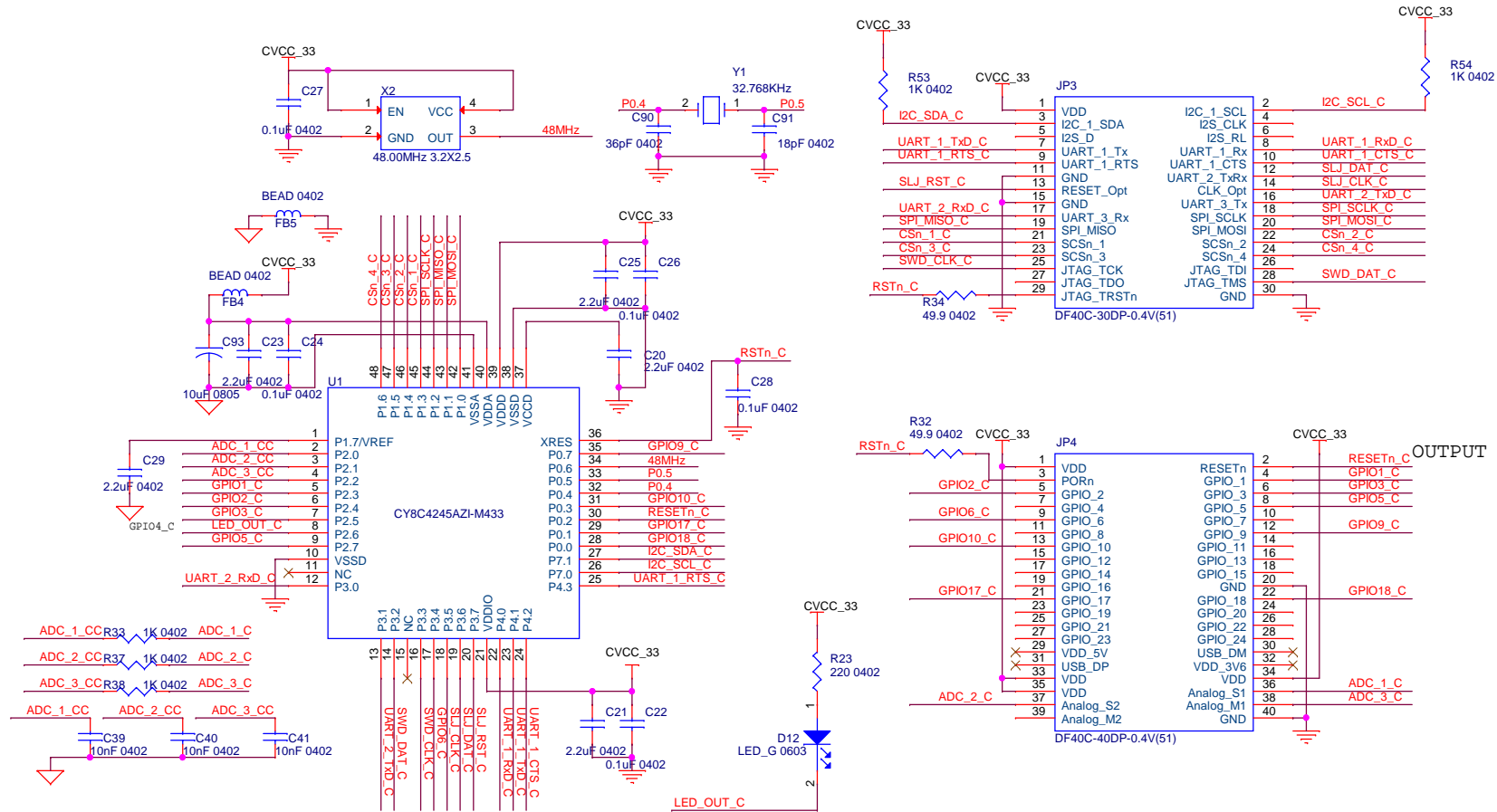


Cypress PSC04 CY8C4245

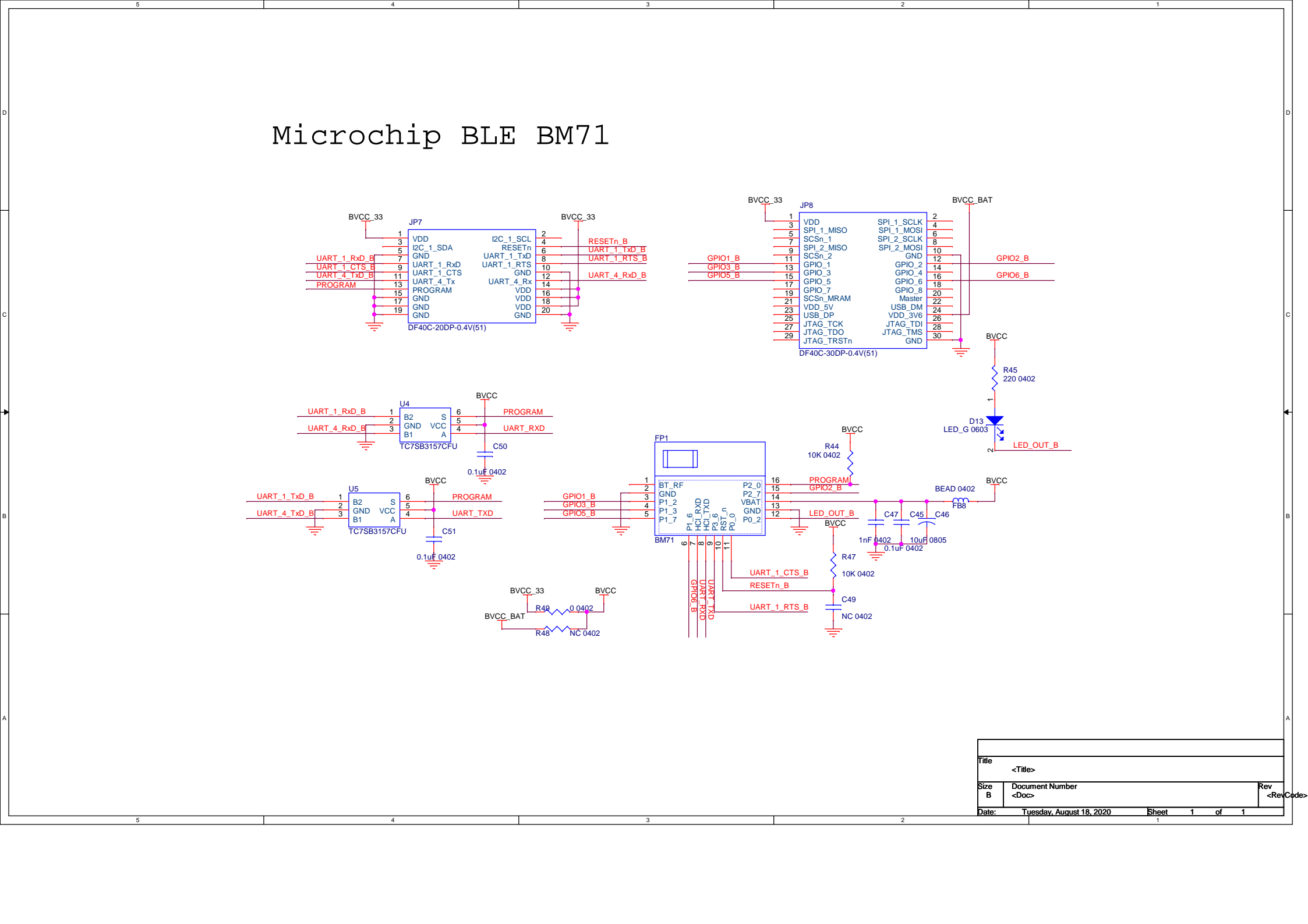


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Microchip BLE BM71

The schematic diagram illustrates the pin connections for the Microchip BLE BM71 module. The module is represented by the FP1 component (BM71). The connections are as follows:

- JP7 (DF40C-20DP-0.4V(51))**:
 - VDD (1) to BVCC_33
 - I2C_1_SDA (3) to UART_1_RxD_B
 - GND (5) to GND
 - RESETn_B (4) to RESETn_B
 - UART_1_TxD (6) to UART_1_TxD_B
 - UART_1_RTS (8) to UART_1_RTS_B
 - GND (10) to GND
 - UART_4_Rx (12) to UART_4_RxD_B
 - VDD (14) to BVCC_33
 - PROGRAM (16) to PROGRAM
 - GND (18) to GND
 - GND (20) to GND
- JP8 (DF40C-30DP-0.4V(51))**:
 - VDD (1) to BVCC_33
 - SPI_1_MISO (3) to GPIO1_B
 - SCSn_1 (5) to GPIO3_B
 - SPI_2_MISO (7) to GPIO5_B
 - SCSn_2 (9) to GND
 - GND (11) to GND
 - GPIO_1 (13) to GPIO2_B
 - GPIO_3 (15) to GPIO6_B
 - GPIO_5 (17) to GND
 - GPIO_7 (19) to GND
 - SCSn_MRAM (21) to GND
 - VDD_5V (23) to BVCC_BAT
 - USB_DM (25) to GND
 - JTAG_TCK (27) to GND
 - JTAG_TDO (29) to GND
 - JTAG_TRSTn (31) to GND
 - SPI_1_SCLK (2) to GND
 - SPI_1_MOSI (4) to GND
 - SPI_2_SCLK (6) to GND
 - SPI_2_MOSI (8) to GND
 - GND (10) to GND
 - GPIO_2 (14) to GND
 - GPIO_4 (16) to GND
 - GPIO_6 (18) to GND
 - GPIO_8 (20) to GND
 - Master (22) to GND
 - USB_DM (24) to GND
 - VDD_3V6 (26) to GND
 - JTAG_TDI (28) to GND
 - JTAG_TMS (30) to GND
- U4 (TC7SB3157CFU)**:
 - B2 (1) to UART_1_RxD_B
 - GND (2) to GND
 - VCC (3) to BVCC
 - S (4) to PROGRAM
 - A (5) to UART_RXD
 - B1 (6) to GND
- U5 (TC7SB3157CFU)**:
 - B2 (1) to UART_4_RxD_B
 - GND (2) to GND
 - VCC (3) to BVCC
 - S (4) to PROGRAM
 - A (5) to UART_TXD
 - B1 (6) to GND
- FP1 (BM71)**:
 - BT_RF (1) to GND
 - GND (2) to GND
 - P1_2 (3) to GND
 - P1_3 (4) to GND
 - P1_7 (5) to GND
 - P1_6 (6) to GND
 - HCI_RXD (7) to GND
 - HCI_TXD (8) to GND
 - RST_n (9) to GND
 - P0_0 (10) to GND
 - P2_0 (11) to GND
 - P2_7 (12) to GND
 - VBAT (13) to GND
 - GND (14) to GND
 - P0_2 (15) to GND
 - PROGRAM (16) to PROGRAM
 - GPIO2_B (17) to GPIO2_B
 - LED_OUT_B (18) to LED_OUT_B
 - UART_1_CTS_B (19) to UART_1_CTS_B
 - RESETn_B (20) to RESETn_B
 - UART_1_RTS_B (21) to UART_1_RTS_B
 - UART_TXD (22) to UART_TXD
 - UART_RXD (23) to UART_RXD
 - GPIO5_B (24) to GPIO5_B
 - GPIO3_B (25) to GPIO3_B
 - GPIO1_B (26) to GPIO1_B
- Passive Components**:
 - R44 (10K 0402) between BVCC and PROGRAM
 - R45 (220 0402) between BVCC_BAT and LED_OUT_B
 - R47 (10K 0402) between BVCC and LED_OUT_B
 - R48 (0 0402) between BVCC_33 and BVCC_BAT
 - R49 (0 0402) between BVCC_BAT and BVCC
 - C45 (10uF 0805) between BVCC and LED_OUT_B
 - C46 (0.1uF 0402) between BVCC and LED_OUT_B
 - C47 (1nF 0402) between BVCC and LED_OUT_B
 - C49 (NC 0402) between BVCC and LED_OUT_B
 - C50 (0.1uF 0402) between BVCC and UART_RXD
 - C51 (0.1uF 0402) between BVCC and UART_TXD
 - BEAD 0402 (FB8) between BVCC and LED_OUT_B



Microchip BLE BM71

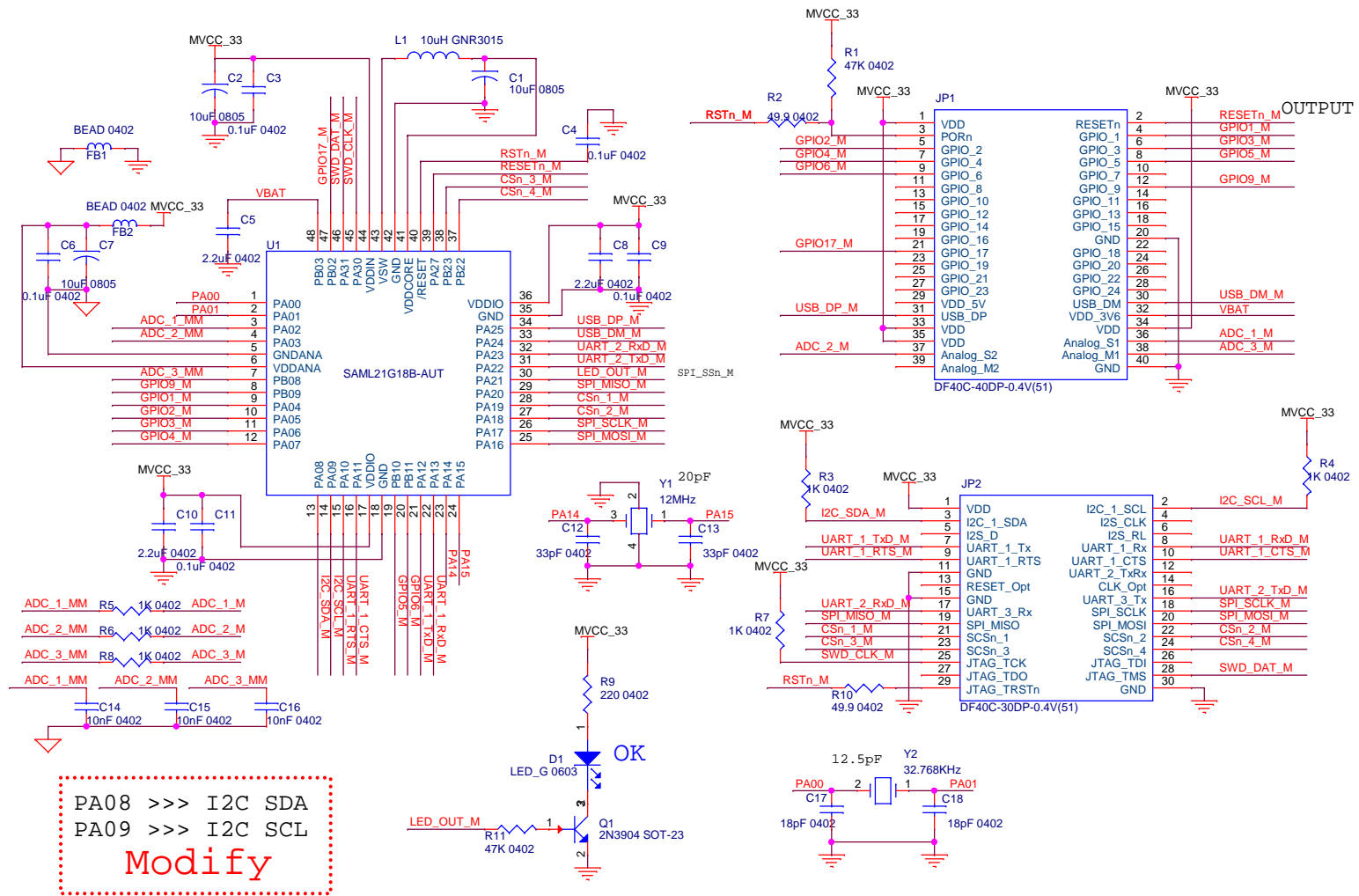
The schematic diagram illustrates the pin connections for the Microchip BLE BM71 module. The module is represented by a central block labeled FP1 (BM71). It features several pins for power, ground, and various functions. The connections are as follows:

- Power and Ground:** BVCC_33, BVCC_BAT, and BVCC are connected to the module's power pins. Ground connections are shown at multiple points.
- UART Connections:** UART_1_RxD_B, UART_1_CTS_B, UART_4_RxD_B, and UART_4_TxD_B are connected to the module's UART pins. These are also connected to external components like U4 and U5 (TC7SB3157CFU) for signal conditioning.
- I2C Connections:** I2C_1_SCL and I2C_1_SDA are connected to the module's I2C pins.
- SPI Connections:** SPI_1_SCL, SPI_1_MISO, SPI_1_MOSI, SPI_2_SCL, and SPI_2_MOSI are connected to the module's SPI pins.
- GPIO Connections:** GPIO_1 through GPIO_8 are connected to the module's GPIO pins.
- JTAG Connections:** JTAG_TCK, JTAG_TDO, JTAG_TRSTn, and JTAG_TMS are connected to the module's JTAG pins.
- Other Connections:** The module is connected to an LED (D13) through a resistor (R47). It also has connections for a reset pin (RESETn_B) and a program pin (PROGRAM).

The diagram includes various passive components such as resistors (R44, R45, R47, R48, R49), capacitors (C45, C46, C47, C49, C50, C51), and a diode (D13). The module is powered by BVCC and BVCC_BAT, with a 10K 0402 resistor (R44) connected to the PROGRAM pin. The UART pins are connected to UART_1 and UART_4 signals. The I2C pins are connected to I2C_1 signals. The SPI pins are connected to SPI_1 and SPI_2 signals. The GPIO pins are connected to GPIO_1 through GPIO_8 signals. The JTAG pins are connected to JTAG signals. The module is also connected to an LED (D13) through a 10K 0402 resistor (R47).

