



RF Cable Datasheet

Product OC: YLUX034LLAM

Version: 1.0

Date: 2024-12-12

Status: Released

Product Name: RF Cable

Key Features:

Frequency Band: DC–6000 MHz

Cable Length: 700 mm

Connector Type: SMA Female to Fakra D Female

RoHS and REACH 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 Ω |
| VSWR | ≤ 1.7 |
| Return Loss | ≤ -11.4 dB |
| Max Cable Loss | -2.6 dB |

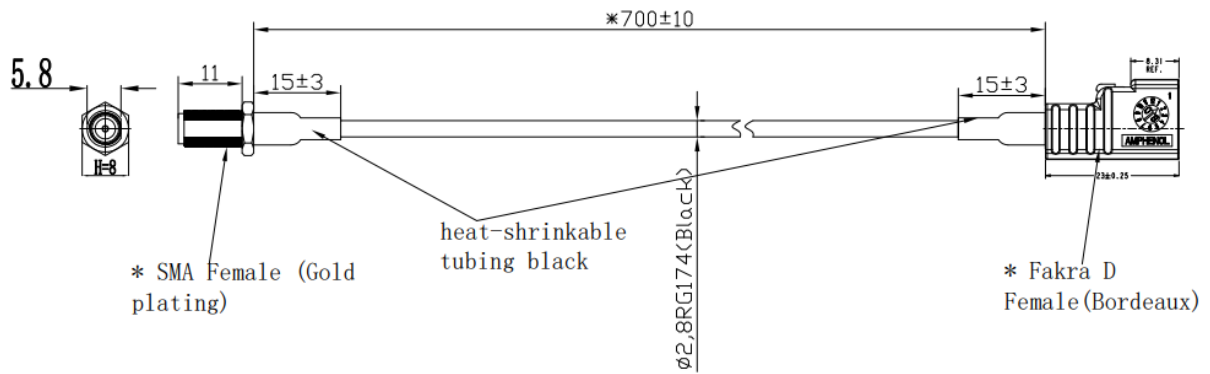
| Electrical – Detail | | | | | | | | | | | | | |
|--------------------------------|-------------|---------------------|-------------|---------------------|-------------------|---------------------|------------------|---------------|---------------|---------------|---------------------|---------------|---------------|
| Band SPEC | B87 /B88 | B31 /B72 /B73 | B71 | B12 /B13 /B28 | B5 /B8 /B26 | n74 /n75 /n76 | B1 /B2 /B3 | B40 | Wi-Fi 2G | B38 /B41 | B42 /B48 /n77 | n79 | Wi-Fi 5G |
| | 410– 430 | 450– 470 | 600– 700 | 700– 810 | 820– 960 | 1420– 1520 | 1700– 2170 | 2300– 2400 | 2400– 2500 | 2500– 2690 | 3300– 4200 | 4400– 5000 | 5150– 5850 |
| Max S11 VSWR | 1.07 | 1.03 | 1.13 | 1.13 | 1.15 | 1.16 | 1.18 | 1.15 | 1.14 | 1.17 | 1.36 | 1.50 | 1.74 |
| Max S22 VSWR | 1.08 | 1.05 | 1.13 | 1.13 | 1.15 | 1.18 | 1.23 | 1.20 | 1.20 | 1.21 | 1.30 | 1.37 | 1.51 |
| Max S11 Return Loss (dB) | -29.03 | -36.33 | -24.47 | -24.45 | -23.03 | -22.41 | -21.87 | -23.25 | -23.52 | -21.95 | -16.26 | -13.91 | -11.39 |
| Max S22 Return Loss (dB) | -28.77 | -33.12 | -24.12 | -24.12 | -22.97 | -21.49 | -19.86 | -20.81 | -20.81 | -20.39 | -17.76 | -16.07 | -13.78 |
| Max Cable Loss S21 (dB) | -0.46 | -0.48 | -0.62 | -0.67 | -0.72 | -0.95 | -1.16 | -1.22 | -1.26 | -1.38 | -1.99 | -2.22 | -2.62 |
| Max Cable Loss | -0.47 | -0.48 | -0.62 | -0.68 | -0.74 | -0.96 | -1.16 | -1.21 | -1.30 | -1.39 | -1.87 | -2.10 | -2.42 |

| | | | | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| S12 (dB) | | | | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|

