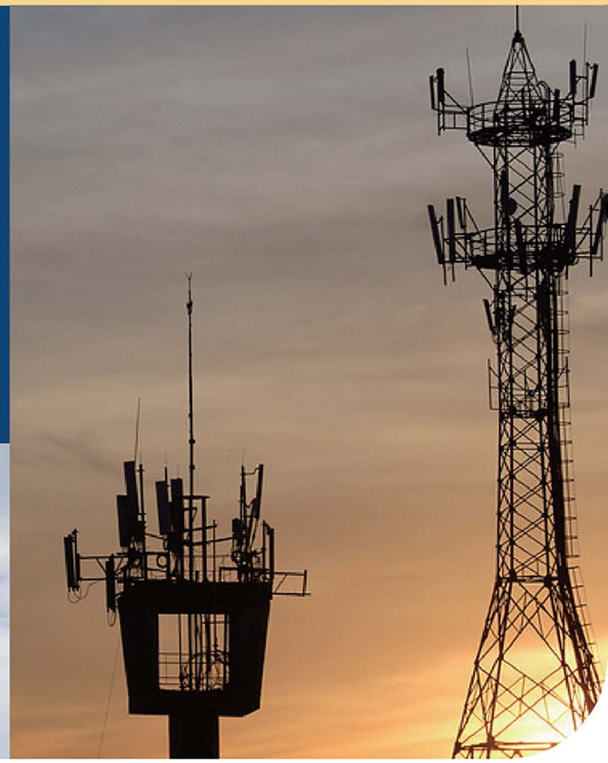
# ZTT GROUP

Established in 1992, ZTT started from optical fiber communications. ZTT was listed on Shanghai Stock Exchange (SSE) in 2002 (Stock Code in SSE: 600522), and issued the shares known as the "First Shares for Special Optical Fiber & Cable". Now ZTT has developed a diversified industries of telecom, power grid, marine system, renewable energy, new materials, etc.

Awarded for national innovative enterprise, Jiangsu province outstanding private enterprise, Top-500 Enterprise in China, China Quality Award, Gold-medal listed company, ZTT Group is now hosting 76 subsidiary companies and over 16,000 employees, with the deployment of Beijing Headquarters, Nantong New Headquarters, and Rudong Headquarters, as well as 54 offices and 10 marketing centers set up overseas, and 6 overseas plants operated in India, Brazil, Indonesia, Morocco, Turkey and Germany. ZTT has exported products to 160 countries and regions and has broken through the US$10.82 billion marks in revenue in 2020.

# Antenna System Solutions Provider



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# Contents

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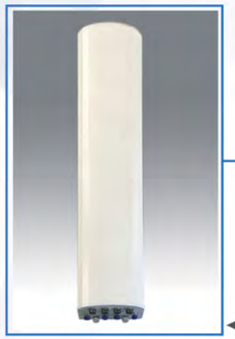
# Company Profile

Zhongtian Broadband Technology Co., Ltd is a wholly-owned subsidiary by Jiangsu Zhongtian Technology Co., Ltd (ZTT), which is a public company of China's telecommunications industry. The company keeps pace with research and participates in various antenna system projects in domestic and overseas. Nowadays, company specializes in producing a full range of Antenna products, including base station antenna, camouflaged antenna, and indoor distribution antenna, and also providing System solutions. The products and solutions have been widely applied by China Telecom, China Mobile, China Unicom, and other overseas communication operators.

With the accelerating of 4G development, antennas made by ZTT can meet the requirements of communication technology for new generation, meeting the network construction requirements of each operator all over the world.

# FTTA/4G Solution

ZTT can provide a series of products for FTTA solution and 3G/4G mobile telecommunication system, such as antenna, RF jumpers, PDLC/ODC patch cord, preterminated hybrid box, hybrid cable, and portable communication base machine room.



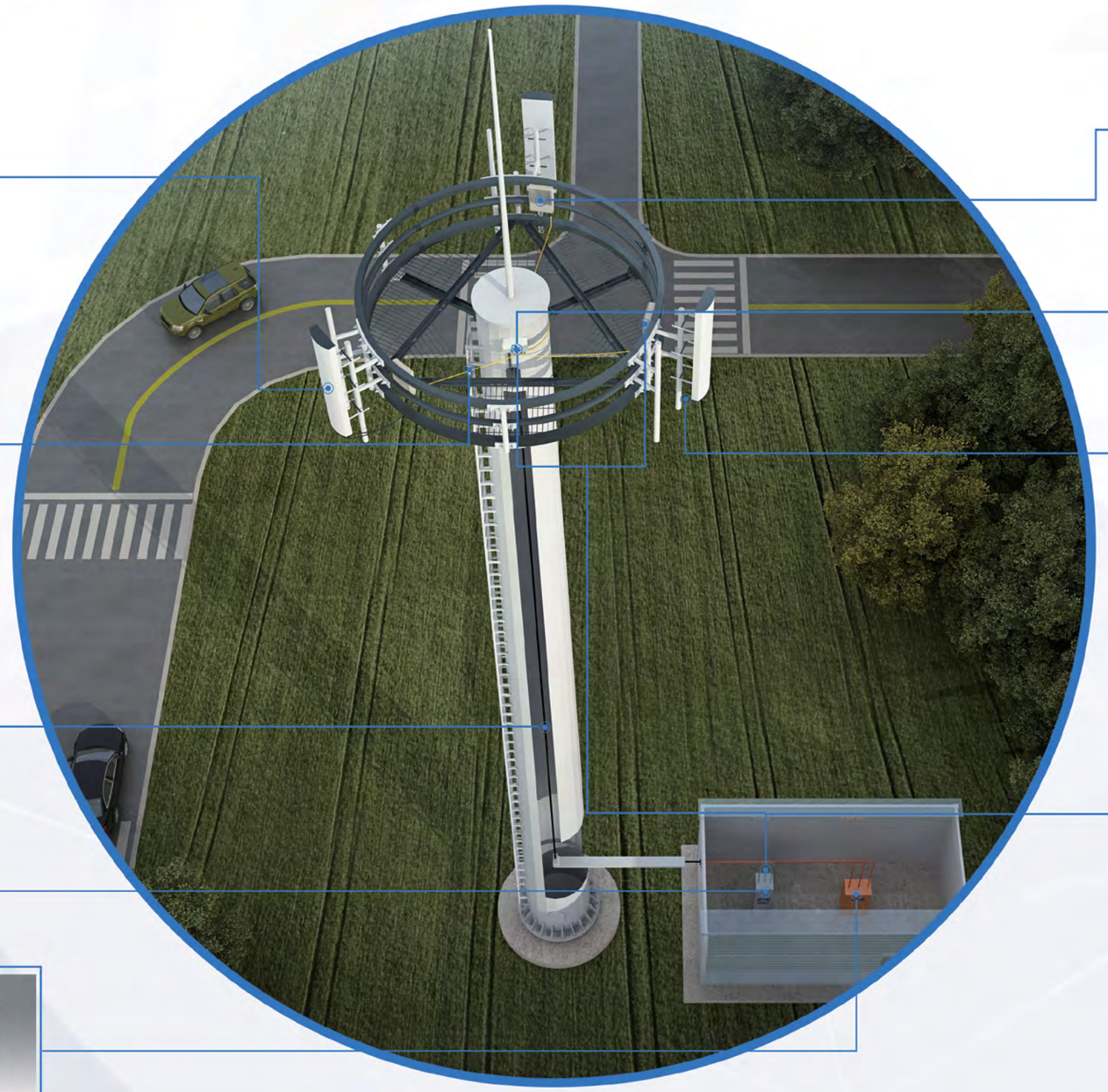
◂ Antenna

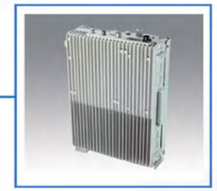
▲ FPHC jumper[1/2″]

▲ Hybrid cable [7/8″]

◂ BBU


UPS ▸





◂ RRU

Branch box ▸

◂ RF jumper(1/2″)

◂ ODC connector

◂ PDLC

◂ Pull away jumper



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# Typical Parameter for Antenna Production Series

