

RF Cable Datasheet

Product OC: YSAN026XX

Version: 2.0

Date: 2023-06-09

Status: Released

Product Name: Low Loss 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: RP SMA Female to IPEX MHF I

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

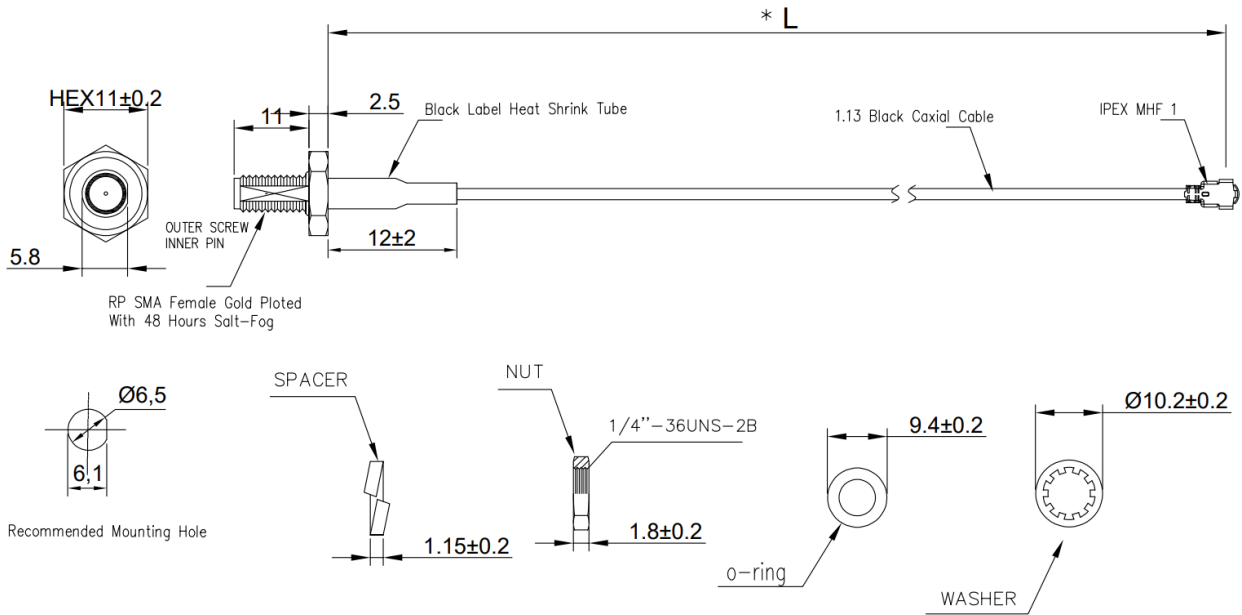
Electrical		
Frequency Range		DC–6000 MHz
Impedance		50 Ω
VSWR	YSAN026AA	≤ 1.37
	YSAN026BA	≤ 1.47
	YSAN026CA	≤ 1.38
	YSAN026DA	≤ 1.35
	YSAN026EA	≤ 1.41
Return Loss	YSAN026AA	≤ -16.13 dB
	YSAN026BA	≤ -14.42 dB
	YSAN026CA	≤ -16.01 dB
	YSAN026DA	≤ -16.45 dB
	YSAN026EA	≤ -15.45 dB
Max Cable Loss	YSAN026AA	-0.96 dB
	YSAN026BA	-1.26 dB
	YSAN026CA	-1.43 dB
	YSAN026DA	-1.69 dB
	YSAN026EA	-1.97 dB
Screening Effectiveness		0.5–1 GHz: ≥ -50 dB 1–3 GHz: ≥ -60 dB 3–6 GHz: ≥ -65 dB