1.2. Mechanical & Environmental

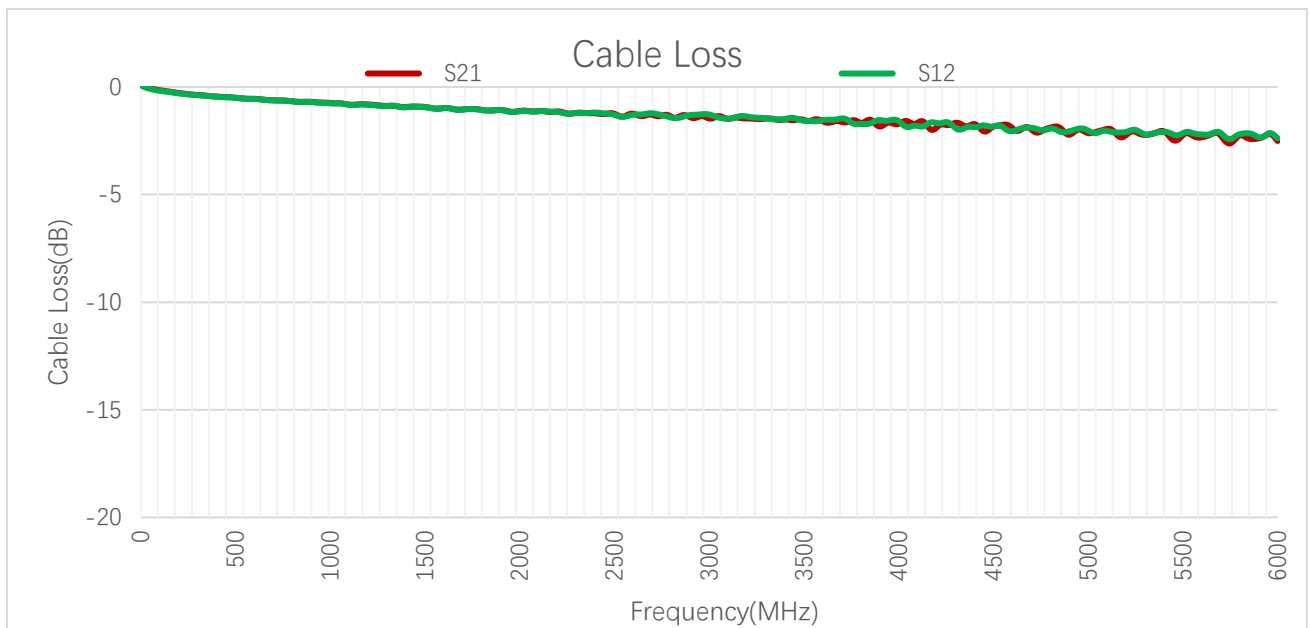
| Mechanical | | |
|--|-----------------------------------|------------------------------|
| Cable Type & Color & Length | | RG174 & Black & 700 mm |
| Item | Material | Diameter (mm) |
| Inner Conductor | Bare copper wire | 0.495 |
| Insulator | PE | 1.55 |
| Outer Conductor | Tinned copper wire | 1.95 |
| Jacket | Low Smoke halogen free polyolefin | 2.8 |
| Connector Type | | SMA Female to Fakra D Female |
| Weight | | Typ. 14.4 g |
| Environmental | | |
| Operation Temperature | | -40 °C to +85 °C |
| Storage Temperature | | -40 °C to +85 °C |
| RoHS and REACH Compliant | | Yes |

