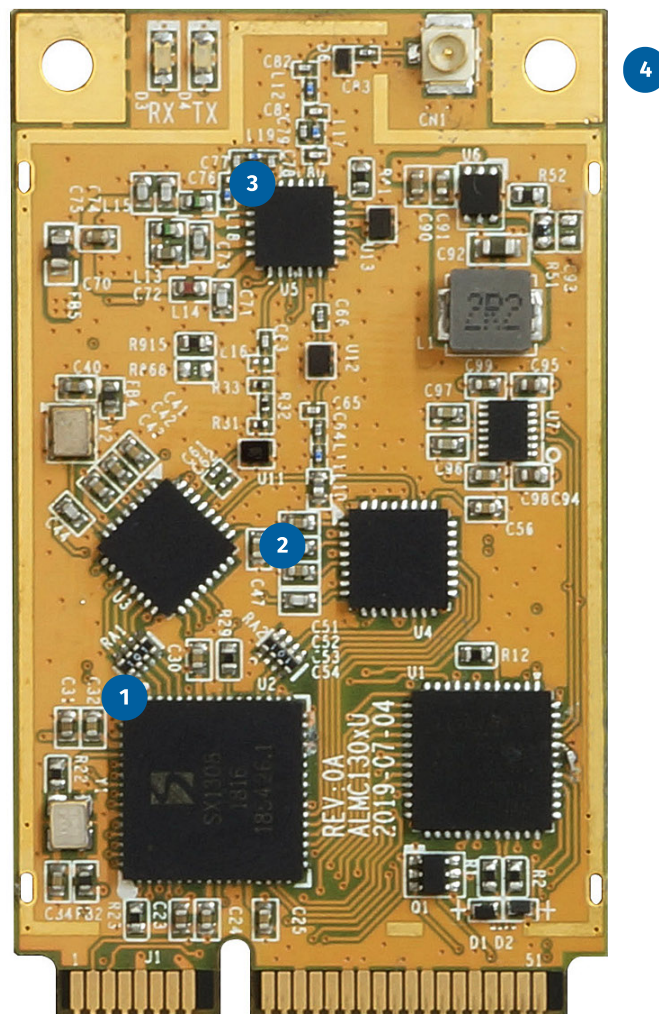




ALMC1301U is a full-size mini PCIe LoRaWAN™ concentrator module based on Semtech™ SX1301

The ALMC1301U concentrator module series allows building certified LoRaWAN™ gateways on any system equipped with standard mini PCIe slot and USB 2.0 interface.

Open source software and firmware availability, easy USB DFU based card's firmware upgrade and large community gathered around LPWAN technologies will help to kick start your LoRa™ network project.

Key features

- 1 Semtech™ SX1301 digital baseband chipset
- 2 Dual Semtech™ SX1257 transceivers
- 3 Skyworks™ SE2435L-R front-end
- 4 Standard mini PCIe form factor
- 5 USB 2.0 interface (with optional SPI)
- 6 Full body metal shielding design
- 7 RX/TX LED

Chipset	Semtech™ SX1301 + 2× SX1257
Frequency	863 ~ 870 MHz (EU) 902 ~ 928 MHz (US)
Modulation	LoRa™
TX power	21 dBm
RX sensitivity (EU, 125 kHz bandwidth)	-124 dBm (SF7) -138 dBm (SF12)
RX sensitivity (US, 125 kHz bandwidth)	-125 dBm (SF7) -139 dBm (SF12)
Antenna connector	1× IPEX/U.FL
Interface	USB 2.0 SPI (option)
LED	1× TX 1× RX
Form factor	full-size mini PCIe
Operating humidity	10 % ~ 90 % RH, non-condensing
Operating temperature	-40 ° ~ 85 ° C
Software	https://github.com/Lora-net/

Top		Bottom	
1	SPI CLK ¹	3.3 V	2
3	SPI MISO ¹	GND	4
5	SPI MOSI ¹	NC	6
7	SPI CS ¹	NC	8
9	GND	NC	10
11	NC	NC	12
13	NC	SPI RESET ¹	14
15	GND	BOOT0	16
Mechanical key			
17	NC	GND	18
19	NC	NC	20
21	GND	NRST	22
23	NC	3.3 V	24
25	NC	GND	26
27	GND	NC	28
29	GND	NC	30
31	NC	NC	32
33	NC	GND	34
35	GND	USB 2.0 D-	36
37	GND	USB 2.0 D+	38
39	3.3 V	GND	40
41	3.3 V	TX/RX LED	42
43	GND	NC	44
45	NC	NC	46
47	NC	NC	48
49	NC	GND	50
51	NC	3.3 V	52

¹⁾ reserved for SPI interface (option)