




SPECIFICATION SHEET

GPS+GSM Combination Antenna

| | |
|-------------|-----------------------------|
| MESSERS. | |
| DESCRIPTION | GPS+GSM Combination Antenna |
| PART No. | FES-20FB |

| ACCEPTANCE | | |
|------------|---------|----------|
| PREPARED | CHECKED | APPROVED |
| | | |
| / | / | / |

| SUPPLIER | | |
|---|---|---|
| PREPARED | CHECKED | APPROVED |
|  |  |  |
| 10/02 | 10/02 | 10/02 |

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◆ REVISION HISTORY

| NO | DATE | REVISION | NOTE | AUTHORS |
|----|------------|----------|-------------|---------|
| 1 | 2024.10.02 | 00 | First Draft | LEE. |
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◆ APPLICATION

- Smart farm
 - Autonomous driving
 - Vehicle Tracking
 - Road/Aviation/Rail/Marine Applications
 - Mobile station base station system
 - Vehicle tracking energy system
- Telematics and Navigation
 - Wireless system
 - Logistics and Shipping
 - Smart home
 - Networks

◆ KEY FEATURES

- GSM / 3G ANTENNA, GPS/QZSS/Galileo/L1
- 2 x 1 Combination Antenna
- GSM/3G Gain 2dBi
- Frequency : 824~960MHz/1710~2170MHz
- Active GNSS Gain 28 ± 2 dB
- GPS Voltage Range 2.2V~5.0V



◆ GSM/3G ELECTRICAL SPECIFICATION

| ITEM | | SPECIFICATIONS |
|----------------|-----------------|----------------------|
| GSM Antenna | Frequency Range | 824~960/1710~2170MHz |
| | Polarization | Linear |
| | Gain | 2.0dBi(Zenith) |
| | V.S.W.R(min) | < 2.5 |
| | Impedance | 50Ω |

◆ GPS ELECTRICAL SPECIFICATION

| ITEM | | SPECIFICATIONS |
|----------------|---------------------|----------------------------|
| GPS Antenna | Frequency | GPS L1 /QZSS/Galileo E1 |
| | Polarization | RHCP Right-hand-circulator |
| | Axial Ratio | ≤3dB |
| | V.S.W.R | ≤2.0 |
| | Peak Gain | 2.0dBi(Zenith) |
| | Impedance | 50Ω |
| GPS LNA | Gain | 28 ± 2.0dB |
| | Noise Figure | ≤2.0 |
| | Supply Voltage | 2.2-5.0V |
| | Current Consumption | ≤15mA Typ. |
| | V.S.W.R | ≤2.0 |

◆ ENVIRONMENTAL SPECIFICATION

| ITEM | SPECIFICATIONS |
|-----------------------|----------------|
| Operating Temperature | -40°C~+85°C |
| Storage Temperature | -40°C~+85°C |
| Relative Humidity | 65°C, 95%RH |
| Waterproof Rating | IP67 |

RoHS Compliant

◆ MECHANICAL SPECIFICATION

| ITEM | SPECIFICATIONS |
|-----------------|------------------|
| Dimensions | Ø50.0x48.0mm |
| Cable | RG174 or others |
| Connector | SMA(M) or others |
| Radome | ABS |
| Mounting Method | Screw |

