

# SIMCom GNSS Modules



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EBV Elektronik is a Technical Semiconductor Distributor, part of the Avnet Family. We are a fully franchised partner of SIMCom's Cellular and GNSS Module Products.

Whenever you have a need for precise outdoor positioning the Global Navigation Satellite System (GNSS) is the technology enabling it. The technology is mature, widely deployed and enables accurate location acquisition.



## Key advantages of SIMCom GNSS modules:

- Multiband support options (L1 and L5)
- Multi-constellation support including GPS, Galileo, GLONASS, BeiDou, QZSS, SBAS, and IRNSS
- Support for up to 33 tracking/99 acquisition channels
- Small footprint available with integrated antenna (9.6 x 14 x 2.15mm, 31-pin LCC package)
- 12 multi-tone active interference cancellers and jamming elimination
- Advanced software features:
  - EASY self-generated orbit prediction
  - EPO/HotStill orbit prediction
  - "AlwaysLocate" advanced location awareness technology
  - Supports logger function
  - Supports active interference cancellation (AIC)
- Indoor and outdoor multi-path detection and compensation
- Max fixed update rate up to 10 HZ
- Pulse-per-second (PPS) GNSS time reference
  - Adjustable duty cycle
  - Typical accuracy: ±10ns
- Interface: UART x2
- Operating temperature: -40 ~ +85°C
- Accuracy 2.5m CEP
- Prices starting at <\$4 @ 1k pcs
- Standard Lead-times of 12 weeks or less
- Strong technical support infrastructure

## The list of applications benefiting from the technology is long:

- All kinds of tracking applications (personal & pet trackers, wearables, asset tracking),
- Automotive (ADAS and self-driving), including where on-board diagnostics (OBD), in-vehicle systems or e-call
- New applications such as bike, scooter, or car sharing
- Agricultural, including precision field guiding, livestock tracking
- Various remote-controlled applications, including drones or any other unmanned aerial vehicles (UAV)

Additionally, new features such as dual-band GNSS allow modules to receive signals at two different frequencies (L1 and L5). This improves position accuracy and rejection of multipath reflections. In turn, accuracy can be vastly improved, which enables operation in dense urban environments.

**SIMCom's GNSS modules** provide a wide selection of positioning solutions, supporting multiband operation and a range of regional constellations. Standard chipsets and interfacing allow seamless integration into designs.

## Our Service

EBV Elektronik can assist end-to-end services including :

- Product selection,
- Technical support and
- Volume pricing










to ensure you get the most cost-effective solutions for your design.

## Antenna Solutions

EBV Elektronik can also help select and supply cost effective antenna solutions from our Franchised Partner Taoglas. Headquartered in Ireland, Taoglas has off the shelf antennas, and can offer initial system analysis and Custom Antenna design.



