



# RF Cable Datasheet

**Product OC:** YM0013AA

**Version:** 2.2

**Date:** 2023-09-04

**Status:** Released

**Product Name:** RF Cable

**Key Features:**

Frequency Band: DC–6000 MHz

Cable Length: 300 mm

Connector Type: SMA Female to IPEX MHF 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	≤ 1.98
Return Loss	≤ -9.68 dB
Max Cable Loss	-2.30 dB
Screening Effectiveness	0.5–1 GHz: ≥ -50 dB 1–3 GHz: ≥ -60 dB 3–6 GHz: ≥ -65 dB

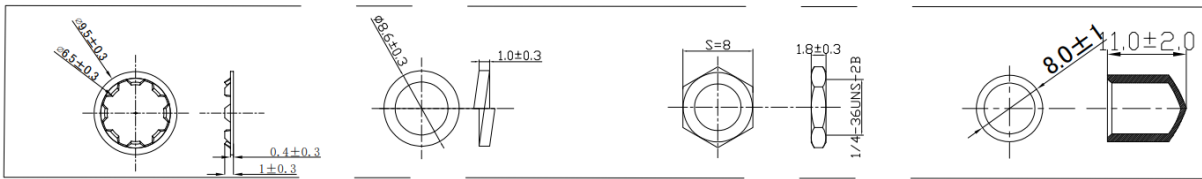
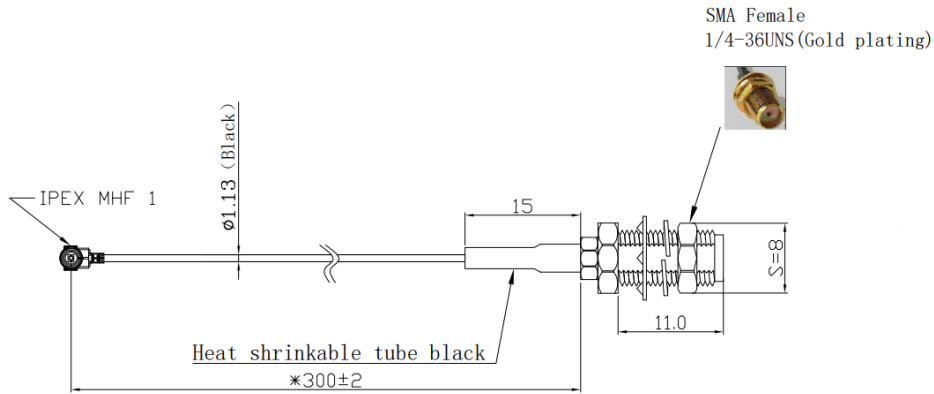
Electrical - Detail														
SPEC	Band	B87 /B88	B31 /B72 /B73	B71	B12 /B13 /B28	B5 /B8 /B26	N74 /N75 /N76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /N77	N79	Wi-Fi 5G
		410- 430	450- 470	600- 700	700- 810	820- 960	1420- 1520	1700- 2170	2300- 2400	2400- 2500	2500- 2690	3300- 4200	4400- 5000	5150- 5850
Max S11 VSWR		1.08	1.08	1.09	1.11	1.11	1.15	1.21	1.25	1.21	1.29	1.47	1.54	1.74
Max S22 VSWR		1.06	1.06	1.09	1.09	1.12	1.17	1.28	1.34	1.31	1.40	1.67	1.79	1.98
Max S11 Return Loss (dB)		-27.95	-27.83	-27.59	-25.67	-25.86	-22.95	-20.42	-19.12	-20.32	-17.94	-14.49	-13.45	-11.39
Max S22 Return Loss (dB)		-30.45	-30.87	-27.11	-27.07	-24.66	-21.94	-18.12	-16.66	-17.34	-15.54	-11.99	-11.00	-9.68
Max Cable Loss		-0.39	-0.40	-0.52	-0.56	-0.62	-0.80	-1.03	-1.08	-1.08	-1.16	-1.95	-2.20	-2.30

S21 (dB)													
Max Cable Loss	-0.40	-0.42	-0.53	-0.56	-0.63	-0.84	-1.04	-1.10	-1.12	-1.17	-1.79	-1.89	-2.16
S12 (dB)													

