www.cirocomm.com

wi-com solutions
Via Leonardo da Vinci 11
20813 BOVISIO MASCIAGO (MB) Italy
Tel. +39/0362/1722878 – 1722877
email : info@wicomsolutions.it
Web : www.wicomsolutions.it

Taiwan Headquarters

Address：1F., No.1492, Chunri Rd., Taoyuan Dist.,
Taoyuan City 330, Taiwan (R.O.C.)
Tel：+886-3-357-6889
Contact info：sales@cirocomm.com.tw

Tainan Factory

Address：No.37, Gongye South Rd., Guantien Dist.,
Tainan City 720, Taiwan (R.O.C.)
Tel：+886-6-699-2961
Contact info：sales@cirocomm.com.tw

Shen Zhen Office

Address：Room 1302 ,13/F, West Block, Tianan High-Tech Plaza Phase II,
Tianan Cyber Park, Futian District,Shen zhen 518040, China.
Tel：+86-755-8386-8423
Contact info：sales@cirocomm.com.tw

Wuxi Plant

Address： No. 1231, LianFu Rd, An Town, Xishan Distric,
Wuxi City, Jiangsu Province, China
Tel：+86-510-8826-6656
Contact info：sales@cirocomm.com.tw

GCL INTERNATIONAL UKAS MANAGEMENT SYSTEMS ISO 9001 5965
證書號碼：023450

GCL INTERNATIONAL UKAS MANAGEMENT SYSTEMS ISO 14001 5965
證書號碼：34E18899

ABS Quality Evaluations, Inc. Management System Certification
證書號碼：58688

TÜV NORD ASIA PACIFIC
QC 08000 : 2017 Certified
Hazardous Substance Process Management System
TW-HSPM-1489 / TW-HSPM-1489-1

CiRO

PRODUCT CATALOG

2020

Antenna | DR Filter | Resonator

We build the RF foundation for your communications.

The Cirocomm Core Technology

We build the RF foundation for wire communications

Cirocomm has been dedicated to design and manufacture of antennas and DR filters in the past 2 decades. As the antenna and DR filter solution provider, we coordinate with clients very closely to realistically resolve RF (Radio Frequency) challenges. We believe every engineer can successfully complete the wireless design with our R&D technical support.

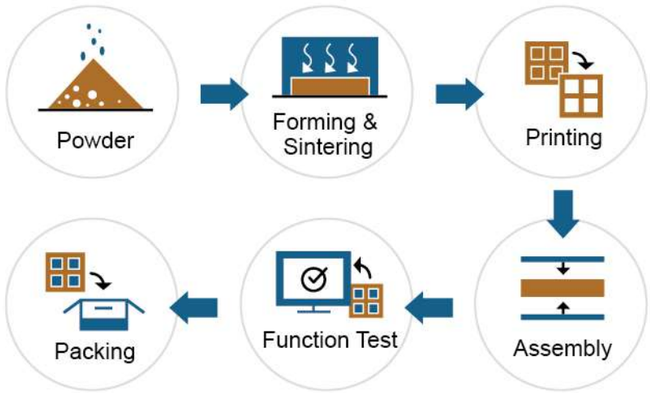
RF solutions: Ceramic DR filter and antenna solution

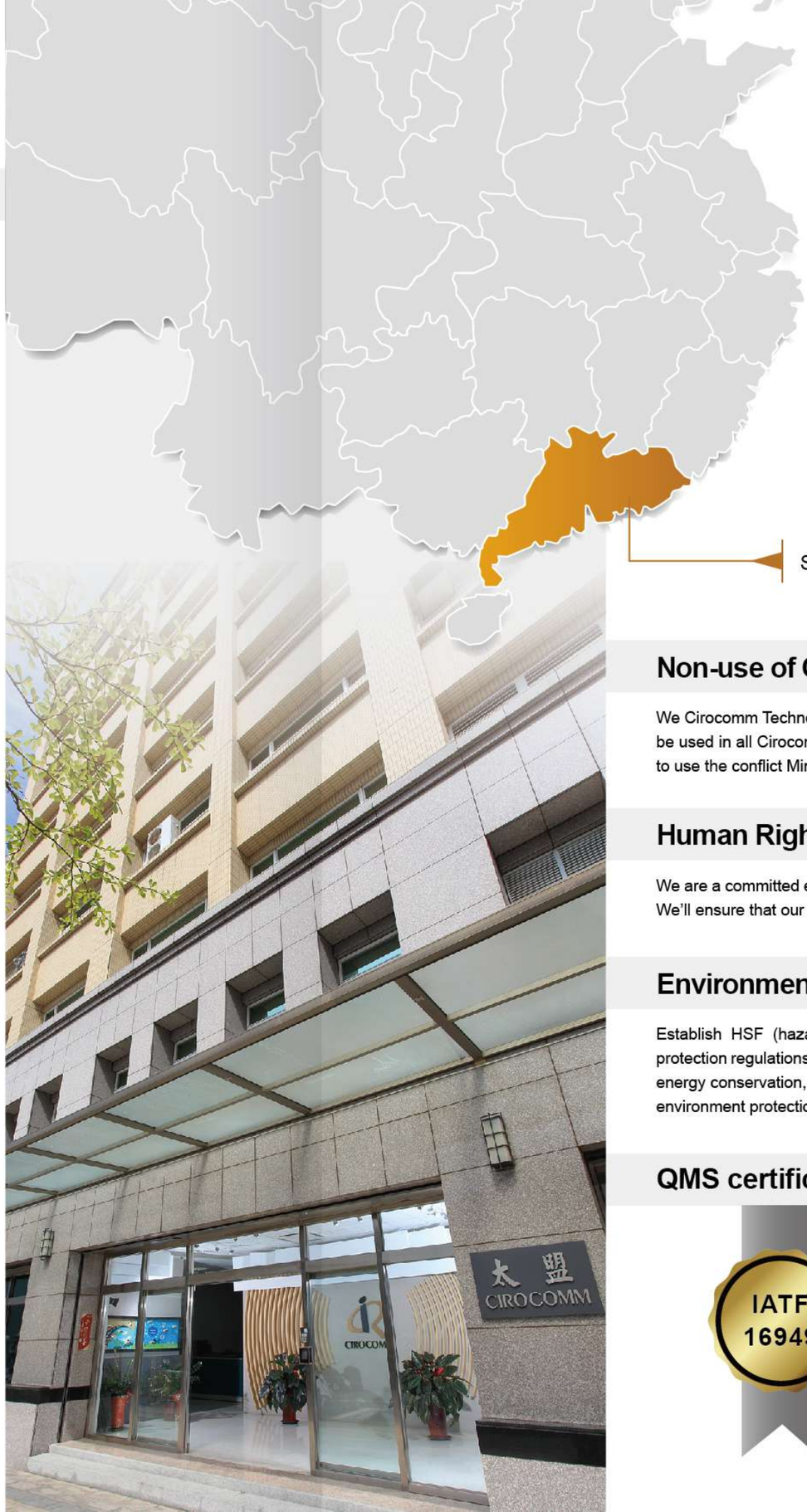
The Cirocomm 5GHz ceramic DR filter solutions for 802.11n and 802.11ac have been approved by the world-leading chipset companies (Qualcomm, Intel, Broadcom, Celeno, Marvell i.e.). It is also certified that Cirocomm 5GHz ceramic DR filter solutions have much higher performance (Low insertion loss and high out band rejection < -50 dB) than that of other material filter products.

Currently Cirocomm antennas are widely used in automotive navigation, GPS trackers, telematics control unit, POS payment, AP routers, wearables, smart home, medical, IoT and industrial. We provide a variety of antennas to meet customers need. Get the one stop solutions of antennas and DR filters by contacting us now.

Materials science and ceramic processing techniques

Cirocomm is one of the manufacturers which have the capability of processing ceramic DR filters and ceramic antennas from powder raw material to finished product. By controlling the ceramic powder formula, our team shrink the ceramic component size with consistent performance to meet customer need. We implement material science and processing techniques into our advanced production, using a strict quality control system to meet the quality demand for different applications.





Non-use of Conflict Minerals Declaration

We Cirocomm Technology Corp. would like to declare that the conflict minerals are not and won't be used in all Cirocomm manufactured goods. We keep monitoring and asking our suppliers not to use the conflict Minerals.

Human Rights and Labor Protection

We are a committed equal opportunity employer and will abide the laws by all fair labor practices. We'll ensure that our activities do not directly or indirectly violate human rights in any country.

Environment protection and HSF commitment

Establish HSF (hazardous substance free) plan to achieve requirements of environmental protection regulations. Prevent using hazardous substance and reducing contaminant. Implement energy conservation, recycling resources and waste materials. Invoke employee's awareness of environment protection to improve and recover the nature habitat of our community

QMS certificate

IATF 16949

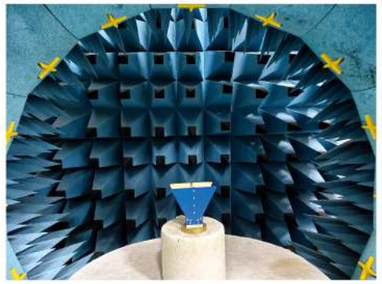
ISO 9001

ISO 14001

Our service

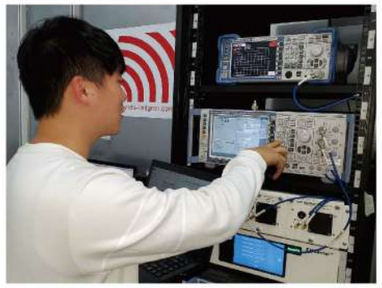
Antenna design techniques

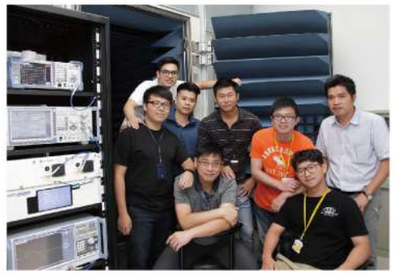
Cirocomm R&D engineers have average 5 year experience in antenna design. Experienced R&D team and antenna lab equipment OTA (over-the-air) chambers allow us to design a wide range frequency antennas with different materials to meet your need. Currently we have 3 OTA antenna labs in Taiwan and Mainland China. The Cirocomm OTA chambers support wide band range testing from 700MHz to 6GHz, which covers all common band for 4G LTE, 3G/2G, GSM, LPWA, GPS, Glonass, Beidou, Galileo , WiFi 2.4G/5G, BT/Zigbee, DSRC, RFID application nowadays.



Ceramic DR Filter design techniques

The Cirocomm 5GHz ceramic DR filters feature high out band rejection typically < -50dB, low insertion loss (2.0dB), high Q values, and excellent temperature coefficient which have been approved and widely used in the WiFi 5GHz router and repeater solutions by leading networking giants (Qualcomm, Broadcom, Intel, Marvell, Celeno and more). Our R&D team is experienced in ceramic DR filter design with software simulation, ceramic material control and design knowhow. We are also capable of processing ceramic powder raw materials by controlling our own formulas to shrink DR filter size with desired performance.





RF solution provider

We offer RF modules including NB-IoT module, active GPS antennas with LNA and external GNSS antenna solution to meet your need. Cirocomm RD team is also familiar with EMC regulations. We not only design and manufacture parts and components, but coordinating with you to resolve challenging RF problems.

Antenna lab & Over-the-air chamber

- ▲ Echoless Chamber for antenna Active and Passive Measurement.
- ▲ Network analyzer.
- ▲ Spectrum analyzer with 3D probe measurement.
- ▲ Thin and thick film equipment.
- ▲ GPS signal simulator.
- ▲ Noise figure analyzer.
- ▲ 1700 degree Celsius laboratory furnace.
- ▲ Powder press machine.
- ▲ Dielectric measurement meter.
- ▲ Particles distribution measurement.
- ▲ Antenna laser trim machine with auto measurement.

