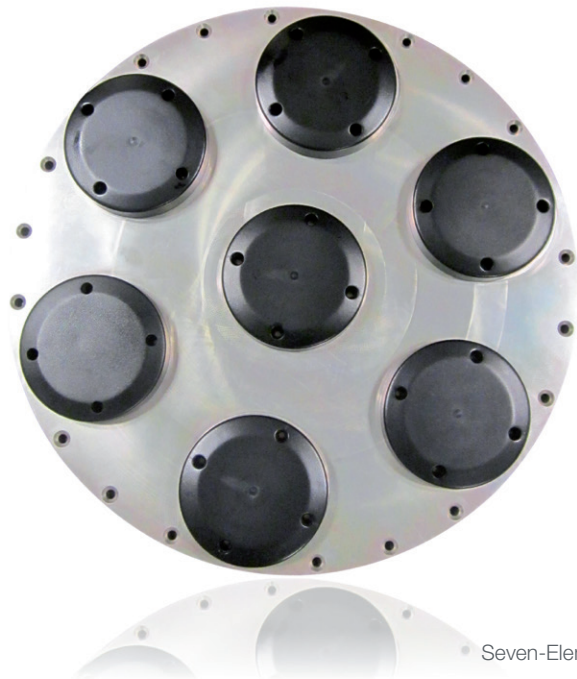
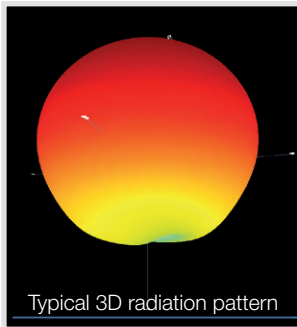


GNSS Antennas for Embedded Applications



Seven-Element GNSS CRPA

SOLUTION FOR

- Positioning of equipment for land, aerospace and maritime applications

Main features

Technical performance

- Hemispherical pattern
- Low profile
- Multi-path immunity
- Wideband or multi-band behavior

Design

- Resists harsh environmental conditions

Delivered documents

- Conformity certificate (measured VSWR)
- Instructions manual
- Measured radiation patterns*

Related standards

- MIL-STD-180
- RTCA DO-160

Product configuration

Equipment

- FRPA or CRPA GNSS Antenna

Related services

- Maintenance and customization (connector, paint)

■ Included □ Optional

* Limited to certain antennas

Electrical characteristics

Part number	304-081	304-075	304-066	CRPA 304-081
Number of elements	1	1	4	7
Type	FRPA	FRPA	CRPA	CRPA
Mode	Passive	Active	Passive	Passive
Frequency range	1143 - 1300 MHz (L2/E5/E6) 1555 - 1600 MHz (L1)	1146 - 1298 MHz (L2/E5/E6) 1555 - 1610 MHz (E1/L1)	1215 - 1299 MHz (L2/E6) 1555 - 1596 MHz (L1)	1143 - 1300 MHz (L2/E5/E6) 1555 - 1600 MHz (L1)
Peak gain	> 4 dBic	> 28 dBic	> 3 dBic on L2/E6 > 2.5 dBic on L1	> 4 dBic
VSWR	< 1.8:1	< 2.0:1	< 1.5:1	< 1.8:1
Power handling (CW)	5 W	1 W	20 W	5 W
Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Polarization	RHCP	RHCP	RHCP	RHCP
Radiation pattern	Hemispheric	Hemispheric	Hemispheric	Hemispheric
Axial ratio (on axis)	< 2 dB	< 3 dB for $\Theta = 0^\circ$ < 6 dB for $\Theta = 45^\circ$	-	-
DC supply	NA	3 - 5V, 50 mA	NA	NA

Mechanical characteristics

Part number	304-081	304-075	304-066	CRPA 304-081
Figure	1	2	3	4
Diameter / length (A)	90 mm	90 mm	178 mm	365 mm
Thickness (B)	21 mm	21 mm	21 mm	24 mm
Base	Aluminium	Aluminium (or Stainless steel)	Aluminium	Aluminium
Weight	< 150 g	< 200 g (or < 300 g)	< 900 g	< 2.3 kg
Radome	ULTEM	ULTEM	LEXAN	ULTEM
Connectors	SMA, TNC, N female	TNC, SMA, N female	4 x SMA female	SMA, TNC, N female
Operating temperature	-55°C to +80°C	-40°C to +85°C	-55°C to +80°C	-55°C to +80°C

Figure 1 (304-081)

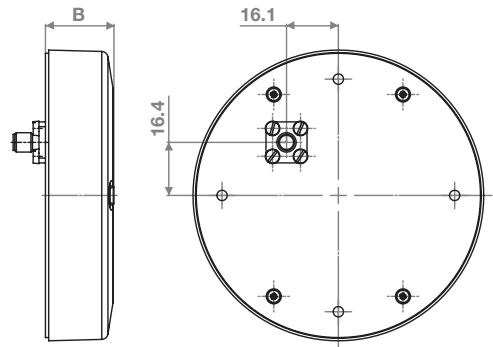
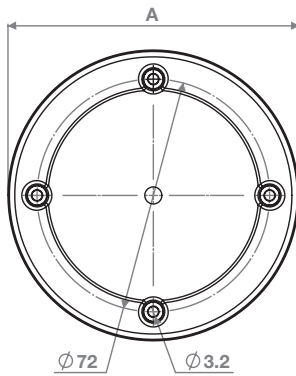


