



RF Cable Datasheet

Product OC: YSAN025XX

Version: 2.1

Date: 2024-03-07

Status: Released

Product Name: RF Cable

Key Features:

Frequency Band: DC–6000 MHz

Cable Length: 100 mm (AA), 150 mm (BA), 200 mm (CA), 250 mm (DA), 300 mm (EA)

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

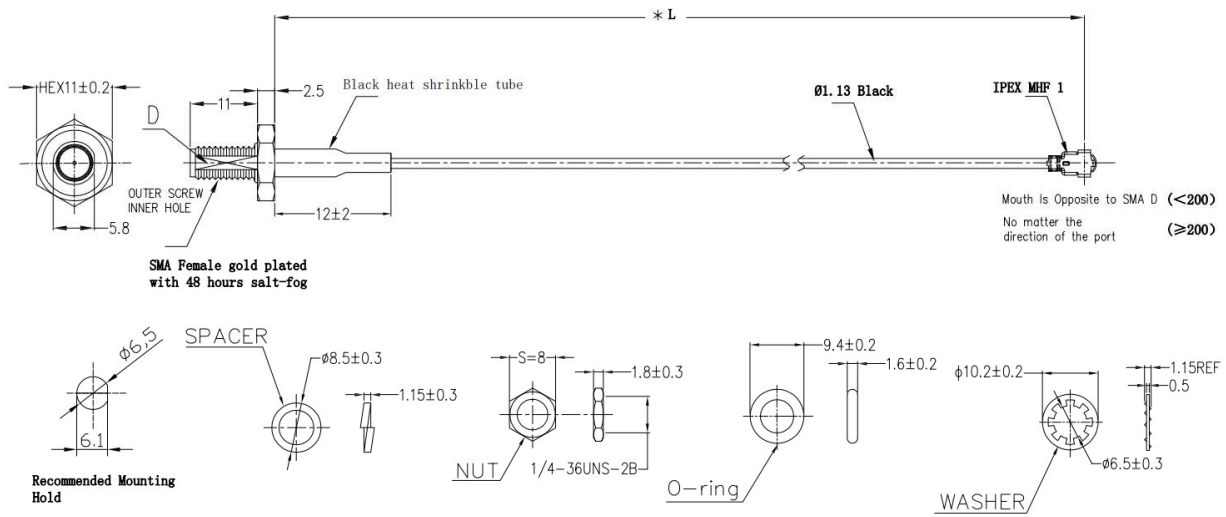
Electrical		
Frequency Range		DC–6000 MHz
Impedance		50 Ω
VSWR	YSAN025AA	≤ 1.68
	YSAN025BA	≤ 1.68
	YSAN025CA	≤ 1.62
	YSAN025DA	≤ 1.58
	YSAN025EA	≤ 1.62
Return Loss	YSAN025AA	≤ -11.88 dB
	YSAN025BA	≤ -11.91 dB
	YSAN025CA	≤ -12.55 dB
	YSAN025DA	≤ -13.00 dB
	YSAN025EA	≤ -12.48 dB
Max Cable Loss	YSAN025AA	-1.07 dB
	YSAN025BA	-1.32 dB
	YSAN025CA	-1.58 dB
	YSAN025DA	-1.65 dB
	YSAN025EA	-1.91 dB
Screening Effectiveness		0.5–1 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		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	YSAN025AA	1.07	1.07	1.08	1.08	1.08	1.14	1.16	1.18	1.21	1.23	1.35	1.45	1.63
	YSAN025BA	1.08	1.08	1.06	1.04	1.09	1.10	1.17	1.20	1.21	1.20	1.36	1.47	1.62
	YSAN025CA	1.05	1.04	1.07	1.09	1.09	1.10	1.16	1.19	1.18	1.16	1.36	1.45	1.52
	YSAN025DA	1.03	1.02	1.06	1.06	1.07	1.13	1.16	1.18	1.16	1.19	1.33	1.39	1.49
	YSAN025EA	1.05	1.07	1.07	1.08	1.11	1.10	1.17	1.15	1.13	1.20	1.34	1.44	1.51
Max S22 VSWR	YSAN025AA	1.05	1.06	1.09	1.09	1.09	1.18	1.20	1.21	1.26	1.30	1.43	1.52	1.68
	YSAN025BA	1.08	1.08	1.07	1.04	1.08	1.10	1.22	1.25	1.27	1.27	1.45	1.54	1.68
	YSAN025CA	1.05	1.04	1.07	1.10	1.10	1.14	1.20	1.25	1.25	1.19	1.44	1.53	1.62
	YSAN025DA	1.04	1.02	1.07	1.07	1.06	1.18	1.21	1.24	1.22	1.26	1.42	1.48	1.58
