



ZigBee Evaluation Board ZDB

User Manual

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WARRANTY

The device supplied to the buyer and/or the recipient is guaranteed by CLEODE against any malfunctions originating from a design and/or manufacturing flaw, for a period of twelve (12) months following delivery. The buyer and/or recipient is (are) responsible for proving the existence of the said defects or flaws. This warranty is applicable in accordance with articles 1641 to 1648 of the French Civil Code and in compliance with the French statutory warranty. The warranty covers the replacement free of charge of devices and parts affected by a design and/or manufacturing flaw excluding conspicuous defects in the device that are covered by the buyer and/or the recipient.

In order to invoke the warranty, the buyer must immediately send written notice to CLEODE of the flaws that it attributes to the device. It must enable CLEODE to have access to the device to observe these defects and repair them. The warranty provided by CLEODE is strictly limited to the equipment provided and shall only have for effect the replacement or repair, at CLEODE's expense, on its own premises, of all devices or parts that are not functioning as a result of defects or flaws. CLEODE reserves the right to modify the devices in order to comply with the warranty.

The warranty does not apply to replacement or repairs that may result from normal wear and tear of devices, systems or products, damage or accidents resulting from negligence, failure to supervise or maintain, or incorrect use of the devices, systems and/or products.

The maintenance service is provided by CLEODE with all reasonable care possible and in compliance with the current state of the arts.

The exchange of parts or repairs performed under the warranty cannot result in extending the length of the warranty. In no event can the unavailability of the device due to servicing give rise to compensation for any reason whatsoever. The seller is released from all obligations relating to the warranty if the product or device has been modified without prior written consent, or if original parts have been replaced by parts which it has not manufactured without prior consent. If unforeseen damage is caused by the device, it is expressly agreed that the seller can only be liable for the reimbursement of monies received for the purchase of the device if it has been destroyed. Under no circumstances can the seller be held liable for indirect or contingent damage. The seller is released from any liability and the buyer waives any rights against it if an accident or direct or indirect damage is caused to the buyer following a defect, incorrect usage, incorrect maintenance or normal wear of the device sold.

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TABLE OF REVISION

Version	Author(s)	Description	Date
0.1	CLEODE	Initial Version	07/04/2011
1.0	CLEODE	Document validated	07/04/2011

REFERENCE DOCUMENTS

N°	Document	Description
[1]	UL_ZBEE_20091002_001_03_00.pdf	User Manual ZBee
[2]	CC2530 DataSheet	User Manual CC2530

I INTRODUCTION

I.1 PRESENTATION OF ZIGBEE EVALUATION BOARD

The ZigBee™ evaluation board allows implementing fast applications using ZigBee™ technology.

On a small form factor, the evaluation board gives direct accesses to the inputs/outputs of the programmable component CC2530 of Texas Instrument and an interface for the addition of a UFL antenna.

The ZigBee™ evaluation board is designed for developers having knowledge in C language and in electronic design.

I.2 COPYRIGHT

The CLEODE trademark and the CLEODE logo are properties of CLEODE SA, France. This document also refers to trademarks and other product names that are registered trademarks of their respective owners.

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II HANDLING INSTRUCTIONS

II.1 ELECTROSTATIC DISCHARGE

The ZDB™ board is an ESD-sensitive device. To protect the components from ESD damage, it is important to take the following precautions.

- The evaluation board is delivered in a recognizable antistatic packing with the following logo:



Figure 1: ESD Logo

- As far as possible, handle the board on an ESD-safe workstation taking care to follow the instructions relevant to that kind of workstation.
- It is possible to connect the card of valuation to the mass via one of both holes of fixing.
- When an ESD-safe workstation is not available:
 - Discharge yourself and your tools by making a contact with the housing
 - Hold the ZDB™ board by the upper corners

