加利电子（无锡）有限公司

地址: 无锡高新技术产业开发区锡士路 1 号
电话: 86-510-88665500
传真: 86-510-88665511

零件承认书

SPECIFICATION FOR APPROVAL

P/N of **Galtronics**	P/N of **SerComm**
02100073-04201	6172101WGN

APPROVED BY	SIGNATURE	DATE
Engineering Department Manager		2009.7.01
Mechanical Engineer	Robert	2009.7.1
RF Engineer	Vortel	2009.7.1
Customer Approval		

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1. Specification

2. Drawing

3. Field Plotting

REV NO.	DATE	DESCRIPTION
S1	09-06-10	Initial Draft
S2	09-08-04	Update Antenna Gain

DISTRIBUTION LIST: 1. 2.	3.	
APPROVED BY	**SIGNATURE**	**DATE**
Engineering Department Manager		
Mechanical Engineer Gary Wannagot		
RF Engineer Marin Stoytchev		
Approved By Customer (as required):		

Preliminary Design Specification

2.4-GHz Compact Balanced Antenna
For
Linksys WVC80N Wireless Video Camera

Galtronics P/N:

02100073-04201

SerComm P/N:

6172101WGN

Antenna Type：PIFA Antenna

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1.0 PURPOSE AND SCOPE;

The purpose of this document is to establish a ***design*** specification for the antenna product that Galtronics is producing for Linksys. Any changes or additions to this specification can affect schedule and/or cost of the product and should be negotiated between Galtronics and Linksys before being incorporated into the specification. Upon agreement of this specification Galtronics will make no changes without written approval from Linksys. Any changes requested by Linksys will be given to Galtronics with sufficient time frame to evaluate the cost impact and react as required. The development of this product within Galtronics is conducted according to the Design Control Procedure SOP-006E.

2.0 RELATED DOCUMENTS:

SOP006E	Product Launch Procedure (Design Control)
EN006E	Reliability Guidelines
EIA-STD-556	Outer Shipping Container Bar Code Label Standard

3.0 ABBREVIATIONS AND DEFINITIONS

Ω	Ohm
°	Degree
°C	Celsius (degrees Centigrade)
cm	Centimetre
g	Grams
GHz	Gigahertz
Hz	Hertz
kg	Kilograms
MHz	Megahertz
M	Metre
mm	Millimetre
N	Newton
PCB	Printed Circuit Board
RH	Relative Humidity
W	Watt

Design Specification: A preliminary target specification to guide the design process.
Product Specification: A final specification for the qualified product.

4.0 DESCRIPTION AND PART NUMBER;

4.1 DESCRIPTION

The antenna is referred to as Galtronics' Compact Balanced Antenna. The patent-pending design consists of a single-piece high performance balanced antenna with coaxial cable. The cable is stripped and pre-tinned for soldering to device PCB. One antenna is used per unit. The antenna is designed to slide into the device enclosure. Features in the enclosure are utilized to locate (clock) the antenna at the top of the device. Spring force of the antenna holds the antenna in place.

4.2 PART NUMBER

Galtronics P/N	SerComm P/N	Frequency Band	Location in Wireless Device
02100073-04201	6172101WGN	2.4 - 2.5 GHz	Top

5.0 ELECTRICAL SPECIFICATIONS;

5.1 FREQUENCY BAND

Unlicensed ISM2400 Band: 2.4 – 2.5 GHz

5.2 IMPEDANCE - Nominal impedance: 50Ω

5.3 MATCHING REQUIREMENTS.

The compact balanced antenna does not require additional impedance matching circuitry.

5.4 VSWR REQUIREMENTS

5.4.1 VSWR Maximum

Maximum VSWR allowed is 2.0:1

5.4.2 TEST METHOD (ENGINEERING)

The antenna is tested while mounted in the wireless device. The device is positioned in free space. (Free space means the device is placed on a non-conductive surface away from any conductive objects.)

5.4.3 TEST METHOD (PRODUCTION)

In mass production it is not practical to use the device supplied by customer. Galtronics will designate reference antennas that meet VSWR requirements when installed in the wireless device. The reference antennas will then be measured in free space on production test equipment. Production antennas will be measured on the same production test equipment, and are thereby correlated to the reference antennas.