	YSAN025EA	1.04	1.06	1.08	1.08	1.13	1.13	1.22	1.22	1.17	1.28	1.43	1.51	1.62
Max S11 Return Loss (dB)	YSAN025AA	-29.93	-29.34	-28.00	-28.00	-28.70	-23.59	-22.68	-21.57	-20.43	-19.75	-16.46	-14.71	-12.40
	YSAN025BA	-28.19	-28.41	-31.12	-34.43	-27.52	-26.65	-22.07	-20.80	-20.45	-20.66	-16.25	-14.45	-12.52
	YSAN025CA	-32.62	-34.81	-29.16	-27.09	-27.03	-26.16	-22.62	-21.42	-21.70	-22.83	-16.36	-14.67	-13.71
	YSAN025DA	-36.75	-39.63	-30.13	-30.45	-29.12	-24.29	-22.46	-21.78	-22.70	-21.36	-17.03	-15.75	-14.15
	YSAN025EA	-32.36	-29.89	-29.83	-27.87	-25.44	-26.72	-22.16	-22.92	-24.31	-20.93	-16.86	-14.91	-13.79
Max S22 Return Loss (dB)	YSAN025AA	-31.47	-30.29	-27.17	-27.04	-27.40	-21.60	-20.65	-20.30	-18.67	-17.73	-15.10	-13.70	-11.88
	YSAN025BA	-28.40	-28.14	-29.67	-33.91	-28.23	-26.20	-20.08	-18.94	-18.39	-18.43	-14.76	-13.40	-11.91
	YSAN025CA	-31.87	-33.52	-29.76	-26.45	-26.13	-23.65	-20.65	-19.04	-19.17	-21.14	-14.87	-13.55	-12.55
	YSAN025DA	-35.27	-41.17	-29.18	-29.15	-30.55	-21.83	-20.60	-19.42	-20.18	-18.87	-15.29	-14.34	-13.00
	YSAN025EA	-34.83	-30.87	-28.83	-28.71	-24.54	-24.19	-20.20	-20.25	-22.29	-18.28	-15.10	-13.81	-12.48
Max Cable Loss S21 (dB)	YSAN025AA	-0.17	-0.18	-0.22	-0.24	-0.25	-0.34	-0.47	-0.45	-0.44	-0.59	-0.88	-0.94	-1.07
	YSAN025BA	-0.23	-0.24	-0.29	-0.32	-0.35	-0.44	-0.63	-0.62	-0.64	-0.72	-1.15	-1.16	-1.32
	YSAN025CA	-0.28	-0.30	-0.37	-0.40	-0.43	-0.55	-0.75	-0.78	-0.76	-0.81	-1.31	-1.46	-1.58
	YSAN025DA	-0.33	-0.35	-0.44	-0.47	-0.52	-0.67	-0.86	-0.90	-0.92	-1.01	-1.37	-1.45	-1.65
	YSAN025EA	-0.40	-0.42	-0.51	-0.56	-0.62	-0.78	-1.00	-1.04	-1.06	-1.19	-1.57	-1.67	-1.91