III ZIGBEE EVALUATION BOARD

III.1 DESCRIPTION

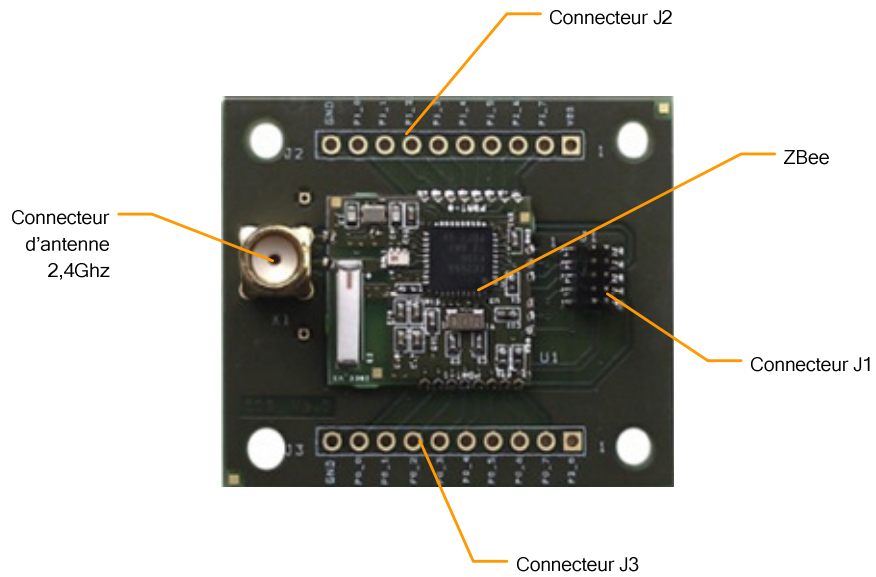


Figure 2: Top view

III.2 INTERFACES DEFINITION

The physical interfaces implemented on the ZDB give direct accesses to the inputs/outputs of the programmable component CC2530 of Texas Instrument. The function of each of them enter is defined here below (Refer also to Figure 2).

III.2.1 J1 Connector

The J1 connector is a simple row header pin 2x10, with a pitch of 2,54mm. It is used to debug and program the CC2530 and can be used to power up the ZBee within a 3Vdc source voltage (see §VIII).

III.2.2 J2 Connector

The J2 connector is a simple row header pin 2x10, with a pitch of 2,54mm. It gives access to some inputs/outputs of the CC2530 P0 Port (see §VIII) and GND of the Zbee.

III.2.3 J3 Connector

The J3 connector is a single row header pin, with a pitch of 2,54mm. It gives access to some inputs/outputs of the CC2530 P1 Port (see §VIII) and GND of the ZBee.

III.2.4 UFL antenna

The connector X1 is used to adapt an UFL antenna on the evaluation board.

III.3 EVALUATION BOARD POWER UP

III.3.1 Using an extern power supply

The ZigBee™ evaluation board can be powered up within a 3Vdc source voltage by connecting the supply on one of the J1 connector (see §VIII).

IV MAPPINGS

IV.1 MAPPING OF CC2530

Refer to the data sheet of the component CC2530:

<http://focus.ti.com/lit/ds/symlink/cc2530.pdf> (§ PIN DESCRIPTIONS page 18)

IV.2 MAPPING OF J1

Pin connector J1	Correspondance CC2530	Description
1	GND	Ground
2	+3V	VDD
3	P2_2	DEBUG_CLK
4	P2_1	DEBUG_DATA
5	P1_4	SPI_CS
6	P1_5	SPI_SCLK
7	RESET_N	Reset
8	P1_6	SPI_MOSI
9	+3V	VDD
10	P1_7	SPI_MISO

IV.3 MAPPING OF J2

Pin connector J2	Correspondance CC2530	Description
1	P2_0	I/O Numérique
2	P0_7	I/O Numérique
3	P0_6	I/O Numérique
4	P0_5	I/O Numérique
5	P0_4	I/O Numérique
6	P0_3	I/O Numérique
7	P0_2	I/O Numérique
8	P0_1	I/O Numérique
9	P0_0	I/O Numérique
10	GND	Ground

IV.4 MAPPING OF J3

Pin connecteur J3	Correspondance CC2530	Description
1	DVDD	I/O Numérique
2	P1_7	I/O Numérique
3	P1_6	I/O Numérique
4	P1_5	I/O Numérique
5	P1_4	I/O Numérique
6	P1_3	I/O Numérique
7	P1_2	I/O Numérique
8	P1_1	I/O Numérique
9	P1_0	I/O Numérique
10	GND	Ground

IV.5 SPECIFICATIONS

Parameterss	Value
Frequency	2394 – 2507 Mhz
RF speed	250 kbps
Speed Serial interface	Up to 115200 bauds
Transmission power	-18 à + 3,3 dbm
Power supply	2,1 à 3,6 V
Consumption	
▪ TX	34 mA à +3,3 dbm
▪ RX	23 mA
▪ Sleep mode	> 1µA
Sensibility	-97 dbm
Range	150 m à 3,3 dbm
Measurement (L/P/H)	43 * 37 * 3 mm
Security	128 bit AES
Antennas	PCB or UFL antenna
Temperature	-40 ° a + 85° C

REPAIR AND MAINTENANCE

Defective equipments shall be first reported to the CLEODE support team in order to be assigned an RMA number. Be prepared to state your name, company and the serial number of the defective item to the support personnel.

The item shall then be returned to CLEODE with the following documents:

- The RMA number
- A copy of the delivery slip
- A detailed description of the default and the test context

The maintenance period is typically four (4) weeks starting from the date of reception of the equipment at the CLEODE headquarters.

Remark : A FAQ (Frequently Asked Questions) is available on the www.cleode.com web site.



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