

1751000642-01

Specification

Product name	1751000642-01
Advantech P/N	1751000642-01
Manufacturer Part Number	RFA-27-W15-B
Manufacture	ARISTOTLE
Manufacture Address	5F., No. 27, Xinmin St., Zhonghe Dist., New Taipei City 235, Taiwan (R.O.C.)
Description	External Dipole antenna Wi-Fi 5/6/6E/7 applications Straight & 90° bent IP67 level Tri-band 2.4&5&6 GHz
Version	1.1
Date	2024/09/02

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1. Revision History

Version	Date	Change Notification	Description
1.0	2024/05/22	Initial version	
1.1	2024/09/02	Connector type	RP-SMA Male



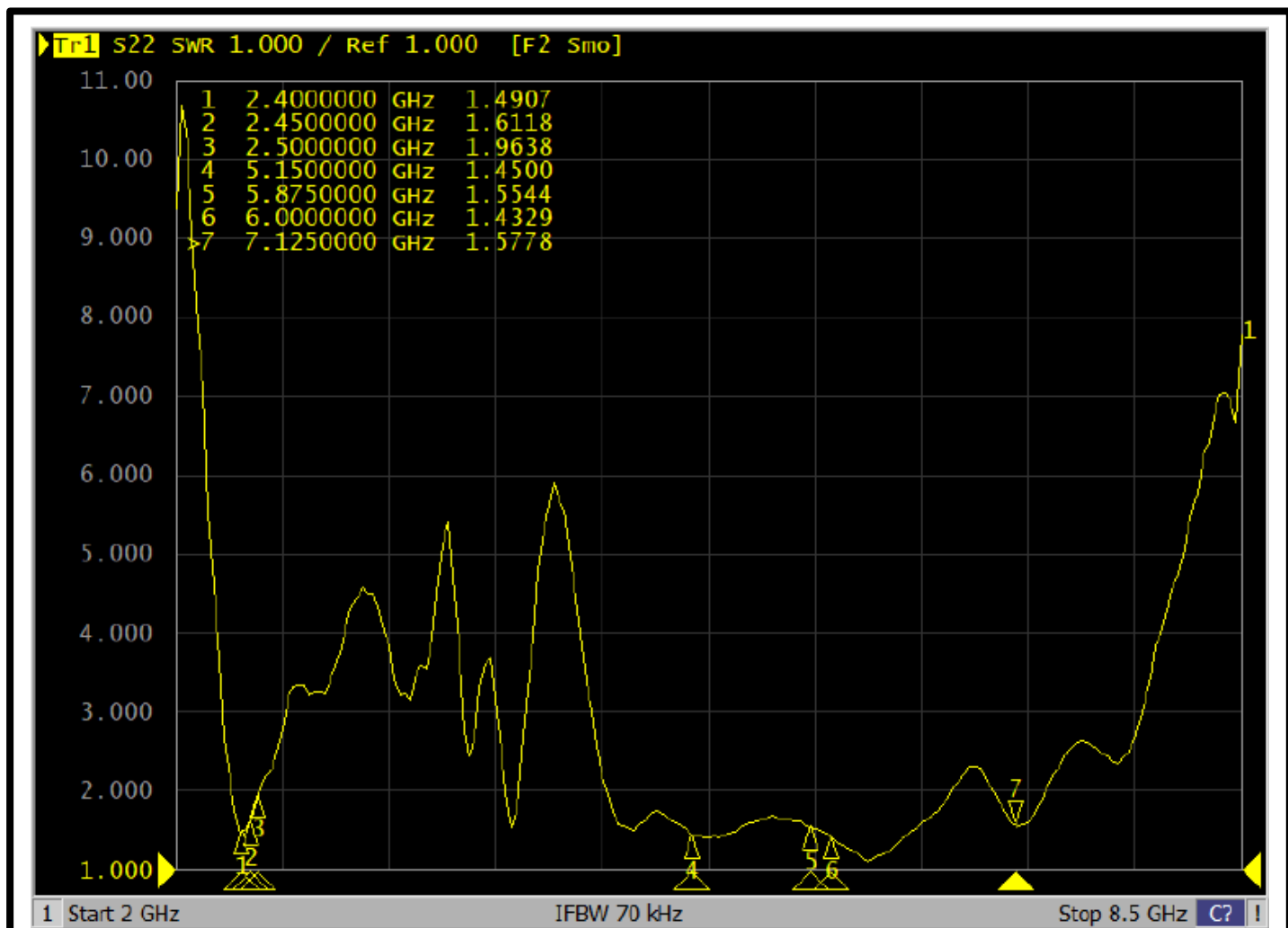
2. Specification

Sample Photo	
 Antenna Length- 157.5 mm Antenna Diameter- 13 mm	
Electrical Characteristics	
Frequency	2400 – 2500 MHz, 5150 – 5850 MHz, 5925 – 7125 MHz
V.S.W. R	≤ 2.0 @ 2400 – 2500 MHz ≤ 2.0 @ 5150 – 5850 MHz ≤ 2.5 @ 5925 – 7125 MHz
