

Operation Description

The product is a smart tracker based on MTK 32-bit ARM7EJ-S RISC processor MT2502C chipset platform with MAUI. The majority of the smart tracker circuitry consists of six device chipsets, and these chipsets are divided into different function sub-system or units. The central processor unit is just MT2502C IC. The MT2502C is a feature-rich and extremely powerful single-chip.

The wireless unit includes BT, GPS, GSM, WIFI. The MT2502C is a highly integrated Bluetooth transceiver.

For Bluetooth: MT2502C modulated data to generate RF signals over a frequency range of 2400~2480MHz, and amplify RF signal is by inner amplifier, then send it to the BT antenna through the filter. In the other way, antenna receiver signals through the wireless, send them to the MT2502C, MT2502C RF part demodulate signals and transfer useful data back to the CPU. The antenna gain is 0dBi.

For GSM: the smart tracker supports GSM850, GSM900, DCS1800, PCS1900; MT2502C modulated data to generate RF signals, and amplify RF signal is by external amplifier, then send it to the GSM antenna through the filter. In the other way, antenna receiver signals from the air, send them to the MT2502C, MT2502C RF part demodulate signals and transfer useful data back to the CPU. The antenna gain is -1dBi.

For WIFI (2.4GHz): MT5931 only receive RF signal through external antenna, the crystal oscillator is 26MHz.

For GPS: MT3336 receive RF input signal in through external antenna and LNA, the mixer down converts the amplified signal (GPS/Galileo=1575.42MHz), The TCXO is 26MHz. The smart tracker supplied by Li-ion Battery.

1. Frequency Range

GSM (GSM 850): 824-849 MHz (UL), 869-894 MHz (DL)

PCS (GSM 1900): 1850-1910 MHz (UL), 1930-1990 MHz (DL)

GSM (GSM 900): 880-915 MHz (UL), 925-960 MHz (DL)

DCS (GSM 1800): 1710-1785 MHz (UL), 1805-1880 MHz (DL)

BT: 2402-2480MHz TX/RX

WIFI: 2412-2472MHz RX

GPS: 1575.42MHz RX

2. Antenna Gain:

GSM: -1dBi

BT: 0dBi

3. Type of Modulation

GSM: GMSK

BT: GFSK, $\pi/4$ -DQPSK, 8-DPSK, GFSK for BT 4.0

WIFI: CCK, OFDM, 16QAM

4. Applied Voltage

Normal Voltage: 3.7V

Low Voltage: 3.3V

High Voltage: 4.2V

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