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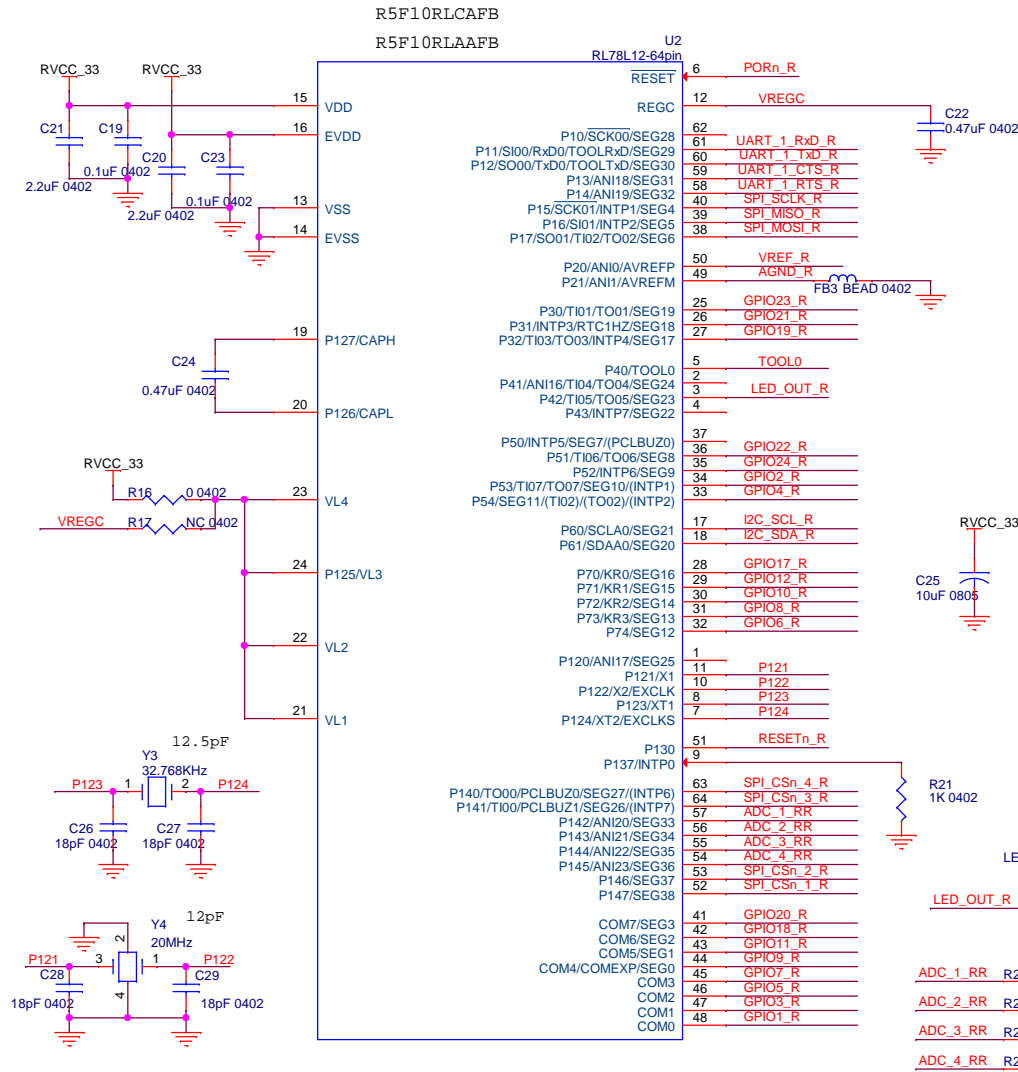
Microchip SAML21G18B



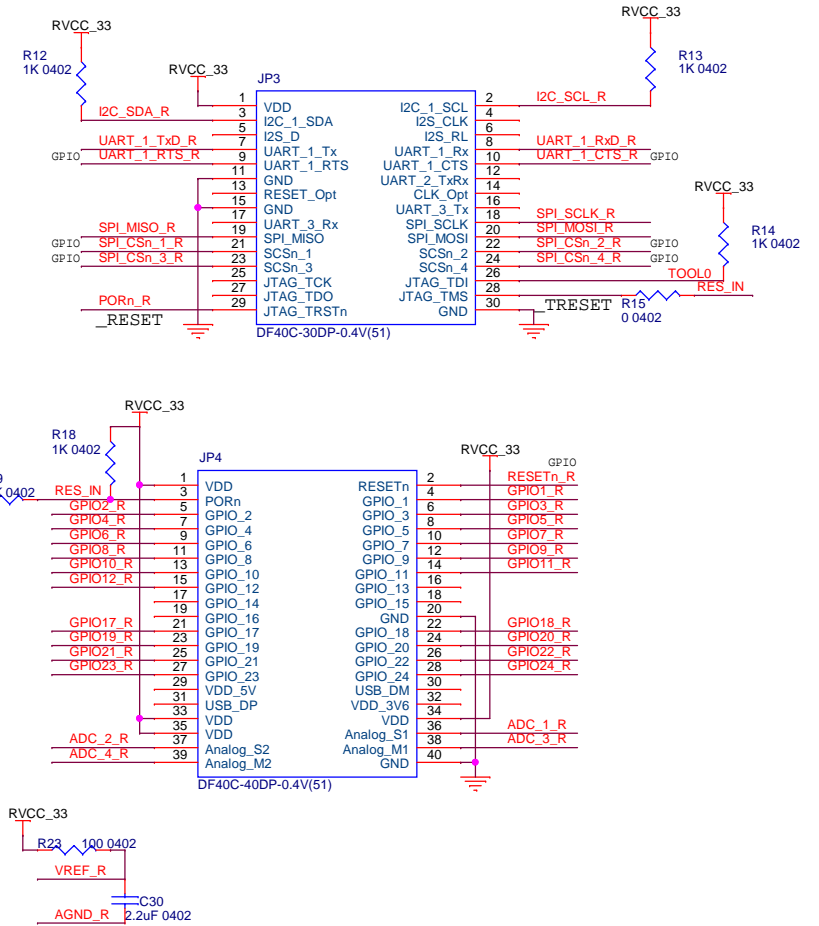
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PA09 >>> I2C SCL
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Renesas RL78 R5F10RLCAFB



Unused pin config as GPIO output



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The schematic diagram illustrates the internal components and connections of the Cypress PSOC6 CY8C6347BZ1. Key components include:

- Power Management:** CVCC_33, VCR, FB4, FB5, FB6, FB7, and various capacitors (C37, C43, C44, C45, C47, C48, C49, C50, C51, C54) for voltage regulation and decoupling.
- Timing and Clocking:** XTAL (32MHz), XTAL_O, and various capacitors (C66, C67, C68, C69, C70, C71) for clock generation.
- GPIOs and I/O:** Multiple GPIO pins (P0.0 to P13.7) connected to various external components like LEDs (LED_G 0603, LED_OUT_C) and switches (TP1 DNU).
- Communication Interfaces:** I2C (I2C_SCL_C, I2C_SDA_C), UART (UART_1_RxD_C, UART_1_RTS_C, UART_2_RxD_C), SPI (SPI_MISO_C, SPI_CSn_1_C, SPI_CSn_2_C, SPI_CSn_3_C, SPI_CSn_4_C), and SWD (SWD_CLK_C, SWD_DAT_C) interfaces.
- ADCs:** Four ADCs (ADC_1 to ADC_4) with their respective comparators (ADC_1_CC to ADC_4_CC) and capacitors (C68, C69, C70, C71).
- Other Components:** U3A (CY8C6347BZ1-BLD53), U3B (CY8C6347BZ1-BLD53), U3C (CY8C6347BZ1-BLD53), U3D (CY8C6347BZ1-BLD53), U3E (CY8C6347BZ1-BLD53), U3F (CY8C6347BZ1-BLD53), U3G (CY8C6347BZ1-BLD53), U3H (CY8C6347BZ1-BLD53), U3I (CY8C6347BZ1-BLD53), U3J (CY8C6347BZ1-BLD53), U3K (CY8C6347BZ1-BLD53), U3L (CY8C6347BZ1-BLD53), U3M (CY8C6347BZ1-BLD53), U3N (CY8C6347BZ1-BLD53), U3O (CY8C6347BZ1-BLD53), U3P (CY8C6347BZ1-BLD53), U3Q (CY8C6347BZ1-BLD53), U3R (CY8C6347BZ1-BLD53), U3S (CY8C6347BZ1-BLD53), U3T (CY8C6347BZ1-BLD53), U3U (CY8C6347BZ1-BLD53), U3V (CY8C6347BZ1-BLD53), U3W (CY8C6347BZ1-BLD53), U3X (CY8C6347BZ1-BLD53), U3Y (CY8C6347BZ1-BLD53), U3Z (CY8C6347BZ1-BLD53).

