

# XR819MQ Module Datasheet

IEEE 802.11 b/g/n WLAN

Version 1.1

June.26, 2017

## Revision History

Revision	Date	Notes
1.0	2017/5/26	Initial release version
1.1	2017/6/27	Change the Temperature range

# Declaration

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# 1. Introduction

XR819MQ product is designed base on XR819 chipset .It is a fully integrated 2.4G WLAN module to support 802.11 b/g/n. It is optimized for mobile applications such as PDAs and portable media players. The low power consumption and intelligent host off loading of beacon as well as the packet processing ensure better battery life. High sensitivity and transmitting power ensure long distance and robust connection. Highest level of integration allows very compact and cost effective reference designs delivering fast time-to-market for new WLAN enabled products.

## 2. Features

- Compatible with IEEE 802.11 b/g/n standard
- On-chip auto calibrations
- Intelligent adaptive power control for
  - Saving power consumption
  - Tolerating VSWR variation to maintain EVM performance
- WLAN solution with fully integrated
  - High power PA
  - TR switch
  - Internal impedance matching network
  - OFDM/CCK PHY processor
  - SDIO 2.0 host interface
- Support for 6 Mbps to 65 Mbps OFDM
  - 11 Mbps and 5.5 Mbps CCK and legacy
  - 2 Mbps and 1 Mbps DSSS data rates
- WiFi Direct support with concurrent operation
- Supports MAC enhancements including
  - 802.11d - Regulatory domain operation
  - 802.11e - QoS including WMM
  - 802.11h – Transmit power control dynamic and frequency selection
  - 802.11i - Security including WPA2 and WAPI compliance
  - 802.11r - Roaming
  - 802.11w - Management frame protection

## 3. Applications

- Tablet PC applications
- Portable media player(PMP) applications
- Portable gaming device(PGD) applications
- Smart internet TV box applications
- Internet of Thing (IOT)

## 4. General Specification

Item	Description
Product Name	XR819MQ
Major Chipset	XR819
Host Interface	SDIO 2.0
Standard	IEEE 802.11b,IEEE 802.11g,IEEE 802.11n
Frequency Range	2.4GHz — 2.484GHz
Modulation Type	802.11b:CCK,DQPSK,DBPSK; 802.11g:64-QAM,16-QAM,QPSK,BPSK; 802.11n:64-QAM,16-QAM,QPSK,BPSK;
Data Transfer Rate	1,2,5.5,6,6.5,9,11,12,13,18,19.5,24,26,36,39,48,52,54, 58.5 and maximum of 65Mbps
Sensitivity @PER	802.11b:(1M: -96dBm@8%, 11M: -89dBm@8%); 802.11g:(6M: -90dBm@10%, 54M: -73dBm@10%); 802.11n:(MCS0: -90dBm@10%, MCS7: -70dBm@10%);
RF Power	16±2dBm@11b,15±2dBm@11g ,14±2dBm@11n
Dimension(L*W*H)	12 x12x 0.8mm (LxWxH) ;Tolerance: +-0.1mm
Clock source	24MHz
Working Temperature	-20°C ~ +85°C
Storage temperature	-40°C ~ +85°C

