NK-2.4Y Evaluation Board
TB-NK2.4Y_IN
TB-NK2.4Y_OUT

Operation Guide

Version 1.0 (Oct 2017)

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GENERAL DESCRIPTION & FEATURES

General description

The TB-NK2.4Y_IN / TB-NK2.4Y_OUT allows you to evaluate the NK-2.4Y and perform simple switching tests. Communication range can be tested easily by pressing the switch and checking the appropriate LED on the output board.
During testing, link status of modules can be continuously monitored by looking at the LINK LED on both the input and output boards.

Note: Modules on the input and output boards are linked prior to shipment.

Features

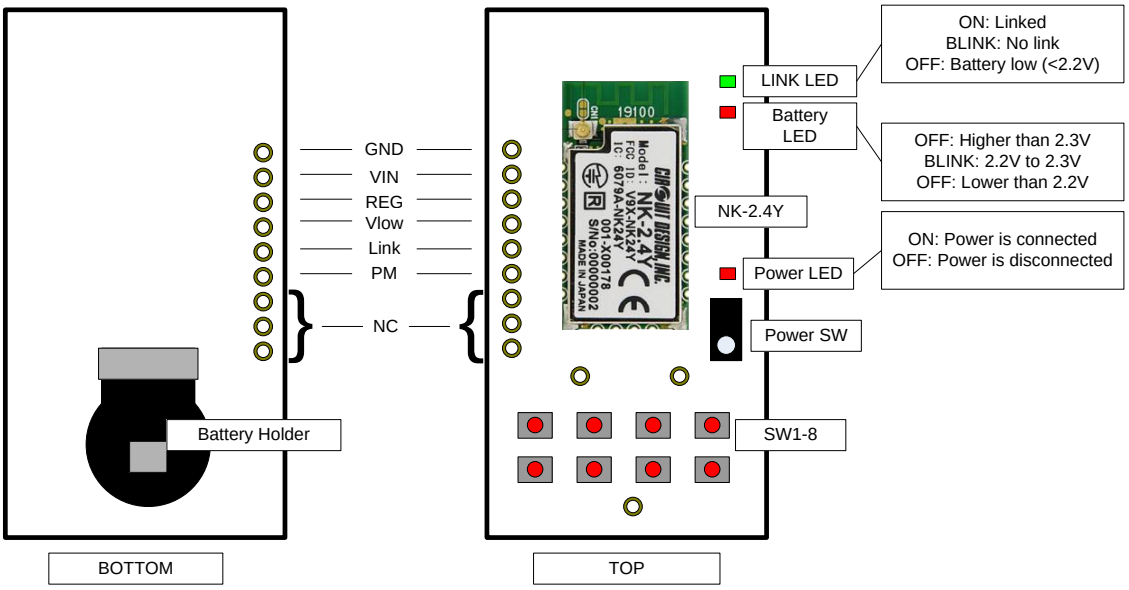
- 8-push buttons and output LEDs
- Power, Link and Low battery status indicator LEDs
- Operation with battery or external power supply
- Terminals for direct connection to the module

