



RF Cable Datasheet

Product OC: YLUX017XQD & YLUX017XQE & YLUX017XQF

Version: 1.0

Date: 2023-11-10

Status: Released

Product Name: RF Cable

Key Features:

Frequency Band: DC–6000 MHz

Cable Length: 1700 mm

Connector Type: SMA Male to SMA 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

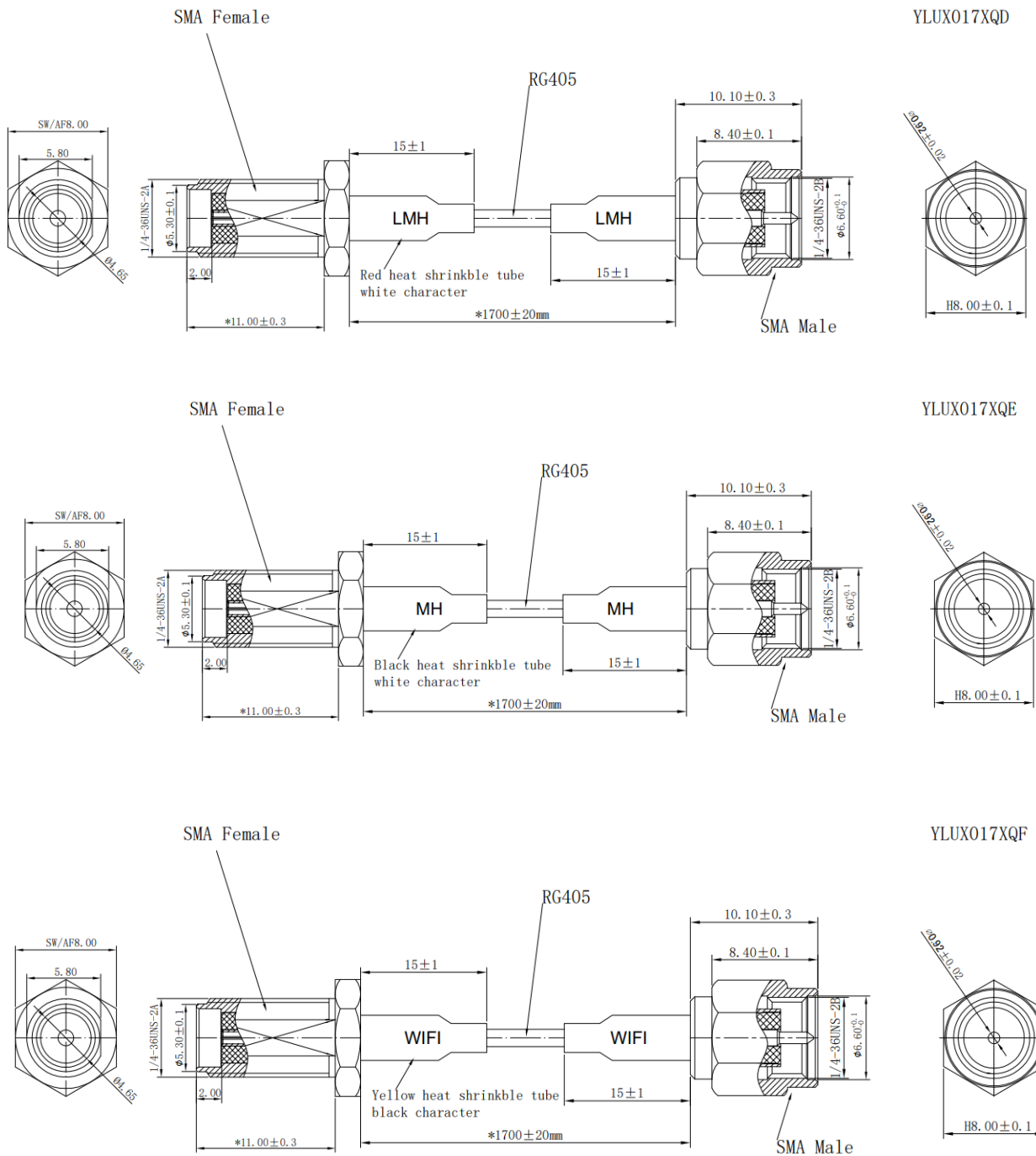
| Electrical | |
|-----------------|------------------|
| Frequency Range | DC–6000 MHz |
| Impedance | 50 Ω |
| VSWR | ≤ 1.27 |
| Return Loss | ≤ -18.58 dB |
| Max Cable Loss | -3.20 dB |