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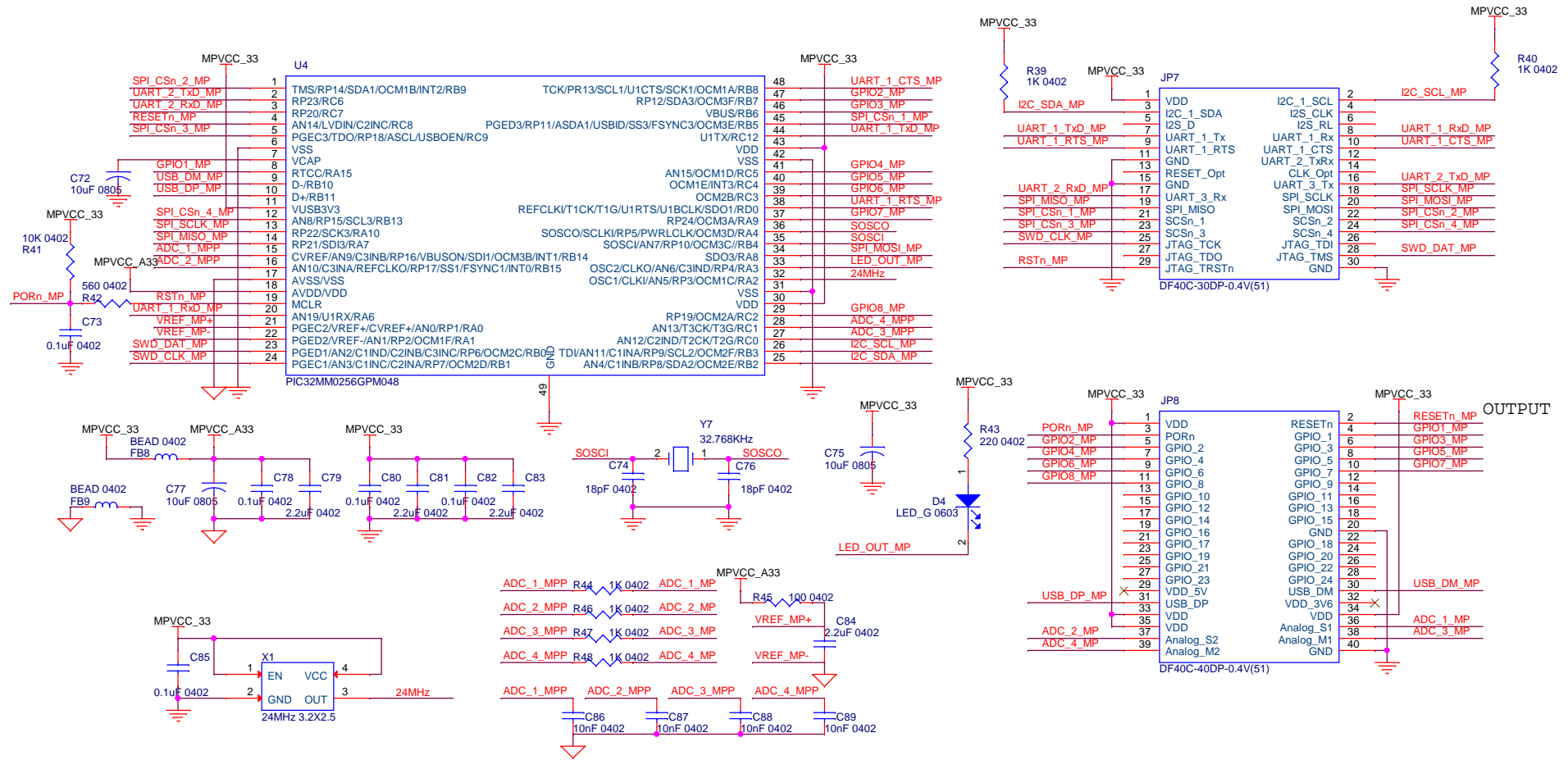
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Cypress PSOC6 CY8C6347BZ1

The schematic diagram illustrates the internal components and connections of the Cypress PSOC6 CY8C6347BZ1. Key components include:

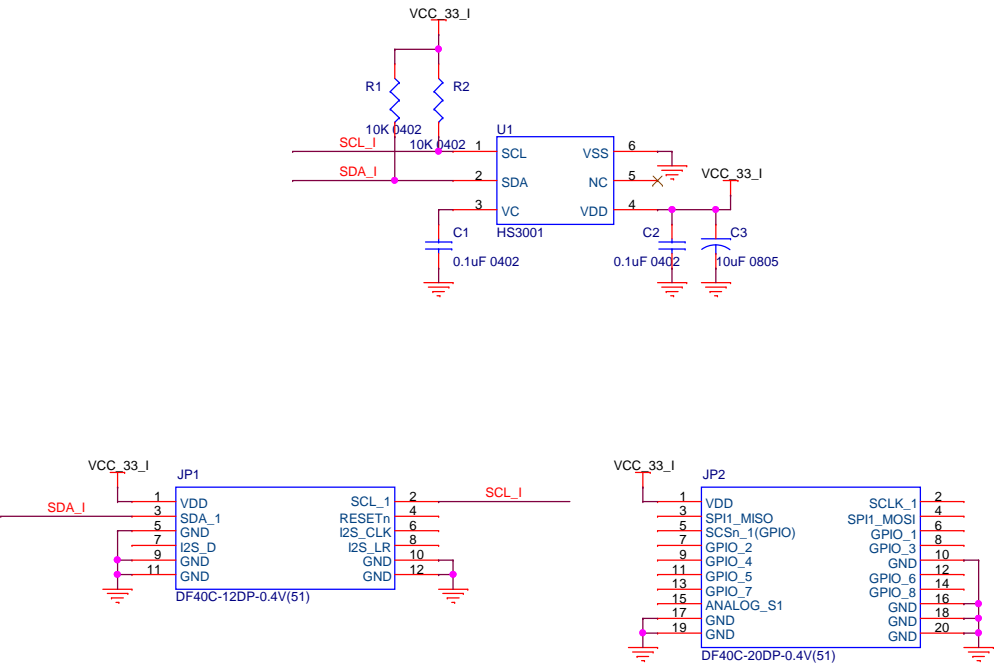
- U3A and U3B:** Two integrated circuits (ICs) connected to the main IC, likely for power management or signal processing.
- JP5 and JP6:** Jumper pins for configuration, connected to various pins of the main IC.
- Resistors (R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, R181, R182, R183, R184, R185, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R210, R211, R212, R213, R214, R215, R216, R217, R218, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230, R231, R232, R233, R234, R235, R236, R237, R238, R239, R240, R241, R242, R243, R244, R245, R246, R247, R248, R249, R250, R251, R252, R253, R254, R255, R256, R257, R258, R259, R260, R261, R262, R263, R264, R265, R266, R267, R268, R269, R270, R271, R272, R273, R274, R275, R276, R277, R278, R279, R280, R281, R282, R283, R284, R285, R286, R287, R288, R289, R290, R291, R292, R293, R294, R295, R296, R297, R298, R299, R300, R301, R302, R303, R304, R305, R306, R307, R308, R309, R310, R311, R312, R313, R314, R315, R316, R317, R318, R319, R320, R321, R322, R323, R324, R325, R326, R327, R328, R329, R330, R331, R332, R333, R334, R335, R336, R337, R338, R339, R340, R341, R342, R343, R344, R345, R346, R347, R348, R349, R350, R351, R352, R353, R354, R355, R356, R357, R358, R359, R360, R361, R362, R363, R364, R365, R366, R367, R368, R369, R370, R371, R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, R386, R387, R388, R389, R390, R391, R392, R393, R394, R395, R396, R397, R398, R399, R400, R401, R402, R403, R404, R405, R406, R407, R408, R409, R410, R411, R412, R413, R414, R415, R416, R417, R418, R419, R420, R421, R422, R423, R424, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437, R438, R439, R440, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500, R501, R502, R503, R504, R505, R506, R507, R508, R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698, R699, R700, R701, R702, R703, R704, R705, R706, R707, R708, R709, R710, R711, R712, R713, R714, R715, R716, R717, R718, R719, R720, R721, R722, R723, R724, R725, R726, R727, R728, R729, R730, R731, R732, R733, R734, R735, R736, R737, R738, R739, R740, R741, R742, R743, R744, R745, R746, R747, R748, R749, R750, R751, R752, R753, R754, R755, R756, R757, R758, R759, R760, R761, R762, R763, R764, R765, R766, R767, R768, R769, R770, R771, R772, R773, R774, R775, R776, R777, R778, R779, R780, R781, R782, R783, R784, R785, R786, R787, R788, R789, R790, R791, R792, R793, R794, R795, R796, R797, R798, R799, R800, R801, R802, R803, R804, R805, R806, R807, R808, R809, R810, R811, R812, R813, R814, R815**

Microchip PIC32 PIC32MM0256GPM048

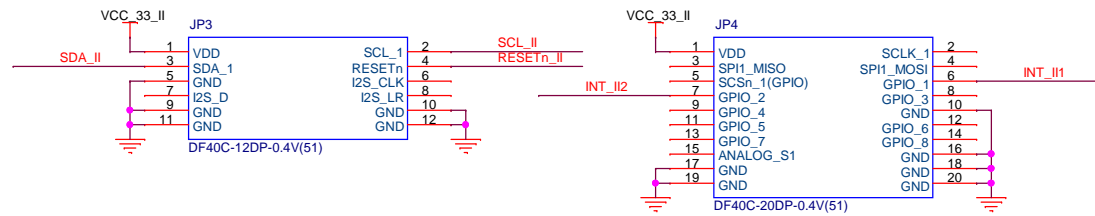
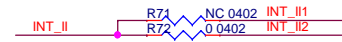


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IDT Humidity and Temperature Sensor

