

VN910 Operational Principle.

1. CPU, U1, Atlas 2 324MHz/FBGA have a 32-bit RISC processor integrated, operation frequency is 324MHz. It needs an external 12MHz (Y1) and 32.768KHz (Y2) crystal for reference frequency.

2. SDRAM, U2/U3, Samsung 32MB K4M561633G-BN75, 3.3V/138MHz 32-bit data bus.

3. Flash,

3.1 NAND1, HYNIX 1GB HY27UG08G5M-TP,

[\\Options1:Samsung](#), Flash Memory ,K9F5608U0C-PCB0,256Mb*8,

[\\Options2](#) :HYNIX,Flash Memory,HY27UF082G2A-TP,2Gb*8,

[\\Options3](#) :HYNIX,Flash Memory,HY27UF084G2A-TP,4Gb*8,)

3.2 3.3V/138MHz 8-bit data bus.

The NAND Flash can be used as a boot-loader during boot-up, or be used as a simple storage device (for both program and data). When the NAND Flash is used as a boot-loader, the boot code will be stored in the first physical block of the NAND Flash and the rest of NAND Flash also can be used as simple storage device.

4. GPS, G_U1 GPS Receiver IC (SiGe SE4110L)

It needs an external 16.367667MHz(G_Y1)crystal for reference frequency.

GPS protocol standard -NMEA 0183 V2.0

12 CH 15x15mm Patch antenna receiver for GPS L1 (C/A-code)

Acquisition sensitivity: -141dBm

Tracking sensitivity: -153dBm

The SE4110L includes an on-chip LNA and a low IF receiver with a linear AGC and 2-bit analogue-to-digital converter (ADC). The receiver incorporates a fully integrated image reject mixer so no SAW filter is required in many applications. There is also an on-chip IF filter.

4.1 PATCH ANTENNA (Cirocomm DA15)

a.Frequency Range 1575.42 ± 1.023 MHz.

b.GAIN 90° : -0.5 dBi Min.

c.Polaration RHCP

d.Axial ration 90° : Max 4.0dB

4.2 LNA

a. Frequency Range 1575.42 ± 1.023 MHz

b. Gain 14.5dB Min. 15 dB Typ. ($+ 25\text{ }^{\circ}\text{C} \pm 5^{\circ}\text{C}$)

c. Noise Figure 1.5 dB Max. ($+ 25\text{ }^{\circ}\text{C} \pm 5^{\circ}\text{C}$), 2.2 dB Max. ($+ 85\text{ }^{\circ}\text{C}$)

d. Output Impedance 50.

e. Output VSWR 2.0 Max

5. FM, F_U1, FM transmitter IC NS 740A.

Transmission Frequency: 88 MHz ~108 MHz

External clock: 32.768 kHz (F_Y1)

Integrated antenna.

Antenna impedance: 50 ohm

Transmission power output: -10 dBm ~ -7 dBm