IT4 COMS PCB Debugging:

Things to fix for future iterations:

* C25, C58 & C57 should not be connected the way they are right now, Vlad or Chris probably routed them

Short between VCC and GND

Tried:

* Tried removing RFFM6403 (UHF RF FE) but didn’t fix the solution
* Checked the caps in the diplexer to make sure they were not short-circuiting the inductors in the diplexer to VCC which would have created a short at DC between VCC and GND
* Visually checked all of the GND-VCC passives on the board, none of them seemed shorted
* Tried to reflow the whole board by hand with the hot-air gun again, no effect

Remaining ideas:

* Could be a short between the pins and ground plane of another of the QFN’s (S1 and S2 have especially edgy routing)

Testing Procedure with only CC1120 (i.e. test the output of the CC1120 directly, do not connect to RFFM6403) once the 32M1 works:

1. Try to transmit, if lucky this will work right away, if not, proceed to next steps.
2. Read and write from a register using SPI.
3. Read status byte by sending a SNOP command strobe.
4. Change states by sending command strobes and confirm proper operation using SNOP commands to check the state.
5. Set all the registers for TX and try to put the TRX in TX mode. Confirm that there is a spike on the spectrum analyzer at the right frequency (434 MHz).
6. Transmit a single byte, then a full message to one of the dev boards.
7. Once receive is working, try to receive from the dev boards.
8. To debug receiving, can use GPIO pins to check RSSI, Sync word etc.