

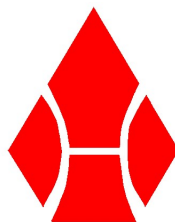
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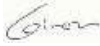
Product Name : GPS & VHF ANTENNA

MODEL : HAG-VHF-TH

CODE : 02M-19-044

POM-00-162



	Request	Check	Review	Acceptance
Approval				
Date	21/09/08			21/09/08

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Revision history

Rev. No	Date	Contents before the change	Changed description	Note
Rev.0	2011-08-23	-	-	
Rev.1	2014-09-29		Correcting rubber pad material name	
Rev.2	2021-09-08		Addition label mark on the drawing	
Rev.3	2022-05-02		Appendix antenna radiation pattern data	

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1.1. Product specification

1.1 Electrical

Specifications		GPS	VHF
E L E C T R I C A L	Frequency	1575.42 MHz (L1 BAND)	150MHz ± 5MHz GP : Ø500mm
	GAIN	4dBi	2.7dBi
	V.S.W.R	Less than 2.0	Less than 2.0
	Impedance	50 Ω	50 Ω
	Polarization	RHCP	Vertical
	PATTERN	Hemispherical	Omni-Directional
	LNA	LNA Gain: 26 dB±2 dB Noise Figure: 2.0 dB (Max) Band Att.: 20 dB (min) @Fo±50Mhz Voltage: DC +3.0V~+5.0V (±0.3V) Current: 20 mA (Max)	-

