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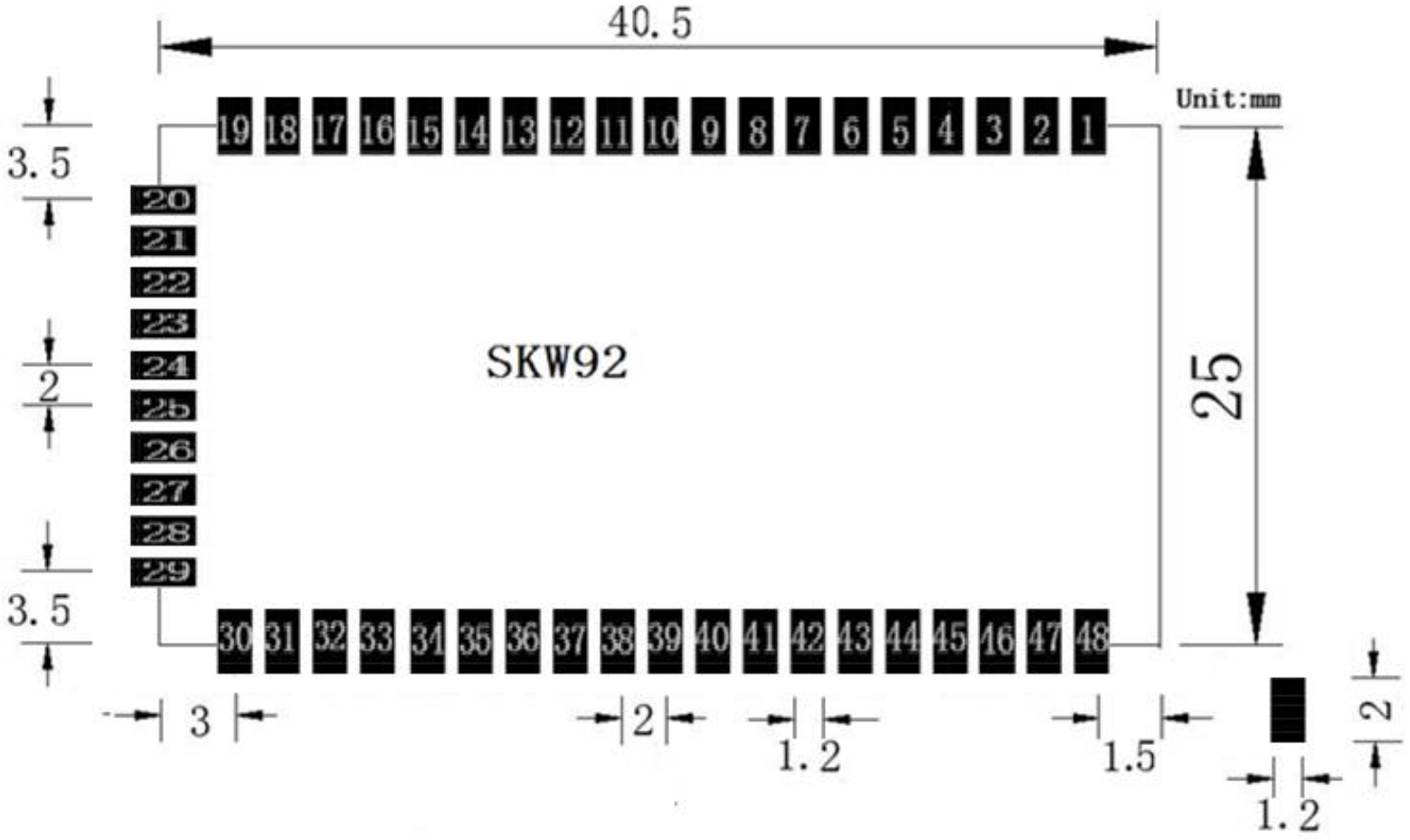
SKW92
Guide of Application Design

