader.

3.1.1 First-Time Firmware Installation Using Monitor Mode

1. Open the iChipConfig utility.

🚸 iCh	nip Co	nfigurati	on tools						
Eile	Tools	Wizards	Host<->iChip option:	s <u>S</u> erial Ports	Serial <u>N</u> ET	Options	Help		
	Click	on the de	esired operation ico	Conr	nect	ne	2 ™		
				Site Pack		Send Er	nail nent	Script Tool	
			Configuration	iChip site Up via HTTP	loader	Receive	e Email	Change iChip plus platform 모모모	
		iChip via se 1101 1011 0110 0111	Uploader erial 0010 0001 1111 0010	Dumb Termi	nal	Get URI	- 	Exit	
Ready					Port	: COM1		Baud Rate: 115200	

2. Click Tools > CO2128/2064 Monitor Mode.

3. In the dialog box displayed, select the EBI Flash 8 Megabit option and click OK.

oose Flash Type	
Flash Types	
SPI Flash 4 Mbit	
 EBI Flash 8 Megabit (512 K x16-bit) bottom 	
🔿 EBI Flash 64 Megabit (4 M x 16-bit)	AND
	······
	OK Cancel

4. Recycle power to the II-EVB-630W while holding down the Mode Select (MSEL) switch for *at least* 5 seconds, and click **OK** to continue.

iChipConfig	×
Please recycle power to iChip while holding t Click OK to continue or Cancel to cancel oper	he Mode Select switch for at least 5 seconds. 'ation.
ОК	Cancel

5. The following window appears while the FPRO application is installed.

Working			
	Loading FPRO	to iChip	
	Time Elapsed:	00:00:03	
		Cancel	

6. The Monitor Mode dialog box is displayed. Click the **FW Update** button.

Monitror Mode		X
Connect	One™	-
General Settings		
Baud rate	115200	_
Scan		
Operations		
Get Info		
FW Update		
Memory Dump		
Dump Memory to file		
Dump File to IChip		
	1	Exit Monitor mode

7. In the dialog box that appears, browse to the location of the Boot Block IMF file you obtained from Connect One, select the file and click **Open**.



8. Click Yes when prompted.

iChipConfig	X
Are you sure you want to send file \\172.20.0.11\Dev\Bo	otblk\Imf\BBESAB0204.IMF?
<u>Yes</u> <u>N</u> o	

Firmware and Parameters Update

9. The following window appears while certain sectors of the flash are being erased and the boot block is being installed.

Working					
	Erasing sectors Time Elapsed:	0 to 1 00:00:01	Total Size:	0x4100	
		Cancel			

10. OK the dialog box that appears when the boot block has been installed successfully.

iChipConfig 🗙
Image file loaded successfully
ОК

11. In the Monitor Mode dialog box, click the **FW Update** button again.

😻 Monitror Mode			×
Connect	⊃ne™	<	>
General Settings		_	
Send Ascii			
Baud rate	115200	•	
Scan			
Operations			
Get Info			
FW Update			
Memory Dump			
Dump Memory to file			
Dump File to iChip			
		Exit Monitor m	node

12. In the dialog box that appears, browse to the location of the firmware IMF file you obtained from Connect One, select the file and click **Open**.

Open						? ×
Look in:	🔄 Dual		•	🕈 🖻 🕈	<u>H</u> •	
	Name			Size	Туре	
	i2128d721q0	1PX02.imf		466 KB	IMF File	
History	i2128d721q0	1.imf		475 KB	IMF File	
7	i2128d721q0	1CF.imf		438 KB	IMF File	
	i2128d721q0	1W24.imf		472 KB	IMF File	
Desktop	i2128d721q0	1WSMT.imf		437 KB	IMF File	
	📾 i661d721q02.imf			235 KB	IMF File	
	i661d721q02	ROUT.imf		226 KB	IMF File	
My Documents	i210d721q02	imf		265 KB	IMF File	_
	i211d721q02	imf		317 KB	IMF File	
My Computer	File <u>n</u> ame:	i2128d721q01.imf		•	<u>[</u>	<u>D</u> pen
	Files of type:	All files(*.*)		•	C	Cancel
My Network P		Dpen as read-only				

13. Click **Yes** when prompted.

Are you sure you want to send file \\172.20.0.11\Dev\Imodem\imf\Dual\i2128d721g01.imf?	×
····· / · · · · · · · · · · · · · · · ·	?
<u>Y</u> es <u>N</u> o	

14. The following window appears while the firmware is being installed on the flash.

Working	Writing to addre	ess 10027800 0x400 words			
	Time Elapsed:	00:00:16	Total Size:	0x768D0	
		Cancel			

15. OK the dialog box that appears when installation has completed successfully.



16. Click the **Exit Monitor Mode** button on the Monitor Mode window to return to command mode.

3.1.2 Updating Existing Firmware Using the iChip Uploader

Note: This procedure assumes that the SPI flash memory on the II-EVB-630W already contains a previous version of the iChip firmware.

