

# RF Cable Datasheet

**Product OC:** YLUX031NLAM

**Version:** 1.0

**Date:** 2024-12-12

**Status:** Released

**Product Name:** RF Cable

**Key Features:**

Frequency Band: DC–6000 MHz

Cable Length: 1700 mm

Connector Type: SMA Female to Fakra C 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	≤ 1.8
Return Loss	≤ -10.8 dB
Max Cable Loss	-6.5 dB

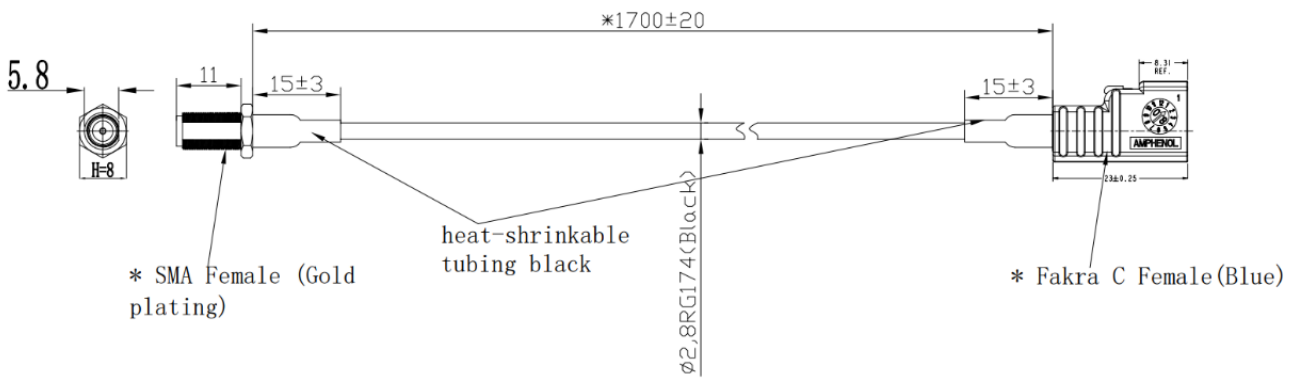
Electrical – Detail													
Band	B87	B31		B12	B5	n74	B1		Wi-Fi	B38	B42		Wi-Fi
	/B88	/B72	B71	/B13	/B8	/n75	/B2	B40	2G	/B41	/B48	n79	5G
SPEC	410–	450–	600–	700–	820–	1420–	1700–	2300–	2400–	2500–	3300–	4400–	5150–
	430	470	700	810	960	1520	2170	2400	2500	2690	4200	5000	5850
Max S11 VSWR	1.08	1.09	1.15	1.18	1.18	1.26	1.31	1.29	1.29	1.26	1.25	1.46	1.81
Max S22 VSWR	1.06	1.08	1.13	1.15	1.15	1.19	1.21	1.17	1.20	1.19	1.22	1.37	1.61
Max S11 Return Loss (dB)	-28.50	-27.07	-23.37	-21.77	-21.46	-18.67	-17.36	-18.04	-17.97	-18.84	-18.94	-14.51	-10.80
Max S22 Return Loss (dB)	-30.61	-27.93	-24.56	-23.12	-22.99	-21.15	-20.61	-22.30	-20.86	-21.27	-20.11	-16.07	-12.61
Max Cable Loss S21 (dB)	-1.33	-1.39	-1.71	-1.86	-2.05	-2.61	-3.20	-3.38	-3.51	-3.64	-4.84	-5.41	-6.23
Max Cable Loss	-1.29	-1.35	-1.68	-1.81	-2.00	-2.56	-3.14	-3.33	-3.46	-3.60	-4.80	-5.35	-6.15

S12 (dB)													
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## 1.2. Mechanical & Environmental