**SIMCom GNSS solution comparison table**

Product Name	SIM28ML	SIM68M	SIM66M	SIM68D	SIM68I	SIM39EA	SIM39EAR	SIM33EAU	SIM33ELA
<b>Pictures</b>									
<b>GNSS Mode</b>	L1:GPS Only	L1:GPS/GLONASS/ Galileo/QZSS	L1:GPS/GLONASS/Galileo*/ QZSS*	L1:Beidou/GPS/GLONASS/ Galileo/QZSS L5:Beidou/GPS/Galileo/QZSS	L1:Beidou/GPS/GLONASS/ Galileo/QZSS L5: NavIC	L1:GPS Only	L1:GPS Only	L1:GPS/GLONASS/ Galileo/QZSS	L1:GPS/GLONASS/ Galileo/QZSS
<b>Firmware</b>	ROM	Flash	Flash	Flash	Flash	Flash	ROM	Flash	Flash
<b>Package &amp; PINs</b>	18 Pins LCC	18 Pins LCC	18 Pins LCC	24 Pins LCC	24 Pins LCC	13 Pins LCC	13 Pins LCC	16 Pins LCC	31 Pins LCC
<b>Main Chipset</b>	MT3337	MT3333	UC6226NIS	AG3335M	AG3335MN	MT3337	MT3337	MT3333	MT3333
<b>Embedded with Antenna</b>	No	No	No	No	No	Yes	Yes	Yes	Yes (chip antenna)
<b>Dimensions (mm)*</b>	10.1*9.7*2.5	10.1*9.7*2.5	10.1*9.7*2.5	16*12.2*2.4	16*12.2*2.4	16*16*6.2	16*16*6.2	22*22*7.5	9.6*14*2.15
<b>Operation temperature</b>	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C
<b>Supply Voltage</b>	2.8~4.3V	2.8~4.3V	3.2~4.0V	2.8V~4.3V	2.8V~4.3V	2.8V~4.3V	2.8V~4.3V	2.8~4.3V	2.8~4.3V
<b>Power-Acquisition</b>	17mA	25mA	27mA	23mA	23mA	27mA	27mA	32mA	25mA
<b>Power-Tracking</b>	16mA	20mA	28mA	24mA	24mA	24mA	24mA	28mA	20mA
<b>Default Baud Rate</b>	9600 or 115200	9600 or 115200	9600 or 115200	9600 or 115200	9600 or 115200	9600 or 115200	9600	9600 or 115200	9600 or 115200
<b>Max update rate</b>	10Hz	10Hz	1Hz	10Hz	10Hz	10Hz	10Hz	10Hz	10Hz
<b>Receive type</b>	22 tracking-channel 66 acquisition-channel GPS receiver	33 tracking-channel 99 acquisition-channel GNSS receiver	46 tracking-channel 64 acquisition-channel GNSS receiver	33 tracking-channel 99 acquisition-channel GNSS receiver	33 tracking-channel 99 acquisition-channel GNSS receiver	22 tracking-channel 66 acquisition-channel GPS receiver	22 tracking-channel 66 acquisition-channel GPS receiver	22 tracking/66 acquisition- channel GPS receiver	33 tracking-channel 99 acquisition-channel GNSS receiver
<b>Sensitivity</b>	Tracking: -165 dBm Cold start: -148 dBm Reacquisition: -160 dBm	Tracking: -165 dBm Cold start: -148 dBm Reacquisition: -160 dBm	Tracking: -160 dBm Cold start: -147 dBm Reacquisition: -158 dBm	Tracking: -166 dBm Cold start: -148 dBm Reacquisition: -160 dBm	Tracking: -166 dBm Cold start: -148 dBm Reacquisition: -160 dBm	Tracking: -165 dBm Cold start: -147 dBm Reacquisition: -160 dBm	Tracking: -165 dBm Cold start: -147 dBm Reacquisition: -160 dBm	Tracking: -165 dBm Cold start: -147 dBm Reacquisition: -160 dBm	Tracking: -165 dBm Cold start: -147 dBm Reacquisition: -160 dBm
<b>Time to first fix (TTFF)</b>	Cold start: 32s (typ.) Hot start: 1s (typ.)	Cold start: 28s (typ.) Hot start: 1s (typ.)	Cold start: 28s (typ.) Hot start: 1s (typ.)	Cold start: 27s (typ.) Hot start: <1s (typ.)	Cold start: 27s (typ.) Hot start: <1s (typ.)	Cold start: 31s (typ.) Hot start: 1s (typ.)	Cold start: 31s (typ.) Hot start: 1s (typ.)	Cold start: 31s (typ.) Hot start: 1s (typ.)	Cold start: 28s (typ.) Hot start: 1s (typ.)
<b>Position accuracy</b>	2.5m CEP	2.5m CEP	2.5m CEP	1.5m CEP	1.5m CEP	2.5m CEP	2.5m CEP	2.5m CEP	2.5m CEP
<b>Note</b>					For Indian market				

\* Same colored dimensions fields are indicating pin compatibility

## EBV European Headquarters

EBV Elektronik GmbH & Co. KG | DE-85586 Poing | Im Technologiepark 2-8 | Phone: +49 8121 774 0

## EBV Regional Offices | Status May 2022

### AUSTRIA

1120 Wien  
Grünbergstraße 15/1, 4. Stock  
Phone: +43 1 89152 0  
Fax: +43 1 89152 30

### BELGIUM

1831 Diegem  
De Kleetlaan 3  
Phone: +32 2 716001 0  
Fax: +32 2 72081 52

### BULGARIA

1505 Sofia  
48 Sitnyakovo Blvd., Serdika  
offices,10th floor, Unit 1006  
Phone: +359 2 9264 337  
Fax: +359 2 9264 133

### CZECH REPUBLIC

18600 Prague  
Amazon Court, Karolinska 661/4  
Phone: +420 2 34091 011  
Fax: +420 2 34091 010

### DENMARK

Elkjærvej 19, 1 sal  
DK-8230 Åbyhøj  
Phone: +45 8 6250 466  
Fax: +45 8 6250 660

