



# RF Cable Datasheet

**Product OC:** YLUP027G2AC-CN

**Version:** 1.0

**Date:** 2025-12-30

**Status:** Released

**Product Name:** DC–6000 MHz SMA Female to RF 4 Cable

**Key Features:**

Frequency Band: DC–6000 MHz

Cable Length: 200 mm

Connector Type: SMA Female to RF 4

RoHS Compliant

# Overview

To meet the requirements of devices for RF connection among antennas, modules, and motherboards, as well as long-distance wiring, Quectel provides customers with a wide range of RF cable products. These cables use high-quality materials and connectors to reduce the loss to the greatest extent, ensuring overall RF performance. Quectel also provides customized services according to customers' particular requirements for cable material, cable length, and connector type.

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# 1 Specification

## 1.1. Electrical

| Electrical              |                                                                                 |
|-------------------------|---------------------------------------------------------------------------------|
| Frequency Range         | DC–6000 MHz                                                                     |
| Impedance               | 50 $\Omega$                                                                     |
| VSWR                    | $\leq 1.9$                                                                      |
| Return Loss             | $\leq -10.4$ dB                                                                 |
| Max Cable Loss          | -1.8 dB                                                                         |
| Screening Effectiveness | 500 MHz – 1 GHz $\geq -50$ dB<br>1–3 GHz $\geq -60$ dB<br>3–6 GHz $\geq -65$ dB |

| Electrical – Detail            |             |                     |             |                     |                   |                     |                  |               |               |               |                     |               |               |
|--------------------------------|-------------|---------------------|-------------|---------------------|-------------------|---------------------|------------------|---------------|---------------|---------------|---------------------|---------------|---------------|
| SPEC \ Band                    | B87<br>/B88 | B31<br>/B72<br>/B73 | B71         | B12<br>/B13<br>/B28 | B5<br>/B8<br>/B26 | n74<br>/n75<br>/n76 | B1<br>/B2<br>/B3 | B40           | Wi-Fi<br>2G   | B38<br>/B41   | B42<br>/B48<br>/n77 | n79           | Wi-Fi<br>5G   |
|                                | 410–<br>430 | 450–<br>470         | 600–<br>700 | 700–<br>810         | 820–<br>960       | 1420–<br>1520       | 1700–<br>2170    | 2300–<br>2400 | 2400–<br>2500 | 2500–<br>2690 | 3300–<br>4200       | 4400–<br>5000 | 5150–<br>5850 |
| Max S11<br>VSWR                | 1.08        | 1.06                | 1.08        | 1.13                | 1.13              | 1.18                | 1.25             | 1.33          | 1.33          | 1.25          | 1.57                | 1.67          | 1.78          |
| Max S22<br>VSWR                | 1.08        | 1.07                | 1.07        | 1.13                | 1.14              | 1.21                | 1.28             | 1.37          | 1.37          | 1.29          | 1.60                | 1.74          | 1.87          |
| Max S11<br>Return<br>Loss (dB) | -28.81      | -30.45              | -27.85      | -24.47              | -23.99            | -21.72              | -19.14           | -16.88        | -16.89        | -19.17        | -13.12              | -11.98        | -11.05        |
| Max S22<br>Return<br>Loss (dB) | -28.71      | -29.68              | -29.56      | -24.42              | -23.57            | -20.47              | -18.27           | -16.13        | -16.13        | -17.94        | -12.69              | -11.39        | -10.35        |
| Max Cable<br>Loss<br>S21 (dB)  | -0.31       | -0.32               | -0.41       | -0.45               | -0.49             | -0.64               | -0.78            | -0.92         | -0.93         | -0.90         | -1.34               | -1.59         | -1.78         |
| Max Cable<br>Loss<br>S12 (dB)  | -0.31       | -0.32               | -0.40       | -0.45               | -0.49             | -0.63               | -0.77            | -0.92         | -0.92         | -0.90         | -1.34               | -1.58         | -1.77         |

