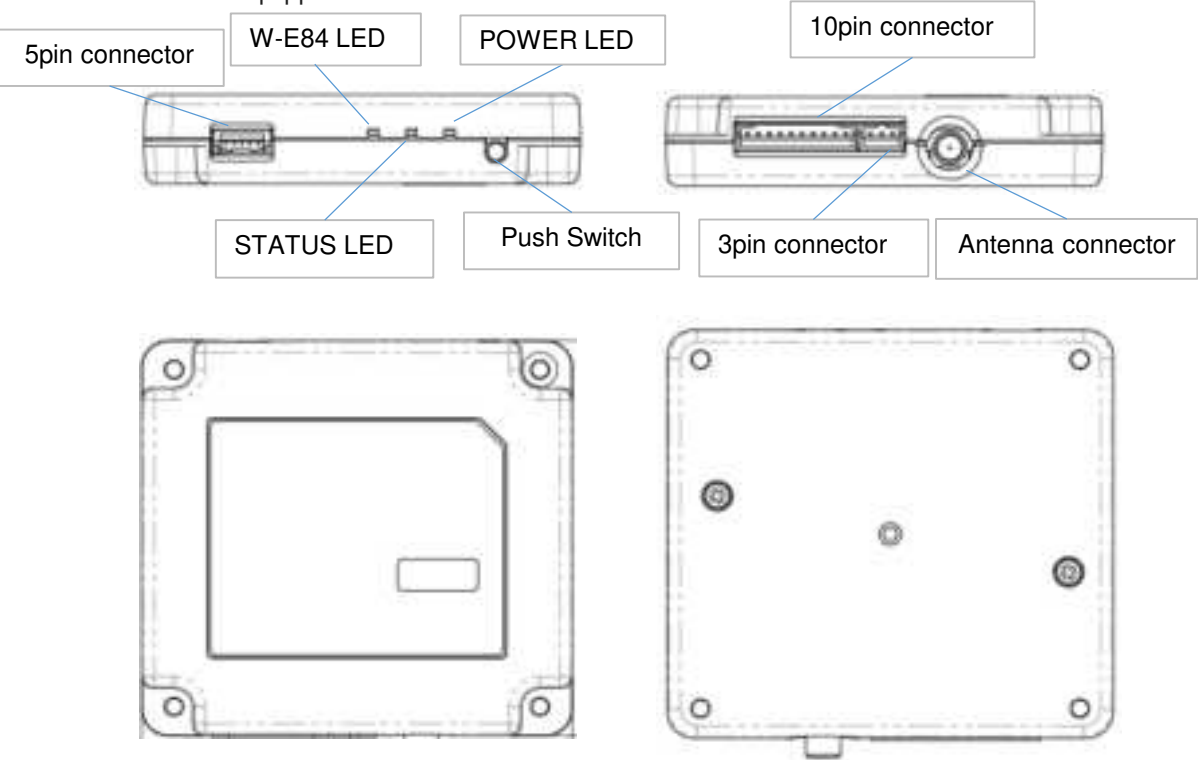


Wireless E84 Digital Communication Unit (WDCU-3310) User Manual

WDCU-3310 is a device that E84 interlock communication by wireless communication during FOUP transfer between the OHT (Overhead Hoist Transfer) and semiconductor manufacturing equipment. The WDCU-3310 is equipped on the OHT.



Parts and Functions		
POWER LED	Green light on	: Power On
	Green light flashing	: Program changing
	Orange light on	: Initializing process
	Red light on	: Hardware error
STATUS LED	Green light on	: Power On
	Green light flashing	: Setting various parameters of wireless E84 communication unit from wireless converter or OHT controller
	Orange light flashing	: During PIIO data communication between the wireless converter or OHT control unit and the wireless E84 communication unit
	Red light on	: Communication error occurred between wireless converter or OHT control unit and wireless E84 communication unit
W-E84 LED	Green light on	: Power On(2.4GHz)
	Green light flashing	: Communicating in the 2.4 GHz band
	Orange light on	: Power On(5.8GHz)
	Orange light flashing	: Communicating in the 5.8 GHz band
	Red light on	: An error occurred in communication with the wireless E84 device

3pin connector	Debug port
5pin connector	CPU internal ROM writing (only used in the factory)
10pin connector	Connect to Wireless LAN converter (FBR-3250) or OHT
Antenna connector	Connect the antenna
Push Switch	Used to initialization settings

## Setup

1. Use a dedicated cable to connect the 10-pin connector to FBR-3250 or OHT.
2. Power supplied from OHT and the WDCU-3310 is controlled by the OHT controller.

## Basic configuration

Wireless Frequency Band	ISM (2.4GHz, 5.8GHz)
Wireless Channel	Ch3~Ch80(2.4GHz) Ch2~Ch100(5.8GHz)
Wireless Channel Width	1MHz
Channel Power setting	-20dBm~0dBm(2.4GHz) -20dBm~+2dBm(5.8GHz)
Channel Period	10,20,30,40,50ms
Receive timeout	100~60000ms
Communication timeout	100~5000ms
Pairing threshold level	-80~-24dBm, No threshold

## Specification

Operating environment	Temperature	0~+40°C
	Humidity	20~80%RH(Non condensing)
Storage environment	Temperature	-10~+50°C
	Humidity	20~90%RH(Non condensing)
Power supply	DC24V	
Wireless I/F	short-range wireless(2.4GHz/5.8GHz)	
Push Switch	initialization switch ×1	
LED	POWER LED	Green/Red/Orange
	STATUS LED	Green/Red/Orange
	W-E84 LED	Green/Red/Orange

**Supplier's Declaration of Conformity**  
**47 CFR § 2.1077 Compliance Information**

**Unique Identifier:** WDCU-3310

**Responsible Party – U.S. Contact Information**

**Responsible Party Name:** silex technology America, Inc.

**Responsible Party Address:** East Sandpointe, #245 Santa Ana, CA 92707  
Phone: 657-218-5199

**FCC Compliance Statement**

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 undesired operation.

**FCC CAUTION**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:**

This equipment 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.

**Compliance with FCC requirement 15.407©**

Data transmission is always initiated by software, which is the passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the and can radiate radio frequency energy and, if not installed and used in accordance with the instruction packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinue transmission in case of either absence of information to transmit or operational failure.

**Frequency Tolerance:**  $\pm 60$  ppm

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines as this equipment has very low levels of RF energy.