1.2. Mechanical and Environmental

Mechanical		
OC	* Length (mm)	Weight (g)
YSAN025AA	100 ±3	4.4
YSAN025BA	150 ±5	4.6
YSAN025CA	200 ±5	4.8
YSAN025DA	250 ±5	5
YSAN025EA	300 ±5	5.2
Cable Type & Color		Φ1.13 & Black
Item	Material	Diameter (mm)
Inner Conductor	Silver plated copper wire	0.24
Insulator	FEP	0.7
Outer Conductor	Tinned copper wire	0.92
Jacket	FEP	1.13
Connector Type		SMA Female to IPEX MHF I
Environmental		
Operation Temperature		-40 °C to +80 °C
Storage Temperature		-40 °C to +80 °C
RoHS Compliant		Yes

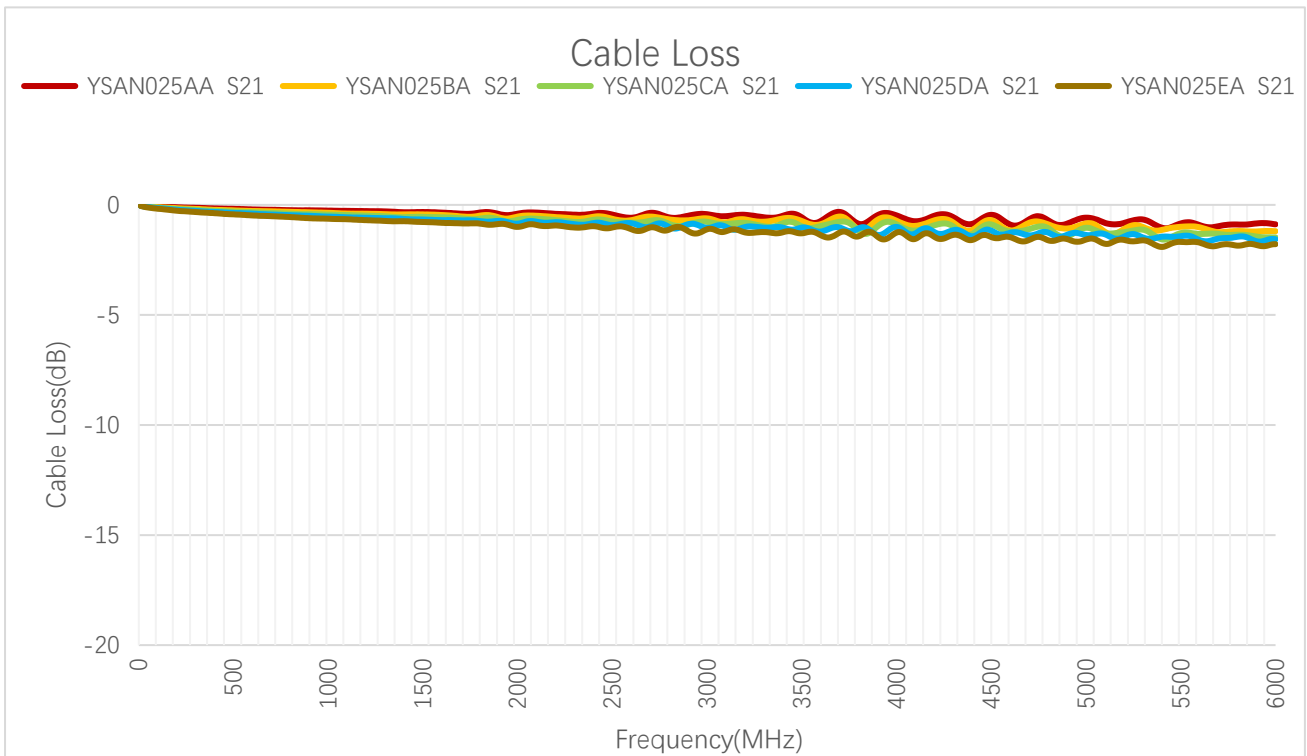
2 Drawing



SMA CONNECTOR
(Inner Hole)

3 Detailed Performance

3.1. Cable Loss



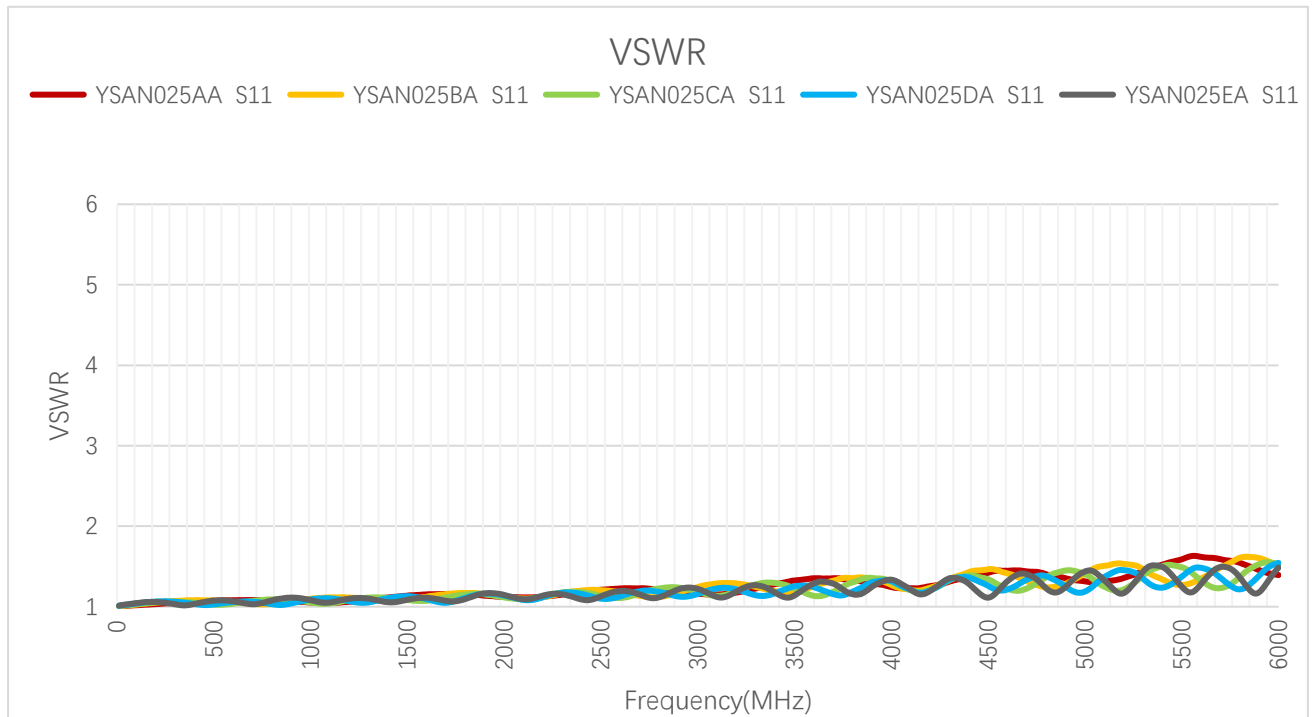
Cable Loss (dB)

