

# HIRSCHMANN MOBILITY



# CELLULAR (2G/3G/4G)/ GNSS Screw Antenna

**CGN 7026 SF S**  
Pt no.  
**920-641-...**

- Combination antenna for positioning and data-services
- Terrestrial based transmission and satellite-based positioning
- Designed for installation on vehicles in harsh environmental

Subject to alterations

## Technical data (920-641-001)

### Cellular

Frequency range	Low: 698 - 960 MHz High: 1710 - 2690 MHz
Services	2G: GSM 850/900 MHz GSM 1800/1900 MHz 3G: UMTS 4G: LTE-bands 1 – 10, 12 – 20, 23, 25 26 – 30 33 – 41, 44
Gain	min. 0 dBi, max. 3 dBi
Polarization	Linear vertical
Impedance	50 Ohm
Return loss	typ. > 10 dB
Input power	2 W
Diagnosis Resistor	10 kOhm

### GNSS

Frequency range	GPS (L1): 1563 – 1587 MHz Galileo (E1): 1559 – 1591 MHz GLONASS (G1): 1593 – 1610 MHz
Center frequency	1590,0 ±5 MHz
Antenna gain	typ. 2 dBic (Gain of passive antenna element)
Polarization	right handed circular (RHCP)
Axial ratio	min: 2 dB (In zenith at center frequency)
Power supply	3,0 V - 5,5 V
Current consumption	typ. 35 mA ±3 mA
LNA gain	typ. 21 dB ±2 dB (Input and output 50 Ω)
Noise figure	≤ 3,0 dB, typ. 2,8 dB (Input and output 50 Ω)
P1dB output	≥ 11,5 dBm (F = 1575 MHz)
IP3 input	>2 dBm (Test tones: F1: 1590 MHz / -30 dBm F2: 1591 MHz / -30 dBm)
LNA stopband rejection 1590MHz ±60MHz	> 60 dBc (Input to output of LNA)
Isolation GNSS/ Cellular @ GNSS connector in the GNSS frequency ranges)	> 20 dB ( S21  of active antenna from Cellular to GNSS)
Isolation GNSS / Cellular @ 2G/3G/4G Frequencies connector in the Cellular frequency ranges)	> 50 dB ( S21  of active antenna from Cellular to GNSS)

## CELLULAR (2G/3G/4G)/ GNSS SCREW ANTENNA

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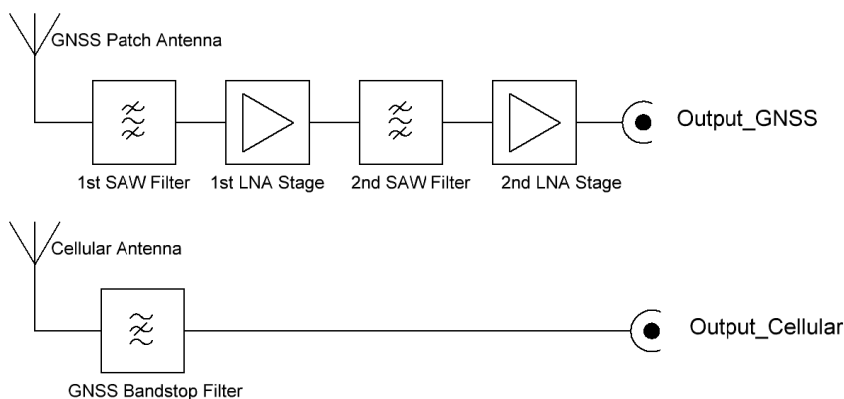
Output impedance	50 Ω
Output VSWR	≤ 1,5
<b>Mechanical</b>	
Round mounting hole diameter / mm	typ. 20 max. 20,5
Thickness holder mm	min. 0,5 max. 6,0
Radius of curvature / mm	min. 1500 max. planar
Free space under mounting place / mm	min. h=25 x Ø35
Nut	PA6.6 GF30 white
Thread bolt diameter	18 x 1.5 mm
Tightening torque / Nm	min. 6 max. 7
Connector pulling force	typ. > 80 N
Cable pulling force	typ. > 80 N
Weight	ca. 296 g
Dimensions	95 mm x 57 mm x 69 mm
<b>Environmental</b>	
Operation and storage temperature range	typ. -40 °C max. 80 °C
Humidity	Non-condensing 55 °C 95% RH
Protection levels	For all antenna parts placed outside of the vehicle: IP 6K9K (ISO 20653) For the cable inlet of the antenna: IP67
Scope of supply	Antenna with hexagonal nut

