

# EXT-USB3-GE 扩展板产品规格书

## 文档修改历史

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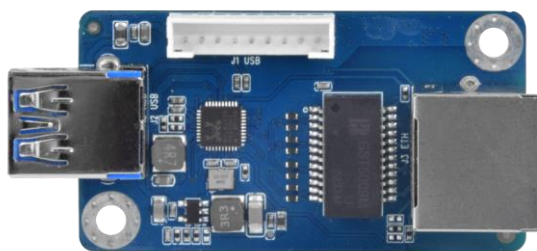
## 1 产品概述

EXT-USB3-GE 扩展板，是我司设计开发的一款小尺寸功能转接板，采用 USB 接口设计，用于主板扩展 RJ45 网络功能，配合主板的 USB，可以将 USB 转 RJ45 网口使用。

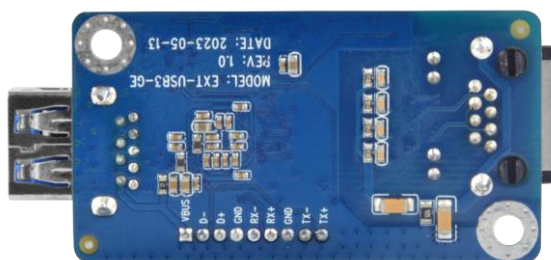
## 2 外观尺寸

### 2.1 产品外观

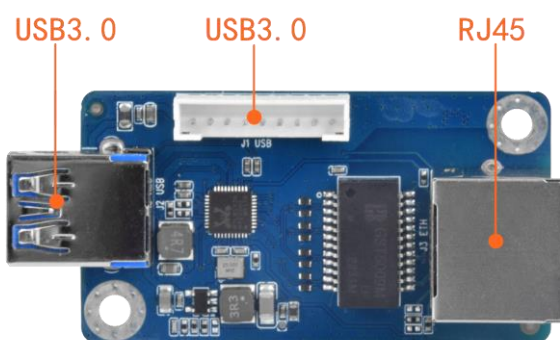
正面:



背面:



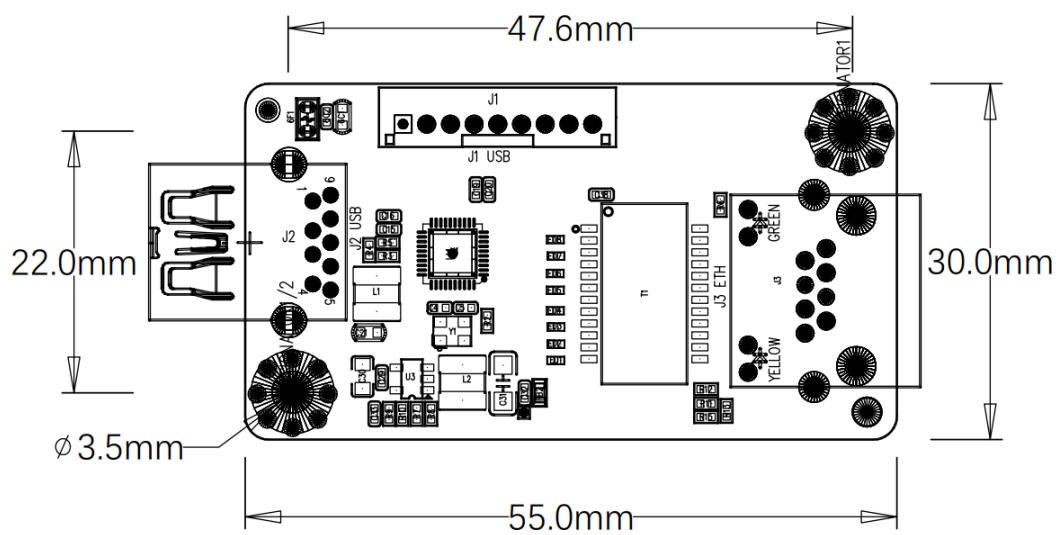
### 2.2 接口注释图



正视图

## 2.3 产品尺寸

EXT-USB3-GE 扩展板结构尺寸为 55.0mm\*30.0mm，固定孔直径大小 3.5mm。



### 3 规格清单

EXT-USB3-GE 扩展板的功能接口，如下所示。

功能/接口	详细描述
RJ45	1 个 RJ45 网口，支持 10/100/1000M 自适应以太网
USB	1 个 USB 3.0 排针接口，1 个 USB 3.0 插座

## 4 接口定义

### 4.1 J1 USB 3.0 接口

【J1】USB 3.0 接口（单排 2.0mm-方孔为 1 脚）。

序号	定义	说明
1	VBUS	5V 输入
2	D-	USB 差分数据-
3	D+	USB 差分数据+
4	GND	数字地
5	RX-	USB 差分数据 RX-
6	RX+	USB 差分数据 RX+
7	GND	数字地
8	TX-	USB 差分数据 TX-
9	TX+	USB 差分数据 TX+

### 4.2 J2 USB 3.0 Type A 插座

【J2】标准 USB 3.0 Type A 插座。

### 4.3 J3 RJ45 网口

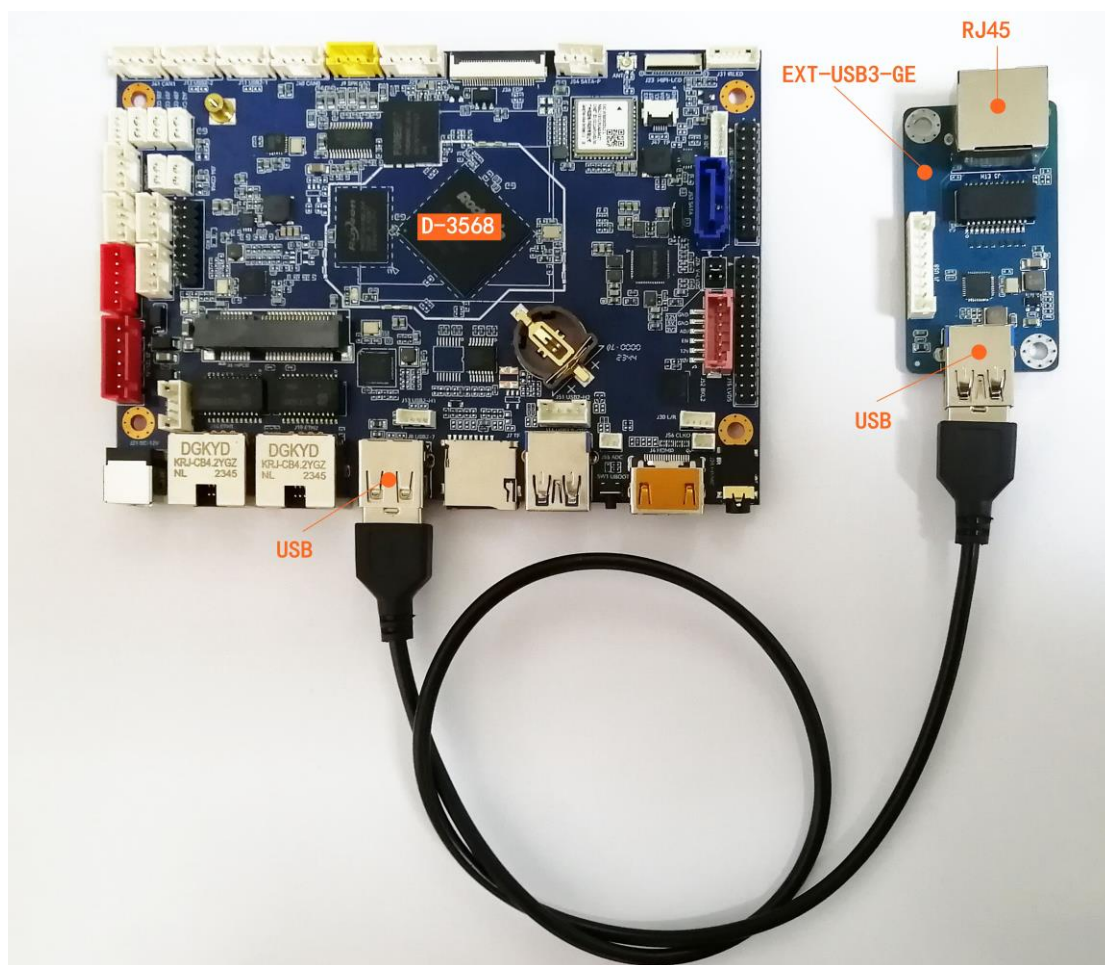
【J3】RJ45 网口，支持 10/100/1000M 以太网。

## 5 使用方法

### 5.1 扩展板与主板接线

- D-3568 主板的 USB 对接扩展板的 J2 USB 3.0, RJ45 连接网线, 如下图所示。

(主板型号不同, 使用扩展板需要刷不同的补丁。已适配 D-3568/K3 v10.0/K4 v11.0)



- 以太网连接成功, 系统读取 IP 地址, 状态栏显示以太网连接标志, 如下图所示。





- D-3568 USB2.0 接口连接扩展板, 测试网络带宽速率如下显示:

下载速率: 332Mbps

上传速率: 312Mbps

```
cmd 管理员: C:\Windows\system32\CMD.exe - iperf3.exe -s
[ 4] 24.00-25.00 sec 39.6 MBytes 331 Mbits/sec
[ 4] 25.00-26.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 26.00-27.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 27.00-28.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 28.00-29.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 29.00-30.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 30.00-31.01 sec 39.5 MBytes 329 Mbits/sec
[ 4] 31.01-32.00 sec 39.5 MBytes 333 Mbits/sec
[ 4] 32.00-33.00 sec 39.6 MBytes 332 Mbits/sec
[ 4] 33.00-34.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 34.00-35.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 35.00-36.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 36.00-37.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 37.00-38.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 38.00-39.00 sec 39.6 MBytes 332 Mbits/sec
[ 4] 39.00-40.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 40.00-41.00 sec 39.4 MBytes 331 Mbits/sec
[ 4] 41.00-42.00 sec 39.8 MBytes 333 Mbits/sec
[ 4] 42.00-43.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 43.00-44.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 44.00-45.00 sec 39.4 MBytes 331 Mbits/sec
[ 4] 45.00-46.00 sec 39.6 MBytes 332 Mbits/sec
[ 4] 46.00-47.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 47.00-48.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 48.00-49.00 sec 39.6 MBytes 331 Mbits/sec
[ 4] 49.00-50.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 50.00-51.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 51.00-52.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 52.00-53.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 53.00-54.00 sec 39.5 MBytes 332 Mbits/sec
[ 4] 54.00-55.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 55.00-56.00 sec 39.5 MBytes 331 Mbits/sec
[ 4] 56.00-57.00 sec 39.6 MBytes 332 Mbits/sec
[ 4] 57.00-58.00 sec 39.4 MBytes 331 Mbits/sec
[ 4] 58.00-59.00 sec 39.6 MBytes 332 Mbits/sec
[ 4] 59.00-60.00 sec 39.5 MBytes 331 Mbits/sec
-----
[ ID] Interval Transfer Bandwidth sender receiver
[ 4] 0.00-60.00 sec 2.32 GBytes 332 Mbits/sec
[ 4] 0.00-60.00 sec 2.32 GBytes 332 Mbits/sec
```

```
管理员: C:\Windows\system32\CMD.exe - iperf3.exe -s
5] 26.00-27.00 sec 37.1 MBytes 311 Mbits/sec
5] 27.00-28.00 sec 37.1 MBytes 312 Mbits/sec
5] 28.00-29.00 sec 37.2 MBytes 312 Mbits/sec
5] 29.00-30.00 sec 37.1 MBytes 311 Mbits/sec
5] 30.00-31.00 sec 37.3 MBytes 313 Mbits/sec
5] 31.00-32.00 sec 37.1 MBytes 311 Mbits/sec
5] 32.00-33.00 sec 37.3 MBytes 313 Mbits/sec
5] 33.00-34.00 sec 37.3 MBytes 313 Mbits/sec
5] 34.00-35.00 sec 37.4 MBytes 314 Mbits/sec
5] 35.00-36.00 sec 37.0 MBytes 310 Mbits/sec
5] 36.00-37.00 sec 37.3 MBytes 313 Mbits/sec
5] 37.00-38.00 sec 37.3 MBytes 313 Mbits/sec
5] 38.00-39.00 sec 37.3 MBytes 312 Mbits/sec
5] 39.00-40.00 sec 37.4 MBytes 313 Mbits/sec
5] 40.00-41.00 sec 37.1 MBytes 311 Mbits/sec
5] 41.00-42.00 sec 37.1 MBytes 311 Mbits/sec
5] 42.00-43.00 sec 37.3 MBytes 313 Mbits/sec
5] 43.00-44.00 sec 37.4 MBytes 314 Mbits/sec
5] 44.00-45.00 sec 37.4 MBytes 314 Mbits/sec
5] 45.00-46.00 sec 37.2 MBytes 312 Mbits/sec
5] 46.00-47.00 sec 37.4 MBytes 314 Mbits/sec
5] 47.00-48.00 sec 37.1 MBytes 311 Mbits/sec
5] 48.00-49.00 sec 37.2 MBytes 312 Mbits/sec
5] 49.00-50.00 sec 37.1 MBytes 311 Mbits/sec
5] 50.00-51.00 sec 37.0 MBytes 310 Mbits/sec
5] 51.00-52.00 sec 36.9 MBytes 310 Mbits/sec
5] 52.00-53.00 sec 37.1 MBytes 311 Mbits/sec
5] 53.00-54.00 sec 37.4 MBytes 313 Mbits/sec
5] 54.00-55.00 sec 37.1 MBytes 311 Mbits/sec
5] 55.00-56.00 sec 37.4 MBytes 313 Mbits/sec
5] 56.00-57.00 sec 37.2 MBytes 312 Mbits/sec
5] 57.00-58.00 sec 37.2 MBytes 312 Mbits/sec
5] 58.00-59.00 sec 36.9 MBytes 310 Mbits/sec
5] 59.00-60.00 sec 37.1 MBytes 311 Mbits/sec
5] 60.00-60.03 sec 962 KBytes 314 Mbits/sec

ID] Interval Transfer Bandwidth
5] 0.00-60.03 sec 0.00 Bytes 0.00 bits/sec sender
5] 0.00-60.03 sec 2.18 GBytes 312 Mbits/sec receiver
```