LL-LTE-M Modules | Data Sheet

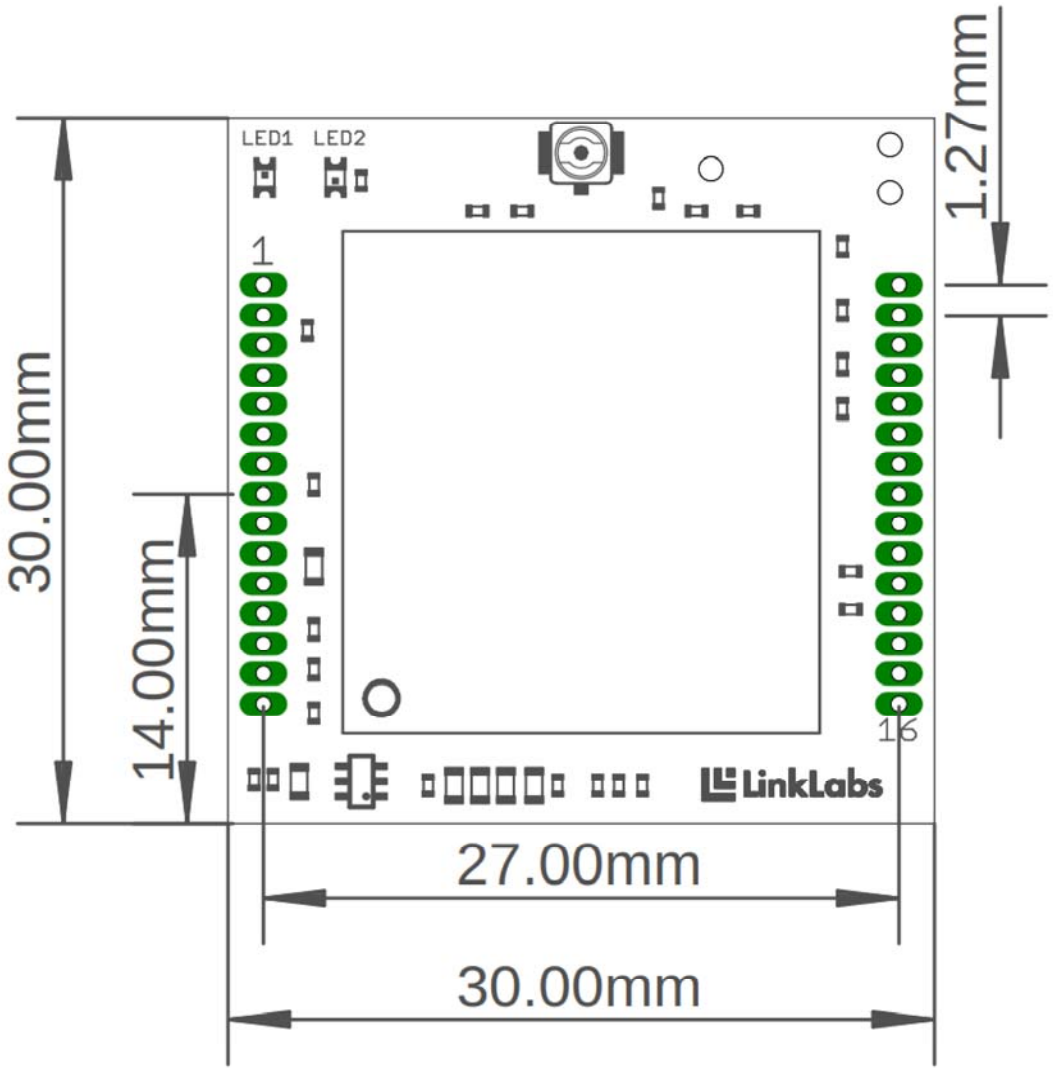
Hardware Specifications

RF Specifications	Value
Maximum Transmit Power	23 dBm
Receive Sensitivity	-103 dBm
Technology	LTE CAT-M1, 3GPP Release 13 Compliant
Modulation	QPSK, 16QAM
Supported LTE Bands*	B4 (AWS1700)/ B13 (700)
Security	Verizon VPN
Downlink Data Rate	300 kbps DL
Uplink Data Rate	375 kbps UL in HD-FDD, and 1 Mbps in FD-DD

