

***Abacus Antenna Regulatory Information***

**Description :** Triple-band Antenna(Main+Aux)  
**Compal Computer Inc. P/N:** DC330005600  
DC330005610  
**Wistron NeWeb P/N:** 81.CAA15.001  
81.CAA15.002

**Wistron NeWeb Corporation**

No. 10-1,Li-hsin Road I,  
Science-base Industrial Park,  
Hsinchu 300,Taiwan, R.O.C.  
**Tel:** 886-3-6667799#6568  
**Fax:** 886-3-6667711

<b>Provided by</b> Wistron NeWeb Corp.	<b>Reviewed by</b> Wistron NeWeb Corp.
<i>Yuan Li Chang</i>	<i>Weili Cheng</i>

**I. Antenna Type**

<b>Position</b>	<b>Main Antenna (Left-side Antenna)</b>	<b>Aux Antenna (Right-side Antenna)</b>
<b>Antenna Type</b>	<b>PIFA</b>	<b>PIFA</b>
<b>Material</b>	<b>Metal sheet</b>	<b>Metal sheet</b>

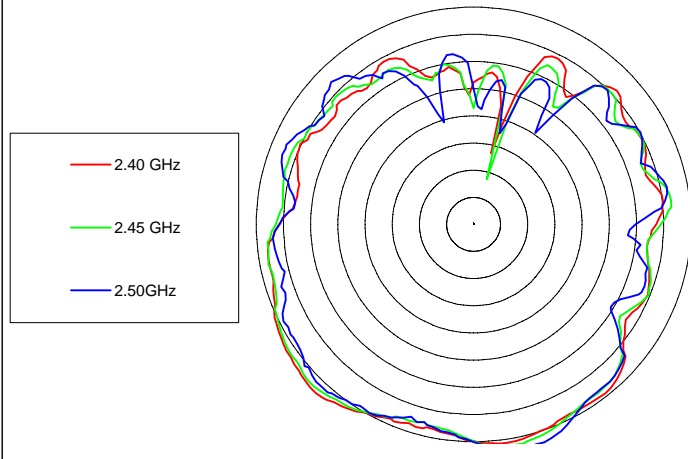
**II. Peak Gain**

<b>Antenna Gain</b>		<b>2G4 ISM (2.400 GHz - 2.4835 GHz)</b>			<b>U-NII (5.150 GHz - 5.350 GHz)</b>			<b>HyperLAN (5.470 GHz - 5.725 GHz)</b>		
		<b>2.40 GHz</b>	<b>2.45 GHz</b>	<b>2.50GHz</b>	<b>5.15 GHz</b>	<b>5.25 GHz</b>	<b>5.35 GHz</b>	<b>5.47 GHz</b>	<b>5.5975 GHz</b>	<b>5.725 GHz</b>
<b>MAIN</b>	<b>Peak dBi</b>	2.55	1.91	2.19	1.29	1.89	2.88	3.78	4.38	3.64
	<b>Avg dBi</b>	-2.81	-2.78	-2.81	-2.01	-2.28	-1.52	-0.98	-1.30	-1.52
<b>AUX</b>	<b>Peak dBi</b>	0.82	0.68	-0.55	4.50	4.14	3.73	3.20	3.83	3.14
	<b>Avg dBi</b>	-3.23	-3.25	-3.75	-0.85	-0.81	-1.56	-2.16	-0.69	-0.85

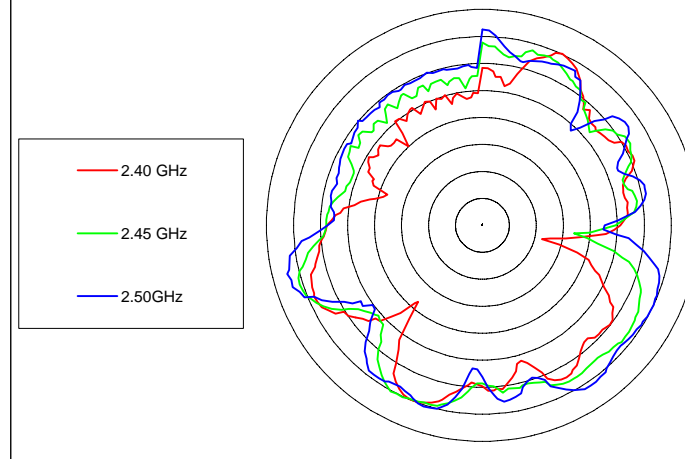
Platform: Abacus  
 Supplier: Wistron NeWeb coporation  
 Date: 2003/12/29