Table of content

05 Ceramic Dielectric Resonator (DR) Filter
- WiFi 5GHz DR filter
- WiFi 2.4GHz DR filter
- 5.9GHz DSRC DR filter
- GPS band DR filter
- 3.5 & 4.7GHz DR filter
- LTE band DR filter

12 Cellular 4G LTE Antenna

13 Cellular 3G / 2G LTE Antenna

15 Combo 2-in-1 LTE Antenna

16 SDARS Antenna
- 18mm, 20mm, 25mm Patch Pin Type
- 25mm Stacked antenna

17 GNSS: Passive Ceramic Patch Antenna
- 9, 10, 12mm Ceramic Patch Antenna Pin Type
- 13, 15mm Ceramic Patch Antenna Pin Type
- 18, 25mm Ceramic Patch Antenna Pin Type
- 35, 40mm Ceramic Patch Antenna Pin Type
- 47.5mm, 50mm Highly Precise GPS L1+L2, L1+L5 and GPS L1+L2+L5 Glonass G1+G2 / Beidou B1+B2 / Galileo E1+E5a+E5b Ceramic Patch Antenna
- 25mm, 35mm(4-pin) Stacked Patch Antenna
- Patch Antenna with PCB & cable
- Ceramic Chip SMD Antenna (PIFA)
- 12, 15, 18, 25mm Ceramic Patch SMD Antenna
- 18, 25mm Slim Patch SMD Antenna
- 10, 12, 15mm Slim Patch Antenna Pin Type
- 18, 25mm Slim Patch Antenna Pin Type

28 GNSS External Active Antenna
- External GPS Active Antenna
- External GPS L1+L5, L1+L2+L5 Active Antenna
- External GPS+Glonass Active Antenna
- External GPS+Glonass+Beidou Active Antenna
- External IRNSS Active Antenna

31 GNSS Internal Active Antenna
- Internal GPS Active Antenna
- Internal GPS L1+L5, GPS L1+L2+L5 Active Antenna
- Internal GPS+Glonass Active Antenna
- Internal GPS+Glonass+Beidou Active Antenna
- Internal GPS L1+L2+L5+Glonass G1+Beidou B1 Active Antenna

37 LPWAN Sub GHz (LTE-M, NB-IoT, LoRa, Sigfox, 802.11ah)

38 DSRC 5.9GHz Antenna & Drone Antenna

39 WiFi/Zigbee/Bluetooth Antenna
- 2.4GHz FPC/PCB Antenna & 2.4GHz External Antenna
- Ultra Wide-Band PCB Antenna/ DR filter
- 2.4GHz Ceramic Patch Antenna
- 2.4GHz Ceramic Chip SMD Antenna
- 2.4+5GHz Ceramic Chip SMD Antenna

45 RFID Ceramic patch antenna

46 NFC Antenna

Ceramic DR (Dielectric Resonator) Filters

Cirocomm provide high performance ceramic DR filters for WiFi 5GHz (IEEE 802.11ac, 802.11ax), 2.4GHz, GPS, LTE, 3.5GHz small cells, and more application. Cirocomm is capable of processing ceramic DR filters from ceramic powder raw materials to finished DR filters that not so many other suppliers have. With the ceramic material science and filter design techniques, our R&D team can engage in your design requirement at preliminary stage. We work closely with networking technology giants to build RF foundation for high speed wireless communications.

Comparison between different type filters:

Filter type	Ceramic DR filter	SAW filter	LTCC filter
Frequency Range	10MHz~100GHz	< 3GHz	10MHz~100GHz
Out-band Rejection	-50dB typical	-40dB typical	-30dB typical
Insertion Loss	Low	Low	Medium
Power Input	High	Medium	Medium
Q values	High	Medium	Medium

▶ WiFi 5GHz Ceramic DR filter (802.11ac, 802.11ax)

The J series 5GHz high performance ceramic DR filters which feature < -50dB out band rejection and low insertion loss have been approved and qualified by the leading chipset giants including Qualcomm, Broadcom, Intel, and Celeno in WiFi 5GHz triband solution (IEEE 802.11ac). Contact us for a customized DR filter solution.

J5235C / Ceramic DR filter

Electrical data	
Center Frequency	5235MHz
Pass Band Width	5150~5330MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 5490~5850MHz)	50 dB Min.

Mechanical data	
Dimension	8.6 x 4.05 x 3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

* QUALCOMM Celeno

J5697C / Ceramic DR filter

Electrical data	
Center Frequency	5697MHz
Pass Band Width	5490~5850MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 5150~5330MHz)	50 dB Min.

Mechanical data	
Dimension	8.6 x 3.45 x 3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

* QUALCOMM Celeno

J5245C / Ceramic DR filter

Electrical data	
Center Frequency	5245MHz
Pass Band Width	5150~5340MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 5480~5850MHz)	35 dB Min.

Mechanical data	
Dimension	8.46 x 4.05 x 3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

* BROADCOM.

J5665C / Ceramic DR filter

Electrical data	
Center Frequency	5665MHz
Pass Band Width	5480~5850MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 5150~5340MHz)	38 dB Min.

Mechanical data	
Dimension	8.46 x 3.45 x 3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

* BROADCOM.

J5500A / Ceramic DR filter

Electrical data	
Center Frequency	5500MHz
Pass Band Width	5105~5850MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 6100~7235MHz)	30 dB Min.

Mechanical data	
Dimension	4.2 x 2.77 x 1.7mm
Mounting	SMT
Operation Temp.	-40 ~ +105℃

J6667A / Ceramic DR filter

Electrical data	
Center Frequency	6667MHz
Pass Band Width	6100~7235MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 5150~5850MHz)	30 dB Min

Mechanical data	
Dimension	4.2 x 2.28 x 1.7mm
Mounting	SMT
Operation Temp.	-40 ~ +105℃

J5250N / Ceramic DR filter

Electrical data	
Center Frequency	5250MHz
Pass Band Width	5170~5330MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 5490~5935MHz)	40 dB Min.

Mechanical data	
Dimension	8.46 x 4.05 x 3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

* intel

J5710 / Ceramic DR filter

Electrical data	
Center Frequency	5710MHz
Pass Band Width	5490~5935MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 5170~5330MHz)	40 dB Min.

Mechanical data	
Dimension	8.46 x 3.45 x 3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

* intel

Remarks : * Is the registered trademark of Qualcomm Inc. Broadcom Inc. and Intel Inc.

▶ WiFi 2.4GHz Ceramic DR Filter

Cirocomm provide 2.4GHz ceramic DR filters to meet your need aside from WiFi 5GHz triband application. Ceramic DR filter features low insertion loss, high power input, excellent temperature coefficient and high Q values. Contact us for further information or a customized 2.4GHz ceramic DR filter solution.

J2442F / Ceramic DR filter

Electrical data	
Center Frequency	2442MHz
Pass Band Width	±42MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 2580~2625MHz)	50 dB Min.

Mechanical data	
Dimension	15.9 x 6.9 x 4.3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J2414 / Ceramic DR filter

Electrical data	
Center Frequency	2414MHz
Pass Band Width	±13MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	3.0 dB Max.
Stop Band attenuation (at 2452~2472MHz)	38 dB Min.

Mechanical data	
Dimension	15.9 x 6.98 x 4.4mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J2480B / Ceramic DR filter

Electrical data	
Center Frequency	2480MHz
Pass Band Width	±1MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 2402~2447MHz)	38 dB Min.

Mechanical data	
Dimension	15.9 x 6.85 x 4.4mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J2424 / Ceramic DR filter

Electrical data	
Center Frequency	2424MHz
Pass Band Width	±22MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	3.0 dB Max.
Stop Band attenuation (at 2479~2481MHz)	30 dB Min.

Mechanical data	
Dimension	15.9 x 6.8 x 4.4mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J2480B / Ceramic DR filter

Electrical data	
Center Frequency	2480MHz
Pass Band Width	±1MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 2402~2447MHz)	38 dB Min.

Mechanical data	
Dimension	15.9 x 6.85 x 4.4mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

▶ 5.9GHz DSRC Ceramic DR Filter

DSRC (Dedicated short range communication) for vehicle-to-vehicle wire communication typically works at 5850~5925MHz band (IEEE 802.11p) to improve driving safety. Cirocomm provide 5925MHz ceramic DR filters with high out band rejection, low insertion loss, and high power input to meet the automotive electronic standard. Contact us for further information or a customized DSRC (V2V) ceramic DR filter solution.

J5825H / Ceramic DR filter

Electrical data	
Center Frequency	5825MHz
Pass Band Width	5725~5925MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	1.5 dB Max.
Stop Band attenuation (at 4995MHz)	37 dB Min.

Mechanical data	
Dimension	8.6 x 3.35 x 2.9mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J5825G / Ceramic DR filter

Electrical data	
Center Frequency	5825MHz
Pass Band Width	±50MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 5150~5425MHz)	50 dB Min.

Mechanical data	
Dimension	8.05 x 3.35 x 3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

▶ GPS band Ceramic DR Filter

Cirocomm provide GPS L1 1575.42MHz and L2 1227MHz ceramic DR filters with high out band rejection, low insertion loss, and high power input to meet both consuming and automotive electronic standard. Contact us for further information or a customized GPS L1, L2, L5 ceramic DR filter solution.

J1575E / Ceramic DR filter GPS L1

Electrical data	
Center Frequency	1575MHz
Pass Band Width	±1.5MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	0.9 dB Max.
Stop Band attenuation (at 900MHz)	30 dB Typ.

Mechanical data	
Dimension	5.1*3.7*1.8mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J1223 / Ceramic DR filter GPS L2

Electrical data	
Center Frequency	1223MHz
Pass Band Width	±25MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 1087MHz)	35 dB Typ.

Mechanical data	
Dimension	6.6 x 6.05 x 2.05mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J1210A / Ceramic DR filter GPS

Electrical data	
Center Frequency	1210MHz
Pass Band Width	±50MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	1.2 dB Max.
Stop Band attenuation (at 1000MHz)	30 dB typ.

Mechanical data	
Dimension	8.4 x 5.4 x 2.8mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

▶ Sub 6GHz - 3.5 & 4.7GHz Ceramic DR Filter

LTE 4.5th Generation & 5th Generation ceramic DR filter series

The developing 5th generation mobile communications integrate small cell networking technology to carry out higher coverage rate with high speed data transmitting and receiving service. Cirocomm provide 3.5GHz ceramic DR filters for those small cell stations with high out-band rejection, low insertion loss, high power input and excellent temperature coefficient. Find more product detail below:

2500MHz Ceramic DR Filter

J 2587C / Ceramic DR filter

Electrical data	
Center Frequency	2587.5MHz
Pass Band Width	±105MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 2400~2447MHz)	38 dB Typ.

Mechanical data	
Dimension	15.9 x 6.9 x 4.3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

3500MHz Ceramic DR Filter

J3450 / Ceramic DR filter

Electrical data	
Center Frequency	3450MHz
Pass Band Width	±50MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 2700~3337MHz) (at 3552~5000MHz)	27 dB typ. 20dB typ.

Mechanical data	
Dimension	15.9 x 6.2 x 4.4mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J3550 / Ceramic DR filter

Electrical data	
Center Frequency	3550MHz
Pass Band Width	±50MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 2700~3437MHz) (at 3652~5000MHz)	27 dB typ. 20dB typ.

Mechanical data	
Dimension	15.9 x 6.2 x 4.4mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J3700G / Ceramic DR filter

Electrical data	
Center Frequency	3700MHz
Pass Band Width	±100MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 3520, 3880MHz)	8 dB Typ.

Mechanical data	
Dimension	3.6 x 4.16 x 1.85mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

4700MHz Ceramic DR Filter

J4700 / Ceramic DR filter

Electrical data	
Center Frequency	4700MHz
Pass Band Width	±300MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	1.6 dB Max.
Stop Band attenuation (at 3200MHz)	30 dB Min.