| Electrical - Detail | | | | | | | | | | | | | |
|--------------------------------|------|-------------|---------------------|-------------|---------------------|-------------------|---------------------|------------------|---------------|---------------|---------------|---------------------|--------------------------------|
| SPEC | Band | 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 | 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 | | 1.05 | 1.03 | 1.02 | 1.03 | 1.04 | 1.06 | 1.10 | 1.10 | 1.10 | 1.11 | 1.20 | 1.22 |
| Max S22 VSWR | | 1.05 | 1.03 | 1.03 | 1.03 | 1.04 | 1.06 | 1.08 | 1.08 | 1.08 | 1.09 | 1.18 | 1.22 |
| Max S11 Return Loss (dB) | | -32.26 | -36.45 | -38.29 | -36.79 | -33.33 | -30.73 | -26.76 | -26.67 | -26.07 | -25.85 | -20.99 | -19.89 |
| Max S22 Return Loss (dB) | | -32.47 | -36.12 | -37.68 | -35.89 | -33.92 | -30.57 | -27.80 | -28.07 | -27.98 | -27.70 | -21.45 | -18.58 |
| Max Cable Loss S21 (dB) | | -0.82 | -0.82 | -1.01 | -1.09 | -1.20 | -1.53 | -1.85 | -1.96 | -1.99 | -2.08 | -2.65 | -3.17 |
| Max Cable Loss S12 (dB) | | -0.82 | -0.82 | -1.01 | -1.10 | -1.20 | -1.53 | -1.85 | -1.96 | -2.00 | -2.08 | -2.66 | -3.16 |

1.2. Mechanical & Environmental

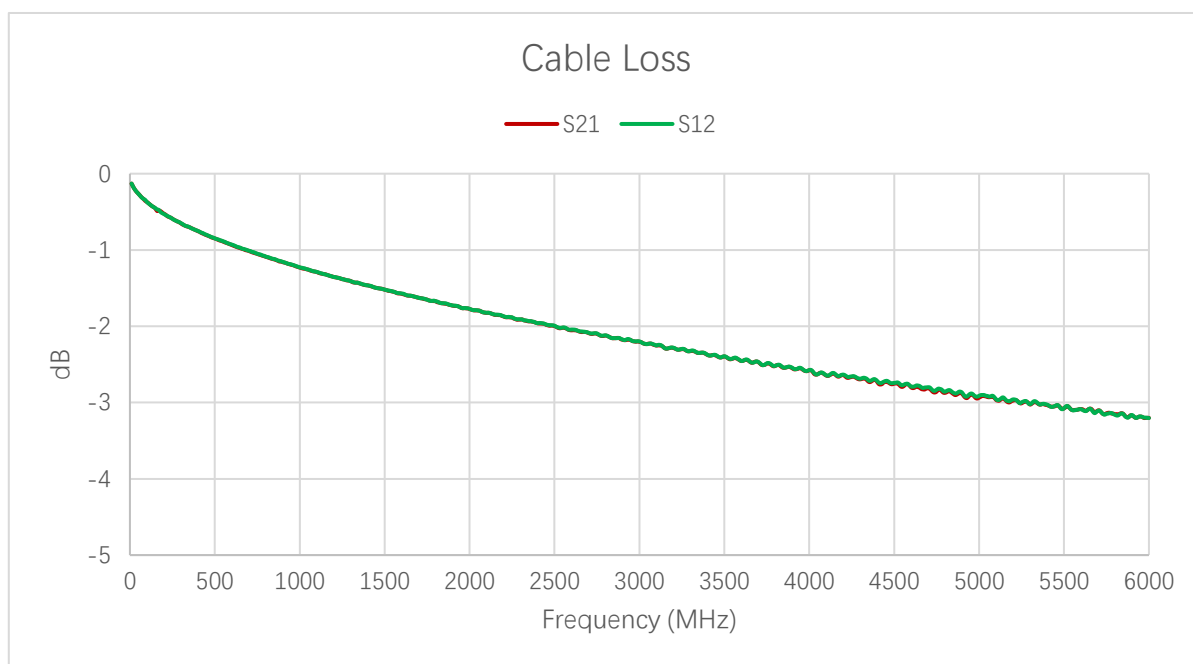
| Mechanical | | |
|-----------------------------|---------------------------|-------------------------|
| Cable Type & Color & Length | | RG405 & Black & 1700 mm |
| Item | Material | Diameter (mm) |
| Inner Conductor | Silver plated copper wire | 0.54 ±0.01 |
| Insulator | PTFE | 1.67 ±0.05 |
| Outer Conductor | Tinned copper wire | 2.1 ±0.1 |
| Jacket | FEP | 2.6 ±0.1 |
| Connector Type | | SMA Male to SMA Female |
| Weight | | Typ. 38.2 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

