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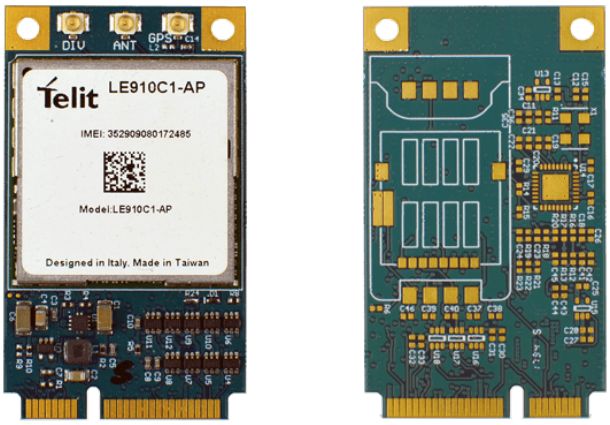
HARDWARE REFERENCE MANUAL

Mini PCIe Carrier Board

A Telit Cinterion xE910 cellular module on a pluggable MPCIe board



September 2, 2025

Revision 1.2

Revision	Date	Notes
1.0	07/02/2019	Initial release
1.1	23/01/2020	Updated footer/header
1.2	11/08/2025	Updated 1. Introduction section Updated 2.2.2. u.fl connector part number Updated 3. Minor adjustment to descriptions on pinout table Added 3.2. Part Number Breakdown Updated 5. Recommended module summary

Contents

1 Introduction

The Mini PCIe (referred to hereafter as MPCI) module has been designed to allow the user ease of use with plug & play options available for all current cellular technologies, including Cat-M1, NB-IoT, Cat-1/4 LTE, Cat-1bis, and 5G Redcap.

With plug & play options via the MPCI carrier board, the entire Telit Cinterion xE910 family is supported. Options such as GPS and Voice can easily be fulfilled on supported modules without the need for you to re-work or re-design your board.

In many cases, your design needs to provide flexibility depending on which region the product is to be deployed and/or certified. The MPCI carrier board takes the guess work out of this decision.

The MPCI board has been designed to allow for multiple options that can be loaded depending on the target application. Options include, Active GPS, 3 x GPIO, Analog Voice, and SIM holder.

By providing this plug-in board on a popular interface, the MPCI board allows the user the option to mount the module which best fits each and every application of their product, no matter where it is rolled out world wide.

Full electrical and software compatibility (AT command) is maintained between each type of module, be it Cat-M1 (ME910G1-WW), Cat-1 LTE (LE910C1-WWXD), Cat-1bis (LE910Q1-WW/G), or 5G Redcap (FE910C04-WWD).

2 Mechanical Specifications

2.1 Dimensions

MPCI module physical size - 30 x 51 x 3.6mm (Maximum height - 6.2mm with full size SIM holder)