## 1.2. Mechanical & Environmental

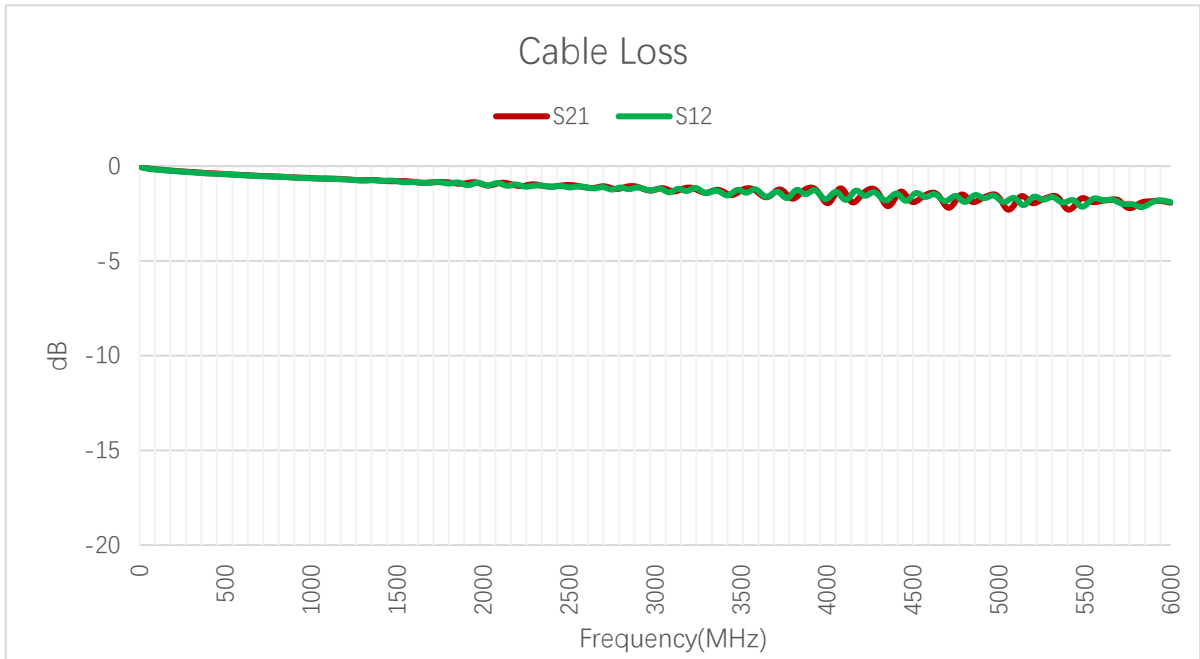
Mechanical	
Cable Type & Color & Length	Φ 1.13 & Black & 300 mm
Item	Material
Inner Conductor	Silver plated copper wire
Insulator	FEP
Outer Conductor	Tinned copper wire
Jacket	PVC
Connector Type	SMA Female to IPEX MHF 1
Weight	Typ. 3.9 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
RoHS Compliant	Yes

