RF Cable Datasheet

Product OC: YSAN025XX
Version: 2.2
Date: 2026-01-05
Status: Released

Product Name: DC–6GHz SMA Female to IPEX MHF 1 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.

Contents

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

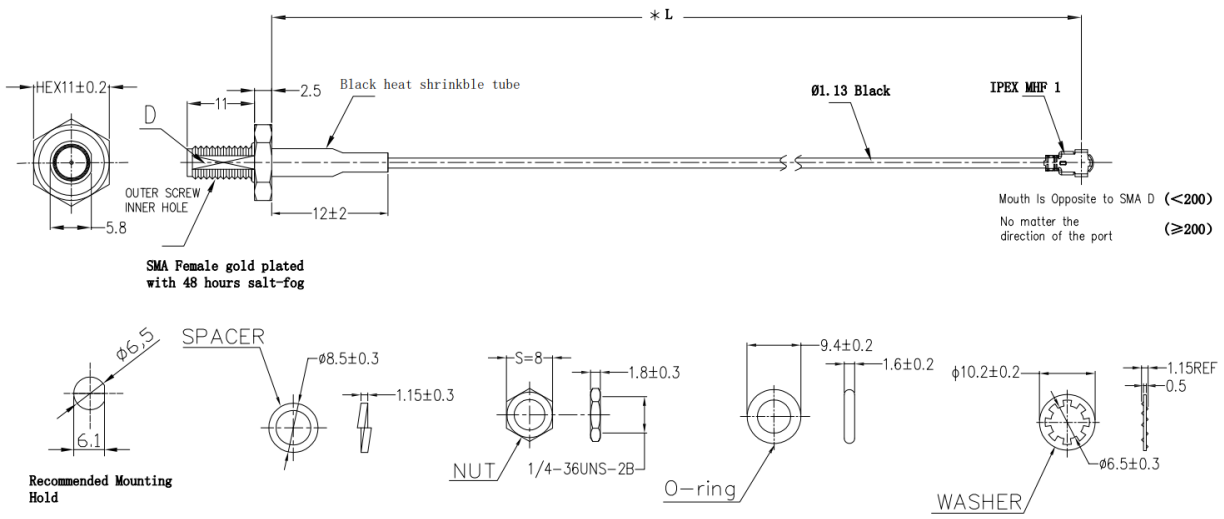
SPEC \ Band		B87 /B88	B31 /B72 /B73	B71	B12 /B13 /B28	B5 /B8 /B26	n74 /n75 /n76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /n77	n79	Wi-Fi 5G
		410–430	450–470	600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	2400–2500	2500–2690	3300–4200	4400–5000	5150–5850
Max S11 VSWR	YSAN025AA	1.07	1.07	1.08	1.08	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	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

