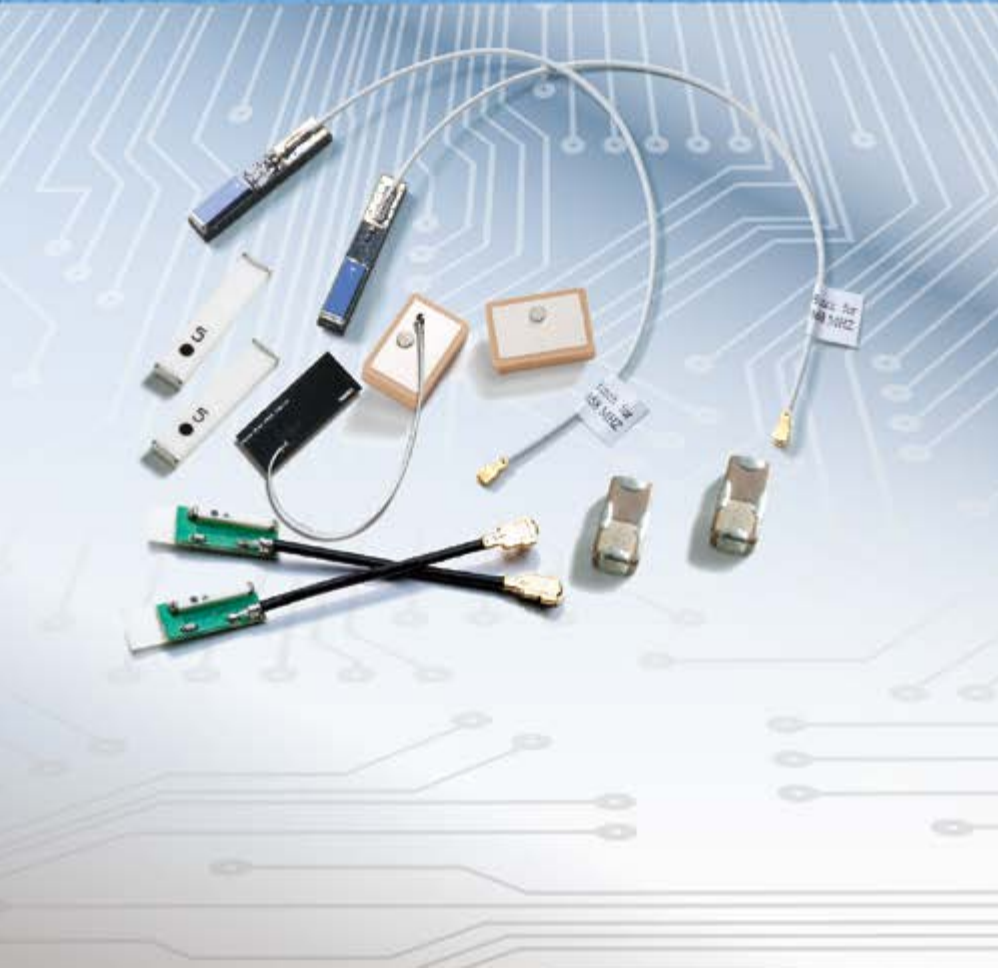


# Wireless Components



[www.yageo.com](http://www.yageo.com)

# About Yageo



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Founded in 1977, the Yageo Corporation has become a world-class provider of passive component services with capabilities on a global scale, including production and sales facilities in Asia, Europe and the Americas.

Yageo currently ranks as the world No.1 in chip-resistors, No. 3 in MLCCs and No. 4 in ferrite products, with a strong global presence: 21 sales offices in 15 countries, 9 production sites, 8 JIT logistic hubs, and 2 R&D centers worldwide. Ferroxcube and Vitrohm, who produce ferrites and leaded resistors, are also a part of the Yageo group.

We support our customers with extensive literature including datasheets, brochures and application notes, which are also available electronically on our website at: [www.yageo.com](http://www.yageo.com)



# Introduction

Yageo produces a comprehensive range of wireless components, including metal/PCB/FPCB antenna, patch antenna (ceramic bulk), active antenna (LNA circuit), chip antenna, and RF components (filter/balancer). We also provide customization service to meet specific requirements.

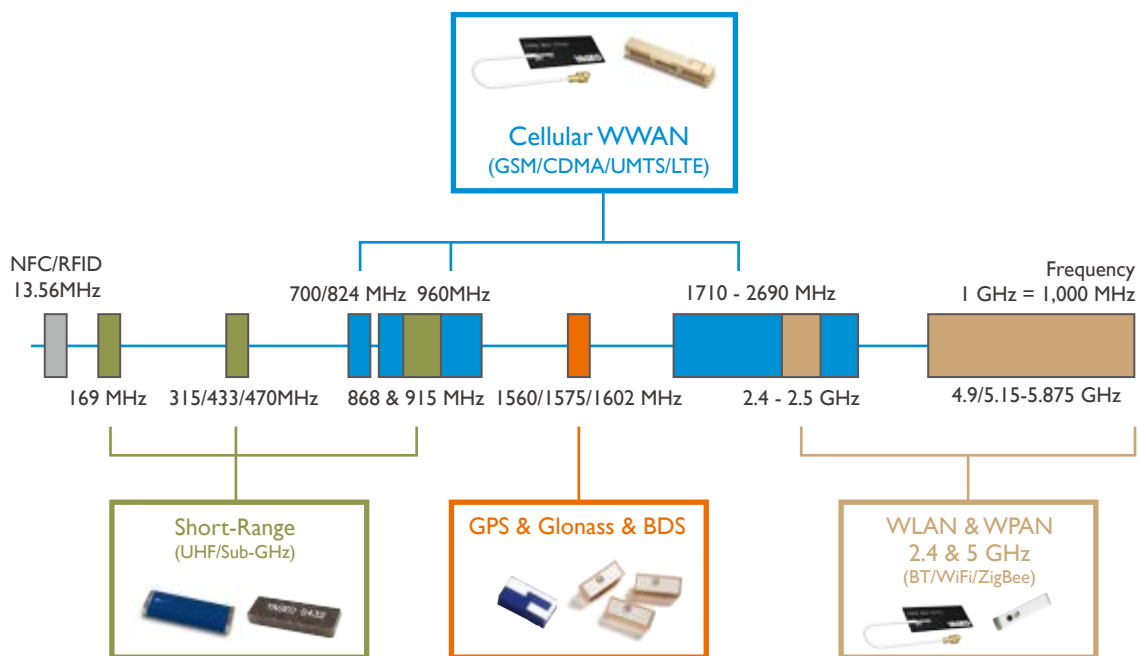
Our products cover a wide variety of wireless communication protocols, including Bluetooth & IEEE 802.11b/g, WPAN (Wireless Personal Area Network), WLAN (Wireless Local Area Network), WMAN (Wireless Metropolitan Area Network), WWAN (Wireless Wide Area Network) and LTE (Long Term Evolution).

| Antenna                                                                           |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| Metal                                                                             | PCB                                                                               | FPCB                                                                              | Chip                                                                               | Patch                                                                               |

| LTCC Balun/Filter/Balun+Filter (Combo)/X2Y                                         |                                                                                    |                                                                                    |                                                                                     |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |  |  |
| Balun                                                                              | Filter                                                                             | Diplexer                                                                           | Balun + Filter                                                                      | X2Y Filter                                                                           |

## Yageo Antenna Portfolio



Portable devices, home appliances, industrial/medical equipment will be equipped with wireless connectivity for Peer-to-Peer data exchange. More wireless components are needed.



## Key features of wireless components:

### Compact

- Maximize performance with the smallest size required
- The smallest 2.4/5 GHz antenna: PCB 18.4x7.5 mm / LTCC 2x1.25 mm

### Multi-Band & High Efficiency

- WWAN: Quad-band (850/900/1800/1900 MHz) to Penta-band (850/900/1800/1900/2100 MHz)
- Support 4G cellular network LTE 700 MHz (Band 12, 13, 17), 2300/2600 MHz
- Multi-band 2.3/2.4/2.7 & 5 GHz supporting WLAN/WiMAX/LTE
- Operating in dual navigational systems GPS & Glonass: 1575 – 1602 MHz
- ISM bands (169/315/433/868MHz)

### High Reliability

- Operating temperature range: -40°C ~ 105°C
- Operating humidity 95% RH at 40°C
- Vibration verification

### Easy Installation

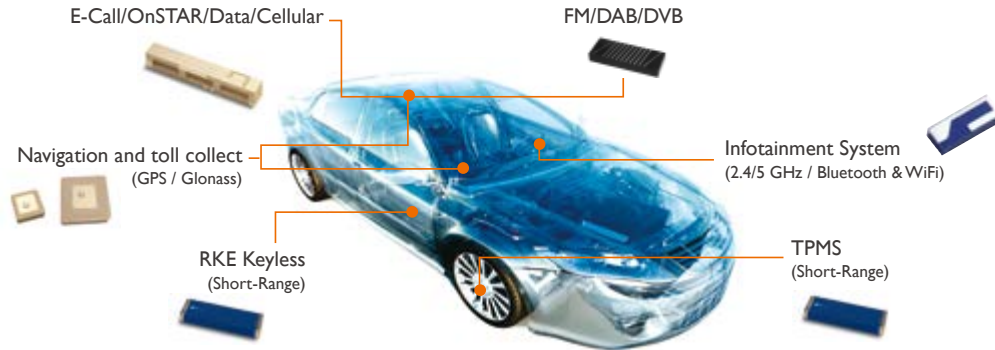
- Reliable adhesive tape, surface mount, and flexible cable/connector selection

# Applications

Yageo's broad product offering of wireless components targets key vertical markets, such as: automotive, smart meter, smart home, wireless networking devices, tablet and mobile phones, and navigation & tracker, etc.

