Features

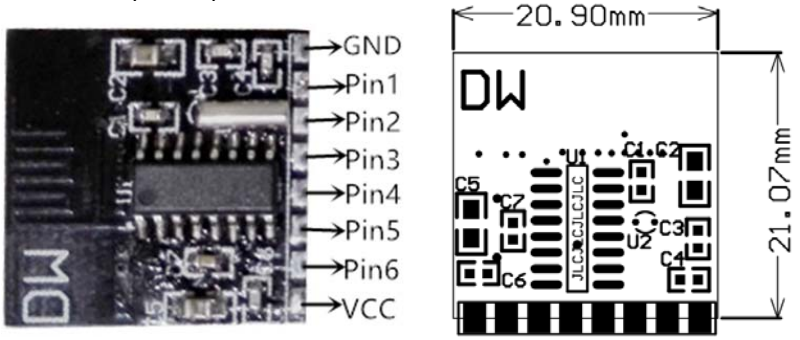
- Operating voltage: 2.7V ~ 3.6V
- Operating temperature: -40°C ~ 85°C
- Operating frequency 2.402G ~ 2.482G
- Maximum support 3 * 3 matrix keys
- Each key corresponds to a waveform
- Maximum transmission distance up to 100 meters
- Green Device Available

Applications

- Toy
- Switch
- Industrial control

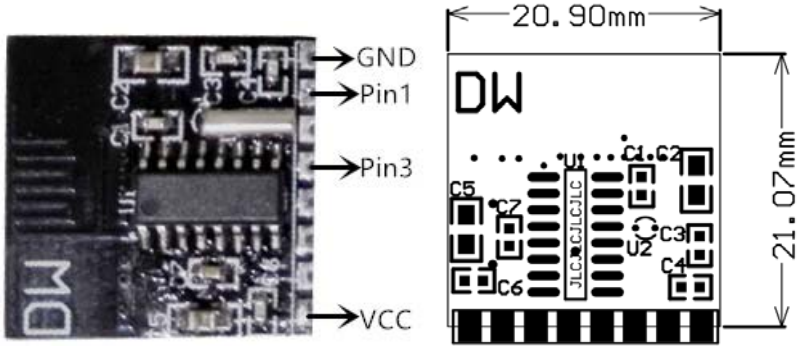
Module preview

- Send Module (T1.0)：



Number	Pin Name	Functional Description
1	GND	Ground
2	Pin1	Output of scanning
3	Pin2	Output of scanning
4	Pin3	Output of scanning
5	Pin4	Input of scanning
6	Pin5	Input of scanning
7	Pin6	Input of scanning
8	VCC	Power Supply

- Receiver Module(R1.0)：



Number	Pin Name	Functional Description
1	GND	Ground
2	Pin1	Output for enable signal
3	Pin2	Undefined
4	Pin3	Output for data
5	Pin4	Undefined
6	Pin5	Undefined
7	Pin6	Undefined
8	VCC	Power Supply

Absolute Maximum Ratings

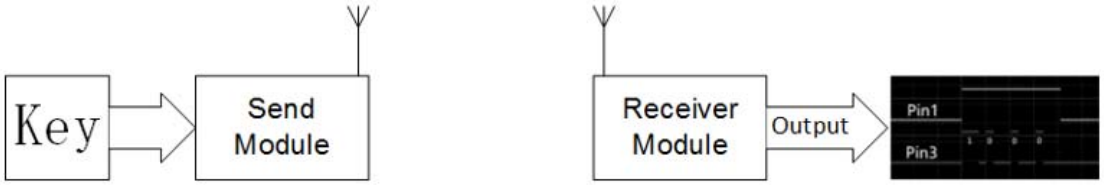
Parameters	Symbol	Limits	Unit
Power Supply Voltage	V_{DD}	3.6	V
Input Voltage	V_{IN}	-0.3~V_{DD}+0.3	V
Output Voltage	V_{OUT}	-0.3~V_{DD}+0.3	V
Power Dissipation(T_C=25℃)	P_D	0.03~0.07	W
Storage Temperature Range	T_{STG}	-50~ 150	℃
Operating Junction Temperature Range	T_J	-25~ 125	℃

