

# S82401/S82406 Series Millimeter-Wave Source Module Data Sheet



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## 1 Overview

The S82401/S82406 series millimeter-wave source modules excel in terms of output power and application convenience. This series source module can work together with a microwave signal generator to build up a millimeter-wave signal generation system. The module is fed and controlled by the RF signal and software through corresponding special cables, respectively. The output frequency and power are controlled by the synthesized signal source. A special power adapter provides the DC drive for the modules.

## 2 Main Characteristics

- Output Frequency range: 50GHz to 500GHz
- Power supply: 15V adapter
- Input frequency: < 20GHz
- Compact and portable, low consumption, low heating volume, standard waveguide output
- Direct display: when the signal source is working, it can directly show the state of the source module's output port
- Built-in high-gain microwave amplifier which lowers the requirement on signal generator

## 3 Typical Applications

The S82401/S82406 series source modules can realize the frequency extension of microwave signal source to cover 50GHz to 500GHz, which can satisfy the measurement requirements of high-frequency signal in the fields of millimeter-wave radar, communications, and RCS (Radar Cross-Section).



## 4 Technical Specifications

| Model                        | S82406                           | S82401N     | S82406A       | S82401QA    | S82406B      | S82406C       | S82401SA      | S82406D      | S82406E      |
|------------------------------|----------------------------------|-------------|---------------|-------------|--------------|---------------|---------------|--------------|--------------|
| Output Frequency range (GHz) | 50 to 75                         | 60 to 90    | 75 to 110     | 90 to 140   | 110 to 170   | 170 to 220    | 170 to 260    | 220 to 325   | 325 to 500   |
| Output power (dBm)           | ≥+13                             | ≥+11        | ≥+10          | ≥+5         | ≥+2          | ≥-2           | ≥-6           | ≥-8          | ≥-18         |
|                              | 16 (typ.)                        | 13 (typ.)   | 15 (typ.)     | 10 (typ.)   | 10 (typ.)    | 2 (typ.)      | 0 (typ.)      | -3 (typ.)    | -10 (typ.)   |
| Multiplication counts        | 4                                | 6           | 6             | 6           | 12           | 12            | 12            | 18           | 36           |
| Amplitude-stabilized options | Y                                | Y           | Y             | Y           | Y            | N             | N             | N            | N            |
| Input frequency range(GHz)   | 12.5 - 18.75                     | 10.0 - 15.0 | 12.50 - 18.33 | 15.0 - 23.3 | 9.17 - 14.17 | 14.17 - 18.33 | 14.17 - 21.67 | 12.2 - 18.06 | 9.02 - 13.89 |
| Dimension (mm)<br>(W×H×D)    | 120×85×240 (without protrusions) |             |               |             |              |               |               |              |              |
| Power type                   | 15V-16V adapter                  |             |               |             |              |               |               |              |              |
| Power consumption            | <20W                             |             |               |             |              |               |               |              |              |
| RF input connector           | 3.5mm (f)                        |             |               |             |              |               |               |              |              |
| Output connector             | WR15                             | WR12        | WR10          | WR8.0       | WR6.5        | WR5.1         | WR4.3         | WR3.4        | WR2.2        |

## 5 Ordering Information

### ➤ Main Unit

| Model    | Designation   | Frequency range  |
|----------|---------------|------------------|
| S82406   | Source module | 50GHz to 75GHz   |
| S82401N  |               | 60GHz to 90GHz   |
| S82406A  |               | 75GHz to 110GHz  |
| S82401QA |               | 90GHz to 140GHz  |
| S82406B  |               | 110GHz to 170GHz |
| S82406C  |               | 170GHz to 220GHz |
| S82401SA |               | 170GHz to 260GHz |
| S82406D  |               | 220GHz to 325GHz |
| S82406E  |               | 325GHz to 500GHz |

### ➤ Standard Package

| No. | Designation               | Remarks  |
|-----|---------------------------|--|
| 1   | Power cord                | Standard tri-prong power cord: 1 pc  |
| 2   | User manual               | 2 copies   |
| 3   | Control cable             | Used for information interchange between the main unit and the source module: 1 pc |
| 4   | Certificate of conformity | 1 copy   |
| 5   | Power adapter             | 15V-16V DC output, 1 pc  |

➤ **Options**

| No.          | Designation                  | Function  | Remarks   |
|--------------|------------------------------|---|---|
| S82406-001   | Amplitude-stabilized options | Realize stable output power in 50GHz - 75GHz frequency band   | With BNC cable only suitable for Saluki S1465 series signal generator |
|              |                              | Output power adjustable range: 0dBm to 9dBm                   |   |
| S82401N-001  | Amplitude-stabilized options | Realize stable output power in 60GHz - 90GHz frequency band   | With BNC cable only suitable for Saluki S1465 series signal generator |
|              |                              | Output power adjustable range: 0dBm to 9dBm                   |   |
| S82406A-001  | Amplitude-stabilized options | Realize stable output power in 75GHz - 110GHz frequency band  | With BNC cable only suitable for Saluki S1465 series signal generator |
|              |                              | Output power adjustable range: 0dBm to 9dBm                   |   |
| S82401QA-001 | Amplitude-stabilized options | Realize stable output power in 90GHz - 140GHz frequency band  | With BNC cable only suitable for Saluki S1465 series signal generator |
|              |                              | Output power adjustable range: -5dBm to +5dBm                 |   |
| S82406B-001  | Amplitude-stabilized options | Realize stable output power in 110GHz - 170GHz frequency band | With BNC cable only suitable for Saluki S1465 series signal generator |
|              |                              | Output power adjustable range: -5dBm to +5dBm                 |   |

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