



# RF Cable Datasheet

**Product OC:** YSAO002AA

**Version:** 2.2

**Date:** 2023-10-27

**Status:** Released

**Product Name:** RF Cable

**Key Features:**

Frequency Band: DC–6000 MHz

Cable Length: 100 mm

Connector Type: FAKRA-C (Blue) to U.FL 1

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 Ω
VSWR	≤ 1.86
Return Loss	≤ -10.42 dB
Max Cable Loss	-1.61 dB
Screening Effectiveness	500 MHz – 1 GHz: ≥ -50 dB 1–3 GHz: ≥ -60 dB 3–6 GHz: ≥ -65 dB

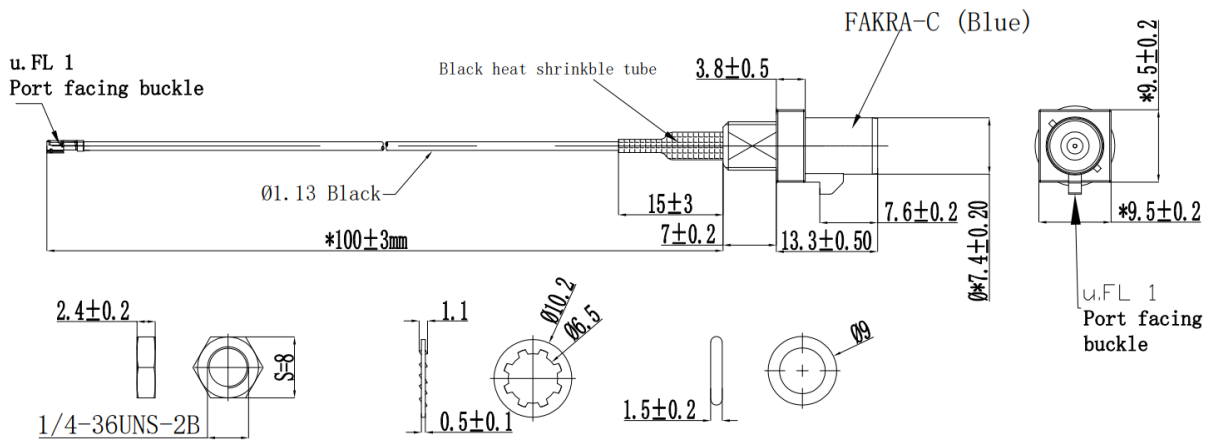
Electrical - Detail													
Band	B87	B31		B12	B5	N74	B1		Wi-Fi	B38	B42	N79	Wi-Fi
	/B88	/B72	B71	/B13	/B8	/N75	/B2	B40	2G	/B41	/B48		5G
SPEC	410-430	450-470	600-700	700-810	820-960	1420-1520	1700-2170	2300-2400	2400-2500	2500-2690	3300-4200	4400-5000	5150-5850
Max S11 VSWR	1.12	1.13	1.16	1.16	1.16	1.10	1.21	1.17	1.14	1.18	1.65	1.67	1.75
Max S22 VSWR	1.10	1.12	1.18	1.18	1.18	1.12	1.24	1.17	1.13	1.19	1.80	1.82	1.86
Max S11 Return Loss (dB)	-25.01	-24.26	-22.53	-22.55	-22.82	-26.83	-20.51	-22.09	-23.91	-21.50	-12.25	-12.03	-11.28
Max S22 Return Loss (dB)	-26.42	-25.17	-21.77	-21.57	-21.54	-24.75	-19.56	-21.96	-24.46	-21.20	-10.87	-10.69	-10.42

<b>Max Cable Loss S21 (dB)</b>	-0.23	-0.25	-0.33	-0.35	-0.35	-0.45	-0.64	-0.61	-0.60	-0.67	-1.61	-1.50	-1.57
<b>Max Cable Loss S12 (dB)</b>	-0.24	-0.26	-0.34	-0.37	-0.37	-0.48	-0.62	-0.61	-0.62	-0.64	-1.37	-1.40	-1.54

