



AEXQ1706GE

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Ø173.4 x 62.6 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 40 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





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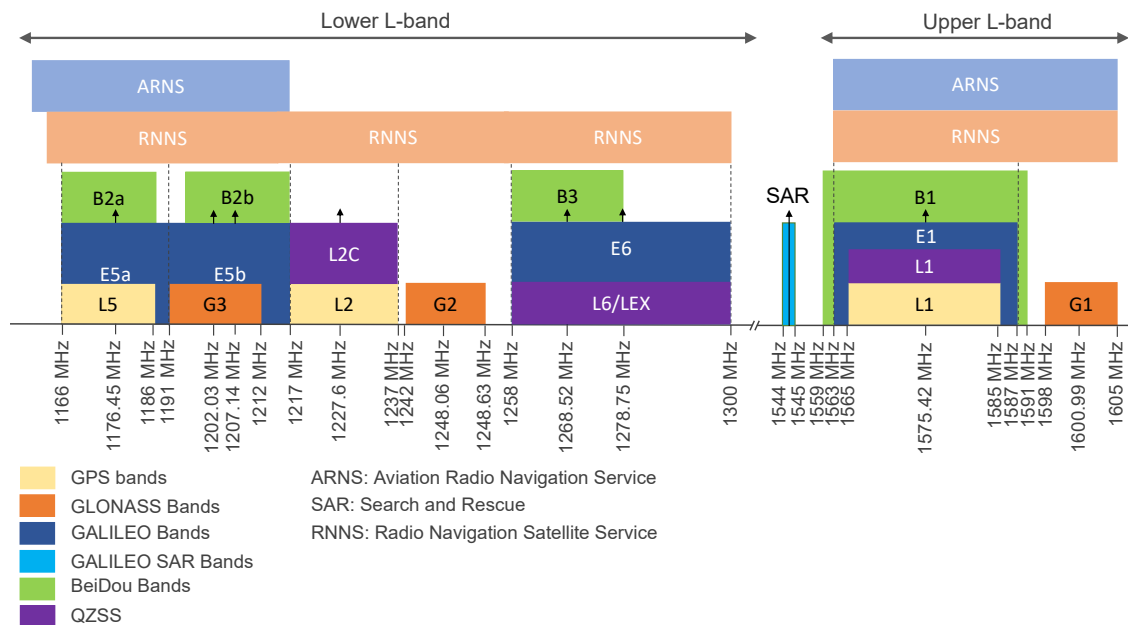
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GNSS Frequency Bands Covered

GPS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
	■	■	■	
GLONASS	G1 1598.06-1609.31MHz	G2 1242.93-1251.68MHz	G3 1202.025MHz	
	■	■	□	
Galileo	E1 1575.42MHz	E5a 1176.45MHz	E5b 1201.5MHz	E6 1278.75MHz
	■	□	■	□
BeiDou	B1 1561MHz	B2 1207.14MHz	B3 1268.52MHz	
	■	■	■	
QZSS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	L6 1278.75MHz
	■	■	■	□
IRNSS/NAVIC			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	40	dB
DC Current	≤ 45	mA
DC Voltage	+3 to +12	V

Mechanical Specification

Parameter	Specification
Antenna Dimension	Ø173.4 x 62.6 mm
Weight	≤ 500g
Mounting Type	BSW5/8"-11 screw, 12-14mm
RF Connector	TNC female