5.5 EFFICIENCY

5.5.1 MINIMUM VALUES OF ANTENNA EFFICIENCY

The efficiency of the antenna shall be a minimum of 60%.

5.5.2 TEST METHOD

The antenna is tested while mounted inside the wireless device. The device is then tested in an anechoic chamber in free space. The efficiency of the antenna is measured at a minimum of three frequency points across the band of interest. The antenna shall meet the minimum efficiency requirements.

5.6 MINIMUM PEAK AND AVERAGE GAIN

5.6.1 PEAK AND AVERAGE GAIN VALUES

	Azimuth Cut	
Frequency (GHz)	Power Sum Peak (dBi)	Power Sum Avg (dBi)
2.40	1.00	-4.00
2.45	1.50	-3.00
2.50	1.00	-3.50

	Elevation Cut 1 (Front to Back)	
Frequency (GHz)	Power Sum Peak (dBi)	Power Sum Avg (dBi)
2.40	1.00	-1.00
2.45	1.50	-0.50
2.50	1.50	-1.00

	Elevation Cut 2 (Side to Side)	
Frequency (GHz)	Power Sum Peak (dBi)	Power Sum Avg (dBi)
2.40	1.00	-4.00
2.45	1.50	-3.00
2.50	1.50	-3.50

5.6.2 PEAK GAIN LIMITATION

Peak gain of the antenna shall be limited to the following value:

Maximum Peak Gain	Typical Peak Gain (Reference)
Linksys to Define	1.50 dBi

5.6.3 TEST METHOD

The wireless device with antenna installed is mounted in an anechoic chamber in free space. The peak and average gain values are recorded for the antenna at the frequencies indicated. The antenna shall meet the minimum peak and average gain values.

6.0 MECHANICAL SPECIFICATIONS

6.1 MECHANICAL CONFIGURATION

The appearance of the antenna is in accordance with drawing 02100073-04201.

6.2 CABLE PULL TEST

The antenna cable and solder joint shall withstand a 3 N axial pull force. The antenna element is fixed in an appropriate fixture and a 3 N axial force is slowly applied. The force is maintained for 10 seconds. There shall be no permanent damage to the antenna after the test.

7.0 ENVIRONMENTAL SPECIFICATIONS

7.1 OPERATING TEMPERATURE

Operating temperature range shall be 0° C to +60° C.

7.2 OPERATING HUMIDITY

Operating humidity range shall be 10% to 85%, non-condensing.

7.3 STORAGE TEMPERATURE

Storage temperature range shall be -20° C to +60° C.

7.4 STORAGE HUMIDITY

Storage humidity range shall be 5% to 90%, non-condensing.

8.0 QUALIFICATION

The mechanical and environmental tests mentioned above are performed according to the flow chart shown in Figure 1 below. The entire testing procedure will be conducted according to EN006E.

