# Specification

| | | |
|---|---|---|
| Part No. | : | **WM.80.B.305111** |
| Product Name | : | 169MHz 0dBi Wall Mount Flexible Whip Monopole Omni-Directional Antenna<br>SMA Male connector |
| Feature | : | ¼ Wavelength<br>Flexible Inner Steel Core Whip<br>Completely IP67, Robust Structure, Aesthetic<br>3M CFD-200 SMA(M)ST<br>Cable is hidden internally<br>**RoHS Compliant** |

# 1. Introduction

The WM.80 is a 0dBi 169MHz ISM band 1/4 wavelength monopole flexible whip antenna with omni- directional pattern optimized in the azimuth for wide coverage range in typical 169 MHz applications such as Wireless M-Bus metering. It also finds its usage in remote asset monitoring applications, alarms, paging systems and private mobile radio services.

This antenna delivers wider coverage areas and more reliable connections for professional customers in the automotive, industrial industries. The whip is made up of a flexible inner steel core covered by TPU so extremely resistant to collisions and maintaining its original shape and RF performance.

The bracket allows complete concealment of the cable for a more secure integration and cleaner installation. The cable can also be routed out of the back wall of the bracket into the interior of the mounting wall for added security against vandalism. The standard version comes with 3 metres extremely low loss CFD-200 cable (0.3dB against 0.7dB for RG58) to allow for flexibility of placement. The cable and connector can be completely customized, the whip itself can also be changed for different frequency bands or gain requirements.

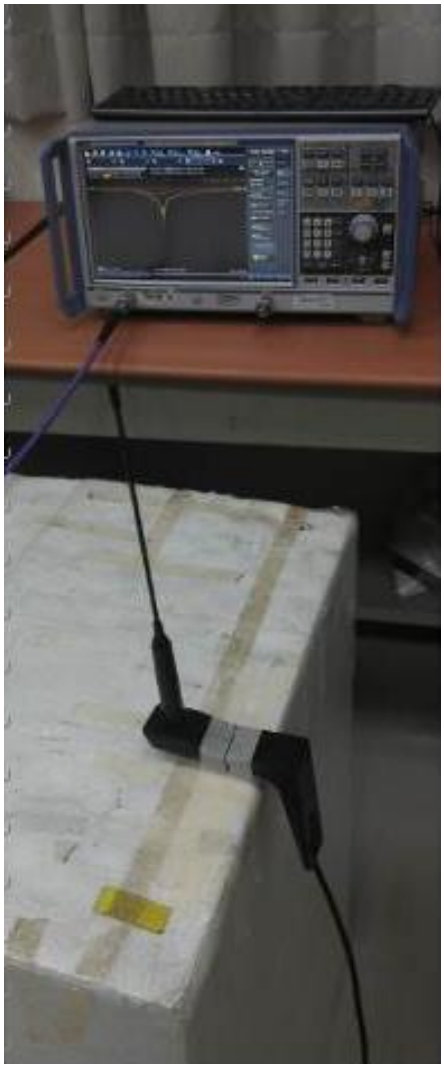
# 2. Specification

| CELLULAR | |
|---|---|
| Frequency (MHz) | 169 |
| Peak Gain (dBi) * | 0dBi |
| Average Gain (dBi) * | -3.9 |
| Efficiency (%) * | 40% |
| Impedance (Ω) | 50 |
| Polarization | Linear |
| Radiation Pattern | Omni |
| Input Power(W) | 50 |
| MECHANICAL | |
| Bracket Dimensions (mm) | 120*118*32mm |
| Base Diameter (mm) | φ16 |
| Whip Diameter (mm) | φ4 |
| Casing | ABS |
| Connector | SMA(M) |
| ENVIRONMENTAL | |
| Temperature Range | -40°C to 85°C |
| Humidity | Non-condensing 65°C 95% RH |

* For low frequency antennas these parameters can only be estimated using RF formula calculation, simulation or rough field test comparisons with large benchmark antennas.

