



Wistron NeWeb Corporation

APL11 Antenna Approval Sheet

Compal Model Name:	APL11
Compal P/N:	DC330004700
Description:	APL11 Antenna for 802.11a+b system
Wistron NeWeb P/N:	91.CA213.001
Revision:	0C

Provide by _____
Wistron NeWeb Corp

Reviewed by _____
Wistron NeWeb Corp.

Approved by _____
COMPAL ELECTRONICS, INC.

Date: October 9, 2002

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Wistron NeWeb Corporation

I. Antenna Specification

1.1 Frequency Band

Parameter	Description
Number of antenna	2
Frequency Band of MAIN (primary) antenna	2.40GHz to 2.50GHz and 5.15 GHz to 5.35GHz
Frequency Band of AUX (secondary) antenna	2.40GHz to 2.50GHz and 5.15 GHz to 5.35GHz
Connector and Cable	IPEX 20278-001R-13 with Junkosha 1.13mm diameter coaxial cable

1.2 Antenna VSWR spec.

Test Parameter	2.40GHz to 2.50GHz	5.15 GHz to 5.35GHz
VSWR (notebook open)	2:1 max	2:1 max

1.3 Antenna Gain spec.

Test Parameter	2.40GHz to 2.50GHz	5.15 GHz to 5.35GHz
Average Gain (dBi) notebook open	-5 dBi min	-5 dBi min
Average Dominant Polarization Gain (dBi) notebook open	-6 dBi min	-6 dBi min
Average Cross Polarization Gain (dBi) notebook open	-9 dBi min	-9 dBi min
Peak Gain (dBi) notebook open, both polarizations combined by $\sqrt{V^2+H^2}$	3 dBi max	6 dBi max
Note: Gain includes the cable loss		

II. Net Weight.

Antenna Net Weight = 5.35 ± 0.10 g.

III. Mechanical Spec.

See the attached drawing.

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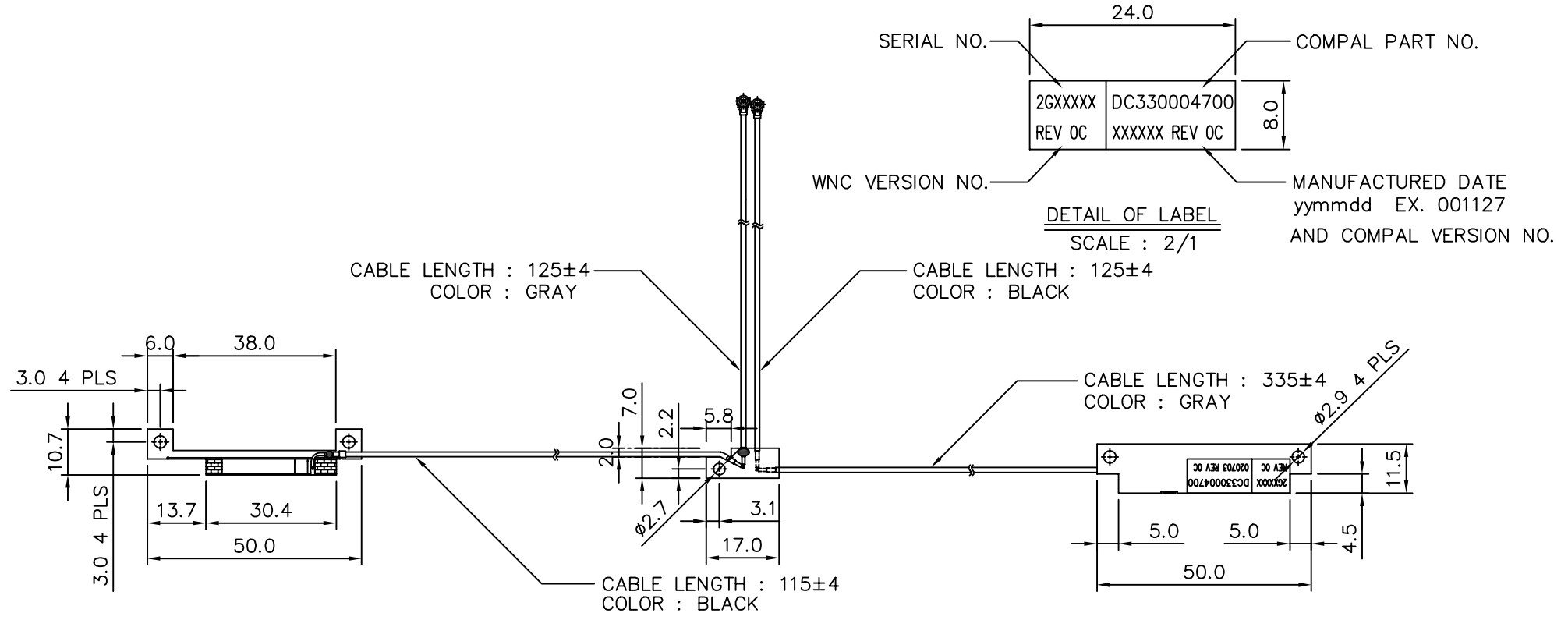
2

