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To: Federal Communications Commission
Authorization and Evaluation Division

Date: 12th September 2023

FCC ID: 2BAH6-SU601

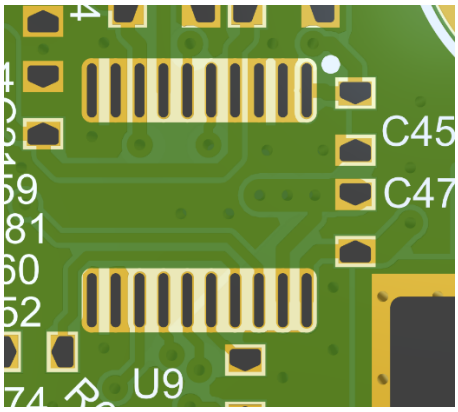
ISED ID: 30290-SU601

SU6 Change from Rev 2 to Rev 3

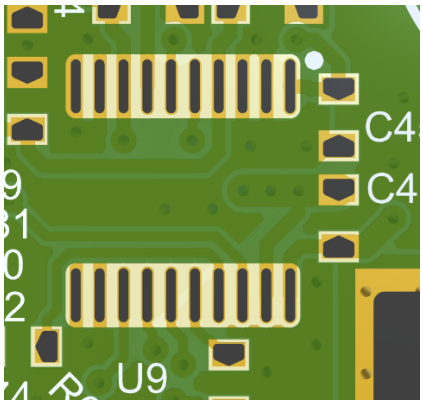
Note: All changes are on non-transmitter portions of the circuit. No changes to the Bluetooth module or its operation, no change in Radio parameters has occurred.

PCB changes (from PCB4465-2 to PCB4465-3):

1) Footprint change (U9) – change in polygon pour for better SMT placement and inspection. (U9) is an Analog to Digital converter.
<u>No change in Radio parameters has occurred.</u>

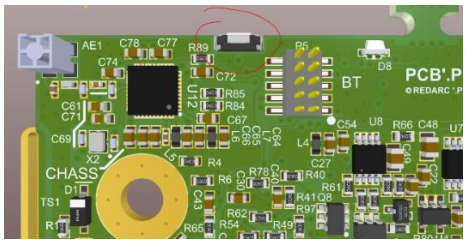


PCB4465-2

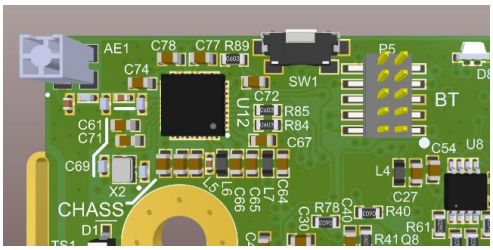


PCB4465-3

2) (SW1) moved to top side of PCB - for better SMT placement and soldering
<u>No change in Radio parameters has occurred.</u>



PCB4465-2



PCB4465-3

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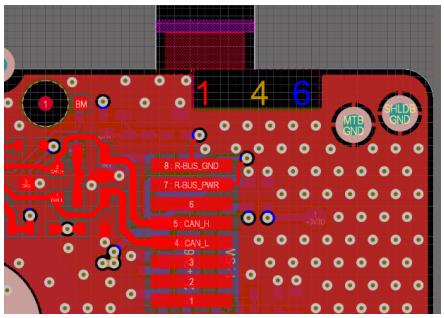
3) Tracks added to allow array testing, breaks out 2 interface lines to communicate to array testing and programming of multiple PCB's. No change in Radio parameters has occurred.