S21 (dB)	**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	

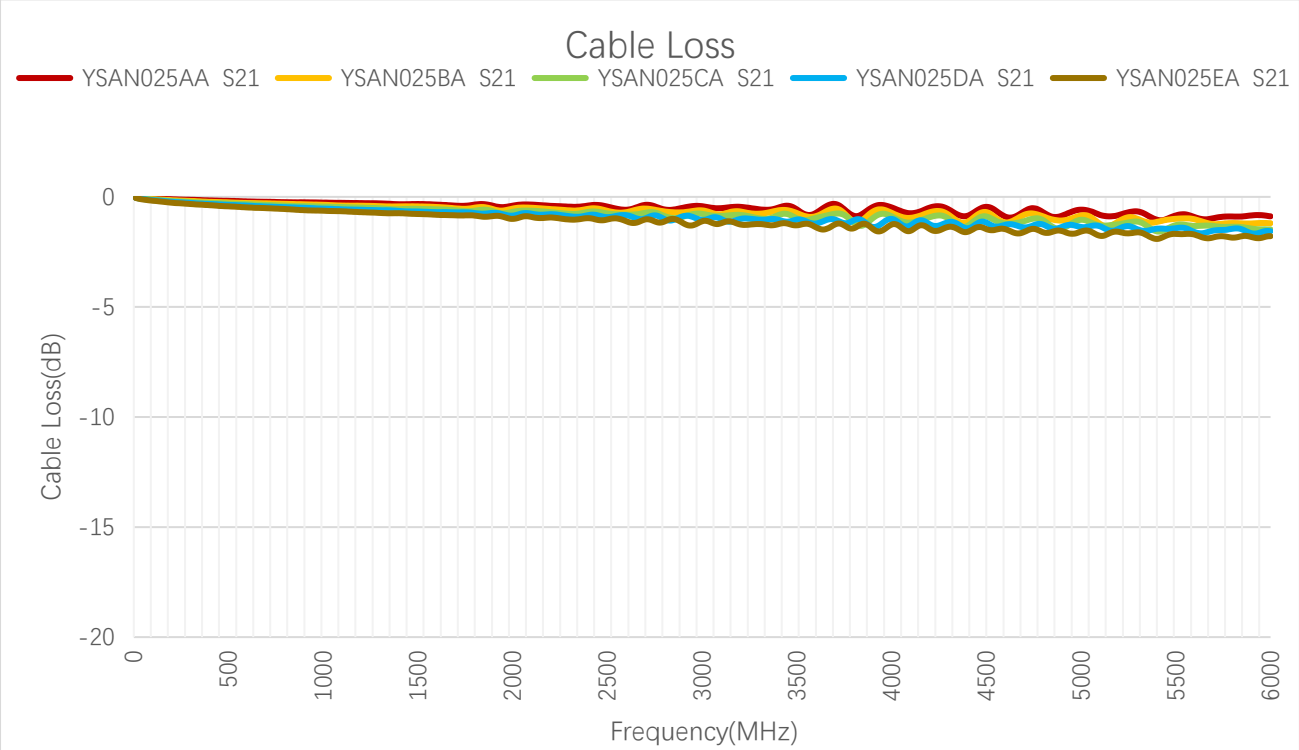
2 Drawing



SMA CONNECTOR
(Inner Hole)