## 2G4 ISM (2.400 GHz - 2.4835 GHz) Antenna Radiation Patterns

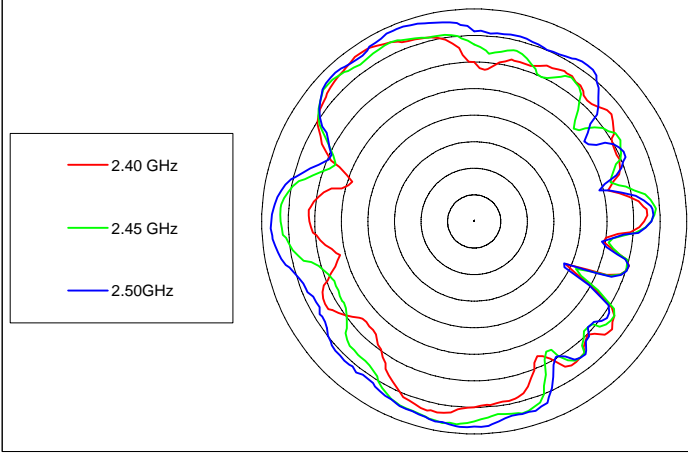
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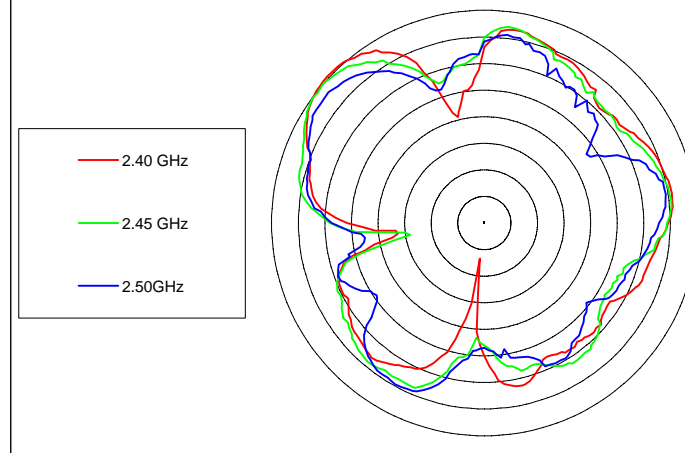
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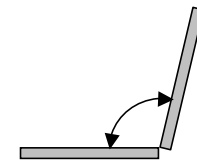
### Aux Horizontal



### Aux Vertical



2G4 ISM (2.400 GHz - 2.4835 GHz)			
CONFIG	FREQ GHz	Avg dBi	Pk dBi
Main Horz	2.4	-2.96	2.55
	2.45	-3.06	1.91
	2.5	-3.32	2.17
Main Vert	2.4	-10.62	-5.00
	2.45	-8.97	-4.47
	2.5	-7.80	-2.73
Aux Horz	2.4	-4.13	-1.73
	2.45	-4.65	-1.55
	2.5	-4.45	-0.96
Aux Vert	2.4	-6.43	0.42
	2.45	-6.49	0.04
	2.5	-7.91	-1.77



