OIML Member State SLOVAKIA	**OIML Certificate No.** **R49/2013-A-SK1-26.06 Rev. 1**

OIML CERTIFICATE ISSUED UNDER SCHEME A

OIML Issuing Authority

Name: **Slovak Legal Metrology (SLM)**
Address: Geologická 9966/1,
821 06 Bratislava-Podunajské Biskupice, Slovakia
Product Certification Body
Hviezdoslavova 31
974 01 Banská Bystrica, Slovakia
Person responsible: Ing. Dušan Šmigura, PhD., Director of PCB

Applicant

Name: **Willfar Information Technology Company Limited**
Address: 468 # West Tongzipo Road, Hi-Tech Industrial Development Zone, Changsha, Hunan, P.R.China

Manufacturer

Name: **Willfar Information Technology Company Limited**
Address: 468 # West Tongzipo Road, Hi-Tech Industrial Development Zone, Changsha, Hunan, P.R.China

Identification of the certified type *(the detailed characteristics are defined in the additional pages)*

Water meter type **AFlow LXC**

Designation of the module *(if applicable)*

Ultrasonic water meter with electronic indication device

This OIML Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML type evaluation report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

OIML R 49, Edition (year): 2013
For accuracy class (if applicable): 2

SLOVAK LEGAL METROLOGY SLM

OIML Certificate No.

R49/2013-A-SK1-26.06 Rev. 1

This OIML Certificate relates only to metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML Recommendation identified above.

This OIML Certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated OIML type evaluation reports:

No. 2026/ER057/SK1 dated 12th June 2026 that includes 17 pages.

No. 2026/ER044/SK1 dated 30th July 2026 that includes 17 pages.

The technical documentation relating to the identified type is contained in documentation file name: „Technical documentation file Hunan Winmeter_AFlow LXC_00“ dated 12th June 2026 that includes 34 pages.

OIML Certificate History

Revision No.	Date	Description of the modification
0	12th June 2026	Certificate first issued
1	30th July 2026	Add: - reverse flow for brass water meters; - composite water meters with forward and reverse flow Updated: - name of manufacturer “Hunan Winmeter Energy Technology Co., Ltd.“ to „Willfar Information Technology Company Limited”

Identification, signature and stamp

The OIML Issuing Authority

SLOVAK LEGAL METROLOGY SLM

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Dušan Šmigura

Date: 30th July 2026

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated OIML type evaluation report(s) is not permitted, although either may be reproduced in full.

1. Designation

The ultrasonic water meters **AFlow LXC** are designed to measuring, memorizing and displaying the volume of water passing through the measurement transducers at metering conditions. The water meter is intended for the measurement of volume of clean water in residential use.

The water meters AFlow LXC are compact ultrasonic water meters with electronic indication device. The measurement is based on ultrasonic bidirectional transit-time principle.
The flow is measured by the difference in time-of-flight of ultrasonic pulses with flow (downstream) and opposite to flow (upstream).

The water meters AFlow LXC can be installed to operate in all positions. The water meters are designed to measure the reverse flow.

2. Description

Essential parts of the water meters AFlow LXC:

Flow sensor:
- the brass and composite cylindrical body with inlet and outlet;
- the inner plastic elements-measuring support (pipe support-down and pipe support-up) placed in the cylindrical brass body;
- two reflectors (Inlet, Outlet) installed in the centre of the water meter body (pipe);
- two ultrasonic transducers at the upstream and downstream of the measurement channel (pipe section) to transmit and receive ultrasonic signals.

Calculator and indication device:
- the plastic housing of the calculator with indication device directly mounted on the flow sensor;
- two PCBA:
  - measuring PCBA located on the water meter body above the transducers;
  - main PCBA located under LCD display, for function of LCD display, button, optical port, wireless communication, memory, battery;
- the electronic scrolling LCD display with 10 digits and indication range of 999999,999 m^3. The sub-multiples of a cubic meter are indicated on the LCD display with a frame above the six digits after the decimal point;
- one non-replaceable lithium battery for measurement, size D, Umin=2,9 V, Umax=3,7 V, lifetime 18 years;
- button "Touch" for switching display functions.