Electrical - Detail														
SPEC	Band	B87	B31	B71	B12	B5	N74	B1	B40	Wi-Fi	B38	B42	N79	Wi-Fi
		/B88	/B72		/B13	/B8	/N75	/B2		2G	/B41	/B48		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	YSAN026AA	1.07	1.07	1.03	1.04	1.07	1.06	1.10	1.07	1.06	1.07	1.14	1.22	1.35
	YSAN026BA	1.03	1.02	1.08	1.10	1.10	1.12	1.12	1.09	1.10	1.13	1.18	1.24	1.41
	YSAN026CA	1.02	1.04	1.09	1.08	1.06	1.12	1.13	1.08	1.11	1.13	1.16	1.24	1.32
	YSAN026DA	1.06	1.07	1.06	1.07	1.09	1.07	1.11	1.09	1.11	1.10	1.15	1.24	1.32
	YSAN026EA	1.08	1.07	1.08	1.09	1.07	1.11	1.13	1.13	1.13	1.11	1.15	1.21	1.32
Max S22 VSWR	YSAN026AA	1.06	1.05	1.03	1.05	1.08	1.06	1.13	1.06	1.07	1.12	1.16	1.24	1.37
	YSAN026BA	1.02	1.01	1.08	1.08	1.08	1.12	1.14	1.11	1.15	1.17	1.22	1.28	1.47
	YSAN026CA	1.03	1.05	1.08	1.07	1.08	1.14	1.16	1.13	1.16	1.16	1.20	1.30	1.38
	YSAN026DA	1.06	1.07	1.04	1.07	1.08	1.10	1.14	1.15	1.15	1.12	1.20	1.27	1.35
	YSAN026EA	1.07	1.06	1.08	1.08	1.08	1.11	1.15	1.17	1.17	1.15	1.20	1.27	1.41
Max S11 Return Loss (dB)	YSAN026AA	-29.28	-29.95	-35.31	-35.19	-29.17	-30.45	-26.25	-29.02	-30.29	-28.90	-23.49	-20.05	-16.55
	YSAN026BA	-35.32	-40.35	-28.13	-26.61	-26.64	-24.80	-24.75	-27.45	-26.12	-24.28	-21.73	-19.41	-15.45
	YSAN026CA	-41.55	-34.33	-27.01	-27.99	-30.15	-25.22	-24.24	-28.04	-25.48	-24.40	-22.66	-19.56	-17.29
	YSAN026DA	-30.98	-29.32	-30.16	-29.58	-27.19	-29.93	-25.39	-27.20	-25.89	-26.11	-22.90	-19.50	-17.11
	YSAN026EA	-28.74	-28.87	-28.54	-27.67	-29.64	-25.45	-24.52	-24.59	-24.11	-25.64	-22.89	-20.55	-17.25
Max S22 Return Loss (dB)	YSAN026AA	-31.07	-32.16	-36.44	-31.48	-28.27	-30.63	-24.47	-31.01	-29.07	-25.23	-22.56	-19.50	-16.13
	YSAN026BA	-39.12	-44.49	-28.59	-27.87	-28.00	-25.21	-23.44	-25.61	-23.26	-22.06	-20.16	-18.23	-14.42
	YSAN026CA	-37.87	-32.91	-28.18	-29.93	-27.90	-23.94	-22.78	-24.37	-22.83	-22.74	-20.66	-17.76	-16.01
	YSAN026DA	-31.18	-29.99	-33.44	-28.94	-28.15	-26.77	-23.64	-23.38	-23.29	-24.64	-20.76	-18.37	-16.45
	YSAN026EA	-30.02	-30.64	-28.63	-28.53	-28.43	-25.69	-22.87	-22.15	-22.15	-23.18	-20.84	-18.58	-15.45
Max Cable Loss S21 (dB)	YSAN026AA	-0.19	-0.20	-0.25	-0.28	-0.31	-0.40	-0.50	-0.50	-0.51	-0.52	-0.73	-0.86	-0.96
	YSAN026BA	-0.25	-0.26	-0.33	-0.36	-0.39	-0.49	-0.65	-0.65	-0.66	-0.69	-0.99	-1.11	-1.26
	YSAN026CA	-0.31	-0.32	-0.40	-0.43	-0.49	-0.62	-0.80	-0.80	-0.82	-0.88	-1.18	-1.31	-1.43
	YSAN026DA	-0.36	-0.37	-0.47	-0.52	-0.56	-0.73	-0.91	-0.94	-0.97	-0.98	-1.36	-1.51	-1.69
	YSAN026EA	-0.42	-0.44	-0.56	-0.59	-0.66	-0.85	-1.07	-1.12	-1.15	-1.15	-1.58	-1.78	-1.97

1.2. Mechanical, Environmental & Storage

Mechanical		
OC	* Length (mm)	Weight (g)
YSAN026AA	100 ±3	4.4
YSAN026BA	150 ±5	4.6
YSAN026CA	200 ±5	4.8
YSAN026DA	250 ±5	5
YSAN026EA	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		RP SMA Female to IPEX MHF I
Environmental		
Operation Temperature		-20 °C to +85 °C
RoHS Compliant		Yes
Storage		
Storage Temperature		+18 °C to +27 °C
Humidity		30 % to 80 % RH
Storage Place		Away from corrosive gas and direct sunlight
Packaging		Antennas should be stored in unopened sealed manufacturer's plastic packaging