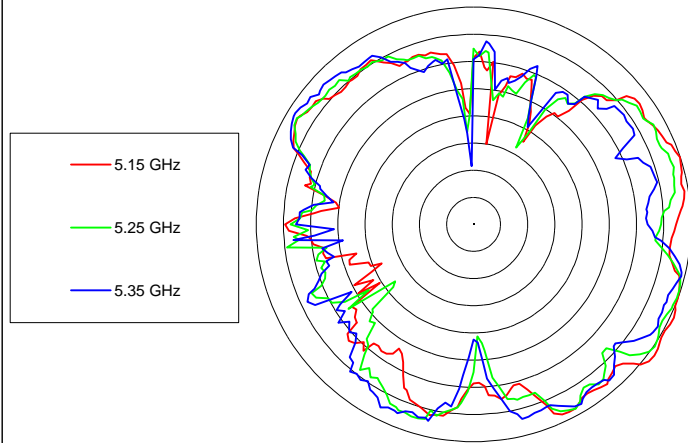
VSWR open = lid/keyboard angle 110°

Note: The outer circle approximately represents the 0 dBi gain circle

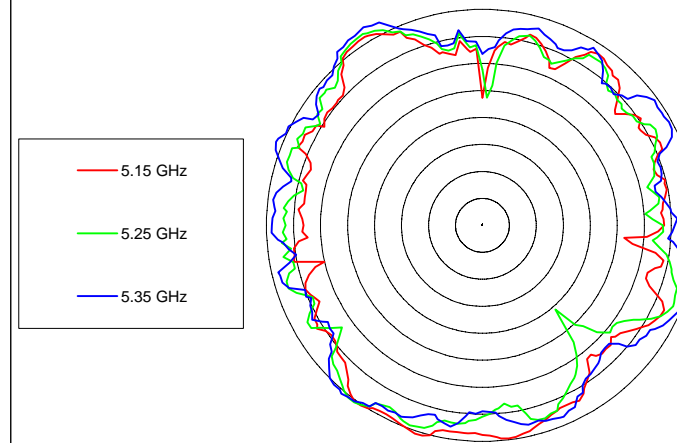
Platform: Abacus  
 Supplier: Wistron NeWeb coporation  
 Date: 2003/12/29

## U-NII (5.150 GHz - 5.350 GHz) Antenna Radiation Patterns

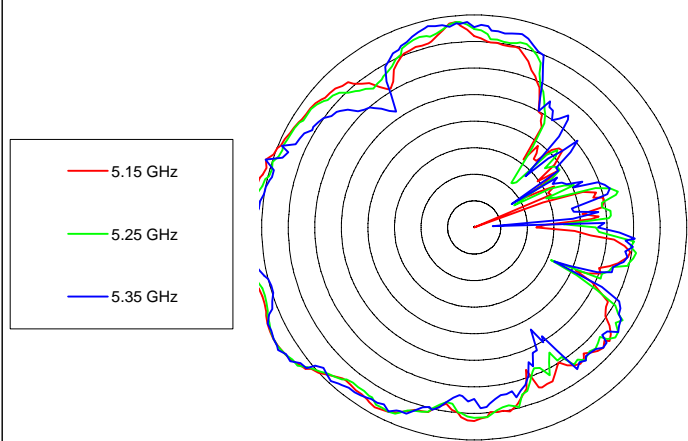
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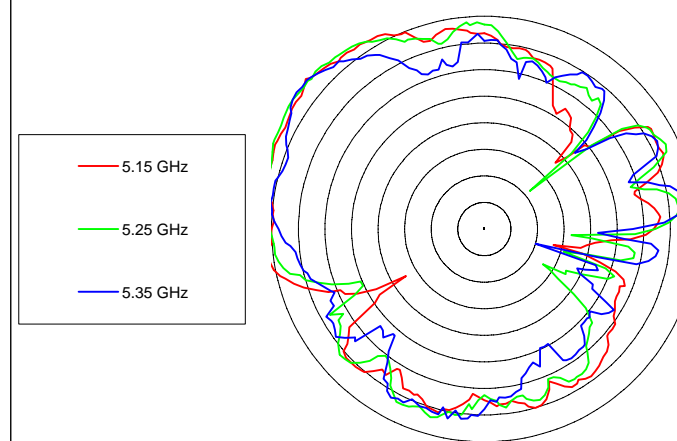
### Main Vertical



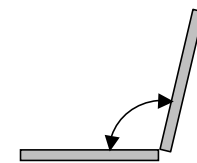
### Aux Horizontal



### Aux Vertical



U-NII (5.150 GHz - 5.350 GHz)			
CONFIG	FREQ GHz	Avg dBi	Pk dBi
Main Horz	5.15	-4.66	1.10
	5.25	-5.11	0.25
	5.35	-5.41	-0.59
Main Vert	5.15	-3.60	1.12
	5.25	-3.56	1.79
	5.35	-2.15	2.77
Aux Horz	5.15	-2.67	4.05
	5.25	-2.86	3.80
	5.35	-3.37	3.53
Aux Vert	5.15	-3.01	3.84
	5.25	-2.82	3.43
	5.35	-4.10	3.69