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN025AA	-0.07	-0.14	-0.16	-0.17	-0.17	-0.18	-0.21	-0.21	-0.22	-0.24
YSAN025BA	-0.10	-0.19	-0.23	-0.23	-0.24	-0.24	-0.28	-0.28	-0.30	-0.32
YSAN025CA	-0.13	-0.23	-0.28	-0.28	-0.29	-0.30	-0.33	-0.34	-0.37	-0.41
YSAN025DA	-0.15	-0.27	-0.33	-0.33	-0.35	-0.35	-0.40	-0.41	-0.44	-0.48
YSAN025EA	-0.18	-0.33	-0.38	-0.39	-0.41	-0.42	-0.48	-0.49	-0.52	-0.57
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450

YSAN025AA	-0.25	-0.25	-0.33	-0.40	-0.41	-0.37	-0.47	-0.37	-0.45	-0.37
YSAN025BA	-0.34	-0.35	-0.43	-0.53	-0.54	-0.52	-0.62	-0.52	-0.61	-0.54
YSAN025CA	-0.42	-0.43	-0.55	-0.62	-0.64	-0.62	-0.75	-0.65	-0.76	-0.68
YSAN025DA	-0.50	-0.52	-0.66	-0.70	-0.70	-0.74	-0.79	-0.81	-0.90	-0.84
YSAN025EA	-0.61	-0.62	-0.76	-0.84	-0.84	-0.89	-0.91	-0.96	-1.02	-1.05
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN025AA	-0.59	-0.73	-0.66	-0.58	-0.85	-0.88				
YSAN025BA	-0.69	-0.88	-0.81	-0.84	-1.00	-1.20				
YSAN025CA	-0.81	-0.96	-1.10	-1.04	-1.28	-1.48				
YSAN025DA	-0.83	-1.21	-1.39	-1.37	-1.42	-1.56				
YSAN025EA	-1.11	-1.38	-1.59	-1.58	-1.68	-1.79				