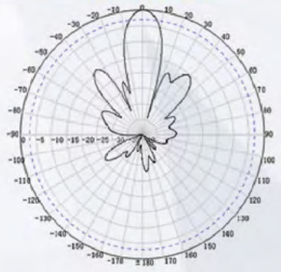
## ■ Base Station Antenna

820MHz~960MHz
Electric adjustable antenna

| Type | ZBA-J-X6515D0~14 |
|---|---|
| Frequency range（MHz） | 820~960 |
| Polarization | ±45° |
| Gain(dBi) | 17.5 |
| Horizontal pattern | |
| Half-power beam width（°） | 65±5 |
| Front-to-back ratio(dB) 180°±30° | ≥25 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 |
| Vertical pattern | |
| Half-power beam width（°） | 13 |
| Electrical tilt（°） | 0-14 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥16 |
| VSWR | ≤1.4 |
| Isolation, between ports(dB) | ≥28 |
| Intermodulation IM3(dBm) | ≤-107 |
| Max, power per input(W) | 250 |
| Input | 7/16-F、N-F |
| Height/width/depth(mm) | 1500x295x145 |
| Weight(kg) | 13.6 |
| Temperature（℃） | -40~60 |

Horizontal Pattern

Vertical Pattern



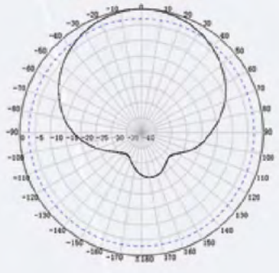




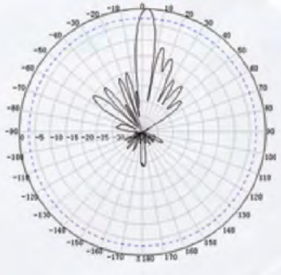
820MHz~960MHz/1710 MHz~2170MHz
Electric adjustable antenna

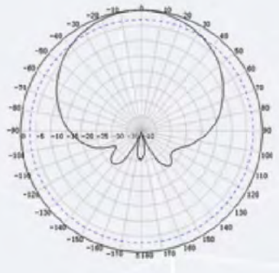
| Type | ZBA-JM-65651517D0~14&0~8 | |
|---|---|---|
| Frequency range（MHz） | 820~960 | 1710 ~2170 |
| Polarization | ±45° | ±45° |
| Gain(dBi) | 15 | 17 |
| Horizontal pattern | | |
| Half-power beam width（°） | 65±6 | 65±6 |
| Front-to-back ratio(dB) 180°±30° | ≥25 | ≥25 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 | ≥15<br>≥10 |
| Vertical pattern | | |
| Half-power beam width（°） | 13 | 7 |
| Electrical tilt（°） | 0-14 | 0-8 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥16 | ≥16 |
| VSWR | ≤1.4 | ≤1.4 |
| Isolation, between ports(dB) | ≥28 | ≥28 |
| Intermodulation IM3(dBm) | ≤-107 | ≤-107 |
| Max, power per input(W) | 250 | |
| Input | 7/16-F、N-F | |
| Height/width/depth(mm) | 1500x295x145 | |
| Weight(kg) | 13.8 | |
| Temperature（℃） | -40~60 | |

Horizontal Pattern



Vertical Pattern

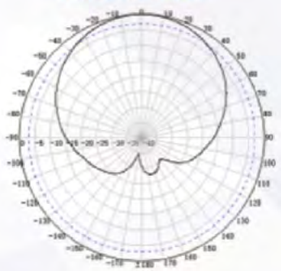




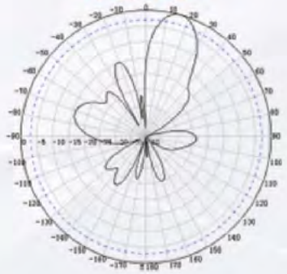
## 820 MHz ~ 960MHz /1710MHz~2170MHz
## Electric adjustable antenna

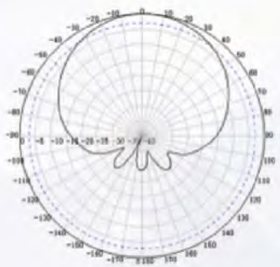
| Type | ZBA-JMM-656565151717D0~14&0~8&0~8 | | |
|---|---|---|---|
| Frequency range（MHz） | 820~960 | 1710 ~2170 | 1710 ~2170 |
| Polarization | ±45° | ±45° | ±45° |
| Gain(dBi) | 15 | 17 | 17 |
| Horizontal pattern | | | |
| Half-power beam width（°） | 65±5 | 65±5 | 65±5 |
| Front-to-back ratio(dB) 180°±30° | ≥25 | ≥25 | ≥25 |
| Cross polar ratio main direction 0° sector ±60° | ≥15, ≥10 | ≥15, ≥10 | ≥15, ≥10 |
| Vertical pattern | | | |
| Half-power beam width（°） | 13 | 7 | 7 |
| Electrical tilt（°） | 0-14 | 0-8 | 0~8 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥16 | ≥16 | ≥16 |
| VSWR | ≤1.4 | ≤1.4 | ≤1.4 |
| Isolation, between ports(dB) | ≥28 | ≥28 | ≥28 |
| Intermodulation IM3(dBm) | ≤-107 | ≤-107 | ≤-107 |
| Max, power per input(W) | 250 | | |
| Input | 7/16-F、N-F | | |
| Height/width/depth(mm) | 1550x365x145 | | |
| Weight(kg) | 15.8 | | |
| Temperature（℃） | -40~60 | | |

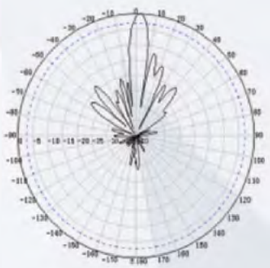
Horizontal Pattern



Vertical Pattern







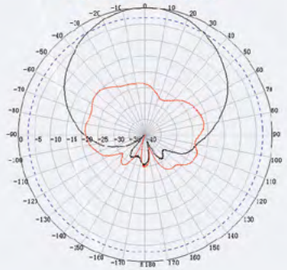




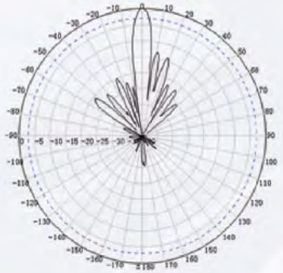
## 1710MHz~2170MHz
## Electric adjustable antenna

| Type | ZBA-M-X6518D0~10 |
|---|---|
| Frequency range（MHz） | 1710~2170 |
| Polarization | ±45° |
| Gain(dBi) | 18 |
| Horizontal pattern | |
| Half-power beam width（°） | 65±5 |
| Front-to-back ratio(dB) 180°±30° | ≥25 |
| Cross polar ratio main direction 0° sector ±60° | ≥15, ≥10 |
| Vertical pattern | |
| Half-power beam width（°） | 7±2 |
| Electrical tilt（°） | 0-10 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥17 |
| VSWR | ≤1.4 |
| Isolation, between ports(dB) | ≥30 |
| Intermodulation IM3(dBm) | ≤-107 |
| Max, power per input(W) | 250 |
| Input | 7/16-F、N-F |
| Height/width/depth(mm) | 1400*167*89 |
| Weight(kg) | 7 |
| Temperature（℃） | -40~60 |

Horizontal Pattern



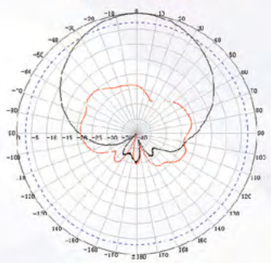
Vertical Pattern



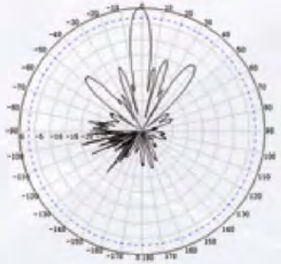
## 1710MHz~2170MHz/1710MHz~2170MHz
## Electric adjustable antenna

| Type | ZBA-MM-X651818D0~10&0~10 | |
|---|---|---|
| Frequency range（MHz） | 1710~2170 | 1710~2170 |
| Polarization | ±45° | ±45° |
| Gain(dBi) | 18 | 18 |
| Horizontal pattern | | |
| Half-power beam width（°） | 65±5 | 65±5 |
| Front-to-back ratio(dB) 180°±30° | ≥25 | ≥25 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15，<br>≥10 | ≥15，<br>≥10 |
| Vertical pattern | | |
| Half-power beam width（°） | 7±2 | 7±2 |
| Electrical tilt（°） | 0-10 | 0~10 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥17 | ≥17 |
| VSWR | ≤1.4 | ≤1.4 |
| Isolation, between ports(dB) | ≥30 | ≥30 |
| Intermodulation IM3(dBm) | ≤-107 | ≤-107 |
| Max, power per input(W) | 250 | 250 |
| Input | 7/16-F、N-F | 7/16-F、N-F |
| Height/width/depth(mm) | 1400*290*89 | |
| Weight(kg) | 15 | |
| Temperature（℃） | -40~60 | -40~60 |

