TAN1216Q43-F9P15B
RTK Antenna For GNSS
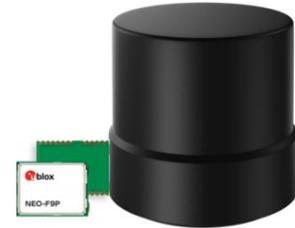
RTK Antenna

For L1/L5 G1 B1/B2a E1/E5a

TAN1216Q43-F9P15B

37 x Φ47.04 mm

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FEATURES

1. Integrated design of RTK positioning module and helical antenna.
2. Light weight less than 30g.
3. Multi-constellation, multi-frequency support.
4. Wide-voltage input.

DESCRIPTION

The TAN1216Q43-F9P15B is a smart positioning antenna that integrates an RTK engine, helical antenna and geomagnetic sensor in one compact housing. Delivering dual-frequency, full-constellation RTK performance, it provides centimeter-level accuracy for high-dynamic applications such as industrial automation, UAVs and robotics.

MECHANICAL

Characteristic	Specification	Units
Weight	22	g
Dimensions	37 x Φ47.04	mm
Connector	GH1.25-8P	
Interface Pin Order	1:GND 2:TX2 (NC) 3:RX2 (NC) 4:SDA 5:SCL 6:TX1 7:RX1 8:VCC	

- 2-3 Pin: No Connection; 4~5 Pin: keep open if not used.

ENVIRONMENTAL

Characteristic	Ratings	Units
Operating Temperature Range	-40~+85	℃
Storage Temperature Range	-40~+85	℃
Humidity	95	%

ANTENNA CHARACTERISTICS

Item		Specification	Units
Signal Received	GPS	L1, L5	
	GLONASS	G1	
	BDS	B1I, B1C, B2a	
	Galileo	E1, E5a	
	QZSS	L1, L5	
Characteristics Impedance		50 (Nominal)	Ω
Polarization		RHCP	
Covering Range		360	°
Peak Gain		2.5	dBi
Out Put VSWR		≤2	:1
Axial Ratio (dB)		≤3	dB

- Ta: +25±5℃

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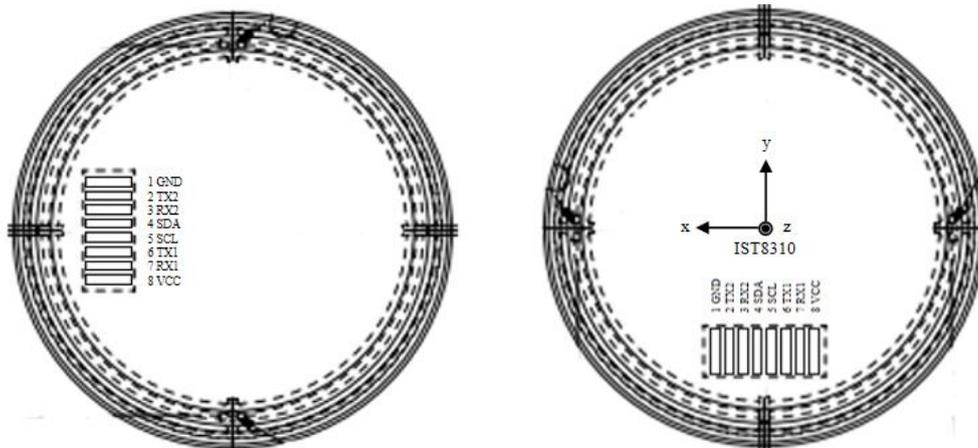
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AMPLIFIER CHARACTERISTICS

Item	Min.	Typ.	Max.
Gain (dB)		23	
Noise Figure (dB)		1.5	2
Output VSWR (:1)			2

- Ta: +25±5°C

SYSTEM SPECIFICATIONS

Item	Specification	Units
Positioning Module	NEO-F9P-15B	
Geomagnetic Sensors	IST8310	
Operation Voltage	5 (3.3-16)	V
Power Consumption	500 (Typical)	mW
PVT Accuracy	Horizontal: 1.5; Vertical: 2.0	m
SBAS Accuracy	Horizontal: 1.0; Vertical: 1.5	m
RTK Accuracy	Horizontal:1.0 + 1ppm; Vertical: 1.0 + 1ppm	cm
Time Accuracy (RMS)	30	ns
Velocity Accuracy (RMS)	0.05	m/s
Time To First Fix	Cold Start < 30	s
Initialization Time	< 5 (Typical)	s
Initialize Reliability	> 99.9	%
Data Update Rate	25 (max)	Hz
Data Format	RTCM 3.3; SPARTN 2.0.1	

SHAPES AND DIMENSIONS
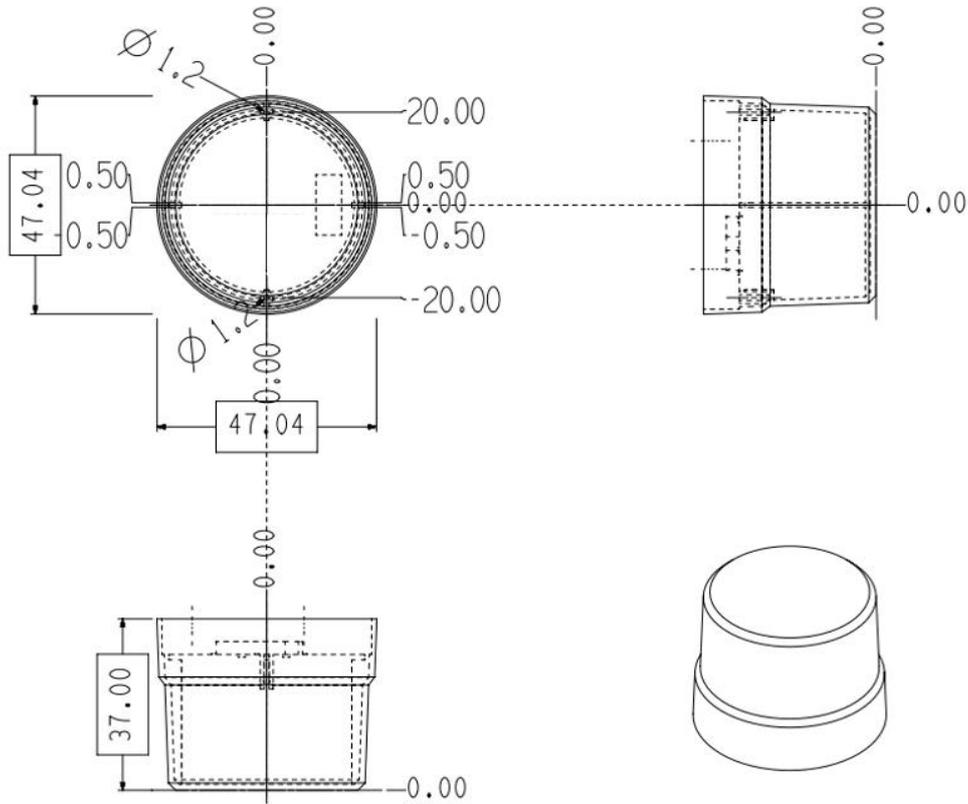
Units: mm

Revision	Description	Date
Rev0	Preliminary	2025/9/19