PCB Layout Recommendation Encapsulation



Pin Assignments & Multiplexing

SKW92A Pin Number	GPIO	MT7628 Pin Number	Description	function
38	GPIO#46	148	Uart1_RXD	UART1
37	GPIO#45	147	Uart1_TXD	
36	GPIO#44	144	WLED_N	Wireless LED
35	GPIO#43	143	P0_LED	Port LED
34	GPIO#42	142	P1_LED	
33	GPIO#41	141	P2_LED	
32	GPIO#40	140	P3_LED	
31	GPIO#39	139	P4_LED	
39	GPIO#38	137	WDT_RST_N	WPS/Factory Setting
40	GPIO#37	136	WPS_LED	WPS LED
24	GPIO#29	57	MDI_TN_P4	SD
23	GPIO#28	56	MDI_TP_P4	
22	GPIO#27	55	MDI_RN_P4	
21	GPIO#26	54	MDI_RP_P4	
16	GPIO#25	52	MDI_RN_P3	
15	GPIO#24	51	MDI_RP_P3	
14	GPIO#23	50	MDI_TN_P3	
13	GPIO#22	49	MDI_TP_P3	

Pin Assignments & Multiplexing

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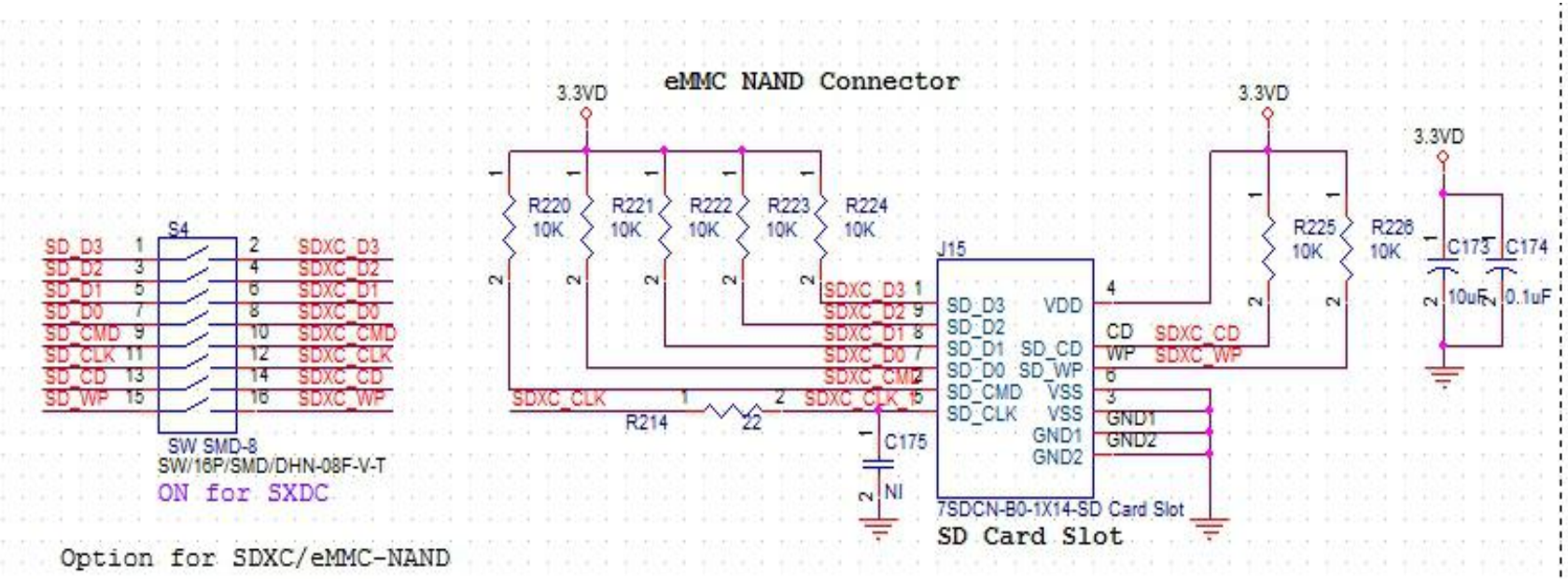
12	GPIO#21	48	MDI_TN_P2	UART2
11	GPIO#20	47	MDI_TP_P2	
10	GPIO#19	46	MDI_RN_P2	PWM1
9	GPIO#18	45	MDI_RP_P2	PWM0
8	GPIO#17	44	MDI_RN_P1	SPIS
7	GPIO#16	43	MDI_RP_P1	
6	GPIO#15	42	MDI_TN_P1	
5	GPIO#14	40	MDI_TP_P1	
25	GPIO#13	31	UART0_RXD	Uart0(For Debug)
26	GPIO#12	30	UART0_TXD	
48	GPIO#11	29	GPIO0	GPIO0
46	GPIO#05	21	I2C_SD	I2C
47	GPIO#04	20	I2C_CLK	
44	GPIO#03	19	I2S_CLK/PCMFS	I2S/PCM
42	GPIO#02	18	I2S_WS/PCMCLK	
43	GPIO#01	17	I2S_SDO/PCMDTX	
41	GPIO#0	16	I2S_SDI/PCMDRX	
19		62	USB_DM	USB
18		61	USB_DP	
4		36	MDI_TN_P0	WAN
3		35	MDI_TP_P0	
2		34	MDI_RN_P0	
1		33	MDI_RP_P0	