2 Drawing



3 Detailed Performance

3.1. Cable Loss

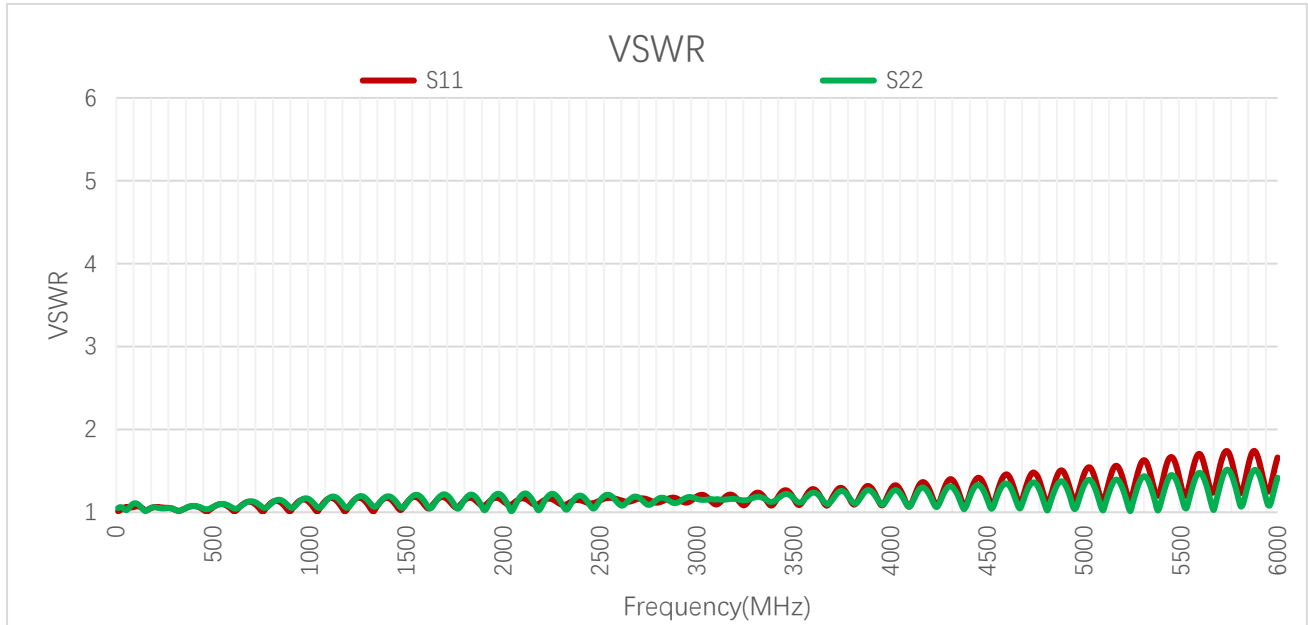


Cable Loss (dB)

| | | | | | | | | | | |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Frequency (MHz) | 100 | 300 | 410 | 420 | 460 | 470 | 600 | 630 | 710 | 830 |
| S21 | -0.15 | -0.37 | -0.45 | -0.46 | -0.47 | -0.48 | -0.55 | -0.57 | -0.62 | -0.69 |
| S12 | -0.18 | -0.38 | -0.45 | -0.46 | -0.48 | -0.48 | -0.55 | -0.57 | -0.63 | -0.69 |
| Frequency (MHz) | 900 | 960 | 1440 | 1710 | 1740 | 1880 | 1950 | 2140 | 2350 | 2450 |
| S21 | -0.69 | -0.72 | -0.91 | -1.03 | -1.02 | -1.07 | -1.14 | -1.14 | -1.21 | -1.25 |
| S12 | -0.70 | -0.74 | -0.92 | -1.04 | -1.02 | -1.07 | -1.16 | -1.13 | -1.21 | -1.23 |
| Frequency (MHz) | 2600 | 3600 | 4700 | 5000 | 5500 | 6000 | | | | |
| S21 | -1.24 | -1.59 | -1.97 | -2.14 | -2.24 | -2.51 | | | | |

| | | | | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|--|--|--|--|
| S12 | -1.29 | -1.54 | -1.89 | -2.03 | -2.15 | -2.38 | | | | |
|------------|-------|-------|-------|-------|-------|-------|--|--|--|--|