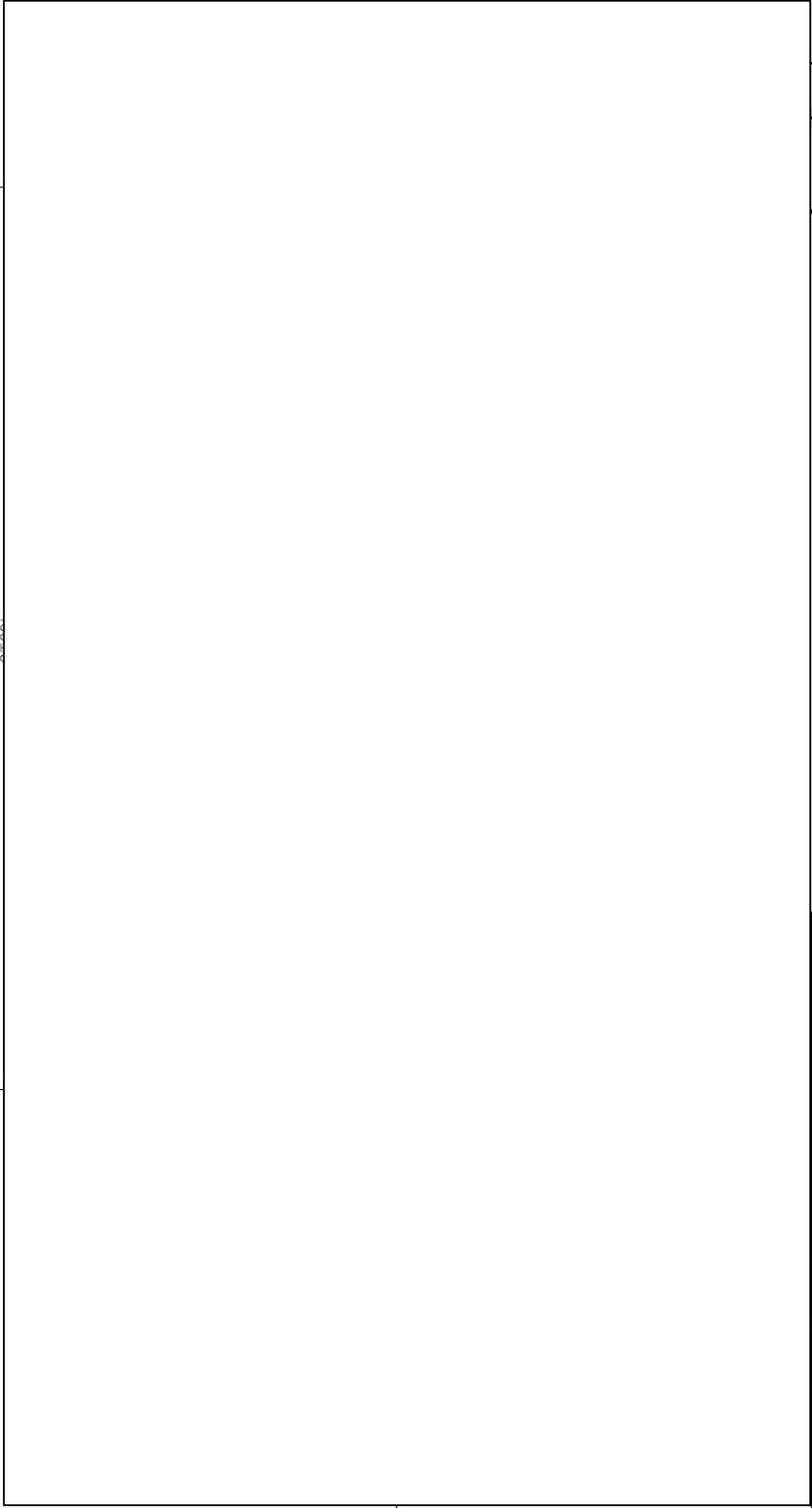
1.2 Mechanical

Specifications		GPS	VHF
M E C H A N I C A L	Cable	RG-174 x 300mm Black Color(with label 'GPS')	RG-174 x 300mm Black Color
	Connector	FME Socket (Nickel Plate)	FME JACK S/T (Nickel Plate)
	Height	66mm	400mm
	Width	61x112mm(Elliptical)	Ø17mm
	Cover Material Mounting	Kolon KN-126 Black Color	Polychemical TPR-9000 Black Color

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1.3 Product drawing

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설치 크기 <table border="1"> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>①</th> <th>E</th> <th>F</th> </tr> <tr> <td>0 -</td> <td>6</td> <td>6.03</td> <td>6.05</td> <td>6.10</td> <td>6.15</td> <td>6.20</td> </tr> <tr> <td>6 -</td> <td>18</td> <td>6.05</td> <td>6.08</td> <td>6.12</td> <td>6.20</td> <td>6.25</td> </tr> <tr> <td>18 -</td> <td>30</td> <td>6.08</td> <td>6.10</td> <td>6.15</td> <td>6.25</td> <td>6.40</td> </tr> <tr> <td>30 -</td> <td>50</td> <td>6.10</td> <td>6.15</td> <td>6.20</td> <td>6.30</td> <td>6.45</td> </tr> <tr> <td>50 -</td> <td>80</td> <td>6.15</td> <td>6.20</td> <td>6.30</td> <td>6.45</td> <td>6.75</td> </tr> <tr> <td>80 -</td> <td>120</td> <td>6.20</td> <td>6.30</td> <td>6.40</td> <td>6.55</td> <td>6.75</td> </tr> <tr> <td>120 -</td> <td>175</td> <td>6.25</td> <td>6.30</td> <td>6.40</td> <td>6.65</td> <td>6.90</td> </tr> <tr> <td>175 -</td> <td>250</td> <td>6.30</td> <td>6.35</td> <td>6.40</td> <td>6.80</td> <td>7.00</td> </tr> <tr> <td>250 -</td> <td>350</td> <td>6.35</td> <td>6.40</td> <td>6.45</td> <td>6.90</td> <td>7.20</td> </tr> <tr> <td>350 -</td> <td>500</td> <td>6.40</td> <td>6.45</td> <td>6.50</td> <td>7.00</td> <td>7.50</td> </tr> <tr> <td>500 -</td> <td>700</td> <td>6.45</td> <td>6.50</td> <td>6.55</td> <td>7.10</td> <td>7.50</td> </tr> <tr> <td>700 -</td> <td>1000</td> <td>6.50</td> <td>6.55</td> <td>6.60</td> <td>7.20</td> <td>7.50</td> </tr> <tr> <td>1000 -</td> <td>2000</td> <td>6.55</td> <td>6.60</td> <td>6.65</td> <td>7.30</td> <td>7.50</td> </tr> </table> 설치 높이 10.00					A	B	C	①	E	F	0 -	6	6.03	6.05	6.10	6.15	6.20	6 -	18	6.05	6.08	6.12	6.20	6.25	18 -	30	6.08	6.10	6.15	6.25	6.40	30 -	50	6.10	6.15	6.20	6.30	6.45	50 -	80	6.15	6.20	6.30	6.45	6.75	80 -	120	6.20	6.30	6.40	6.55	6.75	120 -	175	6.25	6.30	6.40	6.65	6.90	175 -	250	6.30	6.35	6.40	6.80	7.00	250 -	350	6.35	6.40	6.45	6.90	7.20	350 -	500	6.40	6.45	6.50	7.00	7.50	500 -	700	6.45	6.50	6.55	7.10	7.50	700 -	1000	6.50	6.55	6.60	7.20	7.50	1000 -	2000	6.55	6.60	6.65	7.30	7.50
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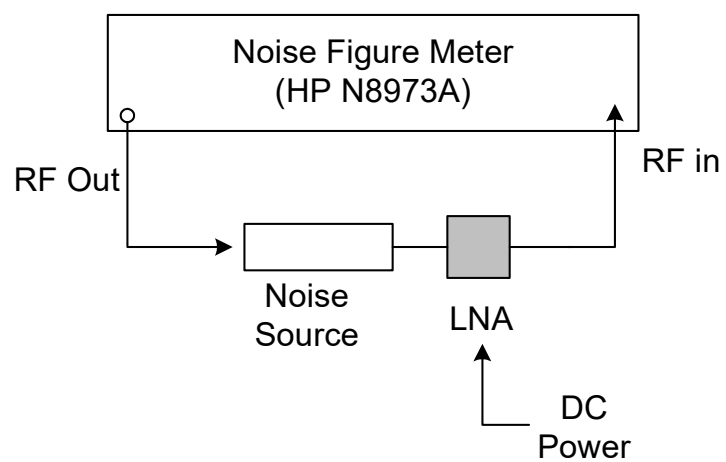
2.2. Measurement method