### ESTONIA

80042 Pärnu  
Suur-Jõe 63  
Phone: +372 5 8864 446

### FINLAND

02180 Espoo  
Klovinpellontie 1-3, 6<sup>th</sup> floor  
Phone: +358 9 2705279 0  
Fax: +358 9 27095498

### FRANCE

91300 Massy Cedex (Paris)  
Le Copernic bât B  
12 rue Jean Bart  
Phone: +33 1 644729 29

35700 Rennes

16, Rue de Jouanet  
Phone: +33 2 998300 51  
Fax: +33 2 998300 60

67400 Illkirch Graffenstaden  
35 Rue Gruninger  
Phone: +33 3 904005 92  
Fax: +33 3 886511 25

31500 Toulouse

8 chemin de la terrasse  
Parc de la plaine  
Phone: +33 5 610084 61  
Fax: +33 5 610084 74

69693 Venissieux (Lyon)

Parc Club du Moulin à Vent  
33, Av. du Dr. Georges Lévy  
Phone: +33 4 727802 78  
Fax: +33 4 780080 81

### GERMANY

85609 Aschheim-Dornach  
Einsteinring 1  
Phone: +49 89 388 882 0  
Fax: +49 89 388 882 020

10553 Berlin

Kaiserin-Augusta-Allee 14  
Phone: +49 30 747005 0  
Fax: +49 30 747005 55

31275 Lehrte

Gaußstr. 10  
Phone: +49 5139 8087 0  
Fax: +49 5139 8087 70

59439 Holzwickede

Wilhelmstraße 1  
Phone: +49 2301 94390 0  
Fax: +49 2301 94390 30

41564 Kaarst

An der Gumpgesbrücke 7  
Phone: +49 2131 9677 0  
Fax: +49 2131 9677 30

71229 Leonberg

Neue Ramtelstraße 4  
Phone: +49 7152 3009 0  
Fax: +49 7152 759 58

90471 Nürnberg

Lina-Ammon-Straße 19B  
Phone: +49 911 817669 0  
Fax: +49 911 817669 20

04435 Schkeuditz

Frankfurter Straße 2  
Phone: +49 34204 4511 0  
Fax: +49 34204 4511 99

78048 VS-Villingen

Marie-Curie-Straße 14  
Phone: +49 7721 99857 0  
Fax: +49 7721 99857 70

65205 Wiesbaden

Borsigstraße 36  
Phone: +49 6122 8088 0  
Fax: +49 6122 8088 99

### HUNGARY

1117 Budapest  
Budafoki út 91-93, West Irodaház  
Phone: +36 1 43672 29  
Fax: +36 1 43672 20

### ISRAEL

4581500 Bnei Dror  
Tirosh 1  
Phone: +972 9 77802 60  
Fax: +972 3 76011 15

### ITALY

20095 Cusano Milanino (MI)  
Via Alessandro Manzoni, 44  
Phone: +39 02 660962 90  
Fax: +39 02 660170 20

50019 Sesto Fiorentino (FI)

Via Lucchese, 84/B  
Phone: +39 05 543693 07  
Fax: +39 05 542652 40

41126 Modena (MO)

Via Scaglia Est, 31  
Phone: +39 059 292 4211  
Fax: +39 059 292 9486

00139 Roma (RM)

Via de Settebagni, 390  
Phone: +39 06 4063 665/789  
Fax: +39 06 4063 777

35030 Sarmeola di Rubano (PD)

Piazza Adelaide Lonigo, 8/11  
Phone: +39 049 89747 01  
Fax: +39 049 89747 26

10144 Torino (TO)

Via Treviso, 16  
Phone: +39 011 26256 90  
Fax: +39 011 26256 91

### IRELAND

Fitzwilliam Hall  
Fitzwilliam Place  
Dublin 2  
D02 T292  
Phone: +353 1 4097 802  
Fax: +353 1 4568 544