## 1.2. Mechanical & Environmental

| Mechanical                  |                           |                         |
|-----------------------------|---------------------------|-------------------------|
| Cable Type & Color & Length |                           | Φ 1.13 & Black & 200 mm |
| Item                        | Material                  | Diameter (mm)           |
| Inner Conductor             | Silver plated copper wire | 0.24                    |
| Insulator                   | FEP                       | 0.7                     |
| Outer Conductor             | Tinned copper wire        | 0.92                    |
| Jacket                      | PVC                       | 1.13                    |
| Connector Type              |                           | SMA Female to RF 4      |
| Weight                      |                           | Typ. 3.4 g              |
| Environmental               |                           |                         |
| Operation Temperature       |                           | -40 °C to +85 °C        |
| Storage Temperature         |                           | -40 °C to +85 °C        |
| RoHS Compliant              |                           | Yes                     |

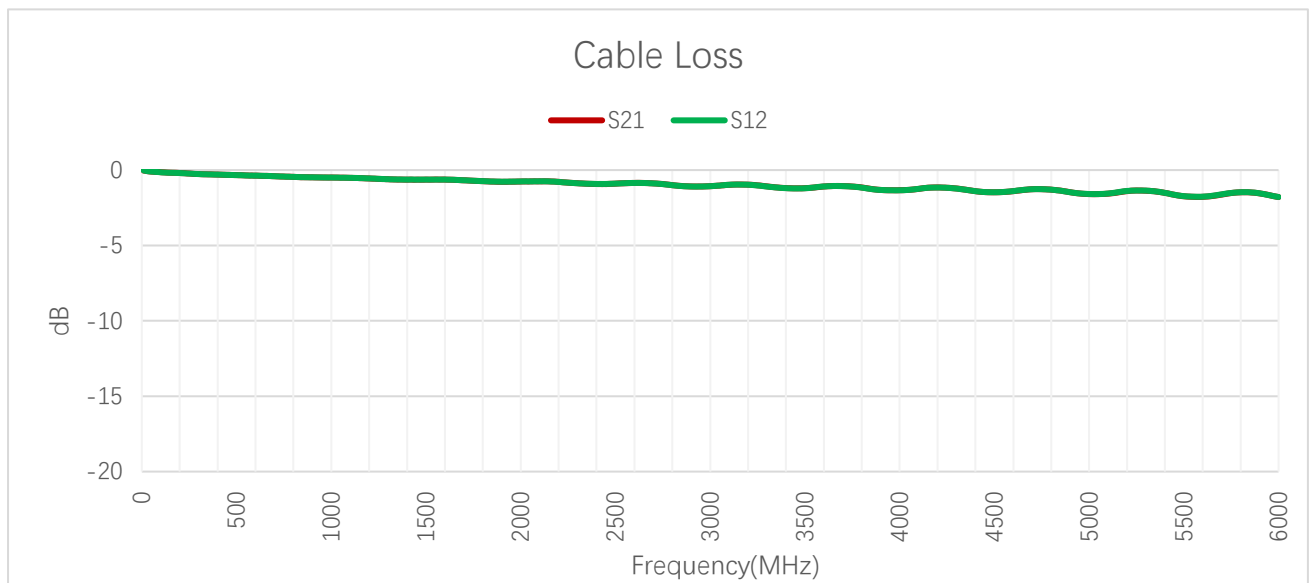
## 2 Drawing



Unit: mm

# 3 Detailed Performance

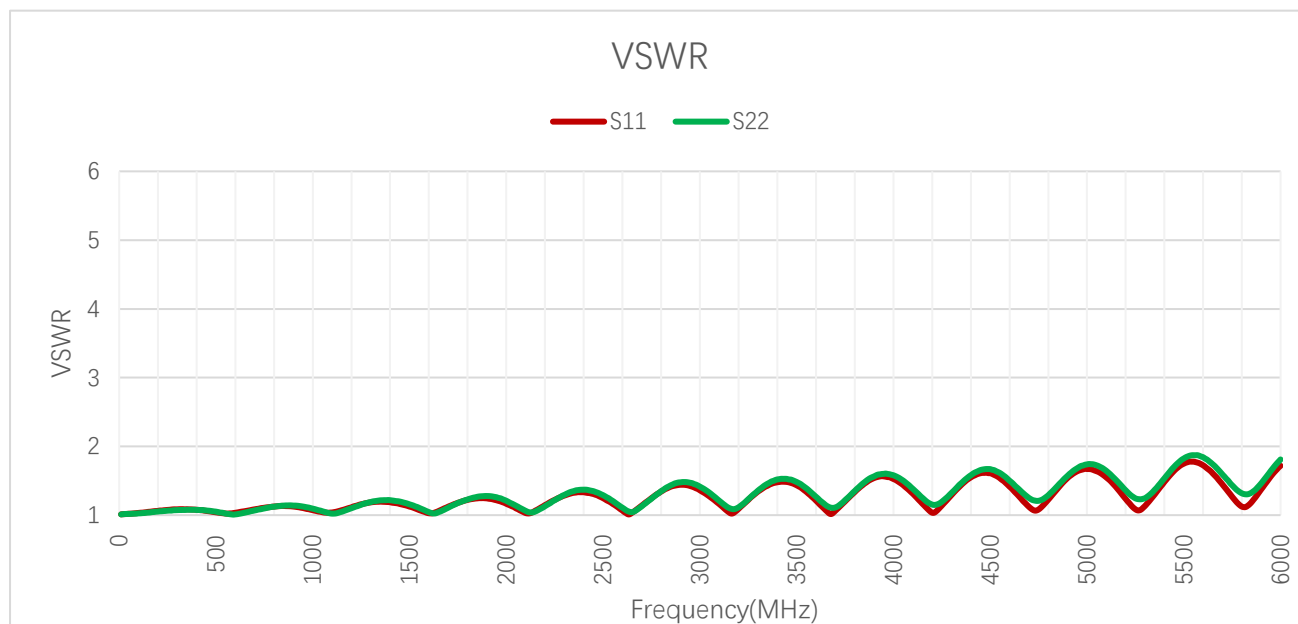
## 3.1. Cable Loss



**Cable Loss (dB)**

| Frequency (MHz) | 100   | 300   | 410   | 420   | 460   | 470   | 600   | 630   | 710   | 830   |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| S21             | -0.14 | -0.26 | -0.30 | -0.31 | -0.32 | -0.32 | -0.37 | -0.38 | -0.41 | -0.47 |
| S12             | -0.14 | -0.26 | -0.30 | -0.30 | -0.32 | -0.32 | -0.37 | -0.38 | -0.41 | -0.46 |
| Frequency (MHz) | 900   | 960   | 1440  | 1710  | 1740  | 1880  | 1950  | 2140  | 2350  | 2450  |
| S21             | -0.48 | -0.49 | -0.64 | -0.68 | -0.70 | -0.78 | -0.77 | -0.75 | -0.90 | -0.93 |
| S12             | -0.48 | -0.49 | -0.63 | -0.68 | -0.70 | -0.76 | -0.76 | -0.74 | -0.91 | -0.92 |
| Frequency (MHz) | 2600  | 3600  | 4700  | 5000  | 5500  | 6000  |       |       |       |       |
| S21             | -0.85 | -1.09 | -1.27 | -1.59 | -1.74 | -1.79 |       |       |       |       |
| S12             | -0.85 | -1.08 | -1.27 | -1.58 | -1.73 | -1.79 |       |       |       |       |