Non-essential parts of the water meters:

- optical (Infrared) interface for local management and maintenance;
- filter;
- pressure sensor (optionally);
- temperature sensor (optionally);
- one non-replaceable backup lithium battery for measurement, size 1/2AA, Umin = 2,9 V, Umax = 3,7 V, lifetime18 years;
- communication interfaces: optical, pulse, RS485, Wired M-Bus, Wireless M-Bus, LoRaWAN, Sigfox, GPRS, NB-1oT, dual module.

2.1 Metrological functions

- measuring, memorizing and displaying the volume of water passing through the water meter.

2.2 Operation and presentation of legal data

User mode - on the scroll display are visible:

Code	Description
-	display test (an "eights" test)
-	display test (a "blanks" test)
004	the total measured volume (m^3)
011	software version
012	software date (YY-MM-DD)
181	software checksum
194	measurement firmware version
195	measurement firmware version date
196	measurement firmware CRP

Test mode - on the scroll display are visible:

Code	Description	Display precision
174	indicated volume measured by water meter during test (m^3)	0,000001
175	instantaneous flow rate measured by water meter during test (m^3/h)	0,000001
176	water temperature measured by water meter during test (°C)	0,1

2.3 Accountable alarms

If a fault condition occurs and the measurement stops, follow Tables and the User manual issued by the manufacturer.

Special information	Prompt	Comment
Save data upon shutdown when all batteries of the meter	CLoSE--	Indicates that the power-off data saving process is being executed.
Display voltage of main battery	dy X.XX	X.XX is the voltage of main battery
Battery	Err-81	Need to change main battery
Error code description	E-100	Magnetic interference fault
	E-101	Oen cover
	E-102	Battery remove
	E-105	Reverse flow
	E-110	Water leaks
	E-111	Sampling abnormal
	E-112	M days no water consumption ('M' indicates a configurable value)
	E-113	Level 1 Overload water flow
	E-117	Level 1 fast water leakage
	E-118	Level 1 fast water leakage
	E-121	Level 2 Overload water flow
	E-123	Low temperature alarm
	E-124	High temperature alarm
	E-125	Communication module mismatch

Special information	Prompt	Comment
Long-pressing button definition	--- XX	XX: Indicates the time of long-pressing button, with a range of 3~14 secs. F1: Long-pressing button for 10~11 secs: Activate infrared function in operation mode. F2: Long-pressing button for 05~07 secs: To trigger push data F3: Long-pressing button for 08~09 secs: Enter/Quit test mode F4: Long-pressing button for 12~13 secs: Wireless module reset processing

2.4 Software specification

The legally relevant software version and checksum for water meters AFlow LXC:

Software versions	Checksum	Remarks
Ed-303	64Cb20C7	-

The software version and checksum can be checked using the scrolling display.

2.5 Integrated equipment and functions

Communication interfaces: optical, pulse, RS485, Wired M-Bus, Wireless M-Bus, LoRaWAN, Sigfox, GPRS, NB-1oT, dual module.

3. Technical and metrological data

Water meter type		**AFlow LXC**					
Characteristics	Unit						
body	-	brass / composite					
Nominal diameter DN	mm	15	20	25	32	40	50
Permanent flowrate Q_3	m^3/h	2,5	4	6,3	10	16	25
Minimum flowrate Q_1	m^3/h	0,010 0,006 0,005	0,016 0,010 0,008	0,025 0,016 0,0126	0,040 0,025 0,020	0,064 0,04 0,032	0,10 0,064 0,050
Transitional flowrate Q_2	m^3/h	0,016 0,010 0,008	0,025 0,016 0,0128	0,040 0,025 0,02016	0,064 0,04 0,032	0,10 0,064 0,0512	0,16 0,10 0,080
Overload flowrate Q_4	m^3/h	3,125	5	7,875	12,5	20	31,25
Ratio Q_3/Q_1	R	250 400 500					
Ratio Q_2/Q_1	-	1,6					
Reverse flow	-	Water meter designed to measure reverse flow					
Connection thread	mm	G ¾ B	G1 B	G1 ¼ B	G1 ½ B	G2B	G2 ½ B or flange
Construction length L	mm	110 to 190	130 to 195	200 to 260	200 to 260	300	200 to 300
Installation orientation	-	All positions					