## 5. Product appearance

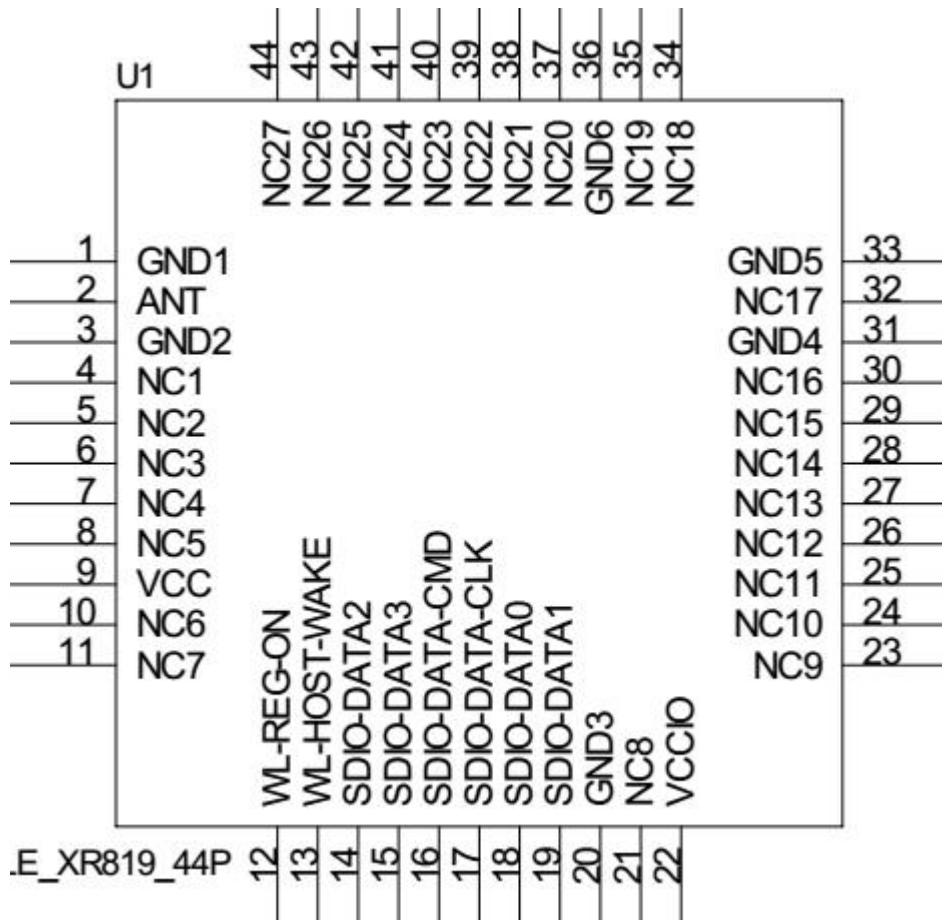
TOP



BOTTOM



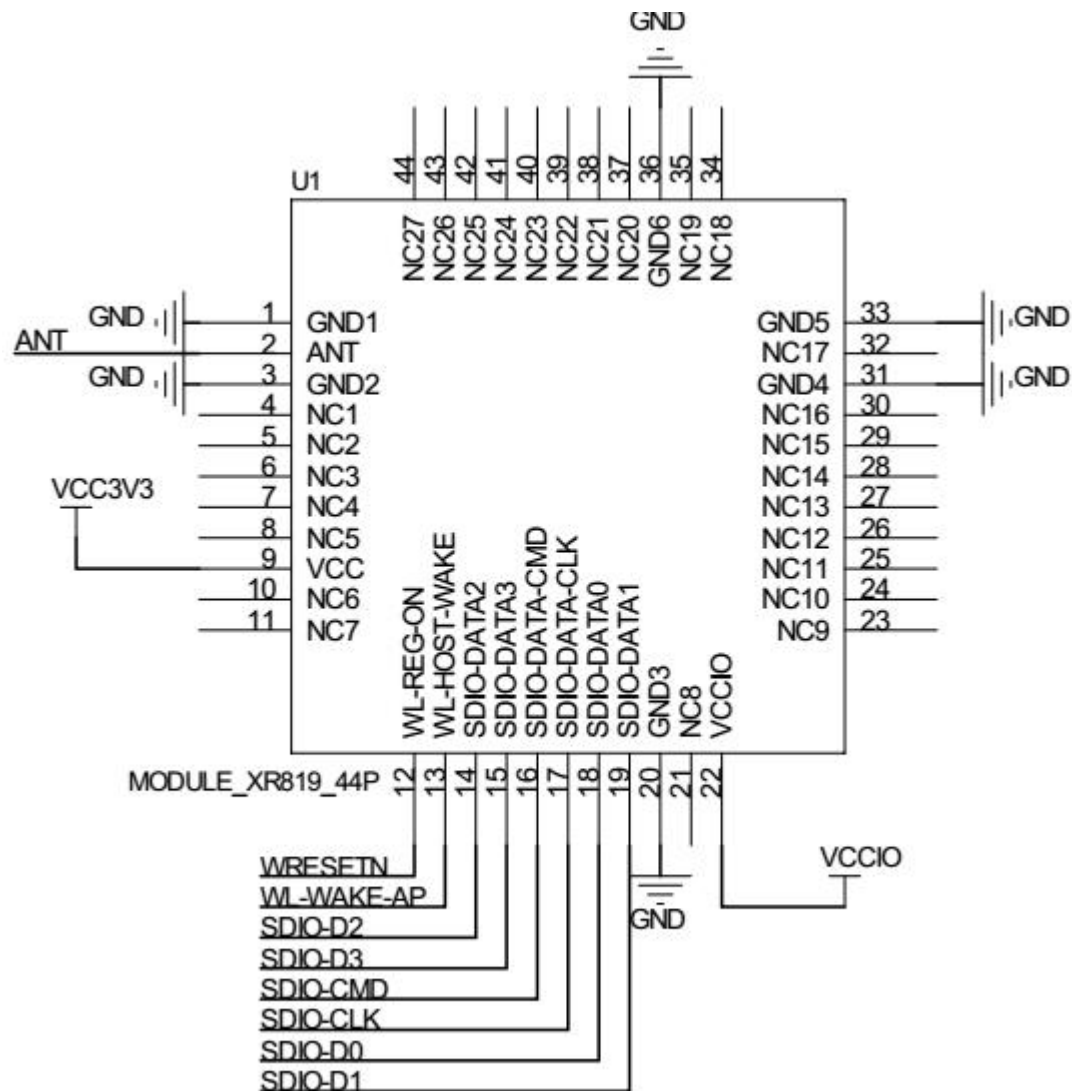
## 6. Pin List



Pin	Name	Description
1	GND1	GND
2	ANT	RF input/output port
3	GND2	GND
4	NC1	NC
5	NC2	NC
6	NC3	NC
7	NC4	NC
8	NC5	NC
9	VCC	3.3V Supply for module
10	NC6	NC
11	NC7	NC
12	WL-REG-ON	Reset, active low
13	WL-HOST-WAKE	WLAN wake-up HOST
14	SDIO-DOTA2	SDIO data2

