



Customer	Model	Customer Code	Date	Document Revision
BLUEBIRD	VF550 WLAN	352010018	19' 12. 13	Rev 1.0

**APPROVAL SHEET**

**VF550 WLAN WiFi Only ANTENNA**

<b>CUSTOMER</b>	BLUEBIRD
<b>MODEL</b>	VF550 WLAN
<b>ANTENNA TYPE</b>	WiFi Only ANTENNA
<b>ANTENNA MAKER</b>	WINIZEN
<b>DOCUMENT REVISION</b>	Rev 1.0
<b>CUSTOMER CODE</b>	352010018
<b>PART NAME</b>	ASSY BRACKET ANT /NON_SAM_WLAN,BCD30

	Name	Date	Sign
RF Engineer	J.S. Choi	19' 12. 13	
ME Engineer	S.M. Cha	19' 12. 13	

Development Team Manager	QA Team Manager	Operation Manager	Customer
		19' 12. 13	

**Head Office**

301, 304 Summit Bldg., 97 Yeonseong-ro, Shiheung-shi, Gyeonggi-do 14977, Korea

**Suwon R&D Center**

#3F, Kang Hee B/D 1264-2, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea



# ANTENNA APPROVAL SHEET

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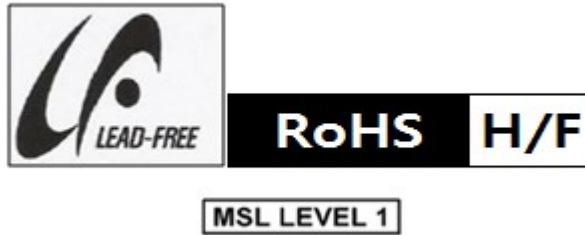
	TOP	BOTTOM
PRODUCT PHOTO		

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## PRODUCT SPECIFICATION

### BLUEBIRD VF550 WLAN

#### WiFi Only ANTENNA ( LDS TYPE )



- Written by

	Name	Date	Sign
RF Engineer	J.S. Choi	19' 12. 13	
ME Engineer	SM. Cha	19' 12. 13	

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## 2. 제품 도면

**CODE : 352010018**  
**MODEL : VF550 WiFi Only**

NO	THE NAME OF AN ARTICLE	DWG-NO	MATERIAL	QTY	REMARK
1	CARRIER PATTERN	-	PC+GF30% BLACK [LGF1300S 9626 (BK)], LUCKY ENPLA LDS [Cu 10 ~ 15um, Ni 1 ~ 5um]	1 EA	
2		-		1 EA	

General		Description of Revision	
19. 12. 12	Date	Checked	Approved

General	Tolerance	Description of Revision	
		Designed	Approved
0 ~ 4	±0.05		
4 ~ 16	±0.10	S.M.CHA	
16 ~ 64	±0.15		
64 ~ 250	±0.25		

**INITIALIZE**

No.	UNIT	Scale
	mm	1/1

**NOTES**

- 제품 외관은 스크래치 등 유해한 결함이 없어야 함.
- 부품의 제조 및 색상인 설계 사양에 준함.
- 양산 전 반드시 용이성 평가를 실시함.
- 본 제품의 외관 형식은 표준 견본에 준함.
- \* \* \* \* \* 후 지수는 중요관리(CTF) 항목으로 적용됨.
- 기타 외부사항은 반드시 설계자의 협의 함.

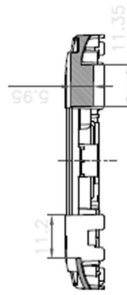
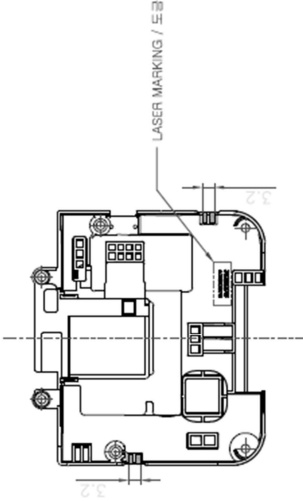
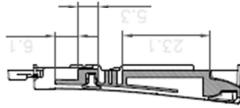
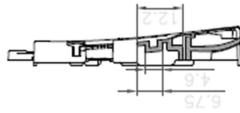
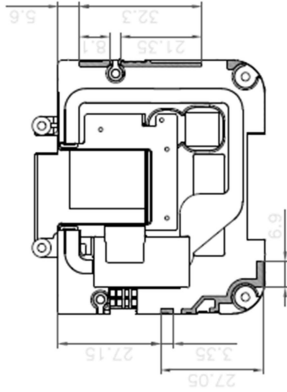
**WINIZEN**  
Client / Model : BLUEBIRD \_ VF550 WiFi Only  
Name of Title : VF550\_WiFi Only  
Drawing No. : \_\_\_\_\_