2.1 LNA Gain & Noise Figure & Current Measurement

2.1.1 Measurement Equipment

Multi-meter(or Ammeter), Power Supply, Bias Tee, Noise Figure Analyzer

2.1.2 Measurement environment diagram



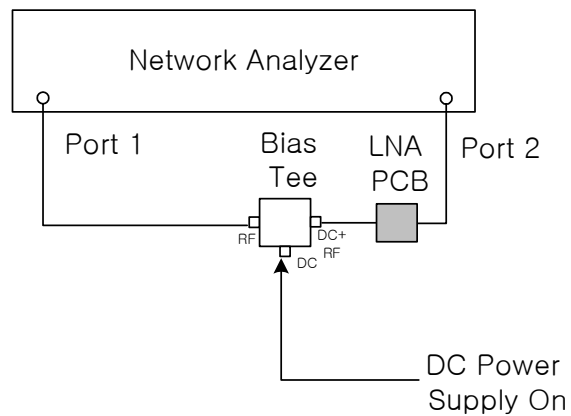
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2.2 VSWR Measurement

2.2.1 Measurement Equipment

Multi-meter(or Ammeter), Power Supply, Bias Tee, Network Analyzer

2.2.2 Measurement environment diagram



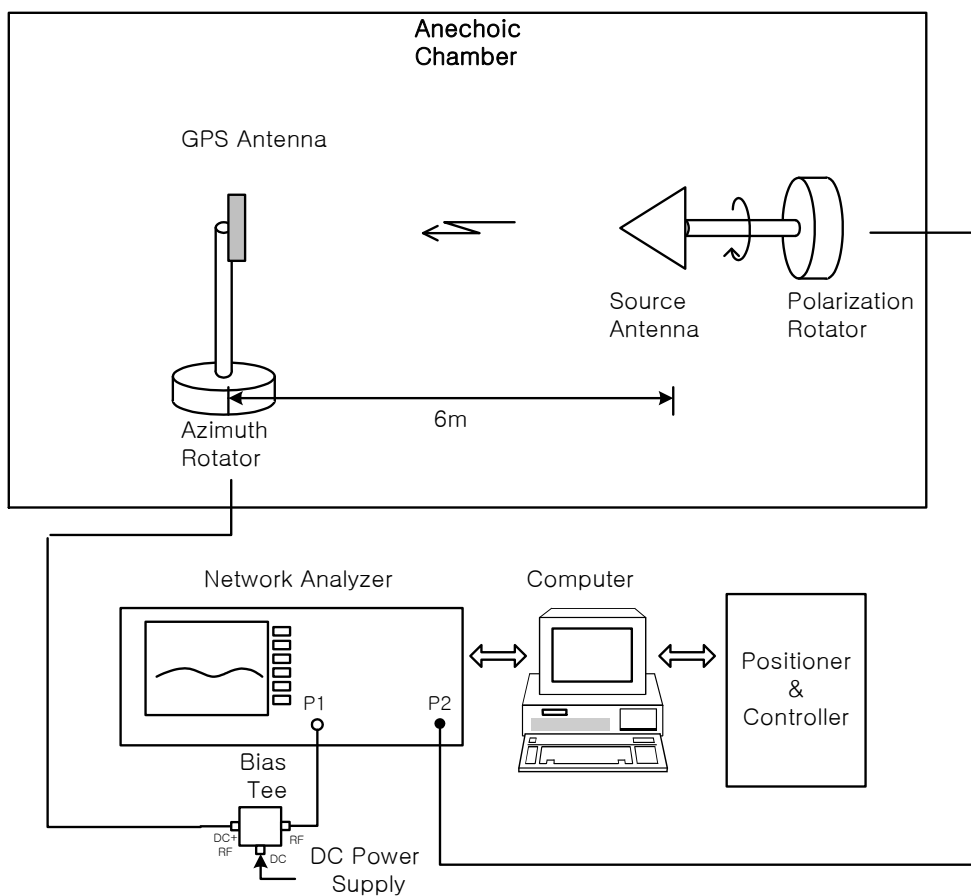
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2.3 Overall Gain & Axial Ratio Measurement

2.3.1 Measurement Equipment

Anechoic chamber, Network Analyzer, PC, Far-Field Antenna Measurement Software (FR / Orbit), Positioner, Rotator, Standard Gain Horn Antenna, Source Antenna, Bias Tee, DC Power Supply