## Automotive

Innovative electronic design is essential to meet the stringent requirements of automotive market. The applications cover: TPMS (Tyre Pressure Monitoring Systems), infotainment and navigation systems, Bluetooth connectivity, telematics.



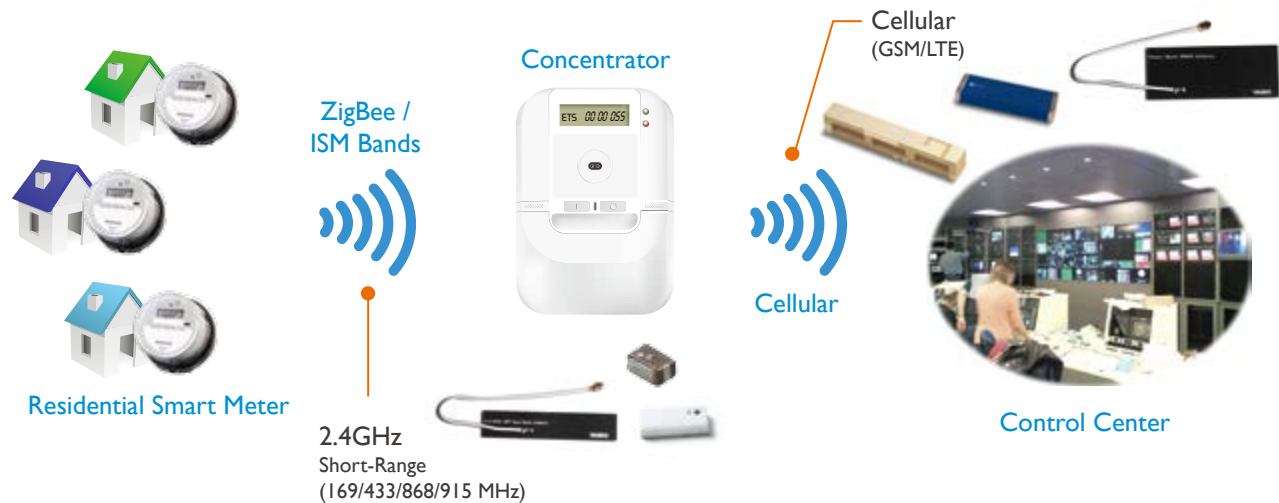
| Product Series     | Part Number (new) | Part Number (old) | Frequency range (MHz) | Gain            | Size (mm)     | Assembly              |
|--------------------|-------------------|-------------------|-----------------------|-----------------|---------------|-----------------------|
| Cellular WWAN      | ANT2112A010B0918A | CAN4313284109181B | 824~960/ 1710~1990    | 0~1 dBi         | 21*12*0.5     | SMD                   |
|                    | ANT3505B000TWPEN4 | CAN4313449009181B | 824~960 / 1710~2170   | 2.9 dBi         | 35*5*6        | SMD                   |
|                    | ANTX100P001BVWPE3 | -                 | 824~960/ 1710~2170    | 4.2 dBi         | 50*20*0.55    | I-PEX dia 1.13, 100mm |
| 2.4 GHz            | ANT1204F001R2400A | CAN4311059012451K | 2400~2500             | 6.66 dBi        | 12*4*2        | SMD                   |
|                    | ANT3216LL00R2400A | CAN4311712002453K | 2400~2500             | 5 dBi           | 3.2*1.6*1.3   | SMD                   |
|                    | ANT3216A063R2400A | CAN4311212632453K | 2400~2500             | 1.69 dBi        | 3.2*1.6*0.5   | SMD                   |
|                    | ANT2012LL13R2400A | CAN4311714132454K | 2400~2500             | 2.72 dBi        | 2.0*1.2*1     | SMD                   |
|                    | ANTX200P001B24003 | -                 | 2400~2500             | 4.8 dBi         | 18.4*7.5*0.55 | I-PEX dia 1.13, 200mm |
| GPS                | ANT1515B00BT1575A | CAN43134230B1581B | 1575                  | 1.5 dBic        | 15*15*4       | SMD                   |
|                    | ANT1818B00FT1575A | CAN43134240F1581B | 1575                  | 4 dBic          | 18*18*4       | Pin Solder            |
|                    | ANT2525B00BT1575A | CAN43134250B1581B | 1575                  | 5.5 dBic        | 25*25*4       | SMD                   |
| GPS+Glonass        | ANT1818B00BT1516A | CAN43134240B1561B | 1575 / 1602           | 1.89 / 2.59 dBi | 18*18*4       | SMD                   |
|                    | ANT1818B00DT1516A | CAN43134240D1561B | 1575 / 1602           | 2.65 / 2.79 dBi | 18*18*4       | Pin Solder            |
|                    | ANT2525B00BT1516A | CAN43134250B1561B | 1575 / 1602           | 3.44 / 4.10 dBi | 25*25*4       | SMD                   |
|                    | ANT2525B00DT1516A | CAN43134250D1561B | 1575 / 1602           | 3.5 / 3.8 dBi   | 25*25*4       | Pin Solder            |
| Active GPS         | ANT1212JB27B1575A | CAN4313322271581B | 1575                  | 25 dB           | 12*12*6.5     | Connector             |
|                    | ANT1818JB30B1575A | CAN4313324301581B | 1575                  | 25 dB           | 18*18*7.1     | Connector             |
|                    | ANT2525JB08B1575A | CAN4313325081581B | 1575                  | 16 dB           | 25*25*7.5     | Connector             |
|                    | ANT1606JB12B1575A | CAN4313346121581B | 1575                  | 20 dB           | 20*6*6.4      | Connector             |
| Active GPS+Glonass | ANT8010JLC1B1516A | CAN4313981C11561B | 1575 / 1602           | 20/20 dB        | 22*6*1.9      | Connector             |
| ISM Bands          | ANT1204LL05R0915A | CAN4311759050911K | 915                   | 3.32            | 12*4*1.6      | SMD                   |
|                    | ANT1204LL08R0870A | CAN4311759080871K | 870                   | 0.5             | 12*4*1.6      | SMD                   |
|                    | ANT7020LL05R0870A | CAN4311772050872K | 870                   | N/A             | 7.0*2.0*0.7   | SMD                   |
|                    | ANT1204LL20R0433A | CAN4311759200431K | 433                   | 0.83            | 12*4*1.2      | SMD                   |
|                    | ANT1204LL20R0315A | CAN4311759200311K | 315                   | N/A             | 12*4*1.2      | SMD                   |
|                    | ANT2405F001R0169A | CAN4311050010162K | 169                   | N/A             | 24*5*1.2      | SMD                   |
| SDARS              | ANT2020B00FT2300A | CAN43134259F2301B | 2320~2345             | N/A             | 20*20*4       | Pin Solder            |
| FM                 | ANT2405F001R0098A | CAN4311050010882K | 88~108                | N/A             | 24*5*1.6      | SMD                   |



## Smart Meter

The smart grid is currently one of the fastest growing areas for the electricity supply industry. Smart grid systems and smart metering devices are secure, economical, and gaining ground throughout the world.