# 2 Drawing



# 3 Detailed Performance

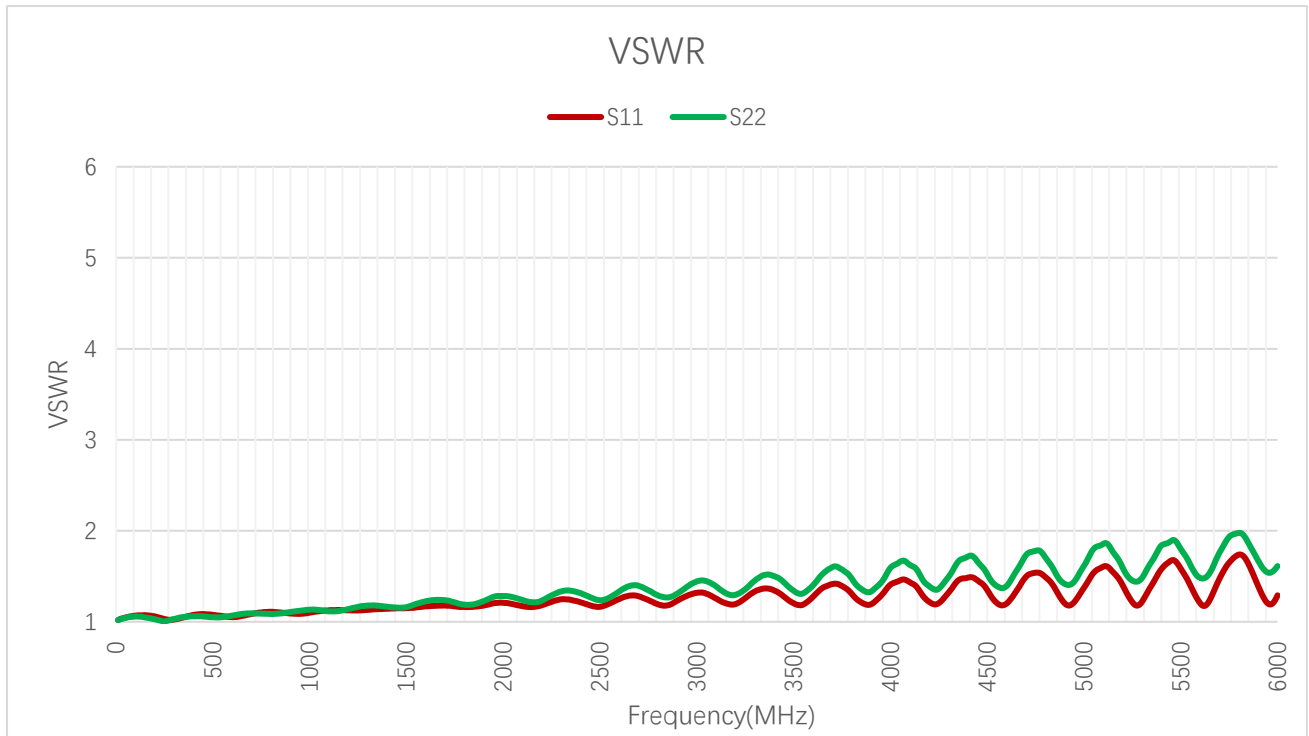
## 3.1. Cable Loss



**Cable Loss (dB)**

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
<b>S21</b>	-0.19	-0.33	-0.39	-0.40	-0.42	-0.42	-0.48	-0.50	-0.53	-0.57
<b>S12</b>	-0.17	-0.31	-0.38	-0.38	-0.40	-0.40	-0.47	-0.48	-0.52	-0.56
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
<b>S21</b>	-0.61	-0.63	-0.77	-0.85	-0.83	-0.94	-0.91	-1.04	-1.04	-1.05
<b>S12</b>	-0.60	-0.62	-0.79	-0.85	-0.84	-0.93	-0.85	-0.90	-1.05	-1.03
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
<b>S21</b>	-1.12	-1.31	-1.82	-1.75	-2.09	-1.91				
<b>S12</b>	-1.13	-1.41	-2.18	-1.66	-1.71	-1.93				