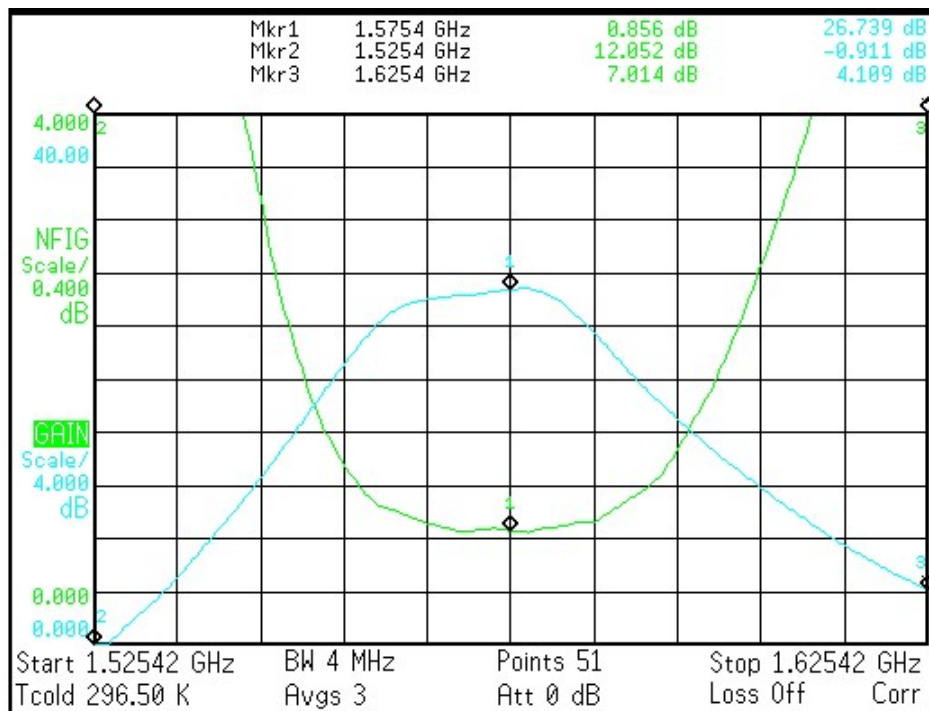
2.3.2 Measurement environment diagram



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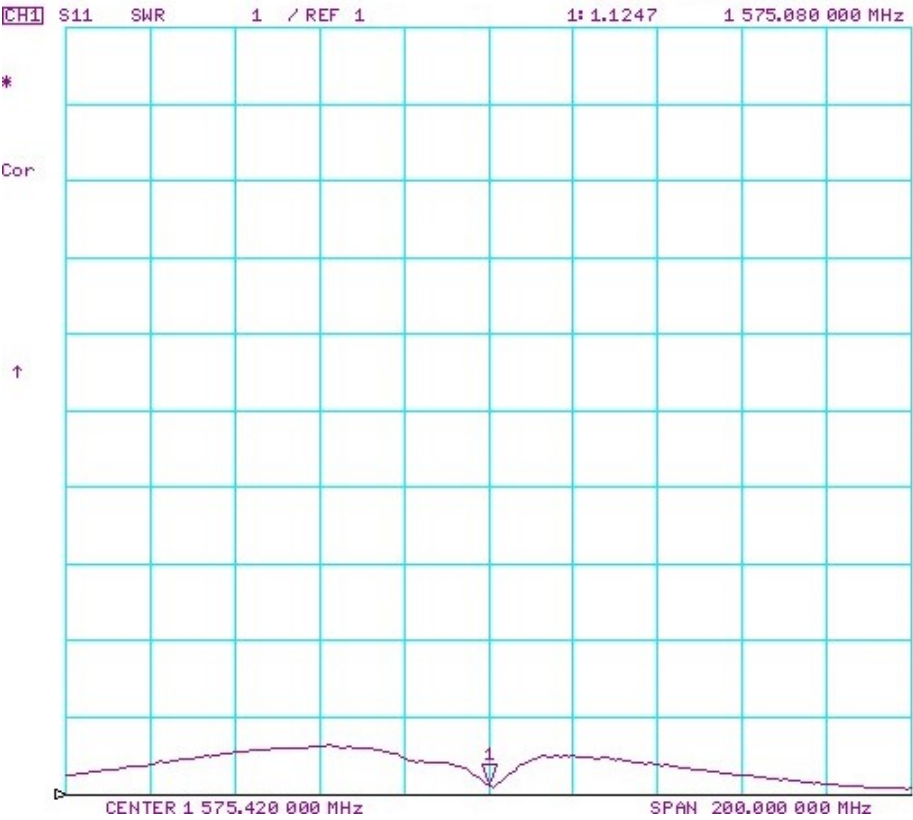
3. Standard measurement DATA

