承 認 書

Product Specification

Rev.A

客戶名稱：Ubiqconn Co., Ltd
CUSTOMER

適用機種：VM521
APPLICATION

廠　　商：Ethertronics Inc.
SUPPLIER

客戶料號：21-93067-01
PART NUMBER

Ethertronics 料號：5001546
PART NUMBER

承認日期：Nov., 2014
APPROVAL DATE

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PROVIDER BY

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REVIEW BY

承認人簽章：Tony Chang
APPROVE BY

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Tony Chang
分　機：340

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Product Specification
Part Number: 5001546
Rev.A

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Product Specification
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Revision History

Rev. A	Initial Product Specification.

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 devices. Any changes or additions to this specification can affect schedule, cost or the product and should be negotiated between Ethertronics and Ubiqconn before being incorporated into the specification. Upon agreement of this specification, Ethertronics will make no changes without the written approval from Ubiqconn. Any changes requested by Ubiqconn will be given to Ethertronics with sufficient time to evaluate the cost impact and reach as required.

2. Abbreviations and Definitions

AVG	Average
°	Degree
℃	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

3. Electrical Specification For

3.1 Frequency Band

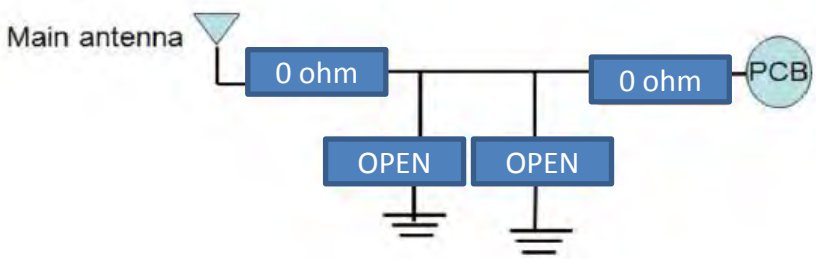
Mode	Frequency Band (MHz)
WLAN IN2 V02	2.4G-2.5G, 5.15G-5.85G
WLAN IN1 V04	2.4G-2.5G, 5.15G-5.85G

3.2 Electrical Characteristics

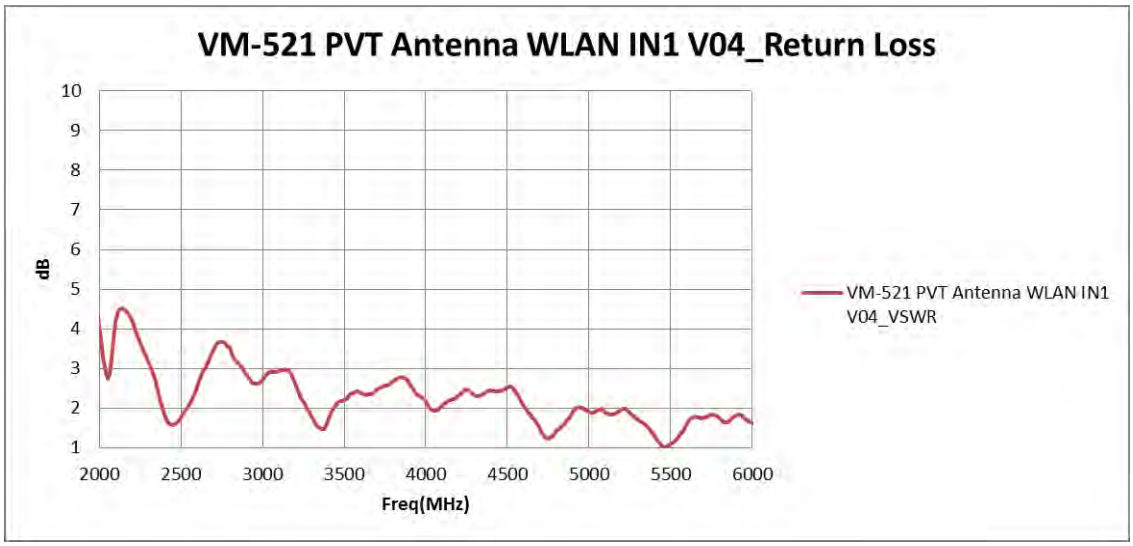
3.2.1 VSWR
3.2.2 S11
3.2.3 Passive Measurement
3.2.4 Peak gain & Average Gain

Please refer to the next few pages.

