

Product Technical Specification

Date: 2019.06.10

Number: _____

Version: V0

Client Name: _____

Product Name: L/S Internal Passive AntennaProduct Model: KH857

Manufacturer		Client	
Prepared:Mr.Chen	Date: <u>2019.06.10</u>	Product Code:	
Audit:Mr. Xiu	Date: <u>2019.06.10</u>	Audit:	Date:
Approved:Mr. Liu	Date: <u>2019.06.10</u>	Approved:	Date:

1、 Product Description

KH857 is a built-in antenna for receiving Beidou S-frequency satellite signals and transmitting Beidou L-band signals. The antenna unit has high gain, wide beam pattern, and good high and low elevation performance. The ceramic antenna material makes the antenna have good high and low temperature impact resistance, corrosion resistance and other properties, and can work in the field for a long time. It is widely used in shipboard, shipboard, vehicle-mounted, handheld devices and other fields.

2、 Technical Features

The antenna part adopts a semi-separated design to enhance the isolation of each antenna unit, reduce the impact of the antenna on the accuracy error, and stabilize the phase center; the antenna unit adopts offset feeding technology, the antenna unit has high gain, wide beam pattern, and good low elevation angle signal reception effect, ensuring that the antenna can normally receive satellites in special occasions with severe obstruction; good circular polarization axis ratio and gain bandwidth; small size, easy to integrate; can be flexibly customized according to customer needs.

3、 Main Technical Indicators

Support Satellite Signals	BDS: L、 S		
Output Impedance	50 Ohm		
L VSWR	≤ 2.0 (1615.68±4.08MHz)	L-Polarization Gain (Left-hand Circular Polarization)	$\geq 0.5\text{dBi}$ (Elevation 30°) $\geq 1.5\text{dBi}$ (Elevation 70°) $\geq 4.0\text{dBi}$ (Elevation 90°)
S VSWR	≤ 2.0 (2491.75±4.08MHz)	S-Polarization Gain (Right-hand Circular Polarization)	$\geq -0.5\text{dBi}$ (Elevation 30°) $\geq 1.5\text{dBi}$ (Elevation 70°) $\geq 4.0\text{dBi}$ (Elevation 90°)
Isolation	$\leq -15\text{dB}$ (B1\S) $\leq -15\text{dB}$ (B1\L)	$\leq -15\text{dB}$ (S\B1) $\leq -15\text{dB}$ (S\L)	$\leq -25\text{dB}$ (L\B1) $\leq -15\text{dB}$ (L\S)
Size	80*15mm (Customization Acceptable)	Weight	$\leq 100\text{g}$
Output Interface	MCX (Customization Acceptable)	Humidity	95%Non-Condensing
Storage Temperature	-55°C ~ +85°C	Working Temperature	-45°C ~ +75°C

4, Passive S11, S12 Parameter Diagram:



Passive OTA Measured Data Table

L-Band

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	1610.0	1612.0	1614.0	1616.0	1618.0	1620.0	1622.0	1624.0	1626.0	1628.0	1630.0
LHCP(%)	74.52	71.87	69.72	67.26	64.38	61.76	59.04	56.22	53.80	51.32	47.73
Gain (dBi)	4.35	4.32	4.34	4.33	4.28	4.27	4.19	4.11	4.07	3.98	3.74
Efficiency (%)	79.12	77.45	76.44	75.17	73.42	71.91	70.19	68.28	66.74	65.01	61.72

S-Band

Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Frequency (MHz)	2480.0	2482.0	2484.0	2486.0	2488.0	2490.0	2492.0	2494.0	2496.0	2498.0	2500.0	2502.0	2504.0	2506.0	2508.0	2510.0
Gain (dBi)	3.54	3.54	3.59	3.61	3.64	3.85	3.80	3.87	3.99	4.06	4.01	4.14	4.18	4.20	4.24	4.16
Efficiency (%)	57.24	57.71	58.41	58.77	59.33	61.68	61.12	61.54	62.34	62.68	61.79	63.34	63.42	63.28	63.48	63.78
RHCP(%)	51.55	52.80	54.16	55.06	55.94	58.28	57.64	57.74	58.03	57.70	56.09	56.61	55.75	54.66	53.90	53.09

5. Structural Dimensions

