



# MAXWELLON MXPA

GSM/WCDMA/TDS-CDMA

Base Station Amplifier (Built-in Duplexer)

2023

The MXPA base station bidirectional amplifier is composed of high-linear power amplifiers, low-noise amplifiers, duplexers, microwave circulators, switch power supplies, and attenuators. In the uplink process, the wireless signal from the mobile station is received by the antenna, amplified by the low-noise amplifier through the ANT port and the bidirectional amplifier's duplexer 2. It is then transmitted through duplexer 1 to the BTS port of the bidirectional amplifier and sent to the base station. In the downlink process, the signal transmitted by the base station passes through the BTS port of the bidirectional amplifier to duplexer 1, is then amplified by the high-linear power amplifier. The amplified high-power signal passes through duplexer 2 and is ultimately sent to the transmitting antenna to cover the desired radio wave area for reception by the mobile station.

## ■ Key Feature

- **Built-in Duplexer:** The device incorporates a duplexer internally, simplifying system connections and enhancing overall performance.
- **High-Linearity Power Amplifier:** It utilizes a high-linearity power amplifier to ensure good signal quality during transmission, minimizing distortion.
- **Low-Noise Amplifier:** Equipped with a low-noise amplifier, it helps reduce noise levels during signal reception, improving sensitivity.
- **Bidirectional Transmission:** Capable of supporting both uplink and downlink communications simultaneously, enabling bidirectional signal transmission for use in complex communication environments.
- **Compatible with Various Base Station Types:** It can be used in conjunction with different types of base station equipment, providing flexible deployment options.
- **Simplified Connection:** The built-in duplexer simplifies device connections, reducing the need for external components and enhancing device reliability.

## ■ Specification

| Model     | Frequency Range (MHz)                  | Transmit Gain (dB) | Receive Gain (dB) | Forward Output Power (P1) | Reverse Output Power (P1) | Gain Flatness (±dB) | VSWR | Operating Voltage |
|-----------|--|--------------------|-------------------|---------------------------|---------------------------|---------------------|------|-------------------|
| GSM900    | uplink:890~915<br>downLink:935~960     | uplink:10±1.0      | downlink: 17±1.0  | uplink:20±1.0             | downLink:43±1.0           | ≤2.0                | 1.5  | 24V/1.5A          |
| GSM1800   | uplink:1710~1785<br>downlink:1805~1880 | uplink:10±1.0      | downLink:17±1.0   | uplink:20±1.0             | downLink:43±1.0           | ≤2.0                | 1.5  | 24V/3.0A          |
| WCDMA-A   | uplink:1920~1980<br>downLink:2110~2170 | uplink:14±1.0      | downLink:30±1.0   | uplink:14±1.0             | downLink:30±1.0           | ≤2.0                | 1.5  | 12V/1.0A          |
| WCDMA-B   | uplink:1920~1980<br>downLink:2110~2170 | uplink:10±1.0      | downLink:17±1.0   | uplink:20±1.0             | downLink:43±1.0           | ≤2.0                | 1.5  | 24V/3.0A          |
| TDS-CDMA  | 2010~2025                              | uplink:10±1.0      | downLink:17±1.0   | uplink:20±1.0             | downLink:41±1.0           | ≤2.0                | 1.5  | 24V/3.0A          |
| WCDMA-C   | uplink:1920~1980<br>downLink:2110~2170 | uplink:10±1.0      | downLink:17±1.0   | uplink:20±1.0             | downLink:41±1.0           | ≤2.0                | 1.5  | 24V/3.0A          |
| GSM1800-C | uplink:1710~1785<br>downlink:1805~1880 | uplink:17±1.0      | downLink:20±1.0   | uplink:20±1.0             | downLink:41±1.0           | ≤2.0                | 1.5  | 24V/3.0A          |



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