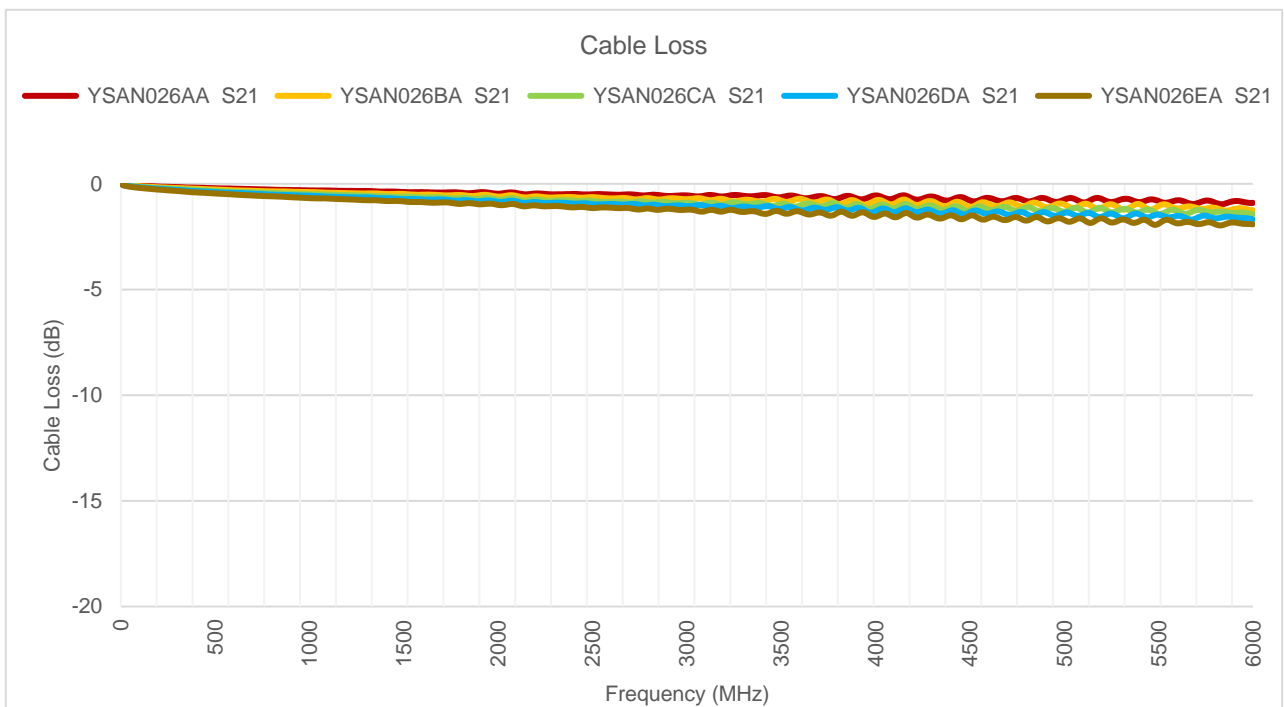
2 Drawing



RP-SMA CONNECTOR
(Inner MALE PIN)

3 Detailed Performance

3.1. Cable Loss



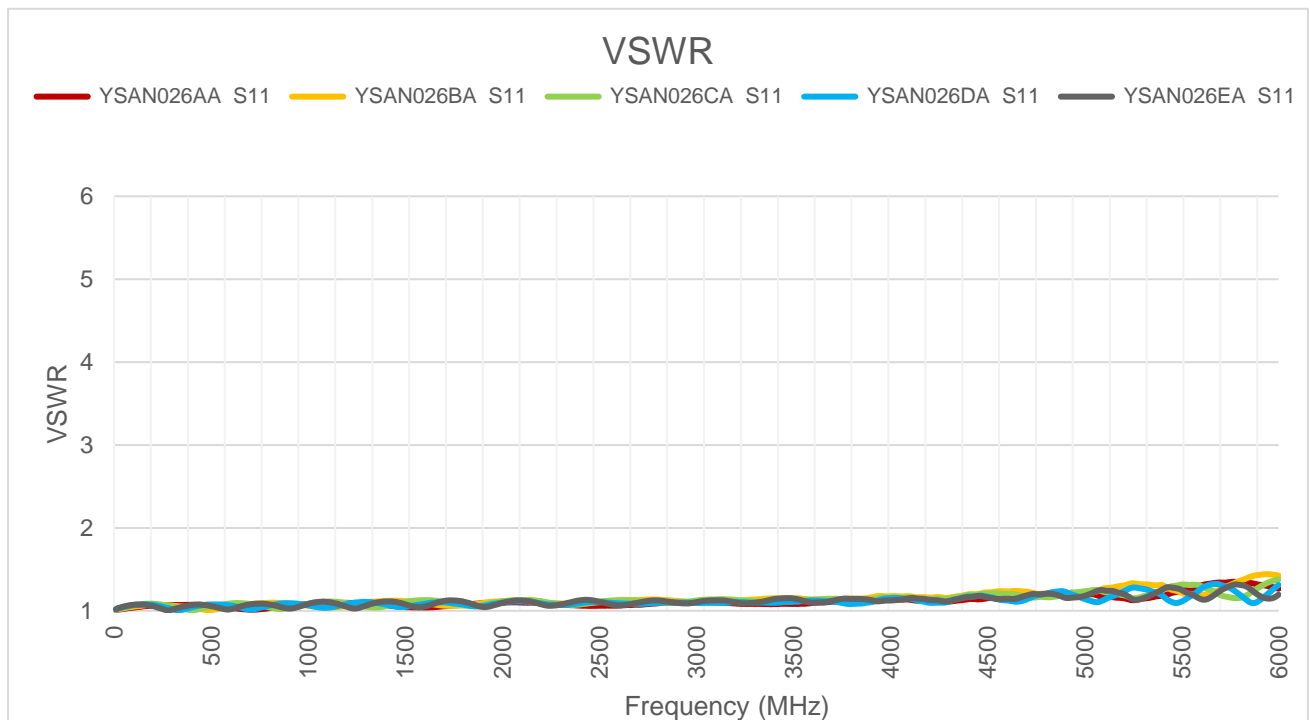
Cable Loss (dB)