Water meter type		AFlow LXC
Characteristics	Unit	
Water temperature range (temperature class)	°C	0,1 to 50 (T30, T50)
Maximum admissible pressure MAP	bar	16
Pressure loss class Δp	bar -	0,40 Δp 40
Protection class	-	IP68
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30°C$) ± 3 (at $\Theta > 30°C$)
Maximum permissible error in lower flowrates range $Q_1 \leq Q < Q_2$	%	± 5
Capacity of calculator (normal resolution)	m^3	999999,999
Capacity of calculator (high resolution)	m^3	9999,999999
Scale interval (normal resolution)	m^3	0,001
Scale interval (high resolution)	m^3	0,000001
Accuracy class	-	2
Mechanical class	-	M1
Climatic class	°C	- 25 to + 70
Electromagnetic class	-	E1
Climatic and mechanical environmental conditions (class)	-	O
Flow profile sensitivity class	-	U0D0
Battery	-	D size li-battery non-replaceable, Umin= 2,9 V, Umax= 3,7 V, life time 18 years

4. Marking and inskription

The following data shall be marked on the water meter:

a) name or trademark of the manufacturer;
b) type name of the water meter;
c) unit of measurement m^3;
d) year of manufacture, the last two digits of the year of manufacture, or the month and year of manufacture;
e) serial number (as near as possible to the indicating device);
f) flowrate Q_3 and ratio Q_3/Q_1 indicated as (R) followed by the ratio value;
g) the flow direction shall be marked on a water meter's body in form of an arrow;
h) maximum admissible pressure (MAP);
i) temperature class (T);
j) pressure loss class (Δp);
k) the latest date by which the water meter shall be replaced;
l) environmental classification;
m) installation sensitivity class;
n) electromagnetic environmental class;
o) type approval sign according to national regulations.

Designation of trademarks on the water meters

The manufacturer uses following trademark on the water meter:

or

5. Security measures

The water meters AFlow LXC shall be protected against unauthorized manipulation and opening by:

- four plastic lead seals and two lead seals with the wire ensuring the connection of the upper cover (prevents access to the PCBA and software) with the lower part of the water meter (contains the body of the water meter), DN15-DN50 (Fig. 3a);
- four plastic seals ensuring the opening lower plastic cover, DN15-DN20 (Fig. 3b).