Regardless of which standards and technologies prevail in the long run, the key elements for smart meters will remain the components needed to construct the devices.



| Product Series | Part Number (new) | Part Number (old) | Frequency range (MHz) | Gain (dBi) | Size (mm)     | Assembly              |
|----------------|-------------------|-------------------|-----------------------|------------|---------------|-----------------------|
| Cellular WWAN  | ANT2112A010B0918A | CAN4313284109181B | 824~960/ 1710~1990    | 0~1        | 21*12*0.5     | SMD                   |
|                | ANT3505B000TVPEN4 | CAN4313449009181B | 824~960 /1710~2170    | 2.9        | 35*5*6        | SMD                   |
|                | ANT1204LL00R0918A | CAN4311759009181K | 900/1800              | N/A        | 12*4*1.2      | SMD                   |
|                | ANTX100P001BWVPE3 | -                 | 824~960/ 1710~2170    | 4.2        | 50*20*0.55    | I-PEX dia 1.13, 100mm |
| 2.4 GHz        | ANT1204F001R2400A | CAN4311059012451K | 2400~2500             | 6.66 dBi   | 12*4*2        | SMD                   |
|                | ANT3216LL00R2400A | CAN4311712002453K | 2400~2500             | 5 dBi      | 3.2*1.6*1.3   | SMD                   |
|                | ANT3216A063R2400A | CAN4311212632453K | 2400~2500             | 1.69 dBi   | 3.2*1.6*0.5   | SMD                   |
|                | ANT2012LL13R2400A | CAN4311714132454K | 2400~2500             | 2.72 dBi   | 2.0*1.2*1     | SMD                   |
|                | ANTX200P001B24003 | -                 | 2400~2500             | 4.8 dBi    | 18.4*7.5*0.55 | I-PEX dia 1.13, 200mm |
| ISM Bands      | ANT1204F005R0915A | CAN4311059050911K | 915                   | 1.59       | 12*4*1.6      | SMD                   |
|                | ANT1204F007R0870A | CAN4311059070871K | 870                   | 1.67       | 12*4*1.6      | SMD                   |
|                | ANT1204F002R0433A | CAN4311059020431K | 433                   | 0.79       | 12*4*1.6      | SMD                   |
|                | ANT1204F002R0315A | CAN4311059020311K | 315                   | N/A        | 12*4*1.6      | SMD                   |
|                | ANT2405F001R0169A | CAN4311050010162K | 169                   | N/A        | 24*5*1.2      | SMD                   |

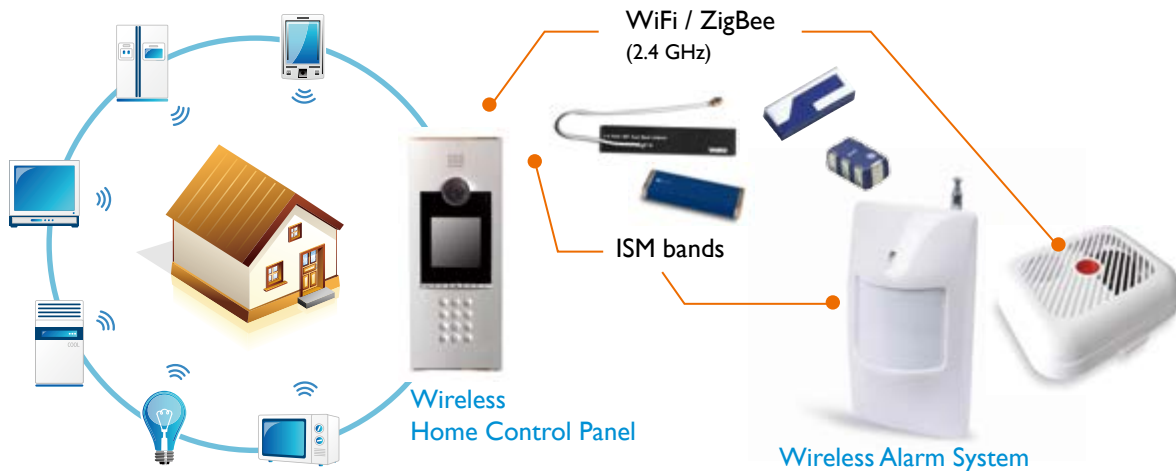
| Product Series | Part Number (new) | Part Number (old) | I.L (dB) | Attenuation I (dB)(min) @25°C | Attenuation II (dB)(min) @25°C |
|----------------|-------------------|-------------------|----------|-------------------------------|--------------------------------|
| BPF            | BPF2012LL03R2400A | CFL4111714032454K | 2.0      | 40dB @ 1000~1600MHz           | 40dB @ 4900MHz                 |
|                | BPF1608LM02R2400A | CFL4111515022454K | 1.7      | 20dB @ 1710~1990 MHz          | 8.5dB @ 2170 MHz               |
| LPF            | LPF1608LL53R2400A | CFL4111715532454K | 0.48     | 35dB @ 4800~5000 MHz          | 27dB @ 7200~7500 MHz           |

| Product Series | Part Number (new) | Part Number (old) | I.L (dB) | Balance Impedance                     | Attenuation I (dB) (min) @25°C |
|----------------|-------------------|-------------------|----------|---------------------------------------|--------------------------------|
| Balun          | BLN2012LL00R2400A | CBA4711714002454K | 1.3      | 50Ω                                   | -                              |
|                | BLN1608LL01R2400A | CBA4711715012454K | 1.1      | 100Ω                                  | -                              |
| Combo          | BLF2012LL98R2400A | CBA4711714982454K | 3.5      | Conjugate match to CSR BC03/04 series | 25dB (Min) @1300~1600MHz       |



## Smart Home

The home area network (HAN) refers to the ecosystem of devices within the home that are connected to the smart grid through a smart meter, through a home energy gateway, or directly in some cases. Some examples of these devices are in-home displays (IHDs) for power-consumption monitoring, smart appliances that respond to time-of-use pricing signals, smart thermostats that cycle the air conditioning in response to peak-load-reduction signaling from the utilities, or smart plugs that can monitor power consumption and control appliances.



| Product Series | Part Number (new) | Part Number (old)  | Frequency range (MHz) | Gain (dBi) | Size (mm)     | Assembly              |
|----------------|-------------------|--------------------|-----------------------|------------|---------------|-----------------------|
| 2.4 GHz        | ANT1204F001R2400A | CAN4311059012451K  | 2400~2500             | 6.66 dBi   | 12*4*2        | SMD                   |
|                | ANT3216LL00R2400A | CAN43111712002453K | 2400~2500             | 5 dBi      | 3.2*1.6*1.3   | SMD                   |
|                | ANT3216A063R2400A | CAN43111212632453K | 2400~2500             | 1.69 dBi   | 3.2*1.6*0.5   | SMD                   |
|                | ANT2012LL13R2400A | CAN43111714132454K | 2400~2500             | 2.72 dBi   | 2.0*1.2*1     | SMD                   |
|                | ANTX200P001B24003 | -                  | 2400~2500             | 4.8 dBi    | 18.4*7.5*0.55 | I-PEX dia 1.13, 200mm |
| ISM Bands      | ANT1204F005R0915A | CAN4311059050911K  | 915                   | 1.59       | 12*4*1.6      | SMD                   |
|                | ANT1204F007R0870A | CAN4311059070871K  | 870                   | 1.67       | 12*4*1.6      | SMD                   |
|                | ANT1204F002R0433A | CAN4311059020431K  | 433                   | 0.79       | 12*4*1.6      | SMD                   |
|                | ANT1204F002R0315A | CAN4311059020311K  | 315                   | N/A        | 12*4*1.6      | SMD                   |
|                | ANT2405F001R0169A | CAN4311050010162K  | 169                   | N/A        | 24*5*1.2      | SMD                   |

| Product Series | Part Number (new) | Part Number (old)  | I.L (dB) | Balance Impedance                     | Attenuation I (dB) (min) @25°C |
|----------------|-------------------|--------------------|----------|---------------------------------------|--------------------------------|
| Balun          | BLN2012LL00R2400A | CBA47111714002454K | 1.3      | 50Ω                                   | -                              |
|                | BLN1608LL01R2400A | CBA47111715012454K | 1.1      | 100Ω                                  | -                              |
| Combo          | BLF2012LL98R2400A | CBA47111714982454K | 3.5      | Conjugate match to CSR BC03/04 series | 25dB (Min) @1300~1600MHz       |

| Product Series | Part Number (new) | Part Number (old)  | I.L (dB) | Attenuation I (dB) (min) @25°C | Attenuation II (dB) (min) @25°C |
|----------------|-------------------|--------------------|----------|--------------------------------|---------------------------------|
| BPF            | BPF2012LL03R2400A | CFL41111714032454K | 2.0      | 40dB @ 1000~1600MHz            | 40dB @ 4900MHz                  |
|                | BPF1608LM02R2400A | CFL41111515022454K | 1.7      | 20dB @ 1710~1990 MHz           | 8.5dB @ 2170 MHz                |
| LPF            | LPF1608LL53R2400A | CFL41111715532454K | 0.48     | 35dB @ 4800~5000 MHz           | 27dB @ 7200~7500 MHz            |



## Tablet and Mobile Phone

Tablet PC and mobile phones are an A/V entertainment system, communications control center and important instrument of individual expression. They feature ease of use, long battery life, mobility, ability to multi-task, instant on/off and substantial breadth of applications.