3.1 Gain and Noise Figure (GPS)



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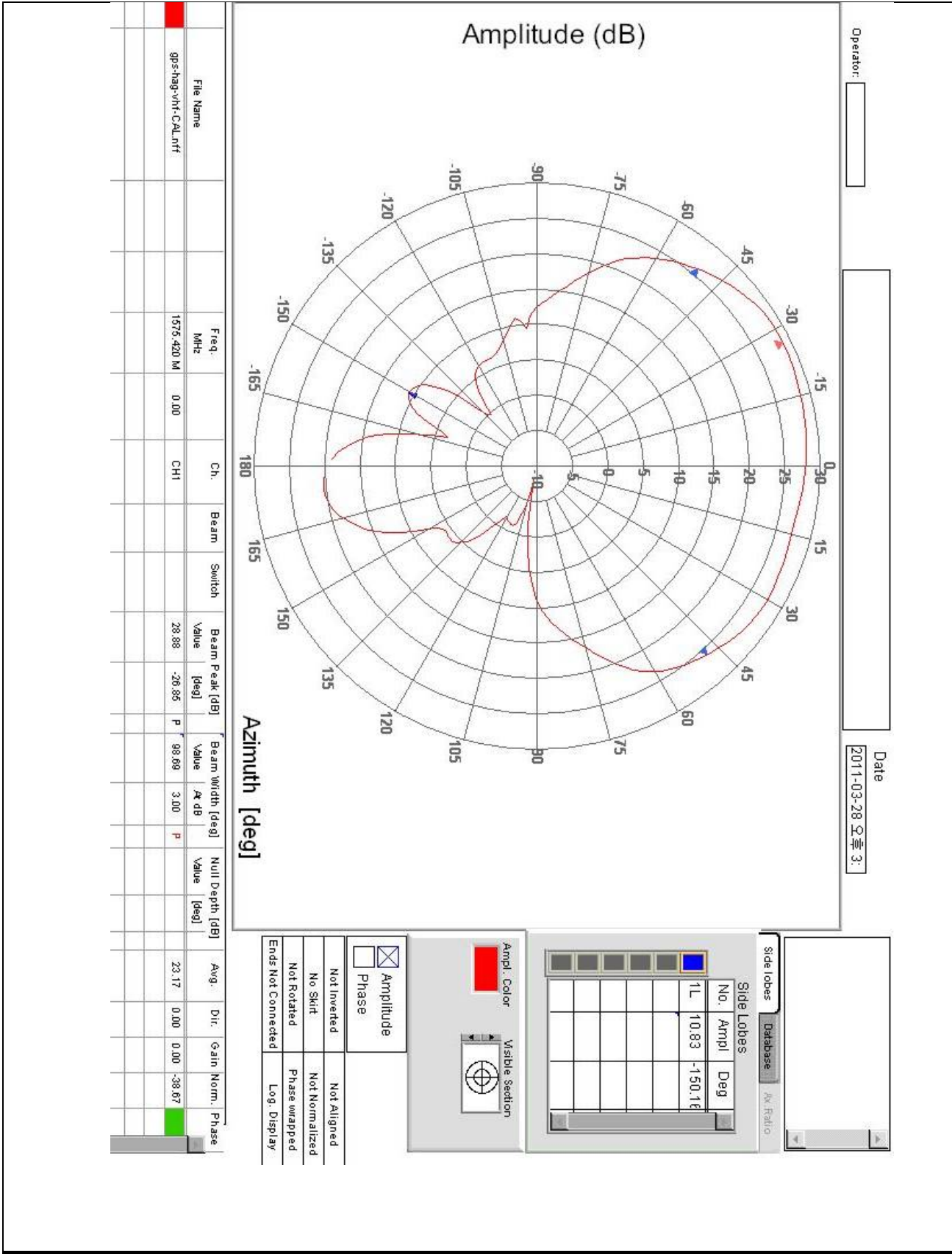
3.2 VSWR DATA (GPS)