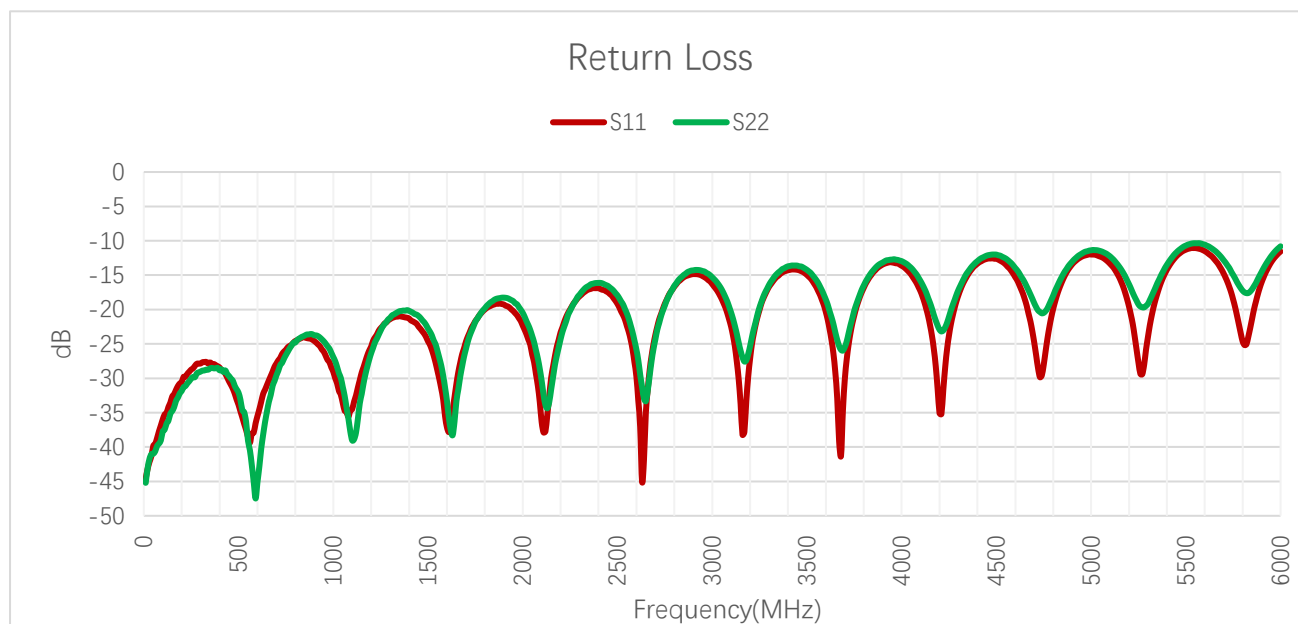
### 3.2. VSWR



**VSWR**

| Frequency (MHz) | 100  | 300  | 410  | 420  | 460  | 470  | 600  | 630  | 710  | 830  |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| S11             | 1.03 | 1.08 | 1.08 | 1.07 | 1.06 | 1.05 | 1.03 | 1.05 | 1.09 | 1.13 |
| S22             | 1.03 | 1.07 | 1.08 | 1.07 | 1.06 | 1.06 | 1.01 | 1.02 | 1.07 | 1.13 |
| Frequency (MHz) | 900  | 960  | 1440 | 1710 | 1740 | 1880 | 1950 | 2140 | 2350 | 2450 |
| S11             | 1.13 | 1.10 | 1.17 | 1.14 | 1.17 | 1.25 | 1.22 | 1.05 | 1.33 | 1.31 |
| S22             | 1.14 | 1.12 | 1.20 | 1.12 | 1.16 | 1.28 | 1.26 | 1.04 | 1.35 | 1.35 |
| Frequency (MHz) | 2600 | 3600 | 4700 | 5000 | 5500 | 6000 |      |      |      |      |
| S11             | 1.07 | 1.21 | 1.12 | 1.67 | 1.75 | 1.72 |      |      |      |      |
| S22             | 1.11 | 1.27 | 1.25 | 1.74 | 1.82 | 1.81 |      |      |      |      |

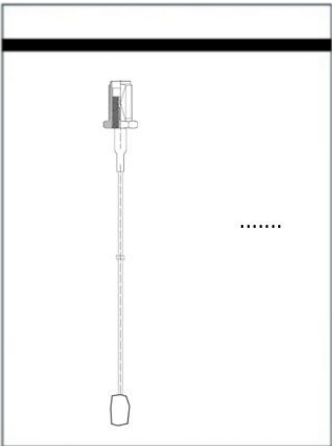
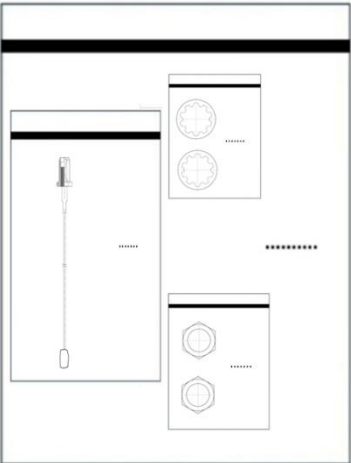
### 3.3. Return Loss