### NETHERLANDS

Zonnebaan 9  
3542 EA Utrecht  
Phone: +31 346 5830 10  
Fax: +31 346 5830 25

### NORWAY

1181 Oslo  
Brannfjellveien 11  
Phone: +47 22 67 17 80  
Fax: +47 22 67 17 89

### POLAND

80-838 Gdansk  
Targ Rybny 11/12  
Phone: +48 58 30781 00

P02-676 Warszawa

Postepu 14  
Phone: +48 22 209 88 05

50-062 Wrocław

Pl. Solny 16  
Phone: +48 71 34229 44  
Fax: +48 71 34229 10

### PORTUGAL

4400-676 Vila Nova de Gaia Unipessoal  
LDA / Edifício Tower Plaza  
Rotunda Eng. Edgar Cardoso, 23 - 14ºG  
Phone: +351 22 092026 0  
Fax: +351 22 092026 1

### ROMANIA

014476 Bucharest  
Building Sky Tower  
246C Calea Floreasca, District 1  
Phone: +40 21 52816 12  
Fax: +40 21 52816 01

### RUSSIA

620028 Ekaterinburg  
Tatischeva Street 49A  
Phone: +7 343 31140 4  
Fax: +7 343 31140 46

127486 Moscow

Korovinskoye Shosse 10,  
Build 2, Off. 28  
Phone: +7 495 730317 0  
Fax: +7 495 730317 1

197374 St. Petersburg

Atlantic City, Savushkina str 126,  
lit B, premises59-H, office 17-2  
Phone: +7 812 635706 3  
Fax: +7 812 635706 4

### SERBIA

11070 Novi Beograd  
Milentija Popovica 5B  
Phone: +381 11 40499 01  
Fax: +381 11 40499 00

34325 Kragujevac

Aleja Milanović bb  
Phone: +381 11 404 9901  
Fax: +381 11 404 9900

### SLOVAKIA

82109 Bratislava  
Turčianska 2 Green Point Offices  
Phone: +421 2 3211114 1  
Fax: +421 2 3211114 0

### SLOVENIA

1000 Ljubljana  
Dunajska cesta 167  
Phone: +386 1 5609 778  
Fax: +386 1 5609 877

### SOUTH AFRICA

7700 Rondebosch, Cape Town  
Belmont Office Park, Belmont Road  
1st Floor, Unit 0030  
Phone: +27 21 402194 0  
Fax: +27 21 4196256

3629 Westville

Forest Square, 11 Derby Place  
Suite 4, Bauhinia Building  
Phone: +27 31 27926 00  
Fax: +27 31 27926 24

2128 Rivonia, Sandton

Johannesburg  
33 Riley Road  
Pinewood Office Park  
Building 13, Ground Floor  
Phone: +27 11 23619 00  
Fax: +27 11 23619 13

### SPAIN

08014 Barcelona  
c/Tarragona 149 - 157 Planta 19 1º  
Phone: +34 93 47332 00  
Fax: +34 93 47363 89

39005 Santander (Cantabria)

Racing nº 5 bajo  
Phone: +34 94 22367 55  
Phone: +34 94 23745 81

28760 Tres Cantos (Madrid)

Centro Empresarial Euronova  
Ronda de Poniente 4, Planta 2  
Phone: +34 91 80432 56  
Fax: +34 91 80441 03

### SWEDEN

Hemvärnsgatan 9  
SE-171 54 Solna  
Phone: +46 859 47023 0  
Fax: +46 859 47023 1

### SWITZERLAND

8953 Dietikon  
Bernstrasse 39A  
Phone: +41 44 74561 61  
Fax: +41 44 74561 00

### TURKEY

06520 Ankara  
Armada Is Merkezi  
Eskisehir Yolu No: 6, Kat: 14  
Ofis No: 1406, Sogutozu  
Phone: +90 312 2956 361  
Fax: +90 216 528831 1

34774 Ümraniye / Istanbul

Tatlısu Mahallesi Pakdil Sokak 7  
Phone: +90 216 528831 0  
Fax: +90 216 528831 1

35580 Izmir

Folkart Towers  
Manas Blv. No 39 B Blok  
Kat: 31 Ofis: 3121  
Phone: +90 232 390 9196  
Fax: +90 216 528831 1

### UKRAINE

03040 Kiev  
Vasilovskaya str. 14  
off. 422-423  
Phone: +380 44 496222 6  
Fax: +380 44 496222 7

### UNITED KINGDOM

Maidenhead (South)  
Berkshire, SL6 7RJ  
2, The Switchback  
Gardner Road  
Phone: +44 16 28778556  
Fax: +44 16 28783811

Manchester (North)

M22 5WB  
Manchester International Office Centre  
Suite 3E (MIOC) Styal Road  
Phone: +44 16 149934 34  
Fax: +44 16 149934 74