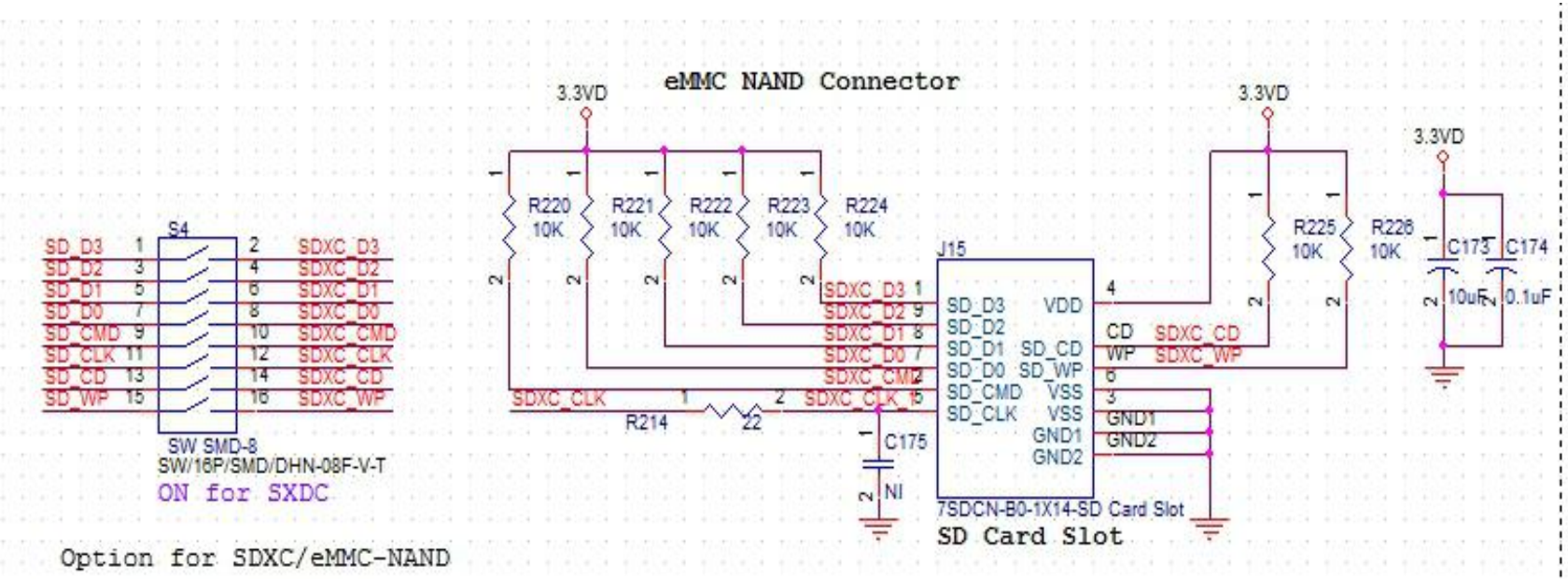
IoT Mode: Pin Multiplexing

IoT Mode(Only one port, other ports are GPIO)SD card is multiplexing with P3/P4 port, in order to make sure other ports can be used normally, like I2S,I2C and other GPIO.