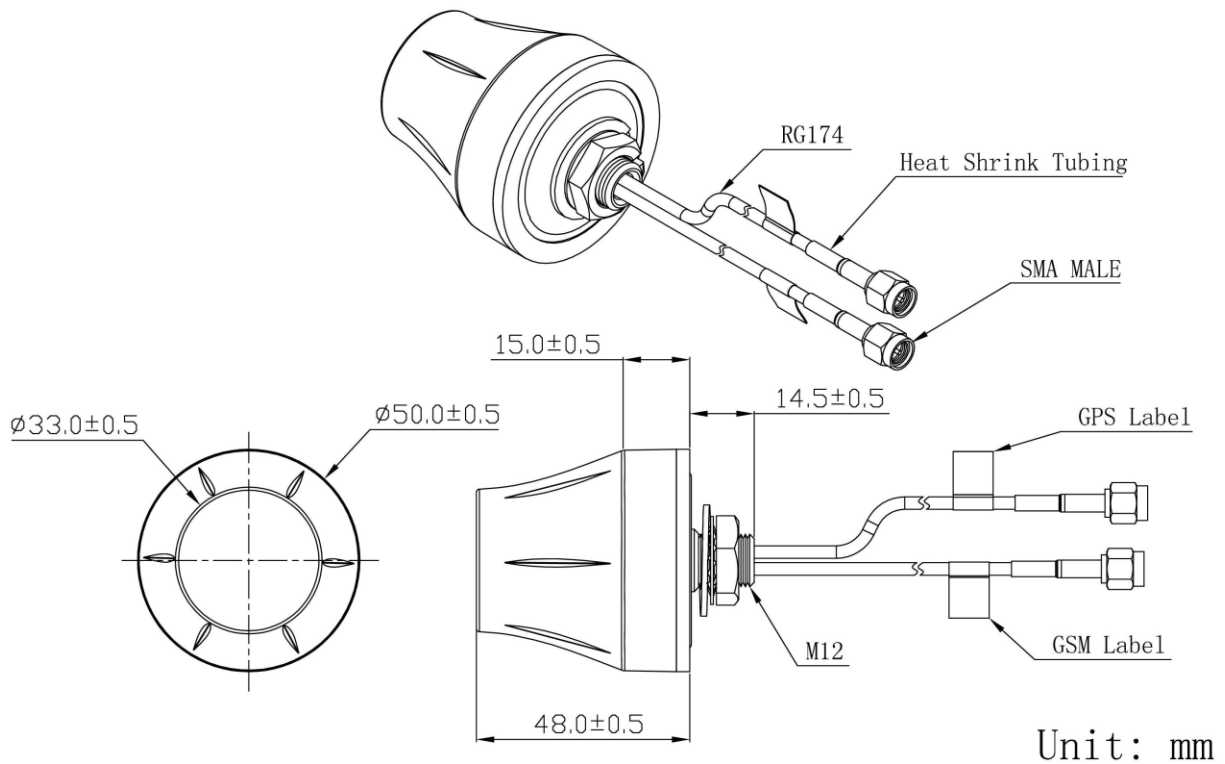
❖ GNSS FREQUENCY BAND

| GPS/GNSS FREQUENCY BAND | | | | | |
|-------------------------|------------|---------|---------|---------|---------|
| GPS /QZSS | L1 | L2 | L5 | L6 | |
| | 1575.42MHz | 1227MHz | 1176MHz | 1278MHz | |
| GLONASS | G1 | G2 | G3 | | |
| | 1602MHz | 1248MHz | 1207MHz | | |
| GALILEO | E1 | E5a | E5b | E6 | |
| | 1575.42MHz | 1176MHz | 1202MHz | 1278MHz | |
| BEIDOU | B1 | B2a | B2b | B3 | |
| | 1561MHz | 1176MHz | 1207MHz | 1268MHz | |
| SBAS | L1 | G1 | L5 | G2 | G3 |
| | 1575.42MHz | 1602MHz | 1176MHz | 1248MHz | 1207MHz |
| L-BAND IRNSS | L-BAND | IRNSS | | | |
| | 1542MHz | 1176MHz | | | |

