Circuit Description

MP:Vout=1.2V;R18/C19/C20/D5=NC, V0=(1+R21/R22)*0.6
R17=0,R15=100K,R16=100K

V0=(1+R16/R15)*0.6

ES:Vout=1.8V;R18=0,R17/R19=NC,
R15=36K,R16=75K,C20=1nF,D5=1SS355

U3 GS699
VIN2 EN2
LX2   NC2
GND   FB2
FB1   GND
NC1   LX1
EN1   VIN1

L2 2.2uH/1A
L3 2.2uH/1A
L5 1.2uH

C14 22uF/10V
C15 R21 100PF 100KΩ
C16 0.1uF/10V
R23 0Ω
VCC3.3 VDD3.3
R22 22KΩ
R52 10KΩ
R15 100KΩ
R16 100KΩ
C12 100pF/10V
C13 2.2uF/10V

+5V

VDD1.2 R17 0Ω
C18 1uF
VDD1.8 R18 0Ω
C19 1uF
C17 10uF/10V

EN R19 0Ω RTC_CTL
D5 NC/1SS355 RTC_CTL
C20 1nF/10V RTC_VDD
R20 100KΩ C21 0.1uF/10V
D6 B0520LW +5V
C22 0.1uF/10V

U4 SN9000
TEST
GPIO0
GPIO1
GPIO2
GPIO3
XIN
XOUT
VDD33
VDD12
SWCLK
SWDIO
UART0_TX
UART0_RX
XIN_12M
XOUT_12M
VDD33

SF_MI
SF_MO
SF_SCK
VDD33
VDD_FP
GPIO8
GPIO7
GPIO6
GPIO5
32 SF_MI
31 SF_MO
30 SF_SCK
29 VDD33
28 VDD_FP
27 GPIO8
26 GPIO7
25 GPIO6
24 DC1_DAT

RTC_VDD
R30 100KΩ
R31 10MΩ
Y1 32.867KHz
C37 C36 27PF/50V C35

XOUT_12M XIN_12M
R32 1MΩ
Y2 12MHz
C54 20pF
C55 20pF

U6 MX25L1606EM2I-12G
CS   VCC
SO   HOLD
WP   SCLK
GND SI
R29 1KΩ
C29 0.1uF/50V
SF_SCK
SF_MO

VDD3.3
VCC3.3
C23 10uF/10V
Q3 MT2301
R24 10KΩ
R25 470Ω
VCC3.3_WIF1

GPIO6 R26 4.7KΩ Q2 8050
R27 47Ω

U5 SN8F5700ST
VSS   T2/INT2/P33
XIN/P00   T2/INT2/P32
XOUT/P01   T2/INT2/P31
RST/P02   CT0/AIN0/P40/SWAT
UTX/P05   CT6/AIN6/P46/PWM10
URX/P06   CT7/AIN7/P47/PWM11 SWTA
SCL/P14   CT8/AIN8/P50/PWM0   P47
SDA/P15   CT9/AIN9/P51/PWM21 P50
T2RL/INT1/P22 CT10/AIN10/P52/PWM0 P51
T2/INT2/P23 CT11/AIN11/P53/PWM1 P52 P53