6. Figures

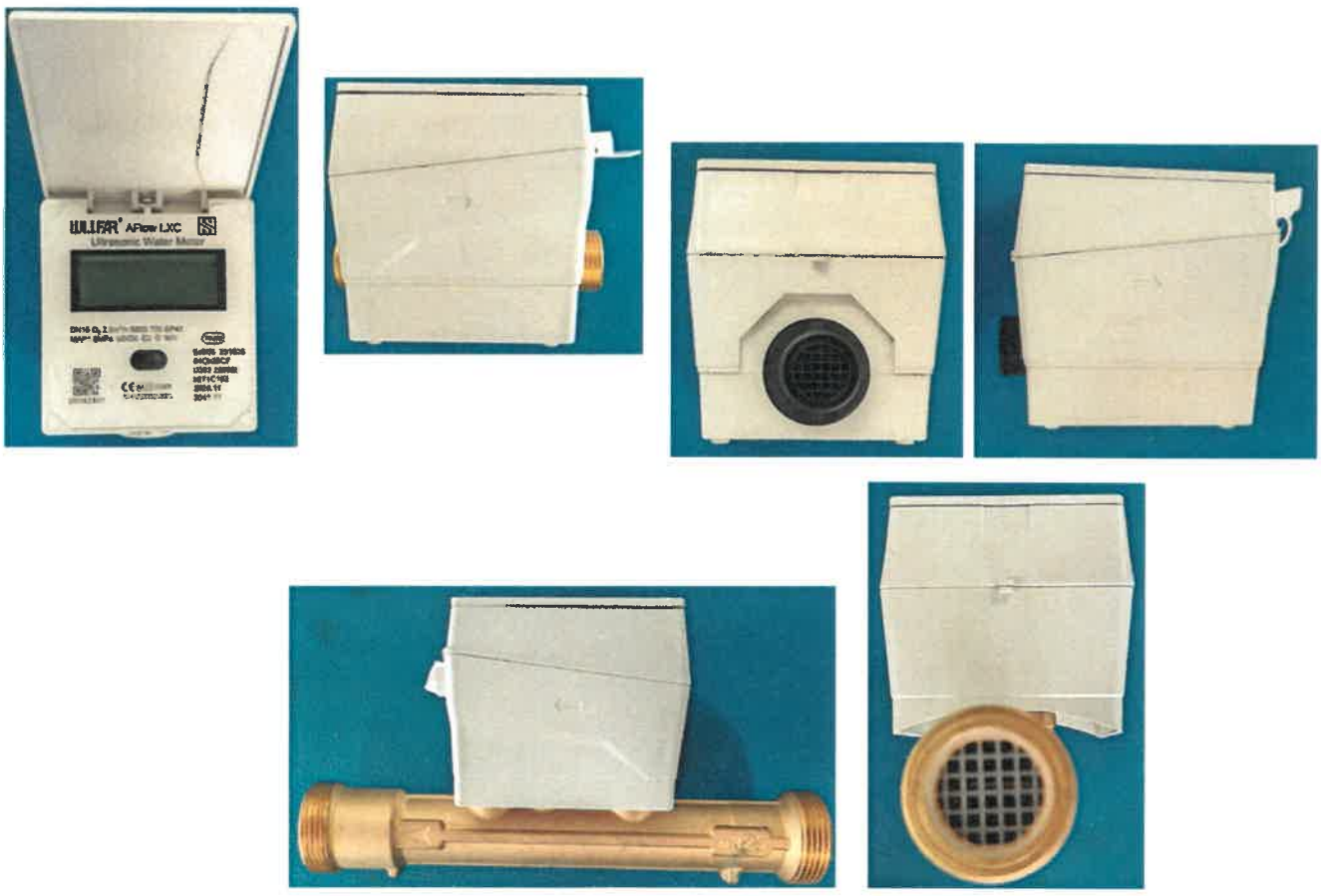
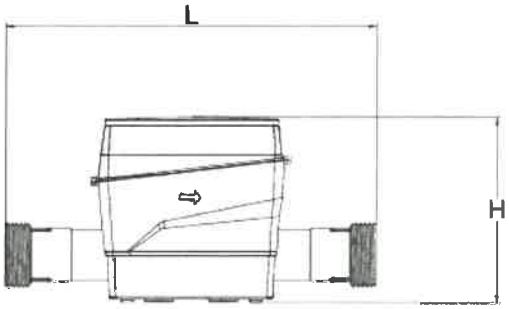
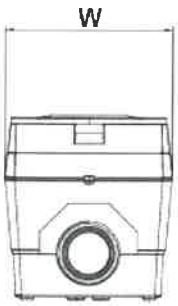


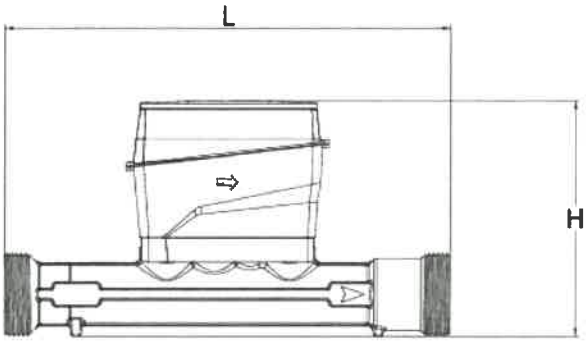
Fig. 1: Illustrative views of water meters AFlow LXC

DN15-DN20





DN25-DN50



Type	Dimensions (mm)			
	L	B	H	Thread
DN15	110 to 190	87	95.5	G ¾ B
DN20	130 to195	87	95.5	G 1 B
DN25	200 to 260	87	118	G 1 ¼ B
DN32	200 to 260	87	124	G1 ½ B
DN40	300	87	135	G 2 B
DN50	200 to 300	87	148	G2-1/2B or flange