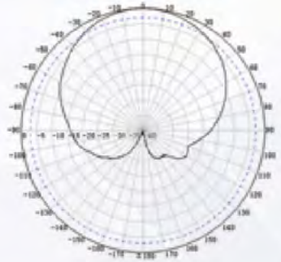
1# Horizontal Pattern



1# Vertical Pattern



2# Horizontal Pattern



2# Vertical Pattern

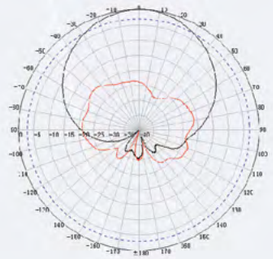




## 1710MHz~2170MHz
## Electric adjustable antenna

| Type | ZBA-MMM-X65181818D0~10&0~10&0~10 | | |
|---|---|---|---|
| Frequency range（MHz） | 1710~2170 | 1710~2170 | 1710~2170 |
| Polarization | ±45° | ±45° | ±45° |
| Gain(dBi) | 18 | 18 | 18 |
| Horizontal pattern | | | |
| Half-power beam width（°） | 65±5 | 65±5 | 65±5 |
| Front-to-back ratio(dB) 180°±30° | ≥25 | ≥25 | ≥25 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 | ≥15<br>≥10 | ≥15<br>≥10 |
| Vertical pattern | | | |
| Half-power beam width（°） | 7 | 7 | 7 |
| Electrical tilt（°） | 0~10 | 0~10 | 0~10 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥17 | ≥17 | ≥17 |
| VSWR | ≤1.4 | ≤1.4 | ≤1.4 |
| Isolation, between ports(dB) | ≥30 | ≥30 | ≥30 |
| Intermodulation IM3(dBm) | ≤-107 | ≤-107 | ≤-107 |
| Max, power per input(W) | 250 | 250 | 250 |
| Input | 7/16-F、N-F | 7/16-F、N-F | 7/16-F、N-F |
| Height/width/depth(mm) | 1400*410*89 | | |
| Weight(kg) | 22 | | |
| Temperature（℃） | -40~60 | -40~60 | -40~60 |

Horizontal Pattern

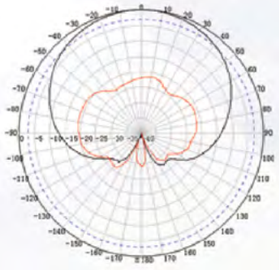


Vertical Pattern

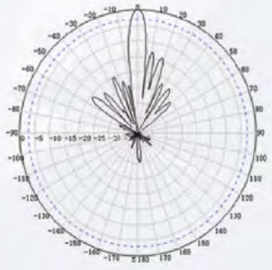
## 1710MHz~2170MHz
## Directional antenna

| Type | ZBA-M-X9018D0/3/6/9 |
|---|---|
| Frequency range（MHz） | 1710~2170 |
| Polarization | ±45° |
| Gain(dBi) | 17.5 |
| Horizontal pattern | |
| Half-power beam width（°） | 90±8 |
| Front-to-back ratio(dB) 180°±30° | ≥23 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 |
| Vertical pattern | |
| Half-power beam width（°） | 5 |
| Electrical tilt（°） | 0/3/6/9 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥17 |
| VSWR | ≤1.4 |
| Isolation, between ports（dB） | ≥30 |
| Intermodulation IM3（dBm） | ≤-107 |
| Max, power per input(W) | 250 |
| Input | 7/16-F、N-F |
| Height/width/depth（mm） | 1800*167*89 |
| Weight(kg) | 5.5 |
| Temperature（℃） | -40~60 |

Horizontal Pattern



Vertical Pattern



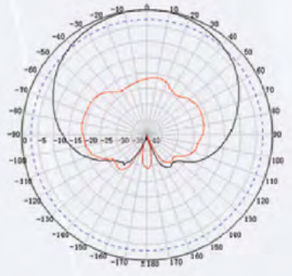




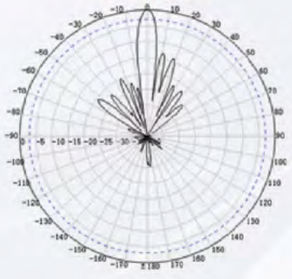
## 820~960MHz
## Directional antenna

| Type | ZBA-J-X6518D3 |
|---|---|
| Frequency range（MHz） | 820~960 |
| Polarization | ±45° |
| Gain(dBi) | 17.5 |
| Horizontal pattern | |
| Half-power beam width（°） | 65±5 |
| Front-to-back ratio(dB) 180°±30° | ≥25 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 |
| Vertical pattern | |
| Half-power beam width（°） | 7±1 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥17 |
| VSWR | ≤1.4 |
| Isolation, between ports(dB) | ≥30 |
| Intermodulation IM3(dBm) | ≤-107 |
| Max, power per input(W) | 250 |
| Input | 7/16-F、N-F |
| Height/width/depth(mm) | 2400*295*145 |
| Weight(kg) | 17 |
| Temperature（℃） | -40~60 |

Horizontal Pattern



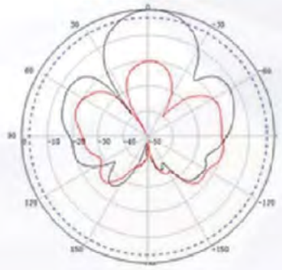
Vertical Pattern



## TDD Miniature base station antenna

| Type | ZBA-M-X3318D0~15 |
|---|---|
| Frequency range（MHz） | 1710~2170 |
| Polarization | ±45° |
| Gain(dBi) | 18 |
| Horizontal pattern | |
| Half-power beam width（°） | 32±4 |
| Front-to-back ratio(dB) 180°±30° | ≥27 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 |
| Vertical pattern | |
| Half-power beam width（°） | 15 |
| Electrical tilt（°） | 0-15 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥17 |
| VSWR | ≤1.4 |
| Isolation, between ports(dB) | ≥30 |
| Intermodulation IM3(dBm) | ≤-107 |
| Max, power per input(W) | 250 |
| Input | 7/16-F、N-F |
| Height/width/depth(mm) | 1100*320*110 |
| Weight(kg) | 7 |
| Temperature（℃） | -40~60 |

Horizontal Pattern



Vertical Pattern

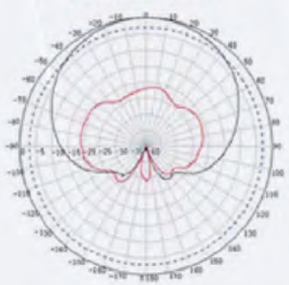




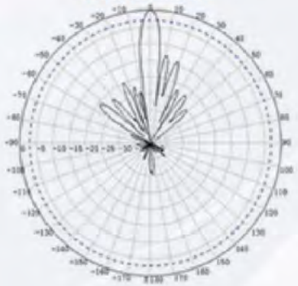
## 698~960MHz
## Electric adjustable base station antenna

| Type | ZBA-E-X6518D0~15 |
|---|---|
| Frequency range（MHz） | 698~960 |
| Polarization | ±45° |
| Gain(dBi) | 18 |
| Horizontal pattern | |
| Half-power beam width（°） | 65±5 |
| Front-to-back ratio(dB) 180°±30° | ≥25 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 |
| Vertical pattern | |
| Half-power beam width（°） | 6±1 |
| Electrical tilt（°） | 0~15 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥17 |
| VSWR | ≤1.4 |
| Isolation, between ports(dB) | ≥30 |
| Intermodulation IM3(dBm) | ≤-107 |
| Max, power per input(W) | 250 |
| Input | 7/16-F、N-F |
| Height/width/depth(mm) | 2800*295*145 |
| Weight(kg) | 22 |
| Temperature（℃） | -40~60 |

