



**AEXQ0902GE**

Request Samples



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Ø90 x 27.5 mm

RoHS/RoHS II Compliant

MSL Level = N/A

## Features

- Multiband Active GNSS  
GPS: L1/L2/L5  
GLONASS: G1/G2/G3  
Galileo: E1/E5a/E5b/E6  
Beidou: B1/B2/B3  
QZSS: L1/L2/L5/L6  
IRNSS: L5  
SBAS: L1/L5
- Active GNSS patch with LNA max gain of 36 dB
- Centimeter phase center repeatability
- Pre-filtered LNA to minimize de-sensing
- Strong anti-interference performance
- Low profile, light weight, low power Consumption

## Applications

- Autonomous driving and UAVs
- Precision land survey positioning
- Surveying and mapping systems
- Precision agriculture
- Geofencing

## Product Image



# GNSS External Active Antenna



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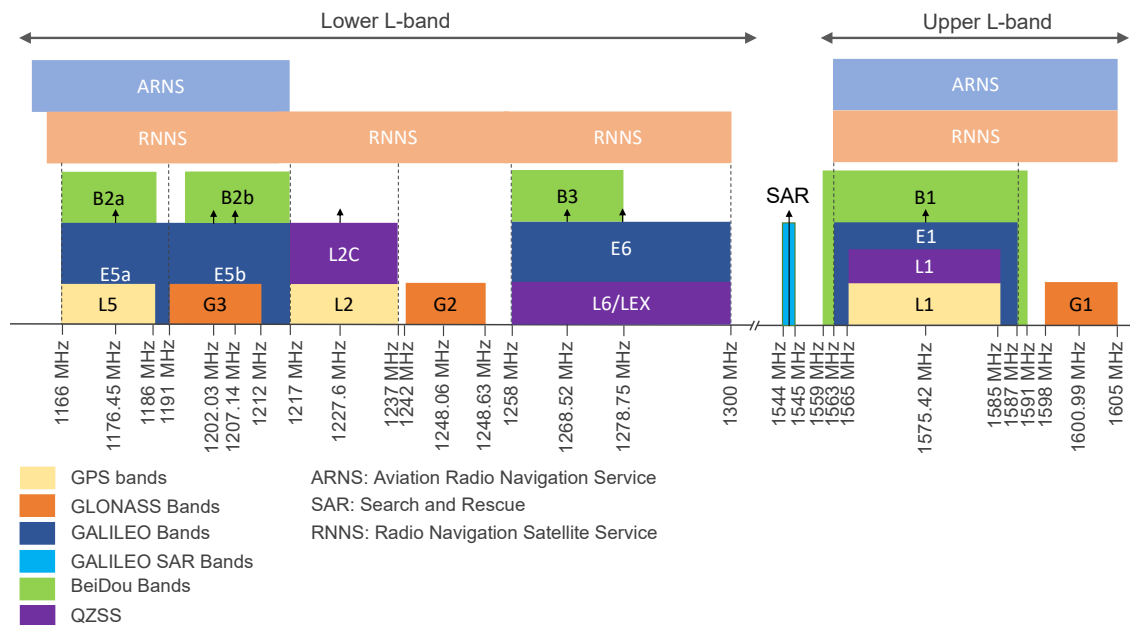
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## GNSS Frequency Bands Covered

System	Band	Frequency Range	Frequency	Symbol
GPS	L1	1575.42MHz	1176.45MHz	■
	L2	1227.6MHz	1176.45MHz	■
GLONASS	G1	1598.06-1609.31MHz	1202.025MHz	■
	G2	1242.93-1251.68MHz		■
	G3		1202.025MHz	□
Galileo	E1	1575.42MHz	1201.5MHz	■
	E5a	1176.45MHz		□
	E5b		1201.5MHz	■
	E6		1278.75MHz	□
BeiDou	B1	1561MHz	1268.52MHz	■
	B2	1207.14MHz		■
	B3		1268.52MHz	■
QZSS	L1	1575.42MHz	1176.45MHz	■
	L2	1227.6MHz		■
	L5		1176.45MHz	■
	L6		1278.75MHz	□
IRNSS/NAVIC	L5		1176.45MHz	■
	L5		1176.45MHz	■
SBAS	L1/E1/B1	1575.42MHz		■
	L5/B2a/E5a		1176.45MHz	■