Mechanical data	
Dimension	2.85 x 2.95 x 1.6mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J4880 / Ceramic DR filter

Electrical data	
Center Frequency	4880MHz
Pass Band Width	±80MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 4530MHz) (at 5040MHz)	50 dB Min. 50 dB Min

Mechanical data	
Dimension	8.56 x 4.4 x 2.85mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

▶ LTE band Ceramic DR Filter

Cirocomm provide a variety of ceramic DR filters for LTE band application from 700MHz to 2700MHz. Contact us for further information or a customized LTE band ceramic DR filter solution.

J713 / Ceramic DR filter

Electrical data	
Center Frequency	713MHz
Pass Band Width	±3MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	3.0 dB Max.
Stop Band attenuation (at 740~746MHz)	48 dB Typ.

Mechanical data	
Dimension	11.4 x 10.8 x 4.4mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J915 / Ceramic DR filter

Electrical data	
Center Frequency	915MHz
Pass Band Width	±13MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 850MHz)	30 dB Typ.

Mechanical data	
Dimension	11.4 x 8.95 x 4.33mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J1031 / Ceramic DR filter

Electrical data	
Center Frequency	1031MHz
Pass Band Width	±30MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	3.0 dB Max.
Stop Band attenuation (at 920MHz)	30 dB Typ.

Mechanical data	
Dimension	11.3 x 7.9 x 4.3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

LP1190 / Ceramic DR filter

Electrical data	
Center Frequency	1190MHz
Pass Band Width	±240MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	3.0 dB Max.
Stop Band attenuation (at 1500MHz)	25 dB Typ.

Mechanical data	
Dimension	5.8 x 5.06 x 2.85mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

LP1325 / Ceramic DR filter

Electrical data	
Center Frequency	1325MHz
Pass Band Width	±375MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	1.5 dB Max.
Stop Band attenuation (at 1740MHz)	17 dB Typ.

Mechanical data	
Dimension	5.8 x 4.35 x 2.85mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

HP1822 / Ceramic DR filter

Electrical data	
Center Frequency	1822MHz
Pass Band Width	±382MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 1434MHz)	20 dB Typ.

Mechanical data	
Dimension	5.63 x 5.58 x 2.85mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J1945 / Ceramic DR filter

Electrical data	
Center Frequency	1945MHz
Pass Band Width	±205MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 1700MHz)	17 dB Typ.

Mechanical data	
Dimension	5.6 x 5.07 x 2.85mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J1970 / Ceramic DR filter

Electrical data	
Center Frequency	1970MHz
Pass Band Width	±20MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	3.5 dB Max.
Stop Band attenuation (at 1870~1910MHz)	20 dB Typ.

Mechanical data	
Dimension	11.4 x 6.4 x 4.2mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J2176 / Ceramic DR filter

Electrical data	
Center Frequency	2176MHz
Pass Band Width	±6MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 2076MHz)	36 dB Typ.

Mechanical data	
Dimension	12.0 x 8.0 x 4.6mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J2587C / Ceramic DR filter

Electrical data	
Center Frequency	2587.5MHz
Pass Band Width	±105MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 2400~2447MHz)	38 dB Typ.

Mechanical data	
Dimension	15.9 x 6.9 x 4.3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

J2600E / Ceramic DR filter

Electrical data	
Center Frequency	2600MHz
Pass Band Width	±100MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 3390~4000MHz)	45 dB Typ.

Mechanical data	
Dimension	15.9 x 6.5 x 4.3mm
Mounting	SMT
Operation Temp.	-40 ~ +85℃

Cirocomm cellular 4G LTE antennas cover a broad band range of 700~960MHz, 1710~2170MHz, and 2500~2700MHz for all common 4G/3G/2G LTE application. The ceramic chip SMD antenna is designed for direct SMT mount on the PCB which is easily integrated into wireless communication devices. It saves on labor, cable and connector costs. The 4G LTE antennas can be widely used in medical devices, telematics control units, video & voice routers, internet of things (IoT), intelligent transport systems, smart sensors, wireless M2M control devices i.e. which request 4G LTE high-speed wireless data transmission. Please follow the PCB layout recommendation in the datasheet to properly use the antenna with desired performance.

▶ Ceramic Chip SMD Antenna

DPAN0S07 / 4G LTE / Ceramic Chip

Cirocomm ceramic 4G LTE antenna is a SMT mount and durable part which can be integrated in to wireless device which saves on labor, cable, and connector costs. The antennas have high performance on all common LTE band, prefer to be mounted on the edge of the PCB.

Electrical data	
Working Freq.	700~960MHz 1710~2170MHz 2500~2700MHz
VSWR	4.5 Max.
Efficiency	>55% @ 700MHz >70% @ 1710MHz >50% @ 2500MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	37 x 5 x 5mm
Mounting	SMT
Clearance Area	45 x 13mm
Ground Plate	45 x 107mm
Operation Temp.	-40 ~ +85℃

▶ Print Chip SMD Antenna

FHAN0S00 / 4G LTE / PCB FR4

We provide the Print Chip SMD antenna to meet those requirement at lower cost and clean device environment.

Electrical data	
Working Freq.	700~960MHz 1710~2170MHz 2500~2700MHz
VSWR	4.0 Max.
Efficiency	>36% @ 700MHz >70% @ 1710MHz >65% @ 2500MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	40 x 8 x 3.2mm
Mounting	SMT
Clearance Area	45 x 15mm
Ground Plate	45 x 105mm
Operation Temp.	-40 ~ +85℃

▶ FPC Antenna

EHA8AI00 / 4G LTE / FPC

Electrical data	
Working Freq.	700~960MHz 1710~2170MHz 2500~2700MHz
VSWR	4.0 Max.
Efficiency	>55% @ 700MHz >70% @ 1710MHz >70% @ 2500MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	120 x 30 x 0.15mm
Cable	130mm RF Coaxial Ø 1.13mm
Connector	I-PEX (F)
Operation Temp.	-40 ~ +85℃

▶ Customized Antenna

Customized 4G LTE Antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized 4G LTE antenna to meet your need. Antenna material can be FPC, PCB, and metal etc. Contact us for a customized antenna solution.
(Example of FPC material antenna)

Cellular 3G/2G Antenna

Cirocomm cellular 3G/2G antennas cover a broad band range of 824~960MHz, and 1710~2170Mhz. It can be widely used in medical devices, telematics control units, video & voice routers, internet of things (IoT), intelligent transport systems, smart sensors, wireless M2M control devices i.e. which request high speed wireless communications.

▶ Ceramic Chip SMD Antenna

DPAF0S00 / SMD / Ceramic Chip

Cirocomm ceramic 3G antenna is a SMT mount and durable part which can be integrated in to wireless device which saves on labor, cable, and connector costs. The antennas have high performance on all common 3G/2G band, prefer to be mounted on the edge of the PCB.

Electrical data	
Working Freq.	824~960MHz 1710~2170MHz
VSWR	3.0 Max.
Efficiency	55% @ 824MHz 60% @ 1710MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	30 x 5 x 5mm
Mounting	SMT
Clearance Area	40 x 13mm
Ground Plate	40 x 107mm
Operation Temp.	-40 ~ +105℃

DPA 900A / SMD / Ceramic Chip

Electrical data	
Working Freq.	880~960MHz 1710~1990MHz
VSWR	2.5 Max.
Efficiency	35% @ 915MHz 60% @ 1710MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	29.8 x 6 x 5mm
Mounting	SMT
Clearance Area	35 x 10mm
Ground Plate	35 x 105mm
Operation Temp.	-40 ~ +105℃

▶ Print Chip SMD Antenna

DPA 900B / SMD / PCB FR4

We provide the Print Chip SMD antenna to meet those requirement at lower cost and clean device environment.

Electrical data	
Working Freq.	824~960MHz 1710~2170MHz
VSWR	3.0 Max.
Efficiency	25% @ 915MHz 50% @ 1880MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	31 x 6 x 3.3mm
Mounting	SMT
Clearance Area	32 x 10mm
Ground Plate	32 x 110mm
Operation Temp.	-40 ~ +105℃

▶ Customized Antenna

Customized 3G/2G Antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized 3G/2G antenna to meet your need. Antenna material can be FPC, PCB, and metal etc. Contact us for a customized antenna solution.
(Example of FPC material antenna)

Cirocomm cellular 3G/2G antennas cover a broad band range of 824~960MHz, and 1710~2170Mhz. It can be widely used in medical devices, telematics control units, video & voice routers, internet of things (IoT), intelligent transport systems, smart sensors, wireless M2M control devices i.e. which request high speed wireless communications.

▶ FPC/PCB Antenna

EPAF0I15 / 3G / FPC

Electrical data	
Working Freq.	824~960MHz 1710~2170MHz
VSWR	3.5 Max.
Efficiency	>30% @ 915MHz >50% @ 1880MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	70 x 20 x 0.15mm
Cable	125mm RF Coaxial Ø 1.13mm
Connector	I-PEX (F)
Operation Temp.	-30 ~ +80℃

FPAF0I00 / PCB

Electrical data	
Working Freq.	824~960MHz 1710~2170MHz
VSWR	3.5 Max.
Efficiency	>30% @ 915MHz >50% @ 1880MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	79.8 x 18 x 0.5mm
Cable	300mm RF Coaxial Ø 1.13mm
Connector	I-PEX (F)
Operation Temp.	-30 ~ +80℃

▶ External 3G/2G Antenna

EPBAAA00 / 3G / 2G / External

Electrical data	
Working Freq.	824~960MHz 1710~2170MHz
VSWR	3.5 Max.
Efficiency	>30% @ 915MHz >50% @ 1880MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	107 x 14.7 x 5.8mm
Cable	1M RG174
Connector	SMA (M)
Operation Temp.	-30 ~ +80℃

▶ Customized Antenna

Customized 3G/2G Antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized 3G/2G antenna to meet your need. Antenna material can be FPC, PCB, and metal etc. Contact us for a customized antenna solution.
(Example of metal material antenna)

Combo 2-in-1 Antenna

Cirocomm focus on antenna solution by providing the one-stop solutions. Check the typical combo 2-in-1 antenna detail below to take a glance at our original design techniques.

External LTE + GPS + WiFi Combo Antenna

The external combo antenna integrates GPS, LTE, and WiFi 2.4GHz band in a single antenna (3-in-1). Please note that cable length and connector can be changed based on your requirement.

GGWA-501 / LTE + GPS + WiFi

Electrical data	
Working Freq.	1575.42MHz 700~960MHz 1710~2170MHz 2400~2500MHz 5150~5825MHz
VSWR	2.0 Max. @ GPS 3.6 Max. @ GSM 2.5 Max. @ WiFi
Peak Gain	3.5 dBi @ GPS 2.16 dBi @ GSM 0.46 dB @ WiFi
LNA Gain	30 dB Typ.
Efficiency	>60% @ 700~960MH >50% @ 1710~2170MHz >40% @ 2400~2500MHz
Polarization	RHCP @ GPS Linear @ GSM, WiFi
Impedance	50Ω

Mechanical data	
Dimension	200 x 66.5 x 9mm
Mounting	Adhesive
Cable	3M RG174 for GPS 3M CFD200 for GSM, WiFi
Connector	SMA (M)
Water Proof	IP67
Operation Temp.	-30 ~ +85℃

2.4GHz + Sub 1GHz Ceramic Chip SMD Antenna

Internet of things (IoT) technology nowadays is booming a huge requirement for LAN and LPWA antennas. Cirocomm just announced a new combo 2-in-1 antenna covering both Sub 1 GHz and 2.4GHz to meet your need.