PART NUMBER BLOCK	
PART NUMBER	REV
57.CA213.001	2

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	0	RELEASE TO FILE	07/24/02	ERIC LIU
	1	UPDATE CONNECTOR	8/27/02	TSU PENG
	2	UPDATE PCB P/N FROM 48.CA201.00A TO 48.CA201.00B	9/4/02	TSU PENG

A

A



B

B

		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN mm AND TOLERANCES ARE: INTEGRAL DIMENSIONS ±0.5 1 PLACE DECIMAL ±0.3 2 PLACE DECIMALS ±			ANGULAR DIMENSIONS ±1° HOLES UNDER Ø5.00 ±0.05		wistron 啟基科技股份有限公司 Wistron NeWeb Corp. No. 10-1, Li-hsin Road I, Science-based Industrial Park, Hsinchu 300, Taiwan, R.O.C. Tel: 886-3-6667799 Fax: 886-3-6667711		
		MATERIAL: NA			FINISH: NA		DWG TITLE		
		CA2-C			THIRD ANGLE PROJECTION		OUTLINE, CA2-C		
NEXT ASSY		USED ON			DRAWN	JESS	9/4/02	SIZE DWG NO.	REV
APPLICATION					ENGR	JESS	9/4/02	A3 C414-57-CA213-001	2
					APVD	TSU PENG	9/4/02	SCALE 1/1	SHEET 1 OF 1

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2

IV. Test Results

4.1 VSWR

VSWR @(GHz)	Left antenna (Aux.)						Right antenna (Main.)					
	802.11b system			802.11a system			802.11b system			802.11a system		
	2.40	2.45	2.50	5.15	5.25	5.35	2.40	2.45	2.50	5.15	5.25	5.35
Spec.	≤ 2											
Sample 1	1.81	1.41	1.71	1.42	1.78	1.30	1.87	1.51	1.92	1.27	1.21	1.32
Sample 2	1.19	1.05	1.32	1.30	1.53	1.38	1.15	1.49	1.85	1.29	1.48	1.07
Sample 3	1.47	1.45	1.94	1.33	1.48	1.28	1.83	1.52	1.85	1.85	1.27	1.38
Sample 4	1.51	1.25	1.89	1.24	1.32	1.16	1.42	1.55	1.90	1.30	1.57	1.43
Sample 5	1.59	1.29	1.94	1.25	1.43	1.32	1.50	1.15	1.43	1.40	1.74	1.01