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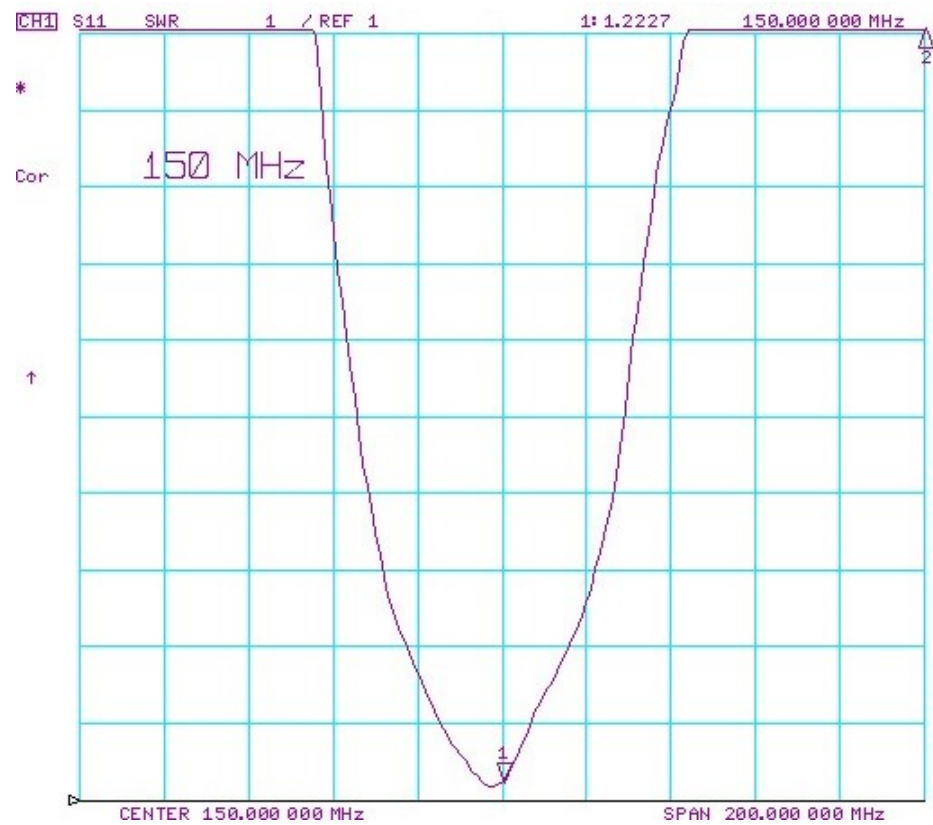
3.3 OVERALL GAIN (GPS)

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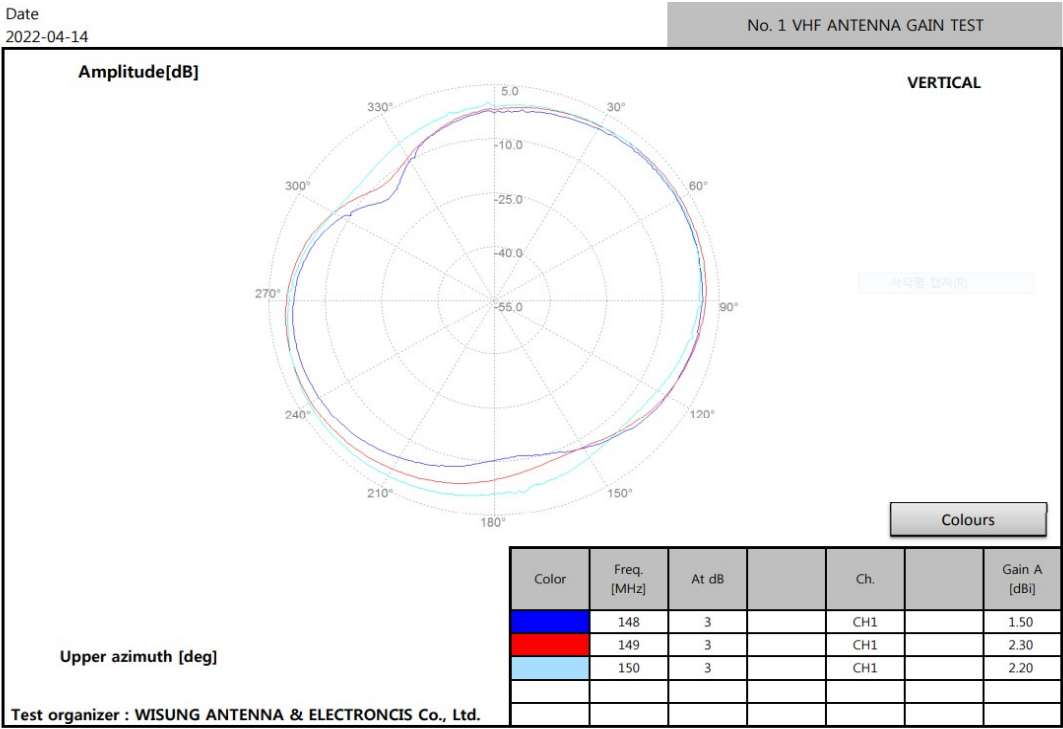
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3.4 VSWR (VHF ANTENNA)