BOARD OVERVIEW

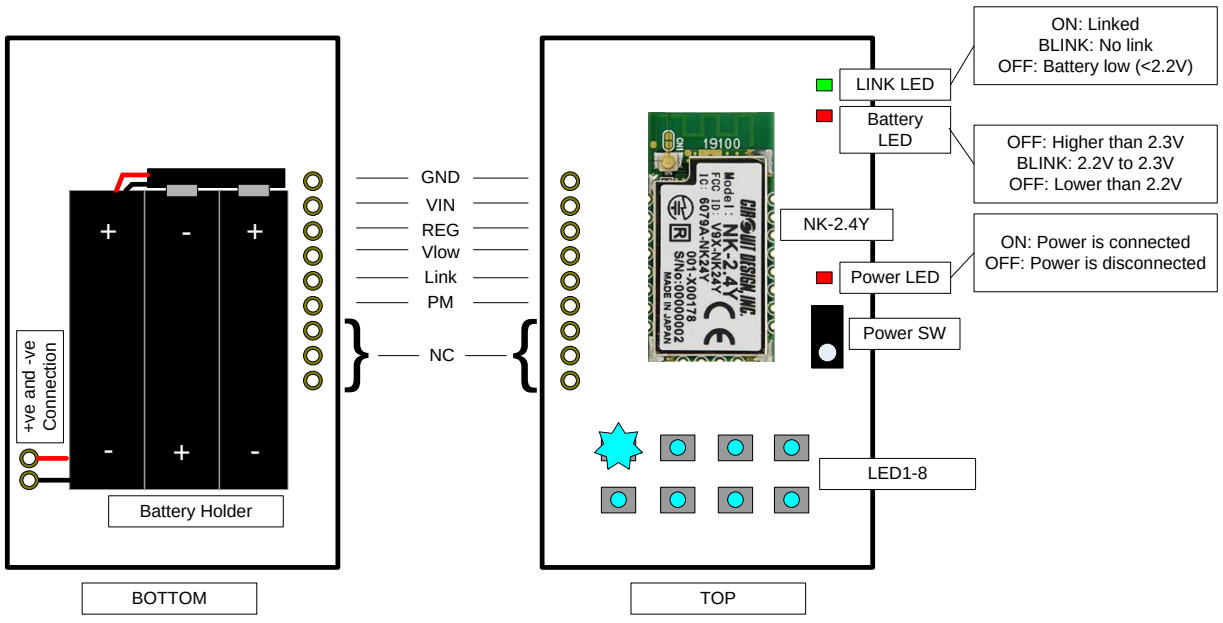
Power supply

- NK-2.4Y INPUT — 3 V (1 x CR2032)
- NK-2.4Y OUTPUT — 4.5 V (3 x 1.5V AAA)

- NK-2.4Y INPUT



- NK-2.4Y OUTPUT



CONNECTION FOR EXTERNAL DEVICE

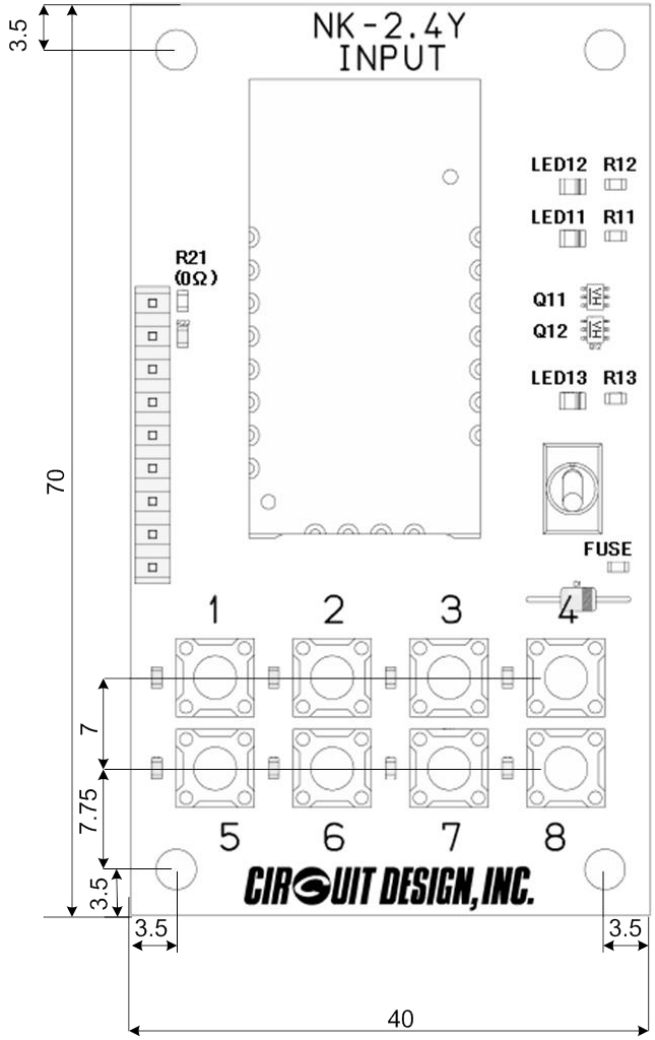
Both boards allow connection to external devices, eg. external LEDs, relays through the use of the following terminals as shown in the previous section. Please refer to the NK-2.4Y operation guide for more details on each terminal function.

Pin	Function
GND	Ground
Vin	Power supply terminal
REG	Outputs 2.1V of the internal circuit voltage
Vlow	Low voltage detection output
Link	Link status output terminal
PM	Pairing mode setting
NC	No connection

PAIRING USING NK-2.4Y INPUT AND OUTPUT BOARDS

Step	NK-2.4Y INPUT	NK-2.4Y OUTPUT
1	Connect PM terminal to GND	Connect PM terminal to GND
2	Turn Power SW ON	Turn Power SW ON
3	Disconnect PM from GND	Disconnect PM from GND
LED STATUS	*Link LED = OFF* *Battery LED = ON*	*Link LED = OFF* *Battery LED = ON*
4	Push SW1	
LED STATUS	*Link LED = ON* *Battery LED = OFF*	*Link LED = ON* *Battery LED = OFF*
5	Push SW2	
LED STATUS	*Link LED = ON* *Battery LED = ON*	*Link LED = ON* *Battery LED = ON*
Optional		If you wait 3 seconds, the Link LED will flash and battery LED will go OFF to confirm the link.
6	Turn main SW to OFF	Turn main SW to OFF