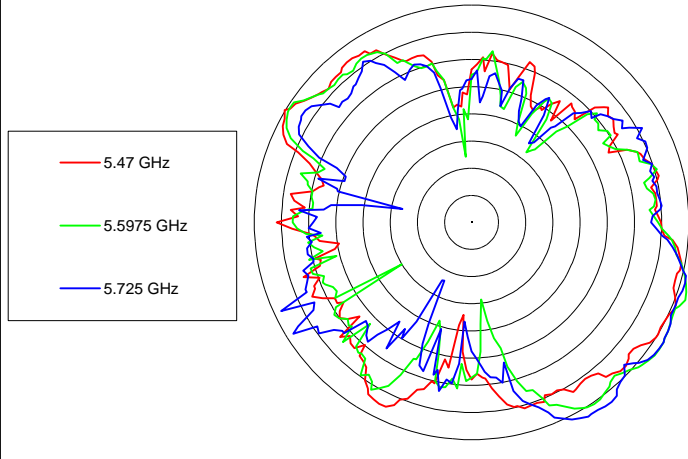
VSWR open = lid/keyboard angle 110°

Note: The outer circle approximately represents the 0 dBi gain circle

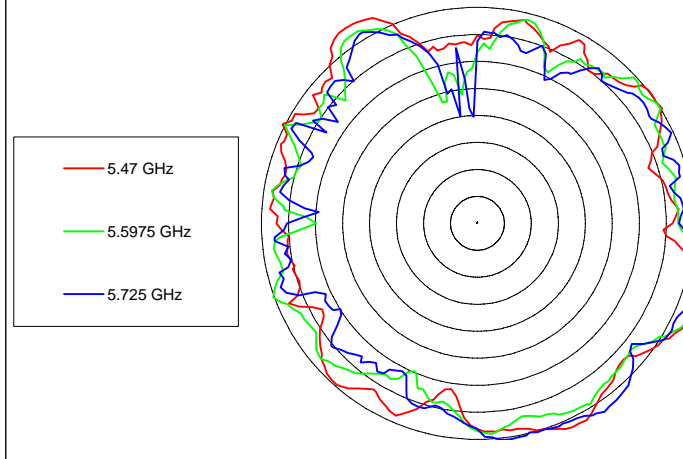
Platform: Abacus  
 Supplier: Wistron NeWeb coporation  
 Date: 2003/12/29

## HyperLAN (5.470 GHz - 5.725 GHz) Antenna Radiation Patterns

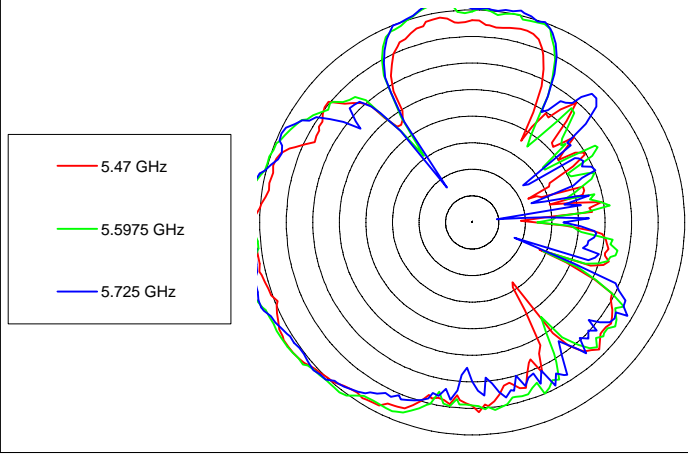
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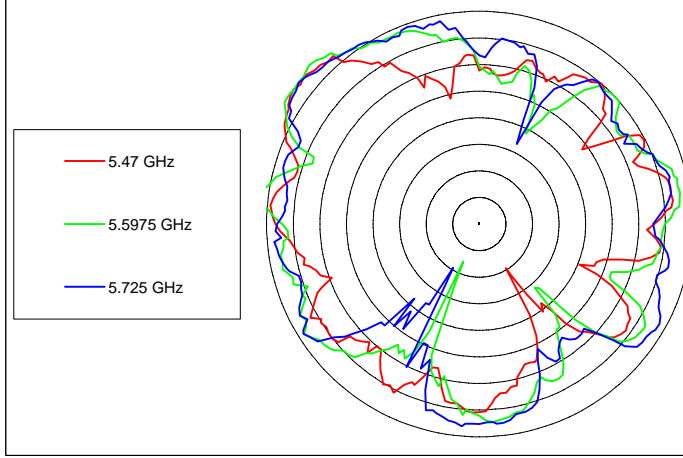
**Main Vertical**