P00 P01
R44 4.7KΩ R45 4.7KΩ
I2C1_CLK
I2C1_DAT
GPIO8

C31 0.1uF/50V
C30 47uF/100V
C32 0.1uF/50V

ANT 2.4GHz
U8 BL-R7601MU6
ANT VCC
     D-
     D+
VSS VSS
C24 C25 4.7uF/100V
0.1uF/100V

U7 SHT30
SDA   VSS
ADDR R
ALERT RST
SCL   VDD
VDD3.3-HS
R48 0Ω R49 0Ω
C28 0.1uF/10V
I2C1_DAT
I2C1_CLK
D7 NC/1SS355

WiFi指示灯
LED2 R28 1KΩ 绿色-LED
GPIO10 R53 1KΩ 蓝色-LED

VDD33
L5 1.2uH
R34 100Ω
RF1 RXB14
+5V
DO
VSS
ANT 433MHz
C51 0.1uF
P00

GPIO9 J3
GPIO12
调试口按序点

R46 470Ω PWM10
BZ1
R47 1KΩ SPEAKER
C53 0.1uF

J2 CON8
UD_DM
UD_DP
VSS
SWDIO
SWCLK
VCC3.3
UART0_TX
UART0_RX
R50 100Ω
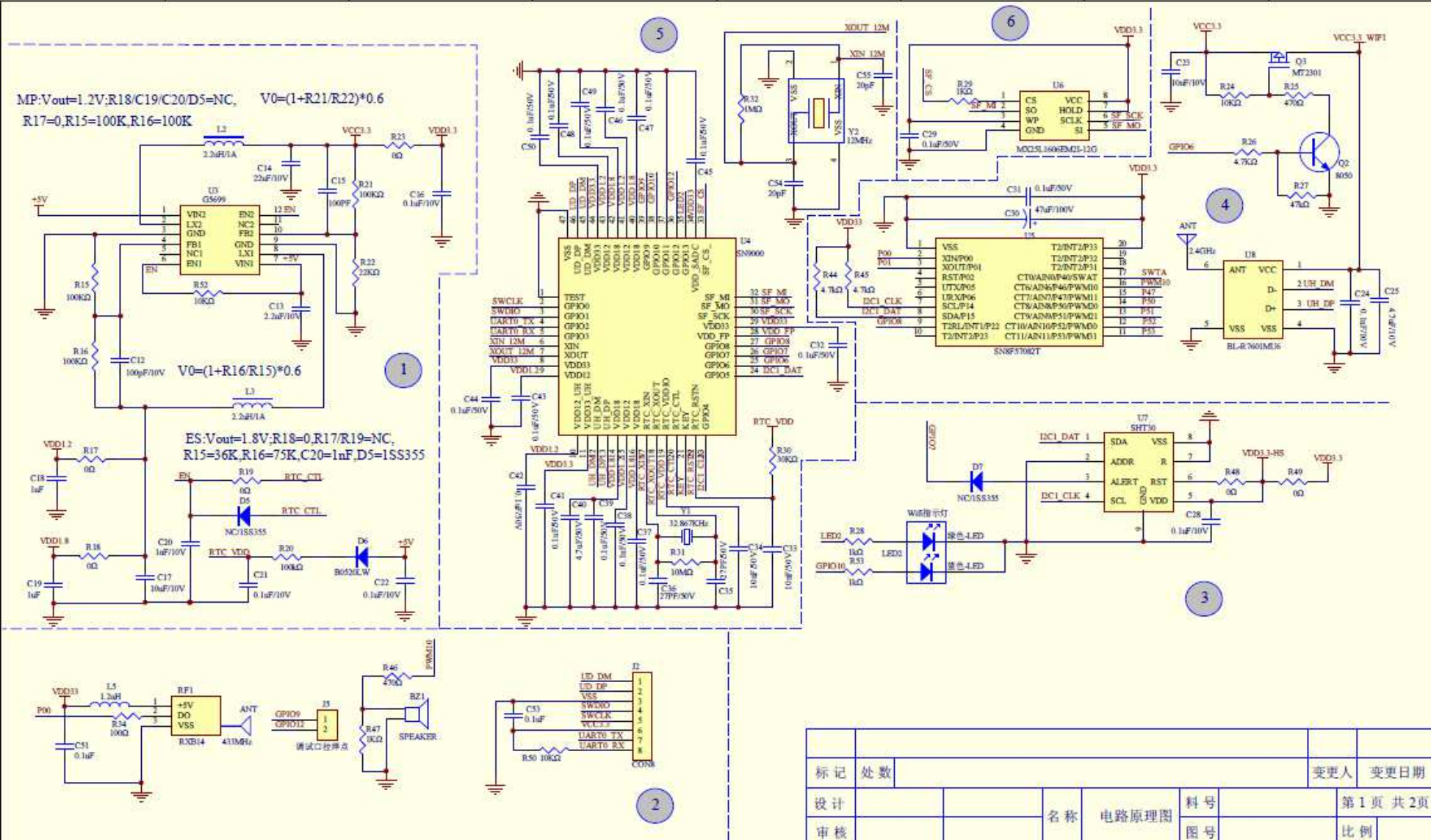
Part 1: voltage reduction circuit constituted by R22 and L2, U3, output is VDD3, 3V; voltage reduction circuit constituted by R15, R16 and L3,U3, output is VDD1.2V.