DIMENSIONS


NK-2.4Y
INPUT
LED12 R12
LED11 R11
R21
(0Ω)
Q11
Q12
LED13 R13
FUSE
1 2 3 4
5 6 7 8
3.5
70
7
7.75
3.5
3.5
3.5
40
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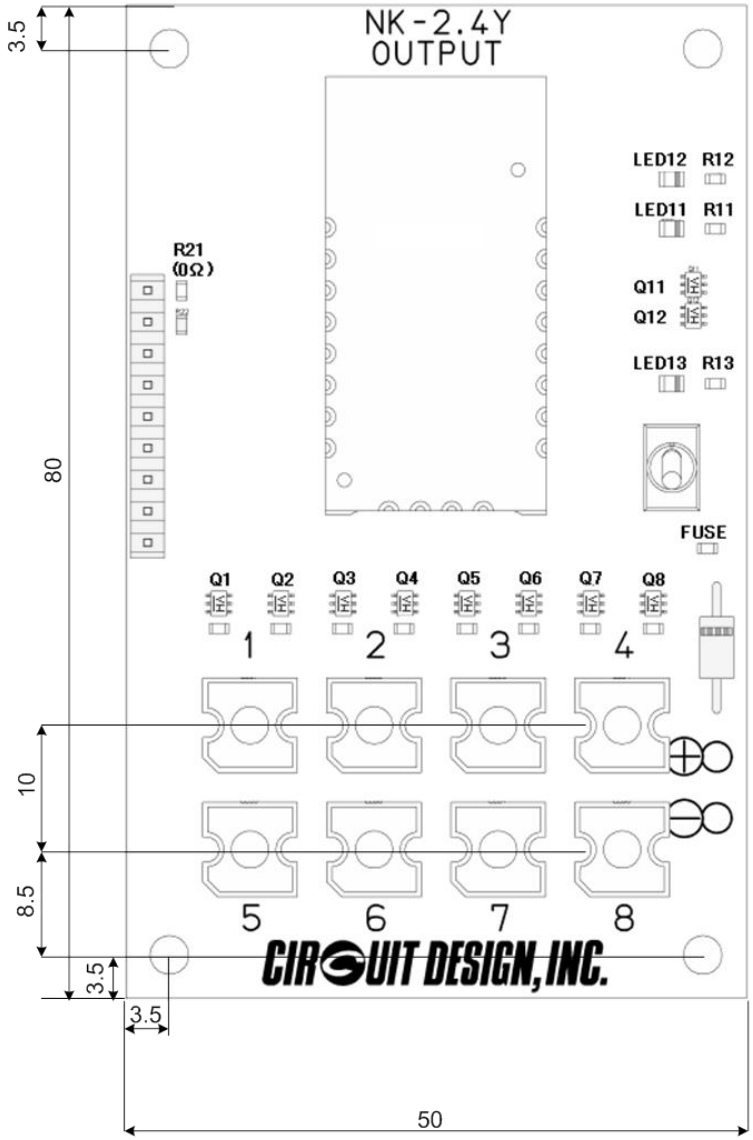
NK-2.4Y
OUTPUT
LED12 R12
LED11 R11
R21
(0Ω)
Q11