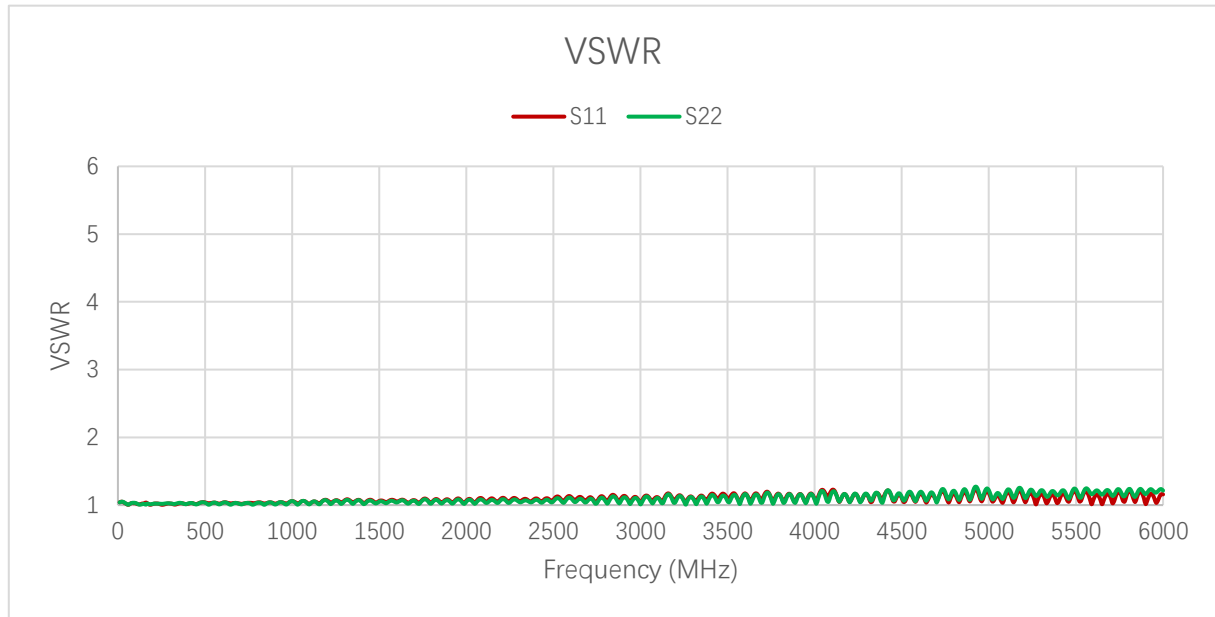
3.1. Cable Loss



Cable Loss (dB)

| Frequency (MHz) | 100 | 300 | 410 | 420 | 460 | 470 | 600 | 630 | 710 | 830 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| S21 | -0.37 | -0.65 | -0.76 | -0.77 | -0.81 | -0.82 | -0.93 | -0.96 | -1.02 | -1.11 |
| S12 | -0.37 | -0.65 | -0.76 | -0.78 | -0.81 | -0.82 | -0.93 | -0.96 | -1.02 | -1.11 |
| Frequency (MHz) | 900 | 960 | 1440 | 1710 | 1740 | 1880 | 1950 | 2140 | 2350 | 2450 |
| S21 | -1.16 | -1.20 | -1.49 | -1.63 | -1.64 | -1.72 | -1.76 | -1.84 | -1.93 | -1.98 |
| S12 | -1.16 | -1.20 | -1.49 | -1.63 | -1.65 | -1.72 | -1.76 | -1.84 | -1.94 | -1.98 |
| Frequency (MHz) | 2600 | 3600 | 4700 | 5000 | 5500 | 6000 | | | | |
| S21 | -2.04 | -2.45 | -2.80 | -2.91 | -3.07 | -3.20 | | | | |
| S12 | -2.05 | -2.46 | -2.81 | -2.94 | -3.08 | -3.20 | | | | |