| Product Series     | Part Number (new) | Part Number (old) | Frequency range (MHz) | Gain            | Size (mm)     | Assembly              |
|--------------------|-------------------|-------------------|-----------------------|-----------------|---------------|-----------------------|
| 2.4 GHz            | ANT1204F001R2400A | CAN4311059012451K | 2400~2500             | 6.66 dBi        | 12*4*2        | SMD                   |
|                    | ANT3216LL00R2400A | CAN4311712002453K | 2400~2500             | 5 dBi           | 3.2*1.6*1.3   | SMD                   |
|                    | ANT3216A063R2400A | CAN4311212632453K | 2400~2500             | 1.69 dBi        | 3.2*1.6*0.5   | SMD                   |
|                    | ANT2012LL13R2400A | CAN4311714132454K | 2400~2500             | 2.72 dBi        | 2.0*1.2*1     | SMD                   |
|                    | ANTX200P001B24003 | -                 | 2400~2500             | 4.8 dBi         | 18.4*7.5*0.55 | I-PEX dia 1.13, 200mm |
| 2.4/5 GHz          | ABT1003LL15R2455A | CAN4311756152521K | 2400~2500/ 5150~5875  | 2.45 / 1.55 dBi | 1.0*3.2*1.6   | SMD                   |
|                    | ANT5320LL04R2455A | CAN4311753042522K | 2400~2500/ 5150~5875  | 2.72 / 3.85 dBi | 5.3*2.0*1.4   | SMD                   |
|                    | ANT5320LL24R2455A | CAN4311753242522K | 2400~2500/ 5150~5875  | 2.17 / 3.51 dBi | 5.3*2.0*1.2   | SMD                   |
|                    | ANTX100P001B24553 | -                 | 2400~2500/ 5150~5875  | 5.1 dBi         | 50*10*0.9     | I-PEX dia 1.13, 200mm |
| GPS                | ANT5320LL14R1575A | CAN4311753141582K | 1575                  | 3.16 dBi        | 5.3*2.0*1.2   | SMD                   |
|                    | ANT3216LL15R1575A | CAN4311712151583K | 1575                  | 7.32 dBi        | 3.2*1.6*1.2   | SMD                   |
| GPS+Glonass        | ANT8010LL05R1516A | CAN4311781051563K | 1575 / 1602           | 1.53/1.69 dBi   | 8.0*1.0*1.0   | SMD                   |
|                    | ANT5320LL14R1516A | CAN4311751451562K | 1575 / 1602           | 1.45/1.46 dBi   | 5.3*2.0*1.2   | SMD                   |
| Active GPS+Glonass | ANT8010JC1B1516A  | CAN4313981C11561B | 1575 / 1602           | 20/20 dBi       | 22*6*1.9      | Connector             |

| Product Series | Part Number (new) | Part Number (old) | I.L (dB)               | Attenuation I (dB) (min) @25°C | Attenuation II (dB) (min) @25°C |
|----------------|-------------------|-------------------|------------------------|--------------------------------|---------------------------------|
| BPF            | BPF2012LL03R2400A | CFL4111714032454K | 2.0                    | 40dB @ 1000~1600MHz            | 40dB @ 4900MHz                  |
|                | BPF2012LM47R2400A | CFL4111514472454K | 1.8                    | 35dB @ 1710~1990 MHz           | 30dB @ 2110~2170 MHz            |
|                | BPF1608LM02R2400A | CFL4111515022454K | 1.7                    | 20dB @ 1710~1990 MHz           | 8.5dB @ 2170 MHz                |
|                | BPF1608LM07R2400A | CFL4111515072454K | 3.2                    | 40dB @ 1920~1990 MHz           | 35dB @ 2110~2170 MHz            |
|                | BPF1608LM17R2400A | CFL4111515172454K | 2.7                    | 35dB @ 1920~1990 MHz           | 25dB @ 2110~2170 MHz            |
| Diplexer       | DPX2012LL85R2455A | CFL4111714852524K | Low : 0.7<br>High: 0.9 | 20dB @ 2400~2500MHz            | 20dB @ 4800~5900MHz             |
|                | DPX1608LL87R1524A | CFL4111715871524K | Low : 0.6<br>High: 0.7 | 15dB @ 2400~2500MHz            | 15dB @ 1575~1610MHz             |



## Wireless Networking Device

A wireless networking device can be best defined as a network device used to connect terminal device without cables, normally through radio signals.

Some examples of a common wireless networking device are a wireless router / gateway, Set-Top-Box, and Femtocell.



| Product Series | Part Number (new) | Part Number (old) | Frequency range (MHz) | Gain (dBi)      | Size (mm)     | Assembly              |
|----------------|-------------------|-------------------|-----------------------|-----------------|---------------|-----------------------|
| Cellular WWAN  | ANT2112A010B0918A | CAN4313284109181B | 824~960/ 1710~1990    | 0~1             | 21*12*0.5     | SMD                   |
|                | ANT3505B000TWPENA | CAN4313449009181B | 824~960 / 1710~2170   | 2.9             | 35*5*6        | SMD                   |
|                | ANT1204LL00R0918A | CAN4311759009181K | 900/1800              | N/A             | 12*4*1.2      | SMD                   |
|                | ANTX100P001BWVEN3 | -                 | 824~960/ 1710~2170    | 4.2             | 50*20*0.55    | I-PEX dia 1.13, 100mm |
| 2.4 GHz        | ANT1204F001R2400A | CAN4311059012451K | 2400~2500             | 6.66 dBi        | 12*4*2        | SMD                   |
|                | ANT3216LL00R2400A | CAN4311712002453K | 2400~2500             | 5 dBi           | 3.2*1.6*1.3   | SMD                   |
|                | ANT3216A063R2400A | CAN4311212632453K | 2400~2500             | 1.69 dBi        | 3.2*1.6*0.5   | SMD                   |
|                | ANT2012LL13R2400A | CAN4311714132454K | 2400~2500             | 2.72 dBi        | 2.0*1.2*1     | SMD                   |
|                | ANTX200P001B24003 | -                 | 2400~2500             | 4.8 dBi         | 18.4*7.5*0.55 | I-PEX dia 1.13, 200mm |
| 2.4/5 GHz      | ABT1003LL15R2455A | CAN4311756152521K | 2400~2500/ 5150~5875  | 2.45 / 1.55 dBi | 1.0*3.2*1.6   | SMD                   |
|                | ANT5320LL04R2455A | CAN4311753042522K | 2400~2500/ 5150~5875  | 2.72 / 3.85 dBi | 5.3*2.0*1.4   | SMD                   |
|                | ANT5320LL24R2455A | CAN4311753242522K | 2400~2500/ 5150~5875  | 2.17 / 3.51 dBi | 5.3*2.0*1.2   | SMD                   |
|                | ANTX100P001B24553 | -                 | 2400~2500/ 5150~5875  | 5.1 dBi         | 50*10*0.9     | I-PEX dia 1.13, 200mm |

| Product Series | Part Number (new) | Part Number (old) | I.L (dB)               | Attenuation I (dB) (min) @25°C | Attenuation II (dB) (min) @25°C |
|----------------|-------------------|-------------------|------------------------|--------------------------------|---------------------------------|
| BPF            | BPF2012LL03R2400A | CFL4111714032454K | 2.0                    | 40dB @ 1000~1600MHz            | 40dB @ 4900MHz                  |
|                | BPF2012LL01R5000A | CFL4111714015004K | 1.5                    | 30dB @ 1280~3000 MHz           | 25dB @ 3300~4000 MHz            |
|                | BPF1608LM02R2400A | CFL4111515022454K | 1.7                    | 20dB @ 1710~1990 MHz           | 8.5dB @ 2170 MHz                |
|                | BPF1608LM11R2400A | CFL4111515112454K | 1.8                    | 20dB @ 1710~1990 MHz           | 6.5dB @ 2110~2170 MHz           |
| LPF            | LPF1608LL53R2400A | CFL4111715532454K | 0.48                   | 35dB @ 4800~5000 MHz           | 27dB @ 7200~7500 MHz            |
| Diplexer       | DPX2012LL85R2455A | CFL4111714852524K | Low : 0.7<br>High: 0.9 | 20dB @ 2400~2500MHz            | 20dB @ 4800~5900MHz             |

| Product Series | Part Number (new) | Part Number (old) | I.L (dB) | Balance Impedance | Attenuation II (dB) (min) @25°C |
|----------------|-------------------|-------------------|----------|-------------------|---------------------------------|
| Balun          | BLN2012LL00R2400A | CBA4711714002454K | 1.3      | 50Ω               | -                               |
|                | BLN1608LL01R2400A | CBA4711715012454K | 1.1      | 100Ω              | -                               |



