HARDWARE REFERENCE MANUAL

Mini PCIe Carrier Board

A Telit xE910 cellular module on a pluggable MPCIe board

June 7, 2019

Revision 1.0

Revision	Date	Notes
1.0	07/02/2019	Initial release

Contents

1 Introduction

The Mini PCIe (referred 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, LTE, GSM, UMTS, HSPA, and CDMA.

With plug & play options via the MPCI carrier board, the entire range of Telit 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 most 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, Diversity antenna, 3 x GPIO, Analog Voice and SIM holder that are available if required.

By providing this pluggable 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 (AT Command) compatibility is maintained between each module type, be it, LTE Cat-1(LE910C1-AP), Cat-M1(ME910C1-AU), HSPA+(HE910-DG), or GSM(GE910-QUAD).

2 Mechanical Specifications

2.1 Dimensions

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

2.2 Socket Types

2.2.1 Recommended MPCI Socket

Manufacturer: Attend
Connector Part Number: 119A-56A00-R04
Latch Part Number: 119A-56LATCH

2.2.2 U.FL Connector

Manufacturer: Attend
Part Number: 321-33125
(Same specifications as Hirose Electric Co Ltd., P/N: U.FL-R-SMT-1(10))

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	Yes
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	Yes
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	
33	RESET	Reset, linked to Pin 22	Yes
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	Yes
45	CTS	CTS Signal	Yes
46	DSR	DSR Signal	Yes
47	RTS	RTS Signal	Yes
48	DTR	DTR Signal	Yes
49	RXD	RXD Signal	Yes
50	GND		
51	TXD	TXD Signal	Yes
52	3V3	VCC	

3.2 Antenna Connectors

The MPCI module is equipped with a 50 Ohm RF connector from Attend, P/N: 321A-33125, 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

3.3 Power Supply

MPCI interface supports 3.3V.
The MPCI board supports by standard 3.3V source supply.

4 Software Commands

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

5 Recommended Module Summary

Part Number	Region	Technologies	Band Support	GPS
GE910-QUAD	Global(2G Only)	2.5G	850, 900, 1800, 1900 MHz	No
HE910-D	Global	3G	800/850, 900, AWS1700, 1900, 2100	No
HE910-DG	Global	3G	800/850, 900, AWS1700, 1900, 2100	Embedded
HE910-EUD	EMEA/ APAC/ Latin America	3G	800/850, 900, 2100	No
HE910-EUG	EMEA/ APAC/ Latin America	3G	800/850, 900, 2100	Embedded
LE910C1-AP	APAC/ANZ	4G(3G Fallback)	B1, B3, B5, B8, B28 (850, 900, 2100)	Embedded
ME910C1-AU	Austraila	Dual Cat1 & NB1 4G	B3, B5, B8, B28	Optional Embedded
ME910C1-WW	Worldwide	Dual Cat M1 & NB1 4G(2G fallback)	B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B26, B28, B39(850, 900, 1800, 1900)	Optional Embedded