



PLC Stamp mini 2 Errata

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August 6, 2020

Revisions

Revision	Release Date	Changes
3	August 6, 2020	added issue #4
2	May 5, 2020	in-tech branding applied
		added issue #3
1	February 28, 2019	initial release

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This document details all known errata for PLC Stamp mini 2.

1 Wrong GPIO0 and GPIO1 behaviour

1.1 Description

As documented in datasheet, GPIO0 should have the function to indicate whether a PLC connection is established or not. Likewise, GPIO1 should have the function to indicate whether Push Button Simple Connect Pairing mode is active or not. Due to wrong settings in factory default PIB configuration, the functionality of GPIO1 is additionally available on GPIO0. If Push Button Simple Connect mode is active, it overwrites the indication whether the module has active connection or not.

1.2 Affected Devices

PLC Stamp mini 2 modules with order code I2PLCAMN-IUC-002 and with serial number in range from 38436 to 38456 (both including), and modules with order code I2PLCAMN-IUE-002 and with serial number 32036 and 32037 are affected by this errata.

1.3 Impact

GPIO1 pin has no assigned function. GPIO0 pin has two functions, thus making it harder to detect each individual function.

1.4 Workaround

No workaround available.

1.5 Fix plan

All modules shipped after May 7 2018 are programmed with correct settings.

2 Wrong CCo setting in factory PIB

2.1 Description

The CCo mode is set to CCo = Always instead of CCo = Auto, thus each module tries to manage and coordinate the AVLN in this role.

2.2 Affected Devices

PLC Stamp mini 2 modules with order code I2PLCAMN-IUC-002 and with serial number in range from 38436 to 38456 (both including) are affected by this errata.

2.3 Impact

When a single module is paired with other powerline devices, the module will always play the CCo role. This could but must not result in practical implications which is highly dependent on the actual field situation.

Pairing two or more modules which all want to obtain CCo role will result in no connection between these modules.

2.4 Workaround

No workaround available. Please return affected modules for re-programming.

2.5 Fix plan

All modules shipped after May 7 2018 are programmed with correct settings.

3 Reserved bit set in factory PIB

3.1 Description

The modules ship with one bit set erroneously in the PIB configuration which is marked as reserved in Qualcomm Atheros documentation (pib offset 0xff).

3.2 Affected Devices

All PLC Stamp mini 2 modules with order code I2PLCAMN-ISC-002, I2PLCAMN-CSC-002 or I2PLCBMN-ISC-002 are affected by this errata.

3.3 Impact

A single customer reported pairing issues with the modules using the push button method. However, it was not possible to reproduce this issue under laboratory conditions.

3.4 Workaround

In case of pairing issues with the push button method, ensure to use a two step approach on the joining device: use push button first to randomize NMK and thus leave any existing powerline network, then use push button to start the pairing process as joiner.

3.5 Fix plan

For existing order codes I2PLCAMN-ISC-002, I2PLCAMN-CSC-002 and I2PLCBMN-ISC-002, no fix is scheduled. Upgrading to I2PLCAMN-ISC-004, I2PLCAMN-CSC-004 or I2PLCBMN-ISC-004 is recommended.

4 Coupling capacitance too large on PEV/EVSE Modules

4.1 Description

The capacitance value (4700 pF) of the coupling capacitor is too large.

4.2 Affected Devices

PLC Stamp mini 2 modules with order codes listed in Table 2 are affected by this errata.

Order code	Chip	Temperature Range / °C	Serial Interface	Application
I2PLCAMN-ISE-002-T	QCA7000	-40 - 85	SPI	Automotive EVSE
I2PLCAMN-ISE-002-R	QCA7000	-40 - 85	SPI	Automotive EVSE
I2PLCAMN-ISP-002-T	QCA7000	-40 - 85	SPI	Automotive PEV
I2PLCAMN-ISP-002-R	QCA7000	-40 - 85	SPI	Automotive PEV
I2PLCAMN-IUE-002-T	QCA7000	-40 - 85	UART	Automotive EVSE
I2PLCAMN-IUE-002-R	QCA7000	-40 - 85	UART	Automotive EVSE
I2PLCAMN-IUP-002-T	QCA7000	-40 - 85	UART	Automotive PEV
I2PLCAMN-IUP-002-R	QCA7000	-40 - 85	UART	Automotive PEV
I2PLCAMN-CSE-002-T	QCA7000	0 - 70	SPI	Automotive EVSE
I2PLCAMN-CSE-002-R	QCA7000	0 - 70	SPI	Automotive EVSE
I2PLCAMN-CSP-002-T	QCA7000	0 - 70	SPI	Automotive PEV
I2PLCAMN-CSP-002-R	QCA7000	0 - 70	SPI	Automotive PEV
I2PLCAMN-CUE-002-T	QCA7000	0 - 70	UART	Automotive EVSE
I2PLCAMN-CUE-002-R	QCA7000	0 - 70	UART	Automotive EVSE
I2PLCAMN-CUP-002-T	QCA7000	0 - 70	UART	Automotive PEV
I2PLCAMN-CUP-002-R	QCA7000	0 - 70	UART	Automotive PEV
I2PLCBMN-ISE-002-T	QCA7005	-40 - 85	SPI	Automotive EVSE
I2PLCBMN-ISE-002-R	QCA7005	-40 - 85	SPI	Automotive EVSE
I2PLCBMN-ISP-002-T	QCA7005	-40 - 85	SPI	Automotive PEV
I2PLCBMN-ISP-002-R	QCA7005	-40 - 85	SPI	Automotive PEV
I2PLCBMN-IUE-002-T	QCA7005	-40 - 85	UART	Automotive EVSE
I2PLCBMN-IUE-002-R	QCA7005	-40 - 85	UART	Automotive EVSE
I2PLCBMN-IUP-002-T	QCA7005	-40 - 85	UART	Automotive PEV
I2PLCBMN-IUP-002-R	QCA7005	-40 - 85	UART	Automotive PEV

Table 2: PLC Stamp mini 2 Order Codes

4.3 Impact

When using the modules in a PEV/EVSE scenario the IEC 61851-1 CP PWM requirements for signal rise and fall times cannot be met.

4.4 Workaround

Replace the capacitor C45 in Figure 1. Use a capacitor with following properties:

- Capacitance: 1000 pF
- Voltage: ≥ 50 V
- Package/Case: 2220 (5650 metric)

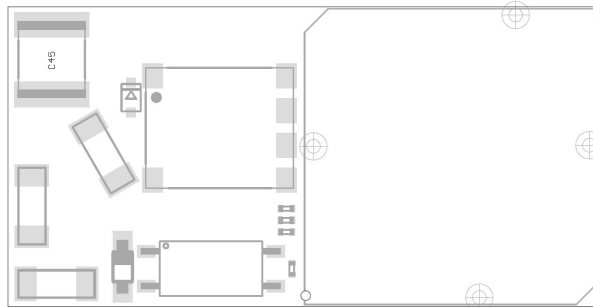


Figure 1: PLC Stamp mini 2 assembly top drawing

4.5 Fix plan

Affected devices will be discontinued and fixed modules with new order codes will be released as soon as possible.