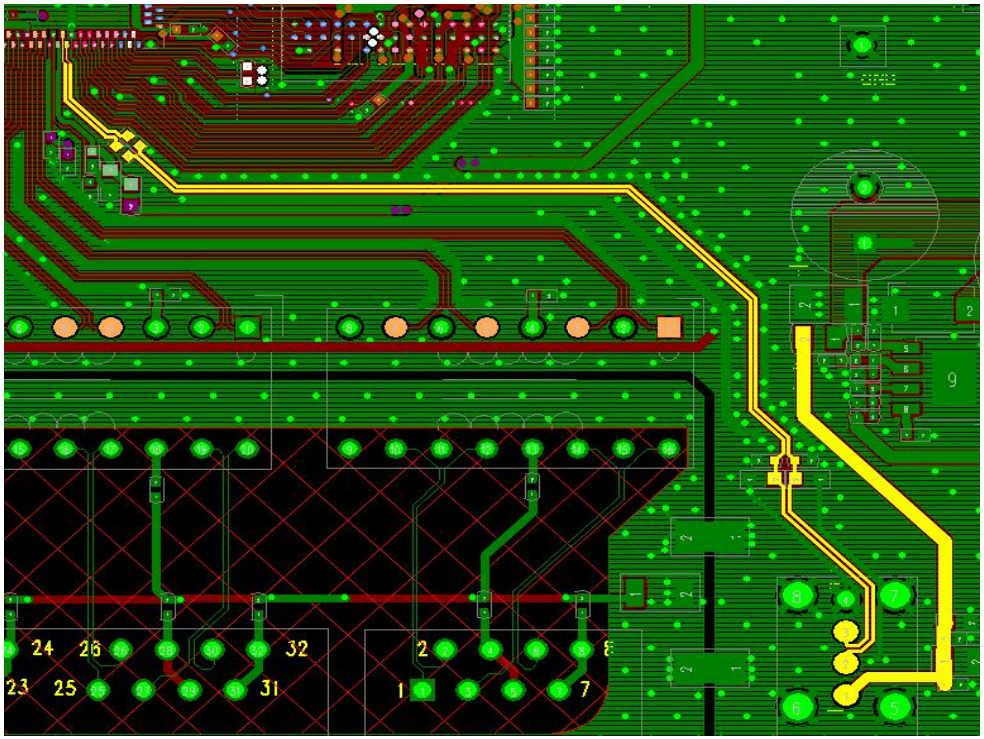
AP Router Mode: Pin Multiplexing

AP Router Mode:(1WAN, 4LAN), About SD card muitiplexing relationship is as below: SDXC use TXD1/RXD1, GPIO0, I2C, I2S pins,
SD card is multiplexing with I2C,I2S,UART1. But choose one from three.



