

# Telecommand radio module NK-2.4Y

NK-2.4Y is an embedded input/output module which operates in 2.4 GHz band. In spite of small size and low power consumption, it achieves the communication range of 100 m (line of sight).

Our original frequency hopping protocol allows multiple modules to be used in one area simultaneously without concern about radio channels. With a fast input-output response time of 20 ms, a maximum of 8 switch inputs/outputs can be transmitted. Regarding an antenna, customers can select either internal PCB antenna or external antenna specified by Circuit Design.

Link signal output shows connection status, which help the user to stay within the signal coverage area.

## Features

- Module can be set to either input or output mode.
- CRC-16 Error Detection
- Achieves a Hamming distance of 6 to minimize malfunction
- Transmission of max 8 switching signals by connecting simple external circuitry
- Communication LOS: 100m
- Low current consumption (battery operation on 2 x 1.5v or 1 x lithium battery [CR2032])
- Rapid two way communication for confirmation of communication link status.
- 1:1 communication only
- Frequency hopping allows multiple systems in one area without concern about channel management
- FCC Part 15, IC RSS-247, ARIB STD-T66, EN300 440



## Applications

- Remote Tail lifts on trucks, Remote control of care lifts on welfare vehicles  
Shutter open and close



## Radio Part

Parameter	Specification	Remark
Applicable standard	FCC Part 15 / IC RSS-247 ARIB STD-T66 / EN300 440	
Communication method	Simplex	Two-way between paired modules
Communication range	100 m	Line of sight
Communication mode	1:1	(Input mode: Output mode)
Number of RF channels	-	
Frequency	2403 to 2479 MHz	Frequency Hopping
Operating Temp Range	-30 to +65 degree C	
Antenna	Internal pattern antenna or specified external antennas	
Supply Voltage	2.2 to 5.5 V	
Input / Output response	30 to 60ms	
Communication bitrate	250 kbps	
Weight	3.2 g	
Dimension	35.3 x 17.8 x 3.5 mm	
Soldering Conditions	Hand Soldering Soldering iron temp: 350C within 3 sec	

## NK-2.4Y (Input mode)

Parameter	Specification	Remark
RF output	1.4mW	(+20%, -80%)
Supply Current	Typ. 3 mA ave.	
Inputs	8 Switch inputs	
Input voltage range	-0.3 V to REG+0.3 V	REG = Internal voltage 2.058 to 2.142 V
Input voltage threshold	Low Level: 0.4 V (max) High Level: 1.7 V (min)	
Hamming Distance	6	

## NK-2.4Y (Output mode)

Parameter	Specification	Remark
Supply Current	When linked: Typ. 7 mA ave. During linking: Typ. 14 mA ave.	
Outputs	8 switch outputs	
Output voltage range	0.3 V to REG+0.3 V	REG = Internal voltage 2.058 to 2.142 V
Output voltage threshold	Low Level: 0.9 V (max) High Level: 1.1 V (min)	
Output holding time when communication shutdown	400 ms typ.	