## 1.2. Mechanical & Environmental

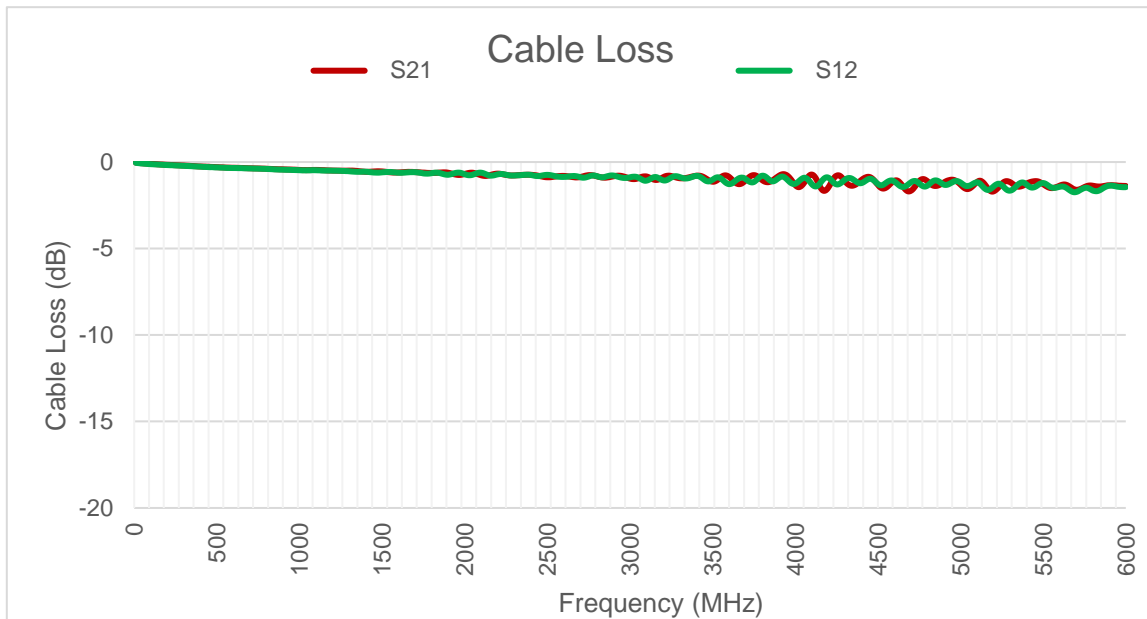
Mechanical	
<b>Cable Type &amp; Color &amp; Length</b>	Φ 1.13 & Black & 100 mm
<b>Item</b>	<b>Material</b> <span style="float: right;"><b>Diameter (mm)</b></span>
Inner Conductor	Silver plated copper wire <span style="float: right;">0.24</span>
Insulator	FEP <span style="float: right;">0.7</span>
Outer Conductor	Tinned copper wire <span style="float: right;">0.92</span>
Jacket	PVC <span style="float: right;">1.13</span>
<b>Connector Type</b>	FAKRA-C (Blue) to U.FL 1
<b>Weight (g)</b>	Typ. 4.13
Environmental	
<b>Operation Temperature</b>	-40 °C to +85 °C
<b>Storage Temperature</b>	-40 °C to +85 °C
<b>RoHS Compliant</b>	Yes