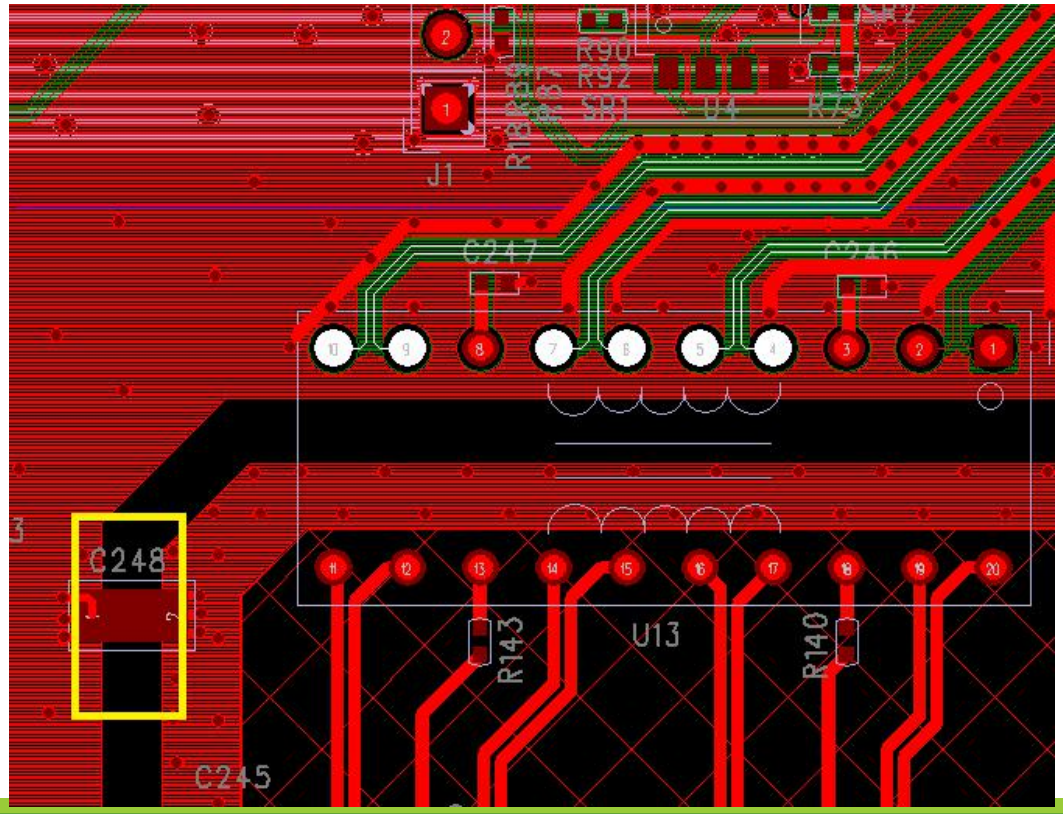
USB Layout Considerations

1. Keep USB _DP/DM as Differential Pairs Routing and need to barrier to GND.
2. Impedance is 90 ohms.
2. USB_5V line breadth >=20mil



Ethernet Layout Considerations

1. Keep DP/DM as Differential Pairs Routing and need to barrier to GND.
2. Impedance is 100 ohms.
3. Ethernet GND plane `s spacing to system ground is bigger than 80mil



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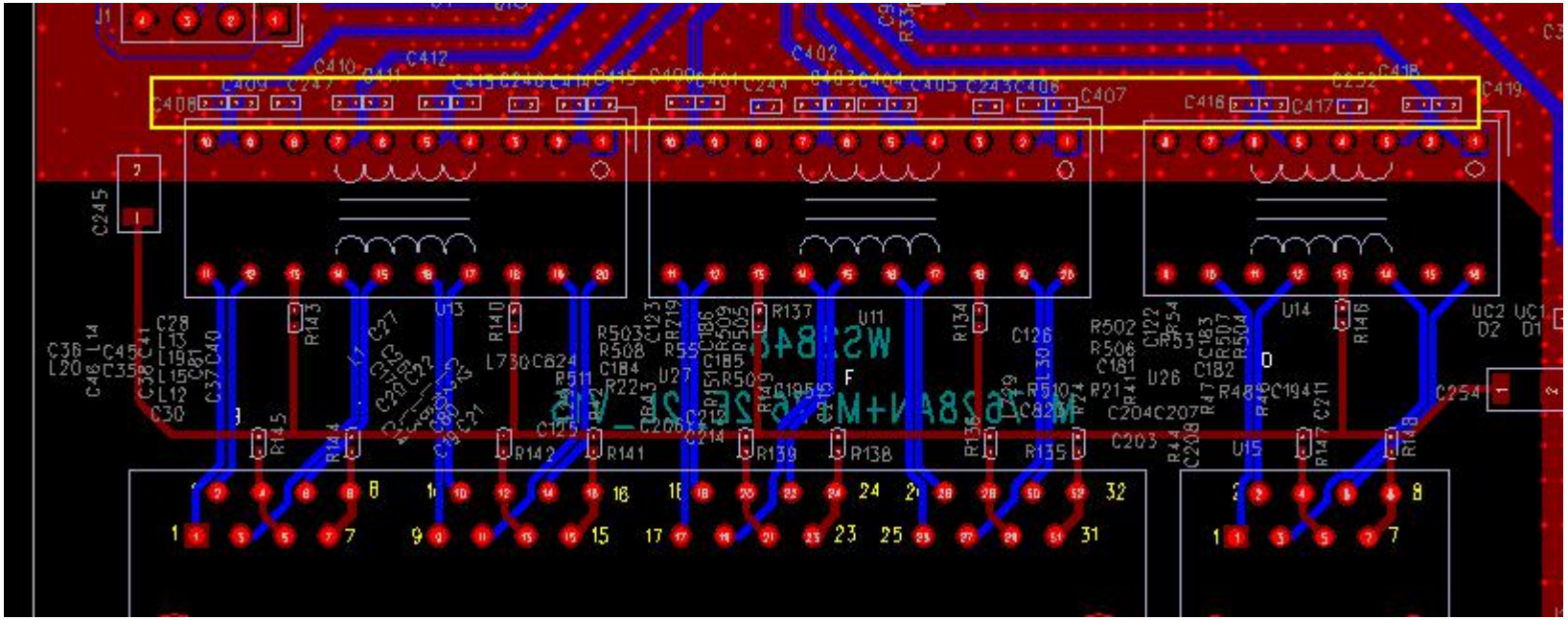
Ethernet Layout Considerations