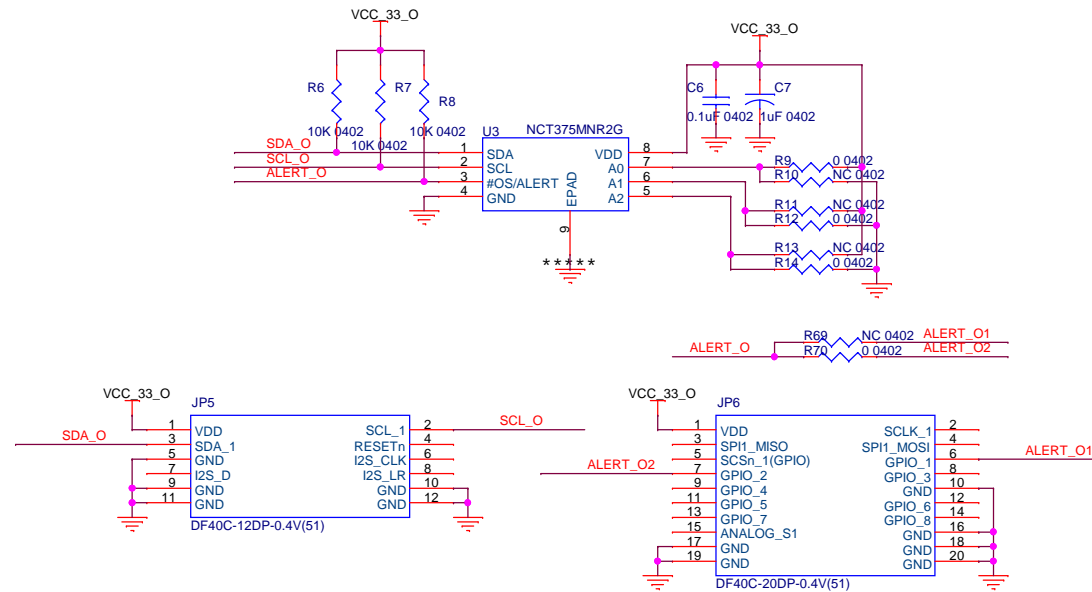


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ON Semi Temperature Sensor



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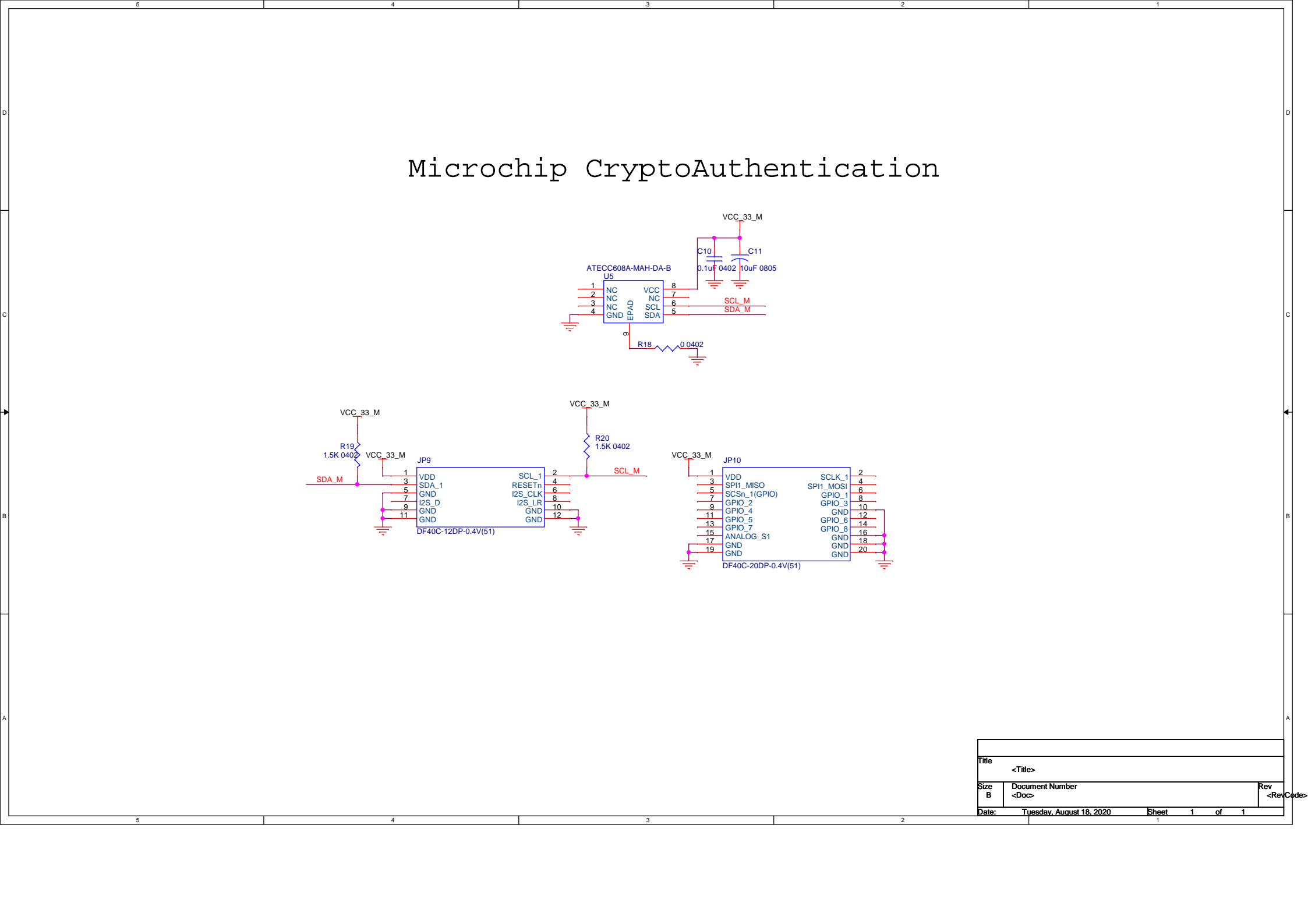
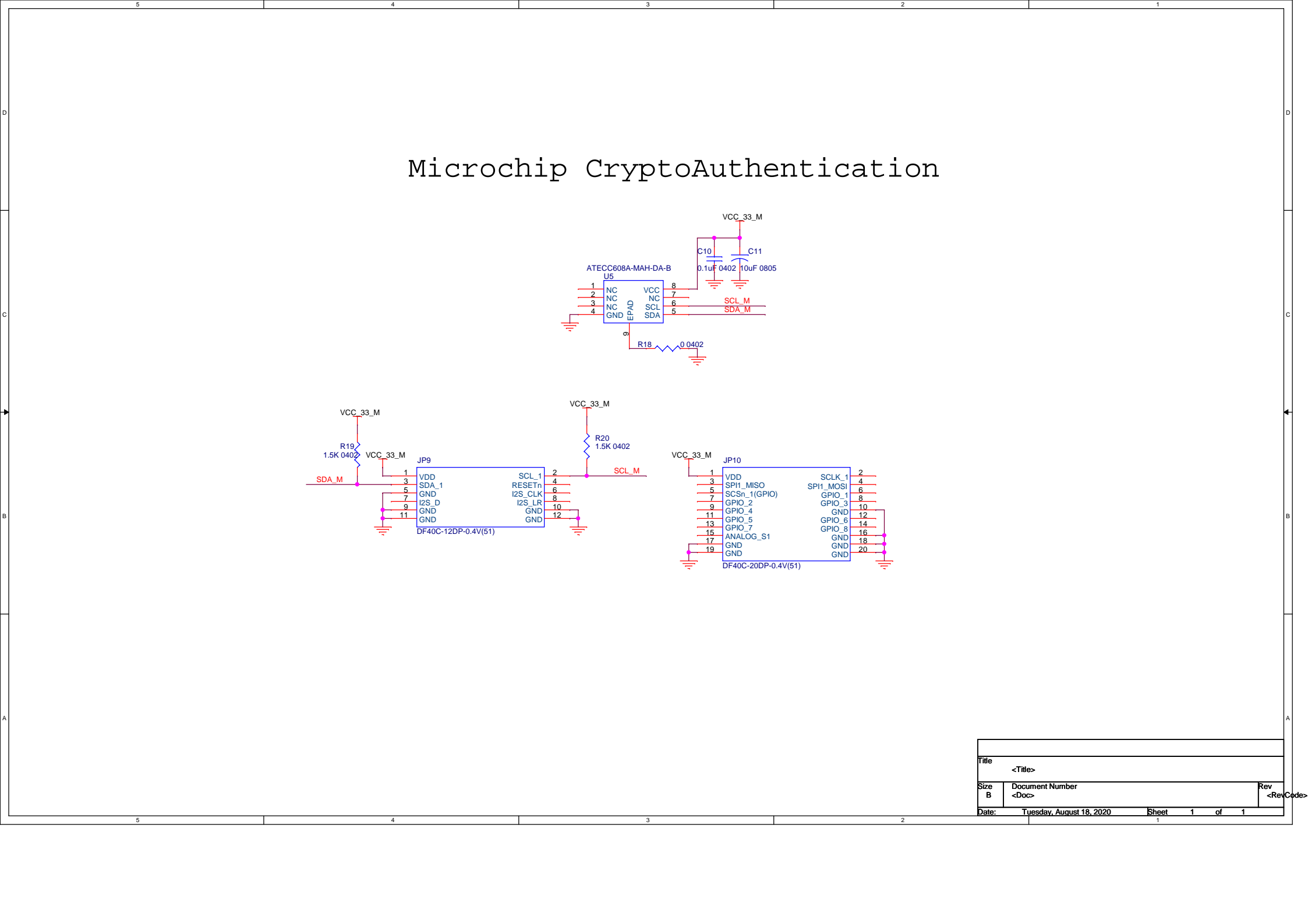
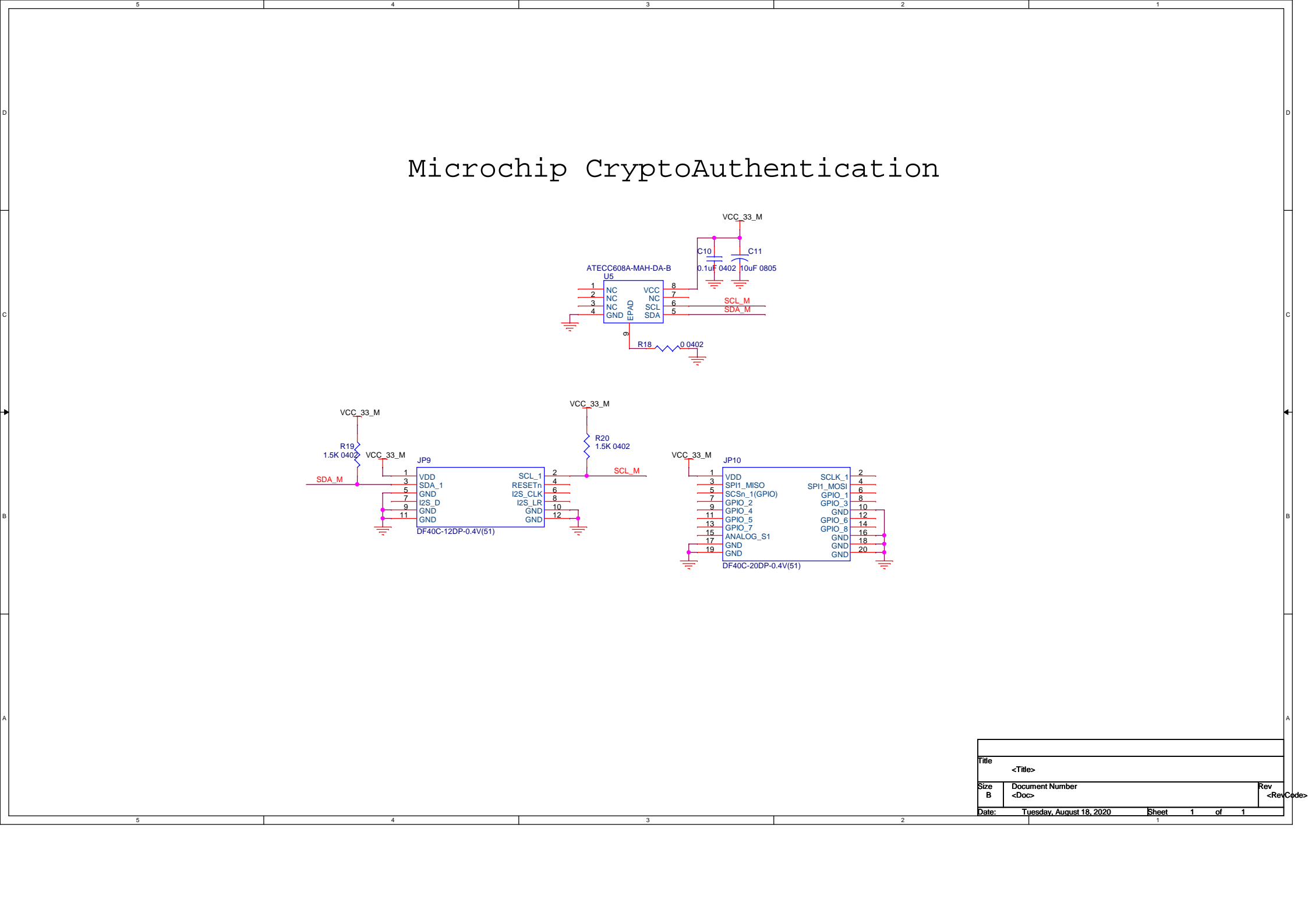
Microchip CryptoAuthentication