DPAF0S01 / Ceramic Chip

Electrical data	
Working Freq.	824~960MHz 2400~2500MHz
Return Loss	-9dB @ 824MHz -7dB @ 2450MHz
VSWR	3.5 Max. @ 824MHz 3 Max. @ 2450MHz
Peak Gain	0.8dBi @ 824MHz 2.2dBi @ 2450MHz
Efficiency	>50% @ 824~960MH >40% @ 2.4GHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	30 x 5 x 5mm
Mounting	SMT
Clearance Area	40 x 13mm
Ground Plate	40 x 107mm
Operation Temp.	-40 ~ +85℃

2.4GHz + GPS chip SMD Antenna

The miniature chip antenna features both 2.4GHz and GPS 1575.42MHz frequency in a single antenna product. Please check the PCB layout instruction and matching circuit in the datasheet to obtain desired performance.

DCAH0000 / Chip

Electrical data	
Working Freq.	1575.42MHz 2.4MHz
Return Loss	< -10dB
VSWR	2.0 Max. @ 2.4GHz 2.0 Max. @ GPS
Peak Gain	1.0 dBi @ 2.4GHz 0 dBi @ GPS
Efficiency	>65% @ 2.4GHz >55% @ GPS
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	3.05 x 1.6 x 0.55mm
Mounting	SMT
Clearance Area	8.5 x 6.7mm
Ground Plate	40 x 120mm
Operation Temp.	-40 ~ +85℃

Remarks : * The performance of antenna is affected by your device environment. It is strongly recommended to tune the antenna frequency with your device housings in our antenna lab to get desired performance.

SDARS Antenna

18mm, 20mm, 25mm Patch Pin Type

For Satellite Digital Audio Radio Service (SDARS), Cirocomm provide different SDARS antennas to snatch the market, frequency from 2320MHz~2345MHz. It covers wider area than traditional radio. It is now widely used in the U.S. market.

18mm Ceramic Patch Antenna

PA018DC0002 / SDARS

Electrical data	
Working Freq.	2320~2345MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	2320MHz: +6.3 dBic Typ. 2345MHz: +5.1 dBic Typ.
Axial Ratio	3 Typ.
Polarization	LHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	150 x 150mm
Operation Temp.	-40 ~ +105℃

25mm Ceramic Patch Antenna

PA025TC0000 / SDARS

Electrical data	
Working Freq.	2320~2345MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+3.8 dBic Typ.
Axial Ratio	3 Typ.
Polarization	LHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 4mm
Pin	Ø 0.9 ±0.05mm
Ground Plate	40.25 x 86.41mm
Operation Temp.	-40 ~ +105℃

25mm Stacked Antenna

PA025A6D000 / SDARS+L1

Electrical data	
Working Freq.	2320~2345MHz 1575.42MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	GPS L1: +2.0 dBic Typ. 2320MHz: +6.0 dBic Typ. 2345MHz: +5.2 dBic Typ.
Axial Ratio	3 Typ.
Polarization	GPS L1: RHCP SDARS: LHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 8mm
Pin	Ø 0.9±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

9mm, 10mm, 12mm Ceramic Patch Antenna Pin Type

Cirocomm provide two kinds of GNSS passive Ceramic Patch antennas: (1) circularly polarized patch antenna, and (2) linearly polarized one. The patch antenna has much higher efficiency in receiving satellite signal as it features Right Hand Circularly Polarized (RHCP), though it must be pointed towards satellites. The linearly polarized antenna has advantage in smaller size and omnidirectional operation.

9mm Ceramic Patch Antenna

PA009BA0001 / GPS
PA009B20000 / GPS+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	-4.5 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	9 x 9 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	58 x 53mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	9 x 9 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	43 x 47mm
Operation Temp.	-40 ~ +85℃

10mm Ceramic Patch Antenna

PA010DA0000 / GPS
PA010DQ0000 / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	-3.5 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	10 x 10 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	54 x 46mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	10 x 10 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	69 x 74mm
Operation Temp.	-40 ~ +85℃

12mm Ceramic Patch Antenna

PA012HA0000 / GPS
PA012HQ0000 / GPS+Glonass
PA012H20000 / GPS+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	-3.0 dBic Typ.
Axial Ratio	5 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	68 x 70mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	54 x 43mm
Operation Temp.	-40 ~ +85℃

13mm, 15mm Ceramic Patch Antenna Pin Type

RHCP GNSS patch antennas are available in 13, 15mm size. The larger patch size, the higher performance. Moreover, 15mm and larger size patch antennas feature broad bandwidth to cover all GPS, Glonass and Beidou band in a single antenna.

13mm Ceramic Patch Antenna

PA013CA0000 / GPS
PA013C20000 / GPS+Glonass
PA013C20000 / GPS+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	-1.5 dBic Typ.
Axial Ratio	5 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	13 x 13 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	68 x 70mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	13 x 13 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	13 x 13 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	54 x 43mm
Operation Temp.	-40 ~ +85℃

15mm Ceramic Patch Antenna

PA015BA0002 / GPS
PA015BQ0000 / GPS+Glonass
PA015B20000 / GPS+Beido
PA015BZ0000 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	-1.0 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	15 x 15 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	15 x 15 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	15 x 15 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	54 x 43mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602 MHz 1561.098 MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	15 x 15 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	79 x 45mm
Operation Temp.	-40 ~ +85℃

Remarks : * We suggest tune the antenna frequency with your device housings to get desired performance.

18, 25mm Ceramic Patch Antenna Pin Type

Embedded ceramic patch antenna Pin type in regular size 18, 25mm available for GPS, Glonass, and Beidou band.

18mm Ceramic Patch Antenna

PA018BA0049 / GPS
PA018BQ0000 / GPS+Glonass
PA018C20000 / GPS+Beidou
PA018CZ0002 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+2.5 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	54 x 43mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602 MHz 1561.098 MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	79 x 45mm
Operation Temp.	-40 ~ +85℃

25mm Ceramic Patch Antenna

PA025AA0096 / GPS
PA025AQ0015 / GPS+Glonass
PA025B20000 / GPS+Beidou
PA025AZ0009 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+3 .5 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	98 x 76mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602 MHz 1561.098 MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	75 x 65mm
Operation Temp.	-40 ~ +85℃

35, 40mm Ceramic Patch Antenna Pin Type

Embedded ceramic patch antenna in superior size 35mm, 40mm for highly precise positioning application.

35mm Ceramic Patch Antenna

PA035AA0001 / GPS
PA035AQ0004 / GPS+Glonass
PA035FZ0000 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+3.5 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	35 x 35 x 3mm
Pin	Ø 0.9±0.05mm
Ground Plate	99 x 70mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

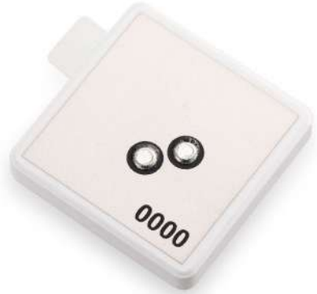
Mechanical data	
Dimension	35 x 35 x 3mm
Pin	Ø 0.9±0.05mm
Ground Plate	71 x 54mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602 MHz 1561.098 MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	35 x 35 x 6mm
Pin	Ø 0.9±0.05mm
Ground Plate	67 x 55mm
Operation Temp.	-40 ~ +85℃

Highly Precise Positioning Antenna (2 feed pins)

PA035GZ0002 / GPS+Glonass+Beidou



Electrical data	
Working Freq.	1575.42MHz 1602 MHz 1561.098 MHz
Return Loss	< -10dB
VSWR	2.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	35 x 35 x 6mm
Pin	Ø 0.9±0.05mm
Ground Plate	60 x 60mm
Operation Temp.	-40 ~ +85℃

40mm Ceramic Patch Antenna

PA040AU0000 / GPS+Iridium
PA040DB0000 / GPS L2

Electrical data	
Working Freq.	1575.42MHz 1616MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+3.0 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	40 x 40 x 6.5mm
Pin	Ø 0.9±0.05mm
Ground Plate	79 x 76mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1227.6MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	-2.0 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	40 x 40 x 6.5mm
Pin	Ø 0.9±0.05mm
Ground Plate	70 x 78mm
Operation Temp.	-40 ~ +85℃

Remarks : * We suggest tune the antenna frequency with your device housings to get desired performance.

Highly Precise GPS L1+L2, L1+L5, and GPS L1+L2+L5 / Glonass G1+G2/ Beidou B1+B2 / Galileo E1+E5a+E5b Antenna

Cirocomm have the cutting edge technology to make 50mm, 47.5mm, 35mm, 25mm patch stacked in one single antenna with 2 feed pins to covering GPS L1+L2, L1+L5 and GPS L1+L2+L5/ Glonass G1+G2/ Beidou B1+B2/ Galileo E1+E5a+E5b .

50mm Stacked Ceramic Patch Antenna

PAA50A6D000 / GPS L1+L2+L5 / Glonass G1+G2 Beidou B1+B2 / Galileo E1+E5a+E5b

Electrical data	
Working Freq.	1575.42 MHz 1226.60 MHz 1176.42 MHz
Return Loss	< -10dB
VSWR	2.5 Max.(with coupler)
Gain at Zenith	L1: +4.0 dBic L2: +0.1 dBic L5: +5.0 dBic
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	50 x 50 x 10mm
Pin	Ø0.8±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

* For more information, please contact us for datasheet

47.5mm Stacked Ceramic Patch Antenna

PA050BSD004 / GPS L1+L2 (with Hybrid)
PA050B6D000 / GPS L1+L5 (with Hybrid)

Electrical data	
Working Freq.	1575.42MHz 1226.60MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain at Zenith	L1: +4.0 dBic Typ. L2: +1.0 dBic Typ.
Polarization	RHCP (with Hybrid)
Impedance	50 Ω

Mechanical data	
Dimension	47.5 x 47.5 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1176.42MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain at Zenith	L1: +4.0 dBic Typ. L5: +1.0 dBic Typ.
Polarization	RHCP (with Hybrid)
Impedance	50 Ω

Mechanical data	
Dimension	47.5 x 47.5 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +85℃

35mm Stacked Ceramic Patch Antenna (4 feed pins)

PA035K6D000 / GPS L1+L5
PA035K6D001 / GPS L1+L5+Glonass
PA035K6D002 / GPS L1+L5+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz 1176.42MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain at Zenith	L1: +0.5 dBic Typ. L5: +1.5 dBic Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	35 x 35 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

Electrical data	
Working Freq.	1575.42MHz 1176.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	L1: +0 dBic Typ. L5: +0.5 dBic Typ. Glonass: 1.5 dBic Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	35 x 35 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

Electrical data	
Working Freq.	1575.42MHz 1176.42MHz 1602MHz 1561.098MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	L1: -0.5 dBic Typ. L5: +1.5 dBic Typ. Glonass: -1.5 dBic Typ. Beidou: -0.5 dBic Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	35 x 35 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

25mm Stacked Ceramic Patch Antenna

PA025ZSD000 / GPS L1+L2
PA025Z6D000 / GPS L1+L5
PA025Z6D009 / GPS L1+L2+L5+Glonass G1
PA025Z6D010 / GPS L1+L2+L5+Beidou B1

Electrical data	
Working Freq.	1575.42MHz 1226.60MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	L1: +1.8 dBic Typ. L2: +1.0 dBic Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 8mm
Pin	Ø0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

Electrical data	
Working Freq.	1575.42MHz 1176.42MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	L1: +1.5 dBic Typ. L5: +0.5 dBic Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1226.60MHz 1176.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	L1: +0.8 dBic Typ. L2: +2.3 dBic Typ. L5: +0.4 dBic Typ. G1: +2.9 dBic Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

Electrical data	
Working Freq.	1575.42MHz 1226.60MHz 1176.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	L1: +0.9 dBic Typ. L2: +2.5 dBic Typ. L5: +0.6 dBic Typ. B1: +2.7 dBic Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 8mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +105℃

Ceramic Patch Antenna with PCB & cable

In some occasions, the patch antenna may work independently outside the main board due to limited space. Choose the following patch antennas with PCB and cable assembled for those specific requirement.

