

Reliability Test Report

Product Name: LoRa Module

Product Model: Ra-01SH

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No.	Item	Test Conditions	Quantity	Test Results
1	Low temperature storage test	Test conditions: -40°C Test duration: 8h After restoring to -25°C and a 1-hour soak, perform a cold start test.	6PCS	PASS
2	High temperature storage test	Test conditions: 100°C Test duration: 8h After restoring to 85°C and a 1-hour soak, perform a hot start test.	6PCS	PASS
3	Low temperature operation test	Test conditions: -40°C Test duration: 24h	6PCS	PASS
4	High temperature operation test	Test conditions: 85°C Test duration: 24h	6PCS	PASS
5	AC power on/off test with temperature	A) Temperature: -40°C B) Temperature: 25°C C) Temperature: 85°C Cycle each condition 100 times, with 120s ON and 60s OFF	6PCS	PASS

1. Low Temperature Storage Test

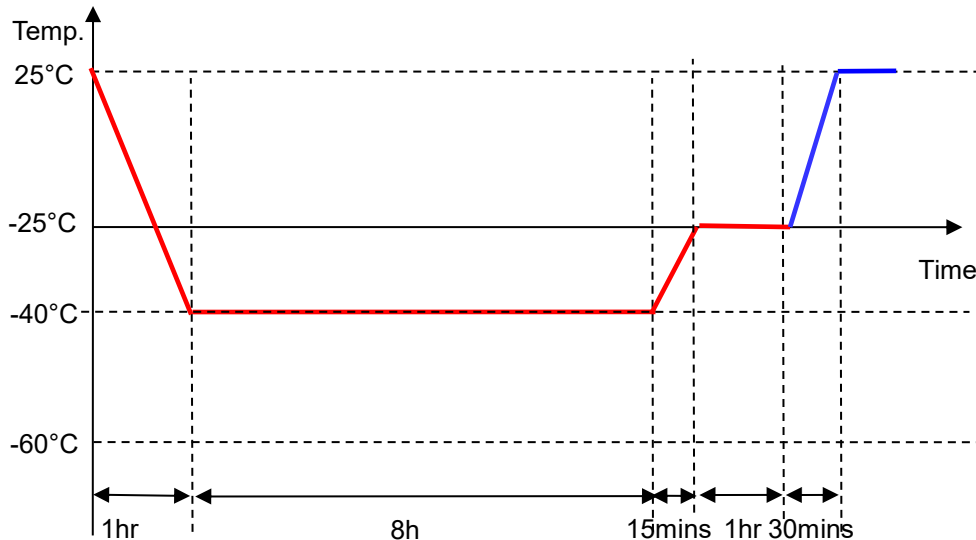
Sample Quantity: 6PCS

Test Conditions: Power-off test. Store the product at -40°C for 8h, then restore it to -25°C for a 1-hour soak, and perform a cold start test.

Test Profile:

Is Power Off


Is Power On



Test Criteria:

1. During cold start, the module functions normally with stable communication and signal.
2. After the test, the product shows no visible damage such as shrinkage, peeling, or discoloration.

Test Results:

Sample Quantity	Test Data	Test Results
Unit 1	1 transmitter, 5 remaining receivers, LEDs lit	PASS
Unit 2		PASS
Unit 3		PASS
Unit 4		PASS
Unit 5		PASS
Unit 6		PASS

