

# Gateway Product Data Sheet

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**Product Name:**

**LBAC0ZZ1SU-285**

**LBAC0ZZ1SU-TEMP**

**2019/6/13**

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Revision History

Date	Version	Change History
2019/6/13	1.0	Initial version

## 1. Product Summary

This LBAC0ZZ1SU is the multiple protocol gateway. This product can be enable to receive data from some sensor units and transfer them to customer's system by suitable interfaces and protocols.

## 2. Product Specification

This specification is applied to LBAC0ZZ1SU gateway solution.

Product name	LBAC0ZZ1SU-285 / LBAC0ZZ1SU-TEMP
CPU	ARM Coretex-A8 600MHz 32bit RISC processor
ROM	4Gbit NAND
RAM	2Gbit DDR3
Power supply (*1)	AC adopter: UN310-0520 (EIAJ Type2)
WLAN	IEEE 802.11 b/g/n compliant
Specific low power radio	Frequency: 920MHz - 925MHz Output Power: 11dBm Expected distance: 200m (Best effort: Indoor and No obstruction) (*2)
Ethernet	IEEE 802.3 10/100 Base-T
LED indicator	5 LED windows
Button	2 Buttons
System clock	RTC with coin cell battery
Product size	W:170mm x L:109mm x T:26.5mm typ (*3)
Product weight	250g typ (*3)
IP rating	IP20
Working environment	0 - 60°C, 0 - 90%RH (without condensation)
Storage environment	0 - 60°C, 0 - 90%RH (without condensation)

(\*1) Not guaranteed if the other type of AC adopter is used

(\*2) There is a possibility to see the different value depending on the surrounding environmental condition, building structure, material and barriers.

(\*3) External antenna and AC adopter are not included

### 3. Product Features and Functions

LBAC0ZZ1SU product basic feature is shown as below. Supported functions are described in Section2. Hardware detail specification is defined in Section 3.

#### 3.1 Buttons

There are 2 buttons for LBAC0ZZ1SU.

One button is short and designed for reset purpose and the other button is long and designed for user configuration.

#### 3.2 LED indicators

There are 5 LEDs for LBAC0ZZ1SU. The LED number is from right side of the product.

LED	LED Window	Color
1	WLAN ON	Green
2	System enable	Green
3/4	Blink Red LED when SubGHz packet is received	Red / Green
5	N/A	Green
6	N/A	Green

All LED light up when power on the product.

#### 3.3 USB

One USB interface is used for data storage and connection to other peripherals.