Peak Gain	1.61 dBi @ 2400 – 2500 MHz 3.68 dBi @ 5150 – 5850 MHz 4.06 dBi @ 5925 – 7125 MHz
Efficiency	63.8 – 67.5 % @ 2400 – 2500 MHz 56.8 – 65.3 % @ 5150 – 5850 MHz 56.5 – 65.2 % @ 5925 – 7125 MHz
Polarization	Linear
Radiation Pattern	Omni-directional
Impedance	50 ohm
Application	Wi-Fi 5 & 6 & 6E & 7, BT, Zigbee
Antenna Type	Dipole
Material & Mechanical Characteristics	
Antenna Length	157.5 mm
Antenna Diameter	13 mm
Material of Radiator	N/A
Material of Plastic	Fiberglass
Antenna housing color	Black
Cable Type	RG-178
Connector Type	RP-SMA Male

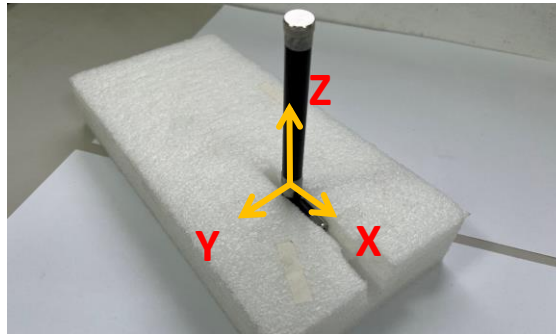
Environmental	
Operation Temperature	-40 ~ 85 °C
Storage Temperature(°C)	-40 ~ 85 °C
Humidity	95% @ 25 °C
Ingress Protection	IP67
Power Handling	2 W



3. Antenna - S Parameter Test Data



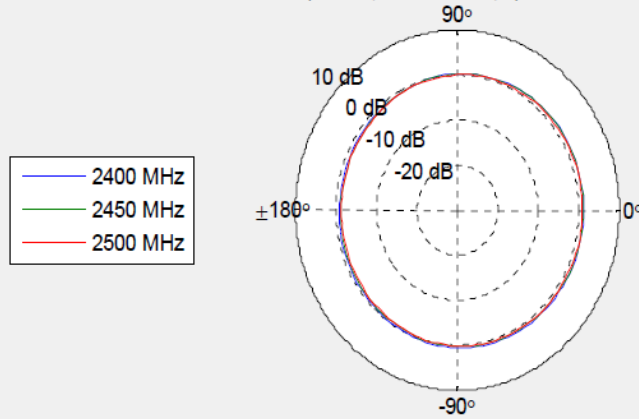
4. Antenna – Gain & Radiation Pattern Test Data