Frequency allocation: GNSS systems, upper L bands and lower L bands



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## Electrical Specification

Parameter	Specification	Unit
Operating Frequency	GPS: L1/L2/L5 GLONASS: G1/G2/G3 Galileo: E1/E5a/E5b/E6 Beidou: B1/B2/B3 QZSS: L1/L2/L5/L6 IRNSS: L5 SBAS: L1/L5	MHz
VSWR	≤ 2.0	
Polarization	RHCP	-
Axial Ratio	≤ 3	dB
Group delay variation	≤ 5	ns
Impedance	50	Ω

## Electrical Specification – LNA

Parameter	Specification	Unit
Output VSWR	≤ 2.0	dB
Noise Figure	≤ 2	dB
Gain	36	dB
DC Current	≤ 45	mA
DC Voltage	+3.3 to +12	V

## Mechanical Specification

Parameter	Specification
Antenna Dimension	Ø90 x 27.5 mm
Weight	≤ 150g
Mounting Type	4 M4 screws
RF Connector	TNC female



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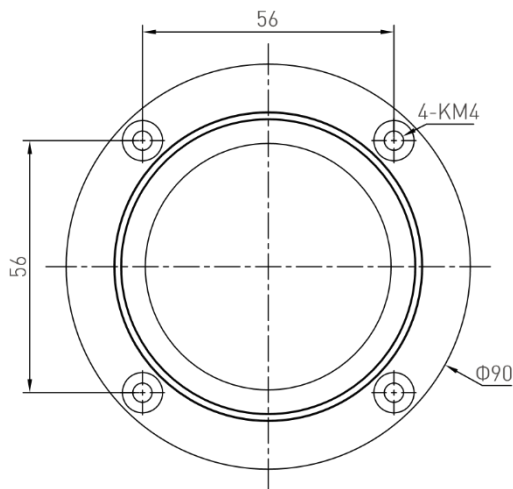
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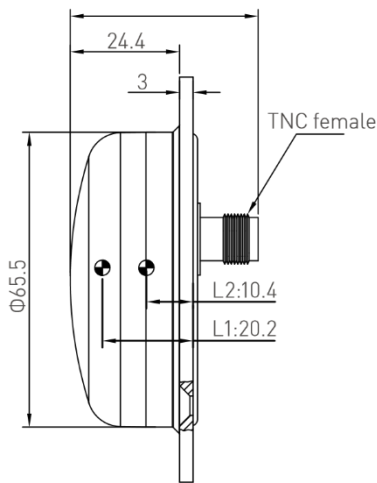
## Environment Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +85°C
RoHS Compliance	Yes
Relative Humidity	Up to 95%
Water/Dust Resistance	IP67

