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NIU WIFI Module - Differences Between the MACS and DAAS Versions

This note summarizes the differences between the MACS and DAAS NIU printed circuit board assemblies (pcbas) for the purpose of fulfilling the FCC documentation requirements as provided by our UL representatives.

The two pcbas are intended to function exactly the same. A required difference is in how the serial interface is implemented. Some appliances require a MACS interface and some require DAAS, therefore there is the need for the two NIU versions. This only impacts the way the appliance physically communicates with the NIU, but the functionality in both types of appliances is the same.

The MACS interface is an Electrolux proprietary, one-wire, half duplex, serial interface. The DAAS interface is an Electrolux proprietary, full duplex interface utilizing both a TTL level RX and a TTL level TX line. In the DAAS implementation, only a 3.3V source is required. In a MACS implementation, a 3.3V source is also required as is a 5.0V source. Therefore, the MACS interface requires one more regulator than does the DAAS.

The physical locations of these serial interfaces are approximately in the same location on both pcbas. Specifically, they are both located at the connector side of the NIU which is the opposite side of the pcb from where the RF components are located. The layout was specifically implemented in such a way that the RF section was copied exactly from one design to the other. The only difference between the two pcbs is the arrangement of the serial components, the connector pin out, and the fact that the MACS pcb contains one additional regulator.