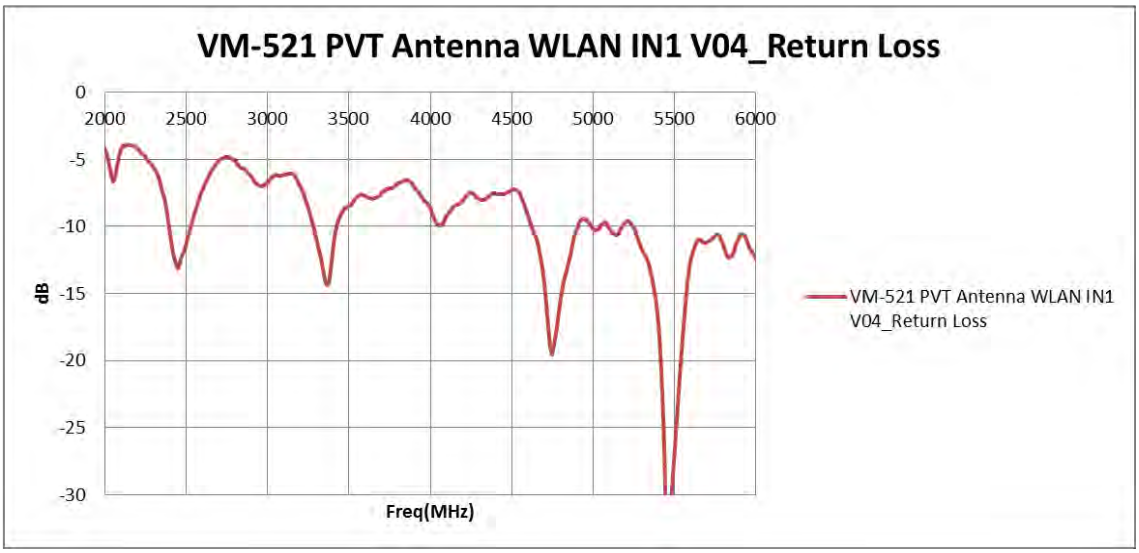
3.3 Matching Requirements



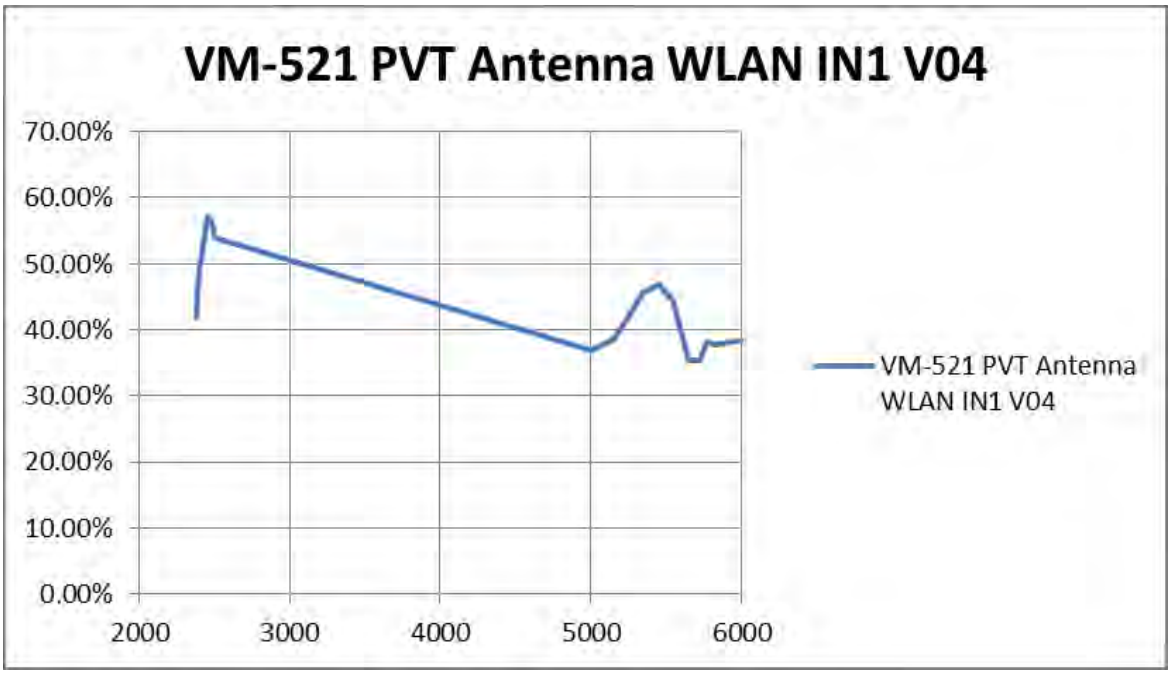
3.2.1 VSWR



3.2.2 S11



3.2.3 Passive Measurement



3.2.4 Peak Gain and Average Gain

VM-521 PVT Antenna WLAN IN1 V04 (UTI P/N: 21-93067-01 ET P/N: 5001546)			
Frequency	Peak. dBi	Efficiency	Average . dB
2380	2.07	41.84%	-3.78
2400	2.69	49.20%	-3.08
2420	2.81	51.36%	-2.89
2442	3.03	54.39%	-2.64
2460	3.17	57.24%	-2.42
2484	2.93	56.31%	-2.49
2500	2.67	54.02%	-2.67
5000	4.29	36.96%	-4.32
5150	4.63	38.49%	-4.15
5250	4.61	41.84%	-3.78
5350	4.73	45.63%	-3.41
5450	4.46	46.83%	-3.29
5550	4.35	44.38%	-3.53
5650	3.15	35.43%	-4.51
5725	3.36	35.25%	-4.53
5775	4.05	38.09%	-4.19
5825	4.05	37.83%	-4.22
6000	4.03	38.41%	-4.16

4. Drawing and Materials

4.1 Drawing of Internal Antenna

Please refer to the next page.

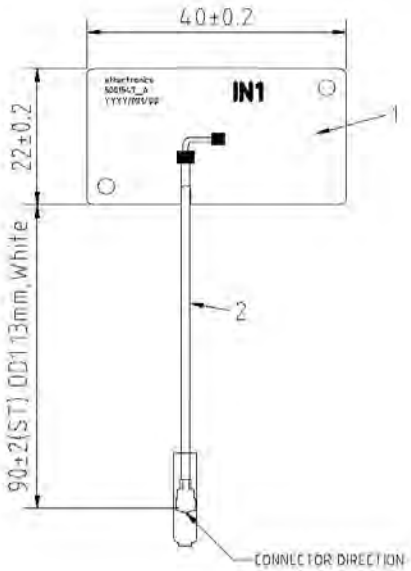
4.2 Part List

Part Name	Material	BOM	Finish	Q'ty
ANTENNA ASSEMBLY P/N: 5001546 Unitech P/N：21-93067-01	PCB , WLAN (Left)	5001547	Ethertronics	1
	Cable+Connector , WLAN (Left)	5001548		

4.1 Drawing of Internal Antenna