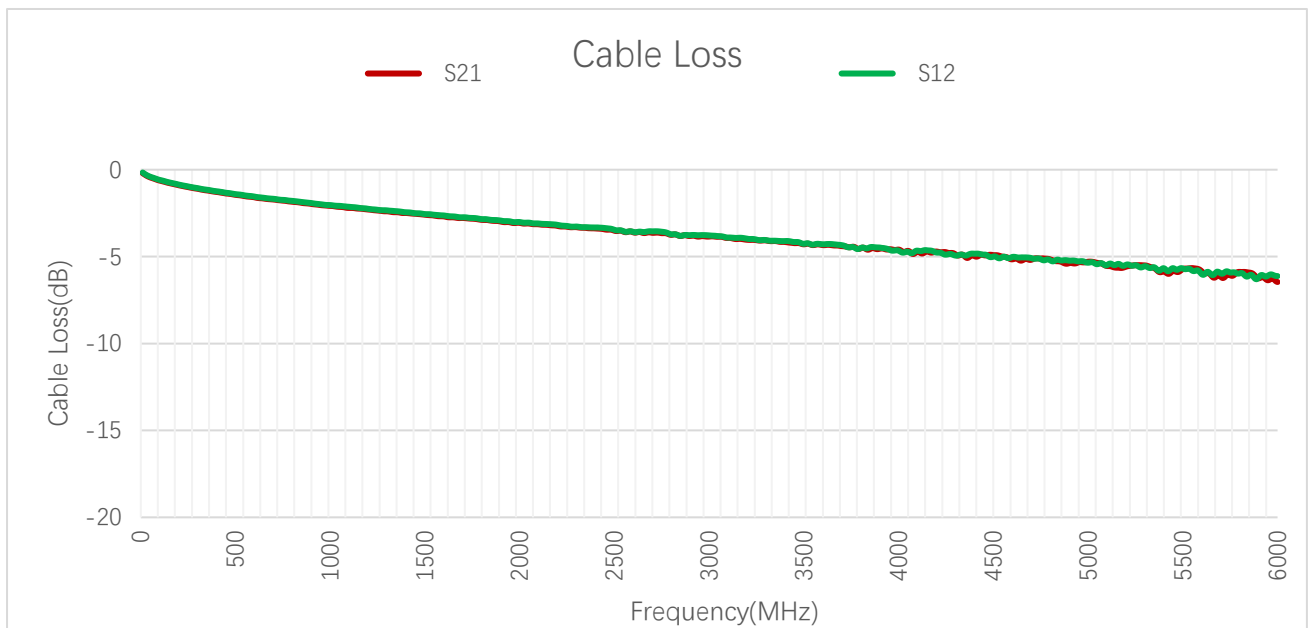
Mechanical		
<b>Cable Type &amp; Color &amp; Length</b>		RG174 & Black & 1700 mm
<b>Item</b>	<b>Material</b>	<b>Diameter (mm)</b>
Inner Conductor	Bare copper wire	0.495
Insulator	PE	1.55
Outer Conductor	Tinned copper wire	1.95
Jacket	Low Smoke halogen free polyolefin	2.8
<b>Connector Type</b>		SMA Female to Fakra C Female
<b>Weight</b>		Typ. 28.3 g
Environmental		
<b>Operation Temperature</b>		-40 °C to +85 °C
<b>Storage Temperature</b>		-40 °C to +85 °C
<b>RoHS and REACH Compliant</b>		Yes

