```xml
<controller name="system_controller" value="AR-B5230">
    <connector name="COM1" value="DB9">
        <pin name="1" value="DCD"></pin>
        <pin name="2" value="RXD">level_converter_1_RX_host</pin>
        <pin name="3" value="TXD">level_converter_1_TX_host</pin>
        <pin name="4" value="DTR">level_converter_1_DTR_host</pin>
        <pin name="5" value="GND">level_converter_1_GND</pin>
        <pin name="6" value="DSR"></pin>
        <pin name="7" value="RTS">level_converter_1_RTS_host</pin>
        <pin name="8" value="CTS"></pin>
        <pin name="9" value="RI"></pin>
    </connector>
    <connector name="COM1" value="DB9">
        <pin name="1" value="DCD"></pin>
        <pin name="2" value="RXD">level_converter_2_RX_host</pin>
        <pin name="3" value="TXD">level_converter_2_TX_host</pin>
        <pin name="4" value="DTR">level_converter_2_DTR_host</pin>
        <pin name="5" value="GND">level_converter_2_GND</pin>
        <pin name="6" value="DSR"></pin>
        <pin name="7" value="RTS">level_converter_2_RTS_host</pin>
        <pin name="8" value="CTS"></pin>
        <pin name="9" value="RI"></pin>
    </connector>
    <connector name="USB1" value="TYPE_A">
        <pin name="1" value="VCC">bluetooth_dongle</pin>
        <pin name="2" value="D-">bluetooth_dongle</pin>
        <pin name="3" value="D+">bluetooth_dongle</pin>
        <pin name="4" value="GND">bluetooth_dongle</pin>
    </connector>
    <connector name="USB2" value="TYPE_A">
        <pin name="1" value="VCC">web_camera</pin>
        <pin name="2" value="D-">web_camera</pin>
        <pin name="3" value="D+">web_camera</pin>
        <pin name="4" value="GND">web_camera</pin>
    </connector>
    <connector name="USB3" value="TYPE_A">
        <pin name="1" value="VCC">wifi_dongle</pin>
        <pin name="2" value="D-">wifi_dongle</pin>
        <pin name="3" value="D+">wifi_dongle</pin>
        <pin name="4" value="GND">wifi_dongle</pin>
    </connector>
</controller>

<controller name="navigation_controller">
    <connector name="J1">
        <pin name="1" value="RESETn"></pin>
        <pin name="2" value="V33"></pin>
        <pin name="3" value="V5"></pin>
        <pin name="4" value="analog_GND"></pin>
        <pin name="5" value="analog_GND"></pin>
        <pin name="6" value="Vin"></pin>
    </connector>
    <connector name="J2">
        <pin name="1" value="AD00">accelerometer_x_axis</pin>
```

```xml
        <pin name="2" value="AD01">accelerometer_y_axis</pin>
        <pin name="3" value="AD02">accelerometer_z_axis</pin>
        <pin name="4" value="AD03">rate_gyro_x_axis</pin>
        <pin name="5" value="AD04">rate_gyro_x_axis</pin>
        <pin name="6" value="AD05"></pin>
    </connector>
    <connector name="J3" value="PWRJACK">
        <pin name="1" value="Vin"></pin>
        <pin name="2" value="analog_GND"></pin>
        <pin name="3" value="analog_GND"></pin>
    </connector>
    <connector name="J4" value="CON2">
        <pin name="1" value="Vin"></pin>
        <pin name="2" value="analog_GND"></pin>
    </connector>
    <connector name="J5">
        <pin name="1" value="DTR">level_converter_1_reset_arm</pin>
        <pin name="2" value="TXD0">level_converter_1_TX_arm</pin>
        <pin name="3" value="RXD0">level_converter_1_RX_arm</pin>
        <pin name="4" value="V5">level_converter_1_5V</pin>
        <pin name="5" value="RTS">level_converter_1_loadC_arm</pin>
        <pin name="6" value="analog_GND">level_converter_1_GND</pin>
    </connector>
    <connector name="J6" value="CON8A">
        <pin name="1" value="P18"></pin>
        <pin name="2" value="V33"></pin>
        <pin name="3" value="P17"></pin>
        <pin name="4" value="PWM13"></pin>
        <pin name="5" value="RESETn"></pin>
        <pin name="6" value="analog_GND"></pin>
        <pin name="7" value="PWM12"></pin>
        <pin name="8" value="PWM30"></pin>
    </connector>
    <connector name="J7" value="JST S2B">
        <pin name="1" value="BAT"></pin>
        <pin name="2" value="analog_GND"></pin>
    </connector>
    <connector name="J8" value="CON2">
        <pin name="1" value="BAT"></pin>
        <pin name="2" value="analog_GND"></pin>
    </connector>
    <connector name="J9" value="CON8">
        <pin name="1" value="PWM33" alt="digital_8">radio_controller_steering_PULSIN</pin>
        <pin name="2" value="EINT0" alt="digital_9">radio_controller_throttle_PULSIN</pin>
        <pin name="3" value="PWM20" alt="digital_10">plat_out_nav_in</pin>
        <pin name="4" value="PWM11" alt="digital_11">plat_rts_nav_dsr</pin>