3.2. VSWR

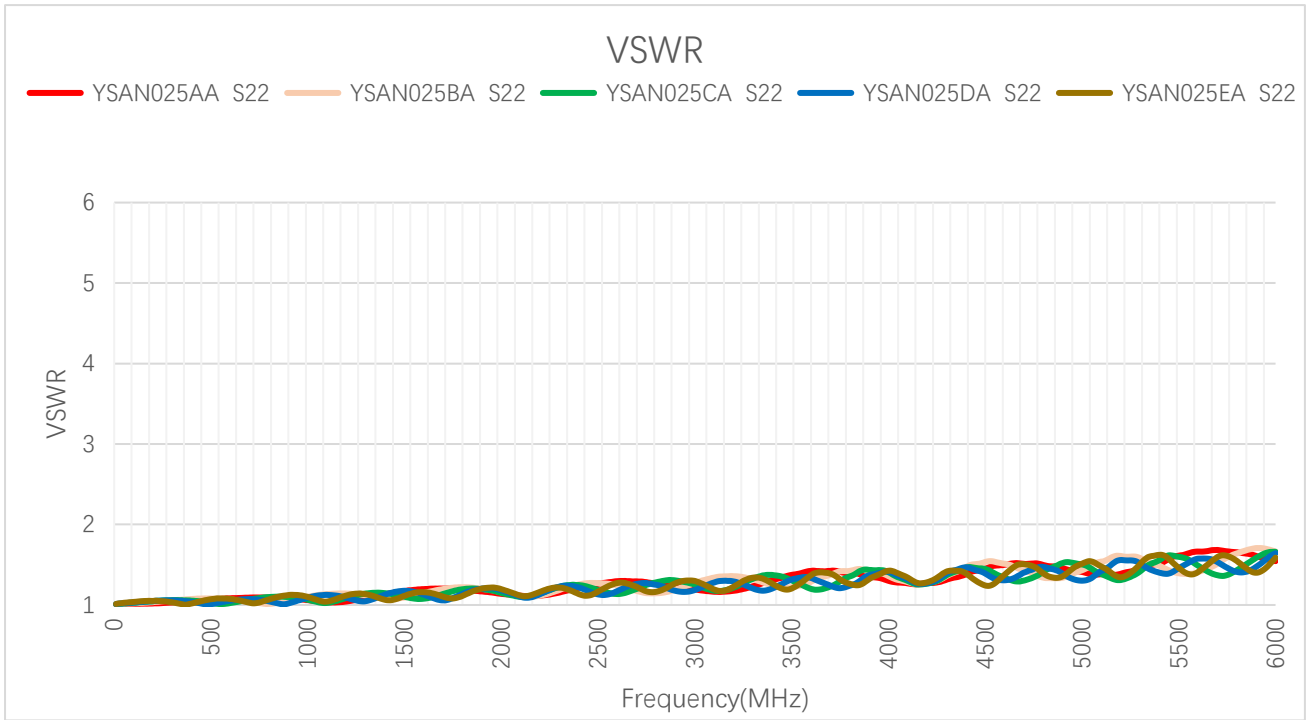
3.2.1. VSWR - S11



VSWR-S11

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN025AA	1.02	1.05	1.06	1.07	1.07	1.07	1.08	1.08	1.08	1.08
YSAN025BA	1.03	1.07	1.08	1.08	1.08	1.08	1.06	1.05	1.03	1.04
YSAN025CA	1.03	1.06	1.05	1.05	1.03	1.03	1.04	1.05	1.08	1.09
YSAN025DA	1.04	1.06	1.03	1.03	1.02	1.02	1.06	1.06	1.06	1.02
YSAN025EA	1.04	1.03	1.04	1.04	1.06	1.07	1.07	1.06	1.03	1.09
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN025AA	1.07	1.06	1.12	1.16	1.16	1.14	1.13	1.12	1.17	1.20
YSAN025BA	1.07	1.09	1.08	1.16	1.17	1.16	1.14	1.10	1.19	1.21
YSAN025CA	1.08	1.07	1.10	1.12	1.13	1.16	1.14	1.10	1.19	1.16
YSAN025DA	1.04	1.07	1.12	1.05	1.07	1.16	1.16	1.08	1.17	1.13
YSAN025EA	1.11	1.10	1.06	1.07	1.07	1.16	1.17	1.10	1.12	1.09
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN025AA	1.23	1.35	1.44	1.31	1.59	1.39				
YSAN025BA	1.18	1.25	1.32	1.41	1.27	1.51				
YSAN025CA	1.11	1.13	1.23	1.41	1.49	1.53				
YSAN025DA	1.13	1.24	1.34	1.19	1.37	1.54				
YSAN025EA	1.20	1.29	1.40	1.44	1.25	1.49				