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN026AA	-0.09	-0.16	-0.19	-0.19	-0.20	-0.20	-0.23	-0.24	-0.25	-0.28
YSAN026BA	-0.11	-0.20	-0.24	-0.24	-0.26	-0.26	-0.31	-0.31	-0.33	-0.36
YSAN026CA	-0.14	-0.25	-0.30	-0.30	-0.32	-0.32	-0.38	-0.38	-0.41	-0.44
YSAN026DA	-0.17	-0.29	-0.35	-0.36	-0.37	-0.37	-0.43	-0.44	-0.47	-0.52
YSAN026EA	-0.20	-0.34	-0.41	-0.42	-0.44	-0.44	-0.51	-0.53	-0.56	-0.60
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN026AA	-0.30	-0.31	-0.37	-0.42	-0.41	-0.42	-0.42	-0.50	-0.49	-0.50

YSAN026BA	-0.37	-0.39	-0.48	-0.55	-0.55	-0.57	-0.54	-0.65	-0.63	-0.66
YSAN026CA	-0.47	-0.49	-0.61	-0.66	-0.69	-0.72	-0.67	-0.80	-0.78	-0.81
YSAN026DA	-0.53	-0.56	-0.69	-0.75	-0.77	-0.83	-0.79	-0.91	-0.90	-0.92
YSAN026EA	-0.64	-0.66	-0.81	-0.88	-0.89	-0.95	-0.94	-1.07	-1.08	-1.10
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN026AA	-0.51	-0.65	-0.77	-0.75	-0.81	-0.90				
YSAN026BA	-0.69	-0.71	-0.89	-0.97	-1.06	-1.25				
YSAN026CA	-0.86	-1.03	-1.12	-1.31	-1.42	-1.44				
YSAN026DA	-0.96	-1.25	-1.46	-1.38	-1.46	-1.69				
YSAN026EA	-1.13	-1.32	-1.70	-1.71	-1.89	-1.92				