Antenna Type: PIFA Antenna

REVISION	ZONE	REVISION NOTE	AUTHOR	DATE
-	1	-	-	-



NOTES:

1. MECHANICAL REQUIREMENTS:
   1.1 ALL SURFACE SHALL HAVE NO SCRATCH.
   1.2 PART SHALL BE CLEAN AND FREE OF ALL FOREIGN MATTER.
2. QUALITY ASSURANCE REQUIREMENTS:
   2.1 FIRST ARTICLE MEASURMENT 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.
3. 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
4. (ST) MEANS CRITICAL & CPK DIMENSION

ITEM	LEVEL	PART NO.	DESCRIPTION	REV	Q'TY	REMARK
2	2	5001548	CABLE+CONNECTOR	A	1	-
1	2	5001547	PCB	A	1	1mm

GENERAL TOLERENCE TABLE			
LINEAR		ANGULAR	
DIVISION	TOLERENCE	DIVISION	TOLERENCE
0~10	±0.05	0~5°	±0.5°
10~50	±0.10	5~20°	±1°
50~80	±0.15	20~90°	±1.5°
>80	±0.2		

THIRD ANGLE PROJECTION

VERSION: -

ethertronics

(Building G)2F.-2, No.3, Yuanqu St., Nangang Dist., Taipei City 11503, Taiwan(R.O.C.)

DRAWN: Hank Chao	DATE: 2014/10/30	TITLE: WLAN-L ANT,ASSY	
RF CHECKED: Bruce Lin	DATE: -	PART NO.: 5001546	
ME CHECKED: -	DATE: -	DWG #: TI-14-0086	
PROJECT MANAGER: Grace Wu	DATE: -	NUMBER OF SHEETS: 1 of 1	REVISION: A