2G Band = 2400 - 2500 MHz % 2G BAND

XY Plane (+X = 0°X, +Y = +90°X) / Elevation = 90°X

ZX Plane (+Z = 0°X, +X = +90°X) / Azimuth = 0°X



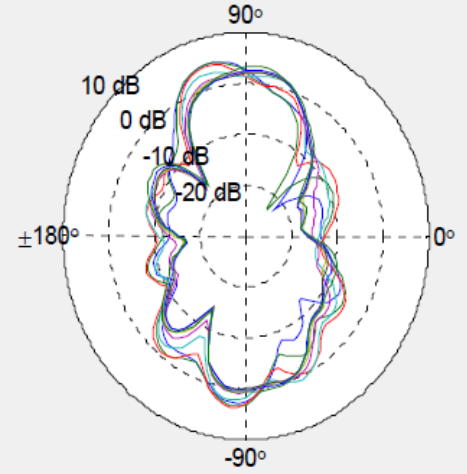
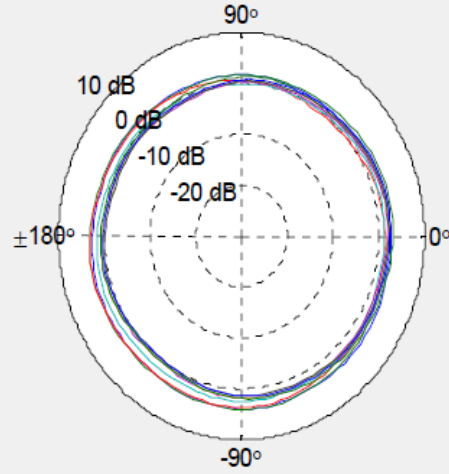
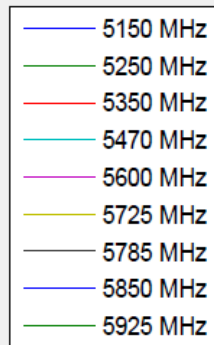
YZ Plane (+Z = 0°X, +Y = +90°X) / Azimuth = 90°X



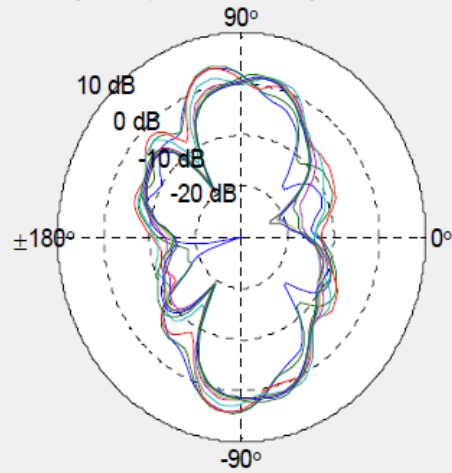
Frequency(MHz)	2400	2450	2500
Peak Gain(dBi)	1.61	1.44	1.3
Efficiency(%)	67.51	65.45	63.77
V+H Avg. Gain	0.62	0.46	0.62
V+H Peak Gain	0.99	0.83	0.91

5G Band = 4900 - 5975 MHz

XY Plane (+X = 0°X, +Y = +90°X) / Elevation = 90°X ZX Plane (+Z = 0°X, +X = +90°X) / Azimuth = 0°X