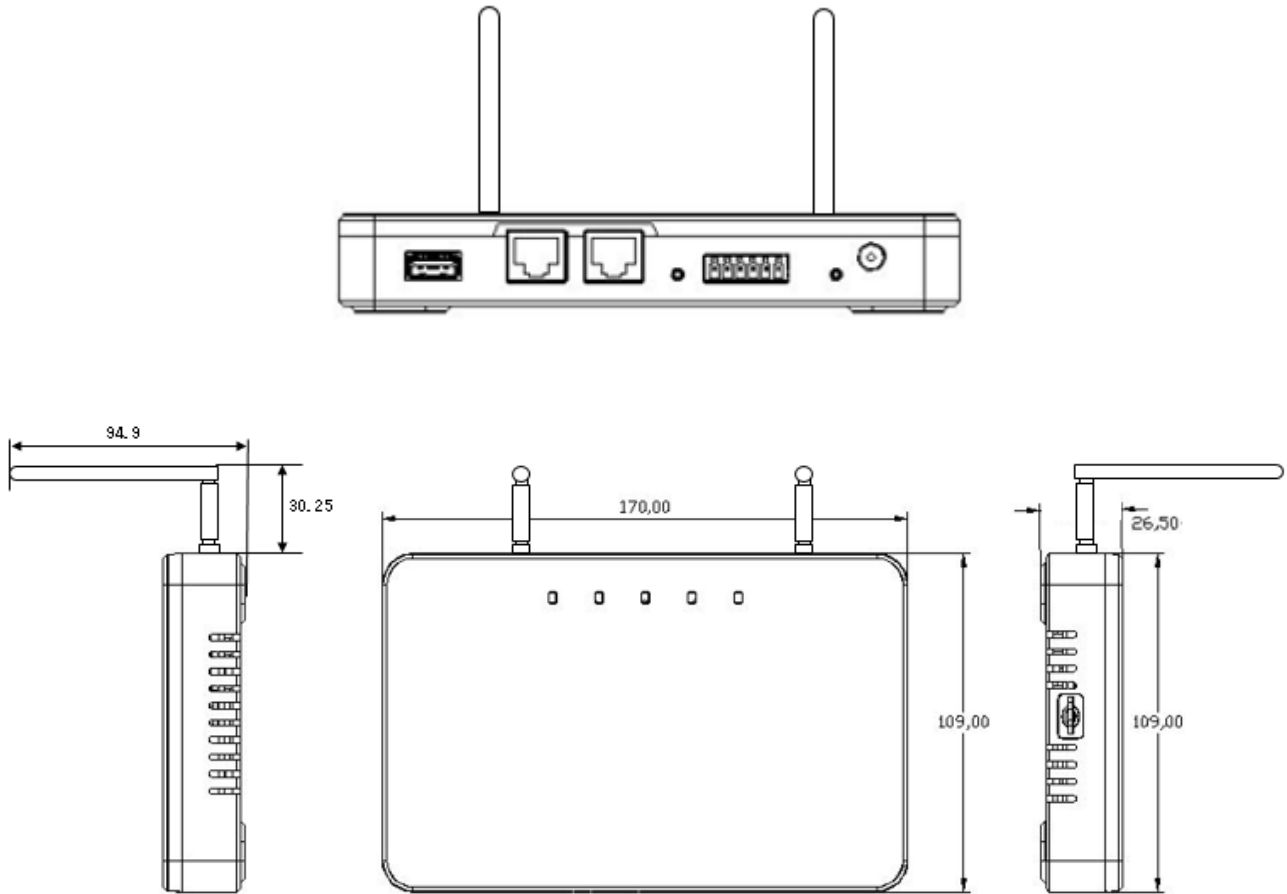
#### 3.4 micro SD card slot

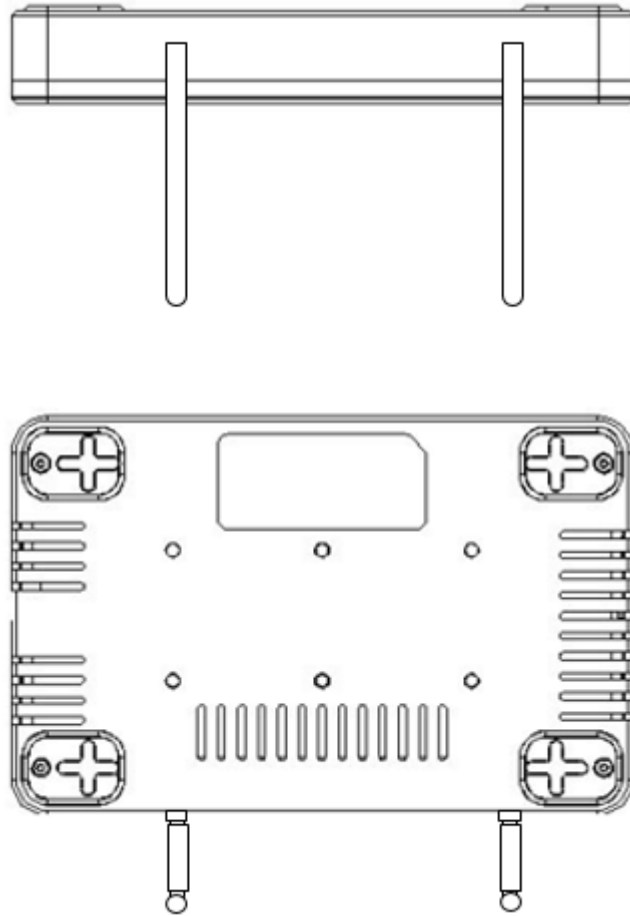
One micro USB card slot is used for data storage and firmware update.