# 2 Drawing



# 3 Detailed Performance

## 3.1. Cable Loss

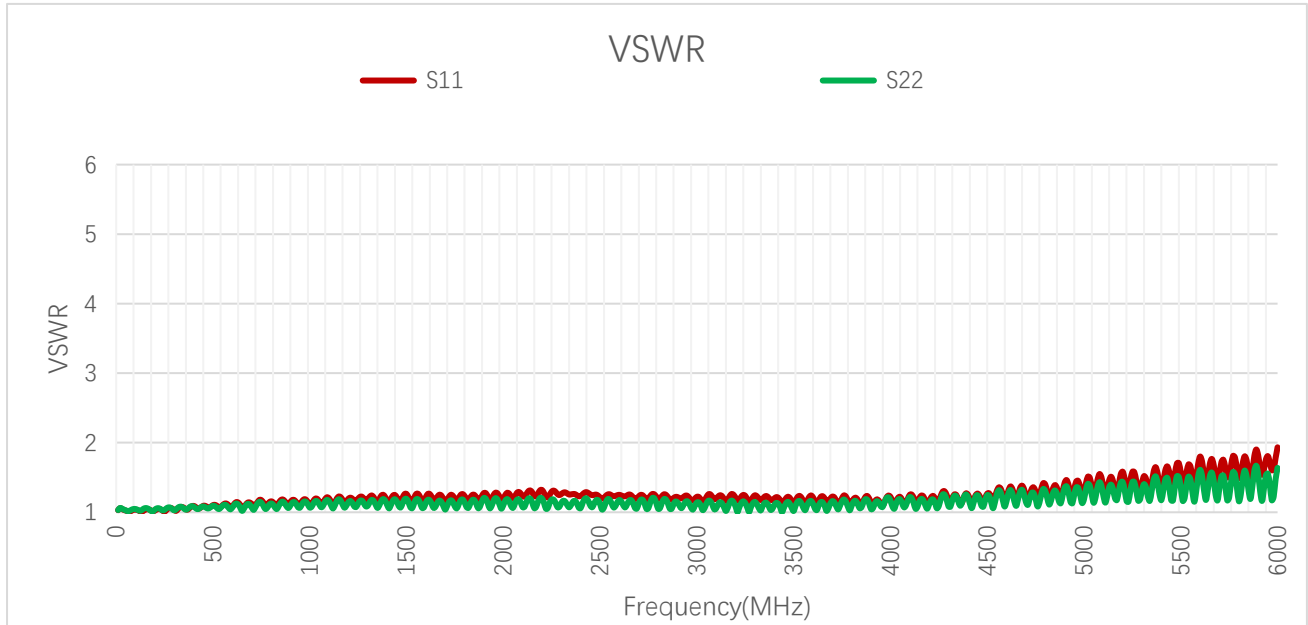


**Cable Loss (dB)**

<b>Frequency (MHz)</b>	<b>100</b>	<b>300</b>	<b>410</b>	<b>420</b>	<b>460</b>	<b>470</b>	<b>600</b>	<b>630</b>	<b>710</b>	<b>830</b>
<b>S21</b>	-0.63	-1.10	-1.29	-1.31	-1.38	-1.39	-1.59	-1.64	-1.73	-1.87
<b>S12</b>	-0.59	-1.06	-1.25	-1.27	-1.34	-1.35	-1.55	-1.59	-1.69	-1.83
<b>Frequency (MHz)</b>	<b>900</b>	<b>960</b>	<b>1440</b>	<b>1710</b>	<b>1740</b>	<b>1880</b>	<b>1950</b>	<b>2140</b>	<b>2350</b>	<b>2450</b>
<b>S21</b>	-1.97	-2.05	-2.53	-2.78	-2.81	-2.95	-3.03	-3.17	-3.35	-3.44
<b>S12</b>	-1.92	-2.00	-2.49	-2.74	-2.77	-2.90	-2.98	-3.12	-3.31	-3.36
<b>Frequency (MHz)</b>	<b>2600</b>	<b>3600</b>	<b>4700</b>	<b>5000</b>	<b>5500</b>	<b>6000</b>				
<b>S21</b>	-3.60	-4.34	-5.18	-5.29	-5.72	-6.46				

<b>S12</b>	-3.58	-4.29	-5.08	-5.35	-5.68	-6.12				
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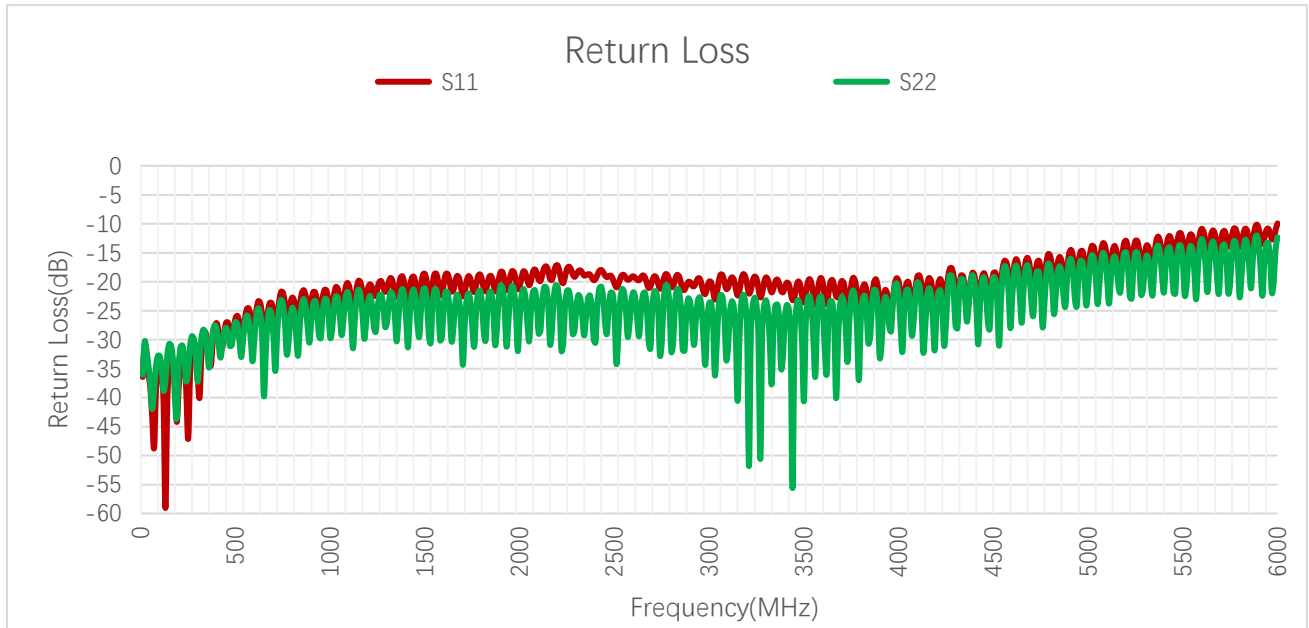
### 3.2. VSWR



