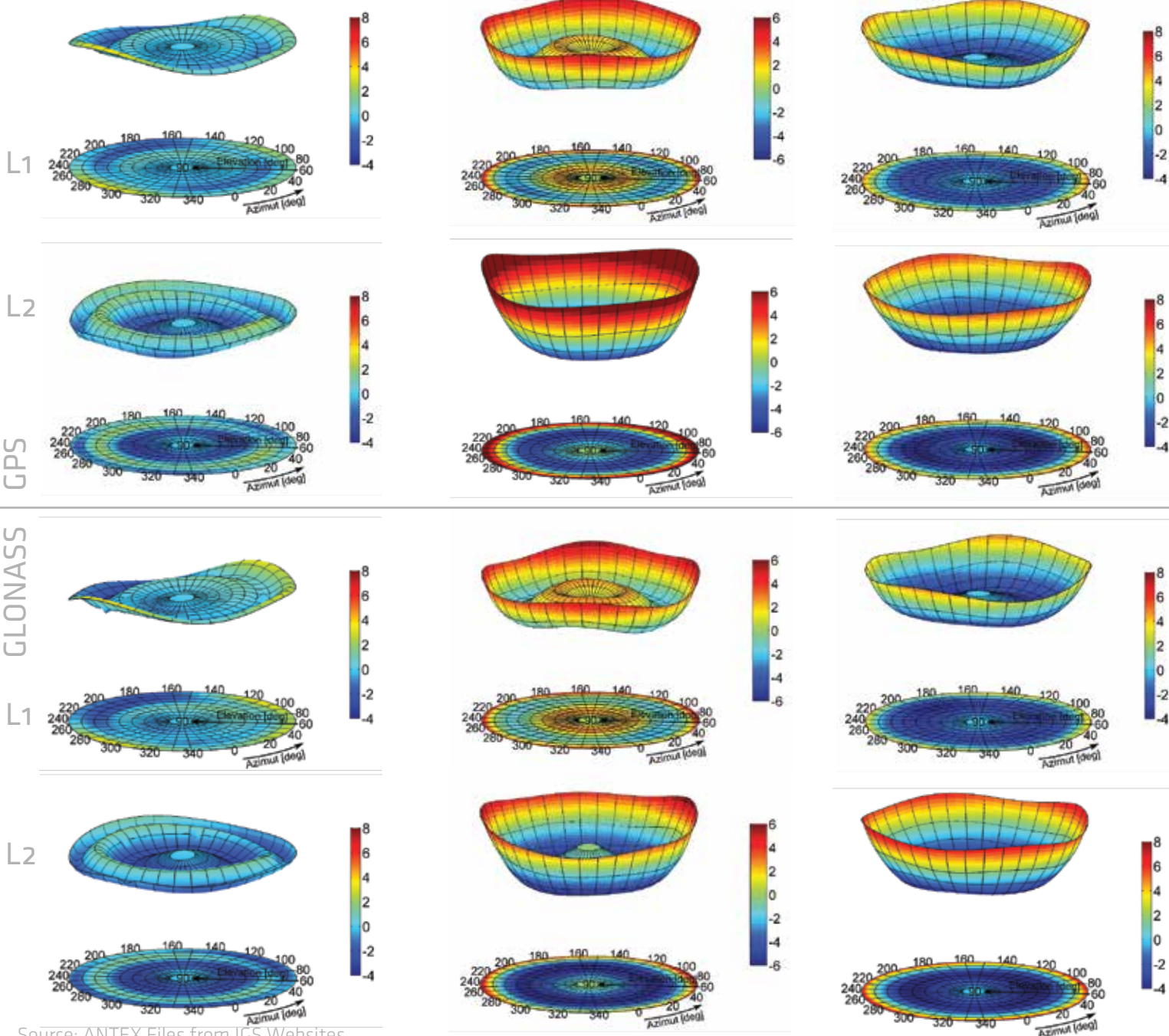


PHASE CENTER VARIATIONS