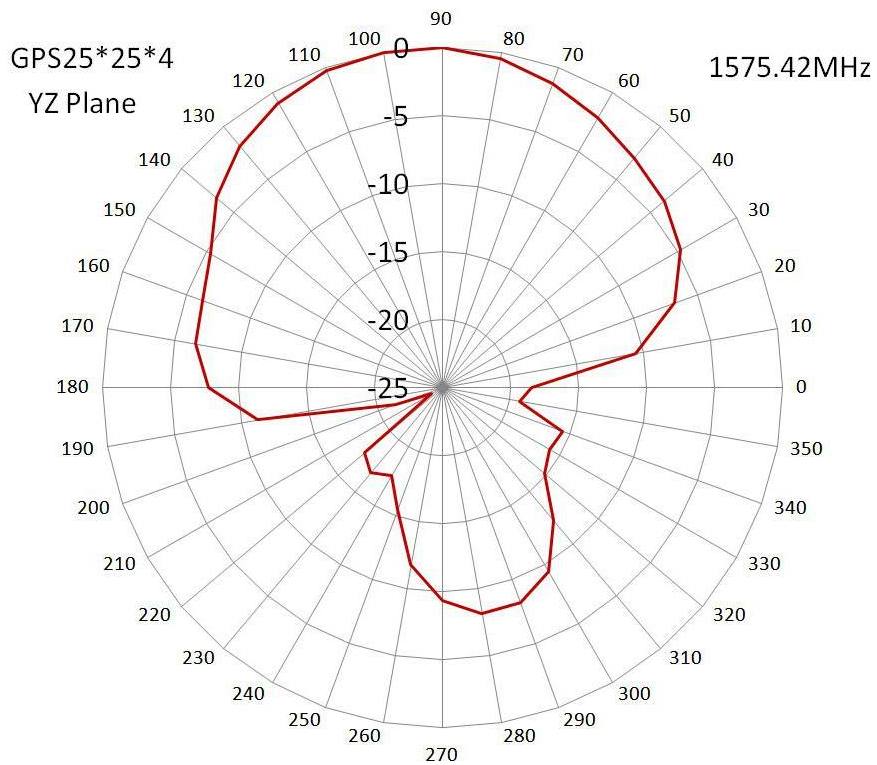
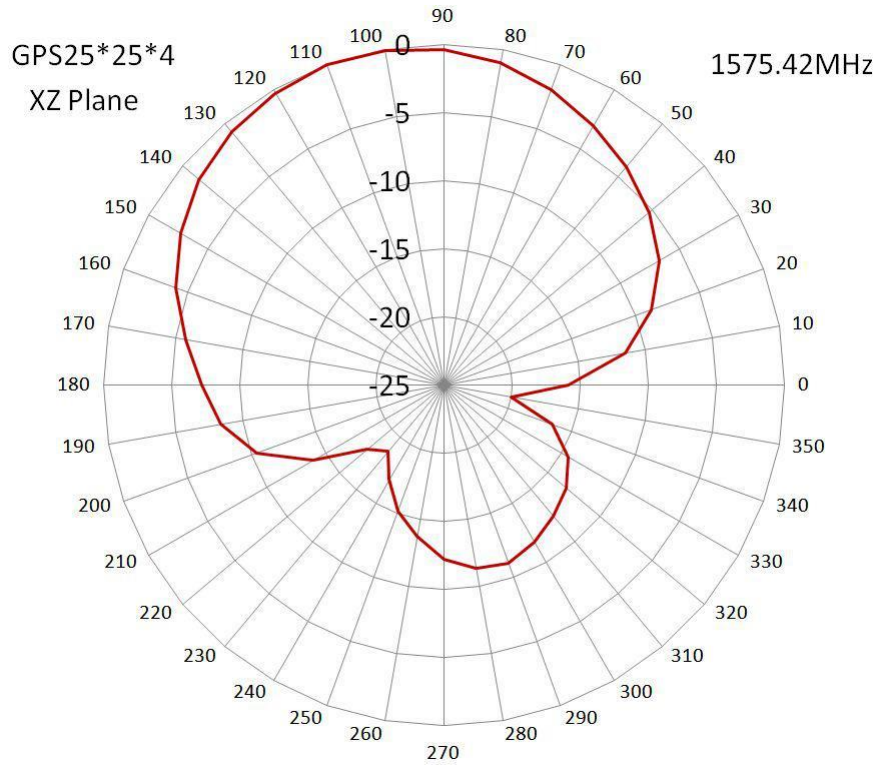
❖ 2G/3G FREQUENCY BAND

| GSM/DCS/PCS/CDMA/GPRS BANDS | |
|-----------------------------|--------------|
| Bands | Frequency |
| GSM850 | 824-896MHz |
| GSM900 | 880-960MHz |
| DCS | 1710-1880MHz |
| PCS | 1850-1990MHz |
| CDMA | 1920-2170MHz |

