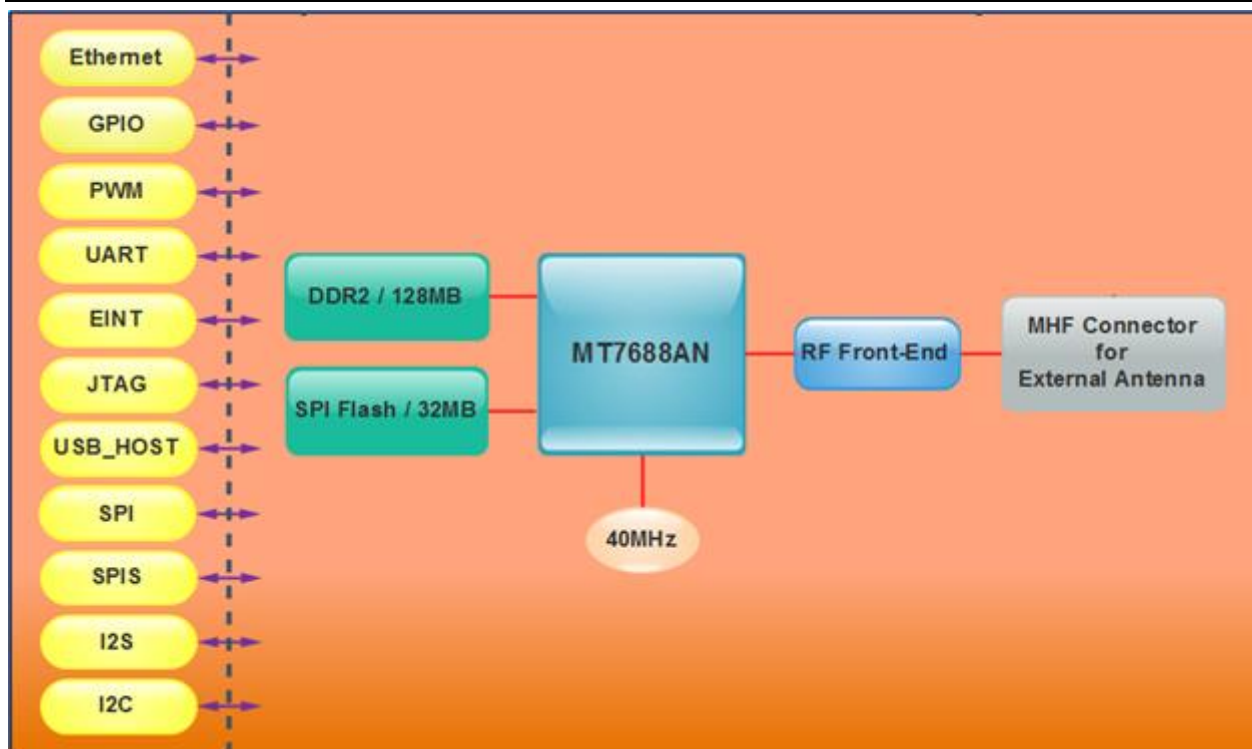# IoT Module

FEATURE

- MPU：MT7688AN (Runs at 580MHz MIPS)

- Has 32MB Flash and 128MB DDR2 RAM

- Supports 2.4G Wi-Fi IEEE802.11b/g/n

- Small Size 24mmX32mmX2.5mm

- Integrate high efficiency switching regulator for single 3.3V power source

- RoHS & Halogen free compliant / Lead free

- Provides Pin-Out：
  - Ethernet
  - GPIO x 22
  - PWM x 4
  - UART x 3
  - External Interrupts x 22
  - JTAG
  - USB_HOST
  - SPI
  - SPI Slave
  - I2S
  - I2C

## AI7688H Block Diagram

A wireless communication SiP Solution Provider

AcSiP Technology Corp. 3F,-1 No.207,Fusing Rd., Taoyuan City,Taoyuan Dist.,Taoyuan City 33066, Taiwan(R.O.C)
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Operation Conditions	
Power Supplies	3.3V (Pin Breakout)
I/O Voltage	3.3V
Dimension	24mm x 32mm x 2.5mm (Typ.)
Package	LGA
Temperature	■ Operating : -40℃ ~ +85℃ ■ Storage : -40℃ ~ +85℃
Humidity	■ Operating : 10 ~ 95% (Non-Condensing) ■ Storage : 5 ~ 95% (Non-Condensing)