Electrical Characteristics

Parameter	SYM	MIN	TYP	MAX	Unit
Operating Voltage	V_{DD}	2.7	-	3.6	V
Sent Module Current	I_{TQ}	-	-	1.3	mA
Receiver Module Current	I_{SQ}	-	-	19	mA
Output Low Voltage	V_{IL}	V_{SS}	-	0.3V_{DD}	V
Output High Voltage	V_{IH}	0.7V_{DD}	-	V_{DD}	V

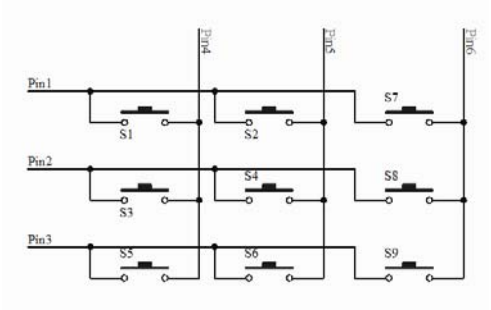
User instructions:

- Application Overview

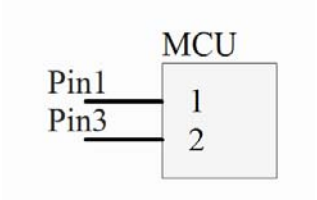


- Peripheral circuits

Send Module peripheral circuits:



Receiver Module peripheral circuits:

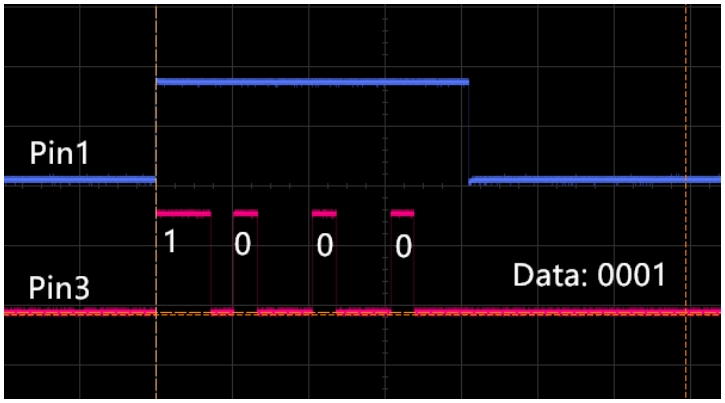
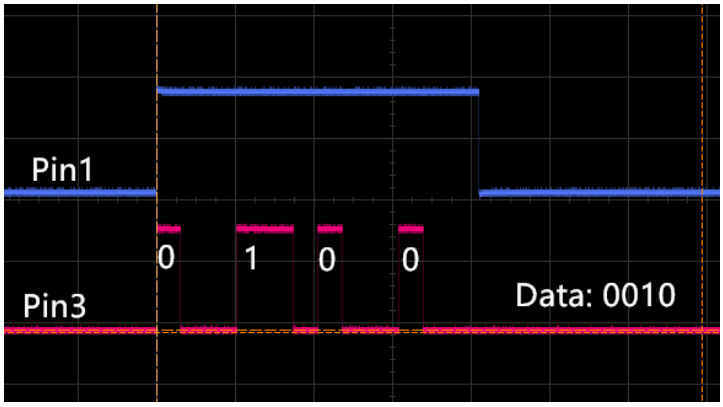
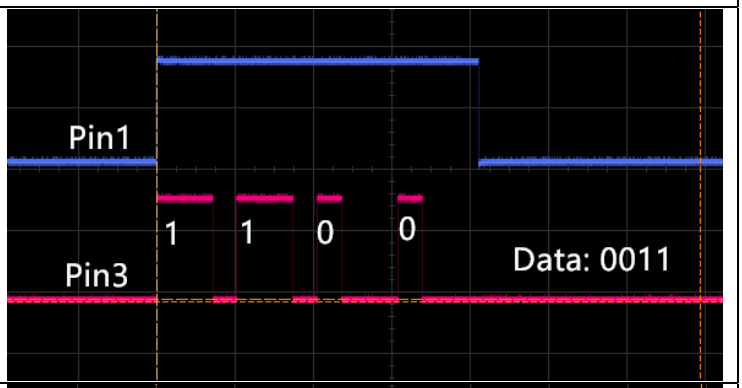
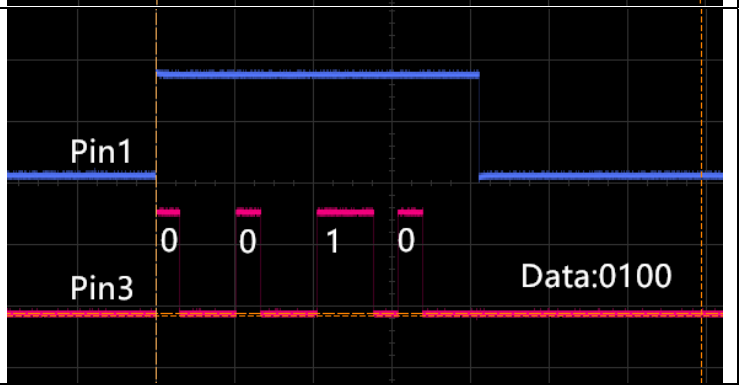