### 3.2. VSWR

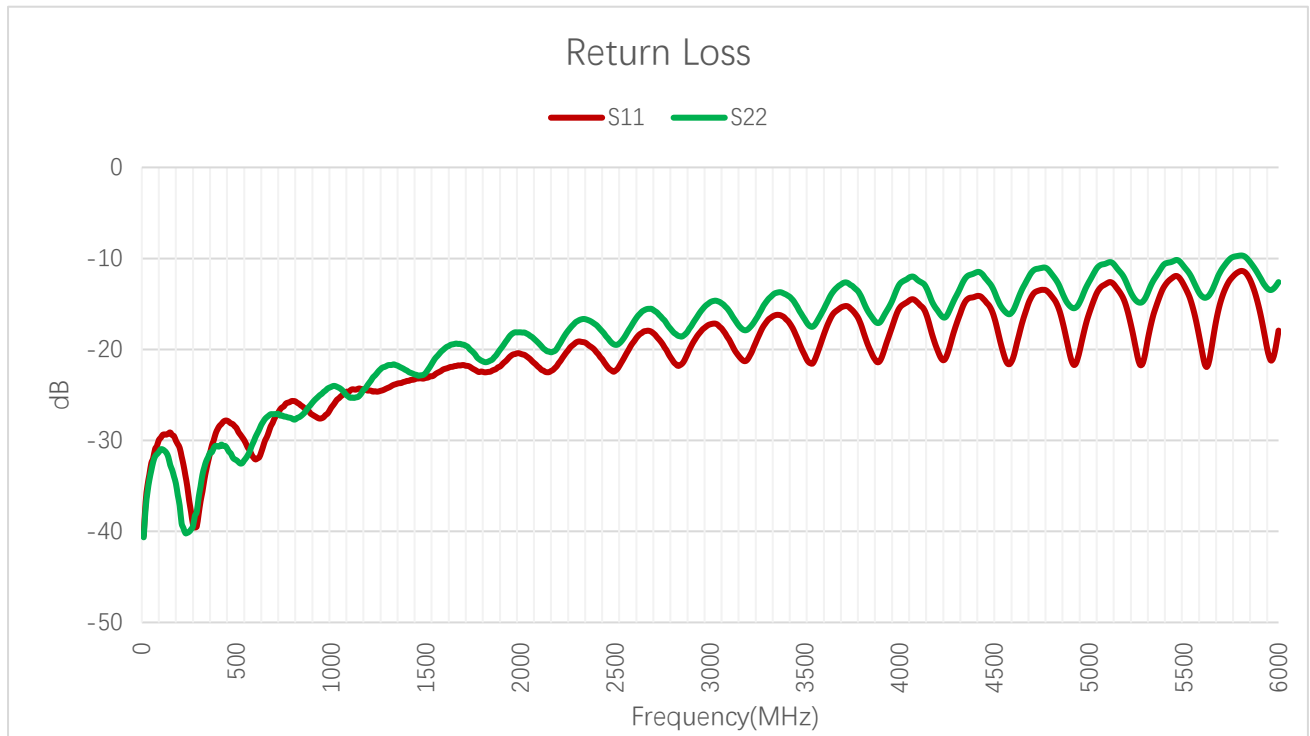


**VSWR**

<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>S11</b>	1.07	1.03	1.08	1.08	1.08	1.08	1.05	1.06	1.09	1.11
<b>S22</b>	1.06	1.03	1.06	1.06	1.06	1.06	1.07	1.08	1.09	1.09
<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>S11</b>	1.09	1.09	1.15	1.18	1.17	1.17	1.20	1.16	1.24	1.18
<b>S22</b>	1.11	1.12	1.16	1.23	1.22	1.21	1.27	1.22	1.34	1.27
<b>Frequency (MHz)</b>	<b>2600</b>	<b>3600</b>	<b>4700</b>	<b>5000</b>	<b>5500</b>	<b>6000</b>				
<b>S11</b>	1.25	1.27	1.49	1.37	1.58	1.29				
<b>S22</b>	1.34	1.40	1.73	1.62	1.80	1.61				



### 3.3. Return Loss

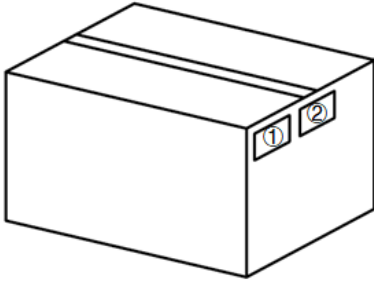
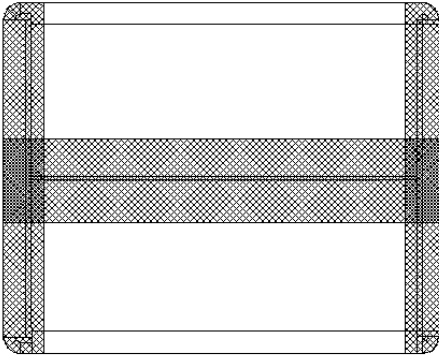


**Return Loss (dB)**

<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>S11</b>	-29.72	-38.08	-28.41	-28.20	-27.95	-28.13	-32.09	-31.32	-27.26	-25.97
<b>S22</b>	-30.97	-36.27	-30.66	-30.45	-31.24	-31.43	-29.63	-28.32	-27.10	-27.45
<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>S11</b>	-27.17	-27.44	-23.29	-21.80	-22.03	-21.96	-20.68	-22.51	-19.39	-21.69
<b>S22</b>	-25.86	-24.66	-22.75	-19.60	-20.14	-20.34	-18.37	-20.21	-16.74	-18.55
<b>Frequency (MHz)</b>	<b>2600</b>	<b>3600</b>	<b>4700</b>	<b>5000</b>	<b>5500</b>	<b>6000</b>				
<b>S11</b>	-19.06	-18.36	-14.07	-16.06	-12.92	-17.93				
<b>S22</b>	-16.86	-15.56	-11.45	-12.56	-10.88	-12.60				

# 4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		<p>The terminals of products are wrapped with EPE foam; (20 pcs per cable tie) Put the accessories in the bag.</p> <p>(200 pcs antennas per PE bag)</p>
2		<p>(5 pcs PE bags per carton) Antenna quantity: 1000 pcs</p> <p><u>Carton Size: 300 × 250 × 200 mm</u></p>
3		<p>Bubble bags are placed at the top of carton.</p>

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></p> <p>“工” 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
1.0	2020-09-11	Kenny Yin	Initial
1.1	2021-03-29	Kenny Yin	Added physical pictures.
1.2	2021-12-03	Kenny Yin	Updated the product description (Chapter 1).
2.0	2023-06-09	Mikael Zhong/ Lucky Feng/ David Liu/ Aria Chu	Updated all data and datasheet template.
2.1	2023-07-10	Lucky FENG	<ol style="list-style-type: none"><li>1. Modified the product name on the home page.</li><li>2. Updated the operation temperature (Chapter 1.2).</li><li>3. Updated the drawing (Chapter 2).</li></ol>
2.2	2023-09-04	Lucky FENG	Updated the drawing (Chapter 2).

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