PA012HAPI00 / GPS

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
PCB Size	13.4 x 12 x 0.5mm
Cable	30mm Ø 0.81mm
Connector	I-PEX
Operation Temp.	-40 ~ +85℃

PA018CAPI01 / GPS

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
PCB Size	18 x 18.5 x 0.8mm
Cable	70mm Ø 1.13mm
Connector	I-PEX
Operation Temp.	-40 ~ +85℃

Ceramic Chip SMD Antenna (PIFA)

The ceramic PIFA antenna works in a different way from the patch antenna with linear polarized radiation pattern. It features omni-directional operation which fits in either a rotating device during operation, or a device with clean environment that a lower cost GPS antenna is required. They can be used in extreme environments. For example, tower-top monitoring devices, sport trackers, wearable devices and portable devices i.e.

DPAG0003 / GPS / Ceramic

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	2.0 Max
Peak Gain	-1.0 dBi Typ.
Efficiency	>53%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	20 x 3.5 x 2mm
Mounting	SMT
Clearance Area	17 x 6.5mm
Ground Plate	50 x 100mm
Operation Temp.	-40 ~ +85℃

PA166AA0000 / GPS / Ceramic

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max
Gain at Zenith	-1.0 dBi Typ.
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	16 x 6 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	70 x 11mm
Operation Temp.	-40 ~ +85℃

DPA1575A / GPS+Glonass / Ceramic

Electrical data	
Working Freq.	1575.42MHz 1602MHz
VSWR	2.0 Max
Peak Gain	+1.5 dBi Typ.
Efficiency	>68%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	10 x 4 x 3mm
Mounting	SMT
Clearance Area	11 x 6mm
Ground Plate	50 x 100mm
Operation Temp.	-40 ~ +85℃

DCAG0003 / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz 1602MHz
VSWR	3.5 Max
Peak Gain	+1.0 dBi Typ.
Efficiency	>70%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	5 x 2.5 x 0.55mm
Mounting	SMT
Clearance Area	8 x 4.65mm
Ground Plate	50 x 100mm
Operation Temp.	-40 ~ +85℃

DCA70S01 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098 MHz
VSWR	2.0 Max
Peak Gain	+1.81 dBi Typ.
Efficiency	>65%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	3.05 x 1.6 x 0.55mm
Mounting	SMT
Clearance Area	5.9 x 5.5mm
Ground Plate	40 x 80mm
Operation Temp.	-40 ~ +85℃

Customized antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized GNSS antenna to meet your need. Antenna material can be FPC, PCB, metal etc. Contact us for a customized antenna solution.
(Example of FPC material antenna)

12, 15, 18, 25mm Ceramic Patch SMD Antenna

Cirocomm provide surface mount technology patch antenna in different size 12, 15, 18, 25mm covering GPS, GLonass and Iridium band for auto machine insertion.

12mm Ceramic Patch SMD Antenna

PA012LA0002 / GPS
PA012LQ0002 / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	+1.5 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Mounting	SMT
Ground Plate	60 x 45mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Mounting	SMT
Ground Plate	53 x 45mm
Operation Temp.	-40 ~ +85℃

15mm Ceramic Patch SMD Antenna

PA015FA0001 / GPS
PA015FQ0002 / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	+0.5 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	15 x 15 x 4mm
Mounting	SMT
Ground Plate	55 x 55mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	15 x 15 x 4mm
Mounting	SMT
Ground Plate	72 x 75mm
Operation Temp.	-40 ~ +85℃

18mm Ceramic Patch SMD Antenna

PA018HA0000 / GPS
PA018HQ0002 / GPS+Glonass
PA018HO0000/ Iridium

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+2.5 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Mounting	SMT
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Mounting	SMT
Ground Plate	54 x 45mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1616MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Axial Ratio	4 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Mounting	SMT
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +105℃

Remarks : * We suggest tune the antenna frequency with your device housings to get desired performance.

25mm Ceramic Patch SMD Antenna

PA025JA0000 / GPS
PA025JQ0007 / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+2.5 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Mounting	SMT
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 4mm
Mounting	SMT
Ground Plate	54 x 45mm
Operation Temp.	-40 ~ +85℃

▶ 18, 25mm Slim Patch SMD Antenna

The slim patch SMD antennas are available in 18mm, 25mm. With larger size but slim thickness, it can be easily integrated into a device with limited space. Bandwidth covers both GPS and Glonass.

18mm Ceramic Slim Patch SMD Antenna

PA018IA0001 / GPS
PA018IQ0002 / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+1.0 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 2mm
Mounting	SMT
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 2mm
Mounting	SMT
Ground Plate	57 x 74mm
Operation Temp.	-40 ~ +85℃

25mm Ceramic Slim Patch SMD Antenna

PA025KA0000 / GPS
PA025KQ0002 / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+2.0 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 2mm
Mounting	SMT
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 2mm
Mounting	SMT
Ground Plate	60 x 50mm
Operation Temp.	-40 ~ +85℃

Remarks : * We suggest tune the antenna frequency with your device housings to get desired performance.

▶ 10mm, 12mm, 15mm Slim Patch Antenna Pin Type

Cirocomm provide the extra thin patch antennas for those need with smaller space in the devices. Try the slim patch in different size 10mm, 12mm, 15mm for devices with limited space.

10mm Ceramic Slim Patch Antenna

PA010BA0002 / GPS

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	-10.5 dBic Typ.
Axial Ratio	5 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	10 x 10 x 2mm
Pin	Ø 0.85±0.05mm
Ground Plate	30 x 41mm
Operation Temp.	-40 ~ +85℃

12mm Ceramic Slim Patch Antenna

PA012GA0000 / GPS

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Gain at Zenith	-1.7 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	75 x 53mm
Operation Temp.	-40 ~ +85℃

15mm Ceramic Slim Patch Antenna

PA015DA0000 / GPS

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	-2.0 dBic Typ.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	15 x 15 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	96 x 76mm
Operation Temp.	-40 ~ +85℃

Remarks : * We suggest tune the antenna frequency with your device housings to get desired performance.

GNSS: Passive Ceramic Patch Antenna

▶ 18mm, 25mm Slim Patch Antenna Pin Type

Cirocomm provide bigger size of slim patch GNSS antennas 18mm, 25mm to be easily integrated into a small device.

18mm Ceramic Patch Antenna

PA018EA0068 / GPS
PA018EQ0001 / GPS+Glonass
PA018E20001 / GPS+Beidou
PA018EZ0000 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+0.5 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	60 x 44mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602 MHz 1561.098 MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	18 x 18 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	51 x 52mm
Operation Temp.	-40 ~ +85℃

25mm Ceramic Patch Antenna

PA025CA0029 / GPS
PA025CQ0004 / GPS+Glonass
PA025C20000 / GPS+Beidou
PA025CZ0000 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+2.0 dBic Typ.
Axial Ratio	3 Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1561.098MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	57 x 46mm
Operation Temp.	-40 ~ +85℃

Electrical data	
Working Freq.	1575.42MHz 1602 MHz 1561.098 MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 2mm
Pin	Ø 0.9±0.05mm
Ground Plate	70 x 70mm
Operation Temp.	-40 ~ +85℃

GNSS: External Active Antenna

The external GNSS active antenna consisting of patch antenna and LNA inside the plastic housings supports GPS and Glonass band. For different requirement on cable length and connector, please contact us or our local distributors to have a customized solution.

▶ External GPS Active Antenna

GA-20I / GPS / Magnetic

Electrical data	
Working Freq.	1575.42MHz
Gain	26dB
Noise Figure	1.5 Max.
VSWR	2.0 Max.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.5~5.5V; Typ. 3V
Power Consump	13mA Typ. @ 3V 18mA Max. @ 5V

Mechanical data	
Dimension	35 x 32 x 9mm
Mounting	Magnetic Mount
Cable*	5M RG174
Connector*	SMA (M)
Water Proof	IP67
Operation Temp.	-30 ~ +80℃

GA-72AA / GPS / Magnetic

Electrical data	
Working Freq.	1575.42MHz
Gain	28dB
Noise Figure	1.6 Max.
VSWR	2.0 Max.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.5~5.5V; Typ. 3V
Power Consump	11mA Typ. @ 3V 15mA Max. @ 5V

Mechanical data	
Dimension	40 x 38 x 12mm
Mounting	Magnetic Mount
Cable*	5M RG174
Connector*	SMA 180°(M)
Water Proof	IP67
Operation Temp.	-30 ~ +80℃

▶ External GPS L1+L5, L1+L2+L5 Active Antenna

GLA-210 / GPS L1+L5 / Magnetic

Electrical data	
Working Freq.	1575.42MHz 1176MHz
Gain	29dB
Noise Figure	0.9 Max.
VSWR	2.0 Max.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	3~5V; Typ. 3V
Power Consump	10mA Typ. @ 3V 15mA Max. @ 5V

Mechanical data	
Dimension	40 x 38 x 16mm
Mounting	Magnetic Mount
Cable*	3M RG174
Connector*	SMA 180°(M)
Water Proof	IP67
Operation Temp.	-40 ~ +85℃

GLA-220 / GPS L1+L2+L5 / Magnetic

Electrical data	
Working Freq.	1575.42MHz 1227.6MHz 1176.42MHz
Gain	28dB
Noise Figure	1.3 Max.
VSWR	2.0 Max.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	3~5V; Typ. 3V
Power Consump	10mA Typ. @ 3V 15mA Max. @ 5V

Mechanical data	
Dimension	40 x 38 x 16mm
Mounting	Magnetic Mount
Cable*	3M RG174
Connector*	SMA 180°(M)
Water Proof	IP67
Operation temp.	-40 ~ +85℃

External GPS+Glonass Active Antenna

The external GNSS active antenna consisting of patch antenna and LNA inside the plastic housings supports both GPS and Glonass band. Cable length and connector can be changed as per request.

GNA-77C / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Gain	28dB
Noise Figure	1.6 Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.5~5.5V; Typ. 3V
Power Consump	13mA Typ. @ 3V 18mA Max. @ 5V

Mechanical data	
Dimension	40 x 37 x 12mm
Mounting	Magnetic Mount
Cable*	5M RG174
Connector*	SMA (M)
Water Proof	IP67
Operation Temp.	-30 ~ +80℃

GNA-103A / GPS+Glonass

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Gain	28dB
Noise Figure	1.6 Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.5~5.5V; Typ. 3V
Power Consump	13mA Typ. @ 3V 18mA Max. @ 5V

Mechanical data	
Dimension	40 x 38 x 12mm
Mounting	Magnetic Mount
Cable*	3M RG174
Connector*	SMA (M)
Water Proof	IP67
Operation Temp.	-30 ~ +80℃

Remarks : * Kindly note the cable length and connector can be changed based on your requirement.

External GPS+Glonass+Beidou Active Antenna

The external GNSS active antenna works with GPS, Glonass and Beidou band. Check out the 3-in-1 external active antenna solution to find out your requirement on cable length and connector.

GBNA-52A / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098MHz
Gain	20dB
Noise Figure	1.7 Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	1.8~5.5V; Typ. 3V
Power Consump	10mA Typ. @ 3V 23mA Max. @ 5.5V

Mechanical data	
Dimension	90 x 90 x 108mm
Mounting	Thread Mount
Cable*	1.5M RG58U
Connector*	N Type (M)
Operation Temp.	-30 ~ +80℃

GBNA-102 / GPS+Glonass+Beidou

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098MHz
Gain	28dB
Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	1.8~5.5V; Typ. 3V

Mechanical data	
Dimension	47 x 48.5 x 14mm
Mounting	N/A
Cable*	5M RG174
Connector*	SMA (M)
Operation Temp.	-30 ~ +80℃

External IRNSS Active Antenna

Cirocomm offer the external IRNSS active antennas. The IRNSS is the navigation satellite system built by INDIA, which is one of the power increasing and fast growing countries in the world.