Pin Assignment
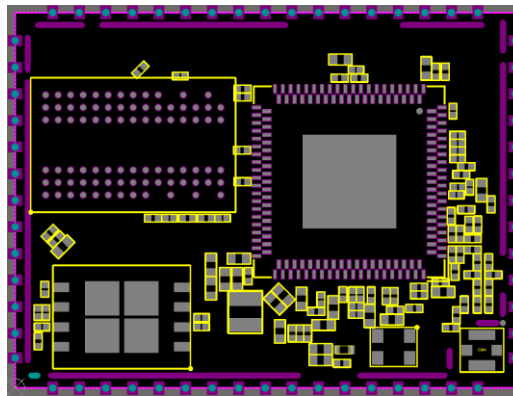
Module_pinout	Chip_pin_out	Pin NAME	Description	Module_pinout	Chip_pin_out	Pin NAME	Description
1		GND		31		GND	
2	141	EPHY_LED2 _N_JTMS	10/100 PHY Port #2 activity LED, JTAG_TMS	32	48	MDI_TN_P2	10/100 PHY Port #2 TXP
3	143	EPHY_LED0 _N_JTDO	10/100 PHY Port #0 activity LED, JTAG_TDO	33	47	MDI_TP_P2	10/100 PHY Port #2 TXN
4	139	EPHY_LED4_N_JTRST_N	10/100 PHY Port #4 activity LED, JTAG_TRST_	34	46	MDI_RN_P2	10/100 PHY Port #2 RXP
5	147	UART_TXD1	UART1 Lite TXD	35	45	MDI_RP_P2	10/100 PHY Port #2 RXN
6	148	UART_RXD1	UART1 Lite RXD	36	44	MDI_RN_P1	10/100 PHY Port #1 TXP
7	16	I2S_SDI	I2S data input	37	43	MDI_RP_P1	10/100 PHY Port #1 TXN
8	17	I2S_SDO	I2S data output	38	42	MDI_TN_P1	10/100 PHY Port #1 RXP
9	18	I2S_WS	I2S word select	39	40	MDI_TP_P1	10/100 PHY Port #1 RXN
10	19	I2S_CLK	I2S clock	40		GND	
11	20	I2C_SCLK	I2C Clock	41		GND	
12	21	I2C_SD	I2C Data	42		GND	
13		GND		43		GND	
14	33	MDI_RP_P0	10/100 PHY Port #0 RXN	44		GND	
15	34	MDI_RN_P0	10/100 PHY Port #0 RXP	45	144	WLED_N	WLAN Activity LED
16	35	MDI_TP_P0	10/100 PHY Port #0 TXN	46	136	REF_CLKO	Reference Clock Ouptut
17	36	MDI_TN_P0	10/100 PHY Port #0 TXP	47	135	PERST_N	PCIe device reset
18	29	GPIO0	General Purpose I/O	48	137	WDT_RST_N	Watchdog timeout reset
19	30	UART_TXD0	UART0 Lite TXD	49	138	PORST_N	Power on reset
20	31	UART_RXD0	UART0 Lite RXD	50	127	PCIE_TXP	PCIe0 differential transmit TX +
21	61	USB_DP	USB Port0 data pin Data+	51	126	PCIE_TXN0	PCIe0 differential transmit TX -
22	62	USB_DM	USB Port0 data pin Data-	52	129	PCIE_RXP0	PCIe0 differential receiver RX +
23	49	MDI_TP_P3	10/100 PHY Port #3 RXN	53	130	PCIE_RXN0	PCIe0 differential receiver RX -
24	50	MDI_TN_P3	10/100 PHY Port #3 RXP	54		3.3V	
25	51	MDI_RP_P3	10/100 PHY Port #3 TXN	55	132	PCIE_CKN0	External reference clock output (negative)
26	52	MDI_RN_P3	10/100 PHY Port #3 TXP	56	133	PCIE_CKP0	External reference clock output (positive)
27	54	MDI_RP_P4	10/100 PHY Port #4 RXN	57	140	EPHY_LED3 _N_JTCLK	10/100 PHY Port #3 activity LED, JTAG_CLK
28	55	MDI_RN_P4	10/100 PHY Port #4 RXP	58	142	EPHY_LED1 _N_JTDI	10/100 PHY Port #1 activity LED, JTAG_TDI
29	56	MDI_TP_P4	10/100 PHY Port #4 TXN	59		GND	
30	57	MDI_TN_P4	10/100 PHY Port #4 TXP	60		RF	