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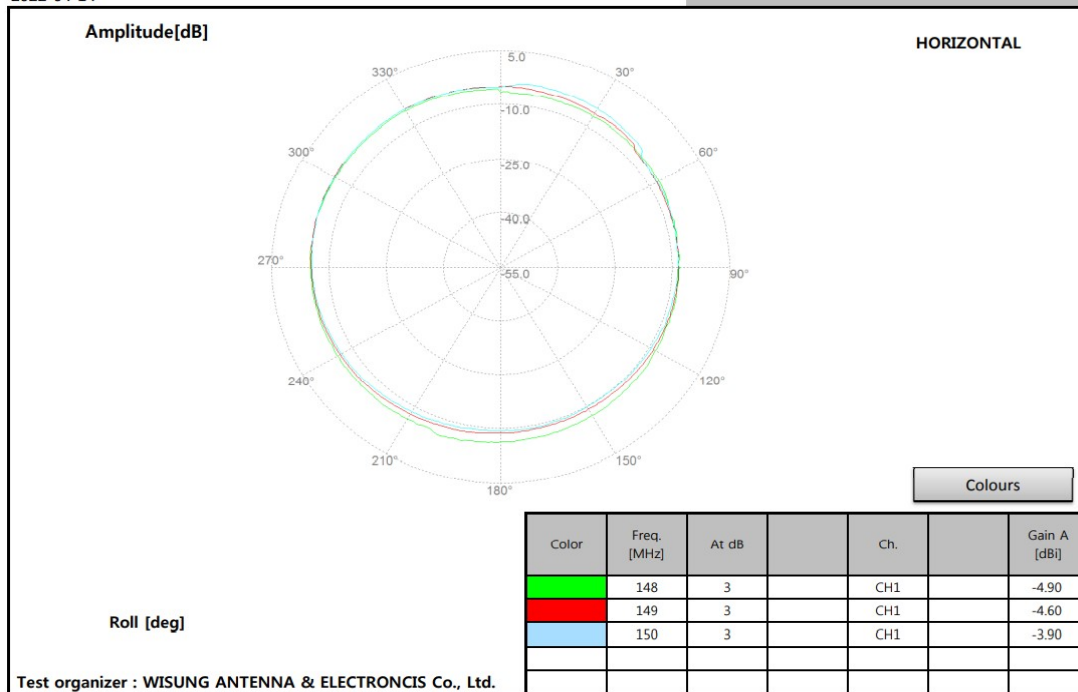
3.5 OVERALL GAIN (VHF ANTENNA)



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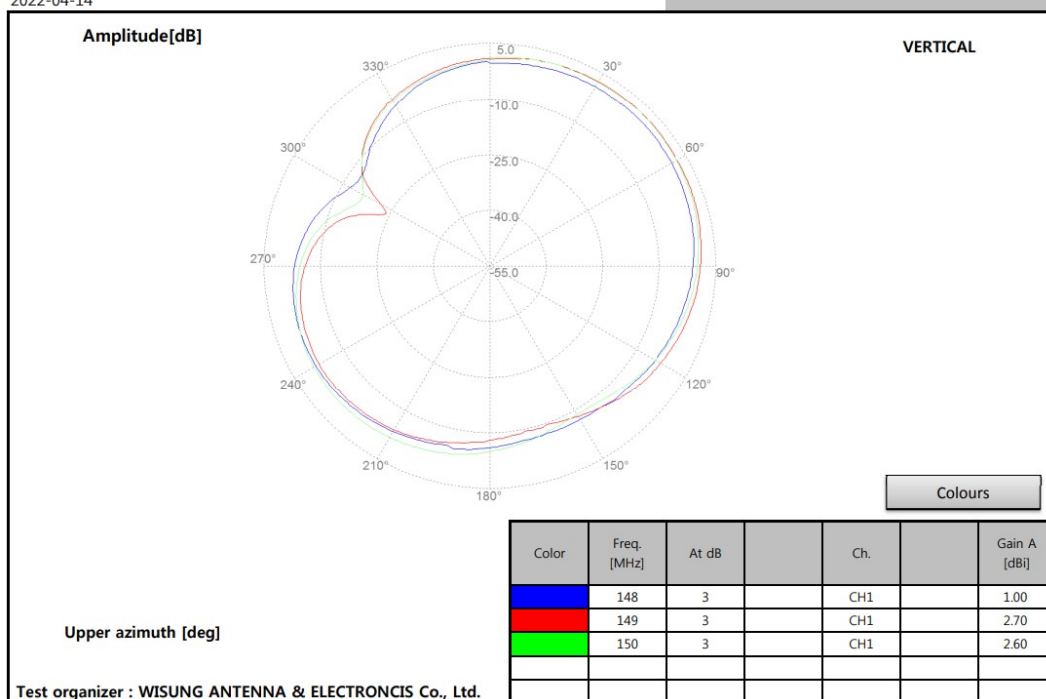
Date
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No. 1 VHF ANTENNA GAIN TEST

