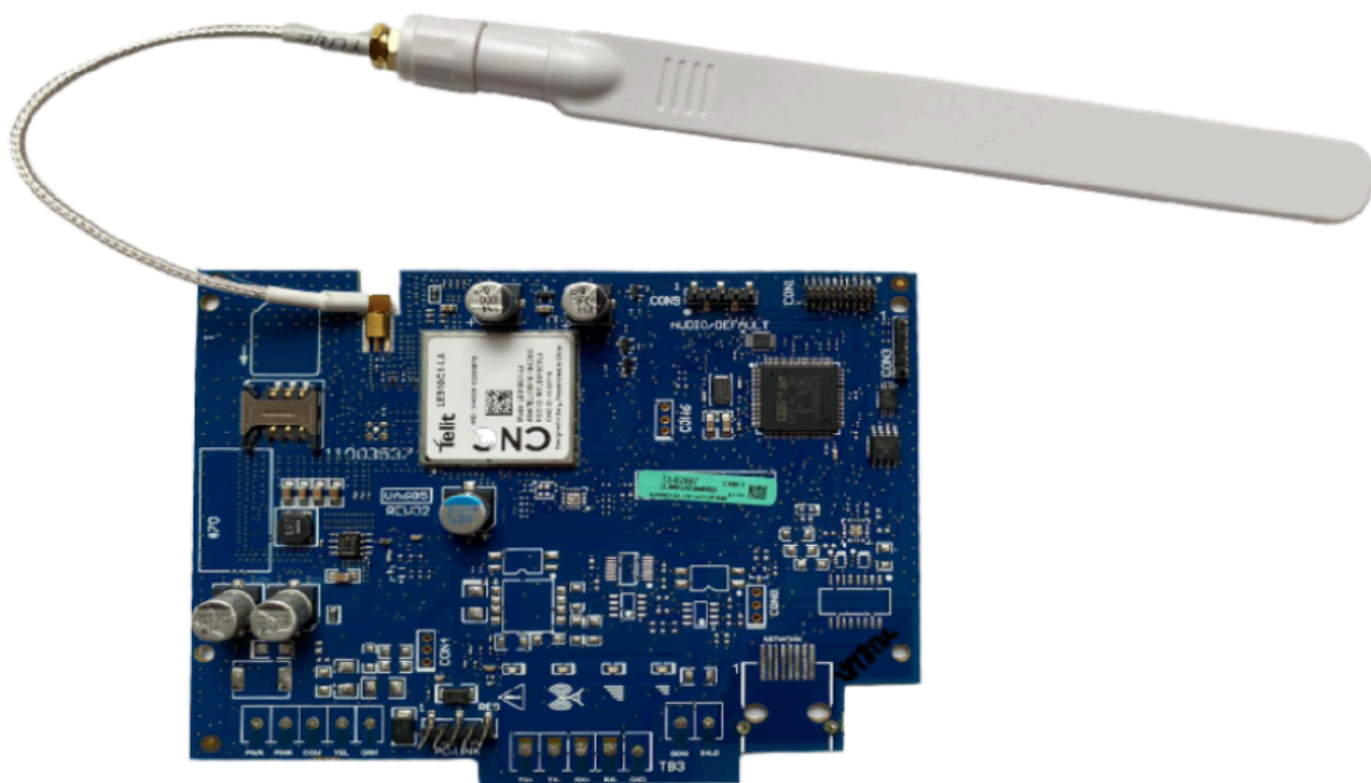




Technical manual for TL280LE-LAT, LE2080-LAT



29011270R001



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Introduction

TL280LE-LAT is an LTE/HSPA/Ethernet communication module. It is used with NEO Power Series alarm control panels. LE2080 is an LTE/HSPA communication module. These products use a Telit Wireless LE910C1-LA LTE/3G/2G radio modem. The design architecture is comprised of PC-Link communication channels to the control panel processor and an optional radio module and Ethernet port for alarm communication to a monitoring station.