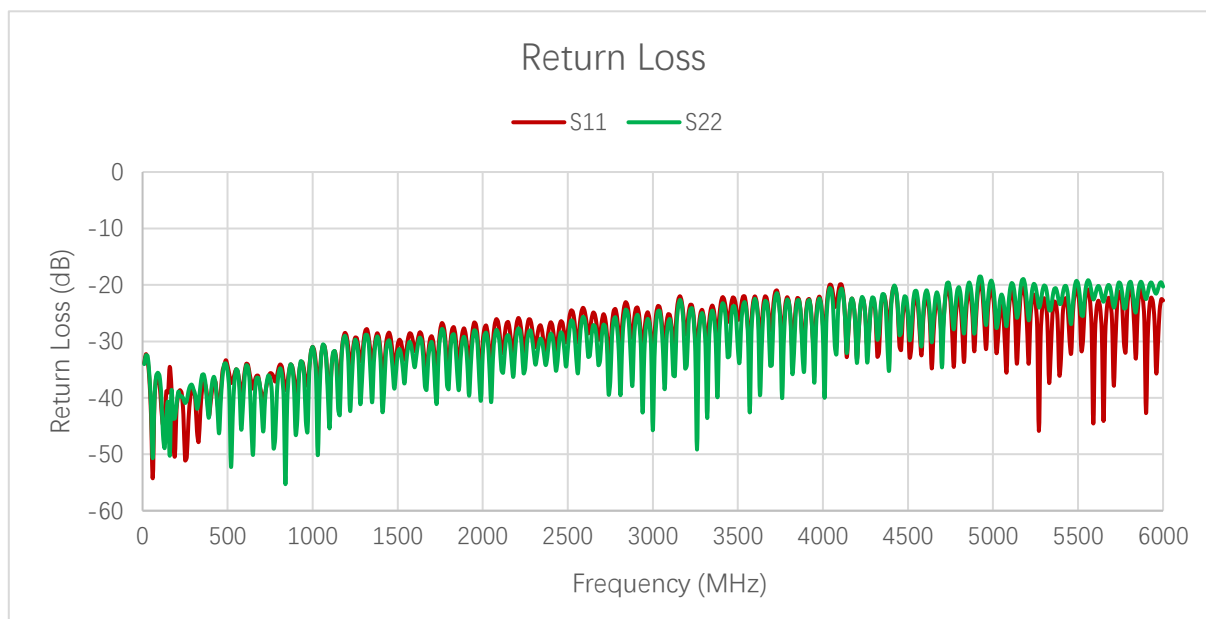
3.2. VSWR



VSWR

| Frequency (MHz) | 100 | 300 | 410 | 420 | 460 | 470 | 600 | 630 | 710 | 830 |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| S11 | 1.03 | 1.02 | 1.02 | 1.03 | 1.02 | 1.03 | 1.03 | 1.03 | 1.02 | 1.03 |
| S22 | 1.03 | 1.02 | 1.03 | 1.03 | 1.02 | 1.03 | 1.03 | 1.03 | 1.01 | 1.02 |
| Frequency (MHz) | 900 | 960 | 1440 | 1710 | 1740 | 1880 | 1950 | 2140 | 2350 | 2450 |
| S11 | 1.02 | 1.03 | 1.07 | 1.06 | 1.06 | 1.08 | 1.10 | 1.10 | 1.08 | 1.09 |
| S22 | 1.01 | 1.01 | 1.06 | 1.05 | 1.05 | 1.06 | 1.08 | 1.07 | 1.06 | 1.07 |
| Frequency (MHz) | 2600 | 3600 | 4700 | 5000 | 5500 | 6000 | | | | |
| S11 | 1.12 | 1.17 | 1.07 | 1.18 | 1.19 | 1.16 | | | | |
| S22 | 1.10 | 1.16 | 1.04 | 1.22 | 1.23 | 1.21 | | | | |