3 Detailed Performance

3.1. Cable Loss

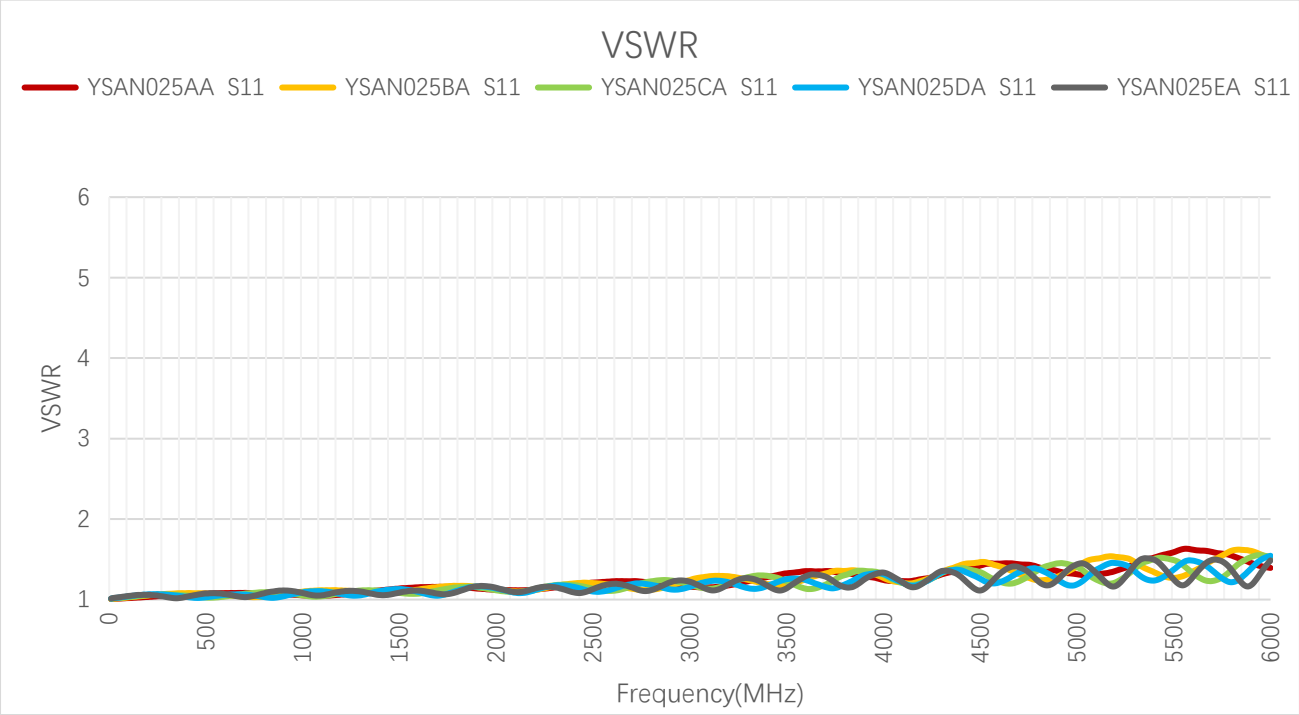


Cable Loss (dB)