3.2.2. VSWR - S22



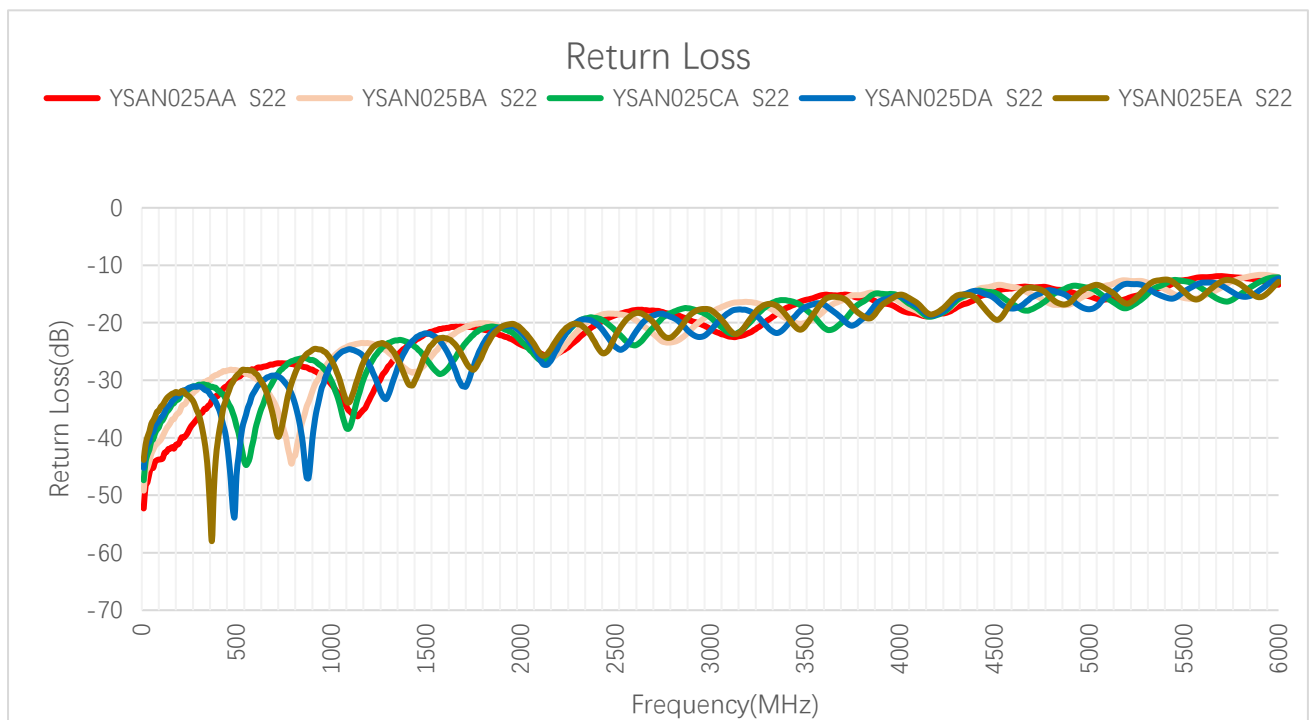
VSWR-S22

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN025AA	1.01	1.03	1.05	1.05	1.06	1.06	1.08	1.09	1.09	1.09
YSAN025BA	1.02	1.06	1.08	1.08	1.08	1.08	1.07	1.06	1.04	1.02
YSAN025CA	1.03	1.06	1.05	1.05	1.04	1.04	1.02	1.04	1.07	1.10
YSAN025DA	1.03	1.06	1.04	1.03	1.01	1.01	1.05	1.06	1.07	1.03
YSAN025EA	1.04	1.03	1.02	1.03	1.05	1.06	1.08	1.06	1.02	1.09
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN025AA	1.08	1.07	1.15	1.20	1.20	1.17	1.16	1.11	1.18	1.24
YSAN025BA	1.05	1.08	1.08	1.20	1.21	1.21	1.18	1.10	1.22	1.27
YSAN025CA	1.10	1.08	1.13	1.14	1.16	1.20	1.18	1.10	1.25	1.22
YSAN025DA	1.02	1.06	1.16	1.06	1.08	1.20	1.21	1.09	1.24	1.17
YSAN025EA	1.12	1.12	1.06	1.10	1.08	1.19	1.22	1.11	1.19	1.12

Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN025AA	1.30	1.42	1.51	1.41	1.61	1.54				
YSAN025BA	1.24	1.29	1.43	1.43	1.39	1.66				
YSAN025CA	1.14	1.20	1.30	1.50	1.60	1.66				
YSAN025DA	1.17	1.34	1.40	1.30	1.46	1.64				
YSAN025EA	1.27	1.37	1.51	1.51	1.46	1.59				