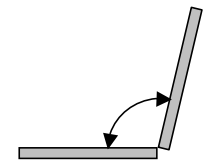
**Aux Horizontal**



**Aux Vertical**



HyperLAN (5.470 GHz - 5.725 GHz)			
CONFIG	FREQ GHz	Avg dBi	Pk dBi
Main Horz	5.47	-5.27	0.66
	5.5975	-4.97	1.86
Main Vert	5.47	-1.45	3.63
	5.5975	-2.06	3.74
Aux Horz	5.47	-2.33	2.99
	5.725	-3.91	1.81
Aux Vert	5.47	-2.31	3.55
	5.725	-2.67	2.84
Aux Horz	5.47	-4.90	3.15
	5.5975	-3.48	3.81
Aux Vert	5.47	-3.41	3.13
	5.725	-3.41	3.13



VSWR open = lid/keyboard angle 110°

Note: The outer circle approximately represents the 0 dBi gain circle

**III. Antenna Model Number**

**Model number: CAA-C**

**IV. Manufacturing Info**

**Wistron NeWeb Corporation  
No. 10-1, Li-hsin Road I,  
Science-base Industrial Park,  
Hsinchu 300, Taiwan, R.O.C.**

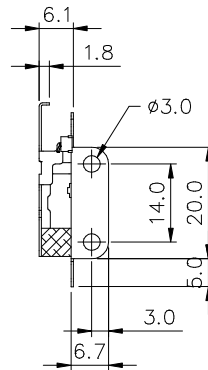
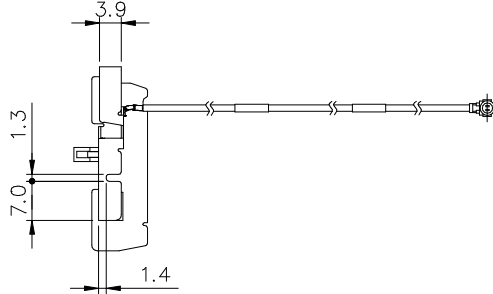
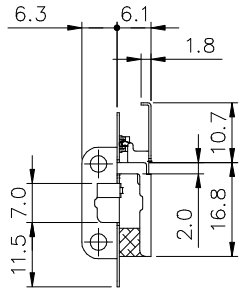
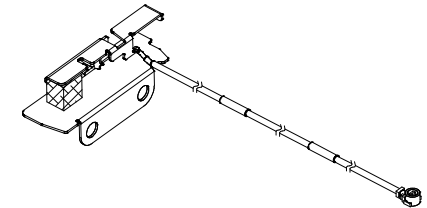
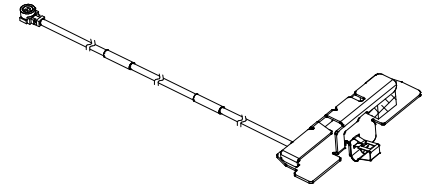
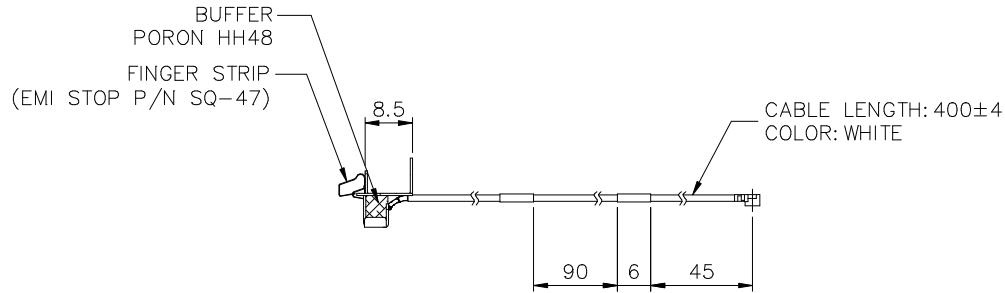
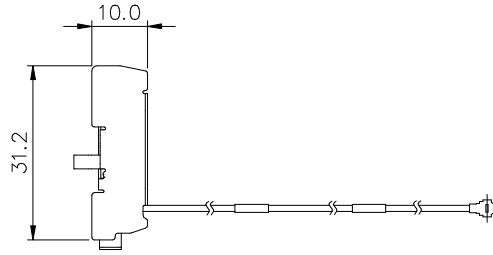
**V. Antenna Dimensions (Mechanical drawings)  
(See Next 2 Pages)**