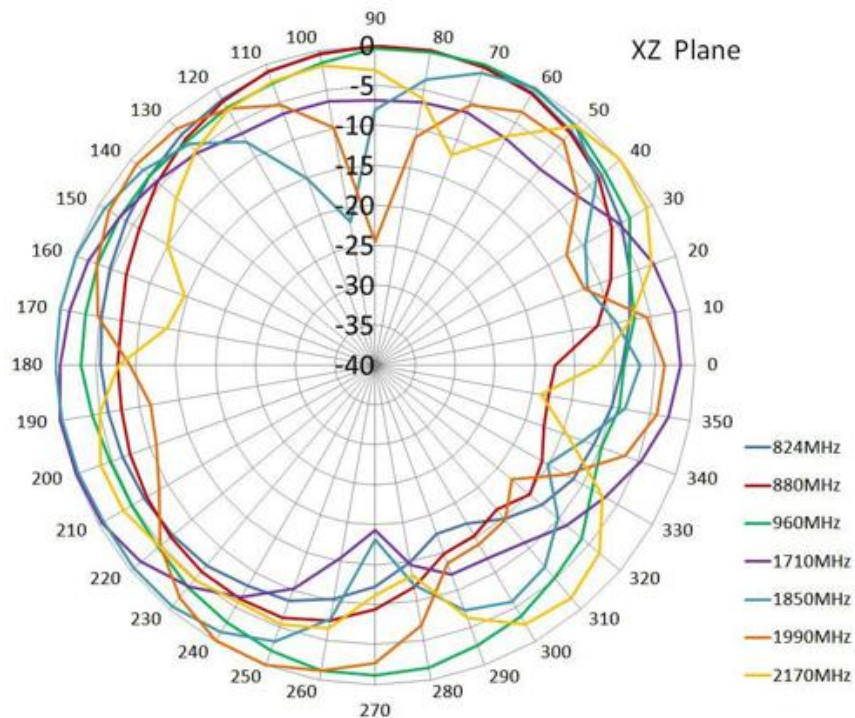
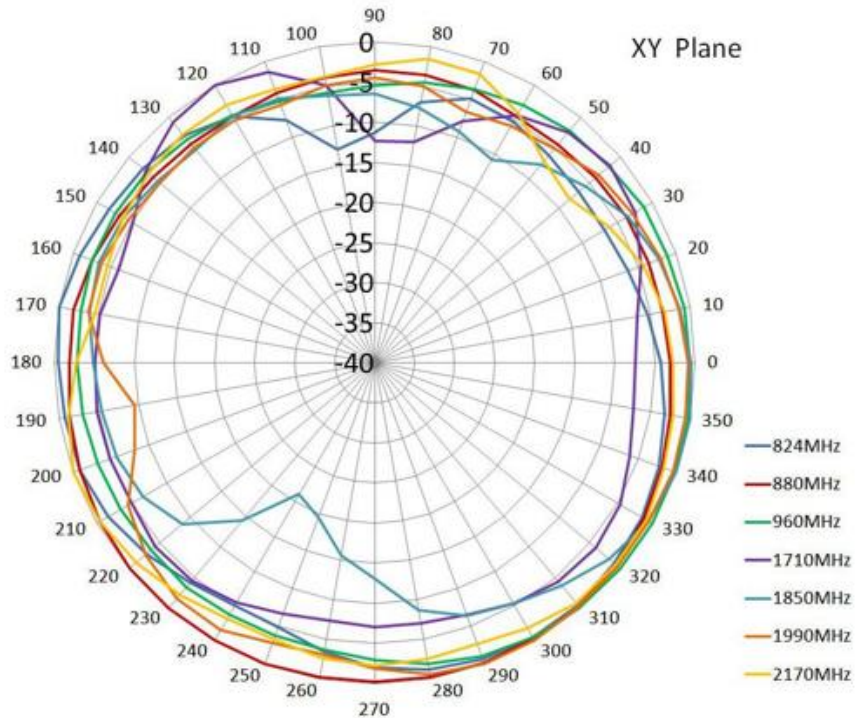
◆ ANTENNA DIMENSION



◆ Radiation Pattern(GPS)



◆ Radiation Pattern(GSM/3G)



◆ Radiation Pattern(GSM/3G)

