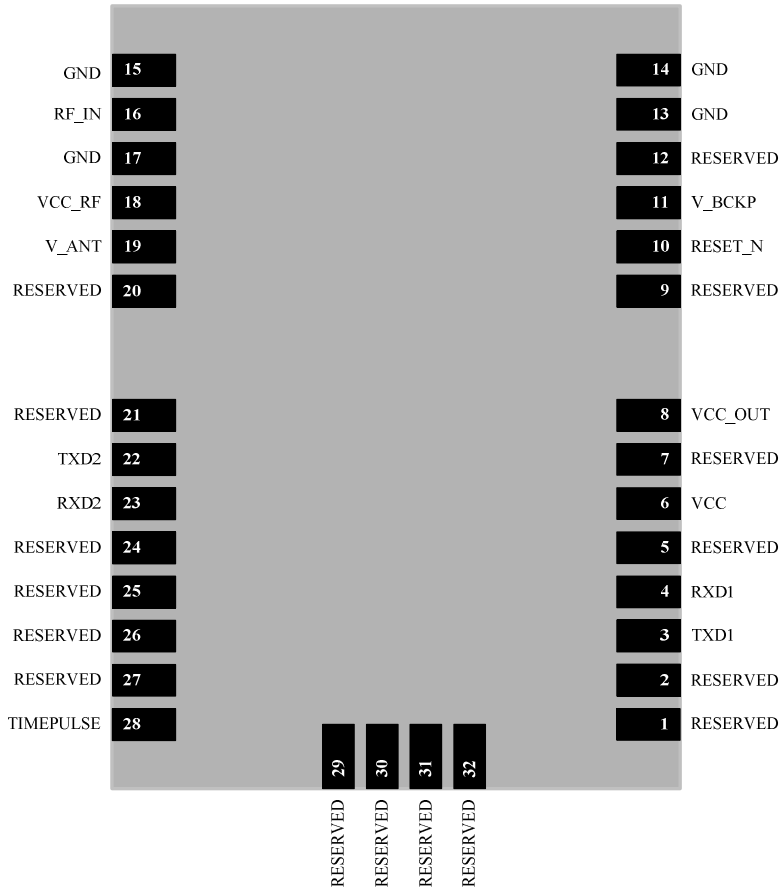
Electrical & Mechanics characteristics of L16

1 Electrical characteristics

1.1 Pin assignment of the module

(Top view)



1.2 Pin name

PIN NO.	PIN NAME	I/O		PIN NO.	PIN NAME	I/O
1	RESERVED			17	GND	
2	RESERVED			18	VCC_RF	O
3	TXD1	O		19	GND	
4	RXD1	I		20	RESERVED	
5	RESERVED			21	RESERVED	
6	VCC	I		22	TXD0	O
7	GND			23	RXD0	I
8	VCC_OUT	O		24	RESERVED	
9	RESERVED			25	RESERVED	
10	RESET_N	I		26	RESERVED	

11	V_BCKP	I		27	RESERVED	
12	RESERVED			28	TIMEPULSE	O
13	GND			29	RESERVED	
14	GND			30	RESERVED	
15	GND			31	RESERVED	
16	RF_IN	I		32	RESERVED	

Note: Please keep all RESERVED pins open.

1.3 Pin description

Power Supply				
PIN NAME	I/O	DESCRIPTION	DC CHARACTERISTICS	COMMENT
VCC	I	Supply voltage	V_{max}= 3.6V V_{min}=3.0V V_{norm}=3.3V	Supply current for no less than 200mA.
V_BCKP	I	Supply voltage for Backup	V_{max}=3.6V V_{min}=2.0V V_{norm}=3.3V I_{in}=75uA	Power supply for RTC when VCC is not applied for the system.
VCC_OUT	O	Output voltage	V_{max}= 3.6V V_{min}=3.0V V_{norm}=3.3V I_{max}=20mA	This pin is internally connected to VCC. If unused, keep this pin open.
VCC_RF	O	Output voltage RF section	V_{max}=3.6V V_{min}=3.0V V_{norm}=3.3V I_{max}=30mA	Usually supply for external active antenna. If unused, keep this pin open.
V_ANT	I	Supply voltage for active antenna	V_{max}=3.6V V_{min}=3.0V (V_{max} will support up to 5.5V when use external voltage source)	Using VCC_RF or external voltage source. If unused, keep this pin open.
Reset				
PIN NAME	I/O	DESCRIPTION	DC CHARACTERISTICS	COMMENT
RESET_N	I	System reset, low level active	VIL_{min}=-0.3V VIL_{max}=0.45V VIH_{min}=0.85V VIH_{max}=3.6V	Internally pulled up. If unused, keep this pin open.
General purpose input/output				
PIN NAME	I/O	DESCRIPTION	DC CHARACTERISTICS	COMMENT
TIMEPULSE	O	Time pulse (V_{ddio}=3.3V)	VOL_{max}=0.4V VOH_{min}=V_{ddio}-0.4V	1 pulse per second (1PPS). Synchronized at rising edge, pulse length 500ms. If