2.2 Socket Types

2.2.1 Recommended MPCI Socket

Socket:
Manufacturer: Attend
Part Number: 119A-56A00-R04

Latch:
Manufacturer: Attend
Part Number: 119A-56LATCH

2.2.2 U.FL Connector

Manufacturer: Attend
Part Number: 321-331251

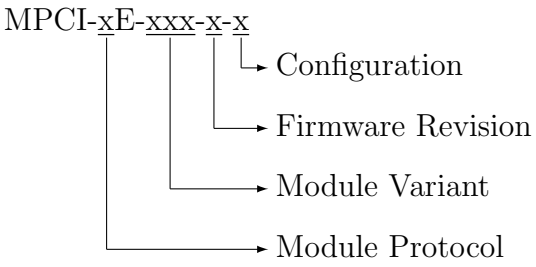
3 Hardware Specifications

3.1 Pinout

Pin	Function	Description	Option
1	MIC_P	Audio Interface	Yes
2	3V3	VCC	
3	MIC_N	Audio Interface	Yes
4	GND		
5	SPK_P	Audio Interface	Yes
6	GPIO_1	GPIO 1	Yes
7	SPK_N	Audio Interface	Yes
8	USIM_PWR	SIM Interface	
9	GND		
10	USIM_DATA	SIM Interface	
11	VAUX	Supply, Output	
12	USIM_CLK	SIM Interface	
13	NC		
14	USIM_RESET	SIM Interface	
15	GND		
16	GPIO_2	GPIO 2	Yes
17	NC		
18	GND		
19	NC		
20	W_DISABLE_N	Power Disable	
21	GND		
22	RESET	Reset	
23	NC		
24	3V3	VCC	
25	NC		
26	GND		
27	GND		
28	GPIO_3	GPIO 3	Yes
29	GND		
30	NC		

Pin	Function	Description	Option
31	NC		
32	RING	Ring Signal, default loaded	Yes
33	RESET	Reset, linked to Pin 22	
34	GND		
35	GND		
36	USB_N	USB -	
37	GND		
38	USB_P	USB +	
39	3V3	VCC	
40	GND		
41	3V3	VCC	
42	LED_WWAN	LED Indicator	
43	GND		
44	DCD	DCD Signal, default loaded	Yes
45	CTS	CTS Signal, default loaded	Yes
46	DSR	DSR Signal, default loaded	Yes
47	RTS	RTS Signal, default loaded	Yes
48	DTR	DTR Signal, default loaded	Yes
49	RXD	RXD Signal, default loaded	Yes
50	GND		
51	TXD	TXD Signal, default loaded	Yes
52	3V3	VCC	

3.2 Part Number Breakdown



Board	Signifier	Option	Notes	
MPCI	xE	Module Protocol	Refer to module	
	xxx	Module Variant	Refer to module	
	x	Module Firmware	Refer to module	
	x	Option	-A	Active GPS
			-G	3 x GPIO, configurable
			-S	SIM holder mounted
			-U	Micro SIM holder mounted
			-V	Analogue audio

E.g. MPCI-LE-C1WWXD-7-AS would indicate the board comes with the LE910C1-WWXD module, revision 7 firmware, active GPS, and SIM holder.

3.3 Antenna Connectors

The MPCI module is equipped with a 50 Ohm RF connector from Attend, P/N: 321A-331251, for Cellular, Diversity (where applicable), and GNSS (where applicable) antenna connections. All connectors are located on the top side of the board.

Interface cables with various configurations are available from Glyn, to suit your needs: Glynstore Interface Cable Range

3.4 Power Supply

MPCI interface supports 3.3V by standard.

Please see the relevant Telit Cinterion xE910 Hardware user guide for recommended power supply requirements for new designs. The document can be found at the Telit Cinterion website.

4 Software Commands

Please see the relevant Telit Cinterion xE910 Software and AT command user guides for more details. The document can be found at the Telit Cinterion website.

5 Recommended Module Summary

The MPCI supports all current xE910 modules from Telit Cinterion. Here are our recommended module options currently available:

Part Number	Region	Technologies	Band Support	GPS
ME910G1-WW	Global	Cat-M1 & NB-IoT	B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B27, B28, B66, B71, B85	Embedded
LE910Q1-WW	Global	Cat-1 Bis	B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28, B34, B38, B39, B40, B41, B66	
LE910Q1-WWG	Global	Cat-1 Bis	B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28, B34, B38, B39, B40, B41, B66	Embedded
LE910C1-WWXD	Global	Cat-1 LTE (3G&2G Fallback)	B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B27, B28, B66, B71, B85	Embedded
LE910C1-APX	APAC	Cat-1 LTE	B1, B3, B5, B8, B9, B18, B19, B26, B28	Embedded
FE910C04-WWD	Global	5G FR1 (Cat-4 LTE Fallback)	n1, n2, n3, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n30, n38, n40, n41, n48, n66, n70, n71, n77, n78, n79	Embedded