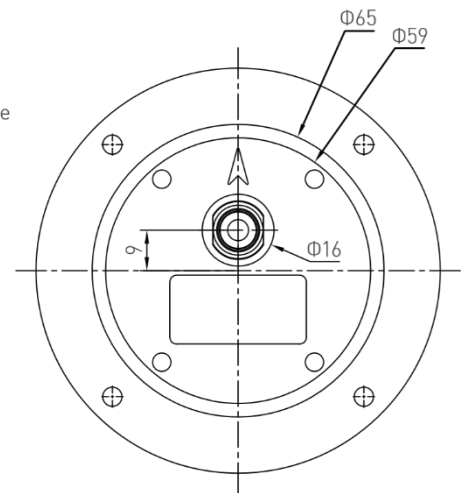
## Product Dimension



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Unit : mm



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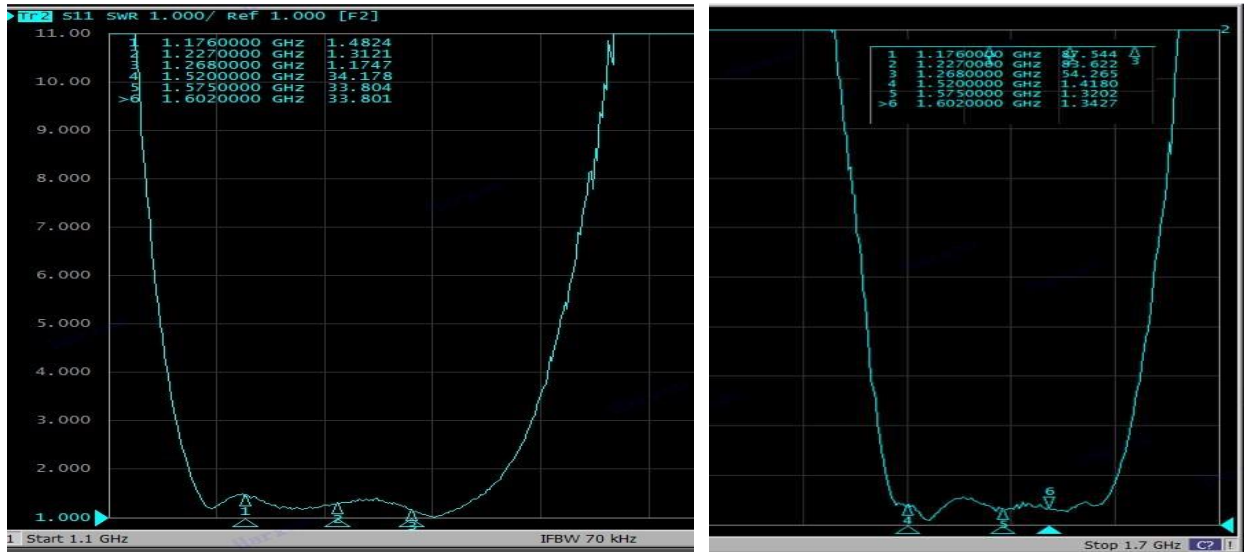
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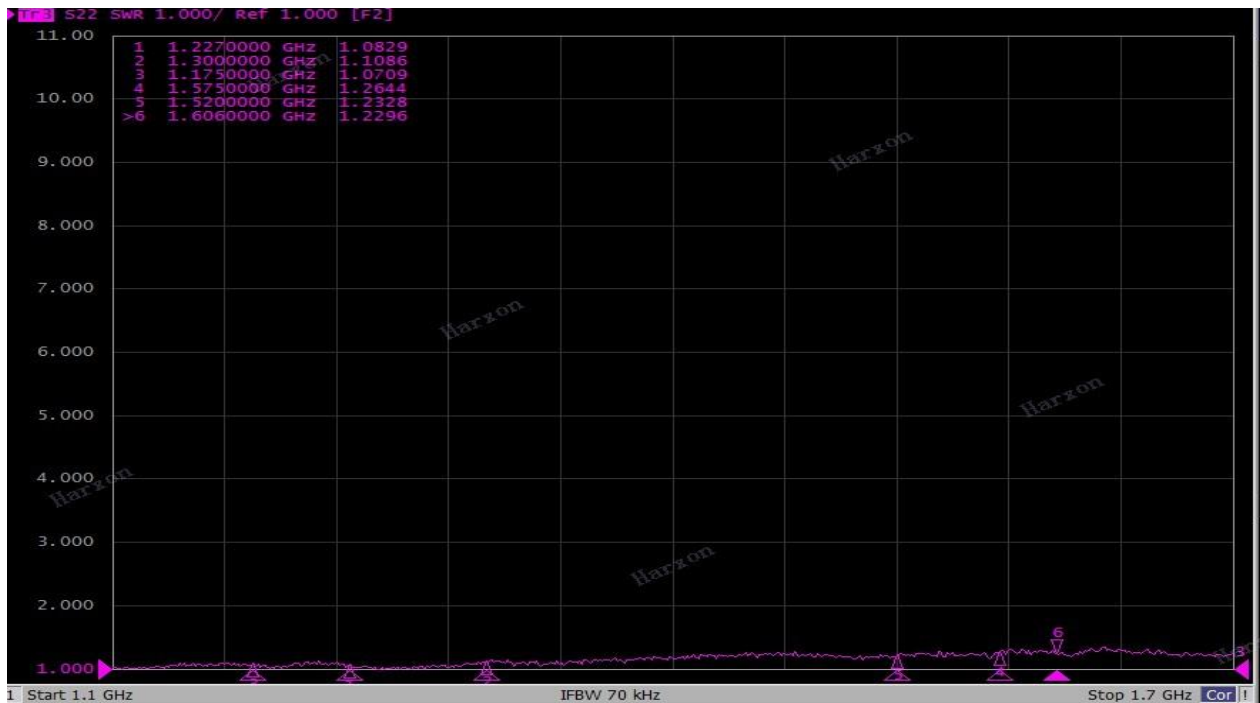
## Reflection Characteristics – VSWR