IA-72D / IRNSS

Electrical data	
Working Freq.	1176.45MHz
Gain	28dB
Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Axial Ratio	3 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.5~5.0V; Typ. 3V
Power Consump	11mA Typ. 15mA Max. @ 3V

Mechanical data	
Dimension	38 x 40 x 42mm
Mounting	Magnetic
Cable*	3M RG174
Connector*	SMA (M)
Water Proof	IP67
Operation Temp.	-30 ~ +80℃

GLBNA-110 / GPS+Glonass+Beidou+IRNSS

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098MHz 1176.45MHz
Gain	28dB
Noise Figure	2.7 Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input voltage	2.5~5.5V; Typ. 3.3V
Power Consump.	20mA Typ. 40mA Max. @ 3V

Mechanical data	
Dimension	Ø82 x 28mm
Mounting	Magnetic
Cable*	3M RG174
Connector*	SMA 180˚(M)
Operation temp.	-40 ~ +85℃

GNSS: Internal Active Antenna

Cirocomm provide high gain internal GNSS active antennas solutions for you. Regular size is available at: 9*9mm, 10*10mm, 12*12mm, 15*15mm, 18*18mm, 25*25mm. The cable length and connector can be changed based on your requirement. Please contact us or our distributors to have a customized solution.

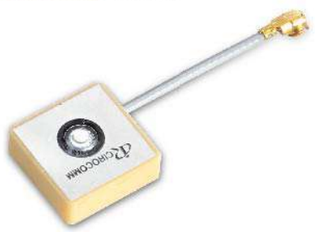
Internal GPS Active Antenna

GNHBA-A12 / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Antenna Gain	1575MHz: -7.5 dBic Typ. 1602MHz: -5.5 dBic Typ.
Axial Ratio	4 Max.
LNA Gain	25 dB Typ.
LNA Noise Figure	3.2 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V

Mechanical data	
Dimension	10 x 10 x 4mm
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GBA-B04A / 1 Stage



Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	-3.5 dBic Typ.
Axial Ratio	4 Max.
LNA Gain	15 dB Typ.
LNA Noise Figure	1.8 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	3mA Typ. 5mA Max. @ 3V

Mechanical data	
Dimension	9 x 9 x 6.2mm
Cable*	25mm RF coaxial Ø 0.8 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GBA-A09 / 2 Stage

Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	-3 dBic Typ.
Axial Ratio	4 Max.
LNA Gain	25 dB Typ.
LNA Noise Figure	1.8 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	10mA Typ. 13mA Max. @ 3V

Mechanical data	
Dimension	10 x 10 x 6.1mm
Cable*	50mm RF coaxial Ø 0.8 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GBA-936R / 1 Stage

Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	-1.5 dBic Typ.
Axial Ratio	4 Max.
LNA Gain	15 dB Typ.
LNA Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	3.5mA Typ. 5mA Max. @ 3V

Mechanical data	
Dimension	12 x 12 x 6.3mm
Cable*	30mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GBA-219 / 1 Stage

Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	-0.5 dBic Typ.
Axial Ratio	4 Max.
LNA Gain	15.5 dB Typ.
LNA Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	4.2mA Typ. 5mA Max. @ 3V

Mechanical data	
Dimension	15 x 15 x 6.8mm
Cable*	30mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

Remarks : * Kindly note the cable length and connector can be changed based on your requirement.

Internal GPS Active Antenna

The internal active patch antenna with circularly polarized radiation pattern features directional operation to be used in a navigation scenario, where the antenna always keep facing sky to receive satellite signals effectively. For different request of cable and connector, please contact us or our local distributors to have a customized solution.

GBA-708 / 1 Stage

Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	+0.5 dBic Typ.
Axial Ratio	4 Max.
LNA Gain	15 dB Typ.
LNA Noise Figure	1.8 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	13mA Typ. 15mA Max. @ 3V

Mechanical data	
Dimension	18 x 18 x 4.6mm
Cable*	30mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GBA-534 / 1 Stage

Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	+1.5 dBic Typ.
Axial Ratio	4 Max.
LNA Gain	15 dB Typ.
LNA Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	3.6mA Typ. 5mA Max. @ 3V

Mechanical data	
Dimension	21.4 x 18.4 x 6.8mm
Cable*	35mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GBA-803G / 2 Stage

Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	+2.0 dBic Typ.
Axial Ratio	3 Max.
LNA Gain	25 dB Typ.
LNA Noise Figure	1.8 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	8mA Typ. 11mA Max. @ 3V

Mechanical data	
Dimension	25.1 x 25.1 x 6.6mm
Cable*	120mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GBA-154C / 2 Stage

Electrical data	
Working Freq.	1575.42MHz
Antenna Gain	+5.0 dBic Typ.
Axial Ratio	3 Max.
LNA Gain	30 dB Typ.
LNA Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump.	15mA Typ. 25mA Max. @ 3V

Mechanical data	
Dimension	25.1 x 25.1 x 7.5mm
Cable*	50mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation temp.	-40 ~ +85℃
Relative humidity	10%~95%

Remarks : * Kindly note the cable length and connector can be changed based on your requirement.

▶ Internal GPS L1+L5, GPS L1+L2+L5Active Antenna

GLBA-210 / GPS L1+L5 / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1176.42MHz
Antenna Gain	-3.0 dBic Typ.
Axial Ratio	3 Max.
LNA Gain	29 dB Typ.
LNA Noise Figure	0.9 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	3~5V; Typ. 5V
Power Consump.	10mA Typ. 15mA Max. @ 5V

Mechanical data	
Dimension	25 x 25 x 4mm
Cable*	3m RG174 Ø 2.7 mm
Connector*	SMA 180 (M)
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

GLBA-220 / GPS L1+L2+L5 / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1227.6MHz 1176.42MHz
Antenna Gain	1575.42MHz: -1.5 dBi Typ 1227.6MHz: -1.5 dBi Typ 116.42MHz: -3 dBi Typ
Axial Ratio	3 Max.
LNA Gain	28 dB Typ.
LNA Noise Figure	1.3 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	3~5V; Typ. 5V
Power Consump.	10mA Typ. 15mA Max. @ 3.3V

Mechanical data	
Dimension	25 x 25 x 4mm
Cable*	100mm RG174 Ø1.13 mm
Connector*	I-PEX
Operation temp.	-40 ~ +85℃
Relative humidity	40%~95%

Remarks : * Kindly note the cable length and connector can be changed based on your requirement.

The internal active patch antenna with circularly polarized radiation pattern features directional operation to be used in a navigation scenario, where the antenna always keep facing sky to receive satellite signals effectively. For different request of cable and connector, please contact us or our local distributors to have a customized solution.

▶ Internal GPS+Glonass Active Antenna

GNBA-A15 / GPS+Glonass / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Antenna Gain	-7.5 dBic Typ.
LNA Gain	25 dB Typ.
LNA Noise Figure	1.4 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3
Power Consump.	10mA Typ. 13mA Max. @ 3V

Mechanical data	
Dimension	10 x 10 x 6mm
Cable*	25mm RF coaxial Ø 0.8 mm
Connector*	I-PEX III
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

GNBA-240 / GPS+Glonass / 1 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Antenna Gain	-6.5 dBic Typ.
LNA Gain	18 dB Typ.
LNA Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3
Power Consump.	4.2mA Typ. 5mA Max. @ 3V

Mechanical data	
Dimension	16 x 19 x 6.4mm
Cable*	227mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

GNBA-535A / GPS+Glonass / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Antenna Gain	+3.0 dBic Typ.
LNA Gain	30 dB Typ.
LNA Noise Figure	1.8 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	3~5V; Typ. 3V
Power Consump.	10mA Typ. 25mA Max.

Mechanical data	
Dimension	18 x 18 x 7.2mm
Cable*	45mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

GNBA-107T / GPS+Glonass / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Antenna Gain	-1.5 dBic Typ.
LNA Gain	28 dB Typ.
LNA Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	1.8~5.5V; Typ. 3V
Power Consump.	10mA Typ. @3V 23mA Max. @ 5.5V

Mechanical data	
Dimension	25.1 x 25.1 x 7.4mm
Cable*	68mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

GNBA-108G / GPS+Glonass / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz
Antenna Gain	-1.0 dBic Typ. GPS
LNA Gain	28 dB Typ.
LNA Noise Figure	1.5 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	1.8~5.5V; Typ. 3V
Power Consump.	10mA Typ. @3V 23mA Max. @ 5.5V

Mechanical data	
Dimension	35 x 35 x 6.9mm
Cable*	68mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

Remarks : * Kindly note the cable length and connector can be changed based on your requirement.

GNSS: Internal Active Antenna

The internal active patch antenna with circularly polarized radiation pattern features directional operation to be used in a navigation scenario, where the antenna always keep facing sky to receive satellite signals effectively. For different request of cable and connector, please contact us or our local distributors to have a customized solution.

▶ Internal GPS+Glonass+Beidou Active Antenna

GBNBA-240 / 1 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098MHz
Antenna Gain	-2.5 dBic Typ.
LNA Gain	18 dB Typ.
LNA Noise Figure	1.5 dB Typ.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump	4.2mA Typ. 5mA Max. @ 3V

Mechanical data	
Dimension	19 x 16 x 6.4mm
Cable*	42mm RF coaxial Ø 1.13 mm
Connector*	N/A
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

GBNBA-708 / 1 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098MHz
Antenna Gain	-4.5 dBic Typ.
LNA Gain	15 dB Typ.
LNA Noise Figure	1.5 dB Typ.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.7~3.3V; Typ. 3V
Power Consump	3mA Typ. 5mA Max. @ 3V

Mechanical data	
Dimension	18.5 x 18 x 5mm
Cable*	80mm RF coaxial Ø 0.08 mm
Connector*	I-PEX MHF4
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

GBNBA-104H / 2 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098MHz
Antenna Gain	-1.5 dBic Typ.
LNA Gain	28 dB Typ.
LNA Noise Figure	3.0 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	1.8~5.5V; Typ. 3V
Power Consump	10mA Typ. 23mA Max. @ 5.5V

Mechanical data	
Dimension	25.1 x 25.1 x 7.4mm
Cable*	69mm RF coaxial Ø 1.13 mm
Connector*	I-PEX (F)
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

GBNBA-105E / 1 Stage

Electrical data	
Working Freq.	1575.42MHz 1602MHz 1561.098MHz
Antenna Gain	-1.5 dBic Typ.
LNA Gain	18 dB Typ.
LNA Noise Figure	3.0 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	1.8~5.5V; Typ. 3V
Power Consump	10mA Typ. 23mA Max. @ 5.5V

Mechanical data	
Dimension	
Cable*	
Connector*	25.1 x 25.1 x 7.4mm
Operation Temp.	69mm RF coaxial Ø 1.13 mm
Relative Humidity	I-PEX (F)
	-40 ~ +85℃
	40%~95%

Remarks : * Kindly note the cable length and connector can be changed based on your requirement.