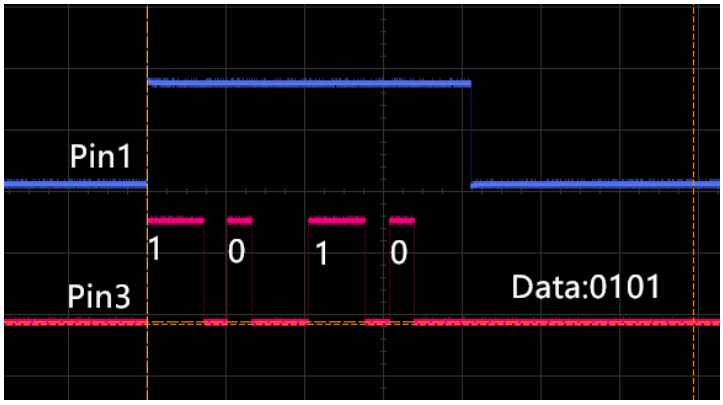
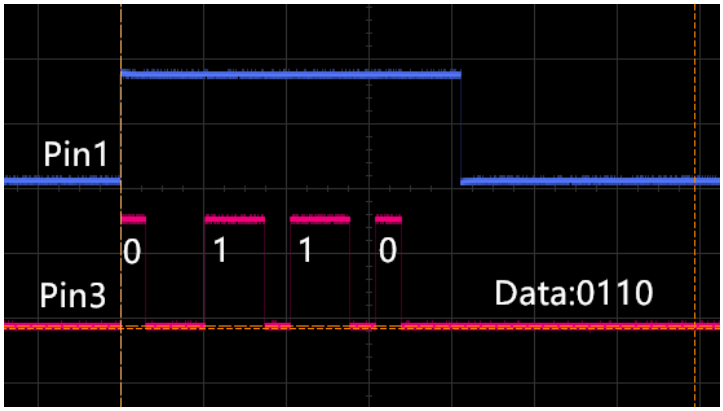
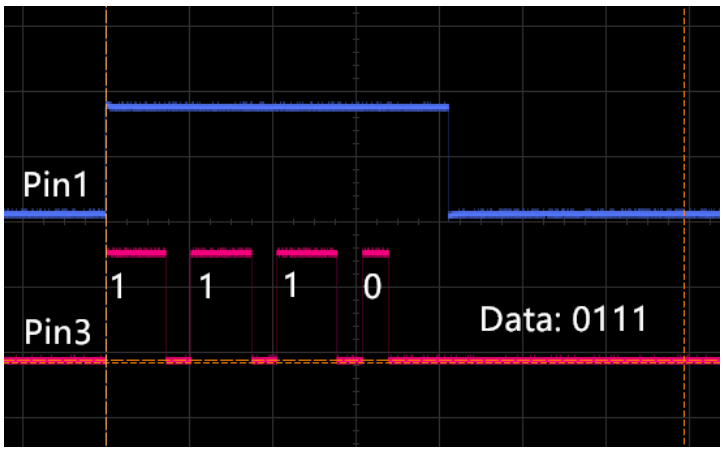
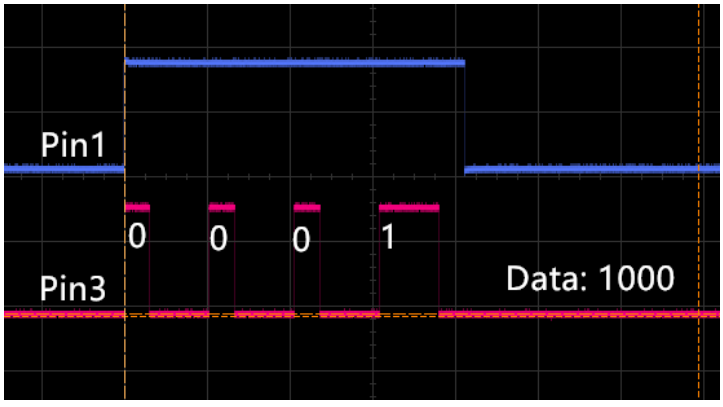
- Explanation