[A4]

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1	CARRIER PATTERN	-	PC+GF30% BLACK [LGF1300S 9626 (BK)], LUCKY ENPLA LDS [ Cu 10 ~ 15um, Ni 1 ~ 5um ]	1 EA	
2		-		1 EA	

CODE : 352010018  
MODEL : VF550 WiFi Only



**NOTES**

- 제품 외관은 스크리치 등 유해한 결함이 없을 것.
- 부품의 재질 및 색상은 설계 시 명세에 준할 것.
- 양산 전 반드시 승인을 득한 후 양산 할 것.
- 본 제품의 외관 경사는 표본 견본에 준할 것.
- \*부위수는 종용관리(C/F) 항목으로 적용 할 것.
- 기타 외문서항은 반드시 설계지와 협의 할 것.

Harmful substance standard document		Initialize	
Substance	Standard of Judgment	Standard	Unit
Cd	50 under	50 under	mm
Pb	50 under	50 under	mm
Hg	50 under	50 under	mm
Cr+6	50 under	50 under	mm
Li-Battery	50 under	50 under	mm
RoHS	50 under	50 under	mm

WINIZEN		S. M. CHA	
Date	Check	Date	Approved
19. 12. 12		19. 12. 12	
Designed	Checked	Approved	Client / Model
S. M. CHA			BLUEBIRD _ VF550 WiFi Only
General Tolerance	Name of Title		
0 ~ 4	VF550_WiFi Only		
4 ~ 16	Drawing No.		
16 ~ 64			
64 ~ 250			
Scale			
1/1			

[A4]

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Revision		Engineer	Approver	Date
Rev.	Contents			
V1	First release			2019.08.03
V2	-SW, -HW, -EUI, -LID			2019.08.03
V3	-HW, -HW, -LID			2019.10.08

NO	Part No.	Part Name	Material	Q'TY	Remark
12	515010009	CUSHION ANT MOIEM	PCBM	1	2019-10-08 4P 7P1
11	515010008	CUSHION ANT UFL TOP	DOUBLE TAPE	1	
10	515070001	CUSHION ANT NFC NONE SAM	DOUBLE TAPE	1	
9	515030019	CUSHION BACKUP BATTERY DUMMY	DOUBLE TAPE	1	
8	515140010	CUSHION_FPCB_LCD	DOUBLE TAPE	1	
7	515140009	CUSHION_FPCB_BATTERY	DOUBLE TAPE	1	
6	515140008	CUSHION_FPCB_MAINTOSUS	DOUBLE TAPE	1	
5	515140007	CUSHION_FPCB_SENSOR	DOUBLE TAPE	1	
4	515140006	CUSHION_FPCB_CAMERA	DOUBLE TAPE	1	
3	515140005	CUSHION_FPCB_BARCODE	DOUBLE TAPE	1	
2	515140004	CUSHION_FPCB_SANTOWAIN	DOUBLE TAPE	1	
1		DIV-ANTENNA_30	PC	1	
NO		Part No.	Material	Q'TY	Remark
Unit		Scale	Sheet	Designed	Model Name
mm	1:1	A3	1	May-15-19	VF550
<b>BLUEBIRD</b>		Approved	Date	May-15-19	Part Name
					Part Code
		24.4M's Protection			ASSY DIV ANTENNA 30 NONE SAM

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### 3. PART – LIST

PART - LIST				
	VF550 WLAN WiFi Only 2019. 12. 13		Bluebird	Revision Rev 1.0
No.				
1	CARRIER	LGF1300S 9626 ( BK ) J-3	PC + GF30% BLACK	LUCKY ENPLA
2	LDS	Lazer Process	-	PTC
3	PLATING	Cu Plating Ni - Plating	Electroless Cu Plating ( 10 μm ~ 15 μm ) Electroless Ni Plating ( 1 μm ~ 5 μm )	PTC
4	CUSHION FPCB SAMTOMAIN	PORON + DOUBLE TAPE	-	-
5	CUSHION FPCB BARCODE	PORON + DOUBLE TAPE	-	-
6	CUSHION FPCB CAMERA	PORON + DOUBLE TAPE	-	-
7	CUSHION FPCB SENSOR	PORON + DOUBLE TAPE	-	-
8	CUSHION FPCB MAINTOSUB	PORON + DOUBLE TAPE	-	-
9	CUSHION FPCB BATTERY	PORON + DOUBLE TAPE	-	-
10	CUSHION FPCB LCD	PORON + DOUBLE TAPE	-	-
11	CUSHION BACKUP BATTERY DUMMY	PORON + DOUBLE TAPE	-	-
12	CUSHION ANT NFC NONE SAM	PORON + DOUBLE TAPE	-	-
13	CUSHION ANT UFL TOP	PORON + DOUBLE TAPE	-	-
14	CUSHION ANT MODEM	PORON + DOUBLE TAPE	-	-
15				
16	ASSEMBLY	LDS	-	WINIZEN

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## 4. SPEC

### 4-1. Frequency Band & Passive Spec

#### 4-1-1.

WiFi Spec.