Figure 2 (304-075)

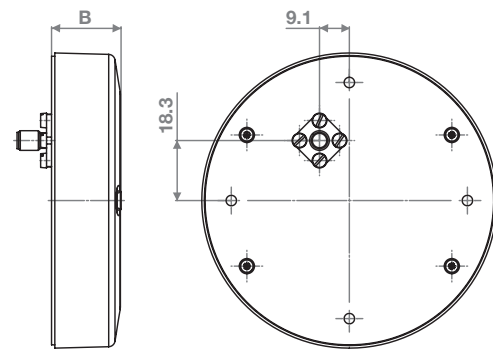
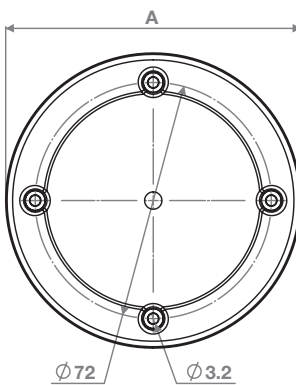


Figure 3 (304-066)

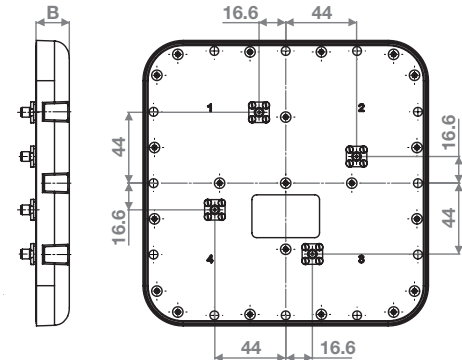
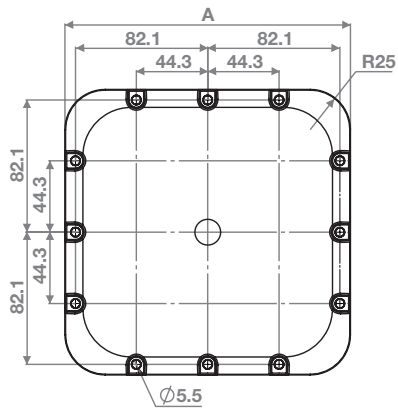
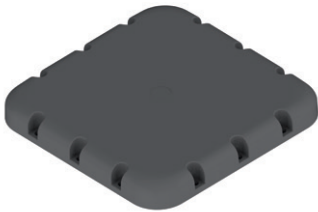
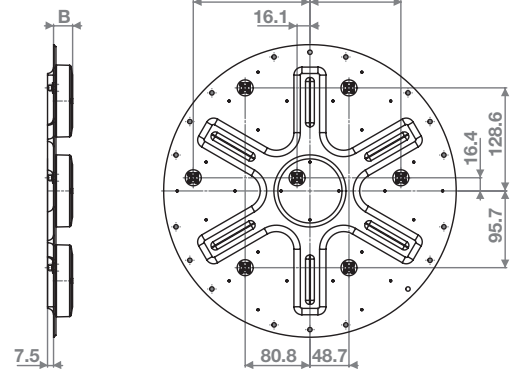
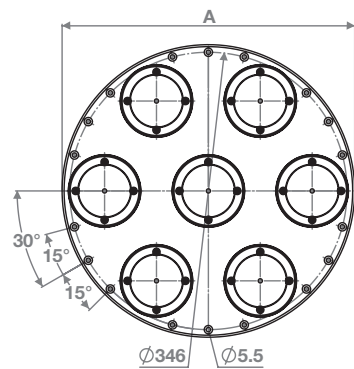
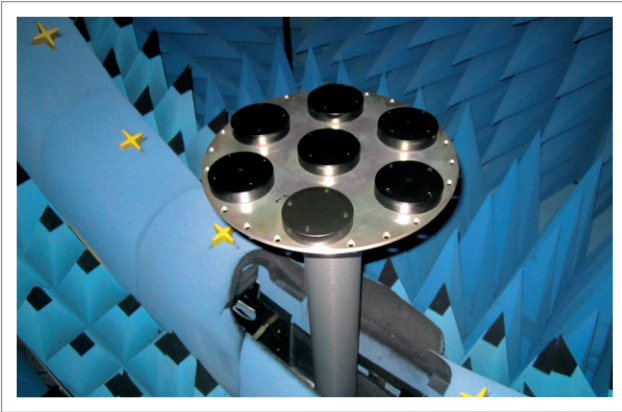


Figure 4 (CRPA 304-081)





The antennas presented above are dedicated to GNSS receivers used for land, aerospace and maritime applications. These antennas are either FRPA (Fixed Radiation Pattern Antenna) consisting of a single patch antenna or CRPA (Controlled Radiation Pattern Antenna) consisting of several patch antennas combined to protect GNSS receivers against jamming.



Design, Production, Evaluation of a Seven-Element GNSS CRPA Antenna

A controlled radiated pattern antenna can be an effective way to protect GPS receivers against jamming. The CRPA antenna, composed of seven elements, functions in the E5a, E5b, E6, L2 and L1 bandwidths. Follow the link below to read the report on radiation pattern measurements of the array in a test facility on GPS World website: <https://gpsworld.com/anti-jam-protection-by-antenna/>



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