▶ Internal GPS L1+L2+L5+Glonass G1+Beidou B1 Active Antenna

GLBNBA-120 / 2 Stage
GLBNBA-121 / 3 Stage

Electrical data	
Working Freq.	1561.098MHz 1575.42MHz 1602MHz 1176.42MHz 1227.6MHz
Antenna Gain	1561.098MHz: +1.5 dBi Typ. 1575.42MHz: +0.5 dBi Typ. 1602MHz: +2.5 dBi Typ. 1176.42MHz: +2 dBi Typ. 1227.6MHz: +0.5 dBi Typ.
LNA Gain	27 dB Typ.
LNA Noise Figure	2.4 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.5~5.5V; Typ. 3V
Power Consump	13mA Typ. 20mA Max. @3.0V

Mechanical data	
Dimension	50 x 50 x 10mm
Cable*	RG174 3M Ø 2.7 mm
Connector*	SMA(M)
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

Electrical data	
Working Freq.	1561.098MHz 1575.42MHz 1602MHz 1176.42MHz 1227.6MHz
Antenna Gain	1561.098MHz: +1.5 dBi Typ. 1575.42MHz: +0.5 dBi Typ. 1602MHz: +2.5 dBi Typ. 1176.42MHz: +2 dBi Typ. 1227.6MHz: +0.5 dBi Typ.
LNA Gain	41 dB Typ.
LNA Noise Figure	2.3 dB Max.
VSWR	2.0 Max.
Polarization	RHCP
Impedance	50 Ω
Input Voltage	2.5~5.5V; Typ. 3V
Power Consump	20mA Typ. 30mA Max. @3.0V

Mechanical data	
Dimension	50 x 50 x 10mm
Cable*	RG174 3M Ø 2.7 mm
Connector*	SMA(M)
Operation Temp.	-40 ~ +85℃
Relative Humidity	40%~95%

*Remarks: Kindly note the cable length and connector can be changed based on your requirement.

LPWAN Sub GHz (LTE-M, NB-IoT, LoRa, Sigfox, 802.11ah)

Cirocomm provide both embedded Narrowband IoT module and antenna solutions for low-power-wide-area network (LPWAN) application. LPWAN covers sub-1GHz band typically with 868MHz (Europe) and 915 MHz (USA). We offer the module solutions with U-Blox SARA-R4/N4 series LTE Cat M1/ NB1 as well as broad band Sub-1GHz antennas below:

▶ LTE-M/ NB-IoT Module

The Cirocomm NB-IoT module integrated with U-Blox SARA-R4/N4 series as the core assembly in the 50*25mm board, which features a space saving and one stop NB-IOT solution for you.

Smart IoT / LTE-M / NB-IoT Module

Electrical data	
Working Freq.	880~960MHz
FDD-LTE	Band 8
Output Power	+23dBm
Input Voltage	2.5~4.2V, Typ. 3.6V
Uplink	Up to 62.5KBS
Downlink	Up to 27.2KBS
RX Sensitivity (@BLER MCS-1<10%)	-133dBm

Mechanical data	
Dimension	50 x 25 x 4.8mm
Interfaces	
• Serial: • GPIO: • SIM: Support	2 UART, 1DDC (I2C) 2 GPIOs, configurable 1.8V, SIM toolkit
Operation Temp.	-40 ~ +85℃

▶ LPWA Sub 1GHz SMD Antennas

Cirocomm team is capable of using different material to provide a variety of antenna solutions to meet your need. The ceramic antenna covers broad band range of 700-1000MHz (Sub 1GHz) in a single antenna, while PCB FR4 material antenna supports either 868 or 915MHz working frequency via circuit resistor matching. Please follow the PCB layout recommendation in the datasheet to get desired performance.

Ceramic Chip SMD Antenna

DPAN0S09 / Sub 1GHz / Ceramic Chip

Durable, reliable solution for high performance LPWAN devices. For example, smart grid meter, water or gas meter.

Electrical data	
Working Freq.	700~1000MHz
Return Loss	-4.11dB @700MHz
VSWR	4.3 Max.
Efficiency	>41% @700MHz >60% @800MHz >50% @900MHz
Polarization	Linear
Impedance	50Ω

Mechanical data	
Dimension	37 x 5 x 5mm
Mounting	SMT
Clearance Area	45 x 13mm
Ground Plate	45 x 107mm
Operation Temp.	-40 ~ +85℃

Print Chip SMD Antenna

PCAY0S00 / ISM Band / PCB FR4

Lower cost, smaller size antenna solutions for either 868MHz or 915MHz application via circuit matching.

Electrical data	
Working Freq.	868MHz Or 915MHz
Return Loss	< -10dB
VSWR	4.3 Max.
Peak Gain	1.75dBi @868 MHz 2.11dBi @915MHz
Efficiency	>58% @868MHz >59% @915MHz
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	15 x 4 x 1.2mm
Mounting	SMT
Clearance Area	35 x 20mm 35 x 15mm
Ground Plate	35 x 70mm
Operation Temp.	-40 ~ +85℃

▶ Customized LPWA Sub 1GHz Antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized Sub 1GHz antenna to meet your need. Antenna material can be FPC, PCB, and metal etc. Contact us for a customized Sub 1GHz antenna solution.
(Example of FPC material antenna)

DSRC 5.9GHz Antenna & Drone Antenna ISM Band

Cirocomm provide the DSRC antenna covering 5850~5925MHz band for vehicle-to-vehicle (V2V) communication application. The DSRC (IEEE 802.11p) requires high performance antenna to secure automotive driving safety. You can find our typical patch and ceramic chip antenna product detail below. Or contact us for a customized antenna solution.

▶ 5.9GHz DSRC Ceramic Antenna

PA012FD0002 / 5.9GHz / DSRC (V2V) / Ceramic Patch

Electrical data	
Working Freq.	5850~5925MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Polarization	+4.5 dBi Typ.
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Pin	Ø 0.85±0.05mm
Ground Plate	45 x 46mm
Operation Temp.	-40 ~ +85℃

DPAH0S00 / 5.9GHz / DSRC (V2V) / Ceramic Chip

Electrical data	
Working Freq.	5850~5925MHz
Return Loss	< -10dB
VSWR	3.0 Max.
Efficiency	82%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	10 x 3 x 3mm
Mounting	SMT
Clearance Area	40 x 6.2mm
Ground Plate	40 x 50mm
Operation Temp.	-40 ~ +85℃

Remarks: Different material antennas are available in FPC, PCB, and Metal. Contact us for a customized solution.

▶ Drone Antenna

Cirocomm provide high performance 2.4GHz and 5GHz patch antennas for drone application. The ceramic patch antennas have PCB and cable assembly to be easily integrated into a drone system.

2.4GHz Ceramic Patch Antenna with PCB & cable

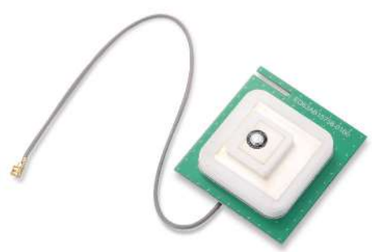
PA025FDPI02 / 2.4GHz / Ceramic Patch / With PCB cable

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.5 Max.
Gain at Zenith	+2.0 dBi Typ.
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 5.3mm
Cable	150mm RF Coaxial Ø 1.37mm
Connector	I-PEX (MHF)
Operation Temp.	-40 ~ +85℃

2.4+5GHz Ceramic Patch Antenna with PCB & cable

PA025L4PI00 / 2.4+5GHz / Stacked Patch



Electrical data	
Working Freq.	2400~2500MHz 5700~5870MHz
Return Loss	-9dB @ 2450MHz -7dB @ 5800MHz
Gain at Zenith	+1.0 dBi Typ.
Peak Gain	1.99dB @ 2450MHz 4.62dB @ 5800MHz
Efficiency	>52% @ 2450MHz >55% @ 5800MHz
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	35 x 32 x 7mm
Cable	150mm RF Coaxial Ø 1.13mm
Connector	I-PEX (MHF)
Operation Temp.	-40 ~ +85℃

WiFi / Zigbee / Bluetooth Antenna

2.4GHz WiFi/BT/Zigbee antennas are widely used in wireless devices nowadays. Most of them feature lower cost and linearly polarized radiation pattern with omnidirectional operation. Cirocomm offer a variety of Wifi antennas: (1) FPC & PCB antennas (2) ceramic PIFA chip SMD antennas (3) ceramic patch antennas. The patch antennas have much high performance in directional operation. For those requirement of a device pointing to transmitter or receiver, the patch ceramic antennas would be recommended.

▶ 2.4GHz PCB/FPC Antenna

ESAJ0I00 / 2.4GHz FPC

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Efficiency	>60%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	21 x 21 x 0.15mm
Cable	60mm RF Coaxial Ø 1.13mm
Connector	I-PEX (F)
Operation Temp.	-40 ~ +85℃

FSAKSI00 / 2.4GHz PCB

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Efficiency	>40%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	15 x 4 x 0.8mm
Cable	250mm RF Coaxial Ø 1.13mm
Connector	I-PEX (F)
Operation Temp.	-40 ~ +85℃

WB-2450E / 2.4GHz PCB

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Efficiency	>60%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	47 x 6 x 1mm
Cable	40mm RF Coaxial Ø 1.13mm
Connector	I-PEX (F)
Operation Temp.	-40 ~ +85℃

FSAJ0I24 / 2.4GHz PCB

Electrical data	
Working Freq.	2200~2800MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain	2.0 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	10 x 60 x 1mm
Cable	50mm RF Coaxial
Connector	U_FL / I-PEX
Operation Temp.	-30 ~ +60℃

FSA00I00 / 2.4GHz PCB

Electrical data	
Working Freq.	2200~2950MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain	5.0 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	60 x 75 x 1mm
Cable	50mm RF Coaxial
Connector	U_FL / I-PEX
Operation temp	-30 ~ +60℃

FDAM0I02 / 2.4GHz PCB

Electrical data	
Working Freq.	800~1000MHz 2000~2600MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain	1.0 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	15 x 100 x 1mm
Cable	100mm RF Coaxial
Connector	U_FL / I-PEX
Operation temp.	-30 ~ +80℃

FDA00I00 / 2.4GHz PCB

Electrical data	
Working Freq.	800~1200MHz 1500~2300MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain	2.0 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	15 x 130 x 1mm
Cable	40mm RF Coaxial
Connector	U_FL / I-PEX
Operation temp.	-30 ~ +80℃

▶ UltraWide-Band(UWB) PCB Antenna/ DR Filter

FDAH0I11 / UWB PCB

Electrical data	
Working Freq.	2200~2800MHz 4800~6000MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain	2400MHz: 2.0 dBi 5200MHz: 3.5 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	60 x 10 x 1mm
Cable	40mm RF Coaxial
Connector	U_FL / I-PEX
Operation Temp.	-30 ~ +60℃

FDAM0I01 / UWB PCB

Electrical data	
Working Freq.	800~2400MHz 3500~6000MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain	2.5 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	30 x 150 x 1mm
Cable	50mm RF Coaxial
Connector	U_FL / I-PEX
Operation Temp.	-30 ~ +80℃

FSA00I01 / UWB PCB

Electrical data	
Working Freq.	800~6000MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain	4.0 dBi
Polarization	Vertical
Impedance	50 Ω

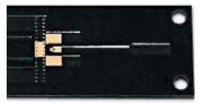
Mechanical data	
Dimension	112 x 60 x 1mm
Cable	40mm RF Coaxial
Connector	U_FL / I-PEX
Operation Temp.	-40 ~ +85℃

FQA00I00 / UWB PCB

Electrical data	
Working Freq.	2500~2900MHz 3300~3500MHz 4500~5000MHz 5200~6000MHz
Return Loss	< -10dB
VSWR	< 3
Gain	+4.0 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	60 x 25 x 1mm
Connector	SMA(J)&U_FL/ I-PEX
Operation temp.	-30 ~ +80℃

FQA00I01 / UWB PCB



Electrical data	
Working Freq.	2100~3300MHz 4200~5000MHz 5100~5300MHz 5800~6000MHz
Return Loss	< -10dB
VSWR	< 3
Gain	+4.0 dBi
Polarization	Vertical
Impedance	50 Ω

Mechanical data	
Dimension	60 x 25 x 1mm
Connector	SMA(J)&U_FL/ I-PEX
Operation temp.	-30 ~ +80℃

J6667A / Ceramic DR filter

Electrical data	
Center Frequency	6667MHz
Pass Band Width	6100~7235MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.0 dB Max.
Stop Band attenuation (at 5150~5850MHz)	30 dB Min.