3.2. VSWR

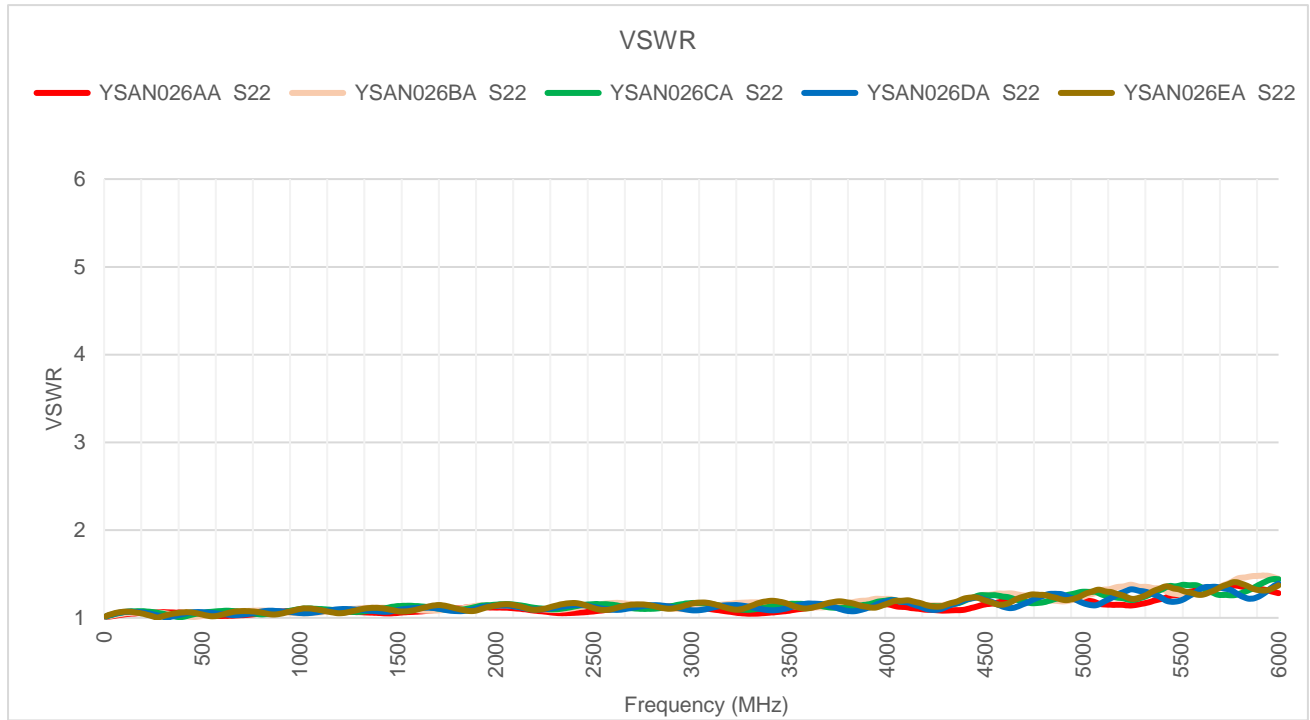
3.2.1. VSWR-S11



VSWR-S11

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN026AA	1.04	1.07	1.07	1.07	1.06	1.06	1.03	1.03	1.01	1.04
YSAN026BA	1.05	1.06	1.03	1.03	1.02	1.01	1.05	1.06	1.08	1.10
YSAN026CA	1.07	1.05	1.01	1.01	1.03	1.04	1.09	1.09	1.08	1.03
YSAN026DA	1.07	1.02	1.05	1.05	1.07	1.07	1.06	1.05	1.02	1.08
YSAN026EA	1.07	1.01	1.07	1.08	1.07	1.07	1.02	1.04	1.08	1.06
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN026AA	1.06	1.07	1.06	1.06	1.06	1.09	1.10	1.10	1.07	1.06
YSAN026BA	1.09	1.07	1.12	1.06	1.06	1.08	1.11	1.12	1.08	1.09
YSAN026CA	1.03	1.06	1.08	1.10	1.09	1.06	1.09	1.13	1.07	1.10
YSAN026DA	1.09	1.08	1.06	1.10	1.09	1.05	1.08	1.11	1.08	1.10
YSAN026EA	1.03	1.05	1.11	1.12	1.13	1.06	1.06	1.12	1.10	1.13
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN026AA	1.06	1.10	1.20	1.20	1.24	1.27				
YSAN026BA	1.12	1.13	1.23	1.20	1.22	1.42				
YSAN026CA	1.13	1.13	1.17	1.24	1.32	1.38				
YSAN026DA	1.09	1.12	1.14	1.14	1.11	1.31				
YSAN026EA	1.07	1.10	1.18	1.18	1.25	1.19				