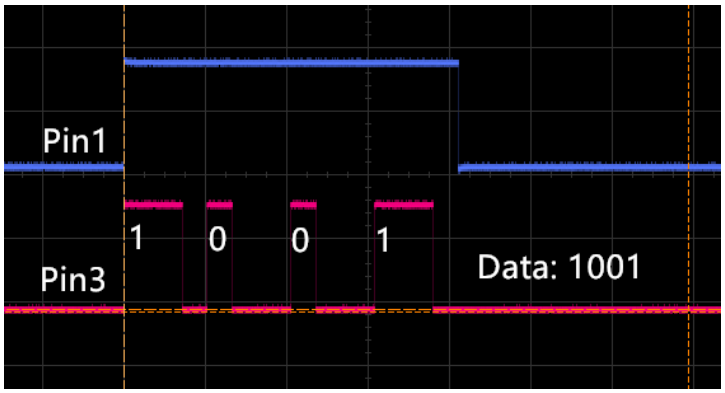
Information sent by the Send Module is come from matrix key, The Send Module maximum support 3 * 3 matrix of cases. When a button press and release, it will send the key information to the Receiver Module. After receiving the data, the Receiver Module output corresponding waveform. Details as follows：

In the oscilloscope, Pin 1(blue) is enable signal; Pin 3(pink) signal is data signal. Each data signal has four cycles and each cycle about 10ms. If the data is the signal 1, it will output high for 7ms, low for 3ms. If the data is the signal 0, it will output high for 3ms, low for 7ms. The data format is four binary numbers, first transmitted data is low.

NO.1:0001, NO.2:0010, NO.3:0011, NO.4:0100, NO5.0101, NO.6:0110, NO.7:0111, NO.8:1000, NO.9:1001.