Horizontal Pattern



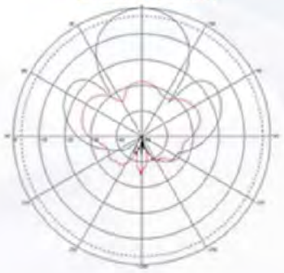
Vertical Pattern



## Along-highway antenna

| Type | ZBA-J-X3015D3 |
|---|---|
| Frequency range（MHz） | 820~960 |
| Polarization | ±45° |
| Gain(dBi) | 15 |
| Horizontal pattern | |
| Half-power beam width（°） | 32±4 |
| Front-to-back ratio(dB) 180°±30° | ≥27 |
| Cross polar ratio main direction 0°<br>sector ±60° | ≥15<br>≥10 |
| Vertical pattern | |
| Half-power beam width（°） | 30±2 |
| Electrical tilt（°） | 0/3/6/9 |
| Side lobe suppression for first side lobe above main beam（dB） | ≥15 |
| VSWR | ≤1.4 |
| Isolation, between ports(dB) | ≥30 |
| Intermodulation IM3(dBm) | ≤-107 |
| Max, power per input(W) | 250 |
| Input | 7/16-F、N-F |
| Height/width/depth(mm) | 600*565*145 |
| Weight(kg) | 11.5 |
| Temperature（℃） | -40~60 |

Horizontal Pattern



Vertical Pattern





## FAD smart antenna

| | Electrical specification | | | |
|---|---|---|---|---|
| General parameters | Frequency range（MHz） | 1880~1920(F) | 2010~2025(A) | 2575~2635(D) |
| | Electrical tilt（°） | 6±1 | 6±1 | 6±1 |
| Adjusting and electrical parameters | Coupling between each port and the calibration port | -26±2 | -26±2 | -26±2 |
| | Maximum amplitude deviation between each port and the calibration port(dB) | ≤0.7 | ≤0.7 | ≤0.7 |
| | Maximum phase deviation between each port and the calibration port | ≤5 | ≤5 | ≤5 |
| | VSWR of deviation between each port and the calibration port | ≤1.5 | ≤1.5 | ≤1.5 |
| | Max, power per input(W) | ≥25W | | ≥25W |
| | Co-polarization adjacent port isolation | | ≥28dB | |
| | Cross polarization adjacent port isolation | | ≥30dB | |
| Element beam | Horizontal of half-power beam width(°) | 100°±15° | 90°±15° | 65°±15° |
| | Gain(dBi) | ≥14 | ≥15 | ≥16.5 |
| | Power level decreases at ±60 of beam | / | / | 12±2dB |
| | Vertical of Half-power beam width(°) | / | / | ≥5° |
| | Cross polar ratio main direction 0° | ≥18dB | ≥18dB | ≥18dB |
| | Cross polar ratio sector ±60° | ≥10dB | ≥10dB | ≥10dB |
| | Front-to-back ratio(dB) | ≥23dB | ≥23dB | ≥25dB |
| | Side lobe suppression for upper side lobe above main beam(dB) | / | / | ≤-16dB |
| Broadcast beam | Horizontal of half-power beam width(°) | 65°±5° | 65°±5° | 65°±5° |
| | Gain(dBi) | ≥14 | ≥15 | ≥16 |
| | Power level decreases at ±60 of beam | 12±2dB | 12±2dB | 12±2dB |
| | Vertical of Half-power beam width(°) | ≥7° | ≥6.5° | ≥5° |
| | Cross polar ratio main direction 0° | ≥22dB | ≥22dB | ≥22dB |
| | Cross polar ratio sector ±60° | | ≥10dB | |
| | Front-to-back ratio(dB)180°±30° | | ≥28dB | |
| | Side lobe suppression for upper side lobe above main beam(dB) | | ≤-15dB | |
| Service beam | Gain at 0°direction(dBi) | ≥20dB | ≥21dB | ≥22dB |
| | Horizontal of half-power beam width at 0°direction | ≤29° | ≤26° | ≤25° |
| | Horizontal of side lobe level at 0°direction | ≤-12 | ≤-12 | ≤-12 |
| | Gain at 60°direction(dBi) | ≥17.5 | ≥17.5 | ≥19.5 |
| | Horizontal of half-power beam width at 60°direction | ≤32° | ≤32° | ≤23° |
| | Horizontal of side lobe level at 60°direction | ≤-5dB | ≤-5dB | ≤-4dB |

| | | | | |
|---|---|---|---|---|
| | 60°direction | | | |
| | Cross polar ratio main direction 0° | ≥22dB | ≥22dB | ≥22dB |
| | Front-to-back ratio(dB) | ≥28dB | ≥28dB | ≥28dB |
| Rod diameter | | 50~115mm | | |
| Mechanical tilt | | 0~10° | | |
| Input | | N-female | | |
| Wind speed | | 110km/h | | |
| Maximum wind speed | | 200km/h | | |
| Temperature(℃) | | -40℃~+60℃ | | |
| Extremity Temperature | | -55℃~+75℃ | | |
| Relative humidity | | 8%~98% | | |
| Size | | 1414mm×331mm×121mm | | |
| Weight | | 12kg | | |

## ※65°Radio beam width

| Broadcast beam weight of F frequency range 65° | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Range | 0.41 | 1 | 1 | 0.54 | 0.41 | 1 | 1 | 0.54 |
| phase | 0 | 0 | 0 | -176 | 0 | 0 | 0 | -176 |
| Broadcast beam weight of A frequency range 65° | | | | | | | | |
| Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Range | 0.41 | 1 | 1 | 0.54 | 0.41 | 1 | 1 | 0.54 |
| phase | 0 | 0 | 0 | 180 | 0 | 0 | 0 | 180 |
| Broadcast beam weight of D frequency range 65° | | | | | | | | |
| Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Range | 0.41 | 1 | 0.8 | 0.6 | 0.41 | 1 | 0.8 | 0.6 |
| phase | 0 | 0 | 0 | 180 | 0 | 0 | 0 | 180 |





## FA smart antenna

| | | Electrical specification | |
|---|---|---|---|
| General parameters | Frequency range（MHz） | 1880~1920(F) | 2010~2025(A) |
| | Electrical tilt（°） | 6±1 | 6±1 |
| Adjusting and electrical parameters | Coupling between each port and the calibration port | -26±2 | -26±2 |
| | Maximum amplitude deviation between each port and the calibration port(dB) | ≤0.7 | ≤0.7 |
| | Maximum phase deviation between each port and the calibration port | ≤5 | ≤5 |
| | VSWR of deviation between each port and the calibration port | ≤1.5 | ≤1.5 |
| | Max, power per input(W) | ≥25W | |
| | Co-polarization adjacent port isolation | ≥28dB | |
| | Cross polarization adjacent port isolation | ≥30dB | |
| Element beam | Horizontal of half-power beam width(°) | 100°±15° | 90°±15° |
| | Gain(dBi) | ≥14 | ≥15 |
| | Cross polar ratio main direction 0° | ≥18dB | ≥18dB |
| | Cross polar ratio sector ±60° | ≥10dB | ≥10dB |
| | Front-to-back ratio(dB) | ≥23dB | ≥23dB |
| Broadcast beam | Horizontal of half-power beam width(°) | 65°±5° | 65°±5° |
| | Gain(dBi) | ≥14 | ≥15 |
| | Power level decreases at ±60 of beam | 12±2dB | 12±2dB |
| | Vertical of Half-power beam width(°) | ≥7° | ≥6.5° |
| | Cross polar ratio main direction 0° | ≥22dB | ≥22dB |
| | Cross polar ratio sector ±60° | ≥10dB | |
| | Front-to-back ratio(dB)180°±30° | ≥28dB | |
| | Side lobe suppression for upper side lobe above main beam(dB) | ≤-15dB | |
| Service beam | Gain at 0°direction(dBi) | ≥20 | ≥21 |
| | Horizontal of half-power beam width at 0°direction | ≤29° | ≤26° |
| | Horizontal of side lobe level at 0°direction | ≤-12 | ≤-12 |
| | Gain at 60°direction(dBi) | ≥17.5 | ≥17.5 |
| | Horizontal of half-power beam width at 60°direction | ≤32° | ≤32° |
| | Horizontal of side lobe level at 60°direction | ≤-5dB | ≤-5dB |
| | Cross polar ratio main direction 0° | ≥22dB | ≥22dB |
| | Front-to-back ratio(dB) | ≥28dB | ≥28dB |
| Rod diameter | | 50~115mm | |
| Mechanical tilt | | 0~10° | |

| | |
|---|---|
| Input | N-female |
| Wind speed | 110km/h |
| Maximum wind speed | 200km/h |
| Temperature(℃) | -40℃~+60℃ |
| Extremity Temperature | -55℃~+75℃ |
| Relative humidity | 8%~98% |
| Size | 1414mm×331mm×121mm |
| Weight | 12kg |