<sup>1)</sup> dBi: referenced to an isotropic radiator, circular polarization

<sup>2)</sup> dBi: referenced to an isotropic radiator

Versions		Cable type	CELL		GNSS	
920-641-101	CGN 7026 SF S	RG 174	200 mm	FAKRAM, Code D	150 mm	FAKRAM, Code C

### Block Diagram



# CELLULAR (2G/3G/4G)/ GNSS SCREW ANTENNA

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## Installation

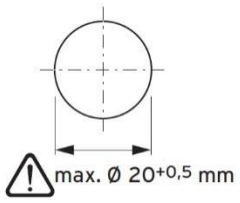


Fig. 1



Fig. 2

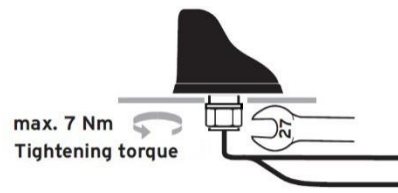


Fig. 3

Antenna Diagrams

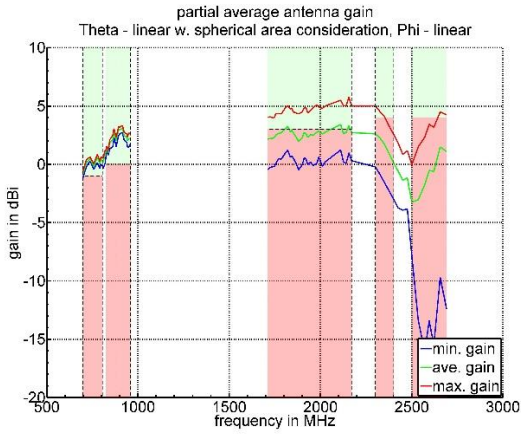


Fig. 1 4G,  
Gain over frequency, ANTENNA GNSS/GSM

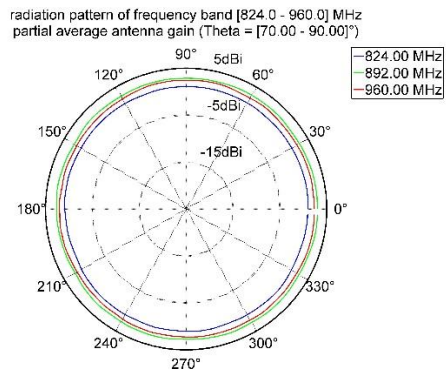
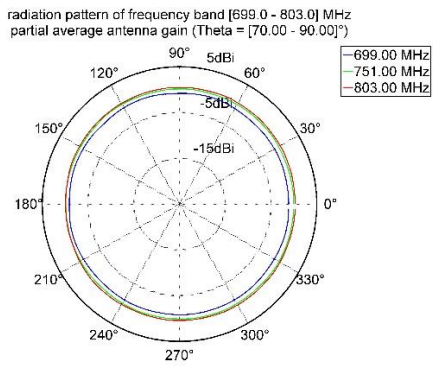


Fig. 2 4G,  
Gain over phi, ANTENNA GNSS/GSM

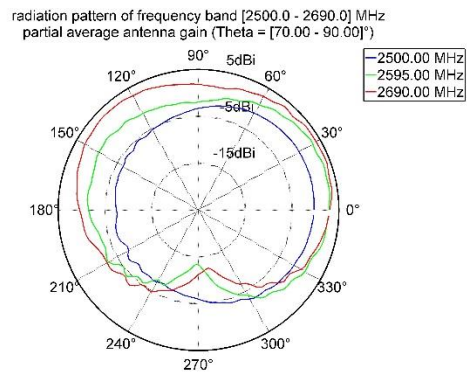
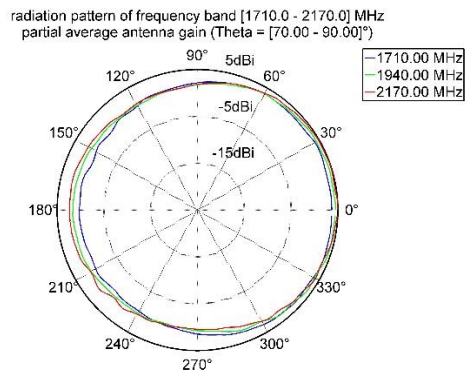


Fig. 3 4G,  
Gain over phi,  
ANTENNA GNSS/GSM