2. High Temperature Storage Test

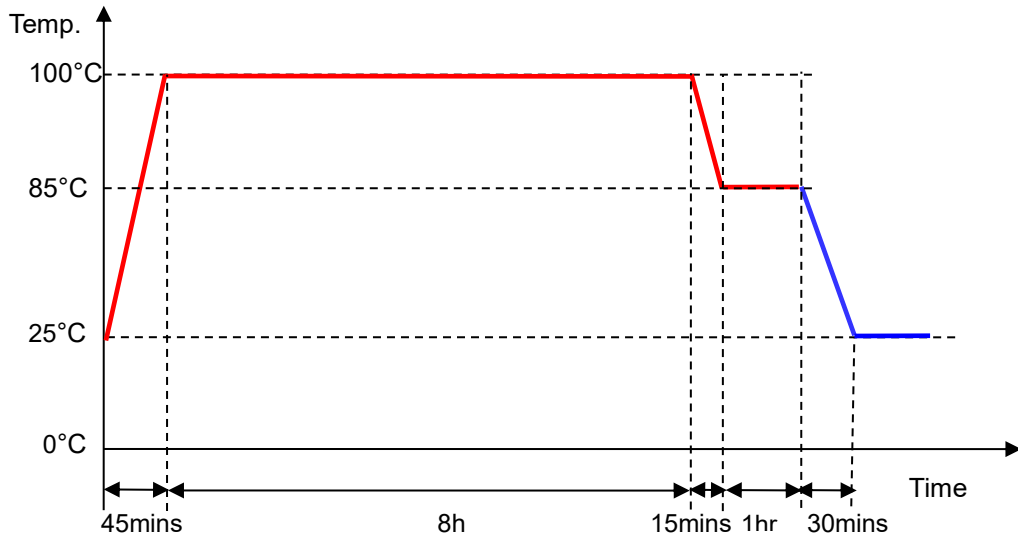
Sample Quantity: 6PCS

Test Conditions: Power-off test. Store the product at 100°C for 8h, then restore it to 85°C for a 1-hour soak, and perform a hot start test.

Test Profile:

Is Power Off


Is Power On



Test Criteria:

1. During hot start, the module functions normally with stable communication and signal.
2. After the test, the product shows no visible damage such as shrinkage, peeling, or discoloration.

Test Results:

Sample Quantity	Test Data	Test Results
Unit 1	1 transmitter, 5 remaining receivers, LEDs lit	PASS
Unit 2		PASS
Unit 3		PASS
Unit 4		PASS
Unit 5		PASS
Unit 6		PASS

3. Low Temperature Operation Test

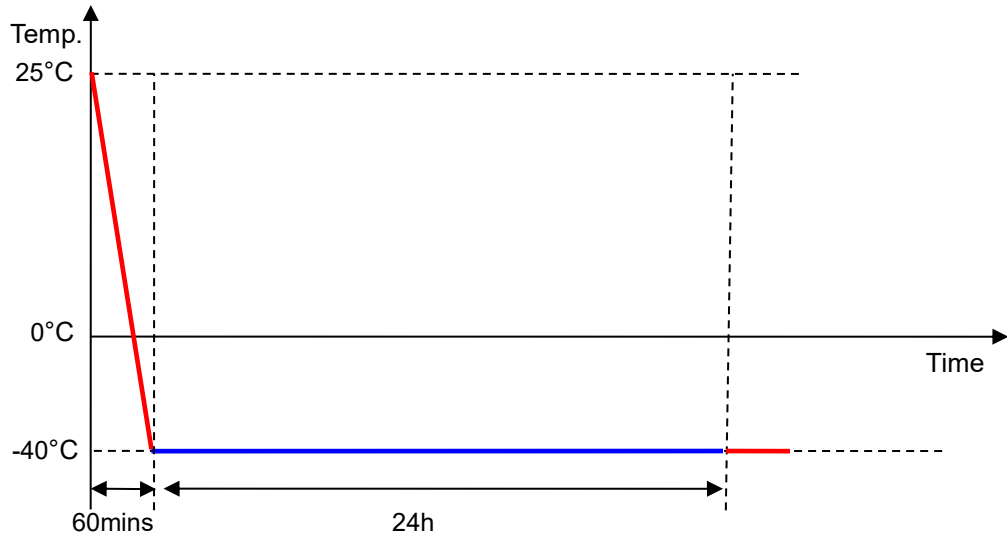
Sample Quantity: 6PCS

Test Conditions: Power-on test. Operate at -40°C for 24h.

Test Profile:

Is Power Off

Is Power On



Test Criteria:

1. No reboot or crash occurs during the test; the module can connect to the network and communicate normally with a stable signal.