#### 3.5 Ethernet

Ethernet port is used for Ethernet connection. It complies with IEEE802.3 10/100 Base-T.

4. Size of Appearance

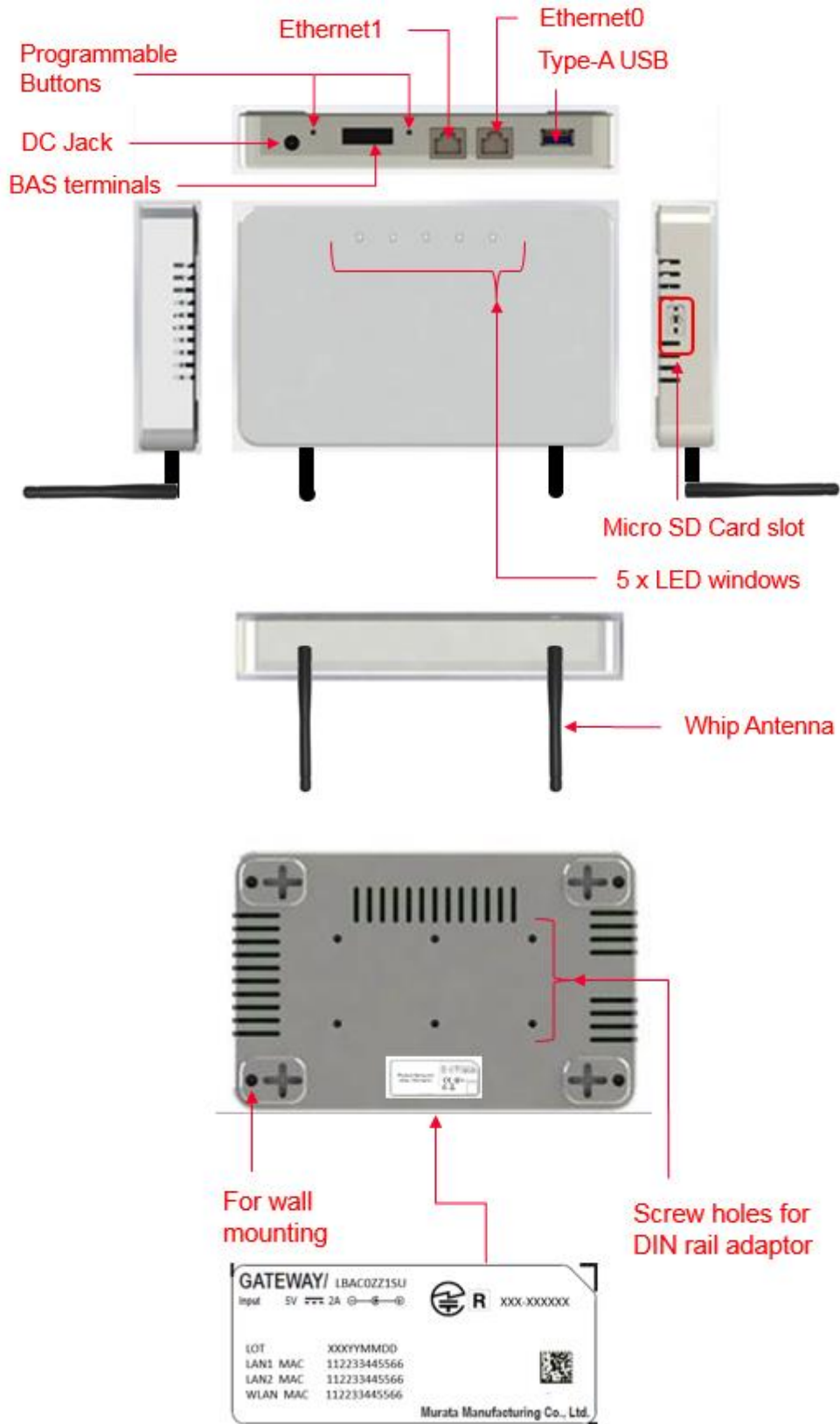




Mark	Min.	Typ.	Max.
L	108.8	109.0	109.2
W	169.8	170.0	170.2
T	26.3	26.5	26.7

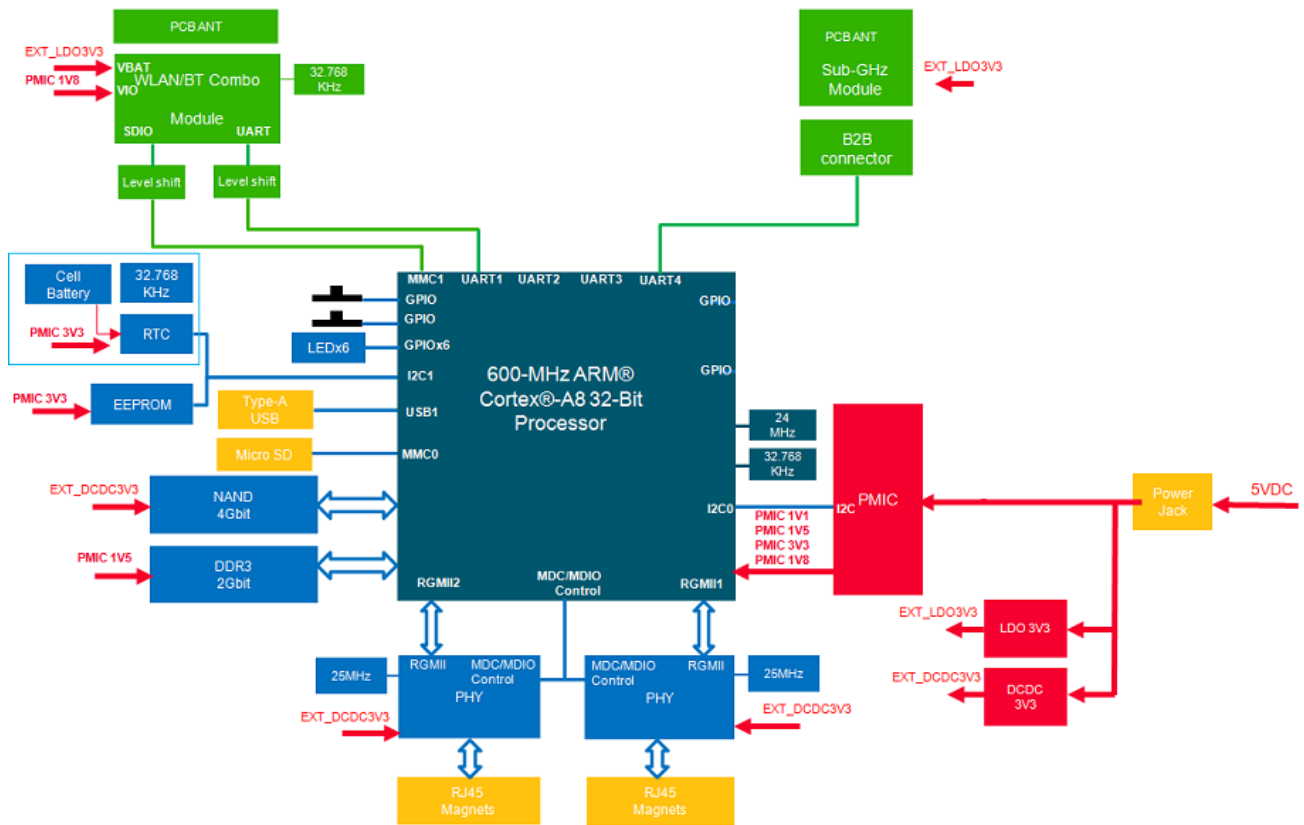
(Unit: mm)