3.2.2. VSWR-S22



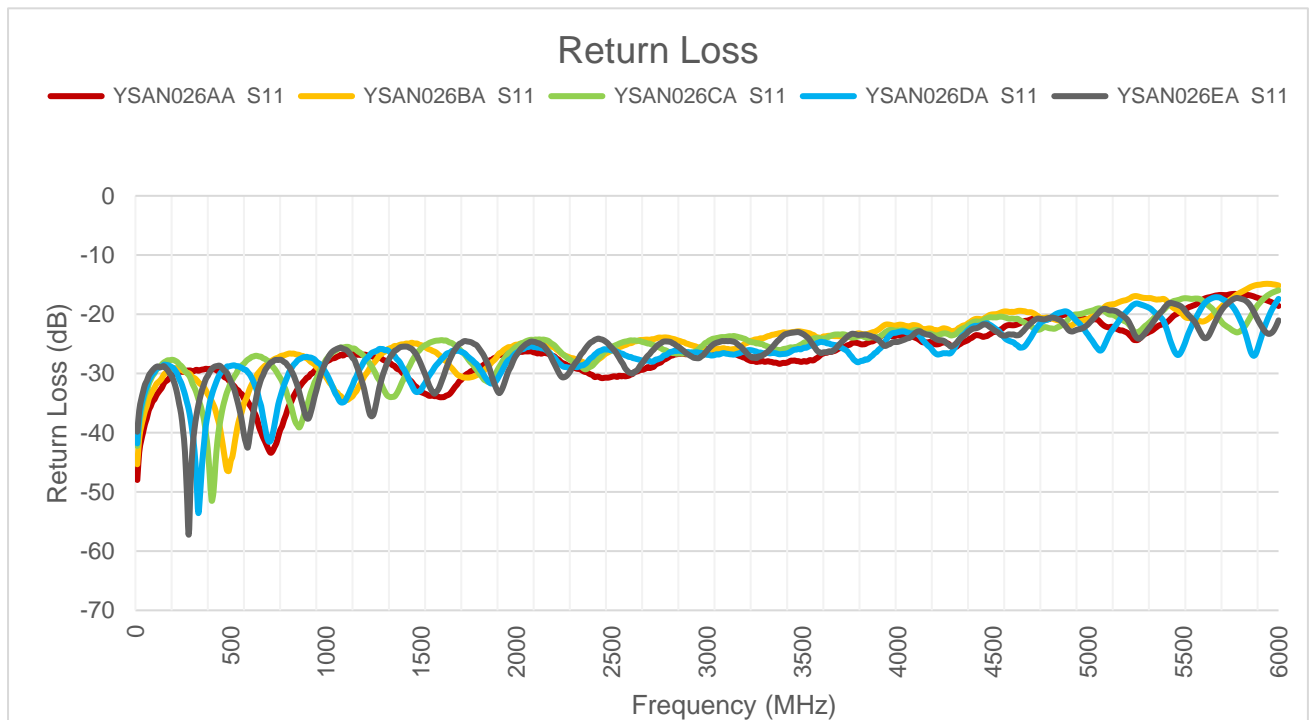
VSWR-S22

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN026AA	1.04	1.06	1.06	1.06	1.05	1.05	1.02	1.02	1.03	1.06
YSAN026BA	1.05	1.06	1.02	1.02	1.01	1.01	1.05	1.06	1.08	1.08
YSAN026CA	1.07	1.05	1.01	1.02	1.04	1.05	1.08	1.08	1.06	1.04
YSAN026DA	1.07	1.01	1.05	1.05	1.06	1.07	1.04	1.04	1.04	1.08
YSAN026EA	1.07	1.02	1.06	1.07	1.06	1.05	1.04	1.05	1.08	1.05
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN026AA	1.07	1.08	1.05	1.10	1.10	1.12	1.12	1.10	1.05	1.06
YSAN026BA	1.07	1.06	1.11	1.09	1.09	1.13	1.14	1.12	1.10	1.13
YSAN026CA	1.06	1.08	1.11	1.11	1.10	1.11	1.14	1.14	1.11	1.15
YSAN026DA	1.08	1.06	1.07	1.10	1.09	1.09	1.13	1.11	1.13	1.14
YSAN026EA	1.05	1.08	1.10	1.15	1.14	1.08	1.12	1.12	1.16	1.15

Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN026AA	1.10	1.12	1.22	1.20	1.27	1.28				
YSAN026BA	1.17	1.12	1.26	1.24	1.26	1.45				
YSAN026CA	1.15	1.15	1.19	1.30	1.37	1.44				
YSAN026DA	1.09	1.16	1.16	1.17	1.20	1.39				
YSAN026EA	1.10	1.11	1.24	1.26	1.32	1.37				