# 2 Drawing



# 3 Detailed Performance

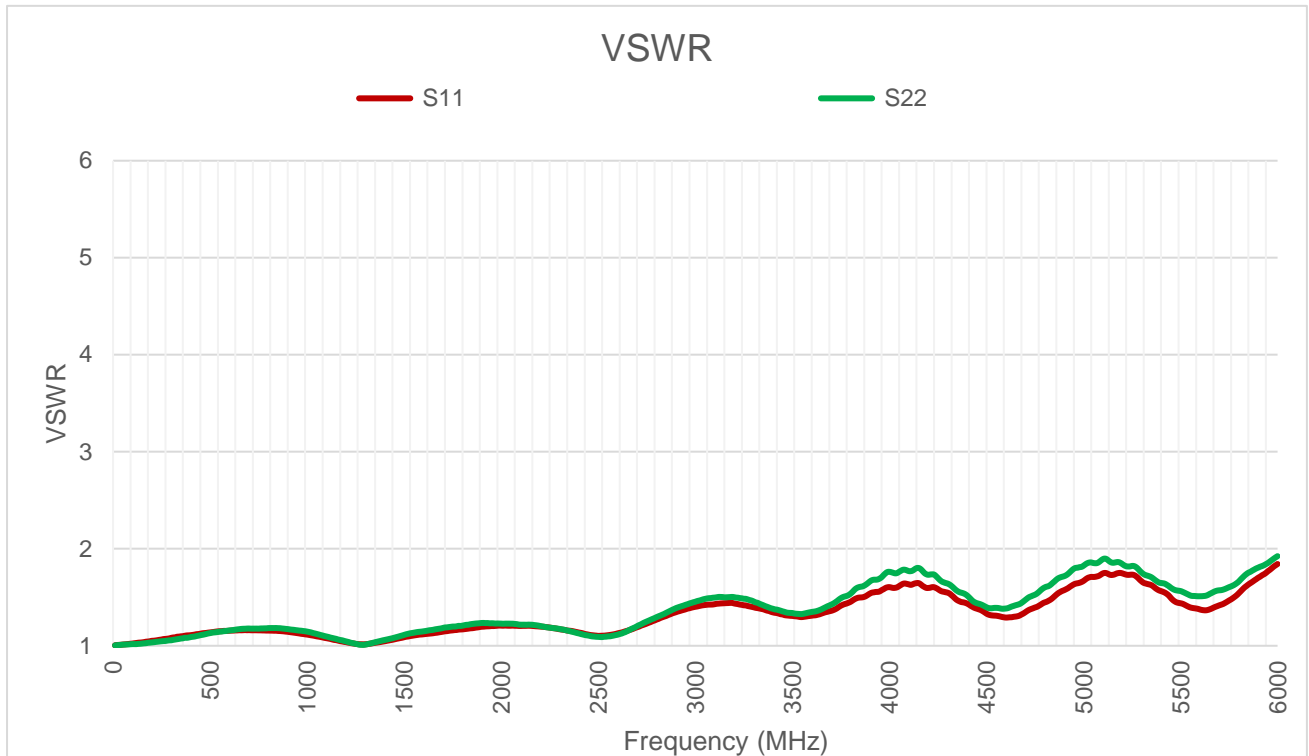
## 3.1. Cable Loss



**Cable Loss (dB)**

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
<b>S21</b>	-0.11	-0.20	-0.26	-0.26	-0.28	-0.28	-0.33	-0.34	-0.36	-0.40
<b>S12</b>	-0.12	-0.22	-0.28	-0.28	-0.30	-0.29	-0.35	-0.35	-0.37	-0.41
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
<b>S21</b>	-0.42	-0.44	-0.55	-0.59	-0.61	-0.60	-0.73	-0.79	-0.74	-0.80
<b>S12</b>	-0.44	-0.46	-0.60	-0.60	-0.64	-0.72	-0.62	-0.75	-0.75	-0.81
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
<b>S21</b>	-0.80	-0.86	-1.66	-1.30	-1.28	-1.39				
<b>S12</b>	-0.86	-1.28	-1.17	-1.19	-1.22	-1.45				