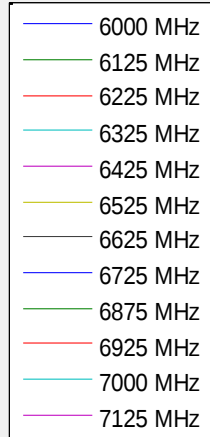


YZ Plane (+Z = 0°X, +Y = +90°X) / Azimuth = 90°X

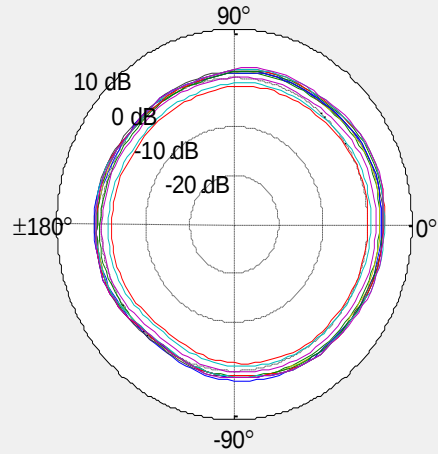


Frequency(MHz)	5150	5250	5350	5470	5600	5725	5785	5850	5925
Peak Gain(dBi)	2.56	2.86	3.11	3.04	3.54	3.2	3.33	3.68	3.5
Efficiency(%)	62.77	65.32	63.74	56.81	58.79	59.31	58.32	64.98	58.01
V+H Avg. Gain	0.82	0.63	0.32	0.19	1.15	1.62	1.72	2.03	1.5
V+H Peak Gain	1.64	1.04	0.8	0.74	2.11	2.89	2.97	3.25	2.79

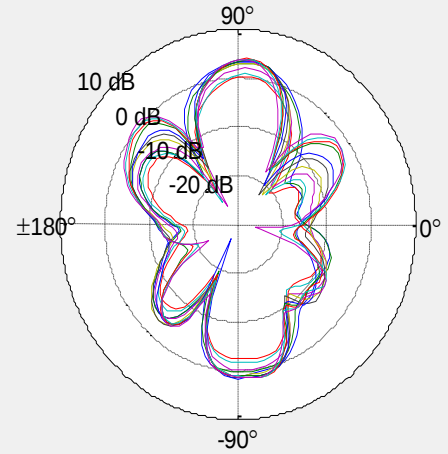
6G Band = 6000 - 8500 MHz



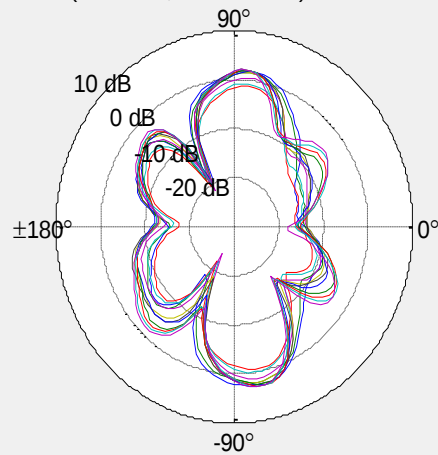
XY Plane (+X = 0°X, +Y = +90°X) / Elevation = 90°X