Mode	SET - Antenna			
Frequency	2400 MHz	2500 MHz	5150 MHz	5850 MHz
VSWR Spec	2.2 : 1 under	3.1 : 1 under	3.0 : 1under	2.8 : 1under
3D Gain Spec	Peak -1.0dBi over	Peak -1.5dBi over	Peak -0.8dBi over	Peak -0.1dBi over

#### 4-1-2.

WiFi JIG Spec.

Mode	JIG - Antenna			
Frequency	842 MHz	942 MHz	1993 MHz	2081 MHz
VSWR Spec	6.5 : 1	6.5 : 1	4.5 : 1	4.5 : 1



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4-2

<b>DIMENSION</b>	67.20 X 54.78 X 10.0 mm
<b>ANTENNA – BASE</b>	LUCKY ENPLA / LGF1300S 9626 ( BK ) J-3
<b>ANTENNA – PATTERN</b>	LDS
<b>WEIGHT</b>	8.05g
<b>OPERATING TEMP</b>	20 ± 5 °C
<b>OPERATING HUMIDITY</b>	55 ± 15 %

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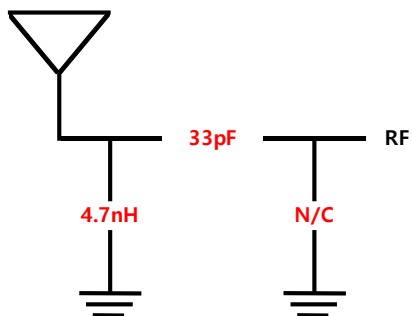
### 5-3. Normal Spec.

INPEDANCE	50 ohm
RADIATION PATTERN	Omni – Directional
POLARIZATION	Linear
POWER HANDLING	2W
MATCHING CIRCUIT	schematic

### Matching Circuit

- WiFi

Signal Pad



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## 6-1. VSWR – WiFi Set

### - WiFi

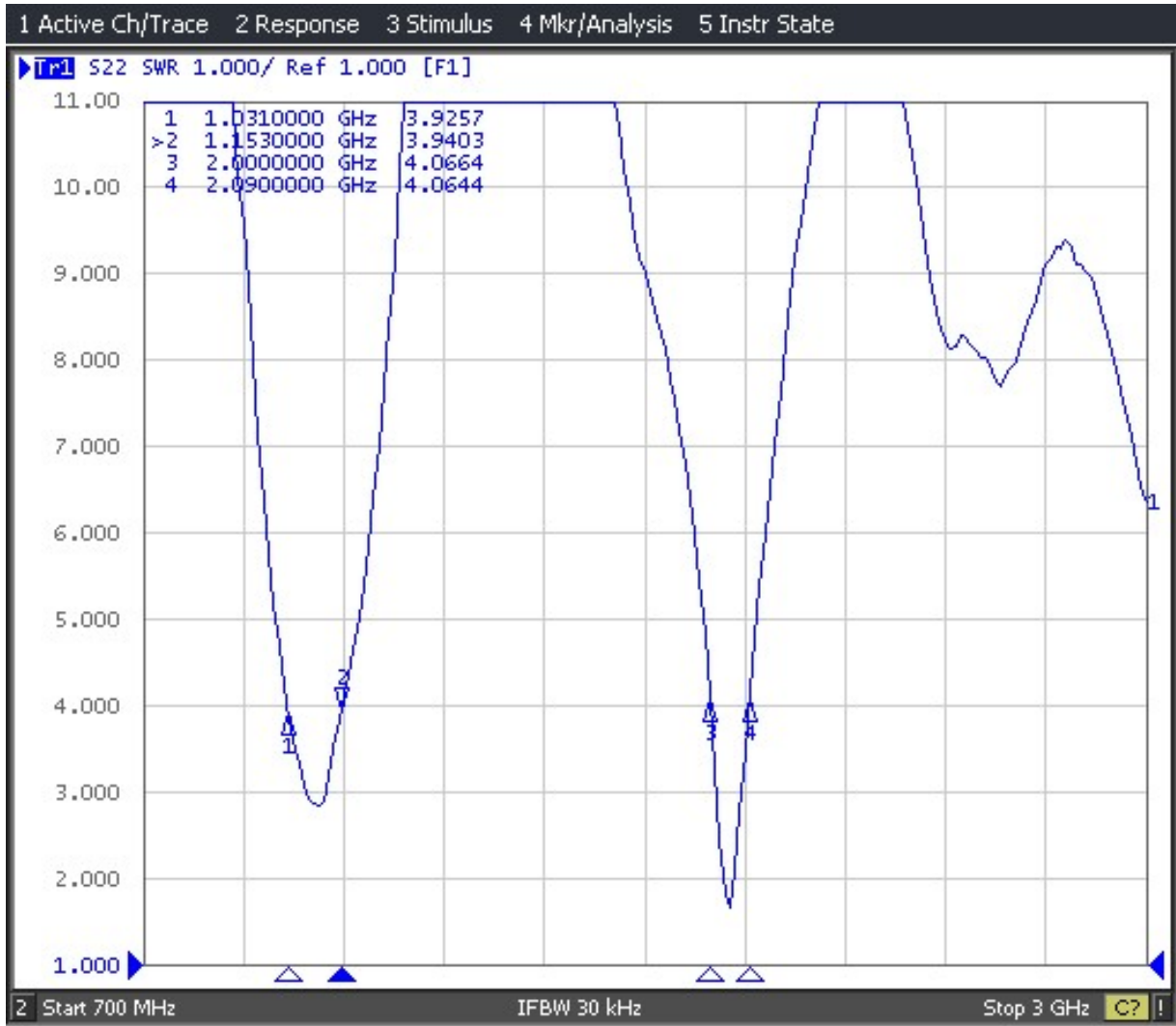
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## 6-2. VSWR – JIG ( Antenna )