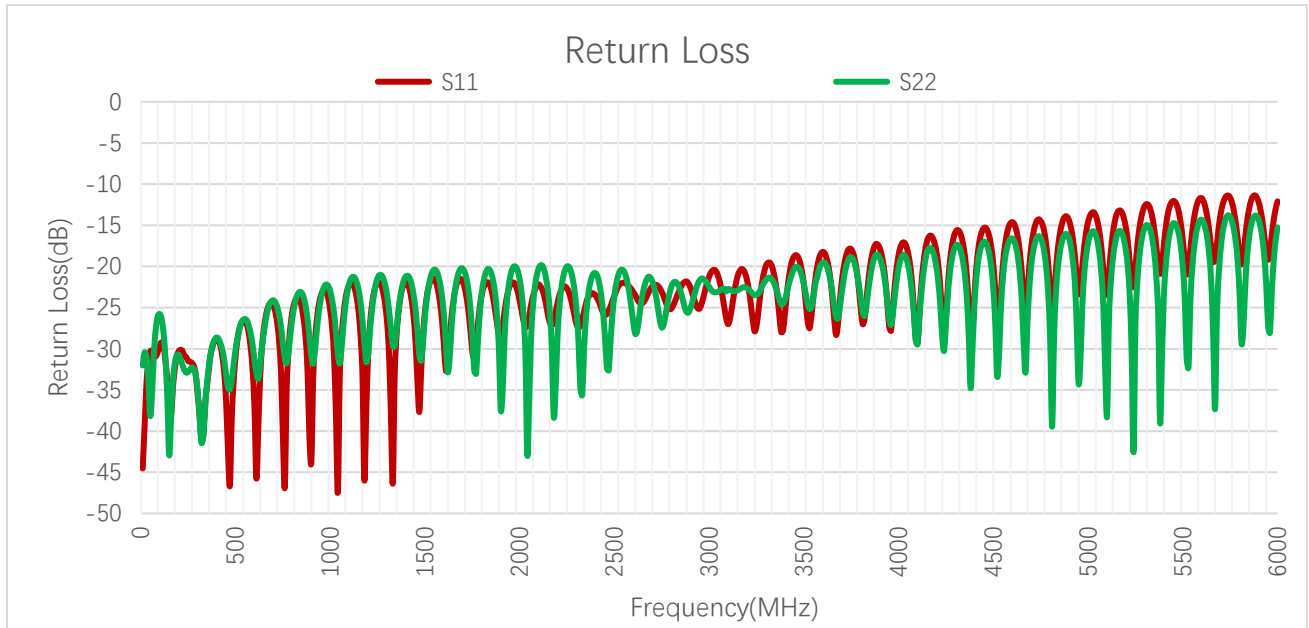
3.2. VSWR



VSWR

| Frequency (MHz) | 100 | 300 | 410 | 420 | 460 | 470 | 600 | 630 | 710 | 830 |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| S11 | 1.07 | 1.03 | 1.07 | 1.07 | 1.02 | 1.01 | 1.03 | 1.04 | 1.11 | 1.14 |
| S22 | 1.11 | 1.04 | 1.08 | 1.07 | 1.04 | 1.04 | 1.06 | 1.05 | 1.13 | 1.15 |
| Frequency (MHz) | 900 | 960 | 1440 | 1710 | 1740 | 1880 | 1950 | 2140 | 2350 | 2450 |
| S11 | 1.01 | 1.15 | 1.10 | 1.16 | 1.08 | 1.09 | 1.17 | 1.12 | 1.13 | 1.11 |
| S22 | 1.06 | 1.15 | 1.14 | 1.20 | 1.12 | 1.11 | 1.19 | 1.18 | 1.10 | 1.08 |
| Frequency (MHz) | 2600 | 3600 | 4700 | 5000 | 5500 | 6000 | | | | |
| S11 | 1.15 | 1.28 | 1.30 | 1.46 | 1.34 | 1.66 | | | | |
| S22 | 1.09 | 1.24 | 1.23 | 1.32 | 1.22 | 1.42 | | | | |