## Navigation and Tracker

Though navigation and tracker are all related to GPS system and can be applied to vehicles, their purposes are different. Navigation is just like a road guide to tell you the right direction to your destination while GPS tracking device is mainly used for accurate location to make sure the target security.



| Product Series     | Part Number (new) | Part Number (old) | Frequency range (MHz) | Gain            | Size (mm)     | Assembly              |
|--------------------|-------------------|-------------------|-----------------------|-----------------|---------------|-----------------------|
| 2.4 GHz            | ANT1204F001R2400A | CAN4311059012451K | 2400~2500             | 6.66 dBi        | 12*4*2        | SMD                   |
|                    | ANT3216LL00R2400A | CAN4311712002453K | 2400~2500             | 5 dBi           | 3.2*1.6*1.3   | SMD                   |
|                    | ANT3216A063R2400A | CAN4311212632453K | 2400~2500             | 1.69 dBi        | 3.2*1.6*0.5   | SMD                   |
|                    | ANT2012LL13R2400A | CAN4311714132454K | 2400~2500             | 2.72 dBi        | 2.0*1.2*1     | SMD                   |
|                    | ANTX200P001B24003 | -                 | 2400~2500             | 4.8 dBi         | 18.4*7.5*0.55 | I-PEX dia 1.13, 200mm |
| 2.4/5 GHz          | ABT1003LL15R2455A | CAN4311756152521K | 2400~2500/ 5150~5875  | 2.45 / 1.55 dBi | 1.0*3.2*1.6   | SMD                   |
|                    | ANT5320LL24R2455A | CAN4311753242522K | 2400~2500/ 5150~5875  | 2.17 / 3.51 dBi | 5.3*2.0*1.2   | SMD                   |
| GPS                | ANT5320LL14R1575A | CAN4311753141582K | 1575                  | 3.16 dBi        | 5.3*2.0*1.2   | SMD                   |
|                    | ANT3216LL15R1575A | CAN4311712151583K | 1575                  | 7.32 dBi        | 3.2*1.6*1.2   | SMD                   |
|                    | ANT1515B00BT1575A | CAN43134230B1581B | 1575                  | 1.5 dBic        | 15*15*4       | SMD                   |
|                    | ANT1818B00FT1575A | CAN43134240F1581B | 1575                  | 4 dBic          | 18*18*4       | Pin Solder            |
|                    | ANT2525B00BT1575A | CAN43134250B1581B | 1575                  | 5.5 dBic        | 25*25*4       | SMD                   |
| GPS+Glonass        | ANT8010LL05R1516A | CAN4311781051563K | 1575 / 1602           | 1.53/1.69 dB    | 8.0*1.0*1.0   | SMD                   |
|                    | ANT5320LL14R1516A | CAN4311751451562K | 1575 / 1602           | 1.45/1.46 dB    | 5.3*2.0*1.2   | SMD                   |
|                    | ANT1818B00BT1516A | CAN43134240B1561B | 1575 / 1602           | 1.89 / 2.59 dBi | 18*18*4       | SMD                   |
|                    | ANT2525B00DT1516A | CAN43134250D1561B | 1575 / 1602           | 3.5 / 3.8 dBi   | 25*25*4       | Pin Solder            |
| Active GPS         | ANT1212JB27B1575A | CAN4313322271581B | 1575                  | 25 dB           | 12*12*6.5     | Connector             |
|                    | ANT1818JB30B1575A | CAN4313324301581B | 1575                  | 25 dB           | 18*18*7.1     | Connector             |
|                    | ANT2525JB08B1575A | CAN4313325081581B | 1575                  | 16 dB           | 25*25*7.5     | Connector             |
|                    | ANT1606JB12B1575A | CAN4313346121581B | 1575                  | 20 dB           | 20*6*6.4      | Connector             |
| Active GPS+Glonass | ANT8010JLC1B1516A | CAN4313981C11561B | 1575 / 1602           | 20/20 dB        | 22*6*1.9      | Connector             |
| SDARS              | ANT2020B00FT2300A | CAN43134259F2301B | 2320~2345             | N/A             | 20*20*4       | Pin Solder            |

# Product Information

## 2.4/5 GHz

| 2.4 GHz                                                                             |                                                                                  |                                                                                                                                       |                                                                                                  |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Model                                                                               | Part No./ Description                                                            | Electrical Data                                                                                                                       | Mechanical Data                                                                                  |
|    | ANT1204F001R2400A /<br>CAN4311059012451K<br>1204 2.4GHz PIFA Chip Antenna        | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 6.66 dBi(Typ.)     | <b>Size (mm)</b> : 12*4*2.0<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>     |
|    | ANT8010LL04R2400A /<br>CAN4311781042453K<br>8010 2.4GHz Monopole<br>Chip Antenna | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 5.88 dBi(Typ.)     | <b>Size (mm)</b> : 8.0*1.0*1.0<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|    | ANT7836A003R2400A /<br>CAN4311278032451K<br>7836 2.4GHz Monopole<br>Chip Antenna | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 3.93 dBi dBi(Typ.) | <b>Size (mm)</b> : 7.8*3.6*0.5<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|    | ANT5320LL45R2400A /<br>CAN4311753452451K<br>5320 2.4GHz Monopole<br>Chip Antenna | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 5.5 dBi dBi(Typ.)  | <b>Size (mm)</b> : 5.3*2.0*1.2<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|   | ANT5320LL24R2400A /<br>CAN4311753242452K<br>5320 2.4GHz PIFA Chip Antenna        | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 2.78 dBi(Typ.)     | <b>Size (mm)</b> : 5.3*2.0*1.25<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b> |
|  | ANT5010LL04R2400A /<br>CAN4311751042453K<br>5010 2.4GHz Monopole<br>Chip Antenna | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.8 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 2.28 dBi(Typ.)     | <b>Size (mm)</b> : 5.0*1.0*1.0<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|  | ANT3216LL00R2400A /<br>CAN4311712002453K<br>3216 2.4GHz Monopole<br>Chip Antenna | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.5 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 5 dBi(Typ.)        | <b>Size (mm)</b> : 3.2*1.6*1.3<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|  | ANT3216A063R2400A /<br>CAN4311212632453K<br>3216 2.4GHz PIFA Chip Antenna        | <b>Freq. Range:</b> 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 1.69 dBi(Typ.)     | <b>Size (mm)</b> : 3.2*1.6*0.5<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|  | ANT2012LL00R2400A /<br>CAN4311714002454K<br>2012 2.4GHz Monopole<br>Chip Antenna | <b>Freq. Range</b> : 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 3.77 dBi(Typ.)    | <b>Size (mm)</b> : 2.0*1.2*1.1<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|  | ANT2012LL13R2400A /<br>CAN4311714132454K<br>2012 2.4GHz PIFA Chip Antenna        | <b>Freq. Range</b> : 2400~2500 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 2.72 dBi(Typ.)    | <b>Size (mm)</b> : 2.0*1.2*1.0<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>  |
|  | ANTX200P001B24003<br>2.4GHz PCB Antenna - mini                                   | <b>Freq. Range</b> : 2400 MHz<br><b>VSWR</b> *: 2.5 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain</b> : 4.8 dBi(Typ.)          | <b>Size (mm)</b> : 18.4*7.5*0.55<br><b>Operating Temp.:</b> -40 ~ 80°C<br><b>RoHS Compliance</b> |

\* VSWR depends on the environment



## 2.4 / GPS

| Model                                                                             | Part No./ Description                                                            | Electrical Data                                                                                                                                   | Mechanical Data                                                                                  |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|  | ANT1003LL15R1524A /<br>CAN4311756151521K<br>1003 2.4GHz+GPS PIFA Chip<br>Antenna | <b>Freq. Range</b> : 1575 / 2400 MHz<br><b>VSWR</b> * : 2.8 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 1.15 dBi / 2.90 dBi(Typ.) | <b>Size (mm)</b> : 10*3*1.5<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b>    |
|  | ANT5320LL07R1524A /<br>CAN4311753071522K<br>5320 2.4GHz+GPS PIFA Chip<br>Antenna | <b>Freq. Range</b> : 1575 / 2400 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 2.47 dBi / 2.04 dBi(Typ.) | <b>Size (mm)</b> : 5.3*2.0*1.2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |

## 2.4 / 5 GHz

| Model                                                                               | Part No./ Description                                                              | Electrical Data                                                                                                                                              | Mechanical Data                                                                                  |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|    | ANT1003LL15R2455A /<br>CAN4311756152521K<br>1003 2.4+5GHz Monopole<br>Chip Antenna | <b>Freq. Range</b> :<br>2400~2500/ 5150~5875 MHz<br><b>VSWR</b> * : 2.8 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 2.45 dBi / 1.55dBi(Typ.) | <b>Size (mm)</b> : 10*3*1.6<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b>    |
|    | ANT5320LL04R2455A /<br>CAN4311753042522K<br>5320 2.4+5GHz Monopole<br>Chip Antenna | <b>Freq. Range</b> :<br>2400~2500/ 5150~5875 MHz<br><b>VSWR</b> * : 2.8 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 2.72 dBi / 3.85dBi(Typ.) | <b>Size (mm)</b> : 5.3*2.0*1.4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |
|  | ANT5320LL24R2455A /<br>CAN4311753242522K<br>5320 2.4+5GHz PIFA Chip<br>Antenna     | <b>Freq. Range</b> :<br>2400~2500/ 5150~5875 MHz<br><b>VSWR</b> * : 2.8 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 2.17 dBi / 3.51dBi(Typ.) | <b>Size (mm)</b> : 5.3*2.0*1.2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |
|  | ANTX100P001B24553<br>2.4+5GHz PCB Antenna                                          | <b>Freq. Range</b> :<br>2400~2500/ 5150~5875 MHz<br><b>VSWR</b> * : 2.5 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 5.1dBi(Typ.)             | <b>Size (mm)</b> : 50*10*0.9<br><b>Operating Temp.</b> : -40 ~ 80°C<br><b>RoHS Compliance</b>    |

## 5 GHz

| Model                                                                               | Part No./ Description                                                          | Electrical Data                                                                                                                      | Mechanical Data                                                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|  | ANT3216LL05R5000A /<br>CAN4311712055003K<br>3216 5GHz Monopole<br>Chip Antenna | <b>Freq. Range</b> : 5150~5875 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 5.71 dBi(Typ.) | <b>Size (mm)</b> : 3.2*1.6*1.3<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |

\* VSWR depends on the environment

## Cellular WWAN / Short Range

| GSM/LTE Cellular                                                                    |                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                                                               | Part No./ Description                                                                   | Electrical Data                                                                                                                                                                    | Mechanical Data                                                                                                                                                                             |
|    | ANT2112A010B0918A /<br>CAN4313284109181B<br>2112 Cellular-Band Monopole<br>Chip Antenna | <b>Freq. Range :</b><br>824~960 / 1710~1990 MHz<br><b>VSWR* :</b> 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 0.5 ~ 1 dBi(Typ.)                                 | <b>Size (mm) :</b> 21*12*0.5<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                               |
|    | ANT3505B000TWPENA /<br>CAN4313449009181B<br>3505 Penta-band Antenna                     | <b>Freq. Range :</b><br>824~960 / 1710~2170 MHz<br><b>VSWR* :</b> 2.8 / 3.5 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 2.9 dBi(Typ.)                               | <b>Size (mm) :</b> 35*5*6<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                  |
|    | ANT1204LL00R0918A /<br>CAN4311759009181K<br>1204 Cellular-Band Monopole<br>Chip Antenna | <b>Freq. Range :</b> 900/1800 MHz<br><b>VSWR* :</b> 3.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> N/A                                                             | <b>Size (mm) :</b> 12*4*1.2<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                |
|    | ANTX100P001BWPEN3<br>Penta-band PCB Antenna                                             | <b>Freq. Range :</b><br>824~960 / 1710~2170 MHz<br><b>VSWR* :</b> 2.5 Max ( Low Band )<br>3.5 Max ( High Band )<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 4.2 dBi(Typ.) | <b>Size (mm) :</b> 50*20*0.55<br><b>Operating Temp.:</b> -40 ~ 80°C<br><b>Cable* :</b> Φ1.13 / 100mm<br><b>Connector:</b> I-PEX<br><b>Mounting:</b> Adhesive Tape<br><b>RoHS Compliance</b> |
| ISM Bands                                                                           |                                                                                         |                                                                                                                                                                                    |                                                                                                                                                                                             |
| Model                                                                               | Part No./ Description                                                                   | Electrical Data                                                                                                                                                                    | Mechanical Data                                                                                                                                                                             |
|  | ANT1204F005R0915A /<br>CAN4311059050911K<br>1204 915MHz Monopole<br>Chip Antenna        | <b>Freq. Range :</b> 915 MHz<br><b>VSWR* :</b> 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 1.59 dBi(Typ.)                                                       | <b>Size (mm) :</b> 12*4*1.6<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                |
|  | ANT1204LL05R0915A /<br>CAN4311759050911K<br>1204 915MHz Monopole<br>Chip Antenna        | <b>Freq. Range :</b> 915 MHz<br><b>VSWR* :</b> 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 3.32 dBi(Typ.)                                                       | <b>Size (mm) :</b> 12*4*1.6<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                |
|  | ANT1204F007R0870A /<br>CAN4311059070871K<br>1204 870MHz Monopole<br>Chip Antenna        | <b>Freq. Range :</b> 870 MHz<br><b>VSWR* :</b> 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 1.67 dBi(Typ.)                                                       | <b>Size (mm) :</b> 12*4*1.6<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                |
|  | ANT1204LL08R0870A /<br>CAN4311759080871K<br>1204 870MHz Monopole<br>Chip Antenna        | <b>Freq. Range :</b> 870 MHz<br><b>VSWR* :</b> 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 0.5 dBi(Typ.)                                                        | <b>Size (mm) :</b> 12*4*1.6<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                |
|  | ANT1204LL17R0870A /<br>CAN4311759170871K<br>1204 870MHz PIFA Chip Antenna               | <b>Freq. Range :</b> 870 MHz<br><b>VSWR* :</b> 2.8 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 1.05 dBi(Typ.)                                                       | <b>Size (mm) :</b> 12*4*1.0<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                |
|  | ANT7020LL05R0870A /<br>CAN4311772050872K<br>7020 870MHz Monopole<br>Chip Antenna        | <b>Freq. Range :</b> 870 MHz<br><b>VSWR* :</b> 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> N/A                                                                  | <b>Size (mm) :</b> 7.0*2.0*0.7<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                             |
|  | ANT1204F002R0433A /<br>CAN4311059020431K<br>1204 433MHz Monopole<br>Chip Antenna        | <b>Freq. Range :</b> 433 MHz<br><b>VSWR* :</b> 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> 0.79 dBi(Typ.)                                                       | <b>Size (mm) :</b> 12*4*1.6<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                                                                                                |

\* VSWR depends on the environment

\* Cable/Connector is customizable



## ISM Bands

| Model                                                                             | Part No./ Description                                                            | Electrical Data                                                                                                                | Mechanical Data                                                                               |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|  | ANT1204LL20R0433A /<br>CAN4311759200431K<br>1204 433MHz Monopole<br>Chip Antenna | <b>Freq. Range</b> : 433 MHz<br><b>VSWR</b> * : 3.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 0.83 dBi(Typ.) | <b>Size (mm)</b> : 12*4*1.2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |
|  | ANT1204F002R0315A /<br>CAN4311059020311K<br>1204 315MHz Monopole<br>Chip Antenna | <b>Freq. Range</b> : 315 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : N/A            | <b>Size (mm)</b> : 12*4*1.6<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |
|  | ANT1204LL20R0315A /<br>CAN4311759200311K<br>1204 315MHz Monopole<br>Chip Antenna | <b>Freq. Range</b> : 315 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : N/A            | <b>Size (mm)</b> : 12*4*1.2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |
|  | ANT2405F001R0169A /<br>CAN4311050010162K<br>2405 169MHz Monopole<br>Chip Antenna | <b>Freq. Range</b> : 169 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : N/A            | <b>Size (mm)</b> : 24*5*1.6<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b> |

