



Application Engineering

Design review report

Code: AE-32846

Rev: 3

Date: 2020-06-12

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Approval:

Global AE Manager

Massimiliano Lonzar

Approval:

Design Services Manager

Fabio Deperini

Author:

Technical Support Engineer


Fabio Deperini

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1. Scope

Aim of this document is to describe suggestions and corrections that Telit advises to improve **Ovoo Electronics "B106AA(V2)"** application that integrates Telit module **GE910-QUAD V3**.

2. Design review

Design review is based on the following received documentation:

- o Schematic files: "B106AA-R2.PDF" o Gerber file:
- o Other: "Telit Design Review R02 (Schematic).pdf"

Summary Tables:

Schematic Review	P	F	I	MI	N/A
Power Supply	✓				
SIM Pins	✓				
Digital Pins	✓		✓		
Audio					✓
RF	✓		✓		

PCB Layout Review	P	F	I	MI	N/A
General Placement					✓
Antenna Waveguide					✓
RF Aspects					✓
Audio Aspects					✓

P: Pass; F: Fail; I: Improvements possible; MI: Missing Information; N/A: Not Applicable

The following symbols will be used throughout the Design Review to indicate:

✓ OK: No design changes are required.

❗ Tip: information or possible improvement, not mandatory but recommended.

⚠ Warning: if you don't follow the recommendation there's a risk of malfunctioning or issues during the homologation phase, strongly recommended.

🛑 Error: it's mandatory to follow the recommendation otherwise the module could be damaged or could not work properly or there's high probability of facing issues during the homologation phase.

❓ Missing Information: some relevant information is missing therefore the DR cannot be accurate on this item.



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2.1. Schematic review

2.1.1. Power supply

✓ OK

2.1.2. SIM pins

✓ OK

2.1.3. Digital pins

- ⚠ For testing purposes it could be useful having direct access to the modem from external, with the host MCU isolated. USB is not implemented on GE910-QUAD V3 so we strongly suggest adding test points and/or 0R series resistors on Main-UART lines and wherever needed (e.g. OE control line of level shifter U4) in order to made Main UART accessible.

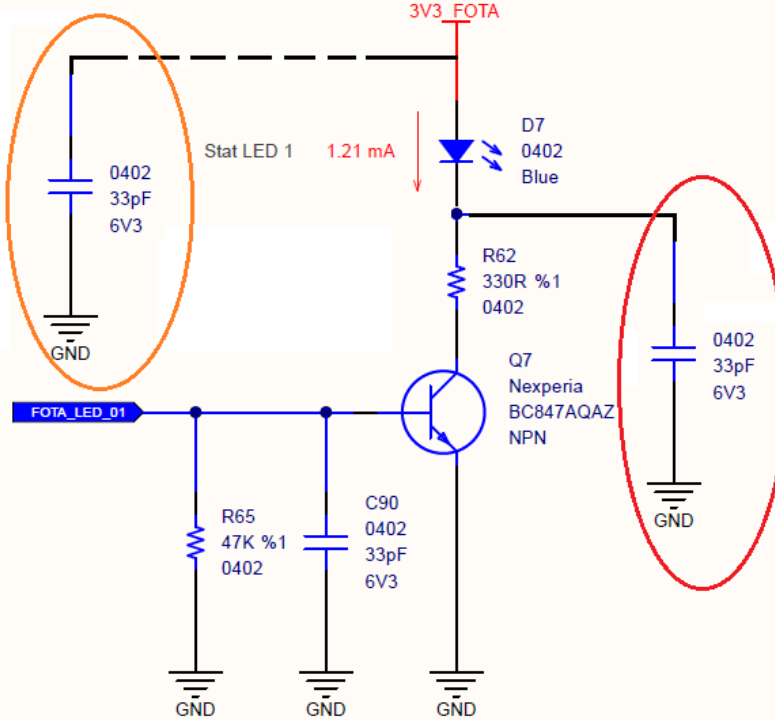
2.1.4. Audio pins

N/A

2.1.5. RF aspects

- ❗ Add 33pF capacitor on LEDs anode and/or cathode if not directly tied to a power net (**D6, D3, D4, ...**). They can be mounted only in case of necessity.
You can follow the schematic below as an example.
The capacitor on VCC is probably overkilling, so you can skip it if you don't have room for it; otherwise you can predispose it, placing it very close to LED and assemble it only in case of harmonics spurious emission issues.

this capacitor is probably overkilling, you may predispose it if you have room for it



2.2. PCB Layout review

2.2.1. General placement

N/A

2.2.2. RF aspects


N/A

2.2.3. Audio aspects

N/A

2.3. General comments

Review is related to received application information and the supposed use of it.

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3. Quality record

This design review is registered internally in Bugzilla with ID#**32846**.

The customer request is registered internally in Salesforce with ID#**00157856**.