2. After the test, the product shows no visible damage such as shrinkage, peeling, or discoloration.

Test Results:

Sample Quantity	Test Data	Test Results
Unit 1	1 transmitter, 5 remaining receivers, LEDs lit	PASS
Unit 2		PASS
Unit 3		PASS
Unit 4		PASS
Unit 5		PASS
Unit 6		PASS

4. High Temperature Operation Test

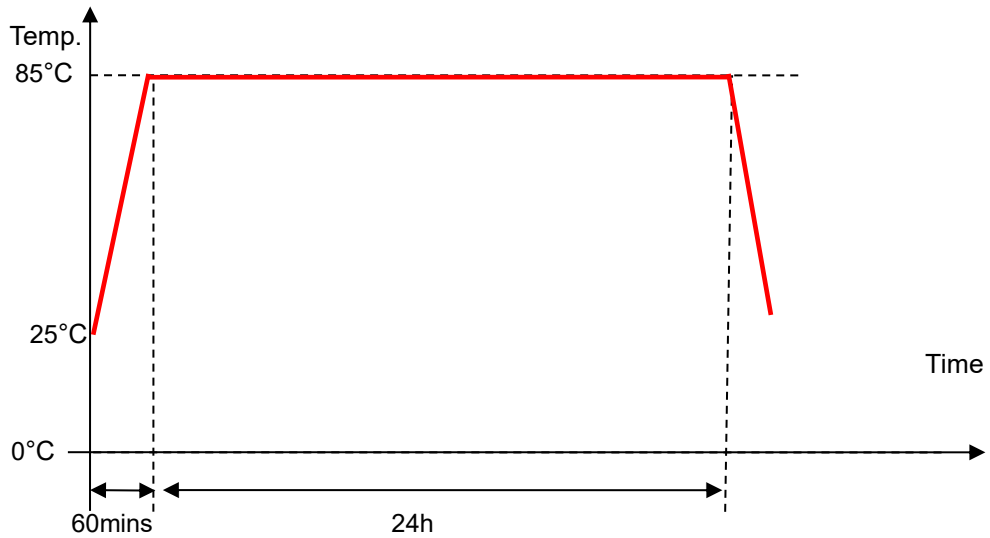
Sample Quantity: 6PCS

Test Conditions: Operate at 85°C for 24h.

Test Profile:

Is Power Off

Is Power On




Test Criteria:

1. No reboot or crash occurs during the test; the module can connect to the network and communicate normally with a stable signal.

2. After the test, the product shows no visible damage such as shrinkage, peeling, or discoloration.

Test Results:

Sample Quantity	Test Data	Test Results
Unit 1	1 transmitter, 5 remaining receivers, LEDs lit	PASS
Unit 2		PASS
Unit 3		PASS
Unit 4		PASS
Unit 5		PASS
Unit 6		PASS

5. AC Power On/Off Test with Temperature

Sample Quantity: 6PCS

Test Conditions: 1. Power on: 120s; power off: 60s.

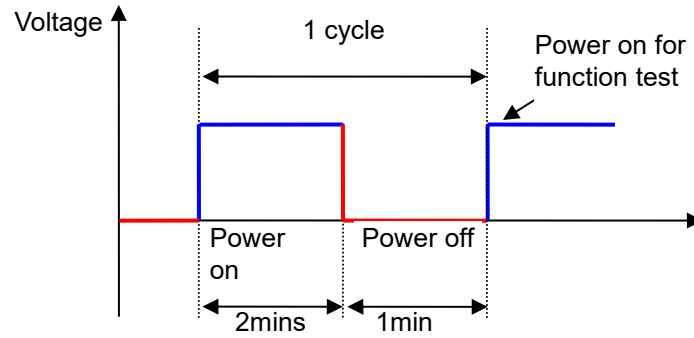
2. Temperature: -40°C, 25°C, 85°C.

3. Cycle: Each test condition cycles 100 times.

Test Profile:

 **Is Power Off**

 **Is Power On**



Test Criteria:

1. After power-up, the module boots normally.
2. After the test, the product shows no visible damage such as shrinkage, peeling, or discoloration.

Test Results:

1. After power-up, the module boots normally.
2. After the test, the product shows no visible damage such as shrinkage, peeling, or discoloration.