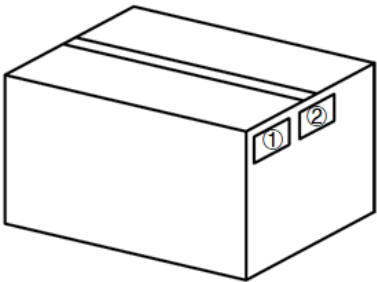
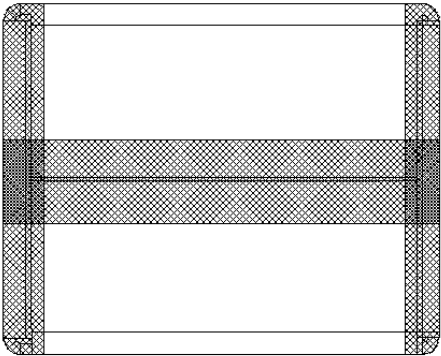


Return Loss (dB)

| Frequency (MHz) | 100    | 300    | 410    | 420    | 460    | 470    | 600    | 630    | 710    | 830    |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| S11             | -35.97 | -27.84 | -28.81 | -28.95 | -30.96 | -31.52 | -35.49 | -32.26 | -27.39 | -24.18 |
| S22             | -37.71 | -29.02 | -28.71 | -29.08 | -30.05 | -30.36 | -45.08 | -38.18 | -28.89 | -24.04 |
| Frequency (MHz) | 900    | 960    | 1440   | 1710   | 1740   | 1880   | 1950   | 2140   | 2350   | 2450   |
| S11             | -24.58 | -26.72 | -22.08 | -23.96 | -22.18 | -19.14 | -20.22 | -32.57 | -17.06 | -17.50 |
| S22             | -23.75 | -24.97 | -20.74 | -24.69 | -22.45 | -18.33 | -18.78 | -33.44 | -16.52 | -16.57 |
| Frequency (MHz) | 2600   | 3600   | 4700   | 5000   | 5500   | 6000   |        |        |        |        |
| S11             | -29.73 | -20.38 | -24.84 | -12.00 | -11.30 | -11.56 |        |        |        |        |
| S22             | -25.82 | -18.57 | -19.08 | -11.39 | -10.70 | -10.81 |        |        |        |        |

## 4 Packaging

| Step | Packaging Picture / 2D Picture                                                      | Description                                                                                                                                                                                                                                     |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    |   | 50 products are wrapped with EPE foam.<br>(50 Products / Tie)<br>50 products in a small PE bag.<br>(50 Products / Small PE Bag)                                                                                                                 |
| 2    |  | 500 products and accessories in a big PE bag.<br>(500 Products and Accessories / Big PE Bag)                                                                                                                                                    |
| 3    |  | (4 Big PE Bags / Carton Box)<br>(2000 Products / Carton Box)<br>Estimated quantity<br>Products that cannot fill the entire carton box are packed in a suitable size carton box.<br><u>Carton Size:</u><br><u>L × W × H = 300 × 250 × 200 mm</u> |

|      |                                                                                                                                                                     |                                                                                                                                       |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 4    |                                                                                    | <p><b>Position for Attaching Labels</b></p> <ul style="list-style-type: none"> <li>① Carton Label</li> <li>② Quality Label</li> </ul> |
| 5    |                                                                                    | <p><b>Sealing Cartons</b><br/>H-shaped sealing cartons</p>                                                                            |
| Note | <p>The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.</p> |                                                                                                                                       |

# Contact Us

At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

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# Revision History

| Version | Date       | Author                                                    | Note                     |
|---------|------------|-----------------------------------------------------------|--------------------------|
| -       | 2025-12-30 | Kevin Cui/<br>Kadar Liao/<br>Strong Qiang/<br>Rainey Liao | Creation of the document |
| 1.0     | 2025-12-30 | Kevin Cui/<br>Kadar Liao/<br>Strong Qiang/<br>Rainey Liao | First official release   |



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