Regulatory	**Value**
Regulatory Approvals	FCC (2AAGMVZM20Q), IC
Carrier Pre-Certification	Verizon
Market	North America
Electrical Specifications	**Value**
Supply Voltage	3.1-4.5 VDC
Peak Transmit Current	560 mA
Receive Current	330 mA
Idle Current/Sleep Mode	10 uA
Serial Data Interface	UART
Chipset	Link Labs / Sequans
Physical Specifications	**Value**
Dimensions	30 mm x 30 mm
Operating Temperature (RF Compliant)	-30 C to 60 C (Ambient Temperature)
Storage/Operating Temperature	-40 C to 85 C (Board)
Operating Humidity	10% to 85% (Non-condensing)

Footprint and Pinout

Footprint



Pinout

Pin #	Name	Type	Description
1	N/C	No Contact	Float
2	GND	Ground	Ground

3	PROG_RESET[1]	SWD Prog	External reset pin, active low
4	PROG_SWCLK[1]	SWD Prog	Module SWCLK programming
5	PROG_SWDIO[1]	SWD Prog	Module SWDIO programming
6	MOD_CTS	I	UART interface: Module CTS
7	MOD_RTS	O	UART interface: Module RTS
8	MOD_RXIN	I	UART interface: Module RX
9	MOD_TXOUT	O	UART interface: Module TX
10	GND	Ground	Ground
11	MOD_TX_DEBUG[2]	O	UART interface: Module Debug TX
12	MOD_RX_DEBUG[2]	I	UART interface: Module Debug RX
13	MOD_WAKE_STATUS/GPIO	O	Module Status Indicator
14	+1V8_IO	Output voltage	Power digital IO (1.8V)
15	V+	Input voltage	Supply Voltage (3.1-4.5V)
16	N/C	No Contact	Float
17	GND	Ground	Ground

18	SQN_UART1_RTS[3]	O	UART Interface: SQN_1 Debug RTS
19	SQN_UART1_CTS[3]	I	UART interface: SQN_1 Debug CTS
20	SQN_UART1_RX[3]	I	UART interface: SQN_1 Debug RX
21	SQN_UART1_TX[3]	O	UART interface: SQN_1 Debug TX
22	nBOOT	I	N/C = Boot Normally, GND = Bootloader
23	MOD_HOST_NOTIFY/IO0	O	Module Notify Host Indicator
24	MOD_WAKE_REQUEST/IO1	I	Module Wake Request from Host
25	GND	Ground	Ground
26	SQN_UART2_CTS[4]	I	UART interface: SQN_2 Debug CTS
27	SQN_UART2_RTS[4]	O	UART interface: SQN_2 Debug RTS
28	SQN_UART2_TX[4]	O	UART interface: SQN_2 Debug TX
29	3V3_IO1	Output Voltage	Power Digital IO (3.3V)
30	SQN_UART2_RX[4]	I	UART interface: SQN_2 Debug RX

[1]Module programming pins. Module comes pre-programmed with latest FW and bootloader. Float if not used.