**VSWR**

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
<b>S11</b>	1.04	1.03	1.08	1.06	1.09	1.08	1.09	1.14	1.11	1.11
<b>S22</b>	1.05	1.03	1.06	1.05	1.07	1.06	1.07	1.11	1.03	1.05
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
<b>S11</b>	1.15	1.16	1.25	1.18	1.24	1.19	1.25	1.31	1.26	1.26
<b>S22</b>	1.10	1.12	1.19	1.09	1.14	1.09	1.17	1.19	1.11	1.09
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
<b>S11</b>	1.25	1.22	1.24	1.28	1.58	1.93				
<b>S22</b>	1.18	1.12	1.15	1.19	1.36	1.64				

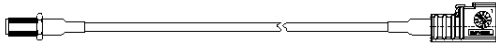

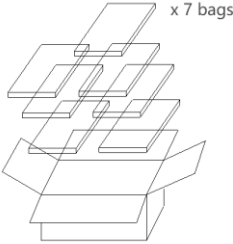
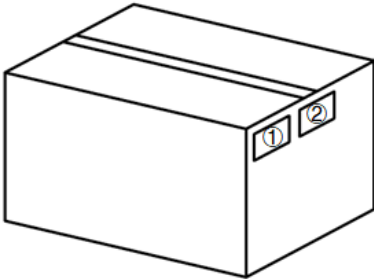
### 3.3. Return Loss

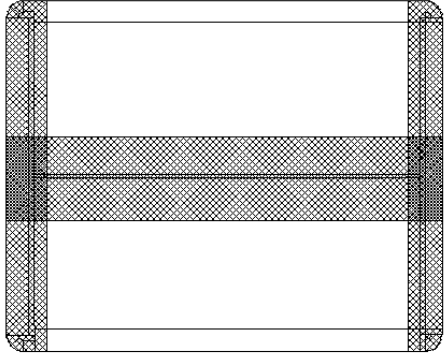


Return Loss (dB)

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
S11	-34.84	-36.16	-28.50	-31.29	-27.07	-28.51	-27.56	-23.65	-25.89	-25.77
S22	-32.85	-37.26	-30.61	-33.11	-28.97	-31.08	-29.69	-25.42	-35.43	-32.76
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
S11	-23.22	-22.73	-19.12	-21.67	-19.55	-21.22	-19.13	-17.36	-18.86	-18.89
S22	-26.67	-25.24	-21.34	-27.26	-23.47	-27.79	-22.24	-21.09	-26.03	-26.96
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
S11	-19.07	-20.25	-19.51	-18.09	-13.00	-9.94				
S22	-21.81	-24.71	-23.21	-21.41	-16.40	-12.32				

# 4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		Product drawing
2		10 pcs antenna products in a PE bag. (10 PCS / PE Bag)
3		(7 PE Bags / Carton Box) (70 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 × W × H = 325 × 325 × 200 mm</u>
4		<b>Position for Attaching Labels</b> ① Carton Label ② Quality Label

5	 A technical drawing of an H-shaped sealing carton. It consists of a central horizontal rectangular section with a cross-hatched texture, flanked by two vertical rectangular sections, also with a cross-hatched texture. The corners of the vertical sections are rounded. The entire structure is shown in a perspective view.	<b>Sealing Cartons</b> H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

# 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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