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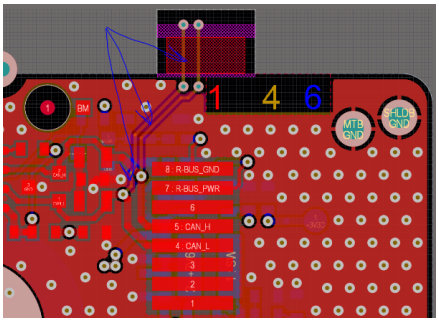
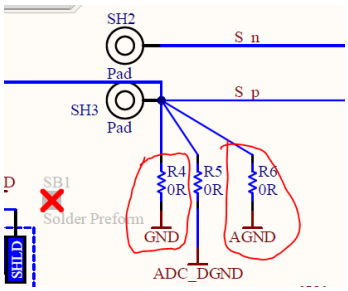
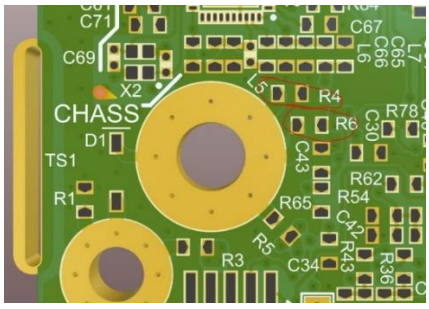


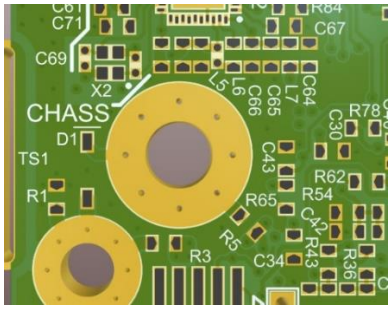
PCB4465-3

4) 0R resistor jumpers (R4) and (R6) were moved from TOP layer to BOT layer (R4) and (R6) connect the PCB power GND and the PCB Analog GND to the power GND terminal (SH3 pad). No change in Radio parameters has occurred.

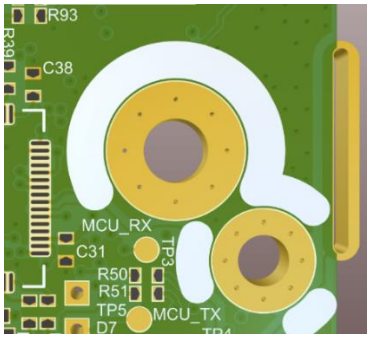




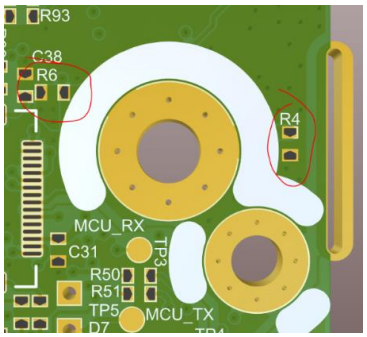
PCB4465-2



PCB4465-3



PCB4465-2



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BOM component changes:

5) (U11) new op-amp. GBW changed from 6KHz (old op-amp) to 10MHz (new op-amp). Used to sense the battery terminal voltage, no change in Radio parameters has occurred.
6) (U5) microcontroller (main operating micro; not Bluetooth transceiver) changed from 128kB to 256kB flash memory, increased memory, no change in Radio parameters has occurred
7) (U1) 1.5A capable voltage regulator replaced with a drop-in compatible 350mA regulator (no changes to the layout nor the schematic), no change in Radio parameters has occurred
8) (R61) and (R69) resistors were changed from 5K6 to 4K53, change to the sensing Amplifier gain, no change in Radio parameters has occurred
9) (R66) was changed from 10k to 100k, change of the anti-aliasing filter corner frequency, no change in Radio parameters has occurred
10) (R23) was changed from 47k to 10k, increased base clamping of Transistor (Q4), no change in Radio parameters has occurred
11) (D1) omit x1– not loaded on rev 3, no change in Radio parameters has occurred
12) (C25, C34, C38) omit x3– not loaded on rev 3, no change in Radio parameters has occurred
13) (R26, R27, R31, R39) omit x4– not loaded on rev 3, no change in Radio parameters has occurred
14) (R28, R35) omit x2– not loaded on rev 3, no change in Radio parameters has occurred
15) (U6) omit x1– not loaded on rev 3, no change in Radio parameters has occurred
16) (P4, P5) omit x2– not loaded on rev 3, no change in Radio parameters has occurred

Firmware changes:

The U5 microcontroller clock frequency has been increased from 18MHz to 36MHz. This is the devices main operating microcontroller (not the Bluetooth transceiver), no change in Radio parameters has occurred.

Regards,
Simon Gallasch

Test & Validation Compliance Team Lead