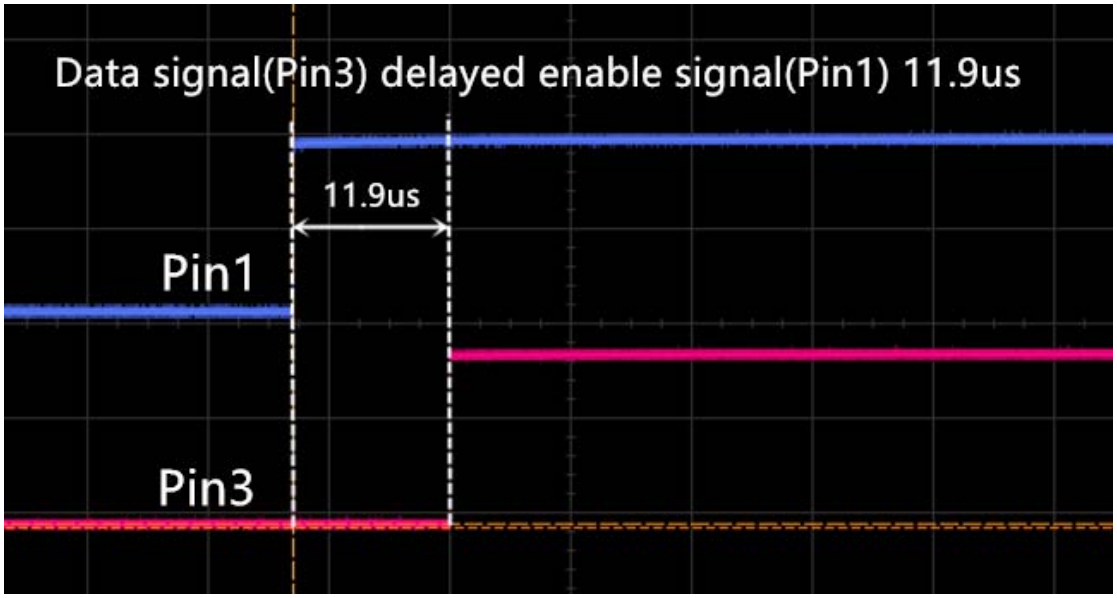
No. 1 key corresponding output waveform	
No. 2 key corresponding output waveform	
No. 3 key corresponding output waveform	
No. 4 key corresponding output waveform	

No. 5 key corresponding output waveform	
No.6 key corresponding output waveform	
No.7 key corresponding output waveform	
No. 8 key corresponding output waveform	

No. 9 key corresponding output waveform	

- Details Description

  Send button is pressed and after the release signal to the time difference between the signal and the data signal is 11.9us, as follows:



Regulatory information for the OEMs and Integrators

The guidelines described within this document are provided to OEM integrators installing 2.4G module in notebook and tablet PC host platforms. Adherence to these requirements is necessary to meet the conditions of compliance with FCC rules, including RF exposure. When all antenna type and placement guidelines described herein are fulfilled the 2.4G Module may be incorporated into notebook and tablet PC host platforms with no further restrictions. If any of the guidelines described herein are not satisfied it may be necessary for the OEM or integrator to perform additional testing and/or obtain additional approval. The OEM or integrator is responsible to determine the required host regulatory testing and/or obtaining the required host approvals for compliance

. 2.4G module are intended for OEMs and host integrators only.

. The 2.4G Module must be operated with an access point that has been approved for the country of operation.

. Changes or modification to 2.4G Module by OEMs, integrators or other third parties is not permitted. Any changes or modification to 2.4G Module by OEMs, integrators or other third parties will void authorization to operate This module is not masked, and the end user needs to increase the mask.

Information to Be Supplied to the End User by the OEM or Integrator

The following regulatory and safety notices must be published in documentation supplied to the end user of the product or system incorporating the Amplified 2.4G Module, in compliance with local regulations.

Host system must be labeled with "Contains FCC ID: 2AIR5T10 ", FCC ID displayed on label.

The 2.4G Module must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Intel Corporation is not responsible for any radio or television interference caused by unauthorized modification of the devices included with the wireless adapter kit or the substitution or attachment of connecting cables and equipment other than that specified by Intel Corporation. The correction of interference caused by such unauthorized modification, substitution or attachment is the responsibility of the user. Intel Corporation and authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from the user failing to comply with these guidelines.

This device has been evaluated and shown compliant with the FCC RF Exposure limits under fixed exposure conditions (antennas are greater than 20cm from a person’s body)when installed in certain specific configurations.

The host system shall have a label showing: Contains FCC ID: 2AIR5T10

This product only used PCB antenna, The gain of antenna : 0dBi

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

15.105 Information to the user.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply

with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful

interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination.

The firmware setting is not accessible by the end user.

The final end product must be labelled in a visible area with the following: