

# 承 認 書

## Product Specification

### REV.A

客戶名稱：Ubiquonn Technology Inc.

CUSTOMER

適用機種：Tomcat

APPLICATION

廠 商：Ethertronics Inc.

SUPPLIER

客戶料號：21-93024-01

PART NUMBER

Ethertronics 料號：5001135

PART NUMBER

承認日期：April , 2013

APPROVAL DATE

提供者簽章：Mandy Chen

PROVIDER BY

審核者簽章：Lynn Chiu

REVIEW BY

承認人簽章：Tony Chang

APPROVE BY

**ethertronics**<sup>®</sup>  
INNOVATE

美商伊索泰克電子有限公司臺灣分公司

115 臺北市南港區園區街3號二樓之七(南港軟體工業園區G棟)

Ethertronics Inc.

(Building G) 2F-7, No. 3, Yuanqu St., Nangang District,

Taipei City 115, Taiwan (R.O.C)

Tel: 886-2-2655-7966

Fax: 886-2-2655-7967

聯絡人：張貢通

Tony Chang

分 機：340

## **Table of Contents**

- 1 [Propose and Scope](#)
- 2 [Abbreviation and Definition](#)
- 3 [Electrical Specification for](#)
  - 3.1 [Frequency Band](#)
  - 3.2 [Electrical Characteristics](#)
    - 3.2.1 [Peak gain & Avg gain](#)

### Confidentiality Statement

All the information contained in this document is commercially confidential and must not be copied or  
Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

## Revision History

Rev. A	Initial Product Specification.
--------	--------------------------------

### Confidentiality Statement

All the information contained in this document is commercially confidential and must not be copied or  
Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

## **1. Purpose and Scope**

The purpose of this document is to establish a design specification for the antenna product that Ethertronics is developing for the wireless AP. Any changes or additions to this specification can affect schedule, cost or the product and should be negotiated between Ethertronics and Ubiquiti before being incorporated into the specification. Upon agreement of this specification, Ethertronics will make no changes without the written approval from Ubiquiti. Any changes requested by Ubiquiti will be given to Ethertronics with sufficient time to evaluate the cost impact and reach as required.

Confidentiality Statement

All the information contained in this document is commercially confidential and must not be copied or Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

## **2. Abbreviations and Definitions**

AVG	Average
°	Degree
°C	Celsius (degrees Centigrade)
cm	Centimeter
G	Gravitational Force
g	Grams
Hz	Hertz
In	Inches
IQC	Incoming Quality Control
MHz	Megahertz
m	Meter
mm	Millimeter
N	Newton
PCB	Printed Circuit Board
TX	Transmit Band
RH	Relative Humidity
RX	Receive Band
VSWR	Voltage Standing Wave Ratio
W	Watt

### Confidentiality Statement

All the information contained in this document is commercially confidential and must not be copied or  
Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

## **3. Electrical Specification For**

### **3.1 Frequency Band**

<b>Mode</b>	<b>Frequency Band (MHz)</b>
802.11 b/g	2400 ~ 2500
802.11 a	5150 ~ 5850

### **3.2 Electrical Characteristics**

#### **3.2.1 Peak gain & Avg gain**

#### Confidentiality Statement

All the information contained in this document is commercially confidential and must not be copied or  
Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

**3.2.1 Peak gain & Avg gain**

Tomcat	WLAN1	
Freq.[MHz]	Avg.[dBi]	Peak[dBi]
2400	-2.2	2.04
2450	-2.04	2.07
2500	-2.26	2.33
5150	-1.93	3.01
5350	-1.9	2.34
5470	-2.47	2.23
5725	-2.41	1.4
5850	-3.52	0.67

Tomcat	WLAN2	
Freq.[MHz]	Avg.[dBi]	Peak[dBi]
2400	-3.28	1.71
2450	-2.57	2.74
2500	-3.29	1.72
5150	-1.68	3.72
5350	-1.78	3.61
5470	-2.39	2.94
5725	-1.84	2.98
5850	-2.51	2.28

Tomcat	GPS	
Freq.[MHz]	Avg.[dBi]	Peak[dBi]
1565	-2.42	1.19
1575	-2.34	1.37
1585	-2.3	1.37
1596	-2.72	1.05
1602	-2.96	0.81
1607	-2.92	0.73

**Confidentiality Statement**

All the information contained in this document is commercially confidential and must not be copied or Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

## Cable Spec

**SPECIFICATION FOR APPROVAL**

**STYLE :** HIGH FREQUENCY COAXIAL CABLE

---

105°C 30V

**SIZE :** 32AWG

**BRAID:** TD

---

**APPROVAL MARK :** UL 1979

---

**PART NO. :** A3132LC001

---

Customer Approval:

**WONDERFUL PHOTOELECTRICITY (DONGGUAN) CO.,LTD.**

LONGYAN INDUSTRIAL AREA, HUMEN, DONGGUAN CITY, GUANGDONG, CHINA

TEL: +86-769-88620666

FAX: +86-769-88627081

Approval	Confirm	Maker
Leiquanzhi	Lizhichen	Cherry

EDITION: 1.0

DATE: 2009.11.23

TOTAL 3 PAGE NO.1

REVISED DATE:

Confidentiality Statement

All the information contained in this document is commercially confidential and must not be copied or

Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics



## Cable Spec

 **WONDERFUL PHOTOELECTRICITY (DONGGUAN) CO.,LTD.**

Specification		
Style	105℃ 30V Coaxial Cable	
Size	32AWG	Part No.:A3132LC001
Standard:		
Conductor	Size	32AWG
	Construction	7/0.080±0.005mm
	Diameter	0.24 mm
	Material	Tinned Copper
Insulation	Material	FEP
	Average Thickness	0.22 mm
	Diameter	0.70 ±0.05 mm
	Color	Clear
Braid	Material	Tinned Copper
	Construction	16/4/0.050 mm
	Coverage rate	88.0 %
Jacket	Material	FEP
	Average Thickness	0.11 mm
	Diameter	1.13 ±0.08 mm
	Color	According To Custom
	Marking: No Marking	

<b>Approval</b>	<b>Confirm</b>	<b>Maker</b>
Leiquanzhi	Lizhichen	Cherry

EDITION: 1.0  
TOTAL 3 PAGE NO.2

DATE: 2009.11.23  
REVISED DATE:

### Confidentiality Statement

the information contained in this document is commercially confidential and must not be copied or  
Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

## Cable Spec



Electrical & Physical Properties			Part No : A3132LC001		
Item Size		32AWG			
Rating Temp Voltage		105°C 30V			
Conductor Resistance		545 OHM/KM/20°C Max.			
Insulation Resistance		1000 MEGA OHM.KM Min.			
Dielectric Strength		500V AC For 1 Minute			
Spark Test		2500 V			
Insulation	Unaged	Tensile Strength	2500 PSI Min. (1.76Kg/mm <sup>2</sup> )		
		Elongation	200% MIN.		
	Aged	Tensile Strength	Unaged 75% Unaged ( 232 ±1.0°C ×168 H ) Min		
		Elongation	Unaged 75% Unaged ( 232 ±1.0°C ×168 H ) Min.		
Jacket	Unaged	Tensile Strength	2500PSI Min.		
		Elongation	200% Min.		
	Aged	Tensile Strength	Unaged 75% Unaged ( 232 ±1.0°C ×168 H ) Min.		
		Elongation	Unaged 75% Unaged ( 232 ±1.0°C ×168 H ) Min.		
Flame Test		VW-1 OK			
Nom. Impedance		50 ±5 Ohms			
Nom. Capacitance		96.0 ±3 Pf/m			
Nom. Vel. Of Prop		69%			
VSWR (0-6GHz)		Under 1.3			
Attenuation (dB/lm)	2.0 GHZ	2.4 GHZ	2.5 GHZ	5.0 GHZ	6.0 GHZ
	3.05	3.30	3.38	5.05	6.00
Drawing :					

Approval	Confirm	Maker
Leiquanzhi	Lizhichen	Cherry

EDITION: 1.0

DATE: 2009.11.23

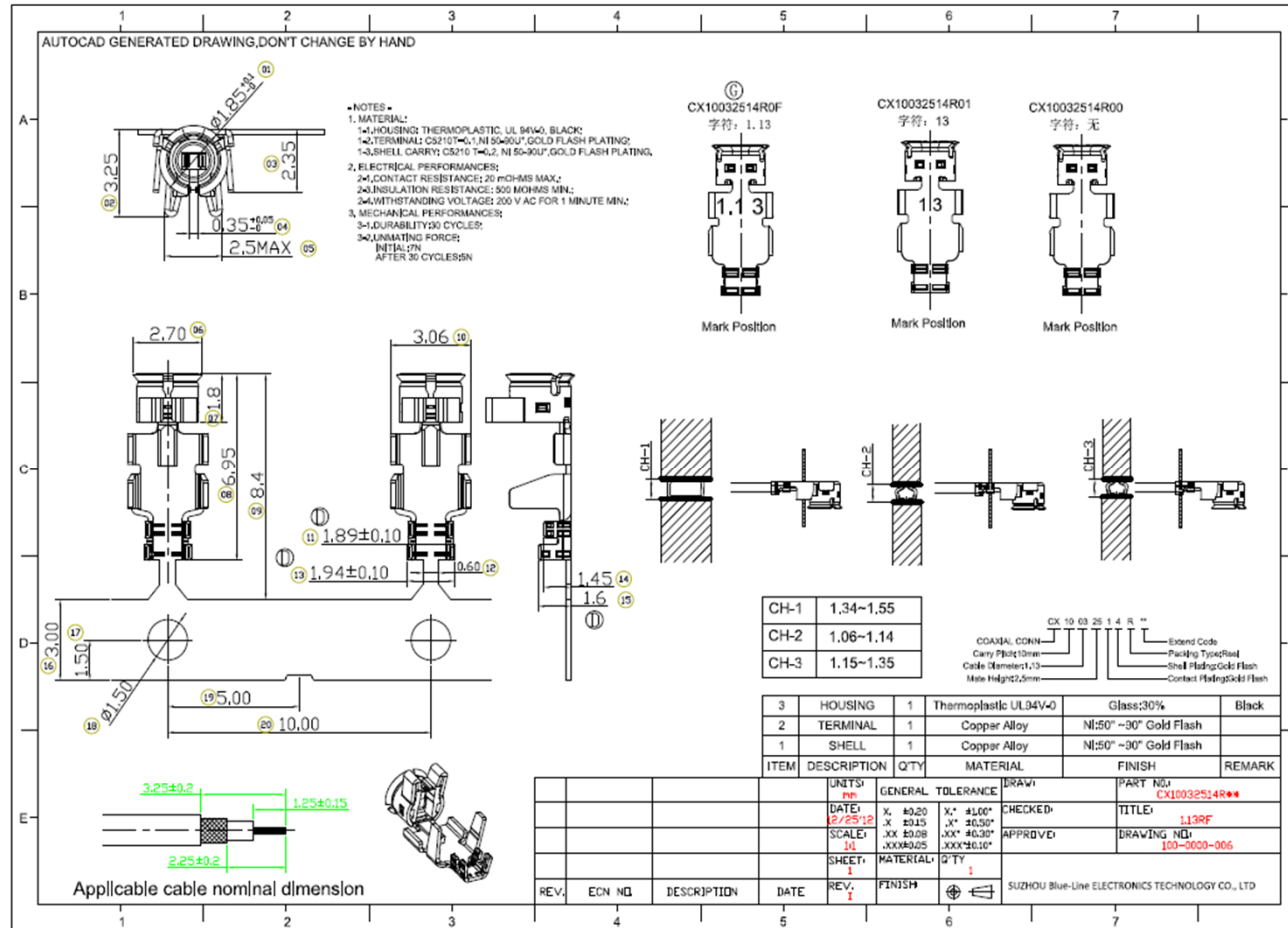
TOTAL3 PAGE NO.3

REVISED DATE:

Confidentiality Statement

All the information contained in this document is commercially confidential and must not be copied or Disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

**Product Specification**  
**Part Number : 5001135**  
**Rev. A**

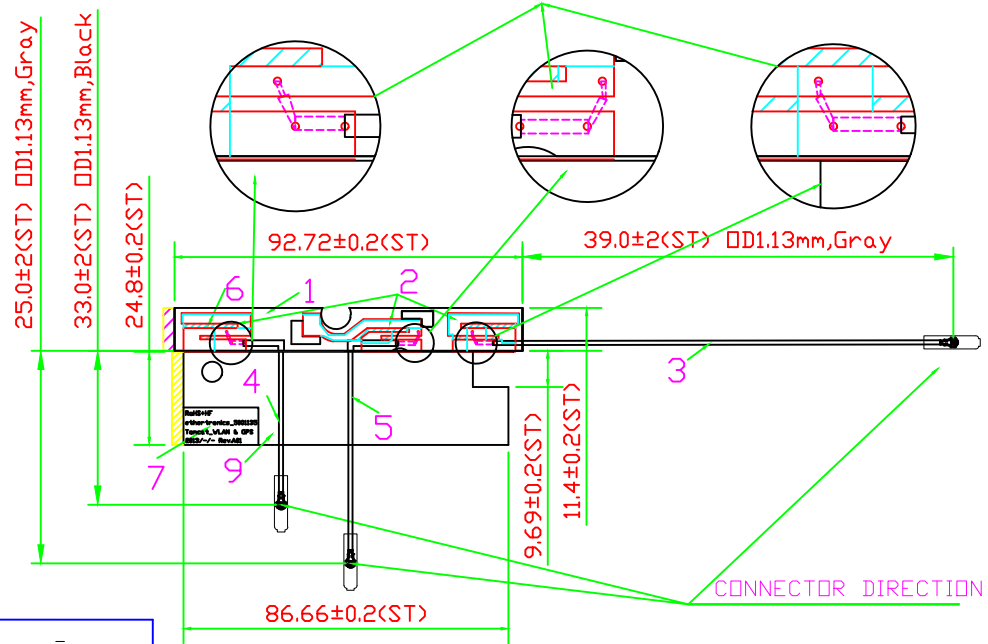


**Confidentiality Statement**

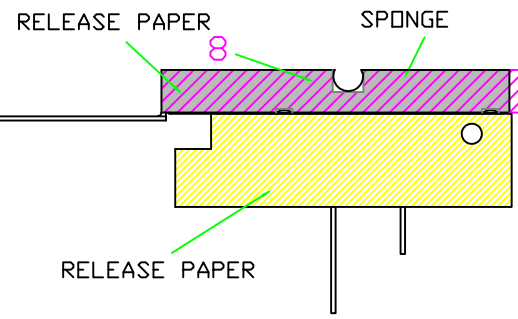
All the information contained in this document is commercially confidential and must not be copied or disclosed without the written consent of Ethertronics, Inc. Copyright © Ethertronics

REVISION	ZONE	REVISION NOTE	AUTHOR	DATE
-	△	-	-	-

Cable 焊於鐵件下方



Front View



Back View

LABEL 2:1

RoHS+HF  
ethertronics\_5001135  
Tomcat\_WLAN & GPS  
2013/-/- Rev.A01

9	5001140	Foil	1	-
8	5001188	0.5mmEva Sponge + 雙面G9000	1	-
7	5001189	Label	1	-
6	5001190	雙面Tape T=0.1mm	1	-
ITTM	PAPT NAMF	DFSCRIPTION	O'TY	PFMAPY

5	5001374	Ø1.13mm Coax Cable (Gray)	1	-
4	5001373	Ø1.13mm Coax Cable (Black)	1	-
3	5001372	Ø1.13mm Coax Cable (Gray)	1	-
2	5001136	Metal	1	-
1	5001073	HOLDER	1	-
ITEM	PART NAME	DESCRIPTION	Q'TY	REMARK

NOTES:

- MECHANICAL REQUIREMENTS:
  - 1.1 ALL SURFACE SHALL HAVE NO SCRATCH.
  - 1.2 PART SHALL BE CLEAN AND FREE OF ALL FOREIGN MATTER.
- QUALITY ASSURANCE REQUIREMENTS:
  - 2.1 FIRST ARTICLE MEASUREMENT SHALL BE PERFORMED FOR ALL DRAWING DIMENSIONS ON 5 RANDOMLY SELECTED PARTS PER CAVITY. A DIMENSIONAL REPORT MUST BE SUBMITTED TO ETHERTRONICS ALONG WITH THE MEASURED PARTS.
  - 2.2 DIMENSIONS FOR CRITICAL TO QUALITY (CTQ) AND CAPABILITY STUDY ARE INDICATED BY [CTQ].
  - 2.3 PRODUCTION LOT SAMPLES MUST DEMONSTRATED A CpK VALUE OF 1.33 OR HIGHER. IF THE CpK DROPS BELOW 1.33 AT ANY TIME DURING THE MANUFACTURE OF THIS PARTS, THEN THE SUPPLIER MUST 100% SCREEN ALL THOSE PARTS.
- RoHS & HF REQUIREMENTS:
  - 3.1 PART MUST BE COMPLIANT WITH THE REQUIRMENTS OF EU DIRECTIVE 2002/96/EC (WEEE) 94/62/EC,2006/66/EC,2006/122/EC,IPC1752-1 CLASS 3 JIG, HF(Cl , Br<900ppm Cl+Br<1500ppm).
  - ADDITIONALLY THEY SHALL NOT CONTAIN INTENTIONALLY ADDED MATERIALS REQUIRING REMOVAL FROM SEPARATLY COLLECTED WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT
- (ST) MEANS CRITICAL & CPK DIMENSION

GENERAL TOLERANCE TABLE				(Building G2F-7, No.3, Yuanqu St., Nangang Dist., Taipei City 11503, Taiwan(R.O.C))	
LINEAR	ANGULAR				
DIVISION	TOLERANCE	DIVISION	TOLERANCE	PROPRIETARY NOTICE: ALL INFORMATION CONTAINED IN OR DISCLOSED BY THIS DOCUMENT IS CONSIDERED THE PROPERTY OF, AND PROPRIETARY TO ETHERTRONICS. ALL DESIGNS, USES, REPRODUCTIONS, AND COMMUNICATION OF THIS INFORMATION TO OTHERS IS PROHIBITED PRIOR TO WRITTEN CONSENT.	
0-10	±0.05	0-5°	±0.5°	DRAWN	DATE
10-50	±0.10	5-20°	±1°	Hank Chao	2013/04/16
50-80	±0.15	20-90°	±1.5°	RF CHECKED	DATE
>80	±0.2			Bruce Lin	2013/01/24
THIRD ANGLE PROJECTION		VERSION	ME CHECKED	DATE	TITLE
		.2	-	-	ANT WLAN&GPS Assembly
UNIT	SCALE	SIZE	PROJECT MANAGER	DATE	PART NO.
MM	1:1	A4	Grace Wu	-	5001135
			NUMBER OF SHEETS	REVISION	STAGE
			1 of 1	A01	-