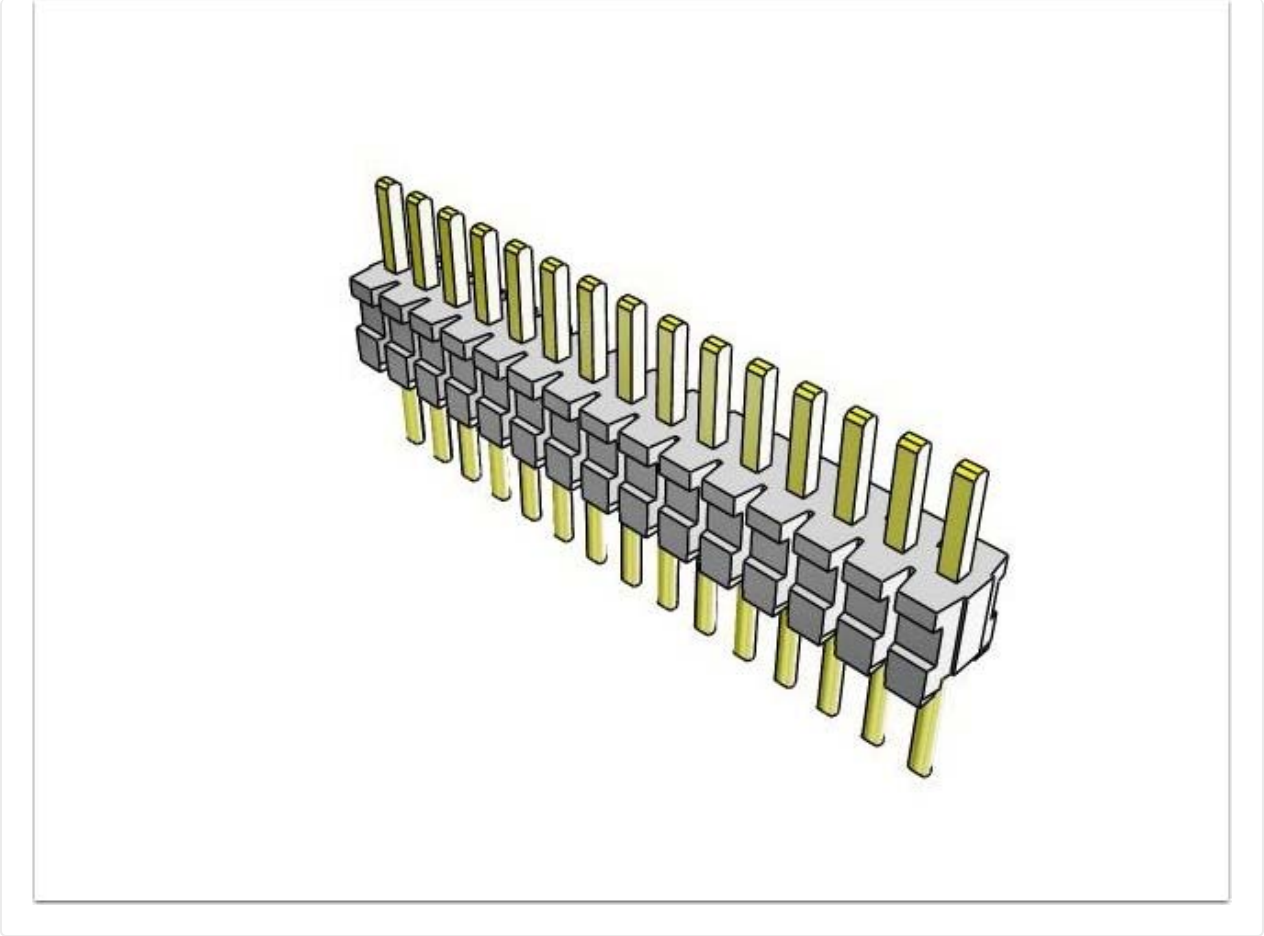
[2]Debug UART for module, Baud: 921600 (development only)

[3]Debug UART1 for SQN chipset. Baud: 115200 (development only)

[4]Debug UART2 for SQN chipset. Baud: 921600 (development only)

- All not connected pins should be floated.
- Default module UART baud rate is 115200 8n1 w/ HW flow control
- 1.8V IO used for logic level translation on SQN UART debug (development only). DO NOT use as 1.8V power source.
- 3.3V IO used for logic level translation for module UART. Low output current, NOT recommended for 3.3V power source other than lower current consumption level translation. Connect to programmer VCC if programming module.
- V+ lower than 3.5V will cause host logic level to be lower than 3.3V.
- RF connection is via U.FL connector.

Pin profile



The board uses 2x, 15 pin, TMS-115-02-F-S, connectors for mating to the host board.