



SP3494: FAQ

Sipex Part: SP3494

Date: Mar7-07

Question:

The client was an engineering firm specialized in industrial control devices, with an ongoing project using the SP3494. It is a bus based on point to point principle, in each unit in the bus there are two transceivers with RO pin of one transceiver connected to DE of other. The client bought two series of SP3494s from two separate suppliers: SP3494CN-0406 and SP3494CN-0343. With 0343 series the client had no problems but when they introduced transceivers from 0406 series there were lot of errors on the bus. What is the difference between these two series? What could be causing this trouble?

Answer:

There can be a process difference between these two date codes. The 0406 material does still meet all of the standard specifications. A difference could be the driver output levels are lower than the 0342 material. Could you please supply a schematic and waveform pictures of the driver outputs. This will help me to understand the reason for failure in your system. Waveforms comparing working devices with non-working devices will tell us if the cause is level or timing related. In the meantime, the following Product Change Notice is on the web: PCN 06-0130-30 <http://www.sipex.com/fabTransferDetails.aspx?sp=SP3494>

Followup Question:

I am sending you schematic, but I am not able to send you waveforms. As you can see from schematic we are not using any termination as lines between units are small, baud rate is 38400kbs and units are communicating on point to point principle, but when we did terminate the lines with 100 ohm there was no change.

Followup Answer:

We do not see any problem on your schematic. Please check that there is no bus contention. Some units can drive a bus that has contention while other units that meet specification will be weaker and will fail to pull down a contended bus. Check that the ground potential on the opposite ends of the bus are not more than +/-12V. This would place the common mode voltage out of the RX input range. If it was marginal it may pass some units and not others.