UNIT	SCALE	SIZE	STAGE
MM	1:1	A4	-

5. QA Inspection

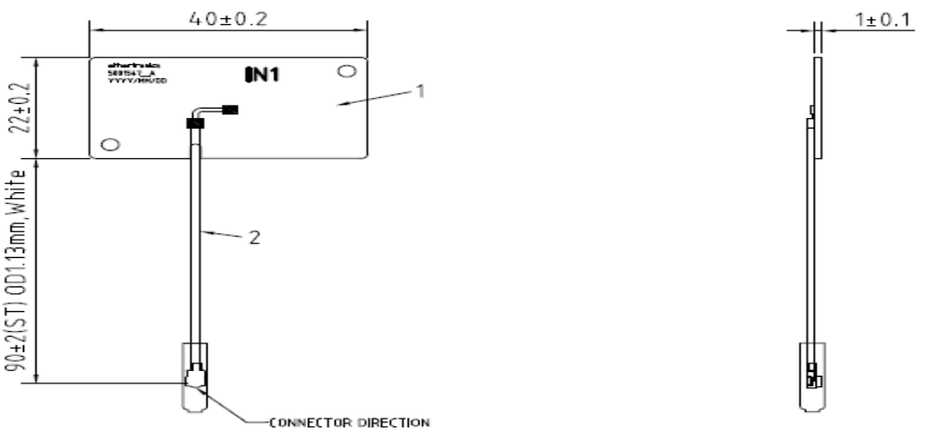
5.1 Incoming Inspection

Please refer to the documents in following pages for 5001546.

Assembly Inspection Plan 组装检验控制计划

Project Name /Project No. 项目名称/项目编号	VM521	Drawing Rev 图纸版本	AIP Rev AIP版本	Date 日 期	Description of Change 更 改 记 录
ET No. ET 编 号	5001546	A	A	2014.10.30	初次发行
Description 产 品 名 称					
Material / Color 产 品 材 料 / 颜 色					

Process Name 过程名称	Frequency 频次		Visual 外 观	Measurement 尺 寸		RF test 频率测试	
First off 首件	Every Pro	每次生产	5PCS，C=0	5PCS，C=0		5-10Pcs,C=0	
Production full Check 生产	Every pcs	每件	100%	No		100%	
In-process 过程	2 hours	每2小时	5PCS,C=0	5PCS，C=0		5PCS,C=0	
	4 hours	每4小时					
Final product 最终检验	Per Lot	每批	AQL 0.4	10PCS		5-10Pcs,C=0	
Outgoing	Per Shipment	每次出货	100% check packaging and labels				

S/No 编号	Specification / Function 产品标准 / 功 能	Class 等 级	Check Method 检测方法	First part 首件	Self Check 自检	FQC 最终检验	OQC 出货检验
1 性能	RF频率测试	A					
	根据RF测试程序.		RF 测试仪	Yes	Yes	Yes	No
2 外观	产品结构完整，颜色正确，无划伤、撞伤、裂纹、起皮、气泡、杂质、针孔、变形、漏铜、字符模糊缺失、焊点无缺焊、过焊等，端子铆压卡抓无歪斜、压伤、破损、过压、端子朝向与图纸相符等	N	目测	Yes	Yes	Yes	Yes
	端子铆压高度在端子铆压公差内（参照端子供应商端子铆压图纸）。	N	带表卡尺/治具	Yes	Yes	Yes	Yes
	40+/-0.2mm		2.5D	Yes	NO	Yes	Yes
	22+/-0.2mm		2.5D	Yes	NO	Yes	Yes
	1+/-0.1mm		2.5D	Yes	NO	Yes	Yes
	90+/-2mm	ST	2.5D	Yes	NO	Yes	Yes
尺寸							

Testing 测试相关		Testing Part 测试部件	Testing Name 测试名称	Testing conditions/standard 测试条件/标准	Testing Instrument 测试仪器	Testing quantity 测试数量	Testing Frequency 测试频率	Judgment Standard 判定标准
	ORT							
	HSF							

Others 其他				
1	Packaging	包装	refer to "the requirement of the packing SOP	参考"包装要求SOP
2	Shipping Docume	发货文件	Certification of Conformance	附出货检验报告
3	Outgoing Inspecti	出货检验	No product damaged;No. of part and carton with diff product;corrcect lable without damaged	无产品破损,混装;标签正确且无破损
4	Remarks	备注		

Item	Edited by 编制	Reviewed by 审核	Approved by 批准	
Name	许双全	Carb	lesley	
Sign				
Date	2014.10.30	2014.10.30	2014.10.30	

6. Caution For Use

6.1 Storage

* Please keep the product away from high temperature and high humidity.
* Please keep product away from corrosive gases such as hydrogen sulfide, sulfurous acid, chlorine, ammonia, etc…. The acid could cause the metal antenna to corrode degrading antenna performance.

6.1.1 Storage Condition 1

Temperature:	5 to 35 ℃
Humidity:	45 to 75 %RH
Period:	6 months from date of packaging

6.1.2 Storage Condition 2

Temperature:	－ 40 to 90 ℃
Humidity:	96 %RH Max
Period:	96 hours

6.2 Handling

* It is important to handle the antenna carefully and bending or dents made into the metal will cause the antenna to detune and could cause performance issues.
* Please do not touch product directly with bare hands, this will put fingerprints on the antenna and the acids in the hand will cause the antenna to discolor. While this will not have a performance effect it does have a cosmetic effect on the part.

7. ROHS

Please refer to the ROHS reports.