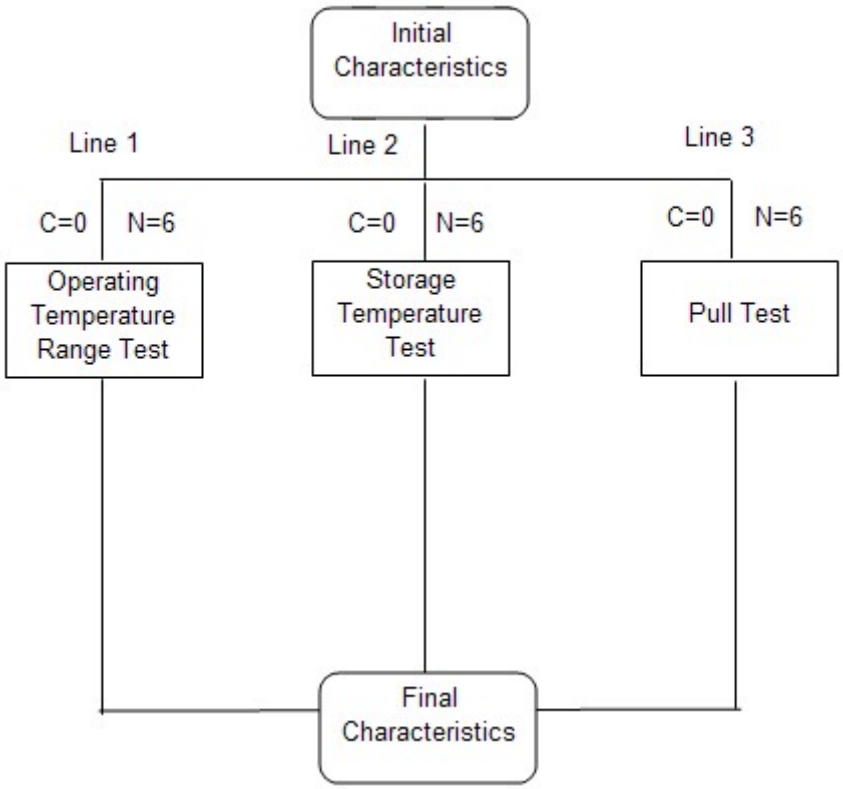

Figure 1. Property Verification Test Flow Chart
Note: n - sample size; c - allowable amount of critical failures

9.0 PACKAGING

02100073-04201 will be packed by tray, 90pcs antennas in one tray and 4140 pcs in one box.

DWG No
02100073-04201

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DRAWING COVER SHEET

REV	DATE	ECO #	DESCRIPTION
SI	2009-06-29		Original Release

APPLICABLE SPEC'S:

INTERNAL DISTRIBUTION

- ☐ PROCESS
- ☐ PURCHASING
- ☐ PRODUCTION
- ☐ PLASTICS
- ☐ QUALITY
- ☐ INCOMING INSPECTION
- ☐ FINAL INSPECTION
- ☐ MARKETING

SURFACE FINISH, MICROMETERS, CLA (UNLESS STATED) 0.8
TOLERANCES UNLESS OTHERWISE SPECIFIED:
NO PLACE (X)±1 TWO PLACE (X.XX)±0.1
ONE PLACE (X.X)±0.2 THREE PLACE (X.XXX)±0.05

METRIC SCREW THREAD TO ISO STANDARDS 724, 2861, 965-1 AND 965-2 INCHES SCREW THREAD TO ANSI/ASME B1.1. ALL ANGLES TO BE 90° UNLESS OTHERWISE STATED. TOLERANCE ON ANGLES ±1/4°. ALL TOLERANCES APPLY AFTER FINISHING. MACHINE CORNER RADS, 0.25 MAX., TO BE FREE FROM BURRS, SHARP EDGES AND ALL FOREIGN MATERIALS. FLASH ALLOWANCE FOR PLASTIC MOLDED PARTS TO BE 0.1mm UNLESS OTHERWISE STATED. DIAMETER MUST BE CONCENTRIC WITHIN 0.08 T.I.R. ENVIRONMENTAL REQUIREMENTS: COMPLIANCE WITH GALTRONICS STANDARD "SUPPLIER ENVIRONMENTAL DECLARATION PROCEDURE" (SOPG002E).

QUALITY ASSURANCE NOTES:

NO CHANGE SHALL BE ALLOWED ON PRODUCTION. MATERIAL WITHOUT PRIOR EXPLICIT WRITTEN APPROVAL BY GALTRONICS ENGINEERING AND PURCHASING DEPARTMENTS FOR SPECIAL REQUIREMENTS SEE FMI49

- ☒ XR PROCESS CONTROL CHART REQUIRED WITH EACH SHIPMENT
- ☐ CRITICAL DIMENSION AFFECTS FORM FIT OR FUNCTION

SUFFIX#	DESCRIPTION

MATERIAL: See Page2 Notes

FINISH: See Page2 Notes

TITLE:

ANTENNA, HORIZONTAL DUAL 2.5 - 5 GHz

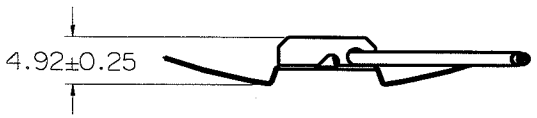
CHKD: Mark 29/6/09

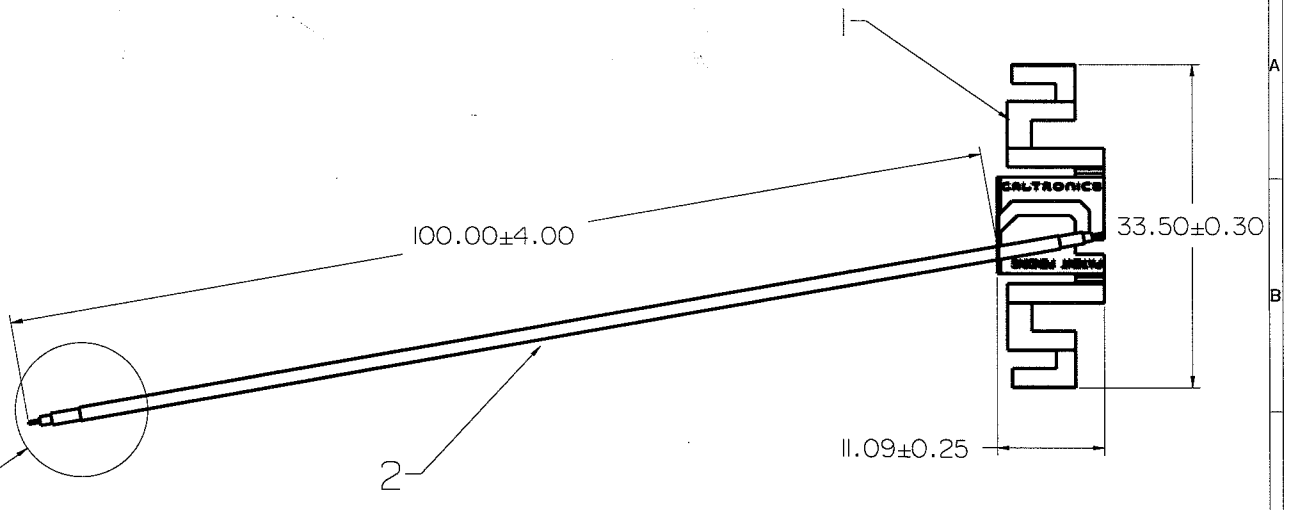
APRVD:

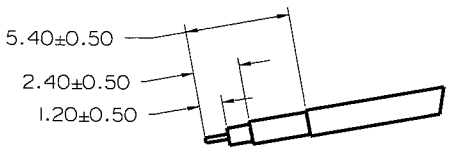
DATE: 29/6/09

DWG. No.
02100073-04201

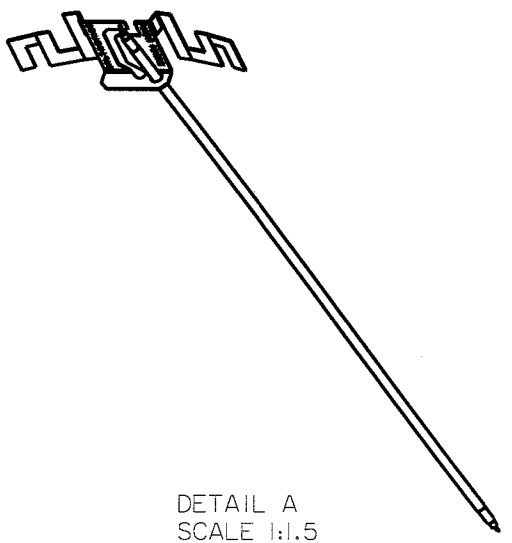
REV. **S1**







DETAIL A
SCALE 2:1



DETAIL A
SCALE 1:1.5

NO	DESCRIPTION	MATERIAL	FINISH
2	CABLE, COAX	ø1.37 O.D., COLOR BLACK, 110MM LONG	
1	ELECTRICAL ELEMENT	STAINLESS STEEL SS304 THICKNESS 0.2 mm	NICKEL PLATING

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ENGINEER		CHECKED	Mark 6-6-09
DRAWN	Robert	APPROVED	
DATE	2009.6.29	DATE	

ANTENNA, HORIZONTAL
DUAL 2.5 - 5.0 GHz

DWG. NO.: A1
02100073-04201
S1