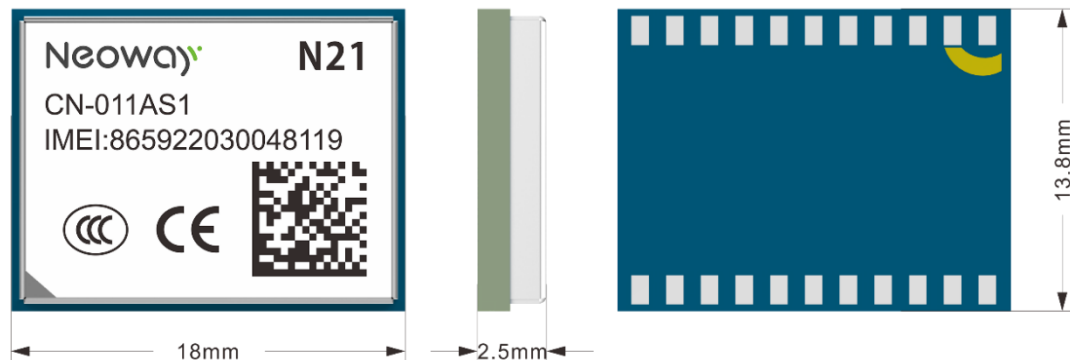


Uniform design for N21 & N11

March 14 . 2019

N21 size parameters

- LGA 22-pin, Mini-size for portable applications
- P2P compatible with 2G module N11

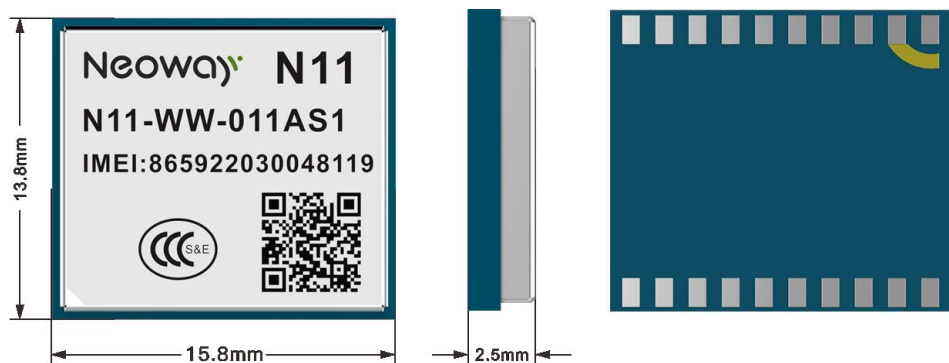


L: 18mm ($\pm 0.15\text{mm}$)
W: 13.8mm ($\pm 0.15\text{mm}$)
H: 2.5mm ($\pm 0.15\text{mm}$)
W: 1.3g ($\pm 0.2\text{g}$)



N11 size parameters

- LGA 20-pin, Mini-size for portable applications
- P2P compatible with NB IoT module N21



L: 15.8mm (± 0.15 mm)

W: 13.8mm (± 0.15 mm)

H: 2.5mm (± 0.15 mm)

W: 1.3g (± 0.2 g)



Pin Description

Signal N21	Signal N11	Pin N21	Pin N11	I/O	Function N21	Function N11	Level Common
GND		1			Ensure that all GND pins are connected to the ground.		
VBAT		2		PI	Main power input		3.3V to 4.3V, TYP: 3.9V
VBAT		3		PI			
GND		4					
PWRKEY_N	ON/OFF	5		DI	ON/OFF button. Triggered by low level to start or shut down the module.		
USIM_DATA		6		DIO	USIM data IO		Compatible with 1.8/3.0 V SIM card
USIM_CLK		7		DO	USIM clock		
USIM_RESET		8		DO	USIM reset		
USIM_VCC		9		PO	USIM power output. IOmax =50mA		
GND		10					
ANT 2.4GHz		11		AI/O	Antenna 2.4GHz		50 Ω impedance for traces
RESET_N		12		DI	Reset input.		Triggered by low level.
UART_RXD		13	11	DI	Data receiving		$0 < V_{IL} < 0.6$; $2.1 < V_{IH} < 3.1$
UART_TXD		14	12	DO	Data transmitting		$0 < V_{OL} < 0.42$; $2.38 < V_{OH} < 2.8$
DEBUG_UART_RXD		15	13	DI	Data receiving. Reserve a test point. Do not connect these pins to power supply or ground.		$0 < V_{IL} < 0.6$; $2.1 < V_{IH} < 3.1$
DEBUG_UART_TXD		16	14	DO	Data transmitting. Reserve a test point. Do not connect these pins to power supply or ground.		$0 < V_{OL} < 0.42$; $2.38 < V_{OH} < 2.8$
VDDIO_2P8		17	15	PO	2.8V power output. Used only for level shifting. Leave this pin floating if it is not used.		$V_{norm} = 2.8V$; $I_{max} = 50mA$
WAKEUP	DTR	18	16	DI	PSM wakeup input. Input high level for 1 second at this pin and the module wakes up.	Sleep mode control. Used together with AT commands.	
NET_LIGHT		19	17	DO	Network status indicator. Used with AT commands.		$V_{norm} = 2.8V$; $I_{max} = 4mA$
STATUS	RING	20	18	DO	Status indicator. Leave this pin floating if it is not used.	Ring output. Detect incoming voice calls or SMS messages.	$0 < V_{OL} < 0.42$ $2.38 < V_{OH} < 2.8$
GND		21	19				
ANT		22	20	AI/O			50 Ω impedance for traces

What should pay special attention

A. WAKEUP/DTR pin voltage level

Signal N21	Signal N11	Pin N21	Pin N11	I/O	Function N21	Level N21	Function N11	Level N11
WAKEUP	DTR	18	16	DI	PSM wakeup input. Input high level for 1 second at this pin and the module wakes up.	$0.68V < V_{IH} < 1.41V$ $-0.3V < V_{IL} < 0.36V$	Sleep mode control. Used together with AT commands.	$2.1V < V_{IH} < 3.1V$ $3V < V_{IL} < 0.6V$

B. Peak current consumption

N21	N11
500 mA	2 A

Q&A