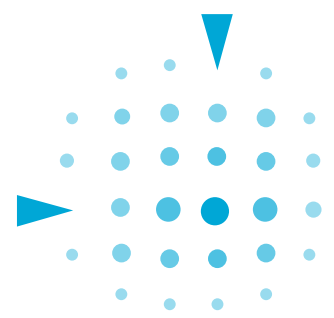
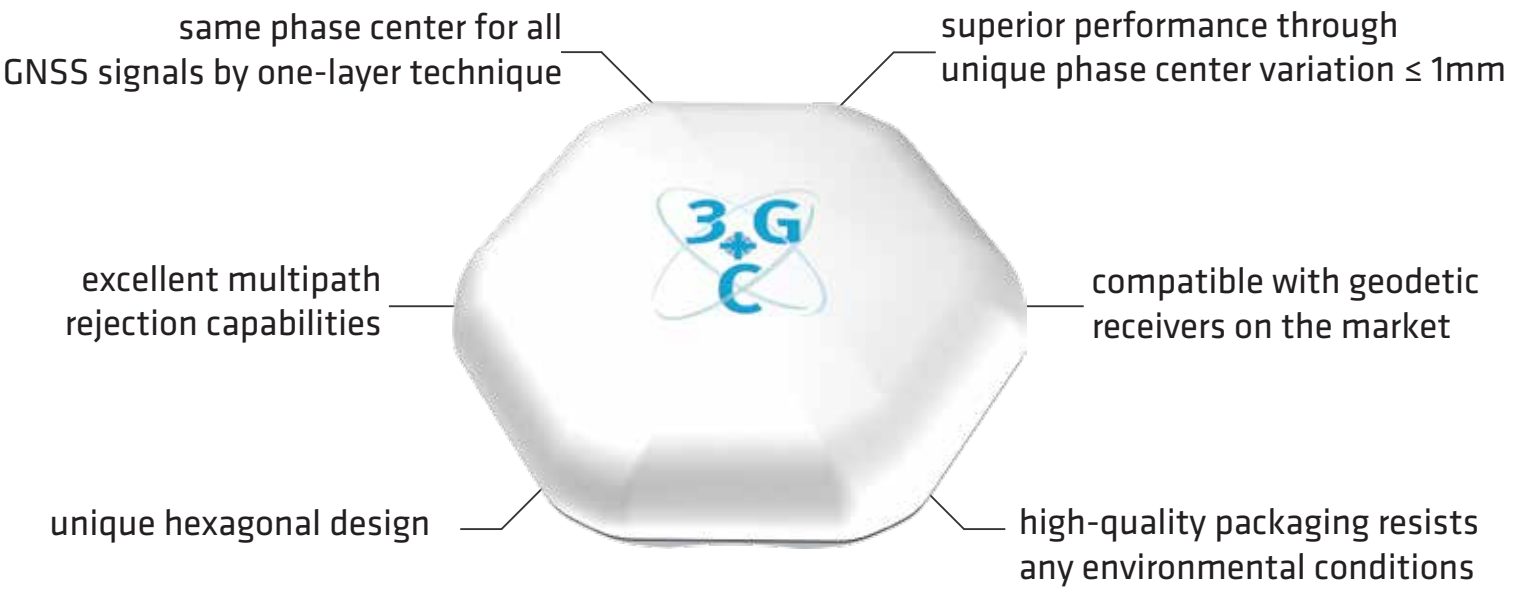
navXperience - 3G+C