## ※65°Radio beam width

| Radio beam width of F frequency range 65° | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Range | 0.41 | 1 | 1 | 0.54 | 0.41 | 1 | 1 | 0.54 |
| phase | 0 | 0 | 0 | -176 | 0 | 0 | 0 | -176 |
| Radio beam width of A frequency range 65° | | | | | | | | |
| Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Range | 0.41 | 1 | 1 | 0.54 | 0.41 | 1 | 1 | 0.54 |
| phase | 0 | 0 | 0 | 180 | 0 | 0 | 0 | 180 |





## Single D smart antenna

| | Electrical specification | |
|---|---|---|
| General parameters | Frequency range（MHz） | 2575~2635(D) |
| | Electrical tilt（°） | 6±1 |
| Adjusting and electrical parameters | Coupling between each port and the calibration port | -26±2 |
| | Maximum amplitude deviation between each port and the calibration port(dB) | ≤0.7 |
| | Maximum phase deviation between each port and the calibration port | ≤5 |
| | VSWR of deviation between each port and the calibration port | ≤1.5 |
| | Max, power per input(W) | ≥25W |
| | Co-polarization adjacent port isolation | ≥28dB |
| | Cross polarization adjacent port isolation | ≥30dB |
| Element beam | Horizontal of half-power beam width(°) | 65°±15° |
| | Gain(dBi) | ≥16.5 |
| | Power level decreases at ±60 of beam | 12±2dB |
| | Vertical of Half-power beam width(°) | ≥5° |
| | Cross polar ratio main direction 0° | ≥18dB |
| | Cross polar ratio sector ±60° | ≥10dB |
| | Front-to-back ratio(dB) | ≥25dB |
| | Side lobe suppression for upper side lobe above main beam(dB) | ≤-16dB |
| Broadcast beam | Horizontal of half-power beam width(°) | 65°±5° |
| | Gain(dBi) | ≥16 |
| | Power level decreases at ±60 of beam | 12±2dB |
| | Vertical of Half-power beam width(°) | ≥5° |
| | Cross polar ratio main direction 0° | ≥22dB |
| | Cross polar ratio sector ±60° | ≥10dB |
| | Front-to-back ratio(dB)180°±30° | ≥28dB |
| | Side lobe suppression for upper side lobe above main beam(dB) | ≤-15dB |
| Service beam | Gain at 0°direction(dBi) | ≥22dB |
| | Horizontal of half-power beam width at 0°direction | ≤25° |
| | Horizontal of side lobe level at 0°direction | ≤-12 |
| | Gain at 60°direction(dBi) | ≥19.5° |
| | Horizontal of half-power beam width at 60°direction | ≤23° |
| | Horizontal of side lobe level at 60°direction | ≤-4dB |
| | Cross polar ratio main direction 0° | ≥22dB |
| | Front-to-back ratio(dB) | ≥28dB |

| | |
|---|---|
| Rod diameter | 50~115mm |
| Mechanical tilt | 0~10° |
| Input | N-female |
| Wind speed | 110km/h |
| Maximum wind speed | 200km/h |
| Temperature(℃) | -40℃~+60℃ |
| Extremity Temperature | -55℃~+75℃ |
| Relative humidity | 8%~98% |
| Size | 1414mm×331mm×121mm |
| Weight | 12kg |

※65°Radio beam width

| RRadio beam width of D frequency range 65° | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Port | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Range | 0.41 | 1 | 0.8 | 0.6 | 0.41 | 1 | 0.8 | 0.6 |
| phase | 0 | 0 | 0 | 180 | 0 | 0 | 0 | 180 |





GSM900+DCS1800+TDD(FAD) Integrated dual polarized antenna

| | Parameter(unit) | | Index | Index | Index |
|---|---|---|---|---|---|
| | Electrical tilt（°） | | 2~12 | 2~12 | 2~12 |
| | Frequency range（MHz） | | 1880~1920(F) | 2010~2025(A) | 2575~2635(D) |
| | Electrical tilt precision（°） | | ±1 | ±1 | ±1 |
| Adjusting and electrical parameters | Coupling between each port and the calibration port | | -26±2 | -26±2 | -26±2 |
| | Maximum amplitude deviation between each port and the calibration port(dB) | | ≤0.7 | ≤0.7 | ≤0.7 |
| | Maximum phase deviation between each port and the calibration port | | ≤5 | ≤5 | ≤5 |
| | VSWR of deviation between each port and the calibration port | | ≤1.5 | ≤1.5 | ≤1.5 |
| | Max, power per input(W) | | -≥25W | | -≥25W |
| | Co-polarization adjacent port isolation | 2°tilt | | ≥20dB | |
| | | 3°~6°tilt | | ≥25dB | |
| | | 7°~12°tilt | | ≥28dB | |
| | Cross polarization adjacent port isolation | 2°tilt | | ≥25dB | |
| | | 3°~6°tilt | | ≥28dB | |
| | | 7°~12°tilt | | ≥30dB | |
| | Built-in combiner FA/D frequency range isolation | | | ≥30dB | |
| Element beam | Horizontal of half-power beam width(°) | | 100°±15° | 90°±15° | 65°±15° |
| | Gain(dBi) | | ≥13.5 | ≥14.5 | ≥15.5 |
| | Power level decreases at ±60 of beam | | / | / | 12±2dB |
| | Vertical of Half-power beam width(°) | | / | / | ≥5 |
| | Cross polar ratio main direction 0° | | ≥18dB | ≥18dB | ≥18dB |
| | Cross polar ratio sector ±60° | | ≥10dB | ≥10dB | ≥10dB |
| | Front-to-back ratio(dB) | | ≥23dB | ≥23dB | ≥25dB |
| | Side lobe suppression for upper side lobe above main beam(dB) | | / | / | ≤-15dB |
| Broadcast beam | Horizontal of half-power beam width(°) | | 65°±5° | 65°±5° | 65°±5° |
| | Gain(dBi) | | ≥14 | ≥15 | ≥16.5 |
| | Power level decreases at ±60 of beam | | 12±2dB | 12±2dB | 12±2dB |
| | Vertical of Half-power beam width(°) | | ≥7° | ≥6.5° | ≥5° |
| | Cross polar ratio main direction 0° | | ≥22dB | ≥22dB | ≥22dB |
| | Cross polar ratio±20° | | ≥20dB | / | ≥22dB |
| | Cross polar ratio sector ±60 | | | ≥10B | |
| | Front-to-back ratio(dB)180°±30° | | | ≥28B | |
| | Side lobe suppression for upper side lobe above main beam(dB) | | | ≤-15dB | |
| | Bottom first null-fill（reference） | | ≥-18dB | ≥-18dB | ≥-18dB |

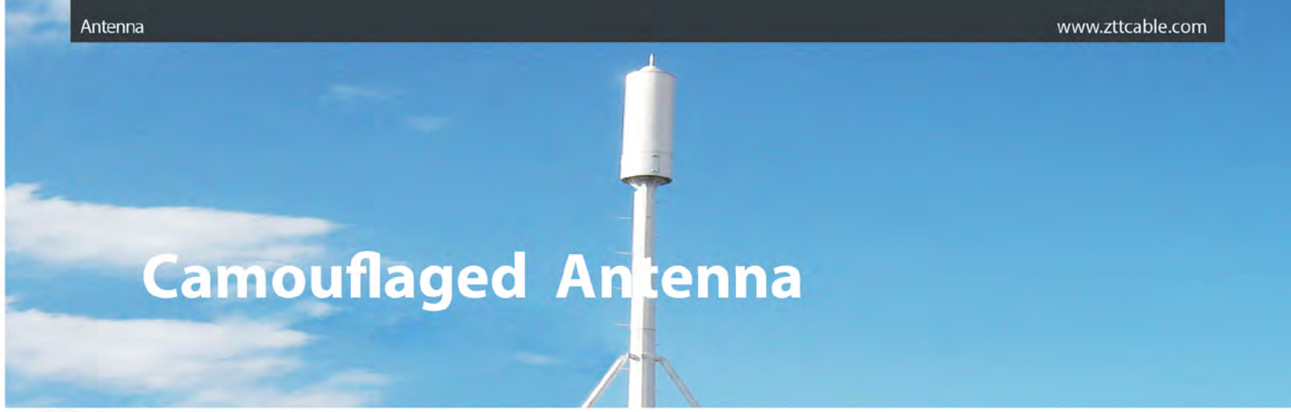
| | | | | |
|---|---|---|---|---|
| Service beam | Gain at 0°direction(dBi) | ≥19.5 | ≥20.5 | ≥21 |
| | Horizontal of half-power beam width at 0°direction | ≤29° | ≤26° | ≤25° |
| | Horizontal of side lobe level at 0°direction | ≤-12 | ≤-12 | ≤-12 |
| | Gain at 60°direction(dBi) | ≥17 | ≥17 | ≥17 |
| | Horizontal of half-power beam width at 60°direction | ≤32° | ≤32° | ≤23° |
| | Horizontal of side lobe level at 60°direction | ≤-5dB | ≤-5dB | ≤0B |
| | Cross polar ratio main direction 0° | ≥22dB | ≥22dB | ≥22dB |
| | Front-to-back ratio(dB) | ≥28dB | ≥28dB | ≥28dB |

