LCIE SUD EST
Laboratoire de Moirans
Z.I. Centr'Alp
170, Rue de Chatagnon
38430 MOIRANS - FRANCE

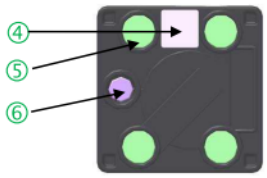
GENERAL INFORMATION

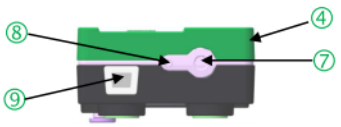
FCCID: **2AHP8-130729**

1.1. Product description

The Easergy CL110 is a battery powered and wireless communication thermal and humidity sensor using ZigBee Green Power 2.4GHz protocol according to the IEEE 802.15.4. The Easergy CL110 is a mobile device as defined by FCC.

The purpose of this bulletin is to facilitate the Easergy CL110 sensors installation into validated equipment.





Ref	Detail	Qty
④	SN + ZigBee ID (QR Code or Text)	1
⑤	Magnets	4
⑥	Thermal sensor in contact with measured surface	1

Ref	Detail	Qty
⑦	Push button for pairing	1
⑧	Green LED helping commissioning	1
⑨	Humidity sensor protection	1

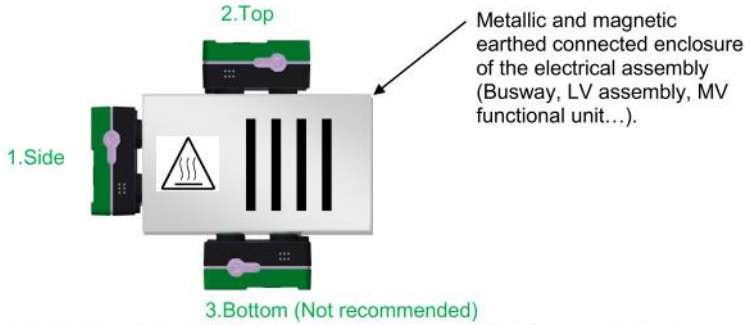


Figure 1: Installation of the CL110 sensor over a surface which is expected to become warm where the best use case is the N°1 for optimal battery lifespan and the worst is N°3.

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1.2. Tested System Details

2. SYSTEM TEST CONFIGURATION

2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):

SCHNEIDER ELECTRIC Easergy CL110 **Serial Number:** **FL2017W154000011**
FL2017W15300005
FL2017W15300009

Equipment Under Test

Power supply:
During all the tests, EUT is supplied by V_{nom}: 3VDC
For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply1	☐ AC ☐ DC ☑ Battery	3Vdc	Panasonic Coin cell primary 3V 1000mA/h part number : BR2477A/FBN	/
Supply1_bis	☐ AC ☐ DC ☑ Battery	3vdc	2 x AA Battery	Set only for test

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
Supply1_bis	Power supply from two AA battery, in order to have enough autonomy during test	/	/	/	/	Set only for test

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
Laptop	LENOVO T460	PC0G-620d	Used to send command to EUT
Zigbee Test Board (USB)	ATMEL ATMEGA256RF2 X Plained	f	Used to send command to EUT

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Equipment information:

Type:	☑ ZIGBEE		☐ RF4CE	
Frequency band:	[2400 – 2483.5] MHz			
Spectrum Modulation:	☑ DSSS			
Number of Channel:	16			
Spacing channel:	5MHz			
Channel bandwidth:	2MHz			
Antenna Type:	☑ Integral	☐ External	☐ Dedicated	
Antenna connector:	☐ Yes	☑ No	☐ Temporary for test	
Transmit chains:	1			
	Single antenna			
	Gain 1: NC			
Beam forming gain:	No			
Receiver chains	1			
Type of equipment:	☑ Stand-alone	☐ Plug-in	☐ Combined	
Ad-Hoc mode:	☐ Yes		☑ No	
Adaptivity mode:	☑ Yes (Load Based)	☐ Off mode	☐ No	
	Clear Channel Assessment Time:		-	
Duty cycle:	☐ Continuous duty	☑ Intermittent duty	☐ 100% duty	
Equipment type:	☑ Production model		☐ Pre-production model	
Operating temperature range:	Tmin:	☐ -20°C	☐ 0°C	☑ -25°C
	Tnom:	20°C		
	Tmax:	☐ 35°C	☐ 55°C	☑ 105°C
Type of power source:	☐ AC power supply	☐ DC power supply	☑ Battery	
Operating voltage range:	Vnom:	☐ 230V/50Hz	☑ 3Vdc	
Geo-location capability:	☐ Yes (The geographical location determined by the equipment is not accessible to the end user as defined in section 4.3.2.12.2 of ETSI EN 300 328 V2.1.1 standard)		☑ No	
Minimum performance criteria for Receiver blocking test:	☑ PER less than or equal to 10%		☐ Alternative performance criteria (4)	

(4): Description of the alternative performance criteria:
NC: Not communicated by customer

CHANNEL PLAN	
Channel	**Frequency (MHz)**
Cmin: 11	2405
12	2410
13	2415
14	2420
15	2425
16	2430
17	2435
Cmid: 18	2440
19	2445
20	2450
21	2455
22	2460
23	2465
24	2470
25	2475
Cmax: 26	2480

DATA RATE		
Data Rate (Mbps)	**Modulation Type**	**Worst Case Modulation**
0.25	O-QPSK	☑

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1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or ANSI C63.10, FCC Part 15 Subpart C.
Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed **May 3rd to 10th, 2017**.

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 and ANSI C63.10 (registration number 94821).
This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.