Fig. 2: Dimension of water meters type AFlow LXC

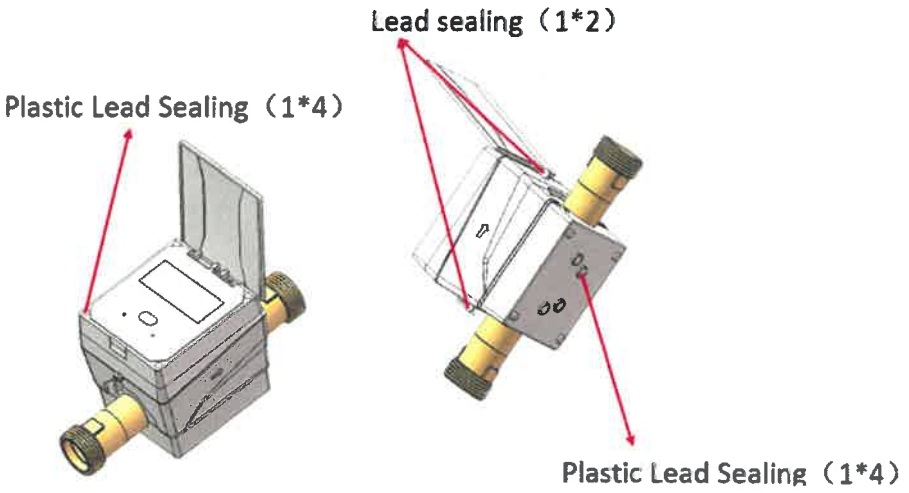


Fig. 3a: Sealing of water meters type AFlow LXC, DN15 and DN20

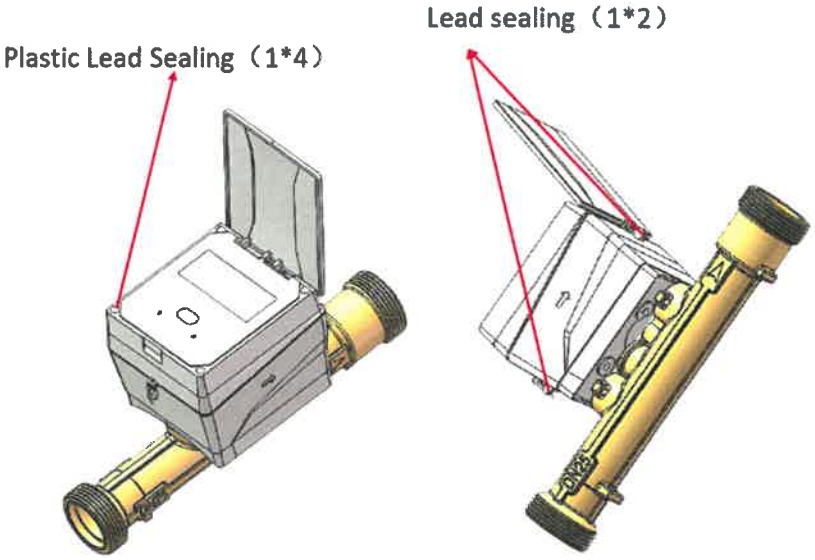


Fig. 3b: Sealing of water meters type AFlow LXC, DN25 to DN50

Icons	Description		
888	Short Code Display	Short Code Display	
	Battery voltage indicator	The main battery voltage is normal and the meter is operating properly. When this indicator is flashing, it indicates that the main battery is depleted.	
		Main Battery voltage level 1	
		Main Battery voltage level 2 the main battery needs to be replaced	
		Main Battery voltage level critically under voltage and needs to be replaced. At this time, the meter will stop remote communication but will retain other functions.	
	Fault prompt	At the same time, the second row of the LCD displays an error message.	
	abnormality and temperature sensor failure prompt	The meter flashes.	
	empty pipe		Wireless communication
	Reverse flow		Fault detection
m^3	Cubic meter		Working mode status
m^3/h	Instantaneous flow rate		forward flow
°C	Degree centigrade		reverse flow
bar	Unit of pressure		infrared function
	Negative sign		Test mode
:	Time separator		Burst pipe
.	Decimal point		Leak