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

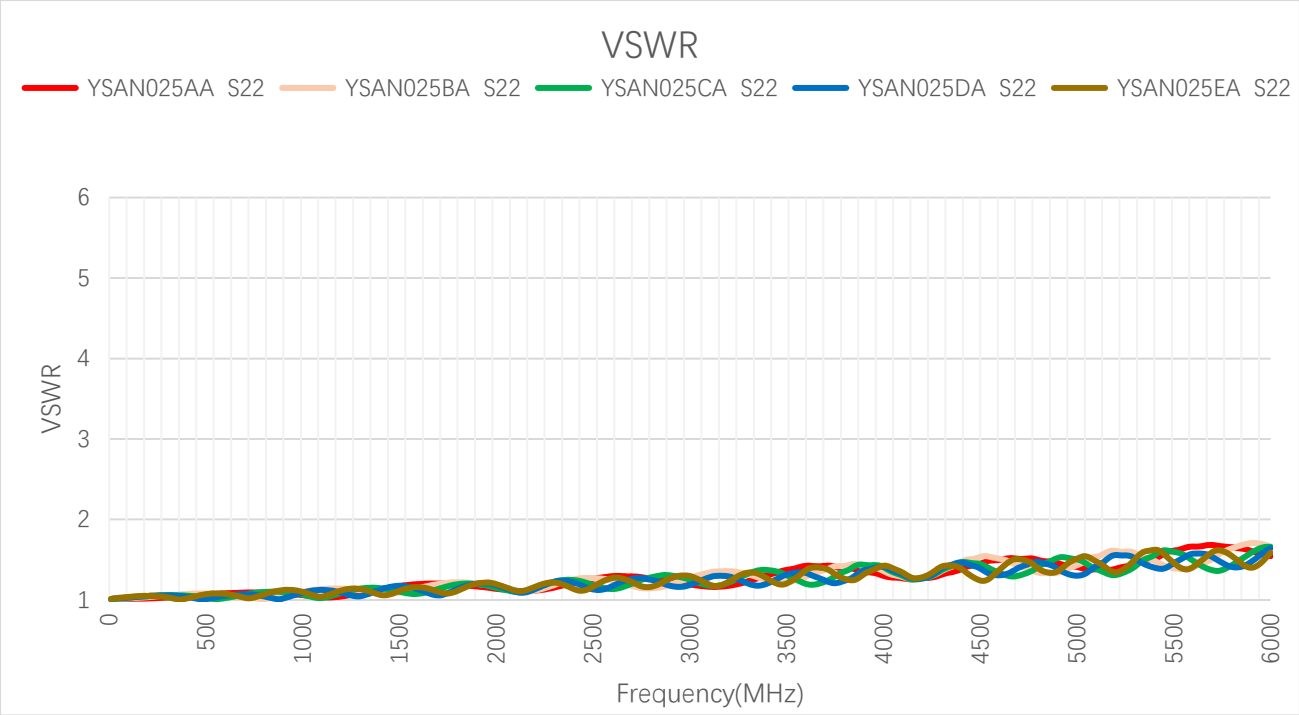
3.2.1. VSWR – S11



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



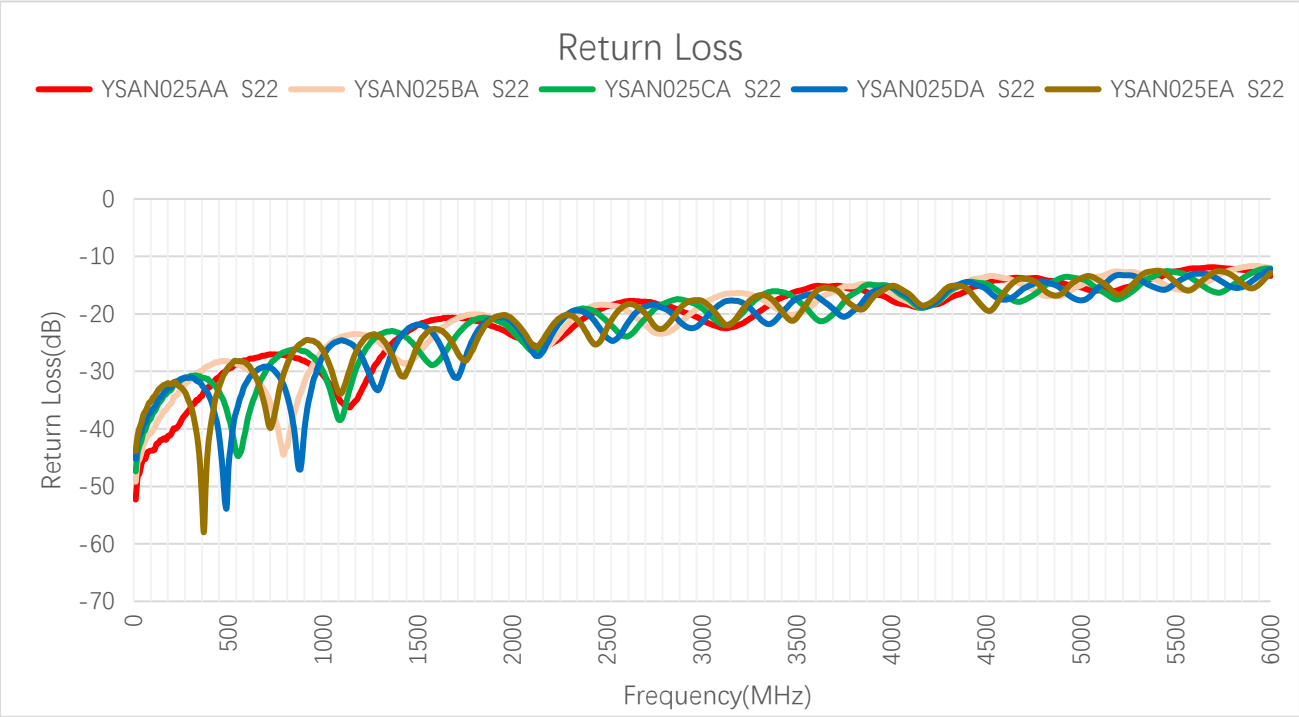
VSWR – S22

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

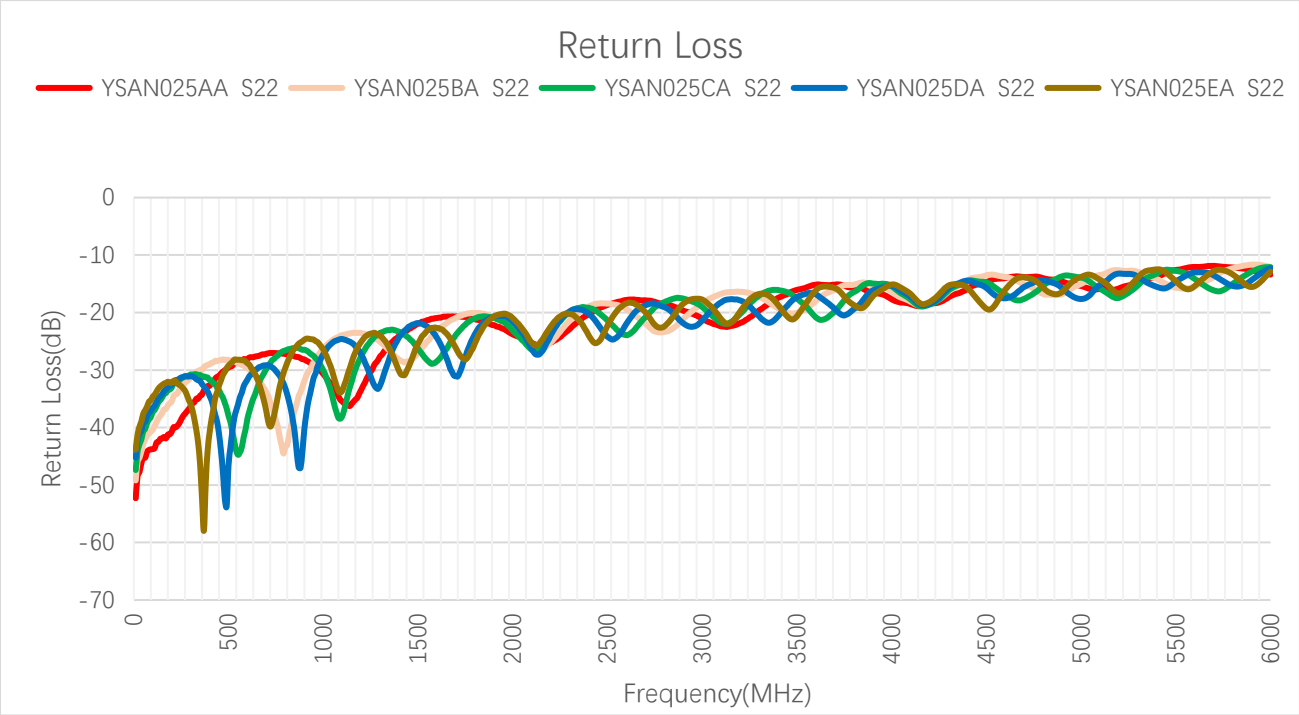
3.3.1. Return Loss – S11



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

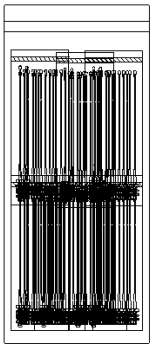
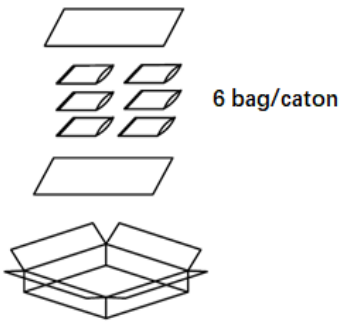


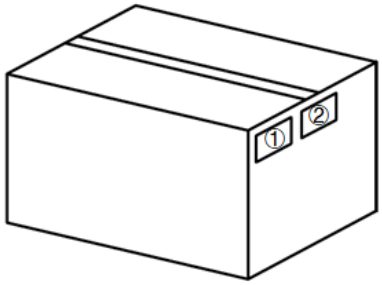
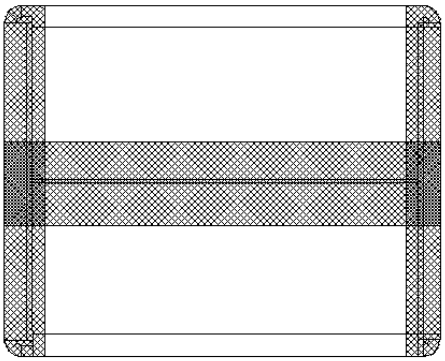
Return Loss (dB) – S22

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		25 products and accessories are put into small PE bags.
2		20 small PE bag in a big PE bag. 500 products in a big PE bag.
3		Place a clapboard at the bottom and top. (6 Big PE Bags / Carton Box) (3000 Antennas / Carton Box) Estimated Quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. Carton Size: L × W × H = 300 × 260 × 230 mm

4		**Position for Attaching Labels** ① Carton Label ② Quality Label
5		**Sealing Cartons** 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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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).
2.2	2026-01-05	Rainey Liao	1. Updated product image (Cover). 2. Updated product name.

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