3.3. Return Loss

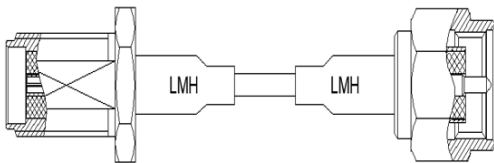
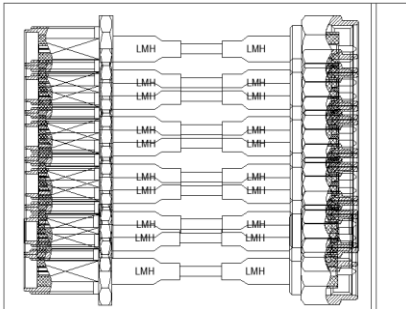


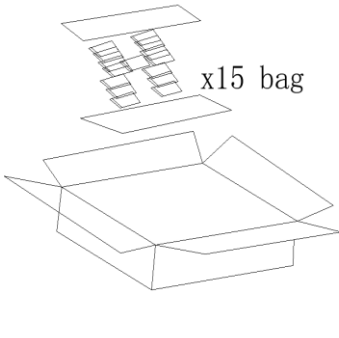
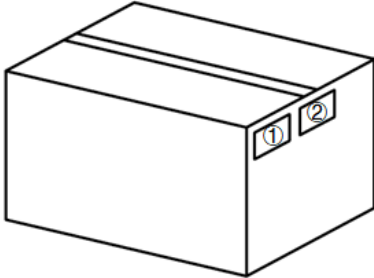
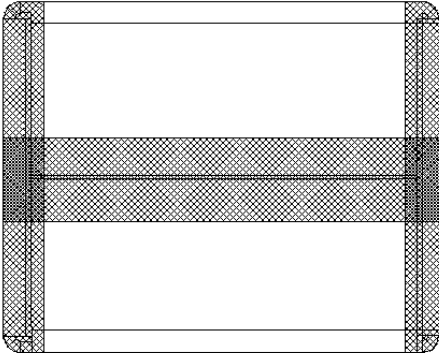
Return Loss (dB)

| Frequency (MHz) | 100 | 300 | 410 | 420 | 460 | 470 | 600 | 630 | 710 | 830 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| S11 | -37.52 | -38.87 | -38.35 | -36.79 | -39.06 | -35.30 | -35.49 | -35.83 | -41.13 | -36.79 |
| S22 | -36.15 | -38.56 | -37.17 | -36.28 | -40.49 | -36.23 | -36.31 | -37.34 | -45.97 | -40.23 |
| Frequency (MHz) | 900 | 960 | 1440 | 1710 | 1740 | 1880 | 1950 | 2140 | 2350 | 2450 |
| S11 | -39.18 | -37.45 | -28.98 | -30.21 | -31.20 | -28.54 | -26.67 | -26.84 | -28.31 | -27.41 |
| S22 | -46.47 | -44.10 | -30.25 | -32.01 | -32.79 | -30.07 | -28.07 | -29.30 | -30.15 | -29.81 |
| Frequency (MHz) | 2600 | 3600 | 4700 | 5000 | 5500 | 6000 | | | | |
| S11 | -24.73 | -22.02 | -29.46 | -21.85 | -21.36 | -22.75 | | | | |
| S22 | -26.25 | -22.46 | -34.61 | -20.13 | -19.73 | -20.29 | | | | |

4 Packaging

- YLUX017XQD
- YLUX017XQE
- YLUX017XQF

| Step | Packaging Picture / 2D Picture | Description |
|------|--|--------------------------------------|
| 1 |  | Product drawing |
| 2 |  <p>10PCS/袋</p> | 10 pcs antenna products in a PE bag. |

| | | |
|---|---|--|
| 3 |  | <p>15 PE Bags / Carton Box (150 PCS / Carton Box) Estimated Quantity</p> <p>Products that cannot fill the entire carton box are packed in a suitable size carton box.</p> <p><u>Carton Size:</u> <u>L × W × H = 325 × 325 × 200 mm</u></p> |
| 4 |  | <p>Position for Attaching Labels</p> <p>① Carton Label ② Quality Label</p> |
| 5 |  | <p>Sealing Cartons “┐” type sealing cartons</p> |
| 6 | <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

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Revision History

| Version | Date | Author | Note |
|---------|------------|--|--------------------------|
| - | 2023-11-10 | Mordecai LIU/ Lucky FENG/ David LIU/ Aria CHU | Creation of the document |
| 1.0 | 2023-11-10 | Mordecai LIU/ Lucky FENG/ David LIU/ Aria CHU | First official release |



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