ZX Plane (+Z = 0°X, +X = +90°X) / Azimuth = 0°X

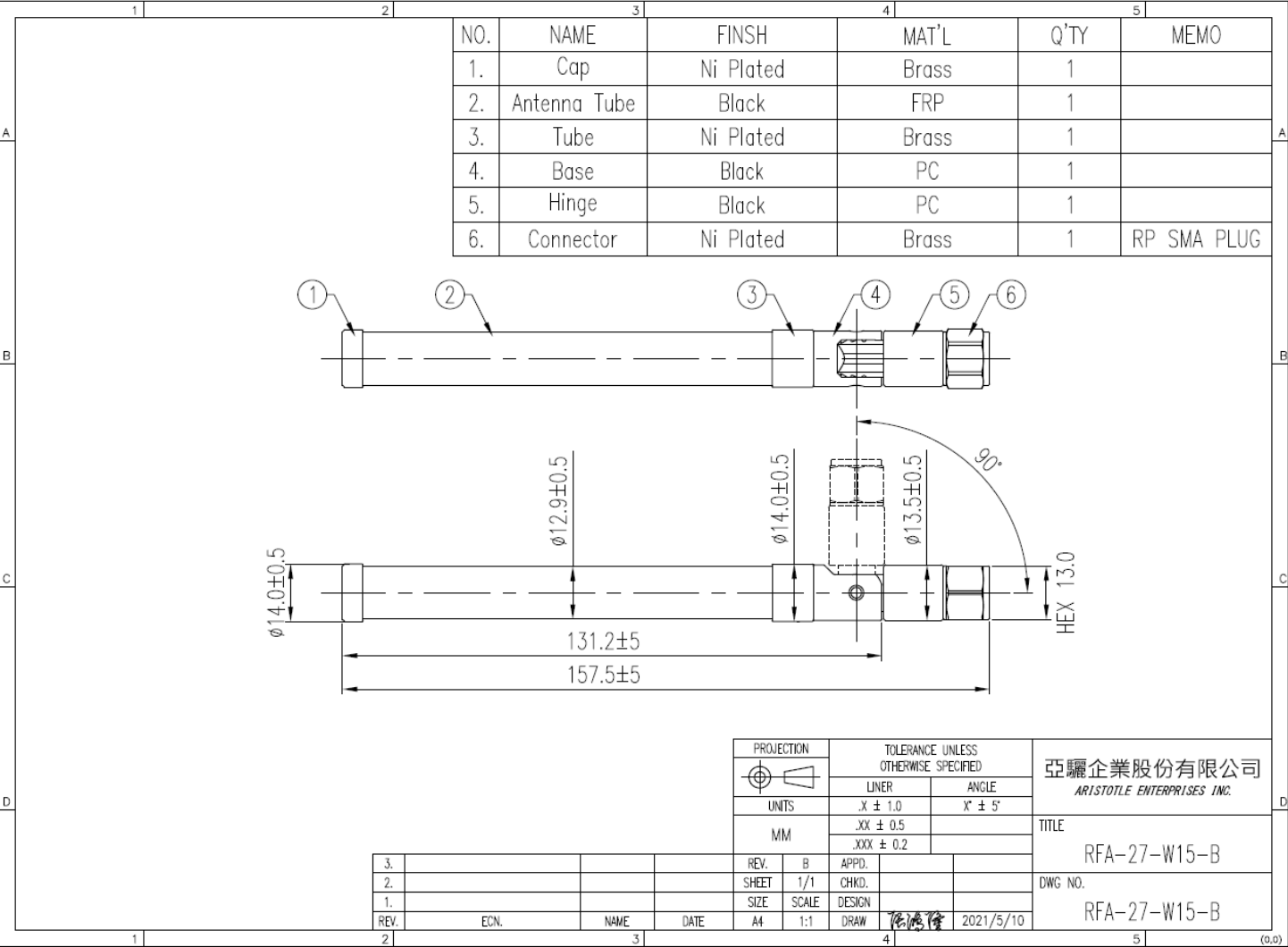


YZ Plane (+Z = 0°X, +Y = +90°X) / Azimuth = 90°X



Frequency(MHz)	6000	6125	6225	6325	6425	6525	6625	6725	6875	6925	7000	7125
Peak Gain(dBi)	3.73	3.75	3.96	4	3.66	3.59	4.06	3.95	3.67	3.88	3.93	3.56
Efficiency(%)	64.16	61.41	63.75	63.9	59.74	60.8	65.24	61.18	58.4	61.4	59.36	56.54
V+H Avg. Gain	1.86	1.87	2.06	2.1	1.69	1.9	2.03	1.79	1.4	1.54	1.38	1.45
V+H Peak Gain	3.19	3.21	3.42	3.41	3.06	3.2	3.22	3.09	2.8	2.98	3.01	3

5. Mechanical Drawing



6. Packing Drawing

產品包裝規範
PACKING CRITERION

Part Number	1751000642-01	Name	1751000642-01
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① 小包裝1PCS

舒服多

➔

② 中包裝10PCS—1袋

PE袋

➔

③ 大包裝100PCS—1箱

外箱

➔

④ 封箱

每層中包裝2袋
共五層

3.					PROJECTION	TOLERANCE UNLESS OTHERWISE SPECIFIED		亞驪企業股份有限公司	
2.					UNITS	UNITS	ANGLE	ARISTOTLE ENTERPRISES INC.	
1.					MM	X ±1.0	X' ±5'	TITLE	
REV.	ECN.	NAME	DATE		REV.	XX ±0.5	XXX ±0.2	RFA-27-W15-B	
					SHEET	1/1	CHKD.	DWG NO.	
					SIZE	SCALE		RFA-27-W15-B_包裝SOP	
					A4	1:1	DRAW	Gmo	20240522

1

2

3

4

5

A

B

C

D

1

2

3

4

5

(0.0)