The schematic diagram illustrates the Microchip CryptoAuthentication circuit. It features three main components: an ATECC608A-MAH-DA-B (U5) microcontroller, two DF40C-12DP-0.4V(51) (JP9 and JP10) microcontrollers, and a DF40C-20DP-0.4V(51) microcontroller. The ATECC608A is connected to VCC_33_M, GND, SCL_M, and SDA_M. The DF40C-12DPs are connected to VCC_33_M, GND, SCL_1, and SDA_1. The DF40C-20DP is connected to VCC_33_M, GND, SCLK_1, and SPI1_MOSI. Various passive components (resistors R19, R18, R20, capacitors C10, C11) are used for timing and signal conditioning.

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Microchip CryptoAuthentication

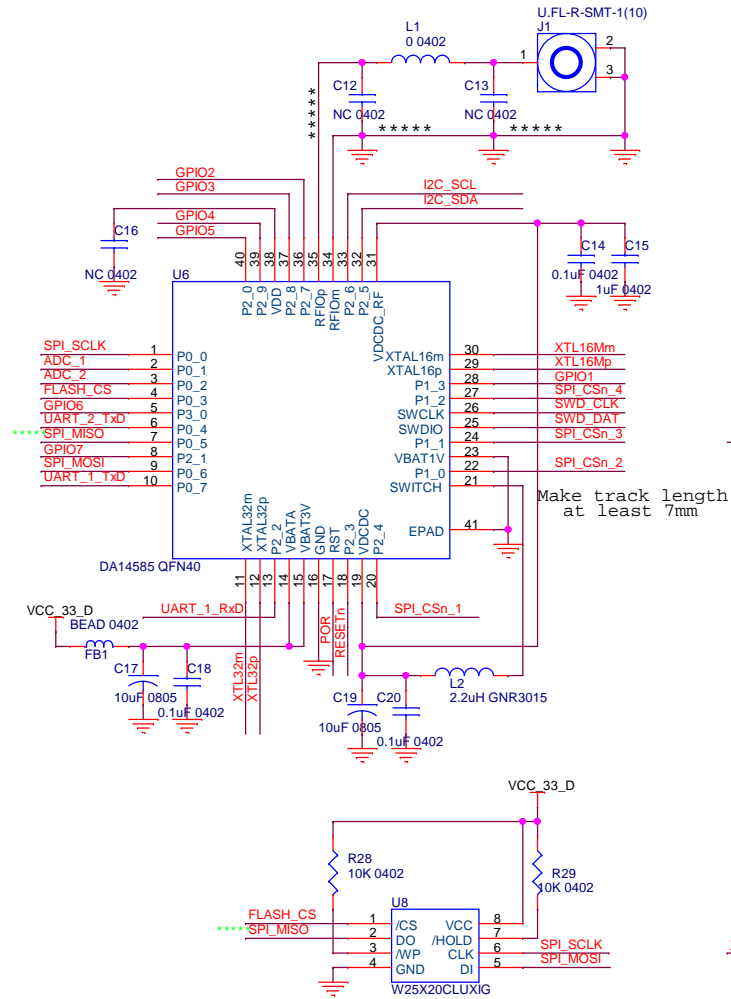
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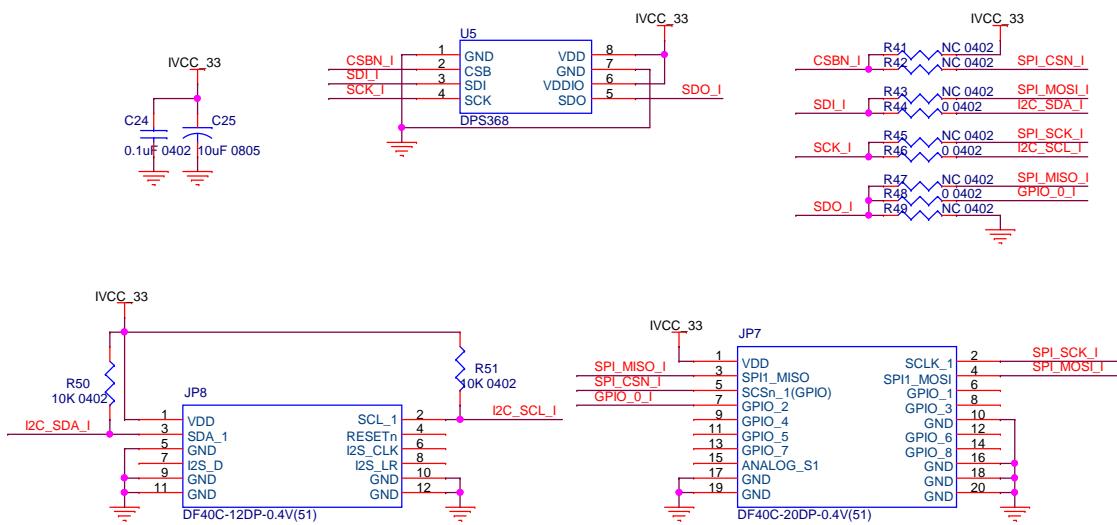
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Dialog BLE MCU DA14585