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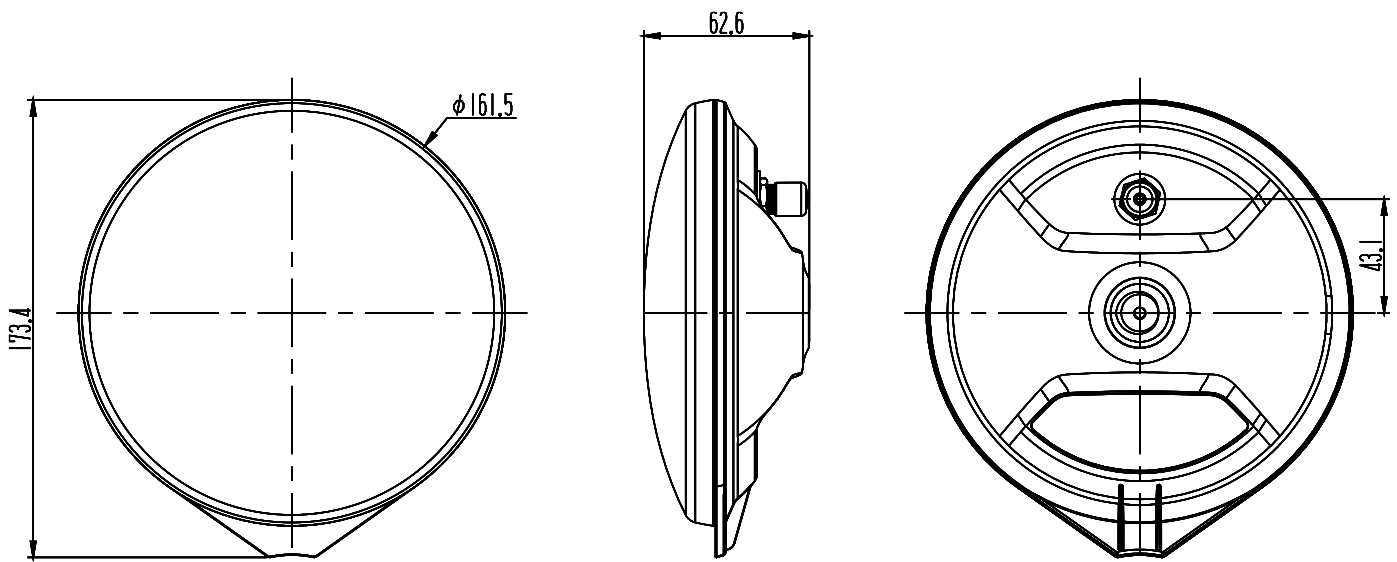