3.3. Return Loss

3.3.1. Return Loss-S11

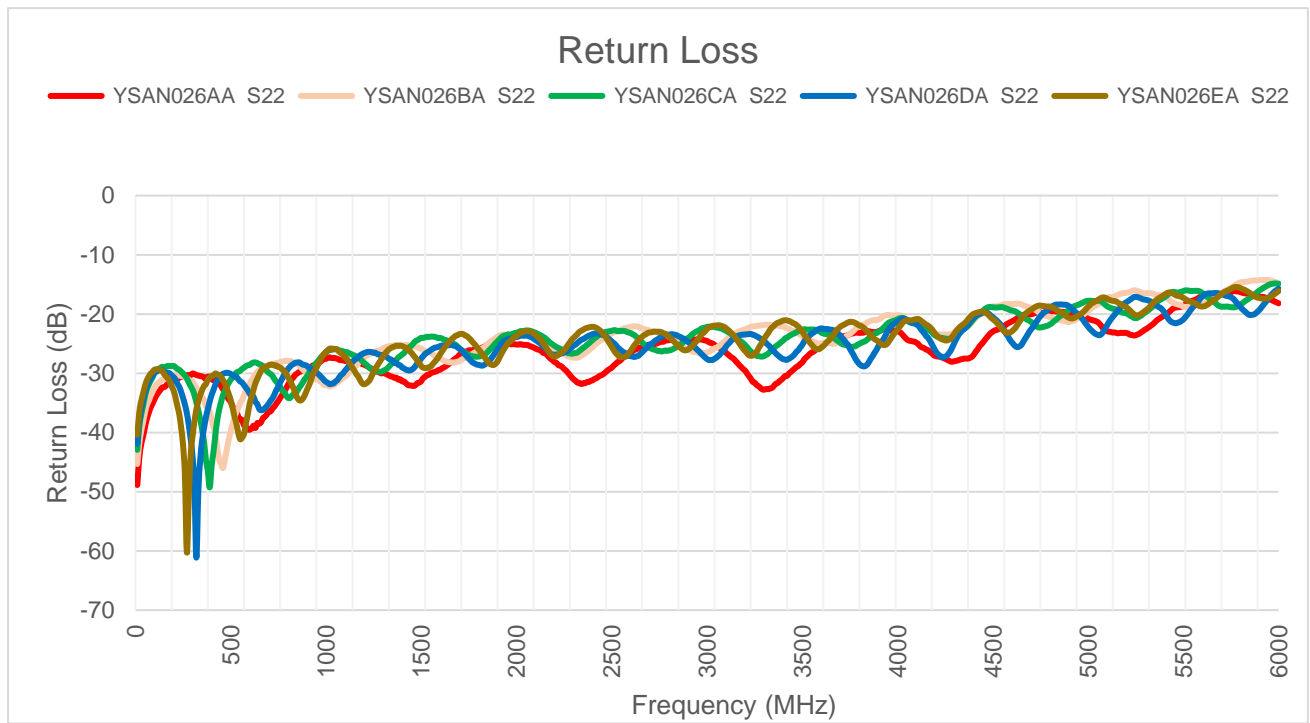


Return Loss (dB)-S11

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN026AA	-34.37	-29.65	-29.28	-29.34	-30.38	-30.68	-35.31	-36.96	-43.39	-33.85
YSAN026BA	-32.43	-30.66	-35.32	-36.17	-42.34	-44.47	-32.60	-30.75	-27.96	-26.64
YSAN026CA	-29.97	-31.76	-49.98	-45.42	-35.56	-34.33	-27.46	-27.01	-28.34	-37.16

YSAN026DA	-29.77	-40.07	-32.69	-31.82	-29.57	-29.32	-30.16	-32.24	-41.36	-28.55
YSAN026EA	-29.13	-42.66	-28.96	-28.79	-29.27	-29.61	-40.46	-34.79	-28.16	-30.28
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN026AA	-30.72	-29.17	-31.11	-31.08	-30.08	-27.44	-26.56	-26.54	-29.60	-30.78
YSAN026BA	-27.45	-29.22	-24.93	-30.48	-30.69	-27.82	-25.70	-24.90	-28.09	-27.16
YSAN026CA	-35.48	-30.15	-28.67	-26.23	-27.28	-30.63	-26.89	-24.27	-29.11	-26.77
YSAN026DA	-27.19	-28.22	-31.33	-26.34	-26.99	-31.62	-28.02	-25.79	-28.61	-26.04
YSAN026EA	-37.58	-31.58	-25.68	-24.87	-24.58	-31.40	-30.31	-25.27	-26.37	-24.28
Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN026AA	-30.18	-26.78	-20.86	-20.85	-19.40	-18.60				
YSAN026BA	-24.88	-24.01	-19.66	-20.80	-20.17	-15.13				
YSAN026CA	-24.40	-24.11	-22.00	-19.56	-17.32	-15.95				
YSAN026DA	-27.20	-24.64	-23.92	-23.46	-25.55	-17.40				
YSAN026EA	-29.92	-26.57	-21.49	-21.70	-19.04	-21.03				

3.3.2. Return Loss-S22


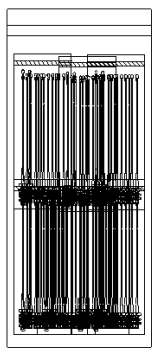
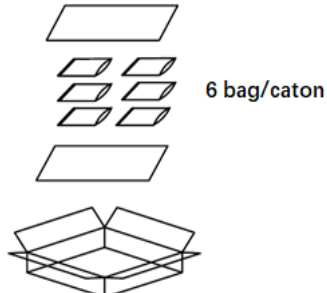