## Dual-band dual polarized(900&1800)

| | | | |
|---|---|---|---|
| Type | | 65°&65°14dBi&16dBi Tunable 0-14°&0-7° | 65°&65°15dBi&17.5dBi Tunable 0-14°&0-7° |
| Frequency range(MHz) | | 880~960&1710~1880 | 880~960&1710~1880 |
| Gain(dBi) | | 14&16 | 15&17.5 |
| Half-power beam width(°) | Horizontal pattern | 65±6&(65+6,-9) | 65±6&(65+6,-9) |
| | Vertical pattern | 14&7 | 14&6.5 |
| Electrical tilt precision(°) | | ±1.0&±1.0 | ±1.0&±1.0 |
| Electrical tilt regulative range(°) | | 0~14°&0~7° | 0~14°&0~7° |
| Isolation | | ≥30&≥30 | ≥30&≥30 |
| Cross polar ratio(dB) | | Axial≥15,within±60°≥10 | Axial≥15,within±60°≥10 |
| Front-to-back ratio(dB) | | ≥25&≥25 | ≥25&≥25 |
| Intermodulation(dBm) | | ≤-107&≤-107 | ≤-107&≤-107 |
| VSWR | | ≤1.40&≤1.40 | ≤1.40&≤1.40 |
| Max,power per input(W) | | 250&100 | 250&100 |
| Side lobe suppression for upper side lobe above mian beam(dB) | First side lobe | ≥16&≥17 | / |
| | Second side lobe | N/A&≥15 | / |
| Null-Fill | First null | ≤25&≤23 | / |
| | Second null | N/A&≤25 | / |
| Power level decreases at ±60 of beam | | 10~25 | 10~15 |
| Input type | | DIN | DIN |








## 1721 exhaust pipe type camouflage antenna

| | | | |
|---|---|---|---|
| Product description | Design according to the shape of exhaust pipe in the building, integration of Radome and Antenna | | |
| Type | ZDA-M-X6518D2~12-PQ | ZDA-MM-X6518D2~12-PQ | ZDA-MM-X6518D7~17-PQ |
| Frequency range (MHz) | 1710~2170 | 1710-2170/1710~2170 | 1710-2170/1710~2170 |
| Electrical tilt (°) | 2~12 | 0~10 | 7~17 |
| Polarization | | ±45° | |
| Gain(dBi) | 17 | 17/17 | 17/17 |
| | | Horizontal pattern | |
| Half-power beam width (°) | 65±6 | 65±6 | 65±6 |
| Front-to-back ratio(dB)180°±30° | | ≥25 | |
| | | Vertical pattern | |
| Half-power beam width (°) | 7±1 | 7±1 | 7±1 |
| Side lobe suppression for first side lobe above main beam(dB) | | ≥15 | |
| VSWR | | ≤1.5：1 | |
| Isolation | | ≥28 | |
| Intermodulation IM3(dBm) | | ≤-107 | |
| Max, power per input(W) | 250 | 200 | 250/200 |
| Input | 7×16DIN-F×2 | 7×16DIN-F×4 | 7×16DIN-F×4 |
| Size | Φ200×1600 | Φ315×1600 | Φ315×1600 |
| Weight(Kg) | 23.5 | 35 | 35 |
| Temperature(℃) | | -40-+60 | |

Picture of real product

Application scene

## Multi-cluster type camouflage antenna

| Product description | Design according to the shape of exhaust pipe in the building， integration of Radome and Antenna, intensive design, Smaller Volume | | |
|---|---|---|---|
| Type | ZDA-MM-X6518D2~12-JS | ZDA-MM-X651818D7~17-JS | ZDA-MM-X651818D2~12-JS |
| Frequency range（MHz） | 1710-2170 | 1710-2170/1710~2170 | 1710-2170/1710~2170 |
| Electrical tilt（°） | 2~12 | 7~17 | 2~12 |
| Polarization | ±45° | | |
| Gain(dBi) | 18 | 18/18 | 18/18 |
| Horizontal pattern | | | |
| Half-power beam width（°） | 65±6 | 65±6 | 65±6 |
| Front-to-back ratio(dB)180°±30° | ≥25 | | |
| Vertical pattern | | | |
| Half-power beam width（°） | 7±1 | 7±1 | 7±1 |
| Side lobe suppression for first side lobe above main beam(dB) | ≥15 | | |
| VSWR | ≤1.5：1 | | |
| Isolation | ≥28 | | |
| Intermodulation IM3(dBm) | ≤-107 | | |
| Max, power per input(W) | 250 | 250 | 250 |
| Input | 7×16DIN-F×2 | 7×16DIN-F×4 | 7×16DIN-F×4 |
| Size | Φ500×1850 | Φ500×1850 | Φ600×1850 |
| Weight(Kg) | 72 | 72 | 105 |
| Temperature(℃) | -40-+60 | | |

Picture of real product

Application scene





## High-low frequency exhaust type camouflage antenna

| Product description | Design according to the shape of exhaust pipe in the building, integration of Radome and Antenna | | |
|---|---|---|---|
| Type | ZDA-JM-X651518 D0-14&0-10-PQ | ZDA-JMM-X6515181 8D0-14&0-10-PQ | ZDA-JN-X651518D0-14&0~10-PQ |
| Frequency range（MHz） | 820~960/1710~2170 | 820~960/1710~2170/1710~2170 | 820~960/1710~2690 |
| Electrical tilt（°） | 0~14/0~10 | 0~14/0~10/0~10 | 0~14/0~10 |
| Polarization | ±45° | | |
| Gain(dBi) | 15/18 | 15/18/18 | 15/18 |
| Horizontal pattern | | | |
| Half-power beam width（°） | 65±6 | 65±6 | 65±6 |
| Front-to-back ratio(dB)180°±30° | ≥25 | | |
| Vertical pattern | | | |
| Half-power beam width（°） | 13±1/7±1 | 13±1/7±1 | 13±1/7±1 |
| Side lobe suppression for first side lobe above main beam(dB) | ≥15 | | |
| VSWR | ≤1.5：1 | | |
| Isolation | ≥28 | | |
| Intermodulation IM3(dBm) | ≤-107 | | |
| Max, power per input(W) | 250 | 200 | 250/200 |
| Input | 7×16DIN-F×2 | 7×16DIN-F×6 | 7×16DIN-F×4 |
| Size | Φ315×1600 | Φ315×2800 | Φ315×1600 |
| Weight(Kg) | 48 | 61 | 48 |
| Temperature(℃) | -40-+60 | | |