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Environmental Specification

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 Dimensions



Unit : mm



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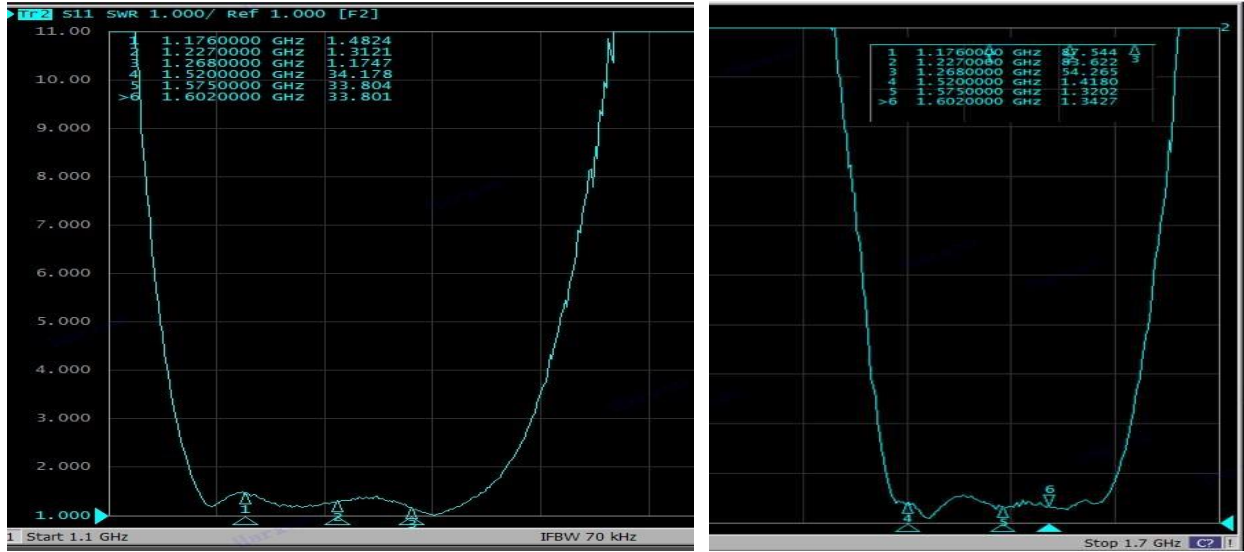
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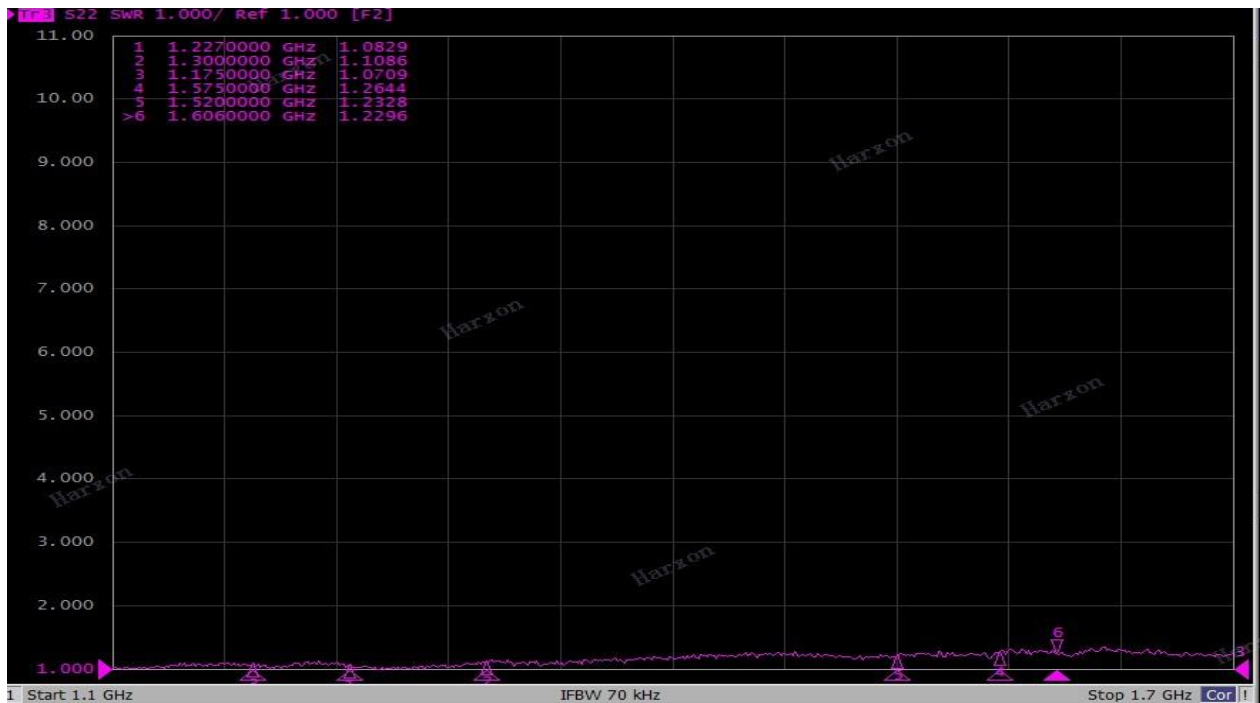
Reflection Characteristics – VSWR

LNA input VSWR:



Band L1+L2+L5

LNA output VSWR



Band L1+L2+L5



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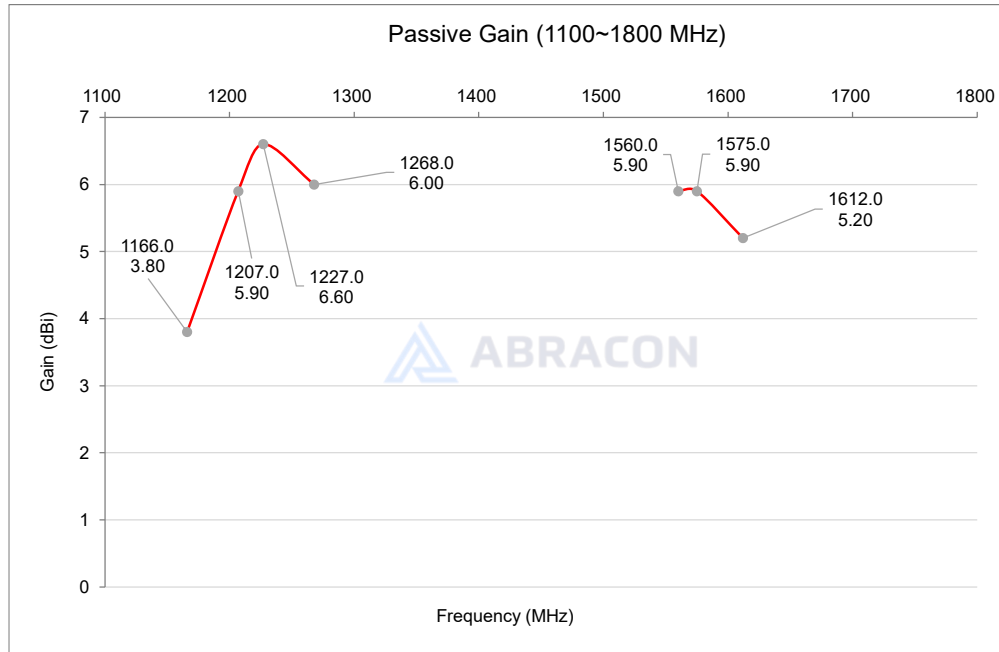


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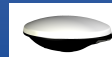


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Radiation Characteristics – Passive Gain



Frequency, MHz	Gain, dBic
1166	3.8
1207	5.9
1227	6.6
1268	6.0
1560	5.9
1575	5.9
1612	5.2



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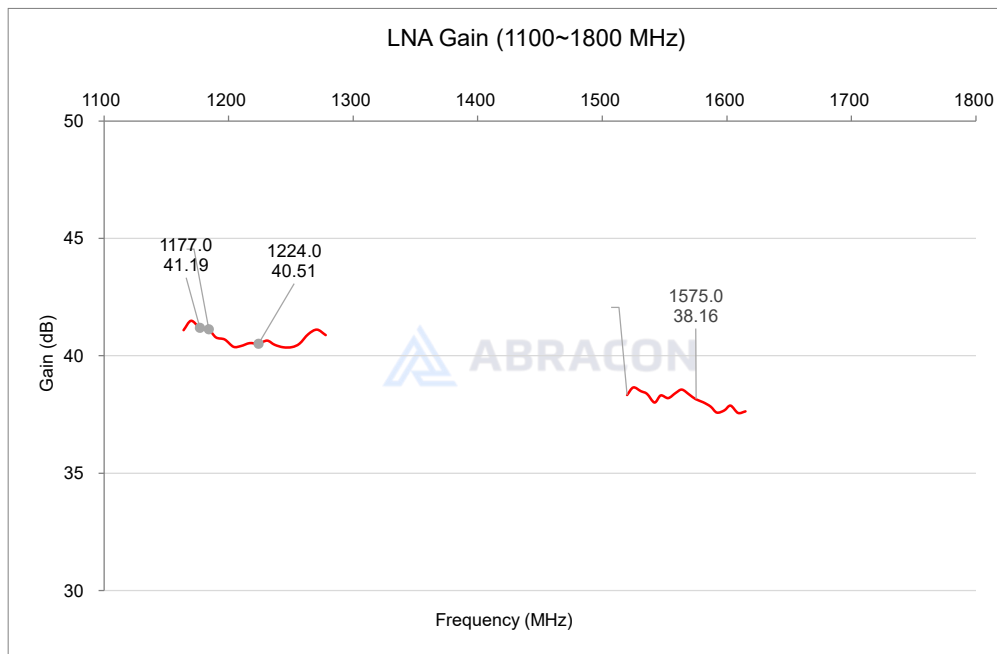


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Radiation Characteristics – LNA Gain and Noise Figure



Band L1:

Frequency, MHz	Noise Figure, dB	Gain, dB
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

GNSS External Active Antenna



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Packaging

27 pcs AEXQ1706GE antennas / carton

Carton Dimensions: L x W x H: 595 x 550 x 270 mm

Weight: 15.12 kg

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