1. DP/DM difference to the bypass capacitor.



Ethernet Layout Considerations

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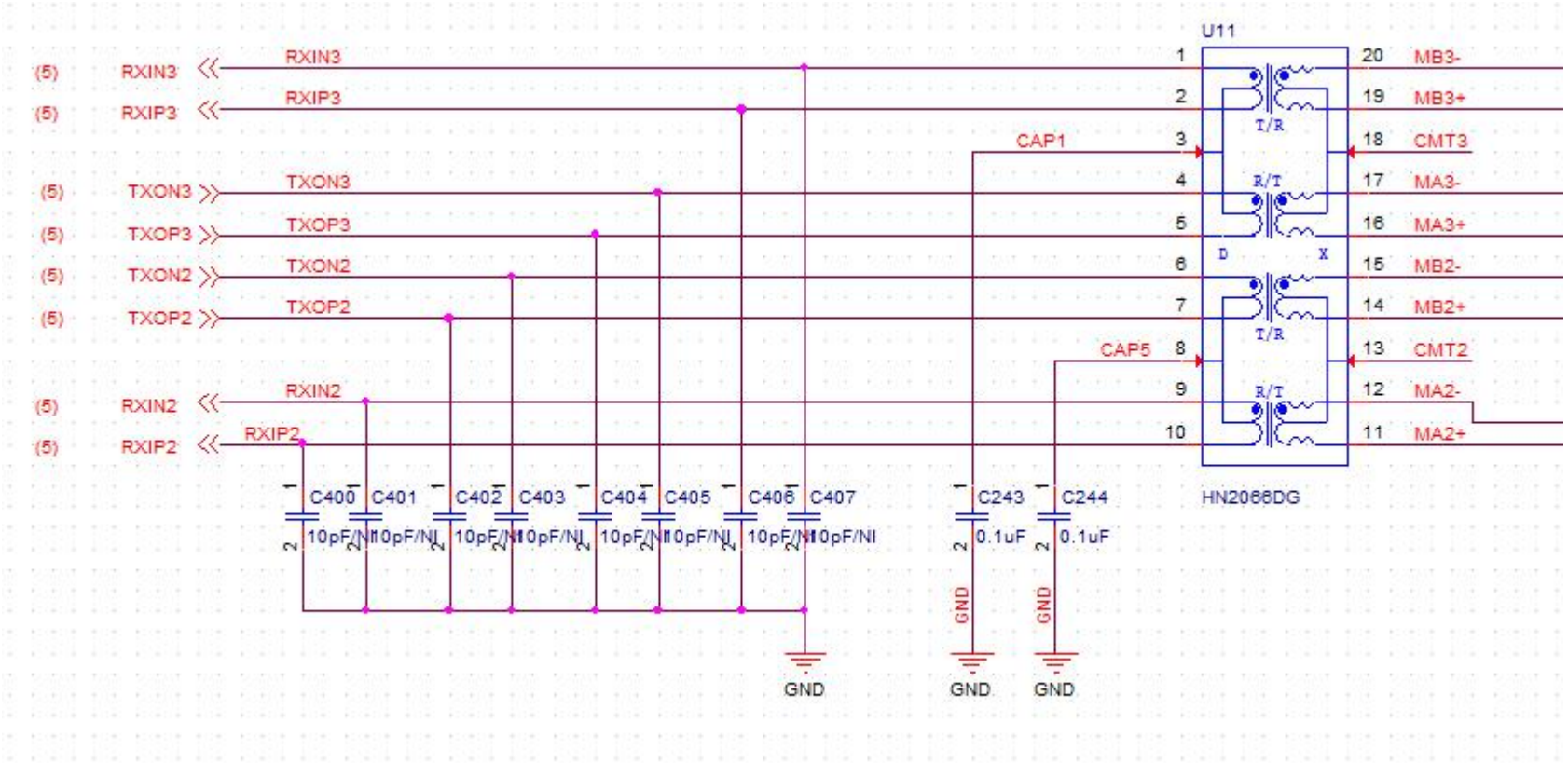
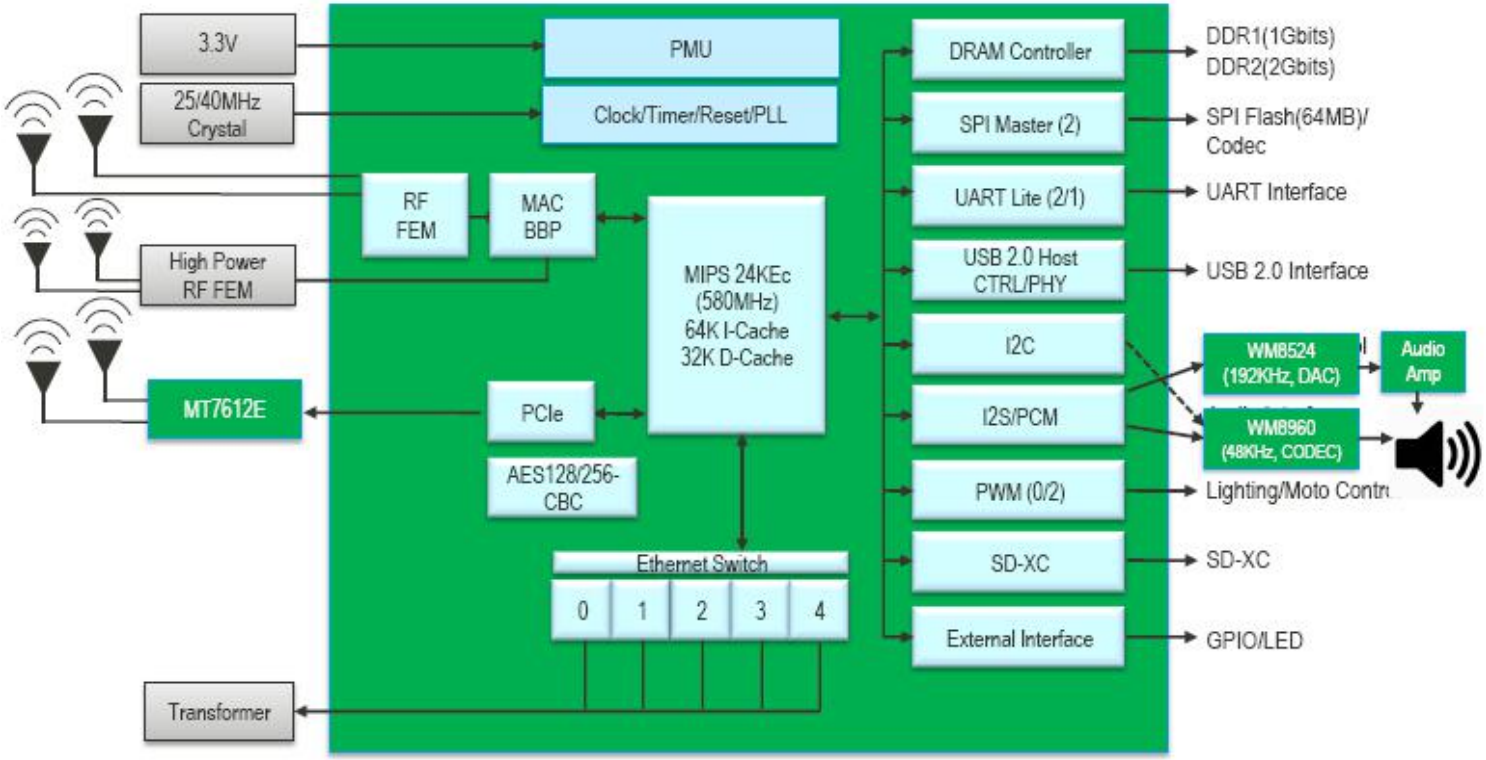