5. Part Name and Function





## 6. Block Diagram



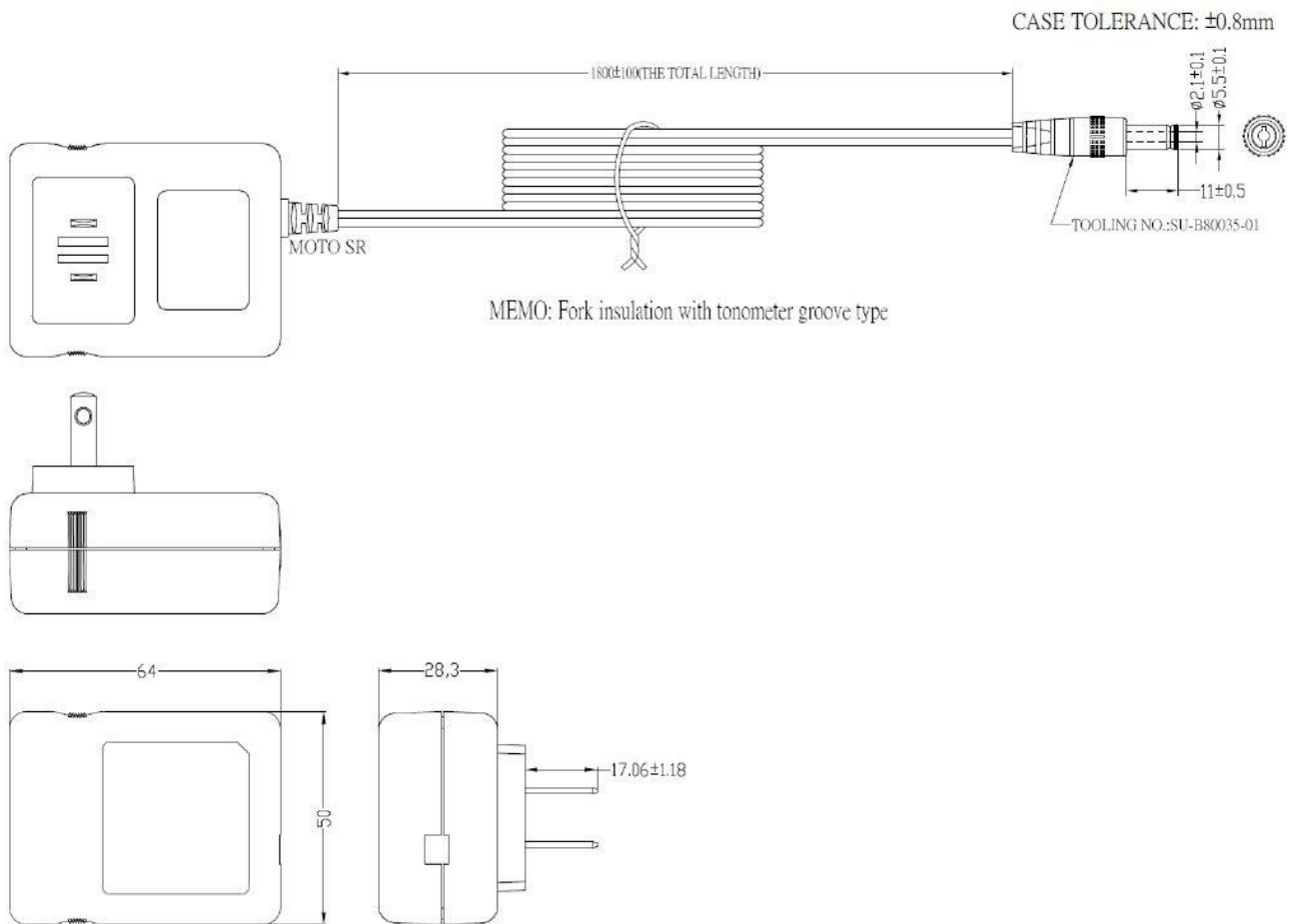
### 7. Power Supply

The below AC adopter is contained in the gift box.