Picture of real product

Application scene

## High-low frequency cluster antenna

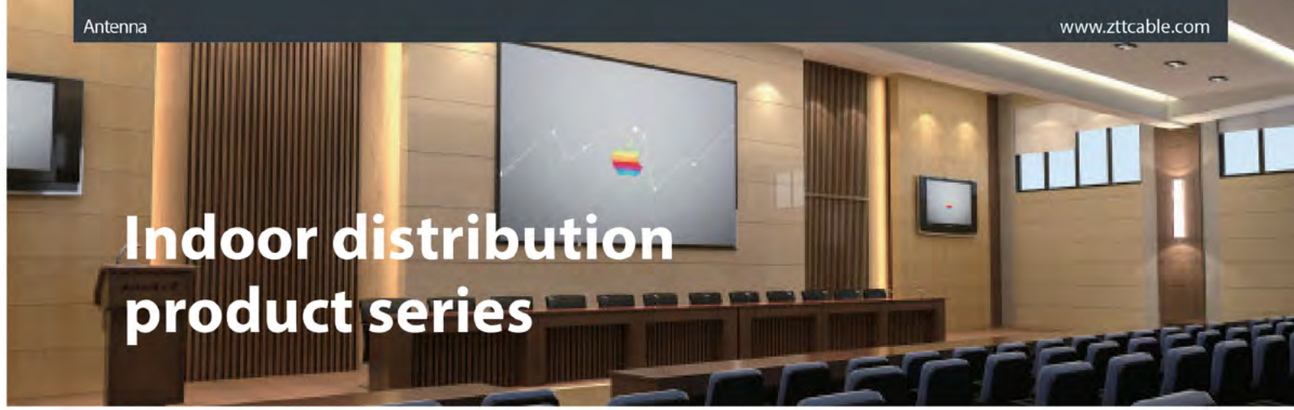
| Product description | Design according to the shape of exhaust pipe in the building， integration of Radome and Antenna, intensive design, Smaller Volume | | |
|---|---|---|---|
| Type | ZDA-JM-X651518D 0-14&0-10-JS | ZDA-JMM-X651518 18D0-14&0-10-JS | ZDA-JN-X651518D0 -14&0~10-JS |
| Frequency range（MHz） | 820~960/1710~2170 | 820~960/1710~2170/1710~2170 | 820~960/1710~2690 |
| Electrical tilt（°） | 0~14/0~10 | 0~14/0~10/0~10 | 0~14/0~10 |
| Polarization | ±45° | | |
| Gain(dBi) | 15/18 | 15/18/18 | 15/18 |
| Horizontal pattern | | | |
| Half-power beam width（°） | 65±6 | 65±6 | 65±6 |
| Front-to-back ratio(dB)180°±30° | ≥25 | | |
| Vertical pattern | | | |
| Half-power beam width（°） | 13±1/7±1 | 13±1/7±1 | 13±1/7±1 |
| Side lobe suppression for first side lobe above main beam(dB) | ≥15 | | |
| VSWR | ≤1.5：1 | | |
| Isolation | ≥28 | | |
| Intermodulation IM3(dBm) | ≤-107 | | |
| Max, power per input(W) | 250 | 200 | 250/200 |
| Input | 7×16DIN-F×2 | 7×16DIN-F×4 | 7×16DIN-F×4 |
| Size | Φ500×1850 | Φ650×1850 | Φ500×1850 |
| Weight(Kg) | 80 | 80 | 110 |
| Temperature(℃) | -40-+60 | | |

Picture of real product

Application scene








## ■ ZIBG-D0727N
## Wall-mounted directional antenna

### Application

- CDMA800/GSM900/3G/WLAN
- 698~960/1710~2700MHz
- Cell coverage
- Indoor use

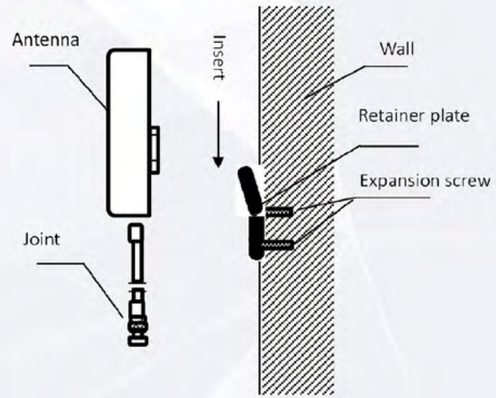
### Characteristic

- Wide frequency band, cover 700~2700MHz common system.
- Light weight, small volume.
- Anti-UV ABS antenna radome.

### Technical Parameters

| Type | ZIBG-V0727N | |
|---|---|---|
| Frequency range(MHz) | 698~960 | 1710~2700 |
| Typical gain(dBi) | 7 | 10 |
| Typical beam width(°) | E:55 H:70 | E:45 H:60 |
| VSWR | ≤1.5 | ≤1.5 |
| Impedance(Ω) | 50 | |
| Polarization | Vertical | |
| Max power(W) | 50 | |
| Intermodulation IM3(dBm) （33dBm） | ≤-107 | |
| Input type | N female or User specified | |
| Size(mm) | 210*180*44 | |
| Weight(Kg) | 0.6 | |
| Color | White | |
| Installation | Wall mounted | |

### Installation Diagram




1.Install the retainer plate on the wall with the expansion screw.

2.Hang the antenna on the retainer plate by the hanging plate on the back of the antenna.

# ■ ZIXD-V0825N
## Omni-directional celling antenna

### Application
- GSM/CDMA/PCS/3G/WLAN
- 806~2500MHz
- Indoor cover

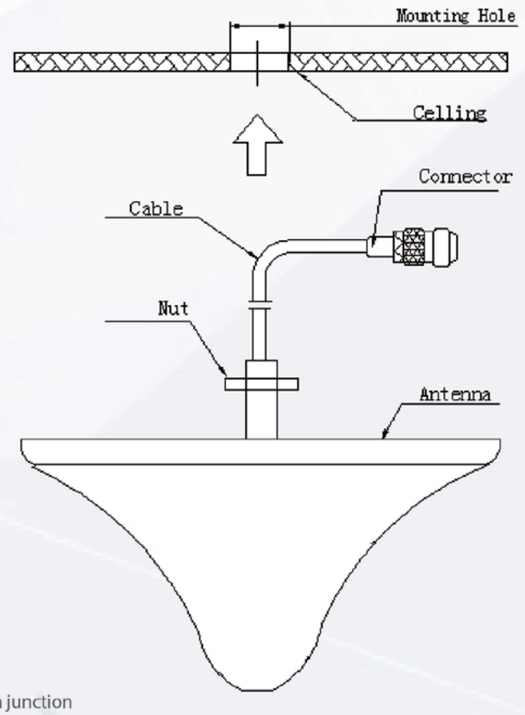
### Characteristic
- Wide frequency band, low VSWR
- Small volume, low profile, beautiful appearance
- Common ceiling installation

### Technical Parameters

| Type | ZIXD-V0825N | |
|---|---|---|
| Frequency range(MHz) | 806~960 | 1710~2500 |
| Typical gain(dBi) | 3 | |
| VSWR | ≤1.5 | |
| Impedance(Ω) | 50 | |
| Polarization | Vertical | |
| Max power(W) | 100 | |
| Input position | Bottom lead-out cable | |
| Input type | N female or User specified | |
| Size(mm) | Φ165*94 | |
| Weight(g) | 200 | |
| Installation | The nut plate fixed to the ceiling | |

Note: Common type suitable for wooden ceiling installation, need to customize if you install it to other medium。

### Installation




Installation instruction

1.Suitable for Installating on ceiling surface

2.Drill holes(Φ18) on ceiling at the Installation place

3.put antenna fixed on the ceiling using nut plate

4.connnect antenna and system, wraping use adhesive tape on junction





# ■ ZIXD-V0827N
## Omni-directional celling antenna

### Application
- GSM/CDMA/PCS/3G/WLAN
- 806~2700MHz
- Indoor cover

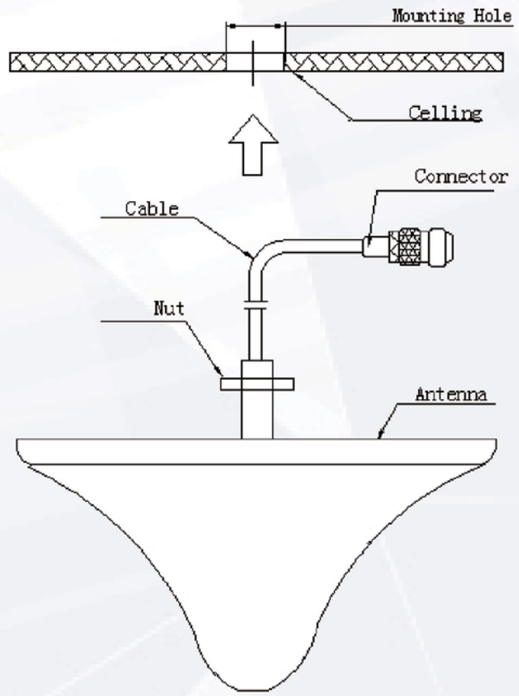
### Characteristic
- Wide frequency band, low VSWR
- Small volume, low profile, beautiful appearance
- Common ceiling installation

### Technical Parameters

| Type | ZIXD-V0827N | |
|---|---|---|
| Frequency range(MHz) | 806~960 | 1710~2700 |
| Typical gain(dBi) | 3 | |
| VSWR | ≤1.5 | |
| Vertical beam width(°) | 55 | |
| Input impedance(Ω) | 50 | |
| Polarization | Vertical | |
| Max power(W) | 100 | |
| Input type | N female or User specified | |
| Size(mm) | Φ165*94 | |
| Weight(g) | 200 | |
| Temperature | -40℃~+60℃ | |
| Installation | The nut plate fix to the ceiling | |

Note: Common type suitable for wooden ceiling installation, need to customize if you install it to other medium.