1

2

PART NUMBER BLOCK	
PART NUMBER	REV

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN mm AND TOLERANCES ARE: INTEGRAL DIMENSIONS ± 0.2 1 PLACE DECIMAL ± 0.1 2 PLACE DECIMALS ± 0.05				<b>啟碁科技股份有限公司</b> <small>No. 10-1, Li-hsin Road 1, Science-based Industrial Park, Hsinchu 300, Taiwan, R.O.C. Tel: 886-3-6667799 Fax: 886-3-6667711</small>	
		MATERIAL: NA				DWG TITLE	
		FINISH: NA				OUTLINE, RIGHT ANTENNA, CAA-C	
NEXT ASSY	USED ON	THIRD ANGLE PROJECTION	DRAWN	THOMAS SHIEH	01/14/03	SIZE	DWG NO.
			ENGR	THOMAS SHIEH	01/14/03	<b>A3</b>	C414-91.CAA15.001
APPLICATION			APVD			SCALE	1/1
						SHEET	1 OF 1

1

2

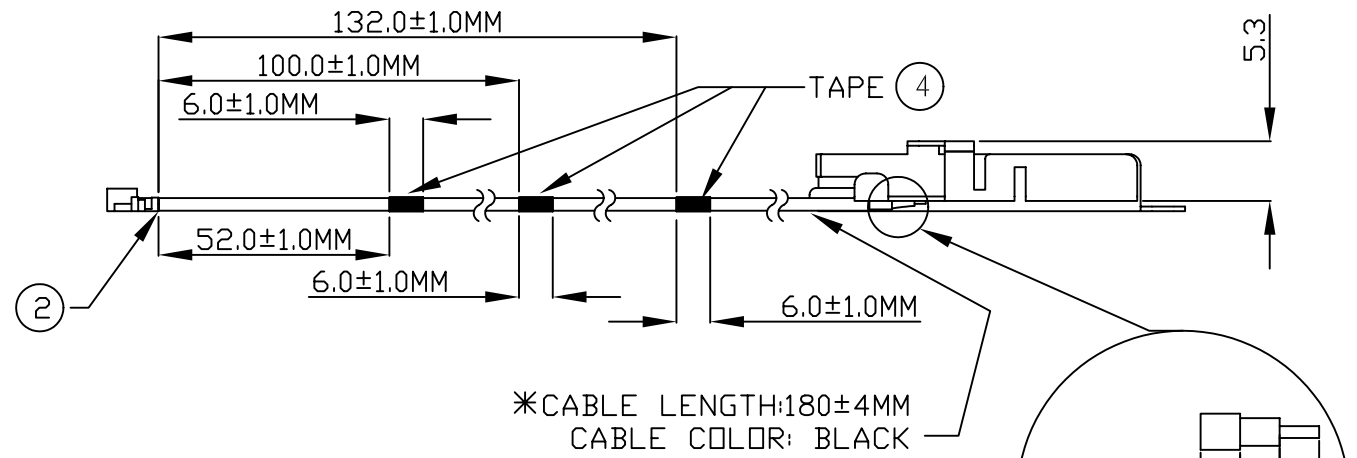
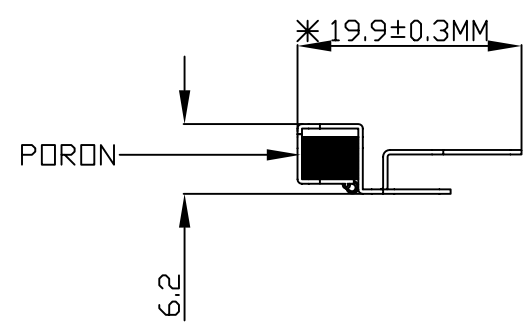
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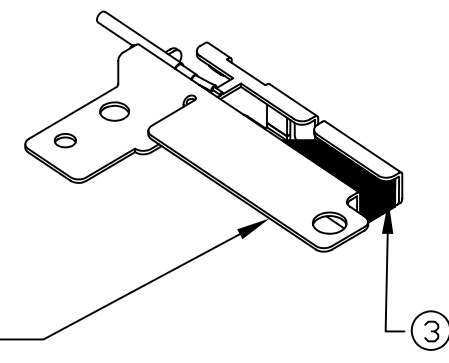
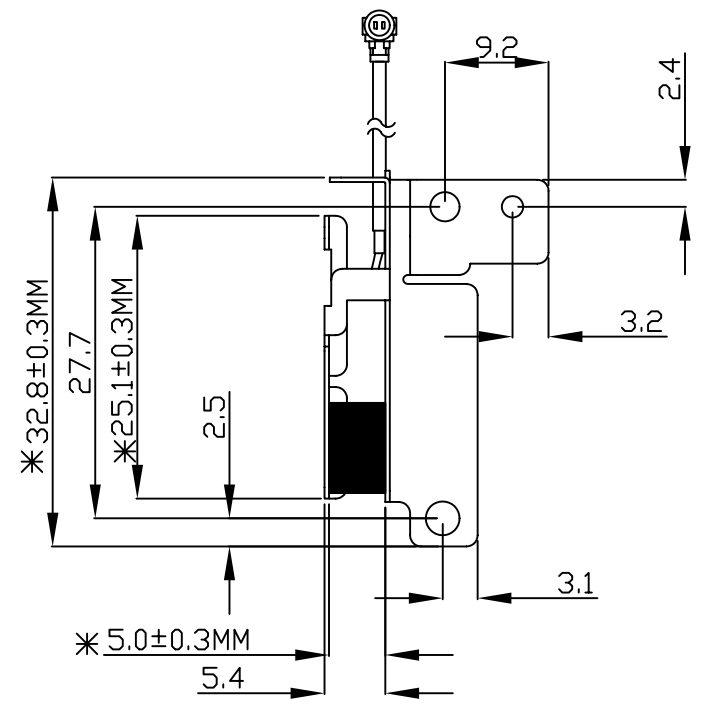
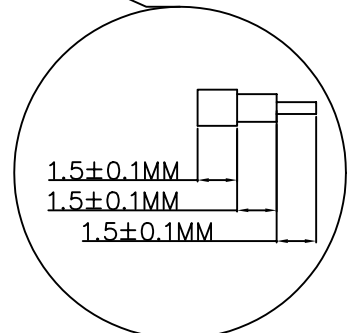
PART NUMBER BLOCK	
PART NUMBER	REV
91.CAA15.002	0