### 3.2. VSWR

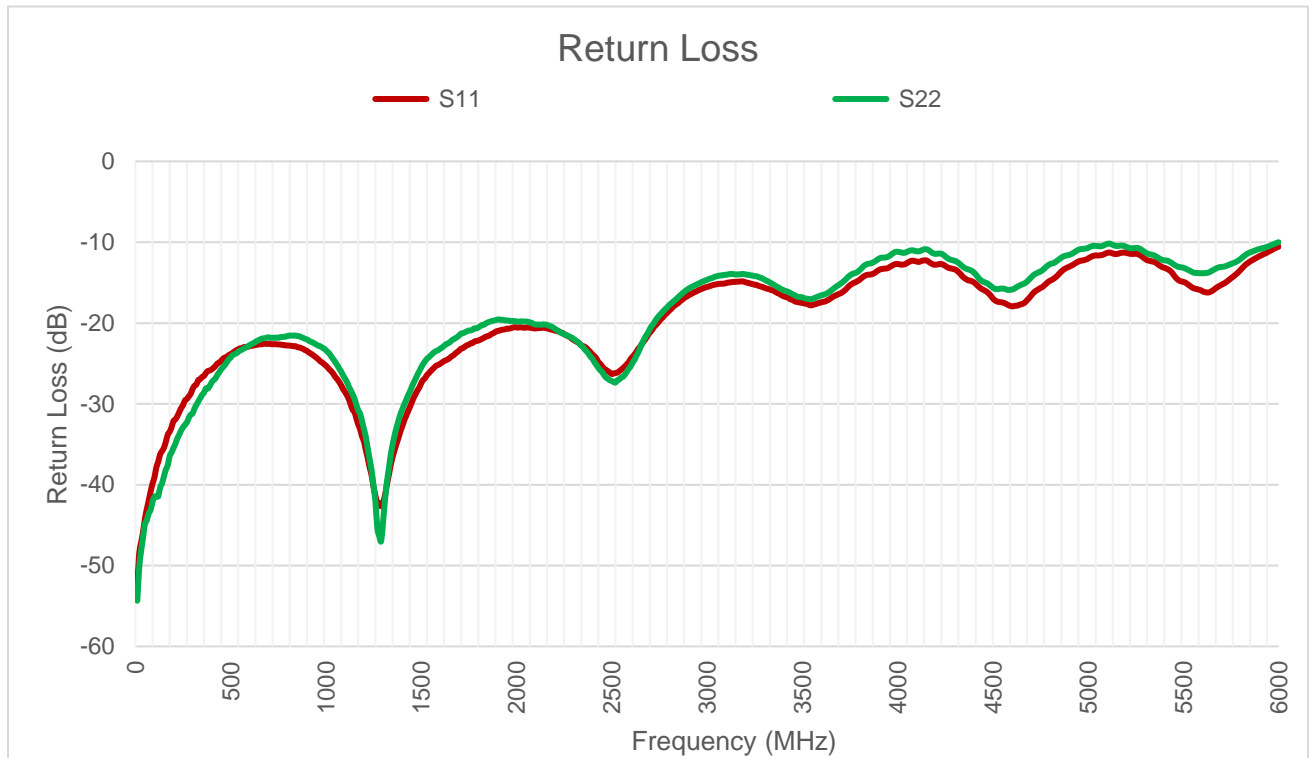


**VSWR**

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
<b>S11</b>	1.02	1.08	1.11	1.11	1.13	1.13	1.16	1.16	1.16	1.15
<b>S22</b>	1.02	1.06	1.09	1.10	1.11	1.12	1.16	1.17	1.18	1.18
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
<b>S11</b>	1.14	1.13	1.06	1.15	1.16	1.19	1.20	1.21	1.16	1.11
<b>S22</b>	1.17	1.16	1.08	1.19	1.19	1.23	1.23	1.22	1.15	1.10
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
<b>S11</b>	1.13	1.31	1.35	1.67	1.44	1.84				
<b>S22</b>	1.11	1.35	1.47	1.82	1.56	1.92				



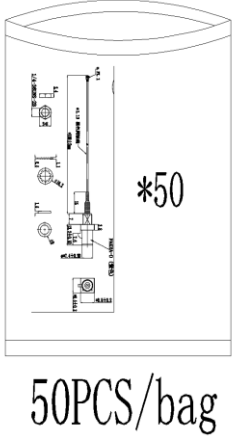
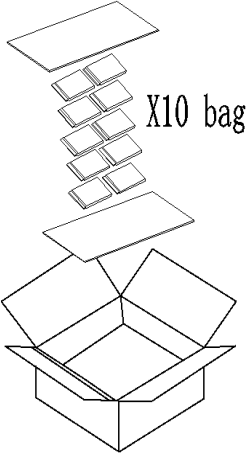
### 3.3. Return Loss

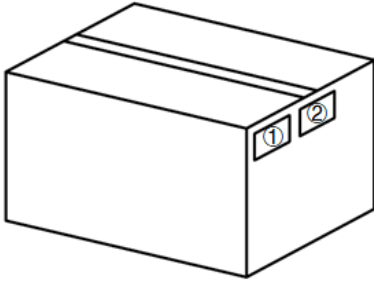
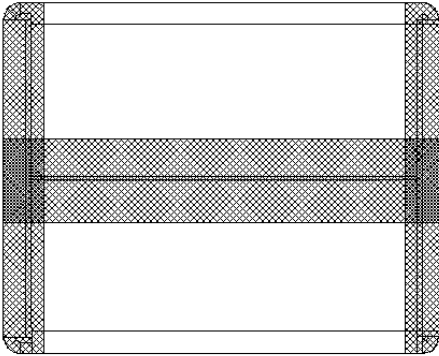


**Return Loss (dB)**

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
<b>S11</b>	-39.09	-28.17	-25.53	-25.31	-24.41	-24.26	-22.86	-22.69	-22.60	-22.87
<b>S22</b>	-41.48	-31.19	-27.07	-26.85	-25.46	-25.17	-22.72	-22.33	-21.83	-21.57
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
<b>S11</b>	-23.44	-24.48	-30.42	-23.17	-22.76	-21.24	-20.69	-20.58	-22.85	-25.35
<b>S22</b>	-22.03	-22.80	-28.52	-21.30	-21.03	-19.71	-19.67	-20.16	-22.99	-26.06
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
<b>S11</b>	-24.42	-17.44	-16.64	-12.03	-14.91	-10.56				
<b>S22</b>	-25.35	-16.58	-14.39	-10.69	-13.15	-10.01				

# 4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		<p>50 pcs antenna products in a PE bag; (50 pcs antenna per PE bag)</p>
2		<p>Place a clapboard at the bottom and top, (10 big PE bags per carton box) (500 pcs antennas per carton box)</p>

3		<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>
4		<p><b>Sealing Cartons</b></p> <p>“I” type sealing cartons</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
-	2021-08-02	Aria CHU	Creation of the document
1.0	2021-08-02	Aria CHU	First official release
1.1	2021-10-11	Kenny YIN	Updated the drawing (Chapter 5).
1.2	2022-05-30	Riona HAN	Updated the data (Chapters 2 and 3.2).
2.0	2023-06-09	Tina GAN/ Lucky FENG/ David LIU/ Aria CHU	Updated all data and datasheet template.
2.1	2023-08-18	Lucky FENG	Updated the drawing (Chapter 2).
2.2	2023-10-27	Lucky FENG	1. Deleted the low loss. 2. Updated the drawing (Chapter 2).

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