LNA input VSWR:



Band L1+L2+L5

LNA output VSWR



Band L1+L2+L5



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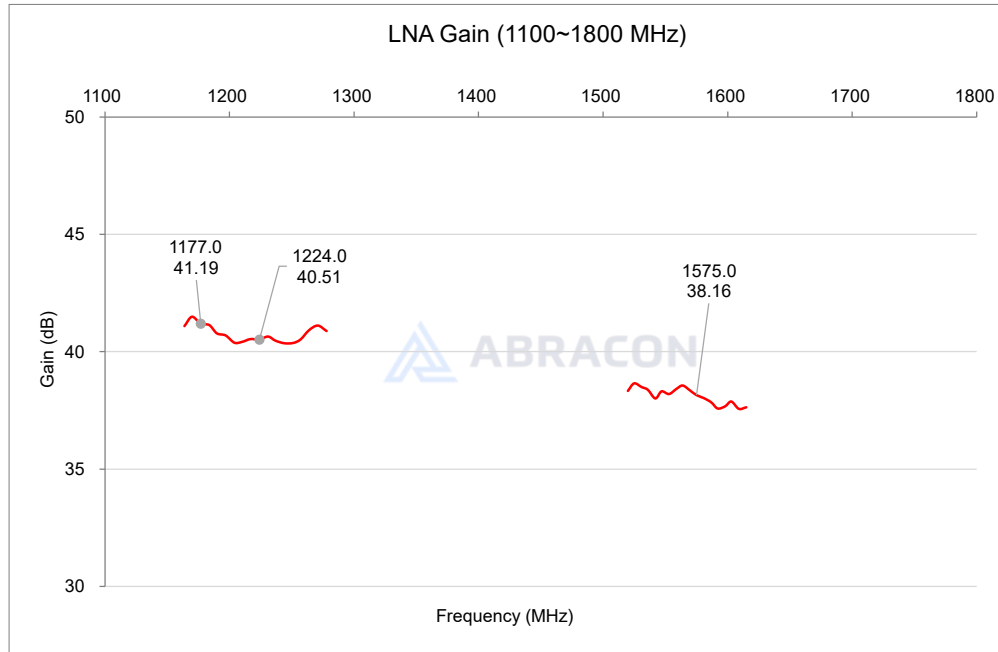


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## Radiation Characteristics – LNA Gain and Noise Figure



Band L1:

Frequency, MHz	Noise Figure, dB	Gain, dB
1559	1.40	38.42
1564	1.42	38.57
1570	1.42	38.35
1575	1.44	38.16
1581	1.42	38.03
1587	1.44	37.84
1592	1.46	37.58
1598	1.50	37.68
1603	1.56	37.88
1609	1.60	37.57

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Band L2 + L5:

Frequency, MHz	Noise Figure, dB	Gain, dB
1164	1.60	41.09
1170	1.56	41.49
1177	1.59	41.19
1184	1.54	41.13
1190	1.42	40.78
1197	1.51	40.69
1204	1.47	40.38
1210	1.44	40.41
1217	1.45	40.53
1224	1.44	40.51
1231	1.49	40.64
1237	1.48	40.46
1244	1.51	40.36
1251	1.48	40.36

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## Packaging

18 pcs AEXQ0902GE antennas / carton

Carton Dimensions L x W x H: 330 x 290 x 170 mm

Weight: 3.24 kg

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