### Installation




Installation instruction

1.Suitable for Installating on ceiling surface

2.Drill holes(Φ18) on ceiling at the Installation place

3.put antenna fixed on the ceiling using nut plate

4.connnect antenna and system, wraping use adhesive tape on junction

# ■ ZIXD-D1727N
## Omni-directional dual-polarization celling antenna

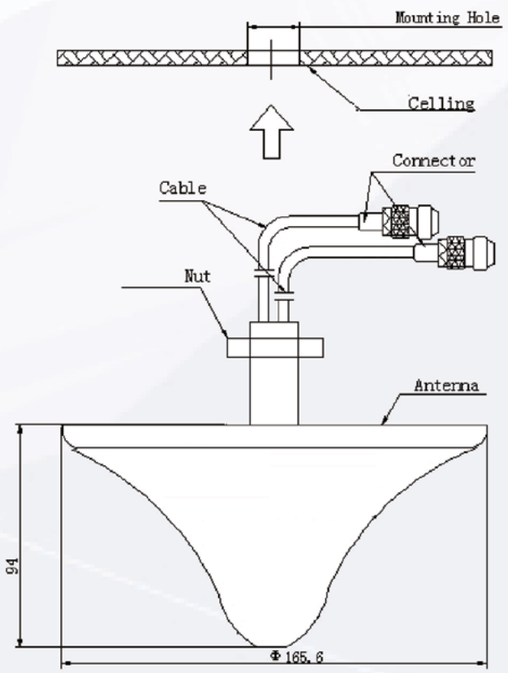
### Application
- Design for 3G/WLAN/LTE multiband cover.
- 1710~2700MHz

### Characteristic
- Wide frequency band, cover 700~2700MHz common system.
- Dual-polarized, light weight, small volume
- Anti-UV ABS antenna radome

### Technical Parameters

| Type | ZIXD-D1727N | |
|---|---|---|
| Port | Vertical polarity port | Horizontal polarity port |
| Frequency range(MHz) | 1710~2700 | 1710~2690 |
| Gain(dBi) | 4±1 | |
| Isolation | ≥20 | |
| VSWR | ≤1.5 | |
| Intermodulation IM3(dBm) | （33dBm） -107 | |
| Impedance(Ω) | 50 | |
| Polarization | Vertical （Black cable） | Horizontal （Yellow cable） |
| Max power(W) | 50 | |
| Input type | 2* N female or User specified | |
| Size(mm) | （Φ165.5*94） ±1.5 | |
| Weight(Kg) | 0.5±0.2 | |
| Installation | Nut installation | |

### Installation




Installation instruction

1.Suitable for Installating on ceiling surface

2.Drill holes(Φ20) on ceiling at the Installation place

3.put antenna fixed on the ceiling using nut plate

4.connnect antenna and system, wraping use adhesive tape on junction





# ■ ZIXD-D0827N
## Omni-directional dual-polarization celling antenna

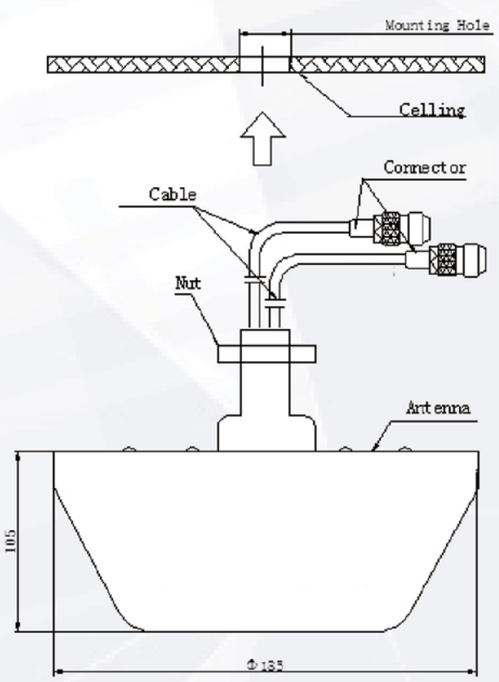
### Application
- Design for 3G/WLAN/LTE multiband cover.
- 800~960/1710~2700MHz

### Characteristic
- Wide frequency band, cover 800~2700MHz
- Dual-polarized, light weight, small volume
- Anti-UV ABS antenna radome

### Technical Parameters

| Type | ZIXD-D0827N | | |
|---|---|---|---|
| Port | Vertical polarity port | | Horizontal polarity port |
| Frequency range(MHz) | 800~960/1710~2700 | | 1710~2690 |
| Gain(dBi) | 2±0.5 | 5±1 | 4±1 |
| Isolation | 1710~2700≥25 | | |
| VSWR | ≤1.5 | | |
| Intermodulation IM3(dBm) | （33dBm） ≤-107 | | |
| Impedance(Ω) | 50 | | |
| Polarization | Vertical （Black cable） | | Horizontal （Yellow cable） |
| Max power(W) | 50 | | |
| Input type | 2* N female or User specified | | |
| Size(mm) | （Φ185*105） ±1.5 | | |
| Weight(Kg) | 0.7±0.2 | | |
| Installation | Nut installation | | |
| Note： Common type suitable for wooden ceiling installation, need to customize if you install it to other medium. | | | |

### Installation




Installation instruction

1.Suitable for Installating on ceiling surface

2.Drill holes(Φ20) on ceiling at the Installation place

3.put antenna fixed on the ceiling using nut plate

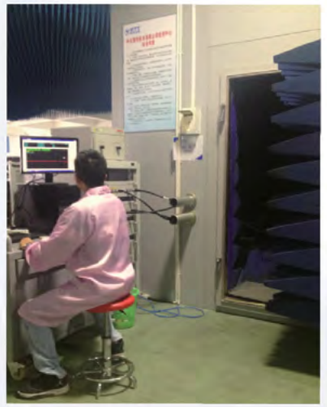
4.connnect antenna and system, wraping use adhesive tape on junction

# Certification and Qualification

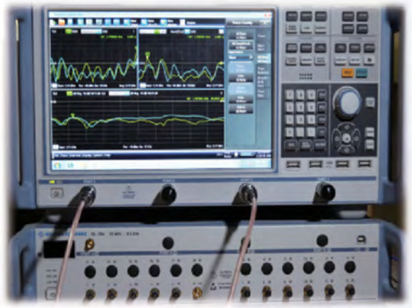



# R&D platform and Test system

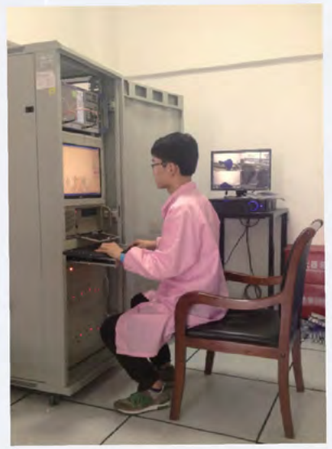
## ■ ADVANCED ANTENNA TESTING SYSTEM



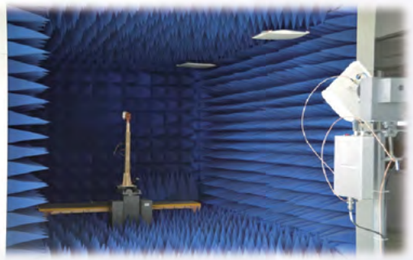
Test facility for intermodulation IM3



Network analyzer



Far field testing system for base station antenna



Far field testing system for Indoor antenna

VSWR testing system