15	SDIO-DOTA3	SDIO data3
16	SDIO-DOTA-CMD	SDIO command
17	SDIO-DOTA-CLK	SDIO clock
18	SDIO-DOTA0	SDIO data0
19	SDIO-DOTA1	SDIO data1
20	GND3	GND
21	NC8	NC
22	VDDIO	I/O voltage Supply input
23	NC9	NC
24	NC10	NC
25	NC11	NC
26	NC12	NC
27	NC13	NC
28	NC14	NC
29	NC15	NC
30	NC16	NC
31	GND4	GND
32	NC17	NC
33	GND5	GND
34	NC18	NC
35	NC19	NC
36	GND6	GND
37	NC20	NC
38	NC21	NC
39	NC22	NC
40	NC23	NC
41	NC24	NC
42	NC25	NC
43	NC26	NC
44	NC27	NC

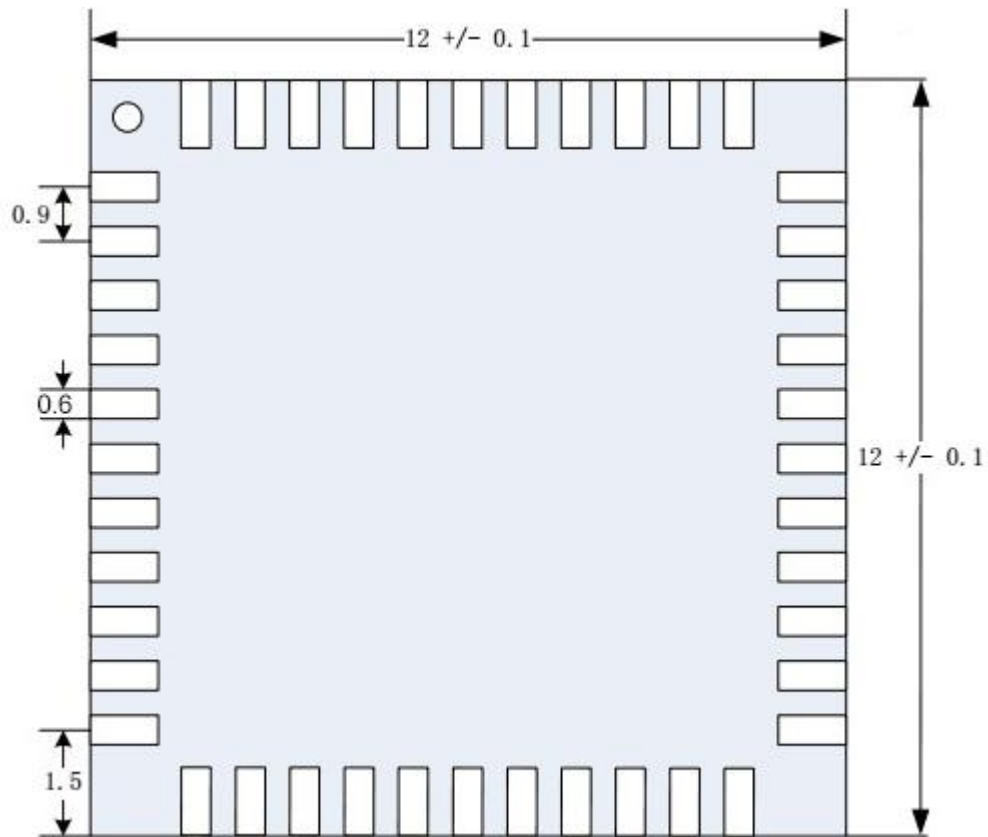
## 7. Reference design circuit



design note:

- 1、 The impedance of ANT line must be 50 ohm.
- 2、 The voltage supplied through the pin VCC should between 3.0V-3.6V.
- 3、 SDIO line cannot be longer than 150mm.
- 4、 VCCIO voltage to be consistent with the HOST I/O voltage between 2.5V-3.6V

## 8. Mechanical Specification



Unit : ( mm )

## 9. DC Characteristics

Symbol	Parameter	Min	Typ	Max	Unit
VCC	3.3V Supply for module	3.0	3.3	3.6	V
VCCIO	I/O voltage Supply input	2.5	3.0	3.6	V