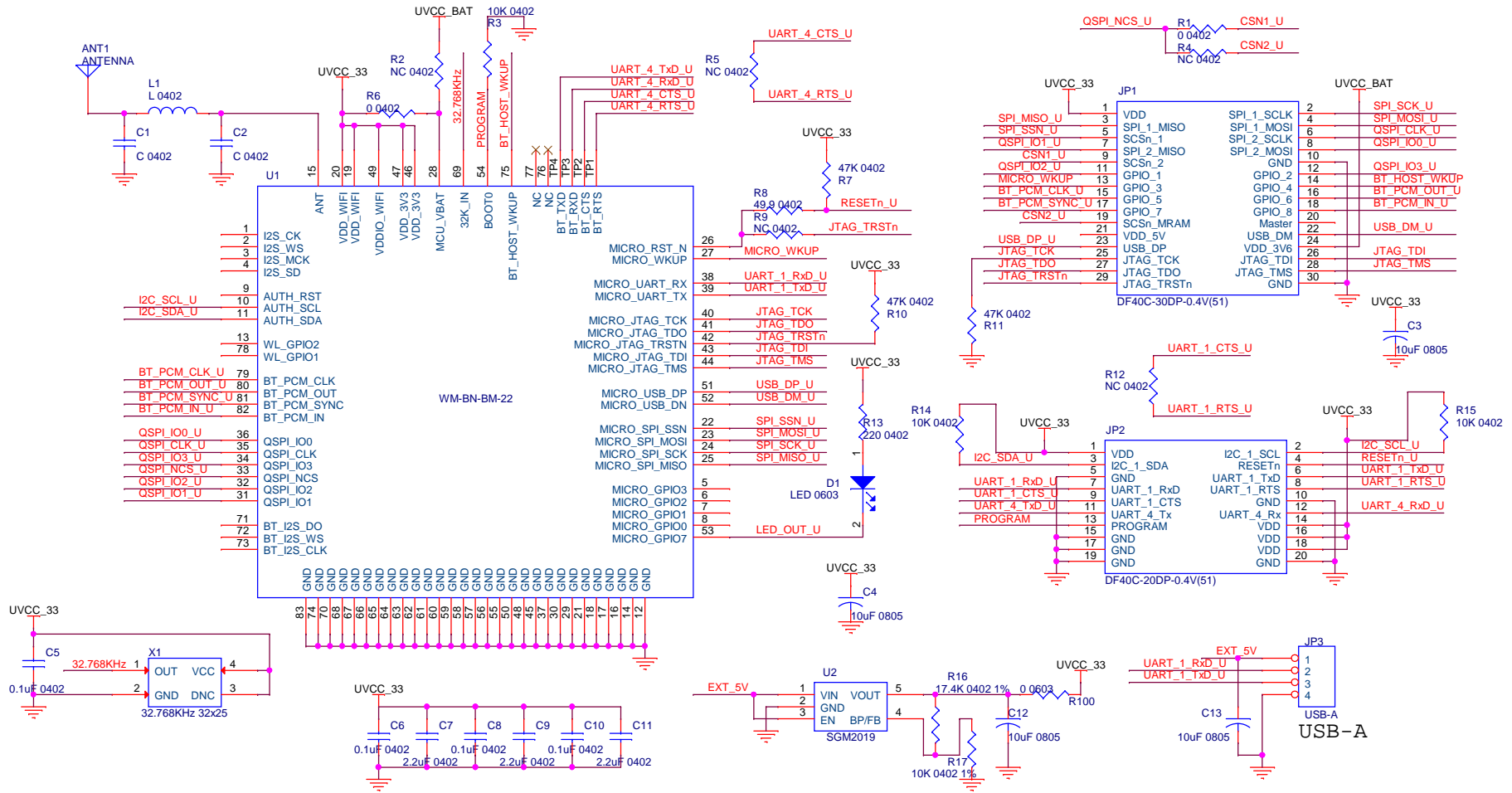


Infineon Pressure & Temperature Sensor



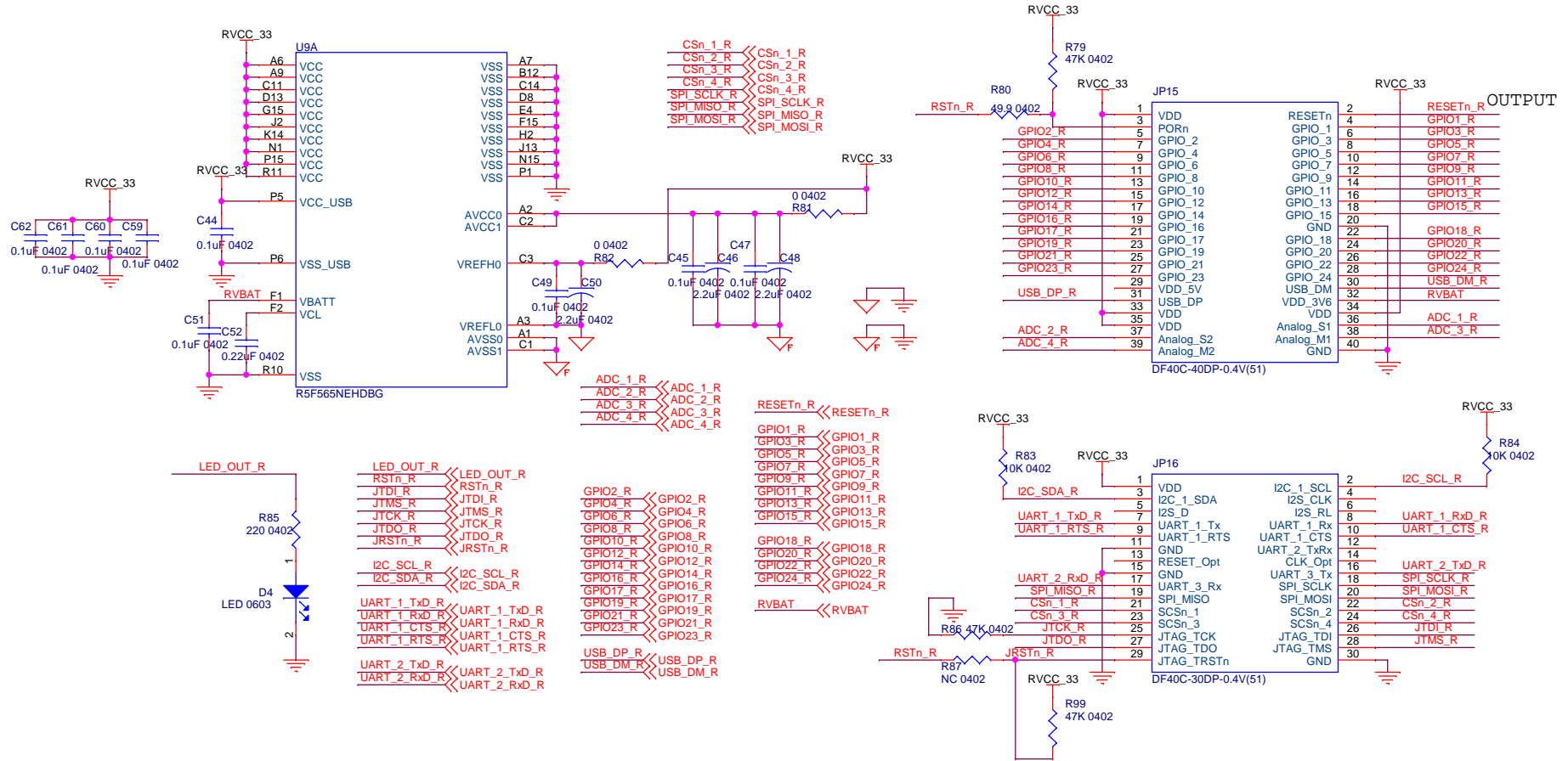
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USI RF BM22



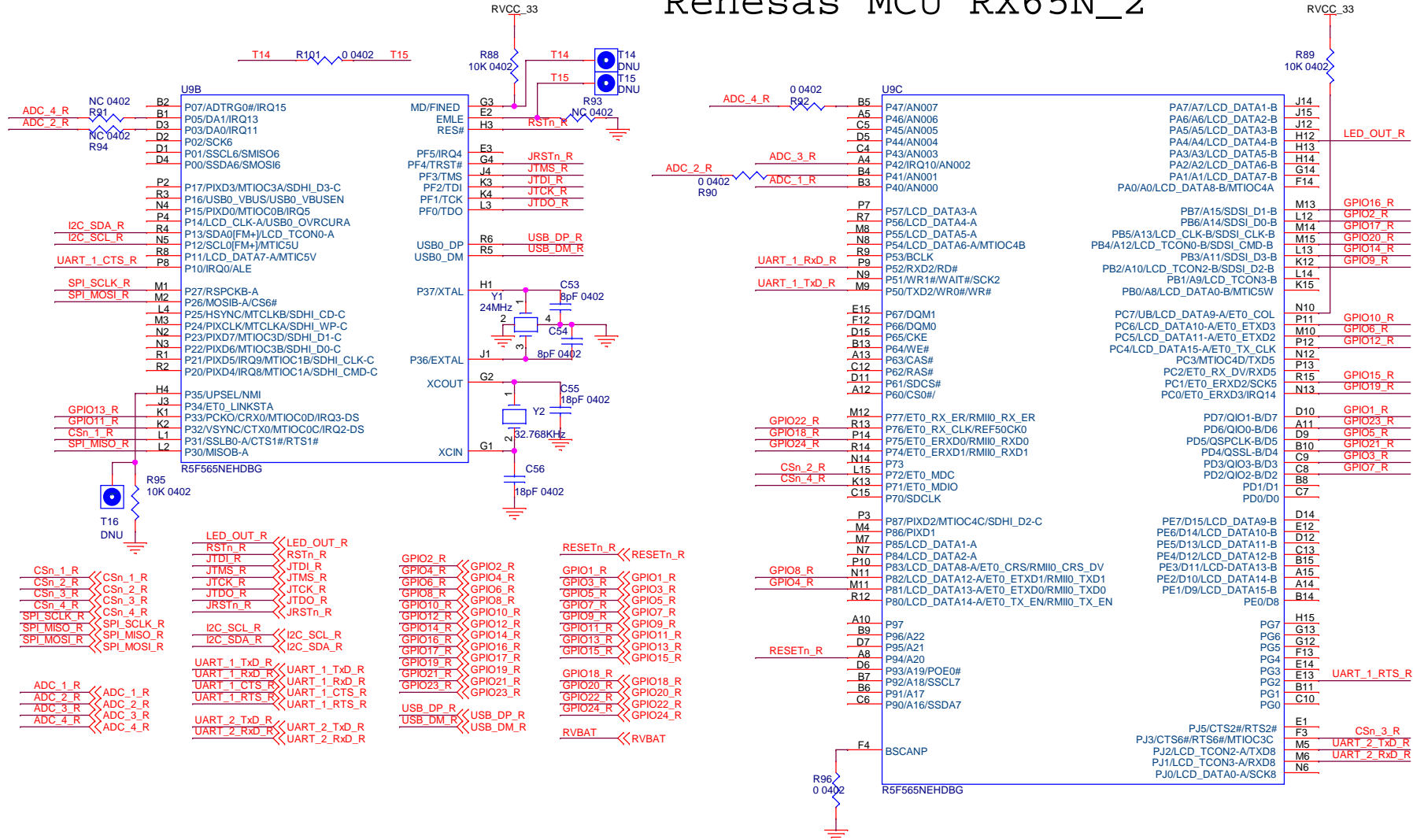
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Renesas MCU RX65N_1