1. Open the iChipConfig utility.

iChip Co	onfiguration tools					
jle <u>T</u> ools	Wizards Host<->iChip opl	ions <u>S</u> erial Ports Serial <u>N</u>	T Options Help			
Connect う ne™						
Click	on the desired operation	icon				
	Quick Configuration	Site Pack	Send Email attachment	Script Tool		
	101 10 40 40 40 12 10 10 10 10 10 12 10 </td <td></td> <td></td> <td></td>					
	Full Configuration	iChip site Uploader via HTTP	Receive Email	Change iChip plus platform		
		WWW		PPPP		
	iChip Uploader	Dumb Terminal	Get URL	Exit		
	1101 0010 1011 0001 0110 1111 0111 0010					
ady		P	ort: COM1	Baud Rate: 115200		

2. Click the **iChip Uploader via Serial** icon.

3. In the dialog box displayed, select the EBI Flash 8 Megabit option and click OK.

Choose Flash Type		
Flash Types C SPI Flash 4 Mbit C EBI Flash 8 Megabit (512 K x16-bit) bottom C EBI Flash 64 Megabit (4 M x 16-bit)		
	OK Cancel	

4. The Monitor Mode dialog box is displayed. Click the **FW Update** button.

Monitror Mode		X
Connect	⊃ ne™	\
General Settings		
🗖 Send Ascii		
Baud rate	115200	•
Scan		
Operations		
Get Info		
FW Update		
Memory Dump		
Dump Memory to file		
Dump File to iChip		
	E	xit Monitor mode

5. In the dialog box that appears, browse to the location of the firmware IMF file you obtained from Connect One, select the file and click **Open**.

Open				<u>? ×</u>
Look jn:	🔁 Dual		- + 🗈 💣 💷-	
	Name		Size Typ	e 🔺
<u></u>	i2128d721q0:	LPX02.imf	466 KB IMF	File
History	i2128d721q01	Limf	475 KB IMF	File
7	i2128d721q0	LCF.imf	438 KB IMF	File
	i2128d721q0:	LW24.imf	472 KB IMF	File
Desktop	i2128d721q0:	LWSMT.imf	437 KB IMF	File
	i661d721q02.	imf	235 KB IMF	File
	i661d721q02F	ROUT.imf	226 KB IMF	File
My Documents	i210d721q02.	imf	265 KB IMF	File
	i211d721q02.	imf	317 KB IMF	File 🗾
My Computer	File <u>n</u> ame:	i2128d721q01.imf	•	<u>O</u> pen
	Files of type:	All files(*.*)	•	Cancel
My Network P		Open as read-only		
				11.

6. Click **Yes** when prompted.

iChipConfig	X
Are you sure you want to send file \\172.20.	0.11\Dev\Imodem\imf\Dual\i2128d721q01.imf?
(<u>Y</u> es	No

7. The following window appears while the firmware is being installed on the flash.

Working					
	Writing to addre	ess 10027800 0x4	00 words]
	Time Elapsed:	00:00:16	Total Size:	0x768D0	
		Cancel			

8. OK the dialog box that appears when installation has completed successfully.

iChipConfig	×
Image file loaded succes	sfully
OK	

9. Click the **Exit Monitor Mode** button on the Monitor Mode window to return to command mode.

3.2 Managing Parameter Files

Parameters for the II-EVB-630W are stored in ***.RPF** files. Parameter files can be used to save current configurations to be loaded for later use or to automate product distribution.

3.2.1 Saving the II-EVB-630W Configuration to an RPF File

All or some of the parameters stored in the II-EVB-630W can be saved to a Remote Parameters File (RPF), or loaded from an RPF file onto the II-EVB-630W, with or without parameters configured on it.

> To save the configuration to an RPF file:

- **1** Select the **Full Configuration** icon. The II-EVB-630W *Full Configuration* window is displayed.
- 1 Click **File >Save as RPF File** in the *Full Configuration* window. The *RPF Parameters* dialog box is displayed:

Include these	parameters in RPF file
Start from	factory defaults
Group	
Destinatio	n Chip Serial number

- **2** Configure the following parameters:
 - Select the **Start from factory defaults** checkbox if you want to save the factory default settings as your new parameters.
 - Do not select the **Start from factory default**s checkbox if you want to save your current configuration except for parameters in the RPF file.
 - Group: Not relevant.
 - Destination Chip Serial Number: Not relevant.
 - Click **OK**.

3.2.2 Loading an RPF File

This section describes how to load an RPF file onto II-EVB-630W.

> To load an RPF file:

1 Select File | Load RPF file from the iChipConfig menu. The Open dialog box is displayed:

Open					<u>? ×</u>
Look jn:	🛃 Desktop		•	- 🛍 💣 🛙	
History Desktop My Documents	My Documen My Compute My Network i docs to revie i (Chip config i (Chip_and_P) i mages temp iChip or Shortcut to (ts r Places ww ICDEM-2_Demo Donfig Connect1			
My Computer	File <u>n</u> ame: Files of <u>type</u> :	PAR_FREE1 RPF Files(*.RPF)		•	<u>O</u> pen Cancel
My Network P		Dpen as read-only			1.

- **2** Browse to and select the desired file.
- **3** Click **Open**. All the parameters from the RPF file are loaded onto the II-EVB-630W.
- **4** If an illegal parameter value has been assigned, the iChipConfig Utility displays the illegal parameter and suggests to save the illegal parameter to a log file.

Enter a new valid parameter value and **Load/Save** the RPF file again.