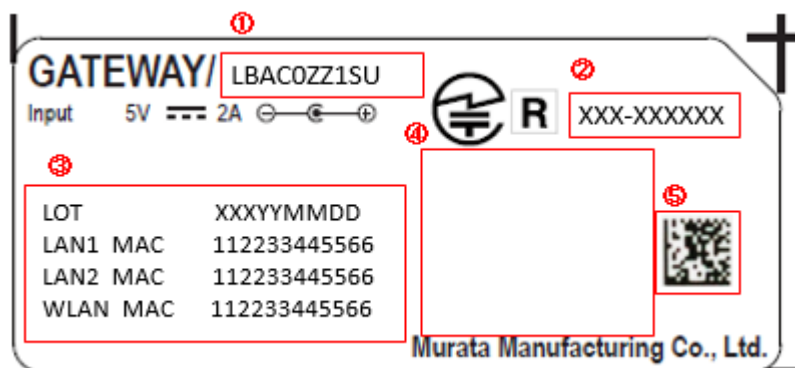
Input: AC 100 – 240V, 50/60Hz, 0-4A

Output: DC5V, 2A

Model: UNL312-0520 (EIAJ Type2) produced by UNIFIVE



### 8. Product Label



No.	Item	Contents to be printed
1	Product name	LBAC0ZZ1SU
2	TELEC certification number	XXX-XXXXXX (TBD)
3	Lot number LAN1 MAC LAN2 MAC WLAN MAC	XXXYYMMDD 12digits individual MAC address 12digits individual MAC address 12digits individual MAC address
4	Certification number for FCC/IC Others	TBD TBD
5	QR code	(For LAN1 MAC)

## 9. Rating

Item	Min	Max	Unit
DC input voltage through DC power jack	-0.3	5.25	V
Input Current through DC power jack	--	2	A
Storage Temperature	0	60	degC
Storage Relative Humidity	10	90	%RH

## 10. Operating Condition

Item	Min	Typ	Max	Unit
DC input voltage through DC power jack	4.75	5	5.25	V
Operating Temperature	0	60	60	degC
Operating Relative Humidity	10	90	90	%RH
Current consumption (*)	0.4		0.85	A

(\*) Condition (*with different software the current value may vary*)

- Power supply through DC power jack
- Operating temperature: 25degC
- WLAN: Tx mode
- Murata Sub-G: Non-active
- Ethernet transmission data

### 11. Mechanical Strength

Reference information of test performed by Murata. This is not to guarantee its mechanical strength.

Test item	Test method	Accepted criterion	Sample Quantity
High temperature High humidity bias life test	Temperature: 60±2°C Humidity: 90%RH Power bias: apply power with AC adaptor Test time: Request 210hrs, Check to 500 hours Read out points: 100hrs, 210hrs, 500hrs	Appearance: within visual inspection criteria. Performance: satisfy product spec.	5
Low temperature storage test	Test condition: Temperature: 0±2°C Test time: Request 310hrs, Check to 600 hours Read out points: 150hrs, 310hrs, 600hrs	Appearance: within visual inspection criteria. Performance: satisfy product spec.	5
Temperature cycling test	cycle condition • step 1: 0/-3°C, 15±3min • step 2: 60+3/-0°C, 15±3min General operation environment (10-40°C) Test time: Request 700cyc, check to 1400 cycle Read out points: 350cyc, 700cyc, 1400cyc According to the above condition, it takes about 45days to finish the test	Appearance: within visual inspection criteria. Performance: satisfy product spec.	5
Vibration test	Trim plane is fixed on a jig upside down. Sensor node attracts to trim plane by magnet. Vibration frequency range: 10 to 55Hz Amplitude: 1.5mm Sweep method: log sweep Time/direction: 30min (right-angled 3 directions: total 1.5hrs)	Appearance: within visual inspection criteria. Performance: satisfy product spec.	3
Bare drop test	Bare sample free drop without buffer, 3 times on each of 6 faces Drop height:0.75m Drop times: 18	Appearance: no crack on enclosure, no component off from PCBA, no soldering point broken.	3