Fig. 4: Display and display symbols description

USER MODE

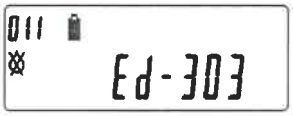
Display Code	Water meter display	Item
-		Displaying all the elements
-		Displaying bank
004		Total water consumption (m^3)
011		Software version
012		Software date
181		Software CRC
194		Measurement firmware version
195		Measurement firmware version date
196		Measurement firmware CRC

Fig. 5a: The scrolling sequence of electronic LCD display in user mode

TEST MODE

174		Indicated volume measured by water meter during error test (m^3)
175		Instantaneous flow rate measured by water meter during error test (m^3/h)
176		Water temperature measured by water meter during error test (C°)

Fig. 5b: The scrolling sequence of electronic LCD display in test mode

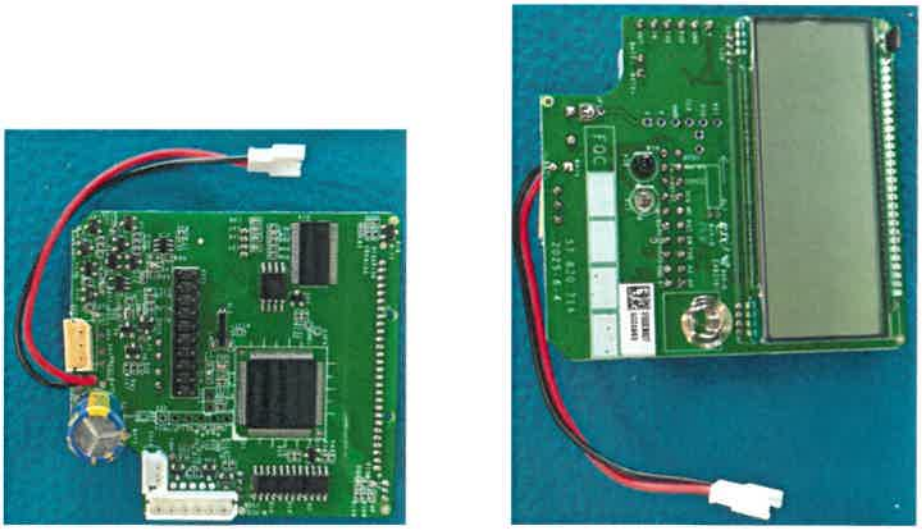


Fig. 6a: Main PCBA photos of water meters type AFlow LXC

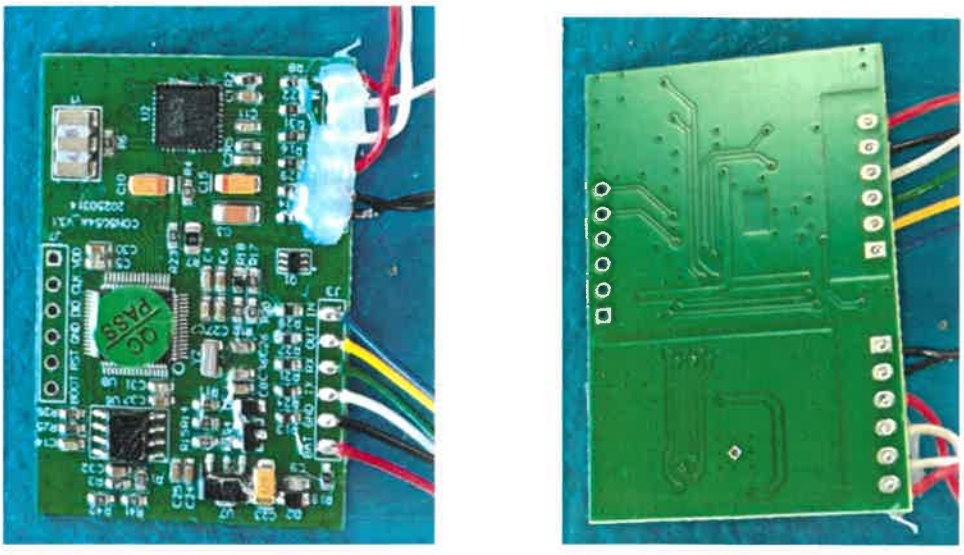


Fig. 6b: Measuring PCBA photos of water meters type AFlow LXC