⇒ All Pass

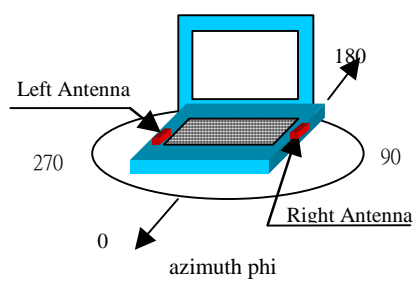
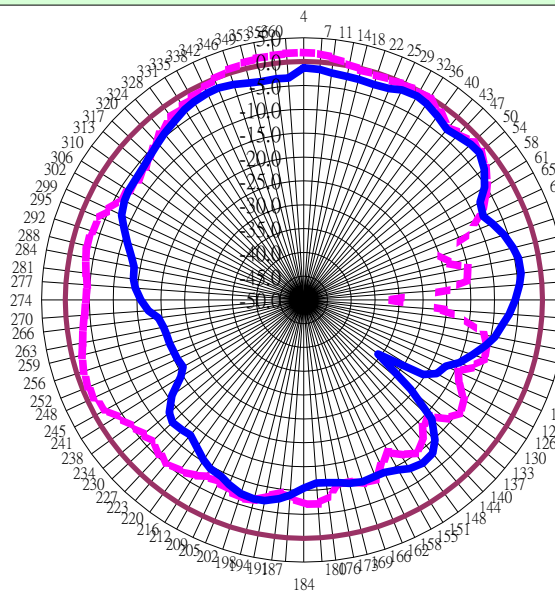
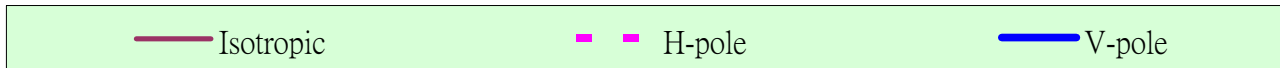
4.2 Antenna Gain

Gain (dBi) @(GHz)		Left antenna (Aux.)						Right antenna (Main.)					
		802.11b system			802.11a system			802.11b system			802.11a system		
		2.40	2.45	2.50	5.15	5.25	5.35	2.40	2.45	2.50	5.15	5.25	5.35
Spec.	Average Gain	≥ -5											
	Dominant Pol.	≥ -6											
	Cross Pol.	≥ -9											
	Peak Gain	≤ 3			≤ 6			≤ 3			≤ 6		
Test Result	Average Gain	-4.01	-2.90	-2.54	-3.90	-3.57	-4.05	-2.62	-2.82	-2.88	-2.19	-1.83	-2.31
	Dominant Pol.	-4.83	-3.75	-3.37	-5.78	-5.36	-5.94	-3.07	-3.61	-3.76	-3.40	-2.86	-3.38
	Cross Pol.	-7.73	-6.18	-5.94	-7.73	-6.18	-6.29	-8.18	-6.97	-6.79	-5.59	-5.48	-5.82
	Peak Gain	1.38	2.33	2.26	0.90	1.18	0.33	0.93	0.23	0.81	2.53	3.08	2.39

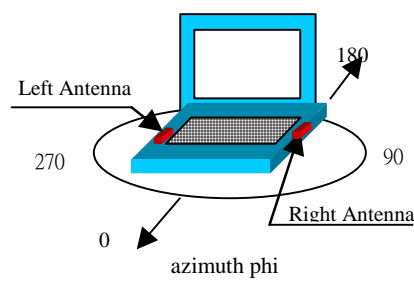
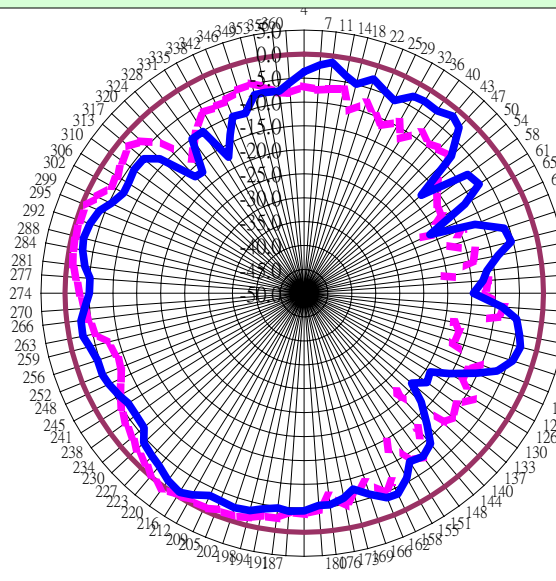
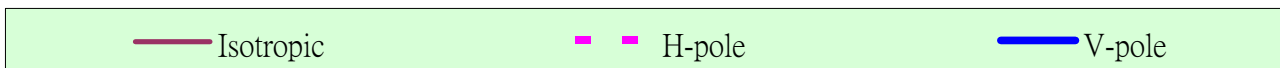
⇒ All Pass

