

# **FURUNO GNSS ANTENNA**

**Parts Number: AU-217A**

## **Hardware Specifications**

(Document No. SE15-410-002-01)



**FURUNO ELECTRIC CO., LTD.**

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**Revision History**

Version	Contents Change	Date
00	Initial Release	2015.04.22
01	Table 3.2 Corrected the antenna dimensions	2017.09.13

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## IMPORTANT NOTICE

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The following satellite systems are operated and controlled by the authorities of each government.

- GPS(USA)
- GLONASS(Russia)
- Galileo(Europe)
- QZSS(Japan)
- SBAS(USA: WASS, Europe: EGNOS, Japan: MSAS, India: GAGAN)

Thus FURUNO is not liable for the degradation of the above systems so therefore FURUNO cannot guarantee specification based on their conditions. User is expected to be familiar with the System and make full use of it with their own responsibility.

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### 1 Outlines

AU-217A is a GNSS antenna unit designed for GPS and GLONASS receiver systems. Figure 1.1 shows an antenna block diagram.

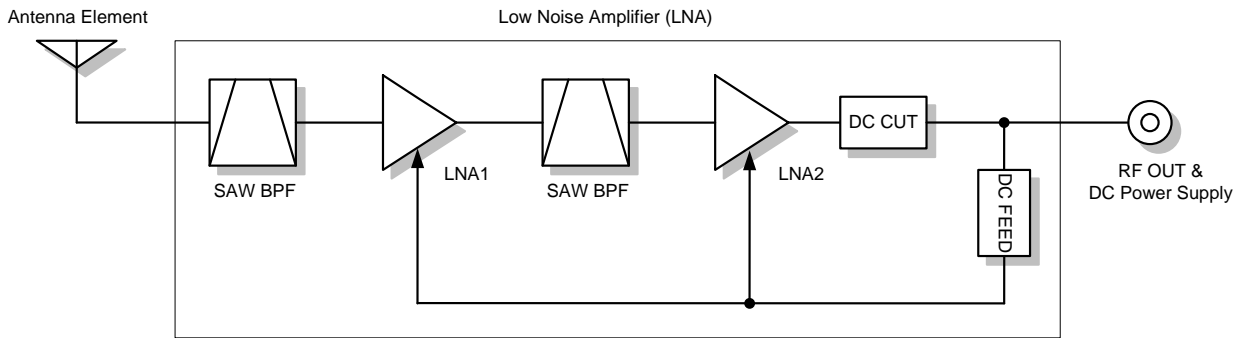
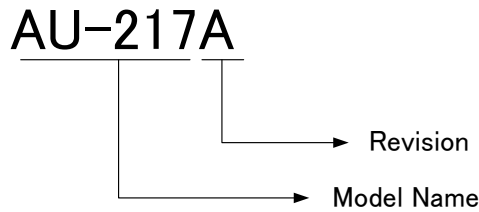


Figure 1.1 Antenna Block Diagram

### 2 Product Classification



### 3 General Specifications

#### 3.1 Electrical Specification

##### 3.1.1 Antenna Element

Table 3.1.1 Antenna Element

Item	Specification	Notes
1 dB Bandwidth	31 MHz	
10dB Return Loss Bandwidth	45MHz	
Antenna Gain	4.5 dBic	with 100mm ground plane
Axial Ratio	<4dB	@ 1590MHz
	8 dB typ	@band-edges

### 3.1.2 LNA

*Table 3.1.2 LNA*

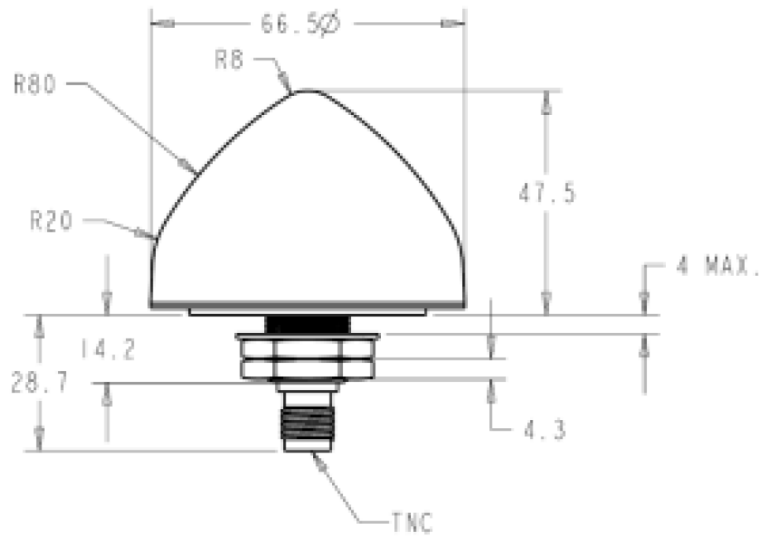
Item	Specification	Notes
Filtered LNA Frequency Bandwidth	1575 to 1606 MHz	
Polarization	RHCP	
Gain	40dB min	
Gain flatness	+/- 2 dB	1575 to 1606 MHz
Out-of-Band Rejection	>50dB	<1500 MHz
	>50dB	<1550 MHz
	>70dB	>1640 MHz
VSWR	<1.5:1	@LNA output
Noise Figure	2.5 dB typ	
Supply Voltage Range	2.5 to 16 VDC nominal	12VDC recommended maximum
Supply Current	20 mA max	85° C
ESD Circuit Protection	15 KV air discharge	

### 3.2 Mechanicals & Environmental Specification

*Table 3.2 Mechanicals & Environmental*

Item	Specification	Notes
Antenna Dimensions	66.5 mm dia. x 47.5 mm H	
Operating Temperature	-40 to +85 degC	
Storage Temperature	-40 to +85 degC	
Enclosure	Radome: ASA Plastic, Base: Zamak White Metal	
Weight	150 g	
Connector	TNC(F)	
Environmental	IP67, CE, and RoHS compliant	

## 4 Drawing



*Figure 4 Drawing*

## 5 Reliability Test

Item	Test Condition
High temperature storage (Max.)	Temperature: +85degC; Duration:96hours
Low temperature storage (Min.)	Temperature: -40degC; Duration:96hours
High temperature operation (Max.)	Temperature: +85degC; Duration:96hours; Voltage Supply:VMAX
Low temperature operation (Min.)	Temperature: -40degC; Duration:96hours; Voltage Supply:VMIN
High temperature & Humidity strage	Temperature: +60degC; Humidity:90%; Duration:96hours
Thermal shock test	Cycle Test:200cycles; -40degC(30min)/+85degC(30min); Transfer time<5min
Waterproof test	IPX7
Vibration test	15 mins at 3Gs, 10-200Hz, sweep time is 15 mins per sweep (7.5 mins up/7.5 mins 2 hours of Rande Vibration in all three axes (X,Y and Z) MIL STD 810D, Trans Common Carrier(restrained)
Shock test	50G, 11msc. Vertical Axis, all other axes 30G (X and Y)
Drop test	Drop Height: 50cm x 3times x 2faces(TOP & Bottom)

## 6 Special Instruction

AU-217A complies with RoHS directives.