Technical specifications

Table 1: Environmental parameters

Environmental factor	Detail
Temperature	- 10 to +55 °C
Humidity	0 to 95% RH (non-condensing)
Around	Interior, home, office, industrial

Table 2: Radio and product information

Element	Description
Brand	DSC/Johnson Controls/TSP
Module(s)	TL280LE-LAT LE2080-LAT
FCC ID	F5317TL280LER
FCC Standards Applied	FCC Part 15B, Part 22, Part 24
Radio brand	Telit Wireless
Radio model	LE910C1-LA
Cellular operating bands	See cellular operating bands and antenna gain
Cellular transmission power	Typical values of maximum output level: 2G (GSM): LB: Class 4 (2 W, 33 dBm) Class E2 (0.5 W, 27 dBm in EDGE) HB: Class 1 (1W, 30 dBm) Class E2 (0.4 W, 26 dBm at EDGE) 3G (WCDMA): Class 3 (0.25 W, 24 dBm) TD-SCDMA: Class 3 (0.4 W, 26 dBm at EDGE) 4G (FDD and TDD): Class 3 (0.2 W, 23 dBm at 1RB)
Type of cellular modulation	GSM/GPRS/EDGE: GMSK/8PSK UMTS/HSPA: BPSK/QPSK LTE: QPSK/16QAM
Communication protocols	TCP/IP, UDP, GSM, GPRS, UMTS, LTE
SAR Certificate	Not applicable as this is not a portable device and must be placed more than 20 cm from the human body
Approval of the cellular operator/network	It is not needed
Cellular emission designation	243KGXW, 244KG7W, 245KGXW, 4M13F9W, 4M24F9W, 17M8G7D, 5M26W7D, 5M25W7D, 8M92G7D, 4M90W7D, 5M18W7D
Company name	Tyco Safety Products Canada Ltd.
Company address	3301 Langstaff Rd., Concord, ON, L4K4L2 Canada
Manufacturer name	Johnson Controls Matamoros
Place of manufacture	Antonio Meucci 10002 Las Ventanas Industrial Park. Matamoros, Tamps. CP 87560 Mexico
Country of origin	Mexico

Table 2: Radio and product information

Element	Description
TAC (LE910C1-LA)	35720968
TAC holder	Telit Communications SpA

Table 3: Antenna parameters

Detail of the antenna	Parameter
Antenna manufacturer	Cheerfar
Antenna type	LTE Pentaband
Antenna connector type	RP-SMA

Cellular operating bands and typical antenna gain

Table 4: Cellular operating bands and typical antenna gain

Product	Cellular band	Operating frequency	Antenna gain (dBi)
TL280LE-LAT and LE2080-LAT - Complies with Anatel, FCC, CNC Complies with NOM-019/ NOM-221	LTE B1	UL: 1920 - 1980 DL: 2110 - 2170	5.6
	LTE B2	UL: 1850 - 1910 DL: 1930 - 1990	5.8
	LTE B3	UL: 1710 - 1785 DL: 1805 - 1880	3.6
	LTE B4	UL: 1710 - 1755 DL: 2110 - 2155	4.5
	LTE B5	UL: 824 - 849 DL: 869 - 894	1.1
	LTE B7	UL: 2500 - 2570 DL: 2620 - 2690	3.5
	LTE B28	UL: 703 - 748 DL: 758 - 803	- 0.2
	WCDMA B1	UL: 1920 - 1980 DL: 2110 - 2170	5.6
	WCDMA B2	UL: 1850 - 1910 DL: 1930 - 1990	5.8
	WCDMA B4	UL: 1710 - 1755 DL: 2110 - 2155	4.5
	WCDMA B5	UL: 824 - 849 DL: 869 - 894	1.1
	2G B2	UL: 1850 - 1910 DL: 1930 - 1990	5.8
	2G B3	UL: 1710 - 1785 DL: 1805 - 1880	3.6
	2G B5	UL: 824 - 849 DL: 869 - 894	1.1
	2G B8	UL: 880 - 915 DL: 925 - 960	2.6