\* VSWR depends on the environment

\* Cable/Connector is customizable



## GPS

| GPS                                                                                 |                                                                               |                                                                                                                                 |                                                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Model                                                                               | Part No./ Description                                                         | Electrical Data                                                                                                                 | Mechanical Data                                                                                                       |
|    | ANT8010LL05R1575A /<br>CAN4311781051583K<br>8010 GPS Monopole<br>Chip Antenna | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 0.67 dBi(Typ.) | <b>Size (mm)</b> : 8.0*1.0*1.0<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b>                      |
|    | ANT5320LL14R1575A /<br>CAN4311753141582K<br>5320 GPS PIFA Chip Antenna        | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 3.16 dBi(Typ.) | <b>Size (mm)</b> : 5.3*2.0*1.2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b>                      |
|    | ANT3216LL15R1575A /<br>CAN4311712151583K<br>3216 GPS PIFA Chip Antenna        | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 7.32 dBi(Typ.) | <b>Size (mm)</b> : 3.2*1.6*1.2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b>                      |
|    | ANT1010B00FT1575A /<br>CAN43134200F1581B<br>10104 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : -3 dBic(Typ.)    | <b>Size (mm)</b> : 10*10*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : PIN<br><b>RoHS Compliance</b> |
|    | ANT1212B00BT1575A /<br>CAN43134220B1581B<br>12124 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : -1 dBic(Typ.)    | <b>Size (mm)</b> : 12*12*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : SMD<br><b>RoHS Compliance</b> |
|  | ANT1212B00DT1575A /<br>CAN43134220D1581B<br>12124 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : -1 dBic(Typ.)    | <b>Size (mm)</b> : 12*12*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : PIN<br><b>RoHS Compliance</b> |
|  | ANT1515B00BT1575A /<br>CAN43134230B1581B<br>15154 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 1.5 dBic(Typ.)   | <b>Size (mm)</b> : 15*15*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : SMD<br><b>RoHS Compliance</b> |
|  | ANT1515B00DT1575A /<br>CAN43134230D1581B<br>15154 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 1.5 dBic(Typ.)   | <b>Size (mm)</b> : 15*15*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : PIN<br><b>RoHS Compliance</b> |
|  | ANT1515B00FT1575A /<br>CAN43134230F1581B<br>15154 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 1.5 dBic(Typ.)   | <b>Size (mm)</b> : 15*15*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : PIN<br><b>RoHS Compliance</b> |
|  | ANT1818B00AT1575A /<br>CAN43134240A1581B<br>18182 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 2 dBic(Typ.)     | <b>Size (mm)</b> : 18*18*2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : SMD<br><b>RoHS Compliance</b> |
|  | ANT1818B00BT1575A /<br>CAN43134240B1581B<br>18184 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 4 dBic(Typ.)     | <b>Size (mm)</b> : 18*18*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : SMD<br><b>RoHS Compliance</b> |
|  | ANT1818B00CT1575A /<br>CAN43134240C1581B<br>18182 GPS Patch Antenna           | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 2 dBic(Typ.)     | <b>Size (mm)</b> : 18*18*2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : PIN<br><b>RoHS Compliance</b> |

\* VSWR depends on the environment



## GPS

| Model                                                                               | Part No./ Description                                               | Electrical Data                                                                                                              | Mechanical Data                                                                                                    |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
|    | ANT1818B00DT1575A /<br>CAN43134240D1581B<br>18184 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 4 dBic(Typ.)      | <b>Size (mm):</b> 18*18*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b> |
|    | ANT1818B00ET1575A /<br>CAN43134240E1581B<br>18182 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 2 dBic(Typ.)      | <b>Size (mm):</b> 18*18*2<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b> |
|    | ANT2525B00AT1575A /<br>CAN43134250A1581B<br>25252 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 5 dBic(Typ.)      | <b>Size (mm):</b> 25*25*2<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> SMD<br><b>RoHS Compliance</b> |
|    | ANT2525B00BT1575A /<br>CAN43134250B1581B<br>25254 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 5.5 dBic(Typ.)    | <b>Size (mm):</b> 25*25*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> SMD<br><b>RoHS Compliance</b> |
|    | ANT2525B00CT1575A /<br>CAN43134250C1581B<br>25252 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 5 dBic(Typ.)      | <b>Size (mm):</b> 25*25*2<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b> |
|  | ANT2525B00DT1575A /<br>CAN43134250D1581B<br>25254 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 5.5 dBic(Typ.)    | <b>Size (mm):</b> 25*25*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b> |
|  | ANT2525B00ET1575A /<br>CAN43134250E1581B<br>25252 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 5 dBic(Typ.)      | <b>Size (mm):</b> 25*25*2<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b> |
|  | ANT2525B00FT1575A /<br>CAN43134250F1581B<br>25254 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> RHCP<br><b>Peak Gain:</b> 5.5 dBic(Typ.)    | <b>Size (mm):</b> 25*25*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b> |
|  | ANT1606B00DT1575A /<br>CAN43134460D1581B<br>16064 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain:</b> -0.5 dBic(Typ.) | <b>Size (mm):</b> 16*6*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b>  |
|  | ANT1004B000R1575A /<br>CAN4311441001581K<br>10044 GPS Patch Antenna | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> *: 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain:</b> 1.61 dBic(Typ.) | <b>Size (mm):</b> 10*4*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> SMD<br><b>RoHS Compliance</b>  |

\* VSWR depends on the environment

\* Cable/Connector is customizable

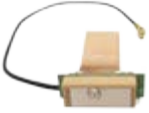
## GPS / Glonass / Active Antenna

| GPS+Glonass                                                                         |                                                                                       |                                                                                                                                                                      |                                                                                                                                |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Model                                                                               | Part No./ Description                                                                 | Electrical Data                                                                                                                                                      | Mechanical Data                                                                                                                |
|    | ANT8010LL05R1516A /<br>CAN4311781051563K<br>8010 GPS+Glonass Monopole<br>Chip Antenna | <b>Freq. Range</b> : 1575 / 1602 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 1.53/1.69 dB dBi(Typ.)                       | <b>Size (mm)</b> : 8.0*1.0*1.0<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b>                               |
|    | ANT5320LL14R1516A /<br>CAN4311751451562K<br>5320 GPS+Glonass PIFA Chip<br>Antenna     | <b>Freq. Range</b> : 1575 / 1602 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : Linear<br><b>Peak Gain</b> : 1.45/1.46 dBi(Typ.)                          | <b>Size (mm)</b> : 5.3*2.0*1.2<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>RoHS Compliance</b>                               |
|    | ANT1818B00BT1516A /<br>CAN43134240B1561B<br>18184 Gps+Glonass Patch<br>Antenna        | <b>Freq. Range</b> : 1575 / 1602 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 1.89 / 2.59 dBi(Typ.)                          | <b>Size (mm)</b> : 18*18*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : SMD<br><b>RoHS Compliance</b>          |
|    | ANT1818B00DT1516A /<br>CAN43134240D1561B<br>18184 Gps+Glonass Patch<br>Antenna        | <b>Freq. Range</b> : 1575 / 1602 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 2.65 / 2.79 dBi (Typ.)                         | <b>Size (mm)</b> : 18*18*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : PIN<br><b>RoHS Compliance</b>          |
|    | ANT2525B00BT1516A /<br>CAN43134250B1561B<br>25254 Gps+Glonass Patch<br>Antenna        | <b>Freq. Range</b> : 1575 / 1602 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 3.44 / 4.10 dBi (Typ.)                         | <b>Size (mm)</b> : 25*25*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : SMD<br><b>RoHS Compliance</b>          |
|  | ANT2525B00DT1516A /<br>CAN43134250D1561B<br>25254 Gps+Glonass Patch<br>Antenna        | <b>Freq. Range</b> : 1575 / 1602 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>Peak Gain</b> : 3.5 / 3.8 dBi (Typ.)                           | <b>Size (mm)</b> : 25*25*4<br><b>Operating Temp.</b> : -40 ~ 105°C<br><b>Mounting</b> : PIN<br><b>RoHS Compliance</b>          |
| Active GPS                                                                          |                                                                                       |                                                                                                                                                                      |                                                                                                                                |
| Model                                                                               | Part No./ Description                                                                 | Electrical Data                                                                                                                                                      | Mechanical Data                                                                                                                |
|  | ANT2525JB08B1575A /<br>CAN4313325081581B<br>25256.9 GPS Active Antenna                | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>LNA Gain</b> : 16 dB (Typ.)<br><b>Antenna Gain</b> : 5.5 dBic(Typ.)   | <b>Size (mm)</b> : 25*25*6.9<br><b>Cable</b> * (mm): 1.13*75<br><b>Operating Temp.</b> : -30 ~ 85°C<br><b>RoHS Compliance</b>  |
|  | ANT1818JB30B1575A /<br>CAN4313324301581B<br>18187.1 GPS Active Antenna                | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>LNA Gain</b> : 25 dB (Typ.)<br><b>Antenna Gain</b> : 1.54 dBic(Typ.)  | <b>Size (mm)</b> : 18*18*7.1<br><b>Cable</b> * (mm): 1.37*100<br><b>Operating Temp.</b> : -30 ~ 85°C<br><b>RoHS Compliance</b> |
|  | ANT1515JB27B1575A /<br>CAN4313323271581B<br>15156.5 GPS Active Antenna                | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization</b> : RHCP<br><b>LNA Gain</b> : 20.5 dB (Typ.)<br><b>Antenna Gain</b> : 1.0 dBic(Typ.) | <b>Size (mm)</b> : 15*15*6.5<br><b>Cable</b> * (mm): 1.13*100<br><b>Operating Temp.</b> : -30 ~ 85°C<br><b>RoHS Compliance</b> |
|  | ANT1212JB27B1575A /<br>CAN4313322271581B<br>12126.5 GPS Active Antenna                | <b>Freq. Range</b> : 1575 MHz<br><b>VSWR</b> * : 1.5 (Max)<br><b>Polarization</b> : RHCP<br><b>LNA Gain</b> : 25 dB (Typ.)<br><b>Antenna Gain</b> : -0.16 dBic(Typ.) | <b>Size (mm)</b> : 12*12*6.5<br><b>Cable</b> * (mm): 1.13*60<br><b>Operating Temp.</b> : -30 ~ 85°C<br><b>RoHS Compliance</b>  |