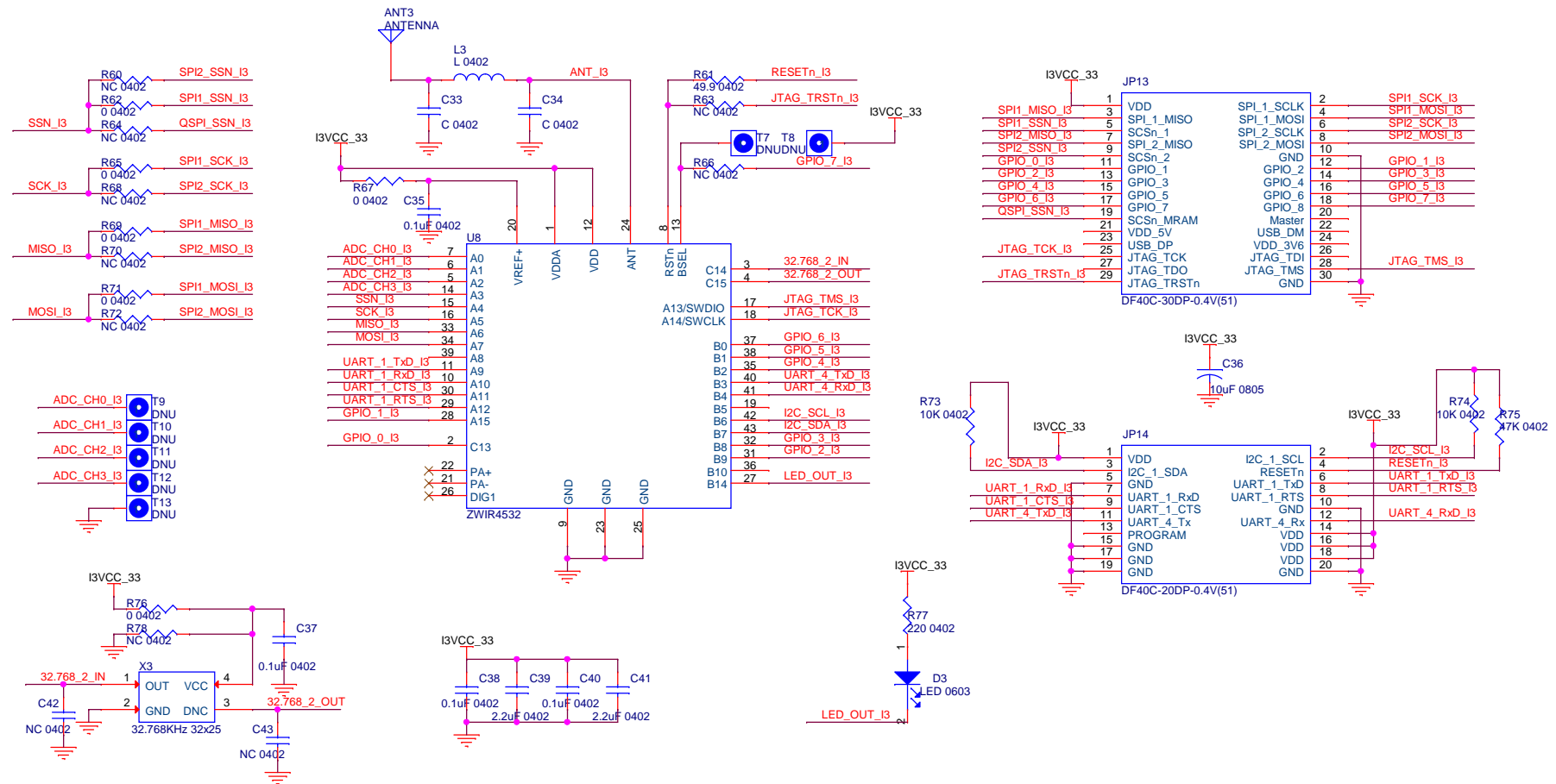
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Renesas MCU RX65N_2



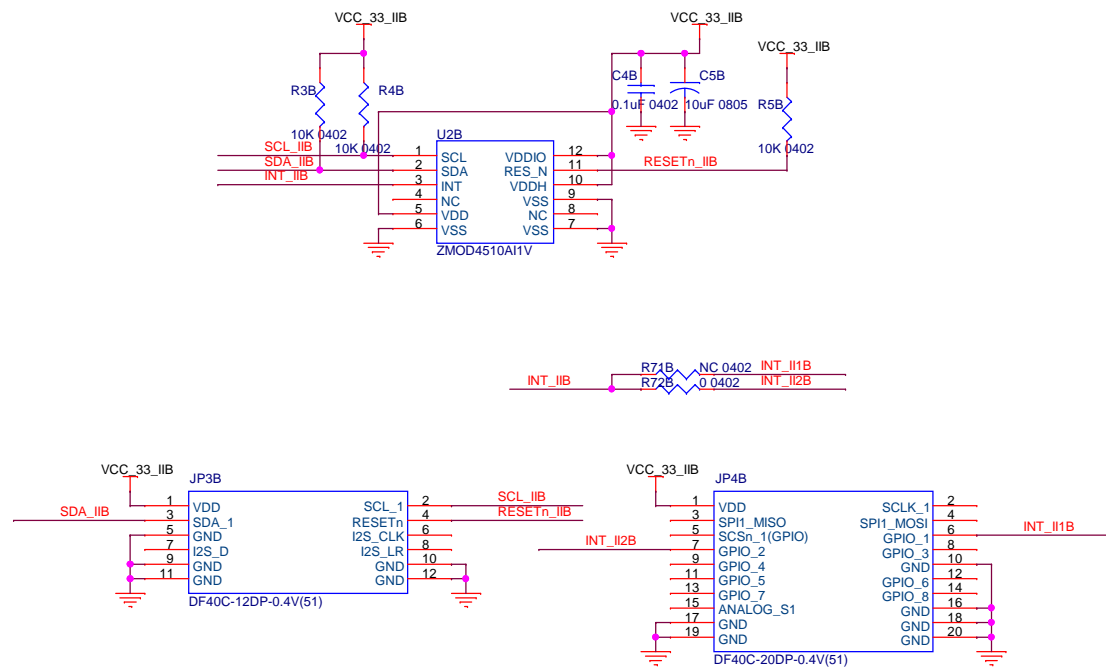
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IDT 6LoWPAN RF Module



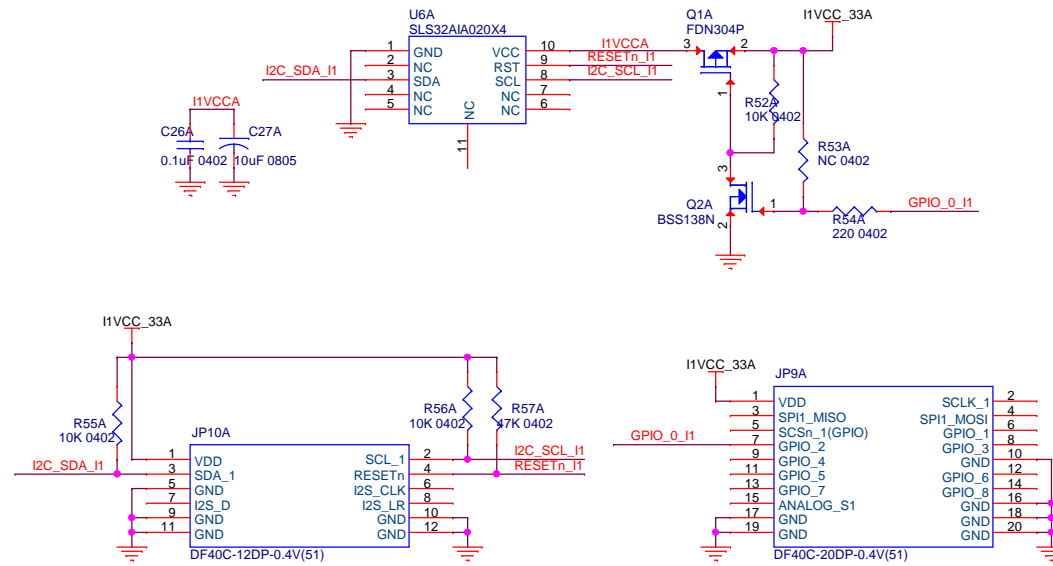
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IDT Outdoor Air Quality Sensor



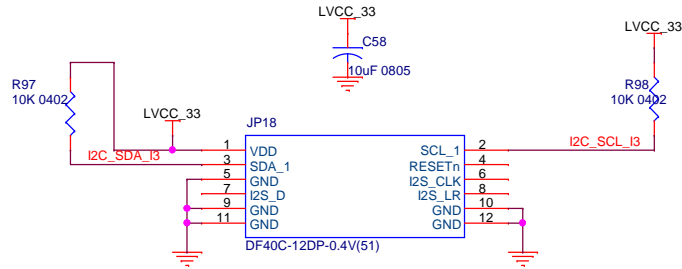
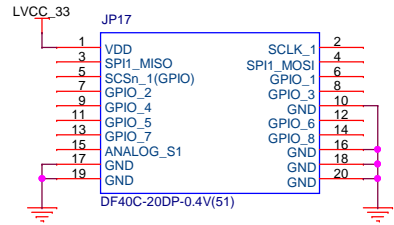
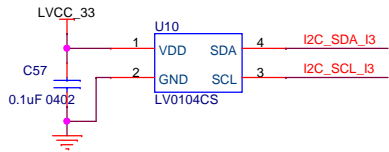
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Infineon security controller(Trust M)



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ON Semi Light Sensor



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