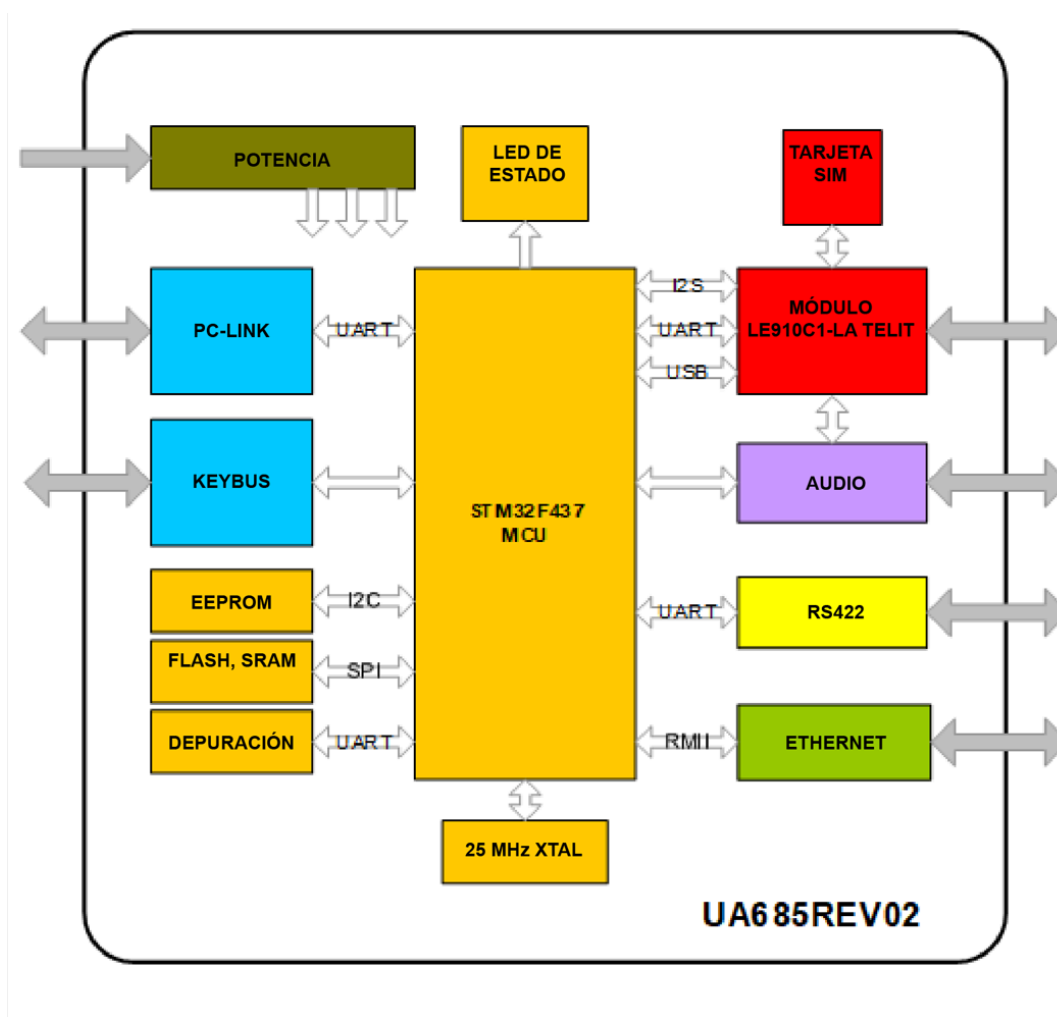
Table 5: Harmonic frequency emissions/spurs (non-essential radiation according to ITU)

Frequency (MHz)	dBuV/m (at 10 m)	
-	Class A	Class B

Block diagram

This block diagram illustrates the functional layout of the hardware. The power supply functional block includes various switch-mode elements and linear regulator circuits. The orange blocks represent the main processor circuits and the blue blocks represent the communication links to the control panel. The arrowed functional blocks on the left represent the connections to the control panel. The arrowed blocks on the right represent the communication channels that can exit the cabinet.

Figure 1: Block diagram



Statement on regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. This equipment complies with FCC radiation exposure limits and industry standards set forth for an uncontrolled environment.

This equipment must be installed and operated with minimum distance 20cm between the radiator and your body. Pursuant to Industry Canada regulations, this radio transmitter is only suitable for use with a radio frequency (RF) transmitter.

operates with an antenna of a type and maximum gain, or less, approved for the transmitter by Industry Canada.

To reduce potential radio interference to other users, select the antenna type and gain so that the equivalent isotropically radiated power (eirp) is no more than that necessary for successful communication.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