Q12
LED13 R13
FUSE
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8
1 2 3 4
5 6 7 8
3.5
80
10
8.5
3.5
3.5
50
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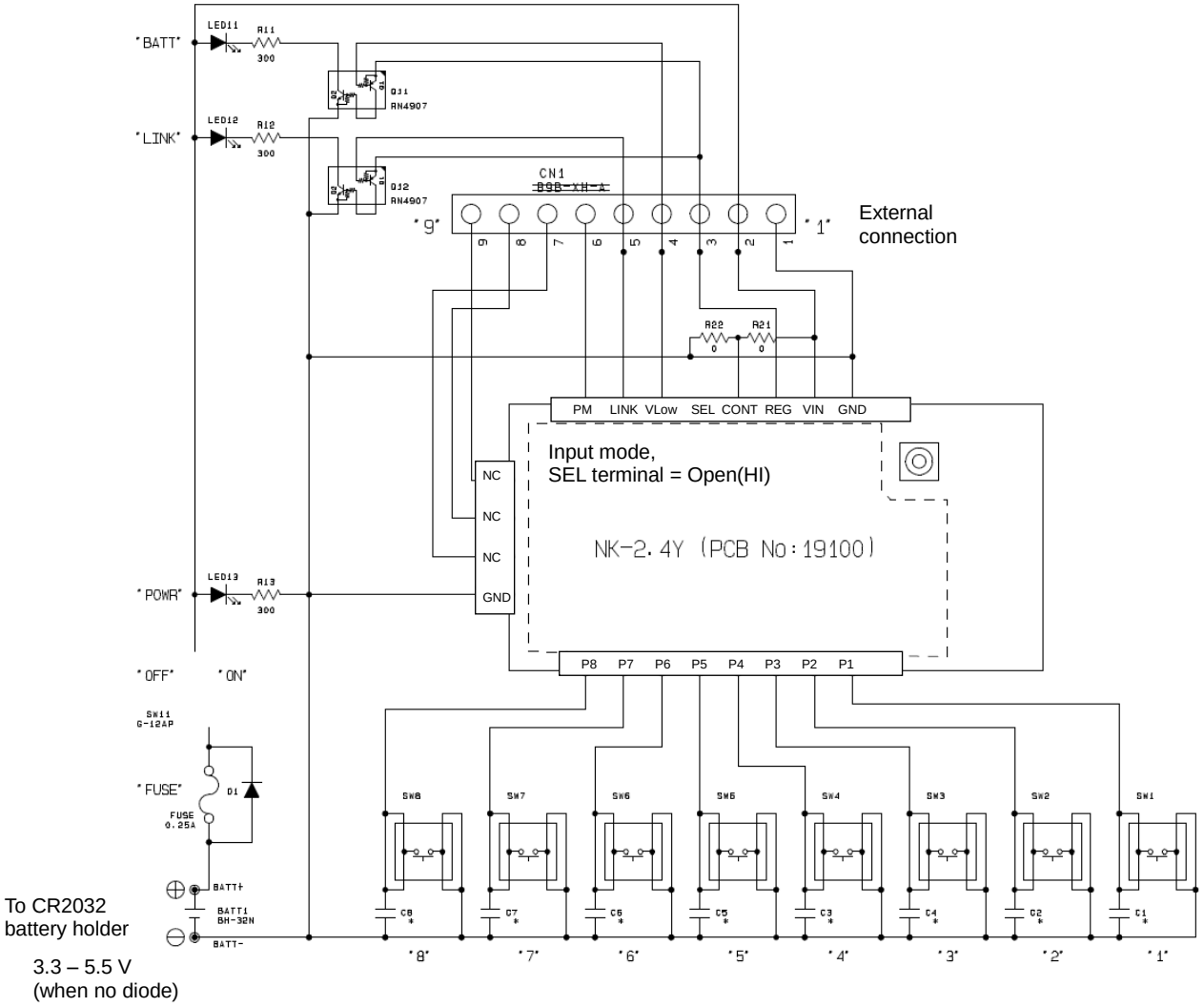
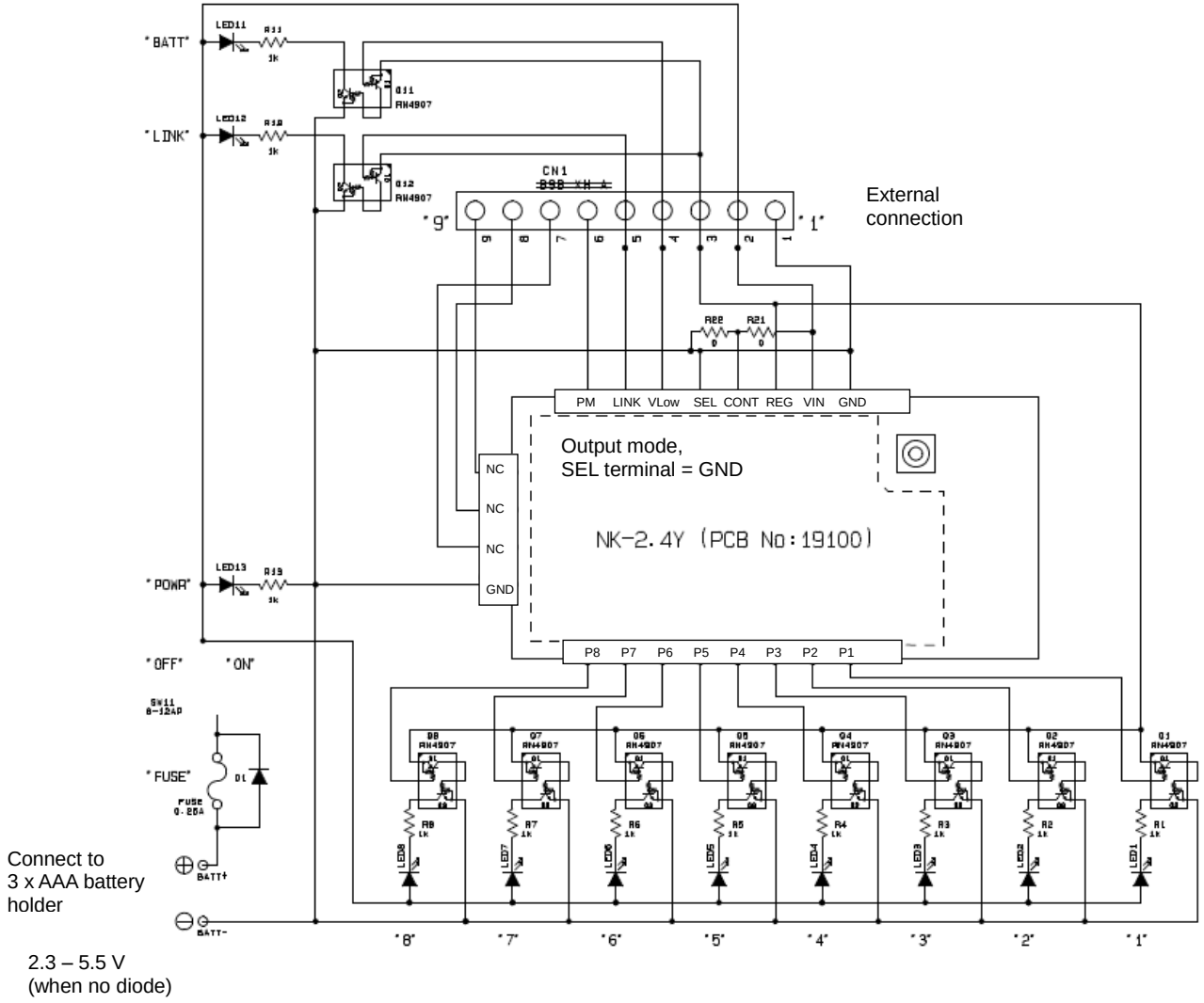
CIRCUIT DIAGRAM