Mechanical data	
Dimension	4.2 x 2.28 x 1.7mm
Mounting	SMT
Operation temp.	-40 ~ +105℃

J 7790 / Ceramic DR filter

Electrical data	
Center Frequency	7790MHz
Pass Band Width	7330~8250MHz
Impedance	50Ω
Power Input	1W Max.
Pass Band Insertion Loss	2.5 dB Max.
Stop Band attenuation (at 5100~7200MHz)	40 dB Min.

Mechanical data	
Dimension	8.56 x 2.12 x 2.92mm
Mounting	SMT
Operation temp.	-40 ~ +85℃

▶ 2.4GHz External Antenna

Cirocomm provide a variety of external 2.4GHz WiFi/BT antennas below:

EWA2450M / 2.4GHz / External

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain at Zenith	-5.0 dBi Typ.
Efficiency	>40%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	40.5 x 38 x 12.3mm
Mounting	Adhesive
Cable	3M RG174 Ø 2.7mm
Connector	I-PEX (F)
Operation Temp.	-30 ~ +80℃

EWDAJ0A2 / 2.4GHz / External

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain at Zenith	3 dBi Typ.
Efficiency	>60%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	Ø13.5 x 158mm
Connector	R SMA Plug
Operation Temp.	-30 ~ +80℃

▶ Customized Antenna

Customized 2.4GHz Antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized 2.4GHz antenna to meet your need. Antenna material can be FPC, PCB, and metal etc. Contact us for a customized antenna solution.
(Example of FPC material antenna)

▶ 2.4GHz Ceramic Patch Antenna

Cirocomm offer a variety of patch antennas for 2.4GHz WiFi/BT application. The ceramic patch (RHCP) antennas have much higher performance in directional operation. For those requirement of a device pointing to transmitter or receiver, the RHCP patch ceramic antennas would be recommended.

Ceramic Patch Antenna

PA009DW0001 / 5.8GHz

Electrical data	
Working Freq.	5700~5900MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Peak Gain	+5.0 dBi Typ.
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	9 x 9 x 3.5mm
Pin	Ø 0.85±0.05mm
Ground Plate	13 x 34mm
Operation Temp.	-40 ~ +85℃

PA010FE0000 / 2.4GHz

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	1.8 Max.
Peak Gain	+5.0 dBi Typ.
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	10 x 10 x 4mm
Mounting	SMT
Ground Plate	55 x 38mm
Operation Temp.	-40 ~ +85℃

PA012CE0002 / 2.4GHz

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	3.0 Max.
Peak Gain	+2.0 dBi Typ.
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	12 x 12 x 4mm
Mounting	SMT
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

PA025IY0000 / 2.4GHz

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Peak Gain	+5.0 dBi Typ.
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 4mm
Pin	Ø 0.9±0.05mm
Ground Plate	57 x 54mm
Operation Temp.	-40 ~ +85℃

PA025FDPI02 / 2.4GHz / Ceramic Patch / With PCB, cable

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.5 Max.
Peak Gain	+2.0 dBi Typ.
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 5.3mm
Cable	150mm RF Coaxial Ø 1.37mm
Connector	I-PEX (MHF)
Operation Temp.	-40 ~ +85℃

PA035AD0000 / 2.4GHz

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Peak Gain	+5.0 dBi Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	35 x 35 x 3mm
Pin	Ø 0.9±0.05mm
Ground Plate	62 x 57mm
Operation Temp.	-40 ~ +85℃

Remarks: * We suggest tune the antenna frequency with your device housings to get desired performance.

2.4GHz Ceramic Chip SMD Antenna

Cirocomm provide 2.4GHz miniature chip antennas (PIFA) for those devices with limited space. Check the PCB layout recommendation in product datasheet to get desired performance. Or contact us for a customized antenna solution.

DCA2450A / 2.4GHz / Ceramic Chip

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Peak Gain	2 dBi Typ.
Efficiency	>65%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	10 x 4 x 2mm
Mounting	SMT
Clearance Area	18.5 x 14.5mm
Ground Plate	100 x 50mm
Operation Temp.	-40 ~ +85℃

DPA2442B / 2.4GHz / Ceramic Chip

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Peak Gain	1.5 dBi Typ.
Efficiency	>86%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	10 x 4 x 3mm
Mounting	SMT
Clearance Area	11 x 6mm
Ground Plate	100 x 50mm
Operation Temp.	-40 ~ +85℃

FSAJ0S01 / 2.4GHz / Ceramic Chip

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Peak Gain	2.5 dBi Typ.
Efficiency	>85%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	15 x 3.2 x 3.2mm
Mounting	SMT
Clearance Area	18.9 x 5.15mm
Ground Plate	80 x 40mm
Operation temp.	-40 ~ +85℃

PCAK0001-12 / 2.4GHz / Miniature Chip

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Peak Gain	2.0 dBi Typ.
Efficiency	>74%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	9 x 1.6 x 1.6mm
Mounting	SMT
Clearance Area	11.5 x 9.5mm
Ground Plate	100 x 50mm
Operation Temp.	-40 ~ +85℃

PCAK0000-14 / 2.4GHz / Miniature Chip

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Peak Gain	1.0 dBi Typ.
Efficiency	>55%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	5 x 2 x 1mm
Mounting	SMT
Clearance Area	9.5 x 7.5mm
Ground Plate	100 x 50mm
Operation Temp.	-40 ~ +85℃

DCAK0012 / 2.4GHz / Miniature Chip

Electrical data	
Working Freq.	2400~2500MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Peak Gain	1.0 dBi Typ.
Efficiency	>72%
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	3.05 x 1.6 x 0.55mm
Mounting	SMT
Clearance Area	8 x 3.75mm
Ground Plate	100 x 50mm
Operation Temp.	-40 ~ +85℃

2.4+5GHz Ceramic Chip SMD Antenna

Cirocomm provide 2.4+5GHz WiFi dual band chip antennas with different size to meet your need. Check the PCB layout recommendation in product datasheet to get desired performance. Or contact us for a customized antenna solution.

DCAH0S00 / 2.4+5GHz / Ceramic Chip

Electrical data	
Working Freq.	2400~2500MHz 4900~5850MHz
Return Loss	< -10dB
VSWR	2.5 Max. 2450MHz 3.5 Max. 4900MHz
Peak Gain	2.9 dBi @ 2450MHz 4.9 dBi @ 5800MHz
Efficiency	>68% @ 2450MHz >74% @ 4900MHz
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	10 x 4 x 1.5mm
Mounting	SMT
Clearance Area	20 x 11mm
Ground Plate	100 x 50mm
Operation Temp.	-40 ~ +85℃

DPAH0S00 / 2.4+5GHz / Ceramic Chip

Electrical data	
Working Freq.	2400~2500MHz 4900~5850MHz
Return Loss	< -10dB
VSWR	2.5 Max. 2450MHz 3.0 Max. 5150MHz
Peak Gain	2.4 dBi @ 2450MHz 2.7 dBi @ 4900MHz
Efficiency	>66% @ 2450MHz >74% @ 4900MHz
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	10 x 3 x 3mm
Mounting	SMT
Clearance Area	40 x 6.2mm
Ground Plate	40 x 50mm
Operation Temp.	-40 ~ +85℃

DCAH0S04 / 2.4+5GHz / Miniature Chip

Electrical data	
Working Freq.	2400~2500MHz 4900~5850MHz
Return Loss	< -10dB
VSWR	2.5 Max. 2450MHz 3.5 Max. 4900MHz
Peak Gain	2.9 dBi @ 2450MHz 4.9 dBi @ 5800MHz
Efficiency	>68% @ 2450MHz >74% @ 4900MHz
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	3.05 x 1.6 x 0.55mm
Mounting	SMT
Clearance Area	7.5 x 5.8mm
Ground Plate	80 x 10mm
Operation Temp.	-40 ~ +85℃

Customized Antenna

Customized 2.4+5GHz Antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized 2.4+5GHz antenna to meet your need. Antenna material can be FPC, PCB, and metal etc. Contact us for a customized antenna solution.
(Example of FPC material antenna)

RFID Ceramic Patch Antenna

ISM Band

Cirocomm offer patch RFID antennas for application either in 868MHz or 915MHz. The patch antennas feature circularly polarized radiation pattern, which have high performance at directional operation.

PA025SG0000 / 915MHz

Electrical data	
Working Freq.	915MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+0 dBi Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	25 x 25 x 4.5mm
Pin	Ø 0.9±0.05mm
Ground Plate	50 x 50mm
Operation Temp.	-40 ~ +85℃

PA050AG0000 / 915MHz

Electrical data	
Working Freq.	915MHz
Return Loss	< -10dB
VSWR	2.0 Max.
Gain at Zenith	+1.0 dBi Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	47.5 x 47.5 x 6.5mm
Pin	Ø 0.95±0.05mm
Ground Plate	110 x 116mm
Operation Temp.	-40 ~ +85℃

DA915C / 915MHz / With PCB, cable

Electrical data	
Working Freq.	915MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	0 dBi Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Patch Dimension	47.5 x 47.5 x 6.5 mm
PCB Dimension	49.5 x 49.5mm
Cable	100mm RG178
Connector	MMCX (M)
Ground Plate	85 x 79mm
Operation Temp.	-40 ~ +85℃

DA915F / 915MHz

Electrical data	
Working Freq.	915MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+3.0 dBi Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	60 x 60 x 5mm
Pin	Ø 1±0.05mm
Ground Plate	120 x 116mm
Operation Temp.	-40 ~ +85℃

DA915G / 915MHz

Electrical data	
Working Freq.	915MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+3.0 dBi Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	71.1 x 71.1 x 6.6mm
Pin	Ø 1±0.05mm
Ground Plate	121 x 89mm
Operation Temp.	-40 ~ +85℃

DA867D / 868MHz / With PCB, cable

Electrical data	
Working Freq.	868MHz
Return Loss	< -10dB
VSWR	1.5 Max.
Gain at Zenith	+1.0 dBi Typ.
Polarization	RHCP
Impedance	50 Ω

Mechanical data	
Dimension	71.1 x 71.1 x 6.6mm
Cable	100mm RG178
Connector	MMCX (M)
Ground Plate	102 x 99mm
Operation Temp.	-40 ~ +85℃

Remarks: * We suggest tune the antenna frequency with your device housings to get desired performance.

NFC Antenna

ISM Band

Cirocomm provide customized NFC antennas in FPC and PCB materials to meet customer need. The NFC antennas are mostly customization designed to fit in device mechanical structure. Contact us for further information.

FSAX0I04 / PCB

Electrical data	
Working Freq.	13.56MHz
VSWR	3.5 Max.
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	26.5 x 30 x 0.6mm
Cable	100mm RG178 Ø 1.13mm
Connector	I-PEX
Operation Temp.	-40 ~ +85℃

ESAX0005 / FPC

Electrical data	
Working Freq.	13.56MHz
VSWR	3.0 Max.
Polarization	Linear
Impedance	50 Ω

Mechanical data	
Dimension	54.9 x 67.5 x 0.3mm
Cable	40mm RG178 Ø 1.13mm
Connector	I-PEX
Operation Temp.	-40 ~ +85℃

▶ Customized Antenna

Customized NFC Antenna

Antenna is a sensitive part which performance would be significantly affected by device environment. Cirocomm provide customized NFC antenna to meet your need. Antenna material can be FPC, PCB, and metal etc. Contact us for a customized antenna solution.
(Example of FPC material antenna)

wi-com solutions
Via Leonardo da Vinci 11
20813 BOVISIO MASCIAGO (MB) Italy
Tel. +39/0362/1722878 – 1722877
email : info@wicomsolutions.it
Web : www.wicomsolutions.it