WNC ANTENNA FOR DELL'S ABACUS PROJECT  
 COMPAL'S P/N: DC330005610  
 WNC'S P/N: 91.CAA15.002

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	0	NEW RELEASE	03/01/03	WEILI CHENG



\*CABLE LENGTH: 180±4MM  
 CABLE COLOR: BLACK



No.	PART NAME	OWNER	QTY
1	METAL SHEET	TAYI	
2	CABLE	WELLSHINE, SINBON	
3	PORON	WCI	
4	TAPE	CF	
5			
6			
7			
8			

NOTES:  
 1. CABLE ASS'Y:  
 VENDOR 1: JKS  $\phi$ 1.13MM CABLE + IPEX CONNECTOR(20278-101-R-13)  
 VENDOR 2: NISSEI  $\phi$ 1.13MM CABLE + HRS CONNECTOR(U.FL-066)  
 2. " \* " MEANS CRITICAL DIMENSION

		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN mm AND TOLERANCES ARE:			
		INTEGRAL DIMENSIONS $\pm 0.3$	ANGULAR DIMENSIONS $\pm 10^\circ$		
		1 PLACE DECIMAL $\pm 0.2$	HOLES UNDER $\phi 5.00 \pm 0.05$		
		2 PLACE DECIMALS $\pm 0.1$			
		MATERIAL: SEE NOTES			
		FINISH: SEE NOTES			
		THIRD ANGLE PROJECTION	DRAWN	GUO CHANG	03/01/03
			ENGR	YUAN LI	03/01/03
			APVD	WEILI CHENG	03/01/03
NEXT ASSY	CAA-C				
	USED ON				
APPLICATION					

