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GPS ANTENNA WITH LOW NOISE AMPLIFIER

AU-117A

SPECIFICATION

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SYSTEM PRODUCTS DIVISION

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1. APPLICATION

This specification is applied to the electrical and mechanical conditions of AU-117A GPS Antenna.

2. SYSTEM

This antenna system consists of two functional blocks listed below.

2.1. Receiving antenna

2.2. LNA

3.3. Electric characteristic

3.3.1 ANTENNA(25±5°C,65±20%)

3.3.1.1. Frequency range	1,575.42 ± 1.023MHz
3.3.1.2. Polarization	RHCP
3.3.1.3. Gain	90°: > 2.0dBi 10°: > -6.0dBi
3.3.1.4. Axial ratio	90°: > 4.0dBi

3.3.2. Amplifier

3.3.2.1. Frequency range	1,575.42 ± 1.023MHz
3.3.2.2. Gain	Normal temperature standard(25°C±5°C,65%±20%) 26.0~34.0dB (4.5~5.5V) 22.0~32.0dB (4.0~4.5V) Range of operating temperature(-30°C~+70°C) 25.0~35.0dB(4.5~5.5V) 21.0~33.0dB(4.0~4.5V) Standard after environmental test(reference value) 25.0~35.0dB(4.0~5.5V)
3.3.2.3. Noise Figure	Normal temperature standard(25°C±5°C,65%±20%) < 3.0dB (4.5~5.5V) < 3.0dB (4.0~4.5V) Range of operating temperature(-30°C~+70°C) < 3.5dB(4.5~5.5V) < 3.5dB(4.0~4.5V) Standard after environmental test(reference value) < 3.2dB(4.0~5.5V)
3.3.2.4. Out band rejection	fo = 1,575.42MHz fo ± 50MHz > 30dB

3.3.2.5. Output VSWR	< 2.0
3.3.2.6. Input voltage	4.0V to 5.5V
3.3.2.7. Power consumption	< 28mA

3.4. Environmental Conditions

3.1.1. Operating temperature	-30°C to +70°C
3.1.2. Storage temperature	-35°C to +75°C
3.1.3. Relative humidity	< 95%RH
3.1.4 Against Water	Water proof (Test condition JIS_F_8007:1998)

3.2. Electrical Specifications

3.3. Mechanical Specifications

3.3.1. Against Water	Water proof
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5. LNA

6. OVERALL SPECIFICATIONS THROUGH ANTENNA, LNA, CABLE AND CONNECTOR

6.1. Frequency range	1,575.42 ± 1.023MHz
6.2. Gain	> 20.0 ± 6.0dBi (-30°C to +85°C)
6.3. Noise figure	< 1.6dB (+25°C ± 5°C) < 2.3dB (-30°C to +85°C)
6.4. Output impedance	50 ohms
6.5. VSWR	< 2.0

7. MTBF 5.0E + 6Hr