NK-2.4Y Input



NK-2.4Y Output



Cautions

- As the product communicates using electronic radio waves, there are cases where transmission will be temporarily cut off due to the surrounding environment and method of usage. The manufacturer is exempt from all responsibility relating to resulting harm to personnel or equipment and other secondary damage.
- Do not use the equipment within the vicinity of devices that may malfunction as a result of electronic radio waves from the product.
- The manufacturer is exempt from all responsibility relating to secondary damage resulting from the operation, performance and reliability of equipment connected to the product.
- Communication performance will be affected by the surrounding environment, so communication tests should be carried out before actual use.
- Ensure that the power supply for the product is within the specified rating. Short circuits and reverse connections may result in overheating and damage and must be avoided at all costs.
- Ensure that the power supply has been switched off before attempting any wiring work.
- The case is connected to the GND terminal of the internal circuit, so do not make contact between the '+' side of the power supply terminal and the case.
- When batteries are used as the power source, avoid short circuits, recharging, dismantling, and pressure. Failure to observe this caution may result in the outbreak of fire, overheating and damage to the equipment. Remove the batteries when the equipment is not to be used for a long period of time. Failure to observe this caution may result in battery leaks and damage to the equipment.
- Do not use this product in vehicles with the windows closed, in locations where it is subject to direct sunlight, or in locations with extremely high humidity.
- The product is neither waterproof nor splash proof. Ensure that it is not splashed with soot or water. Do not use the equipment if water or other foreign matter has entered the case.
- Do not drop the product or otherwise subject it to strong shocks.
- Do not subject the equipment to condensation (including moving it from cold locations to locations with a significant increase in temperature.)
- Do not use the equipment in locations where it is likely to be affected by acid, alkalis, organic agents or corrosive gas.
- The GND for the product will also affect communication performance. If possible, ensure that the case GND and the circuit GND are connected to a large GND pattern.

Warnings

- Do not take apart or modify the equipment.
- Do not remove the product label (the label attached to the upper surface of the product.) Using a product from which the label has been removed is prohibited.

REVISION HISTORY

Version	Date	Description	Remark
1.0	Oct. 2017	The first issue	