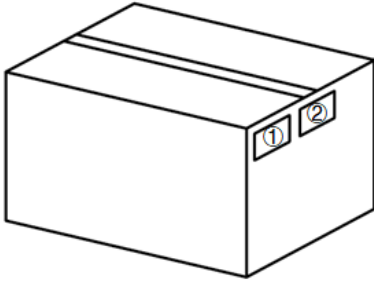
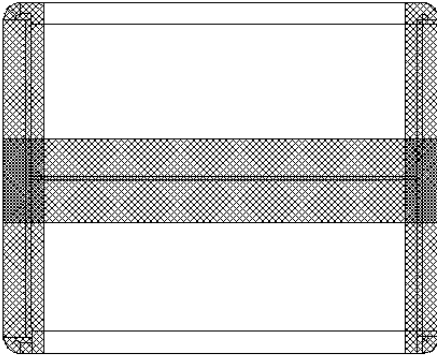
Return Loss (dB)-S22

Frequency (MHz)	100	300	410	420	460	470	600	630	710	830
YSAN026AA	-34.39	-30.04	-31.17	-31.07	-32.74	-33.07	-39.52	-39.24	-36.44	-30.66
YSAN026BA	-32.44	-31.36	-39.12	-40.38	-45.99	-44.49	-31.71	-30.13	-28.44	-28.19
YSAN026CA	-29.98	-32.76	-43.24	-40.31	-33.69	-32.91	-28.58	-28.18	-30.14	-33.55
YSAN026DA	-29.93	-44.04	-32.81	-31.89	-30.09	-29.99	-33.44	-34.82	-34.62	-28.42
YSAN026EA	-29.40	-40.61	-30.34	-30.02	-31.20	-31.67	-35.11	-31.70	-28.58	-32.57
Frequency (MHz)	900	960	1440	1710	1740	1880	1950	2140	2350	2450
YSAN026AA	-29.18	-28.27	-32.05	-26.70	-26.29	-24.67	-24.71	-26.55	-31.67	-30.27
YSAN026BA	-29.85	-31.12	-25.38	-27.73	-27.24	-24.32	-23.51	-24.70	-26.86	-24.25
YSAN026CA	-30.54	-27.90	-25.55	-26.04	-26.76	-25.32	-23.49	-23.86	-25.72	-23.32
YSAN026DA	-28.74	-30.12	-29.53	-26.09	-27.17	-26.93	-24.27	-25.48	-24.24	-23.49
YSAN026EA	-32.84	-28.43	-26.26	-23.35	-23.75	-28.60	-25.16	-24.93	-22.66	-23.13

Frequency (MHz)	2600	3600	4700	5000	5500	6000				
YSAN026AA	-26.45	-25.26	-20.04	-20.78	-18.61	-18.19				
YSAN026BA	-22.14	-24.97	-18.92	-19.47	-18.74	-14.80				
YSAN026CA	-23.22	-23.13	-21.31	-17.76	-16.12	-14.88				
YSAN026DA	-27.10	-22.42	-22.63	-22.11	-20.92	-15.74				
YSAN026EA	-26.17	-25.66	-19.29	-18.78	-17.27	-16.12				

4 Packaging

Step	Packaging picture / 2D picture	Description
1	 <p>50T 5000S 5000P 5000C</p> <p>25PCS/BAG(Incl uding accessories)</p> <p>Label</p>	<p>25 products and accessories are put into small PE bags</p>
2		<p>20 small PE bags in a big PE bag; 500 pcs products in a big PE bag</p>
3	 <p>6 bag/caton</p>	<p>Place a clapboard at the bottom and top, (6 big PE bags per carton box) (3000 pcs antennas per carton box)</p> <p><u>Carton size: L × W × H = 300 × 260 × 230 mm</u></p>

4	 A 3D perspective drawing of a rectangular carton. On the front face, there are two small rectangular labels. The left label is marked with a circled '1' and the right label is marked with a circled '2'.	<p>Position for Attaching Labels---</p> <ul style="list-style-type: none">① Carton label② Quality label
5	 A 3D perspective drawing of a rectangular carton. A wide, textured strip is wrapped around the middle of the carton, forming an 'I' shape. The strip is shaded with a cross-hatch pattern.	<p>Sealing Cartons---</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
-	2022-08-08	Sly Liu	Creation of the document
1.0	2022-08-08	Sly Liu	First official release
2.0	2023-06-09	Tina Gan/ Lucky Feng/ David Liu/ Aria Chu	Updated all data and datasheet templates

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