3.3. Return Loss

3.3.1. Return Loss - S11

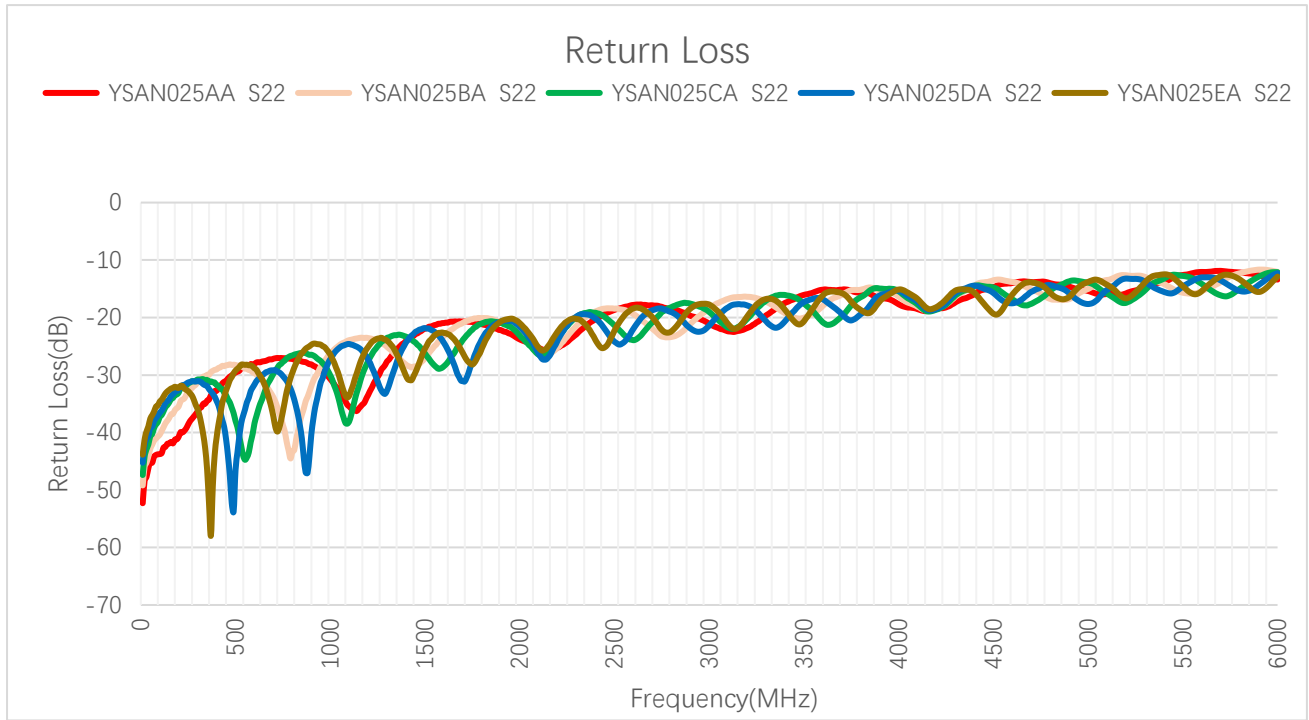


Return Loss (dB)-S11

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN025AA	-40.82	-32.39	-30.10	-29.94	-29.34	-29.38	-28.23	-28.13	-28.07	-28.77
YSAN025BA	-37.67	-29.27	-28.19	-28.24	-28.41	-28.45	-31.12	-32.15	-35.65	-33.25
YSAN025CA	-36.16	-30.48	-32.62	-33.13	-35.30	-35.92	-34.42	-32.30	-28.73	-27.03

YSAN025DA	-34.19	-30.62	-36.75	-37.66	-40.09	-39.63	-30.93	-30.30	-30.66	-38.93
YSAN025EA	-33.19	-36.76	-34.10	-33.16	-30.34	-29.89	-29.83	-31.43	-36.27	-26.89
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN025AA	-29.75	-30.91	-24.75	-22.68	-22.76	-23.58	-24.43	-25.24	-22.20	-20.87
YSAN025BA	-29.66	-27.52	-28.11	-22.63	-22.33	-22.48	-23.62	-26.39	-21.37	-20.45
YSAN025CA	-27.80	-29.79	-26.47	-24.95	-24.14	-22.76	-23.97	-26.30	-21.42	-22.54
YSAN025DA	-34.01	-29.12	-24.88	-32.02	-29.76	-22.70	-22.73	-28.02	-21.91	-24.56
YSAN025EA	-34.01	-29.12	-24.88	-32.02	-29.76	-22.70	-22.73	-28.02	-21.91	-24.56
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN025AA	-19.84	-16.47	-14.90	-17.33	-12.86	-15.69				
YSAN025BA	-21.73	-18.97	-17.32	-15.39	-18.52	-13.87				
YSAN025CA	-25.77	-24.05	-19.86	-15.45	-14.13	-13.57				
YSAN025DA	-24.33	-19.32	-16.83	-21.30	-16.06	-13.40				
YSAN025EA	-21.01	-17.92	-15.54	-14.91	-19.11	-14.17				