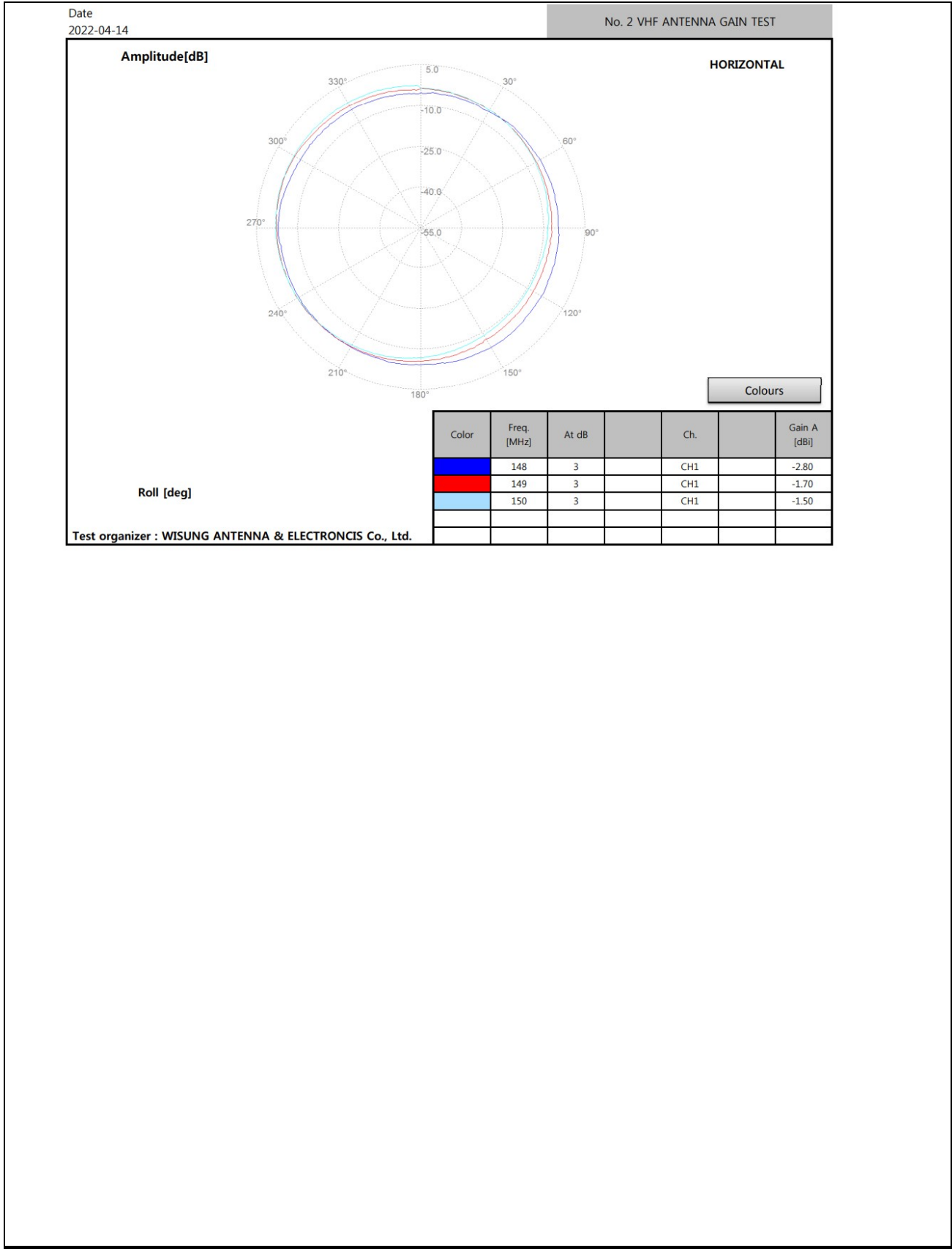


Date
2022-04-14

No. 2 VHF ANTENNA GAIN TEST



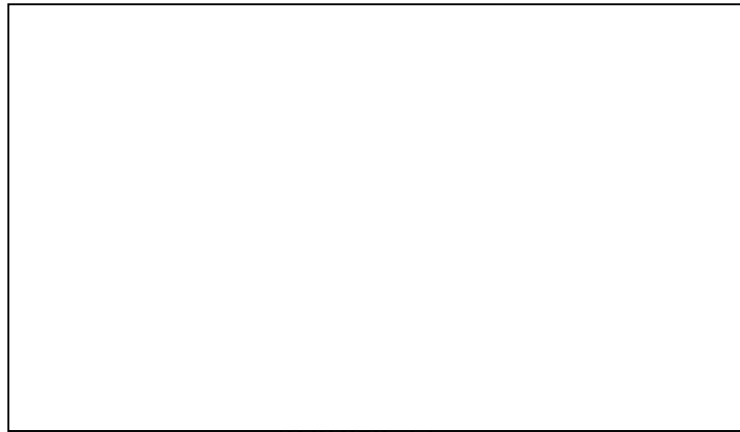
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4. 4. Packaging specification

- Our company makes it according to the standard of packaging specifications of GPS Dual ANTENNA.



Picture 1)

(1) Picture 1) product push in the packaging vinyl(910-02-002-068)

(2) Packaged product packed in a outbox.

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