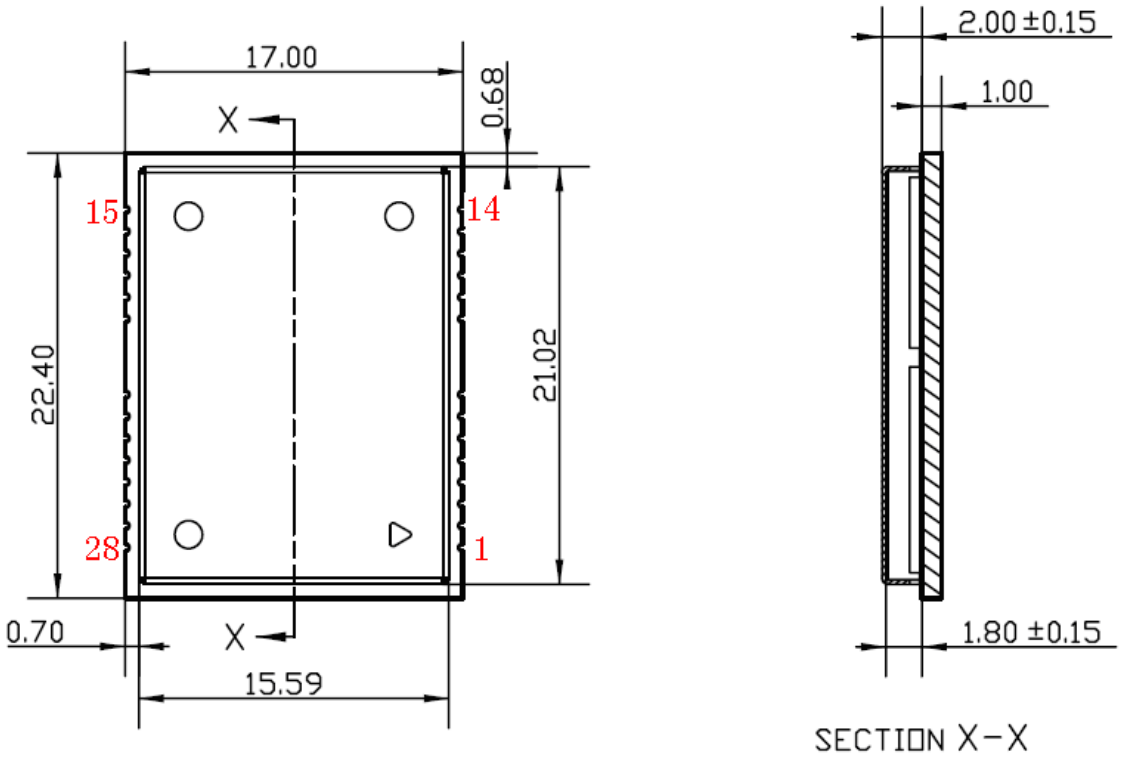
				unused keep this pin open.
UART port				
PIN NAME	I/O	DESCRIPTION	DC CHARACTERISTICS	COMMENT
RXD1	I	Receive data	VIL_{min}=-0.3V VIL_{max}=0.8V VIH_{min}=2.0V VIH_{max}= V_{ddio}+0.3V VOL_{max}=0.4V VOH_{min}= V_{ddio} -0.4V	Be used for NMEA port and upgrade port①.
TXD1	O	Transmit data		
RXD2	I	Receive data		Be used to output debug messages or upgrade port②. If unused, keep these pins open.
TXD2	O	Transmit data		
RF interface				
PIN NAME	I/O	DESCRIPTION	DC CHARACTERISTICS	COMMENT
RF_IN	I/O	GNSS signal input	Impedance of 50Ω	

① ②. Upgrade tool has two main modes: normal and recovery. When upgrade in the normal mode (default mode), the tool must be used on the NMEA port. While the recovery mode works with every UART port

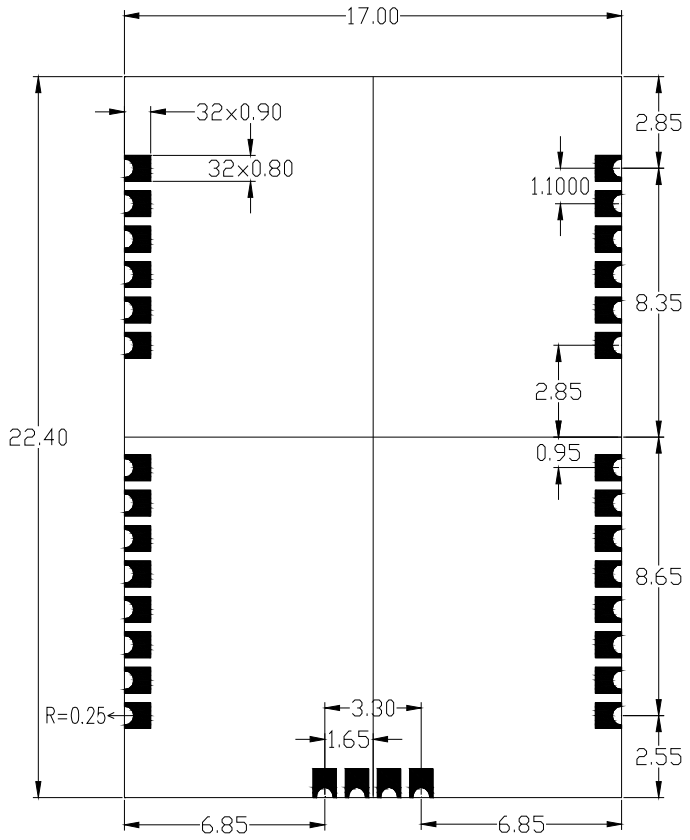
2 Mechanics

This chapter describes the mechanical dimensions of the module.

2.1 Mechanical dimensions of the module



L16 Top view and Side dimensions（Unit:mm）



L16 Bottom dimensions（Unit:mm）

2.2 Footprint of recommendation