# 3. Antenna Characteristics

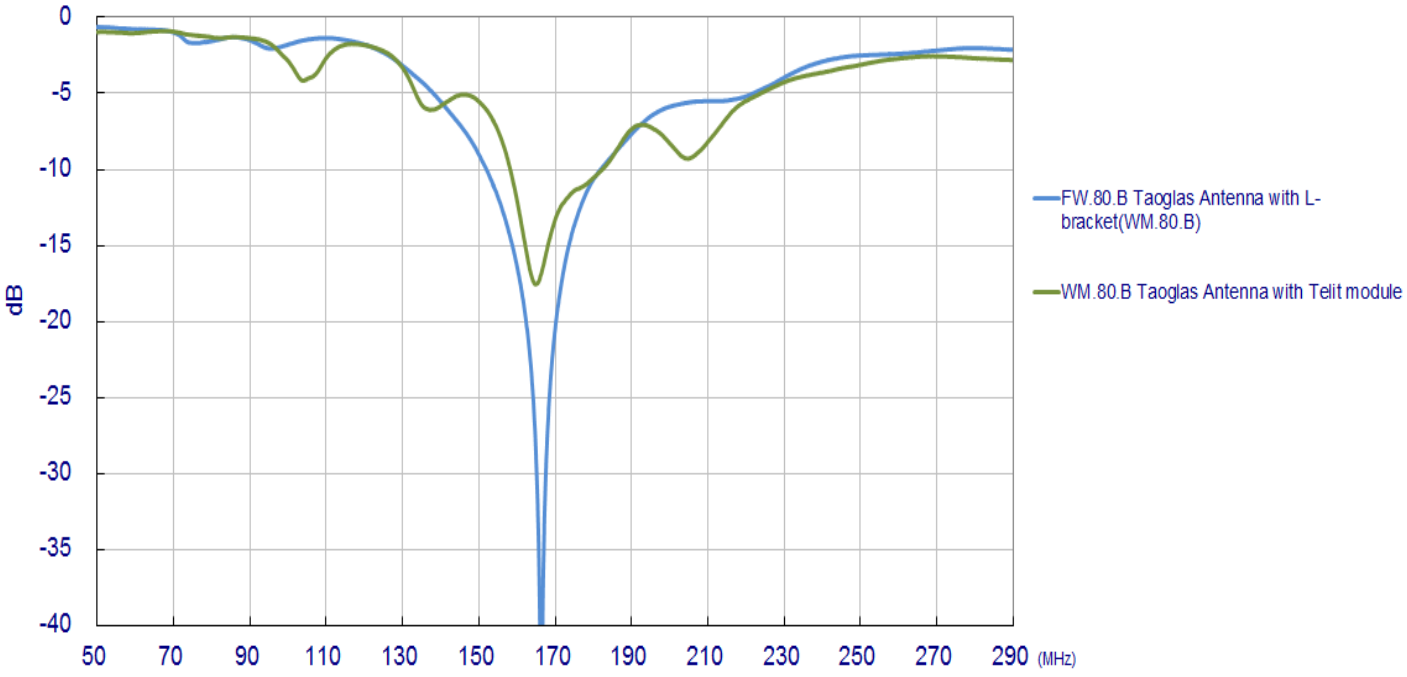
## 3.1 Antenna setup



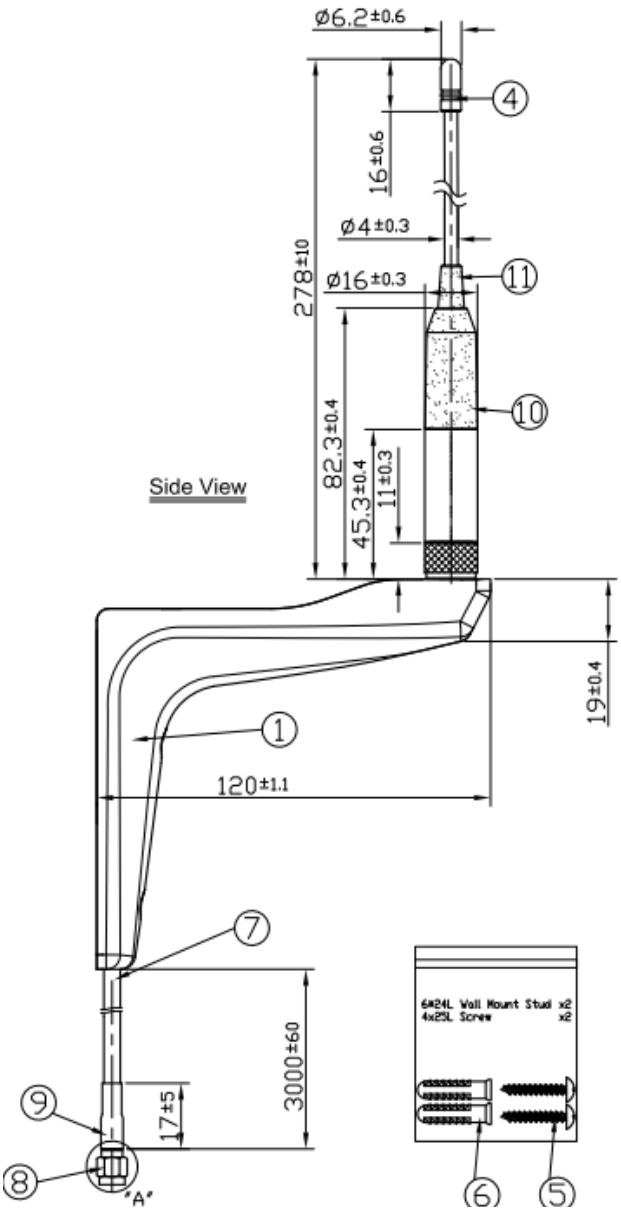
in free space

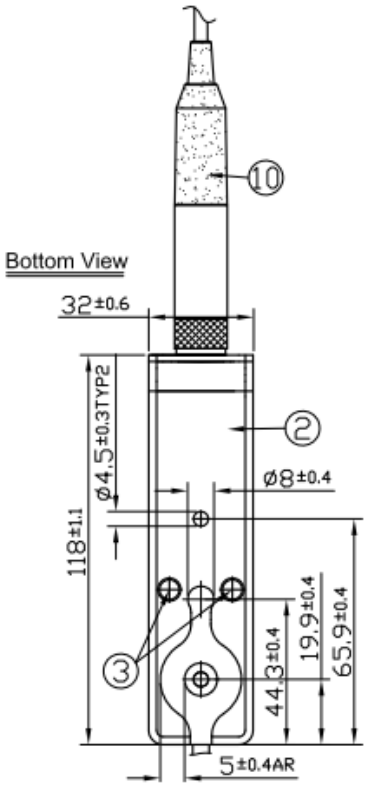
in free space, through reference board

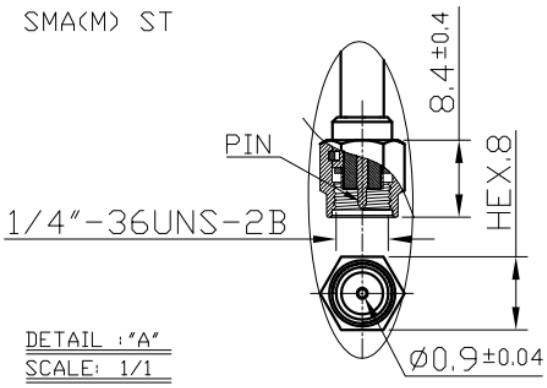
## 3.2 Return loss



# 4. Antenna Drawing




| | Name | Material | Finish | QTY |
|---|---|---|---|---|
| ① | Main Bracket | PC | Black | 1 |
| ② | Back Bracket | SPCC | Black | 1 |
| ③ | 3*8L Screw | Steel | Black | 6 |
| ④ | Cap | ABS | Black | 1 |
| ⑤ | 4*25L Screw | Stainless Steel | Clear | 2 |
| ⑥ | 6*24L Wall Mount Stud | Nylon | White | 2 |
| ⑦ | CFD 200 Cable | PVC Jacket | Black | 1 |
| ⑧ | SMA(M) ST | Brass | Gold | 1 |
| ⑨ | Heat Shrink Tube | PE | Black | 1 |
| ⑩ | Housing | ABS | Black | 1 |
| ⑪ | Flexible Whip | Steel+PE Jacket | Black | 1 |