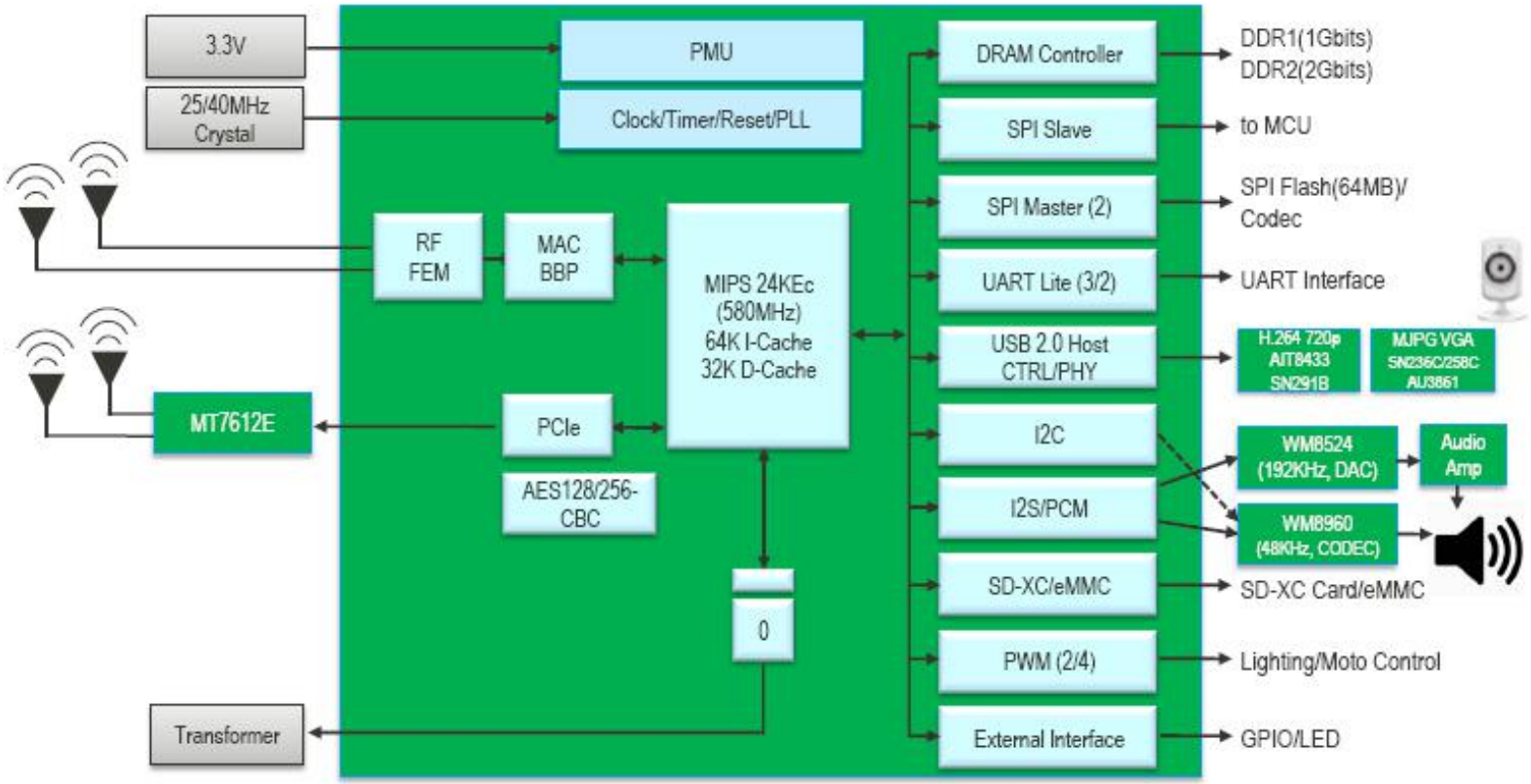
MT7628/7688 Features(1)

MT7628A (Router Mode)



MT7628/7688 Features(2)

MT7628A (IoT Mode)



MT7628/7688 Features(3)