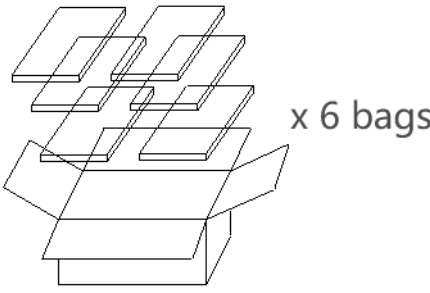
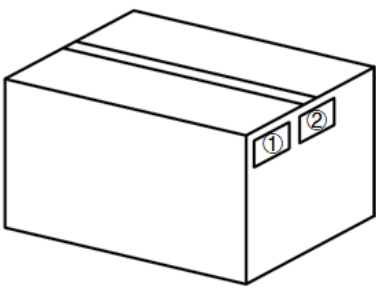
3.3. Return Loss

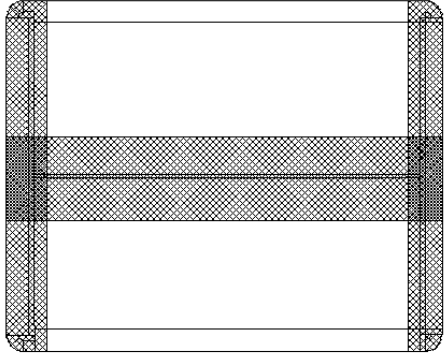


Return Loss (dB)

| Frequency (MHz) | 100 | 300 | 410 | 420 | 460 | 470 | 600 | 630 | 710 | 830 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| S11 | -29.54 | -35.52 | -29.03 | -29.63 | -42.30 | -46.62 | -37.17 | -33.43 | -25.52 | -23.81 |
| S22 | -25.77 | -35.12 | -28.77 | -29.32 | -34.66 | -34.97 | -31.30 | -31.94 | -24.36 | -23.30 |
| Frequency (MHz) | 900 | 960 | 1440 | 1710 | 1740 | 1880 | 1950 | 2140 | 2350 | 2450 |
| S11 | -43.83 | -23.03 | -26.14 | -22.65 | -27.79 | -26.91 | -22.23 | -24.74 | -24.52 | -25.86 |
| S22 | -30.88 | -22.97 | -23.48 | -20.71 | -25.15 | -25.83 | -21.22 | -21.57 | -26.08 | -28.56 |
| Frequency (MHz) | 2600 | 3600 | 4700 | 5000 | 5500 | 6000 | | | | |
| S11 | -23.14 | -18.23 | -17.63 | -14.59 | -16.80 | -12.09 | | | | |
| S22 | -26.89 | -19.50 | -19.82 | -17.12 | -20.04 | -15.25 | | | | |

4 Packaging

| Step | Packaging Picture / 2D Picture | Description |
|------|--|--|
| 1 |  | Product drawing |
| 2 |  | 20 pcs antenna products in a PE bag. (20 PCS / PE Bag) |
| 3 |  x 6 bags | (6 PE Bags / Carton Box) (120 PCS Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. <u>Carton Size:</u> <u>L x W x H = 325 x 325 x 200 mm</u> |
| 4 |  | Position for Attaching Labels ① Carton Label ② Quality Label |

| | | |
|------|---|--|
| 5 |  A technical drawing of an H-shaped sealing carton. It consists of two vertical rectangular sections connected by two horizontal rectangular sections, forming an 'H' shape. The entire structure is filled with a cross-hatched pattern, indicating it is a solid or reinforced material. The corners of the vertical sections are rounded. | <p>Sealing Cartons 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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Or our local offices. For more information, please visit:

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Revision History

| Version | Date | Author | Note |
|---------|------------|--|--------------------------|
| - | 2024-12-12 | Mayes LI/ Lucky FENG/ Riva REN/ Rainey LIAO | Creation of the document |
| 1.0 | 2024-12-12 | Mayes LI/ Lucky FENG/ Riva REN/ Rainey LIAO | First official release |

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