4.3 Radiation Pattern

APL11 Left Antenna - @2.45GHz



APL11 Left Antenna - @5.25GHz

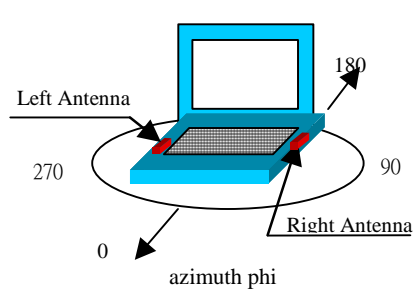
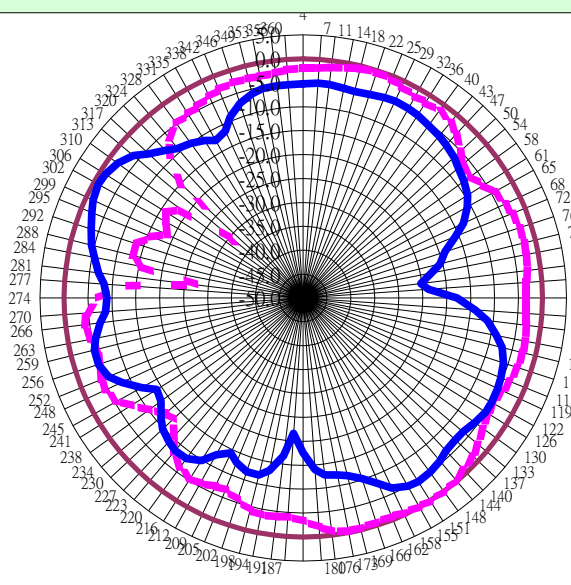




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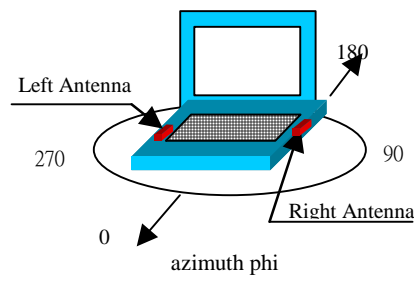
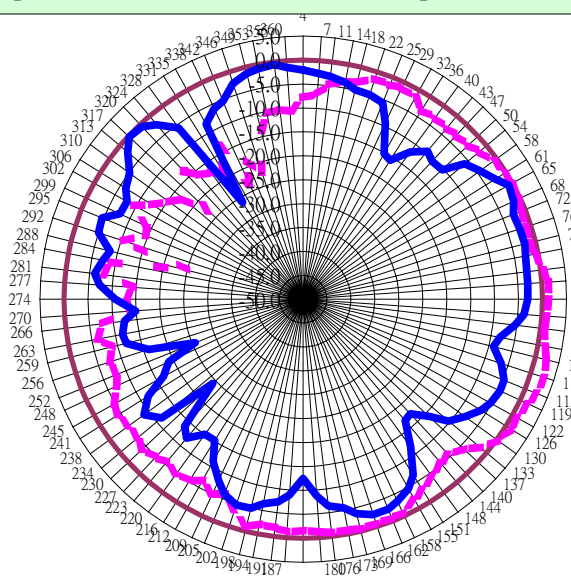
APL11 Right Antenna - @2.45GHz

— Isotropic - - H-pole — V-pole



APL11 Right Antenna - @5.25GHz

— Isotropic - - H-pole — V-pole



V. Package

See the attached drawing.