Part2: this part is 433MHz receiver module. The receiver type is super-heterodyne. 433MHz frequency receiving circuit constituted by L5,R34,C51,RF1;buzzer driver circuit constituted by R46,R47,BZ; MCU programming connection constituted by J2,C53,R50.

Part3: WIFI indication light driving circuit is constituted by R28, R53, LED2; Temp& Humidity sensor detection circuit are constituted by U7, D7, C28, R48, R49.

Part4: this part is WIFI module, the Operating Frequency is 2412 MHz to 2462 MHz for 802.11b/g/n(HT20)，2422 MHz to 2452 MHz for 802.11n(HT40).
The Type of Modulation were 802.11b: DSSS(CCK/QPSK/BPSK), 802.11g: OFDM(BPSK/QPSK/16QAM/64QAM), 802.11n: OFDM (BPSK/QPSK/16QAM/64QAM),
The transmit data rate:
802.11b :1/2/5.5/11 Mbps
802.11g :6/9/12/18/24/36/48/54 Mbps
802.11n(HT20): 6.5/13/19.5/26/39/52/58.5/65 /72.2Mbps 802.11n(HT40): 13.5/27/40.5/54/81/108/121.5/135 Mbps
The antenna type is wire antenna; the gain of the antenna is 2dBi.
 WIFI module power supplier ON-OFF circuit is constituted by R24, R25, R26, R27, Q2, Q3. MCU of U5 controls the working status of LED, AC motor, and heater.

Part5: data storage circuit constituted by C29, R29, U6.

Part6: 12Mhz oscillating circuit constituted by C54,C55,R32,Y2 and provide to MCU; 32.786KMHz oscillating circuit provide to MCU is constituted by R31,Y1; MCU of U4,U5,U6,U7,U8 create circuit for data communication.

The max output power of WIFI module as below table:

Channel No.	Frequency (MHz)	Mode	Data Rate	Measured Channel Power (dBm)
1	2412		11 Mbps	18.8
2	2417		11 Mbps	21.0
3	2422		11 Mbps	20.0
4	2427		11 Mbps	20.2
5	2432		11 Mbps	20.3
6	2437	802.11b	11 Mbps	20.4
7	2442		11 Mbps	20.5
8	2447		11 Mbps	20.5
9	2452		11 Mbps	20.6
10	2457		11 Mbps	20.7
11	2462		11 Mbps	20.9

1	2412	802.11g	9 Mbps	25.8
2 to 10	2417-2457		9 Mbps	23.0
11	2462		9 Mbps	23.7
1	2412	802.11n (HT20)	6.5 Mbps	22.3
2	2417		6.5 Mbps	23.5
3	2422		6.5 Mbps	23.2
4	2427		6.5 Mbps	23.3
5	2432		6.5 Mbps	22.7
6	2437		6.5 Mbps	23.2
7	2442		6.5 Mbps	22.9
8	2447		6.5 Mbps	22.9
9	2452		6.5 Mbps	23.1
10	2457		6.5 Mbps	23.1
11	2462		6.5 Mbps	24.7
3	2422	802.11n (HT40)	135 Mbps	22.7
4 to 8	2427-2447		135 Mbps	22.4
9	2452		135 Mbps	22.7