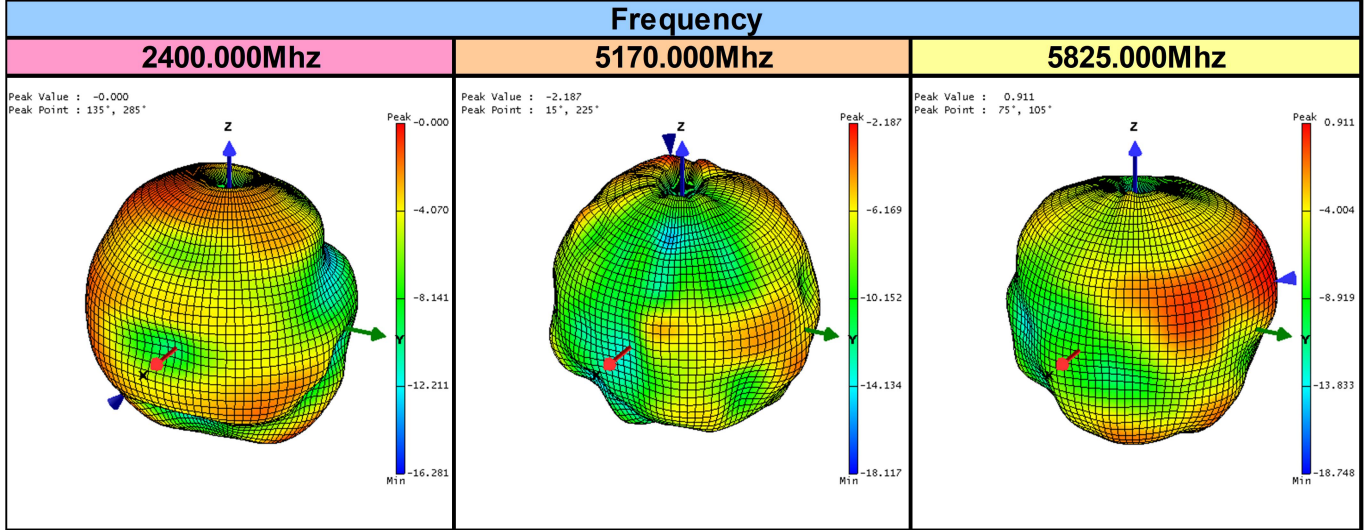
### - WiFi



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## 7. 3D GAIN DATA

- WiFi



## Test Results

Frequency	Peak Value		Minimum Value		Avg. Gain	Efficiency
	Value[dBi]	Degree	Value[dBi]	Degree		
2400	0	135 / 285	-16.281	090 / 180	-4.438	35.83%
2450	0.68	135 / 285	-21.89	090 / 165	-3.695	42.51%
2500	-0.419	060 / 285	-18.307	090 / 165	-4.559	34.84%
5170	0.241	030 / 255	-16.685	150 / 030	-4.989	31.56%
5280	0.337	030 / 255	-17.232	165 / 165	-4.532	35.06%
5500	2.762	030 / 255	-18.57	165 / 345	-3.124	48.49%
5640	3.648	060 / 120	-18.872	075 / 210	-3.113	48.61%
5825	0.911	075 / 105	-18.748	150 / 315	-5.136	30.50%