        <pin name="5" value="P04" alt="digital_12">plat_cts_nav_dtr</pin>
        <pin name="6" value="P06" alt="digital_13"></pin>
        <pin name="7" value="analog_GND">ground for sensors and output devices</pin>
        <pin name="8" value="AD06"></pin>
    </connector>
    <connector name="J10" value="CON8">
        <pin name="1" value="PWM22" alt="digital_0">electronic_compass_I2C_SCL</pin>
```

```xml
        <pin name="2" value="PWM21" alt="digital_1">electronic_compass_I2C_SDA</pin>
        <pin name="3" value="X27" alt="digital_2">encoder_counter_SPI_SCLK</pin>
        <pin name="4" value="PWM12" alt="digital_3">encoder_counter_SPI_SS</pin>
        <pin name="5" value="X28" alt="digital_4">encoder_counter_SPI_MOSI</pin>
        <pin name="6" value="PWM30" alt="digital_5">encoder_counter_SPI_MISO</pin>
        <pin name="7" value="P05" alt="digital_6">steering_control_PULSOUT</pin>
        <pin name="8" value="P29" alt="digital_7">throttle_control_PULSOUT</pin>
    </connector>
</controller>

<controller name="platform_controller">
    <connector name="J1">
        <pin name="1" value="RESETn"></pin>
        <pin name="2" value="V33"></pin>
        <pin name="3" value="V5"></pin>
        <pin name="4" value="analog_GND"></pin>
        <pin name="5" value="analog_GND"></pin>
        <pin name="6" value="Vin"></pin>
    </connector>
    <connector name="J2">
        <pin name="1" value="AD00">system_battery</pin>
        <pin name="2" value="AD01">microcontroller_battery</pin>
        <pin name="3" value="AD02">infrared_left</pin>
        <pin name="4" value="AD03">infrared_right</pin>
        <pin name="5" value="AD04">temperature_sensor_1</pin>
        <pin name="6" value="AD05"></pin>
    </connector>
    <connector name="J3" value="PWRJACK">
        <pin name="1" value="Vin"></pin>
        <pin name="2" value="analog_GND"></pin>
        <pin name="3" value="analog_GND"></pin>
    </connector>
    <connector name="J4" value="CON2">
        <pin name="1" value="Vin"></pin>
        <pin name="2" value="analog_GND"></pin>
    </connector>
    <connector name="J5">
        <pin name="1" value="DTR">level_converter_2_reset_arm</pin>
        <pin name="2" value="TXD0">level_converter_2_TX_arm</pin>
        <pin name="3" value="RXD0">level_converter_2_RX_arm</pin>
        <pin name="4" value="V5">level_converter_2_5V</pin>
        <pin name="5" value="RTS">level_converter_2_loadC_arm</pin>
        <pin name="6" value="analog_GND">level_converter_2_GND</pin>
    </connector>
    <connector name="J6" value="CON8A">
        <pin name="1" value="P18"></pin>
        <pin name="2" value="V33"></pin>
        <pin name="3" value="P17"></pin>
        <pin name="4" value="PWM13"></pin>
        <pin name="5" value="RESETn"></pin>
        <pin name="6" value="analog_GND"></pin>
        <pin name="7" value="PWM12"></pin>
        <pin name="8" value="PWM30"></pin>
    </connector>
    <connector name="J7" value="JST S2B">
```

```xml
            <pin name="1" value="BAT"></pin>
            <pin name="2" value="analog_GND"></pin>
    </connector>
    <connector name="J8" value="CON2">
            <pin name="1" value="BAT"></pin>
            <pin name="2" value="analog_GND"></pin>
    </connector>
    <connector name="J9" value="CON8">
            <pin name="1" value="PWM33" alt="digital_8">reset_switch</pin>
            <pin name="2" value="EINT0" alt="digital_9">manual_override_switch</pin>
            <pin name="3" value="PWM20" alt="digital_10">plat_out_nav_in</pin>
            <pin name="4" value="PWM11" alt="digital_11">plat_rts_nav_dsr</pin>
            <pin name="5" value="P04" alt="digital_12">plat_cts_nav_dtr</pin>
            <pin name="6" value="P06" alt="digital_13"></pin>
            <pin name="7" value="analog_GND">ground for sensors and output devices</pin>
            <pin name="8" value="AD06"></pin>
    </connector>
    <connector name="J10" value="CON8">
            <pin name="1" value="PWM22" alt="digital_0">sonar_left_PULSIN</pin>
            <pin name="2" value="PWM21" alt="digital_1">sonar_center_PULSIN</pin>
            <pin name="3" value="X27" alt="digital_2">sonar_right_PULSIN</pin>
            <pin name="4" value="PWM12" alt="digital_3">sonar_rear_PULSIN</pin>
            <pin name="5" value="X28" alt="digital_4">bumper_switch_left</pin>
            <pin name="6" value="PWM30" alt="digital_5">bumper_switch_right</pin>
            <pin name="7" value="P05" alt="digital_6">status_indicator_red</pin>
            <pin name="8" value="P29" alt="digital_7">status_indicator_green</pin>
    </connector>
</controller>
```