3.3.2. Return Loss - S22



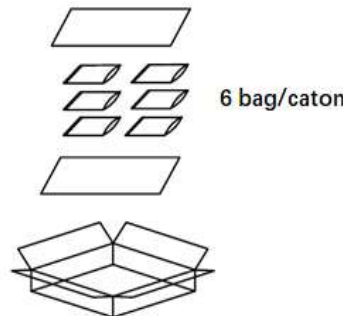


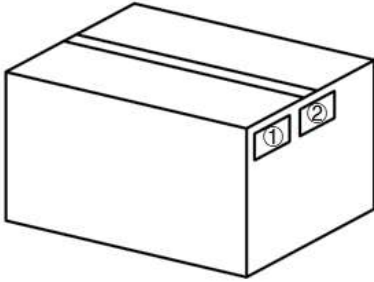
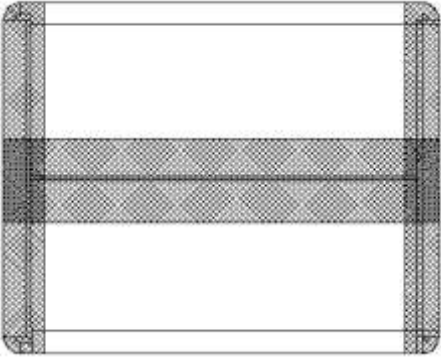
Return Loss (dB)-S22

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN025AA	-43.75	-36.32	-32.24	-31.99	-30.59	-30.29	-28.05	-27.79	-27.09	-27.44
YSAN025BA	-40.37	-31.23	-28.77	-28.67	-28.26	-28.14	-29.67	-30.69	-34.63	-39.73
YSAN025CA	-37.26	-30.76	-31.87	-32.33	-34.23	-34.78	-38.41	-35.02	-29.21	-26.28
YSAN025DA	-36.55	-31.05	-35.27	-36.46	-44.02	-47.56	-31.65	-30.35	-29.15	-37.00
YSAN025EA	-34.62	-35.95	-38.61	-36.84	-31.81	-30.87	-28.83	-30.18	-39.03	-27.27
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN025AA	-28.15	-29.41	-23.19	-20.69	-20.75	-21.96	-22.83	-25.66	-21.49	-19.36
YSAN025BA	-31.93	-28.23	-28.52	-20.73	-20.36	-20.57	-21.47	-26.41	-19.90	-18.44
YSAN025CA	-26.47	-27.97	-24.15	-23.49	-22.38	-20.79	-21.60	-26.21	-19.20	-19.94
YSAN025DA	-40.34	-30.55	-22.84	-31.11	-28.55	-20.94	-20.60	-27.29	-19.45	-22.06
YSAN025EA	-24.74	-24.98	-30.18	-26.82	-28.01	-21.20	-20.21	-25.41	-21.36	-25.15

Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN025AA	-17.81	-15.16	-13.83	-15.38	-12.60	-13.39				
YSAN025BA	-19.41	-17.97	-15.09	-15.03	-15.68	-12.07				
YSAN025CA	-23.94	-20.84	-17.61	-13.93	-12.76	-12.11				
YSAN025DA	-21.96	-16.85	-15.53	-17.65	-14.62	-12.27				
YSAN025EA	-18.41	-16.14	-13.89	-13.81	-14.55	-12.87				

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		<p>25 products and accessories are put into small PE bags.</p>
2		<p>20 small PE bag in a big PE bag. 500 pcs products in a big PE bag.</p>
3		<p>Place a clapboard at the bottom and top. (6 Big PE Bags / Carton Box) (3000 pcs Antennas / 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> L × W × H = 300 × 260 × 230 mm</p>

<p>4</p>		<p>Position for Attaching Labels</p> <p>① Carton Label ② Quality Label</p>
<p>5</p>		<p>Sealing Cartons</p> <p>“I” type sealing cartons</p>
<p>Note</p>	<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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Tel: +86 21 5108 6236

Email: info@quectel.com

Or our local offices. For more information, please visit:

<http://www.quectel.com/support/sales.htm>.

For technical support, or to report documentation errors, please visit:

<http://www.quectel.com/support/technical.htm>.

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Revision History

Version	Date	Author	Note
-	2022-07-18	Sly Liu	Creation of the document
1.0	2022-07-18	Sly Liu	First official release
1.1	2022-08-08	Sly Liu	Modified antenna photos and drawings.
2.0	2023-10-17	Zeline LIANG/ Lucky FENG/ David LIU/ Aria CHU	Updated the template and all test data.
2.1	2024-03-07	Aria CHU	Deleted REACH Compliant (Chapter 1.2).

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