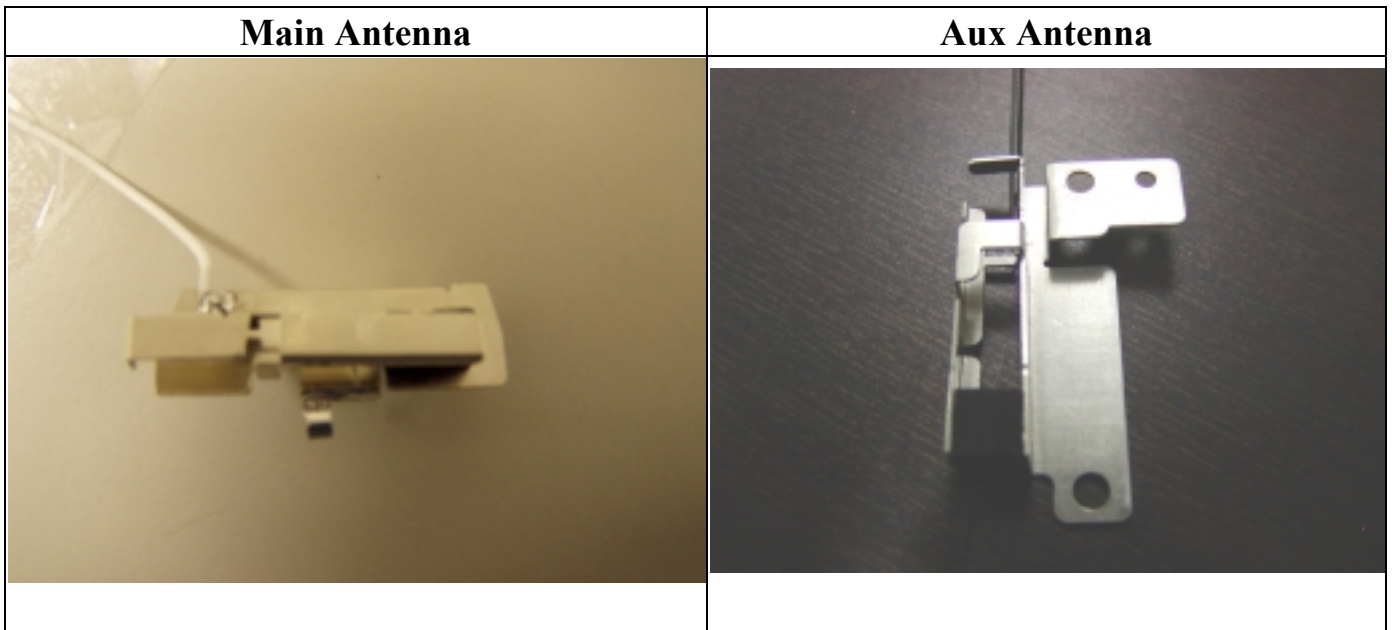
<b>wistron</b> 啟碁科技股份有限公司	
Wistron NeWeb Corp. No. 10-1, Li-hsin Road I, Science-based Industrial Park, Hsinchu 300, Taiwan, R.O.C. Tel: 886-3-6667799 Fax: 886-3-6667711	
DWG TITLE	
OUTLINE, AUX, CAA-C	
SIZE	DWG NO.
A3	C414-CAA-C-02
SCALE	REV
2/1	0
SHEET	1 OF 1

1

2



**VI. Pictures of Antennas**



**VII. Cable Length**

<p><b>Left-side antenna: 180mm<math>\Phi</math>1.13mm</b>  <b>Right-side antenna: 399.5mm<math>\Phi</math>1.13mm</b>  <b>(From the center of connector to the end of cable)</b></p>
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**VIII. Cable Loss (including connector)**

Unit: dB	2G4 band	U-NII band	HyperLAN band
180mm	0.9	1.07	1.12
399.5mm	1.41	2.02	2.14

**XI. Antenna Material**

Main antenna	Aux antenna
<p>1. Stamped metal                  2. Junkosha cable and IPEX connector                  (Or Nissei cable and HRS connector)                  3. Sponge                  4. Tape</p>	<p>1. Stamped metal                  2. Junkosha cable and IPEX connector                  (Or Nissei cable and HRS connector)                  3. Sponge                  4. Tape</p>

**X. Connector Info (general description)**

<b>Description (Cable)</b>	Inner Conductor: AWG#32(7/0.8), Silver plating annealed copper wire Dielectric core: D0.68mm Outer conductor: 16/4/0.05 D0.93mm, Silver plating annealed copper wire Jacket: D1.13mm		
<b>Requirements</b>	Characteristic impedance: 50(+2,-2)ohm Nominal capacitance: 97pF/m Conductor resistance of inner conductor at 293K(20°C): 520ohm/km MAX Insulation resistance: 1500mega-ohm.km MIN Dielectric withstand voltage: no breakdown at AC1000V for 1min.		
<b>Ratings</b>	Rated voltage: AC60Vrms Nominal characteristics impedance: 50ohm VSWR: 1.3MAX DC~3GHz, 1.7MAX 3~6GHz		
<b>Electric characteristics</b>	Contact resistance	10mA MAX(DC or 1000Hz)	Center contact 74mohm MAX. Outer contact 27mohm MAX.
	Insulation resistance	100V DC	500Mohm MIN
	Voltage proof	200V AC for 1 min. Current leakage 2mA MAX	No flashover or breakdown