Dorne & Margolin Chip

Excellent Patch Antenna

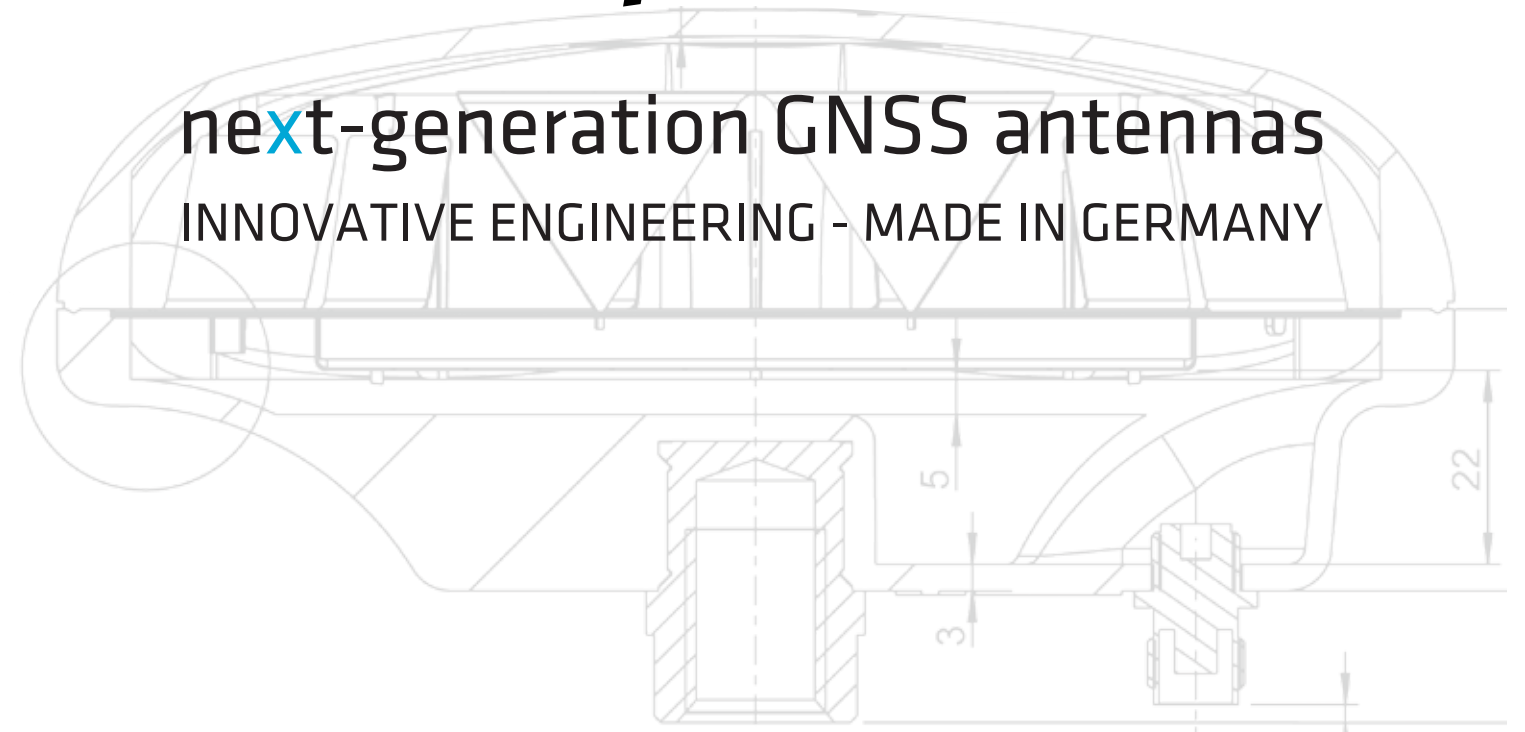


THE 3G+C



navXperience

next-generation GNSS antennas  
INNOVATIVE ENGINEERING - MADE IN GERMANY



Errors and omissions excepted



navXperience GmbH  
 Querweg 20  
 13591 Berlin - Germany  
 T: +49 (0) 30 - 375 896 7 - 0  
 F: +49 (0) 30 - 375 896 7 - 1  
 info@navXperience.com  
 www.navXperience.com

Source: ANTEX Files from IGS Websites

## Antenna

### Galileo Signals

### GPS Signals

### GLONASS Signals

### Compass (BeiDou)

### L-Band (SBAS) Correction Data Signal

### VSWR (max)

### Resistance

### Passive Gain

### 10 dB Beamwidth

### Polarisation

### Axial Ratio

### LNA Power Gain

### LNA Noise factor

### Power

### Current draw

### Operating temperature

### Dimensions

### Connector Type

### Weight

### Water-/Dust-proof

### Color



E1, E5a, E5b, E5a+b  
(AltBOC), E6

L1, L2, L2c, L5

G1, G2, G3, G5

B1, B2, B3

WAAS, EGNOS, GAGAN,  
MSAS, SDCM

>2:1

50 Ohm

3.5 dbic (min)

160° bis 180°

RHCP

3dB (Max)

29 dB +-1@L2  
27 dB +-1@L1

<2 dB

3.3 bis 20 V

< 50 mA

-45° to 75° C

Height: 72mm  
Width: 172mm

TNC female

380 g

IP69K  
MIL-STD-810

light blue / with bumper



E1, E5a, E5b, E5a+b  
(AltBOC), E6

L1, L2, L2c, L5

G1, G2, G3, G5

B1, B2, B3

WAAS, EGNOS, GAGAN,  
MSAS, SDCM, Omnistar,  
Starfire

>2:1

50 Ohm

3.5 dbic (min)

160° bis 180°

RHCP

3dB (Max)