	Drop method: free fall	Performance: satisfy product spec.	
Package drop test	One carton with well packed samples free drop from 1m height attacking concrete floor on 6 faces of the carton, each face is 3 times.	Appearance: within visual inspection criteria. Structure: no crack, loose part or malfunction. Performance: satisfy product spec.	1 box(5pcs)
ESD test	Test level: ± Contact Discharge: 2.0kV, ±4.0kV Air Discharge: 2.0kV, ±4.0kV, ±8.0kV	The product can work normally after test and satisfy product spec.	3
Solderability test (only PCB)	Preheat: 100-120 deg C, heat 60 sec Solder immersion condition • Solder temperature: 230±5 deg C • Immersion time: 2±0.5 sec • Immersion/lifting speed: 20-25mm/S • Immersion depth: until terminal electrode hides	Solderability should be more than 95% to electrode area.	5
Connection port (USB) reliability test	Operation cycle: 1500 cycles (TBD) Operation force: can plug in and out	The product can work normally after test and satisfy product spec.	2
Connection port (SD card) reliability test	Operation cycle: 5000 cycles Operation force: can plug in and out	The product can work normally after test and satisfy product spec.	2
Connection port (Ethernet) reliability test	Operation cycle: (TBD) Operation force: can plug in and out the cable terminal	The product can work normally after test and satisfy product spec.	2
Connection port (power Jacket) reliability test	Operation cycle: 5000 cycles Operation force: can plug in and out	The product can work normally after test and satisfy product spec.	2
Button	Button test 10000 times	The product can work normally after test and satisfy product spec.	3

## 12. Package

### 12.1 Size of Gift box

Mark	Min	Typ	Max
L	221.5	222.0	222.5
W	214.5	215.0	215.5
T	54.5	55.0	55.5

(Unit: mm)

### 12.2 Image of Packaging



## 13. Notice

### 13.1 Storage and operational environment conditions

- ✓ The product shall be stored without high temperature and high humidity if not used for a long time.
- ✓ Any excess mechanical shock shall not be applied in order not to damage the product itself.
- ✓ Don't store and use in following environment.
  - Humidity environment where water condenses.
  - Freezing environment.
  - An atmosphere containing corrosive gas (sulfur, hydrochloric acid etc.).

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- Environment affected by organic solvents.
- An atmosphere containing combustible and volatile gases. (Cl<sub>2</sub>, NH<sub>3</sub>, SO<sub>x</sub>, NO<sub>x</sub> etc.).
- Dusty environment.
- Environment which generates strong electromagnetic field and static electricity.
- An atmosphere of hot air or close to fire.

### 13.2 Caution for use

- ✓ Do not disassemble, modify or repair this product.
- ✓ In case of smoke from product or strange smell or strange sound, pull out the battery and stop use.
- ✓ Stop use if the product is dropped.
- ✓ Battery life depends on the environment, communication frequency and battery performance.
- ✓ When used in a low or high temperature environment, battery life is shortened compared to nominal temperature.
- ✓ Don't touch the product when used in a low or high temperature environment or after use in that environment.
- ✓ Corrosion may be caused by chemical and harmful gases. Because harmful substances may cause harm to the human body, don't use the product in environments affected by them.  
※For the handling of batteries, refer to the separate manual.

