Audience response system Module QL-RFM21X

Compliance
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.

Changes or modifications to this module not expressly approved by Guangzhou City Qile Technology Co., Ltd. may void the user's authority to operate this module.

NOTE: This module 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 module 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 module does cause harmful interference to radio or television reception, which can be determined by turning the module 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 receiver or clicker units.
• Increase the separation between the equipment and the product.
• Connect the affected equipment into an outlet on a circuit different from that to which the receiver's computer is connected.
• Consult your Qile service representative or an experienced radio TV technician for help.

1:Introduce

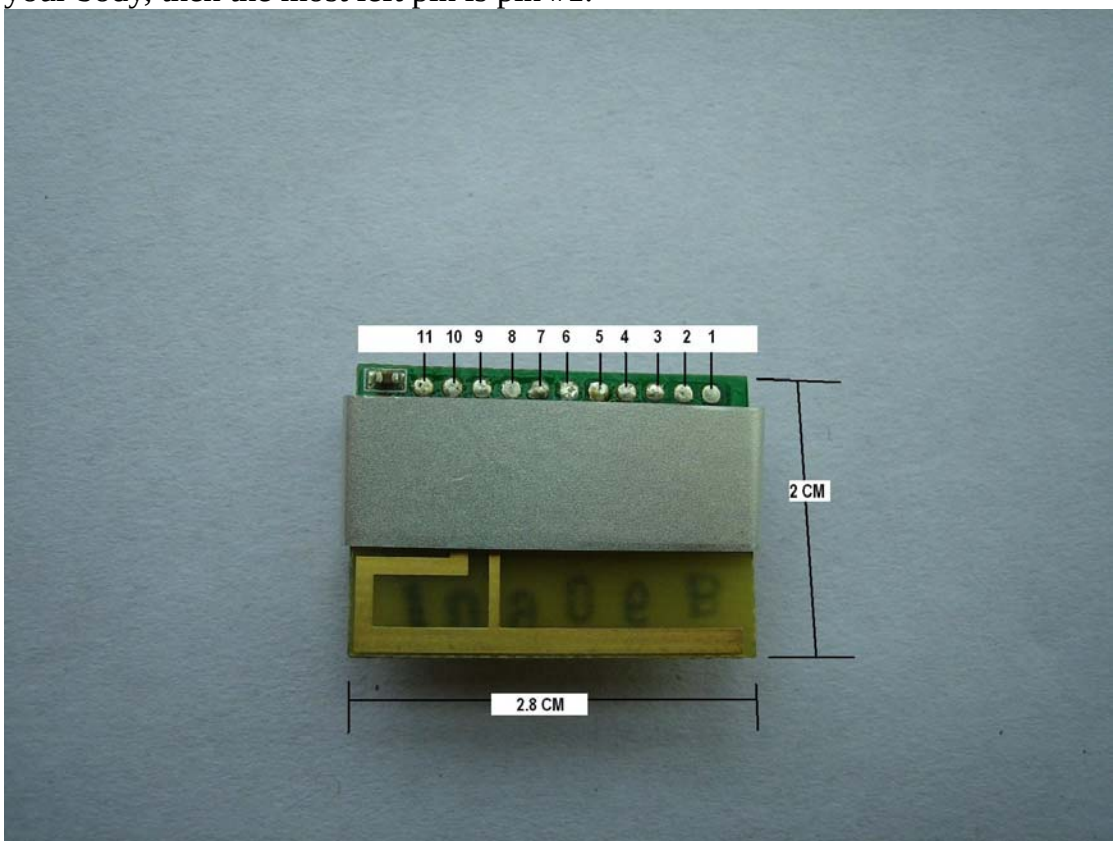
The Audience response system Module QL_RFM21X can be used as a drop-in subsystem component. The designer never has to care about things like impedance matching or soldering fine pitch devices.

This module is restricted to battery-operated devices with two 1.5 V DC batteries.

2.Pin definition and diagram

Pin Number	Signal
1	GDO1/SO
2	SCLK
3	SI
4	RX/TXDATA(GDO0)
5	GND
6	VDD
7	NC
8	NC
9	GDO2
10	NC
11	CSn

First place the module with the antenna on top and with the connector close to your body, then the most left pin is pin #1.



3.Operating Rang

Parameters	Min	Max	Unit
Supply Voltage	2.2	5.5	V
Temperature ambient	-10	60	℃

4.Electrical Specification

Tc=25℃,RFMOD_VDD=3V if nothing else stated

NO	Parameters	Min	Typ	Max	Unit	Condition
1	**Supply**					
1.1	supply voltage	2.2		5.5	V	
2	**Current consumption**					
2.1	power down mode		20		uA	
2.2	Idle mode		2		mA	
2.3	Rx states		20		mA	
2.4	Tx states		23		mA	
2.5	Voltage regulator current draw		10		uA	
3	**Transmitter Part**					
3.1	Tx data rate		250		Kbps	
3.2	Frequency range	2400		2483.5	MHz	
3.3	Spurious emissions 25MHz-1GHz 47-74,87.5-118,174-230,470-862MHz 1800-1900MHz At 2-RF and 3-RF Otherwise above 1GHz		 -36 -54 -47 -41 -30		 dBm dBm dBm dBm dBm	
4	**Receiver Part**					
4.1	Receiver sensitivity		-80		dBm	
4.2	Saturation		-13		dBm	
4.3	Adjacent channel rejection		21		dB	Desired channel 3 dB above the sensitivity limit. 750kHz channel spacing
4.4	Alternate channel rejection		30		dB	Desired channel 3 dB above the sensitivity limit. 750kHz channel spacing

5. Modulation Technology

Frequency Shift Keying (FSK)