\* VSWR depends on the environment

\* Cable/Connector is customizable



| Active GPS                                                                         |                                                                                    |                                                                                                                                                                            |                                                                                                                             |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Model                                                                              | Part No./ Description                                                              | Electrical Data                                                                                                                                                            | Mechanical Data                                                                                                             |
|   | ANT1606JB12B1575A /<br>CAN4313346121581B<br><br>20066.4 GPS Active Antenna         | <b>Freq. Range:</b> 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>LNA Gain:</b> 20 dB (Typ.)<br><b>Antenna Gain:</b> 0.35 dBi (Typ.)          | <b>Size (mm):</b> 20*6*6.4<br><b>Cable</b> * (mm): 1.37*93<br><b>Operating Temp.:</b> -30 ~ 85°C<br><b>RoHS Compliance</b>  |
| Active GPS+Glonass                                                                 |                                                                                    |                                                                                                                                                                            |                                                                                                                             |
| Model                                                                              | Part No./ Description                                                              | Electrical Data                                                                                                                                                            | Mechanical Data                                                                                                             |
|   | ANT8010JLC1B1516A /<br>CAN4313981C11561B<br><br>22061.9 GPS+Glonass Active Antenna | <b>Freq. Range:</b> 1575/1602 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>LNA Gain:</b> 20 / 20 dB (Typ.)<br><b>Antenna Gain:</b> 5.88 dBi(Typ.) | <b>Size (mm):</b> 22*6*1.9<br><b>Cable</b> * (mm): 1.13*100<br><b>Operating Temp.:</b> -30 ~ 85°C<br><b>RoHS Compliance</b> |
| GPS+Beidou                                                                         |                                                                                    |                                                                                                                                                                            |                                                                                                                             |
| Model                                                                              | Part No./ Description                                                              | Electrical Data                                                                                                                                                            | Mechanical Data                                                                                                             |
|   | ANT1818B00FT15BDA /<br>CAN43134240F1551B<br><br>18184 GPS+Beidou Patch Antenna     | <b>Freq. Range:</b> 1561 / 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> RHCP<br>Peak Gain: 2.47 / 2.51 dBi(Typ.)                                          | <b>Size (mm):</b> 18*18*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b>          |
|  | ANT2525B00DT15BDA /<br>CAN43134250D1551B<br><br>25254 GPS+Beidou Patch Antenna     | <b>Freq. Range:</b> 1561 / 1575 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> RHCP<br>Peak Gain: 5.13 / 4.62 dBi(Typ.)                                          | <b>Size (mm):</b> 25*25*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b>          |

\* VSWR depends on the environment

\* Cable/Connector is customizable

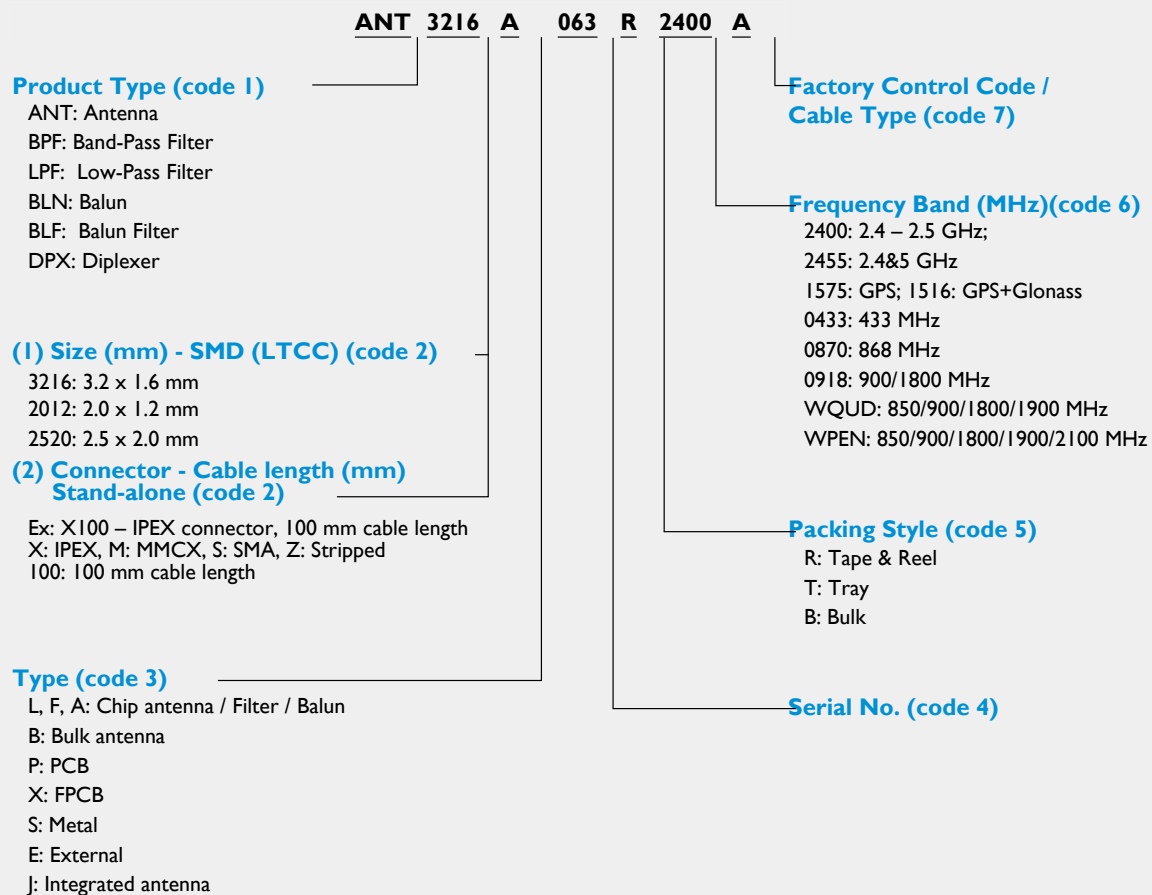
## Others

| FM                                                                                  |                                                                                         |                                                                                                                                        |                                                                                                                    |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Model                                                                               | Part No./ Description                                                                   | Electrical Data                                                                                                                        | Mechanical Data                                                                                                    |
|  | ANT2405F001R0098A /<br>CAN4311050010882K<br><br>2405 FM Monopole Chip Antenna           | <b>Freq. Range :</b> 88 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> Linear<br><br><b>Peak Gain :</b> N/A                  | <b>Size (mm):</b> 24*5*1.6<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                        |
|  | ANT1105LF00R0098A /<br>CAN4311858000882K<br><br>1105 FM (Ferrite) Monopole Chip Antenna | <b>Freq. Range :</b> 88 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> Linear<br><b>Peak Gain :</b> N/A                      | <b>Size (mm):</b> 11*5*1.3<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                        |
| SDARS                                                                               |                                                                                         |                                                                                                                                        |                                                                                                                    |
| Model                                                                               | Part No./ Description                                                                   | Electrical Data                                                                                                                        | Mechanical Data                                                                                                    |
|  | ANT2020B00FT2300A /<br>CAN43134259F2301B<br><br>20204 SDARS Patch Antenna               | <b>Freq. Range :</b> 2320~2345 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> LHCP<br><b>Peak Gain :</b> N/A                 | <b>Size (mm):</b> 20*20*4<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>Mounting:</b> PIN<br><b>RoHS Compliance</b> |
| 1.88~2.1 GHz                                                                        |                                                                                         |                                                                                                                                        |                                                                                                                    |
| Model                                                                               | Part No./ Description                                                                   | Electrical Data                                                                                                                        | Mechanical Data                                                                                                    |
|  | ANT8868LL00R1880A /<br>CAN4311788001881K<br><br>8868 DECT Monopole Chip Antenna         | <b>Freq. Range :</b> 1880~2000 MHz<br><b>VSWR</b> * : 2.0 (Max)<br><b>Polarization:</b> Linear<br><br><b>Peak Gain:</b> 6.13 dBi(Typ.) | <b>Size (mm):</b> 8.8*6.8*0.9<br><b>Operating Temp.:</b> -40 ~ 105°C<br><b>RoHS Compliance</b>                     |

\* VSWR depends on the environment

## Explanation of ordering code - New

Ordering example : **ANT3216A063R2400A**



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