42 dB +-1@L2  
42 dB +-1@L1

<2 dB

3.3 bis 20 V

< 50 mA

-45° to 75° C

Height: 72mm  
Width: 172mm

TNC female

380 g

IP69K  
MIL-STD-810

blue



E1, E5a, E5b, E5a+b  
(AltBOC), E6

L1, L2, L2c, L5

G1, G2, G3, G5

B1, B2, B3

WAAS, EGNOS, GAGAN,  
MSAS, SDCM, Omnistar,  
Starfire

>2:1

50 Ohm

3.5 dbic (min)

160° bis 180°

RHCP

3dB (Max)

48 dB +-1@L1

<2 dB

3.3 bis 20 V

< 50 mA

-45° to 75° C

Height: 72mm  
Width: 172mm

TNC female

400 g

IP69K  
MIL-STD-810

dark blue



## FIELDS OF APPLICATION

### SURVEYING

The 3G+C is a high-precision antenna for all present and future GNSS signals and is thereby useable in all fields of surveying. The patented positioning of parasitic elements allows an excellent multipath reduction. As an ideal reference station antenna it is provided with a higher gain of 42 db. In this way cable lengths of 100 meters and more can be utilized. Low-elevation satellites are received with a greater signal-to-noise ratio as well. The reception of Omnistar correction signals is additionally optimized.

The new antenna is called **3G+C maritime**. Model calibration was performed by the measurement chamber of the University of Bonn as well as the company Geo++ on a robot. The obtained data were deposited at the IGS Institute in Antex format so that the 3G+C antenna can be used on IGS stations as well. Here the information is accessible for interested parties at all times. As the results show, the single layer technology reaches an extreme low phase center variation in comparison to other choking reference station antennas.

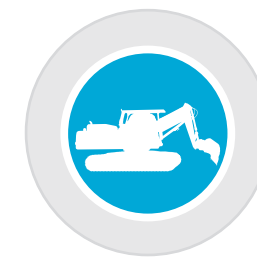
For mobile usage the antenna can be equipped with a damper; its special rubber compound does not influence the reception quality and provides effective protection against falls. With the 3G+C antenna very good results are achieved in monitoring and deformation analysis.

### AGRICULTURE

In agriculture robust antenna systems with a long operational life span are needed. The multi-functional 3G+C antenna meets these requirements by using all known correction signals such as SBAS, WAAS, EGNOS, GAGAN, OMNISTAR, Beacon and the reception of other frequency bands. Whether for parallel guidance systems or the usage in precision farming, any usage is possible with the 3G+C. All positive characteristics that make the 3G+C useable in machine control and the maritime sector are applicable for the agricultural field as well.

### MILITARY

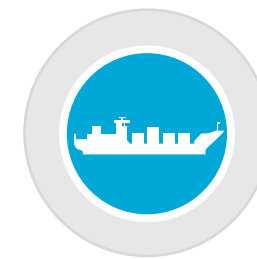
The 3G+C GNSS antenna can be used in all military contexts such as air, sea or ground due to its robustness, its excellent multipath reduction and its errorfree and secure reception of all present and future GNSS signals. With the development of a damper the antenna is protected against severe impacts. The technology of the 3G+C antenna allows the reception of special satellite signals as well as correction signals, also beyond the I-band. For this purpose in the context of certain projects the 3G+C can be modified quickly and customer-oriented.



### MACHINE CONTROL

Despite its low weight of 380g the 3G+C antenna works without any problems under the toughest conditions e.g. when used on construction machines. With its fixated components it is absolutely insensitive to vibrations, impacts and sudden speed-ups. The extremely robust housing underwent several long-term tests. Whether on grader, excavator or caterpillar, the 3G+C constantly works reliable.

The 5/8 inch stainless steel thread can be mounted on a machine with an open-jaw wrench (size 23). Antenna and TNC connector are tested up to 2.5 bar excess pressure. Therefore the intrusion of humidity is impossible.



### NAVIGATION

The GNSS 3G+C antenna is completely sealed due to the special plastic housing and is insensitive to all kinds of aggressive fluids such as saltwater. The laser-welded housing sustains a pressure of +/- 2.5 bar. Therefore also the use in space at a pressure of 0 bar is possible.

After the emission of the correction signal Beacon was upgraded from GPS to GPS and Glonass by the Federal Water and Shipping Administration in 2012 NavXperience immediately reacted: A combined antenna – a single frequency GPS, Glonass, Galileo and Compass antenna, which is able to receive Beacon signals, was developed. In addition the frequency range was expanded to enable perfect reception of Omnistar correction signals. Therefore the 3G+C is an ideal antenna for the maritime sector.

**3G+C mobile** with bumper – for mobile operations during survey or military use.



Colors are exchangeable at customer's option