The right one.™

ANTENNA COMPANION MODULES

APPLICATIONS:

- Telematics and toll collection
- Vehicle tracking and fleet management
- Asset monitoring and management
- Radio beacons
- Portable tracking and navigation

Anapala (top)

Silvana with U.FL (bottom)

Silvana with SMA (top)

THE PERFECT MATCH TO A TRIMBLE GPS RECEIVER

Integrating a GPS receiver and antenna in a tough electrical environment while wringing out every last dB of positioning performance is a complex RF design problem. Tight space constraints often place the GPS antenna near strong transmitters, noisy power supplies and fast microprocessors. Tracking down a source of interference in the system can take months. Getting it right often takes multiple expensive iterations and, in the end, engineers are frequently forced to compromise performance for time-to-market considerations.

TAKE ADVANTAGE OF TRIMBLE'S 30+ YEARS OF EXPERIENCE.

Trimble has been integrating GPS receivers and antennas in all manner of devices for over 30 years now and can help you bring your product to market faster and with less aggravation. Trimble's antenna companion modules (ACMs), including Silvana and Anapala, comprise a GPS receiver and a perfectly-matched antenna on an easily integrated module.

SILVANA ACM

Compatible with Trimble's Copernicus II and Condor families of GPS modules, Silvana allows you to choose the best solution for your application. In addition to its onboard antenna, Silvana sports a connector for an external antenna. An antenna detection circuit automatically switches to the external antenna, when connected. With Silvana, one flexible solution serves both internal and external antenna applications.

ANAPALA ACM

Like Silvana, Anapala supports multiple GPS solutions, but relies on the integral matched antenna.

Contact Trimble to learn more about how an ACM can help you realize your product introduction in a timely fashion and improve the ROI of your development program.

Trimble®

ANTENNA COMPANION MODULES

KEY FEATURES:

- Optimally matched and tuned onboard antenna brings high performance positioning to market faster.
- Multiple GPS solution options on Silvana and Anapala allow you to choose the best fit for your application.
- With its external antenna connector and auto-switch, Silvana enables a single flexible product to support multiple applications or installation options.

GPS PERFORMANCE SPECIFICATIONS

See the relevant Copernicus II or Condor datasheet for Silvana and Anapala ACM GPS performance specifications.

INTERFACE CHARACTERISTICS

Silvana ACM and Anapala ACM

External Antenna Connector: . . . . . .U.FL or Female SMA (Silvana with ACM only)

Interface Connector . . . . . 22-pin Socket, SAMTEC # CLP-111-02-G-D-TR

Mating Connectors . . . . . Straight Header, SAMTEC # FTSH-111-03-L-DV
90° Header, SAMTEC # FTSH-111-02-L-DH-RA

Pin-Out Table for Condor based ACM

PIN #	FUNCTION	DESCRIPTION
1	No Connect	
2	No Connect	
3	TxD UART	NMEA output @ LVTTL level
4	No Connect	
5	RxD UART	NMEA input @ LVTTL level
6	No Connect	
7	Vcc	Power supply (main and backup) @ 3.0 to 3.6 V DC Power consumption: ≤50 mA @ 3.3 V DC Standby consumption: <34 µA typical @ 20 °C
8	Mode control input	Pull high = Run Pull low (GND) = Standby
9	Signal and power ground	Power and signal ground
10	No Connect	
11	No Connect	
12	External Antenna Status	Silvana ACM Only High = Normal with external antenna connected Low (GND) = External antenna short or open
13–19	No Connect	
20	PPS	1Hz timing signal
21	No Connect	
22	XRESET	All Condor models except 68677-00 which is RESERVED

Pin-Out Table for Copernicus IIA based ACM

PIN #	FUNCTION	DESCRIPTION
1	No Connect	
2	No Connect	
3	TxD UART	NMEA output @ CMOS level
4	No Connect	
5	RxD UART	NMEA input @ CMOS level
6	No Connect	
7	Vcc	Power supply (main and backup) @ 2.7 to 3.3 V DC Power consumption: ≤62 mA @ 3.0 V DC Standby consumption: <34 µA typical @ 20 °C
8	Mode control input	Pull high = Run Pull low (GND) = Standby
9	Signal and power ground	Power and signal ground
10	No Connect	
11	No Connect	
12	External Antenna Status	Silvana ACM Only High = Normal with external antenna connected Low (GND) = External antenna short or open
13–19	No Connect	
20	PPS	1Hz timing signal
21	No Connect	
22	No Connect	

ENVIRONMENTAL SPECIFICATIONS

Temperature . . . . . Operating from –40 °C to +85 °C

Storage Temperature . . . . . –55 °C to +105 °C

Humidity . . . . . Operating from 5% to 95% R.H. non-condensing @ 60 °C

Vibration . . . . . 0.008 g^2/Hz 5 Hz to 20 Hz
0.05 g^2/Hz . . . . . 20 Hz to 100 Hz
–3 dB/octave . . . 100 Hz to 900 Hz

DIMENSIONS

Silvana and Anapala

Dimensions . . . . . 35.56 mm W × 35.56 mm L × 8 mm H (not including antenna connector)

Weight . . . . . 17 g (Silvana with SMA)
15 g (Silvana with U.FL and Anapala)

ORDERING INFORMATION & ACCESSORIES

	CONDOR	COPERNICUS IIA	STARTER KIT
Silvana U.FL	68677-05	68677-30	75976-10 (Condor)
			75976-25 (Copernicus IIA)
Silvana SMA*	68677-00	N/A	
Anapala ACM	68677-55	68677-60	75976-00 (Condor)
			75976-25 (Copernicus IIA)
SMA to U.FL transition cable	58541-20	58541-20	

** Requires 5000 piece minimum order.*

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