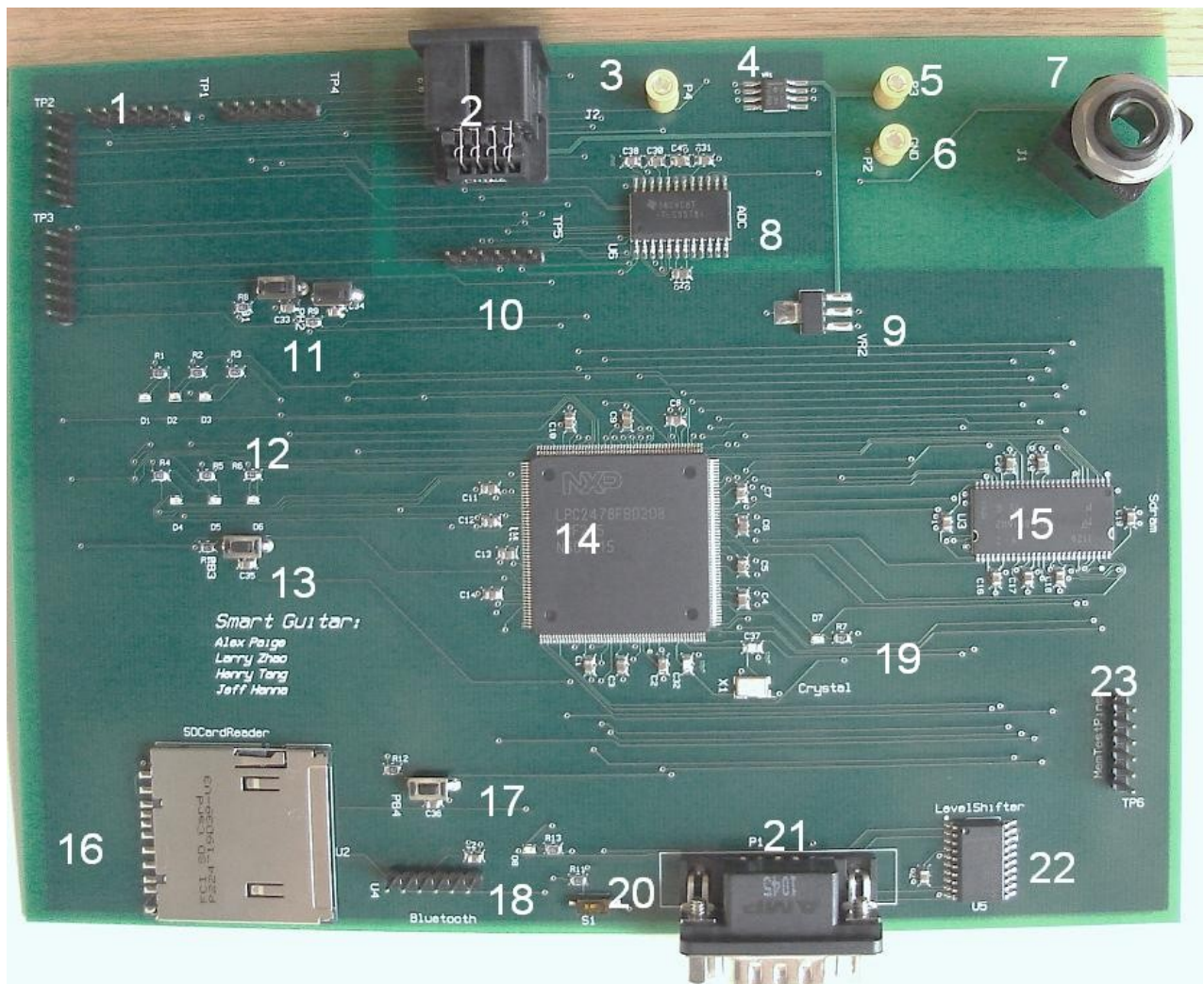


Smart Guitar Technical Manual

PCB Layout



- | | | |
|------------------------------|-----------------------------------|---------------------------|
| 1. LCD connector pins | 2. 13 pin Guitar connector | 3. -7V power input |
| 4. 5V voltage regulator | 5. 7V power input | 6. Ground Pin |
| 7. Audio jack to guitar amp. | 8. ADC | 9. 3.3V voltage regulator |
| 10. ADC test pins | 11. Setting Push buttons(UP/DOWN) | 12. LED indicator |
| 13. Mode select | 14. NXP AMR7 Processor | 15. SDRAM |
| 16. SD CARD Reader | 17. Reset Button | 18. Bluetooth Connectors |
| 19. Power On LED | 20. Boot pin selector | 21. RS232 connector |
| 22. Level Shifter | 23. SDRAM test pins | |

1. LCD connector pins

Connector pins to LCD display module. Three digit display that indicates the note, time signature and BPM.

2. 13 pin guitar connector

Connect guitar output here.

3. -7V power input

Connect -7V from power supply here.

4. 5V voltage regulator

Regulate 7V input to 5V supply to ADC

5. 7V power input

Connect 7V from power supply here

6. Ground Pin

Connects to power supply's ground

7. Audio jack to guitar amplifier

Connects to guitar amp.

8. ADC

Analog to digital convertor

9. 3.3V voltage regulator

Regulates 7V to 3.3 voltage for digital components.

10. ADC test pins

Test pins for each of the 6 ADC inputs.

11. Setting Push Buttons

Left button to control numerator. Right button to control denominator of time signature.

12. LED indictors

Programmable LEDs. Default function for top 3 leds are for guitar tuning, flat, sharp, and in tune. Bottom 3 leds are for mode indication, streaming, write to SD Card, and converting.

13. Mode select

Toggles between all three modes mentioned above

14. Processor

Processing Unit.

15. SDRAM

128 MB SDRAM

16. SD Card Reader

SD Card for file storage.

17. Reset Button

Reset button for the board

18. Bluetooth Connector

Connect to Bluetooth module

19. Power On LED

Board power indicator

20. Boot pin selector

Switch to control boot from flash or flash programming.

21. RS232 connectors

Connects to RS232 compatible devices

22. Level Shifter

Level shifter for RS232 connectors

23. SDRAM test pins

Test pins for SDRAM control signals.