### 13.3 Limitation of applications

- ✓ This product is designed to be used for general consumer as a premise. Don't use for the following applications which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property.
  - Aircraft equipment
  - Aerospace equipment
  - Undersea equipment
  - Power plant control equipment
  - Medical equipment
  - Transportation equipment (vehicles, trains, ships, etc.).
  - Traffic signal equipment
  - Disaster prevention /crime prevention equipment.
  - Application of similar complexity and / or reliability requirements to the applications listed in the above.



#### 14 Note on safety

- ✓ Don't cover the product with a flammable cloth or paper.
- ✓ If smoke out of the product or strange smell, pull out the battery and stop use.
- ✓ Don't disassemble, modify or repair this product.
- ✓ Stop use if the product is dropped.
- ✓ Don't place any flammable gases on the site that may leak.

#### 15 Notes on wireless certification

- ✓ This product is certified a radio device which applies proprietary SubGHz communication. Certification complies with the radio law, and has received technical standards conformity (no need to apply for a customer's license for use). Be sure to comply with following points upon usage.
  - Don't disassemble or remodel. Decomposition and remodeling are prohibited by law.
  - Don't peel off the label. It is not allowed to use product without label.
  - For certified region, please refer to the operation manual.

#### 16 Warranty for Product

##### 16.1 Warranty Period and its scope

- ✓ Please note that the only warranty that we provide regarding Product is its conformance to the Product Specification provided herein for 12 month from the delivery date ("Warranty Period").
- ✓ During the Warranty Period, in the event of defective Product, even if Product is used for the purpose, under the condition and in the environment specified in this Product Specification, we will at our option (a) promptly replace with the Product without defective, or (b) accept the return of the defective Product. The above shall constitute our entire liability with respect to defective of our Product.
- ✓ EXCEPT AS PROVIDED IN THE ABOVE, WE HEREBY DISCLAIM ALL OTHER WARRANTIES REGARDING THE PRODUCT AND ITS RELATED SOFTWARE, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

##### 16.2 Warranty exception

- ✓ You understand and agree that we have no liability for any defect or trouble of Products which caused by your mistake or fault in handling.
- ✓ Please note that you shall use the Product according to guide line for the safety described in this Product Specification and/or user manual which is provided to you separately ("Guide Line"). We

are not liable for safety of the Product when it is used other than any way described in the Guide Line.

- ✓ We have no liability to the Product even in the Warranty Period, if it falls under one of the following items.
  - Defective Product and/or damage caused by use of the Product other than any way described in the Guide Line.
  - Defective Product and/or damage caused by repair, modification by you or any third party other than us without our prior consent.
  - Defective Product and/or damage caused by accidental fall and careless handling after delivery.
  - Defective Product and/or damage caused by natural disaster such as fire disaster, earthquake, pollution, wind, flood, lightning strike, and salt pollution, and physical or electric load over the normal condition.
  - Defective Product caused by degradation and expendable part.
  - Defective Product caused by product or device other than the Product.
- ✓ You agree and understand that we are not liable to you or to any of your customers for any damages of system, life, body injury, and property of third party caused by defective Product, and for any damages caused by measurement data of our Product.
- ✓ WE SHALL NOT BE LIABLE TO YOU OR TO ANY OF YOUR CUSTOMERS FOR ANY LOSS OF PROFIT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR RELATING TO THE USE OF THE PRODUCT OR FOR ANY ERROR OR DEFECT IN THE PRODUCT. OUR ENTIRE LIABILITY AND OUR SOLE AND EXCLUSIVE REMEDY FROM ANY CAUSE OF THE PRODUCT INCLUDING, WITHOUT LIMITATION, NONPERFORMANCE OR MIS-REPRESENTATION AND REGARDLESS OF THE FORM OF ACTION, WHETHER IN CONTRACT, TORT, OR ANY OTHER LEGAL THEORY, IS LIMITED TO THE PRICE OF APPLICABLE PRODUCT.