

Antenna YE0021AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-08-20	Kenny YIN	Initial
1.1	2020-12-11	Kenny YIN	Updated the antenna image in Chapter 2.
1.2	2021-01-27	Kenny YIN	Added IP rating description and installation method.
2.0	2021-04-28	Aria CHU	Updated all test data in the datasheets.
2.1	2021-07-25	Aria CHU	 Updated working temperature. (Chapter 3) Added detailed passive electrical specifications. (Chapter 3)
2.2	2021-11-09	Kenny YIN	Updated the antenna drawing (Chapter 6).
2.3	2021-12-01	Kenny YIN	Updated the product description in Chapter 1.



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1 Product Description

This Quectel external 4G antenna covers main 4G LTE bands and is compatible with 3G/2G/LPWA bands as well. The external antenna is barely influenced by the internal environment of devices, giving a much better performance in efficiency, radiation and gain whilst providing an optimized solution for a customer product. Quectel also offers flexible installation with custom cable length and connector options.

2 Product Features

- 4G Antenna
- High efficiency
- Excellent performance



3 Product Specifications

Passive Elec	trical Sp	ecifications	;								
Frequency Ra	ange			690–96	690–960 MHz, 1710–2690 MHz						
Input Impende	ence			50 Ω	50 Ω						
VSWR				≤ 3.0							
Gain				≤ 3.3 dI	Зі						
Polarization T	уре			Vertical							
Detailed Pass	ive Elect	rical Speci	fications								
Frequency Range (MHz)	698–960	1176–1280	1400–1610	1710–2170	2170–2690	3300–4000	4000–5000	5000–6000			
VSWR (Max.)	2.09	-	-	3.0	2.7	-	-	-			
Average Efficiency (%)	40	-	-	41	26	-	-	-			
Max. Peak Gain (dBi)	3.3	-	-	1.2	-0.3	-	-	-			
Mechanical S	Specificat	tions									
Antenna Size					109 mm × 29.8 mm RG174, Cable Length = 1500 mm						
Casing				ABS	ABS						
Connector Type					SMA Male (Center Pin)						
Working Temperature					-20 °C to +60 °C						
Radome Color				Black	Black						
Mounting Type					Magnet						
IP Rating				IP65	IP65						

4 Overall Performance

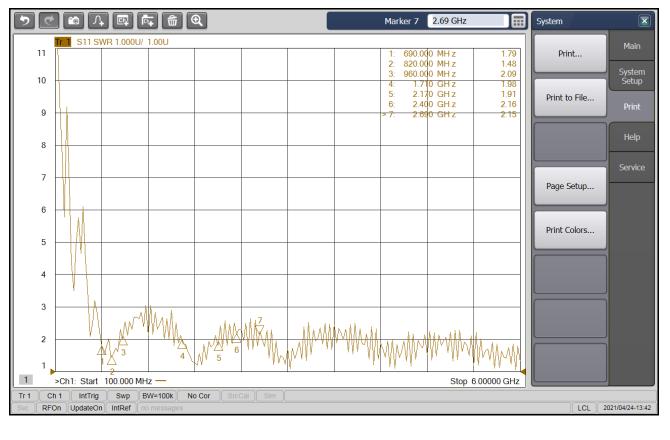
4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz–8.5 GHz.
- RayZone[®]2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz 8.0 GHz.





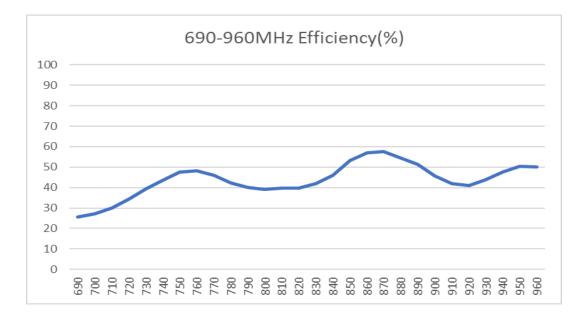
4.2. VSWR

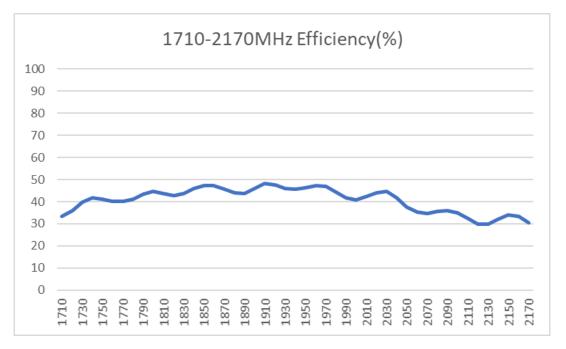


Frequency (MHz)	690	820	960	1710	2170	2400	2690
VSWR	1.79	1.48	2.09	1.98	1.91	2.16	2.15

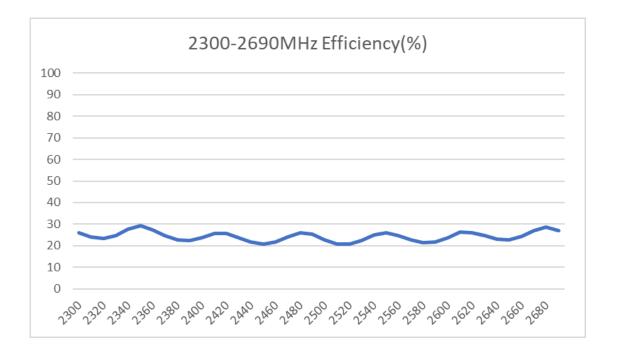


4.3. Efficiency





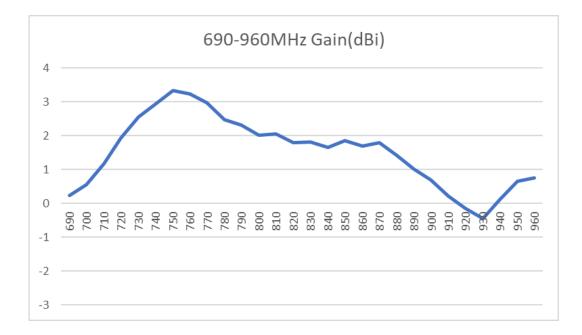


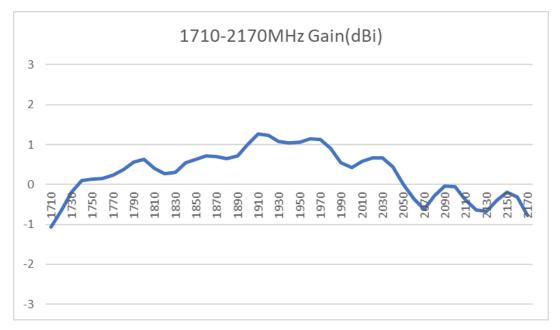


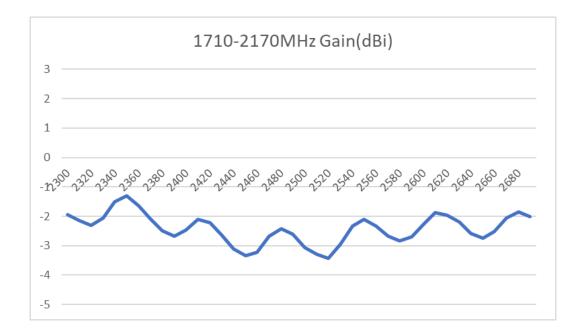
Frequency (MHz)	690	790	820	960	1710	2170	2400	2690
Efficiency (%)	25.69	40.17	39.87	50.09	33.23	30.48	23.80	27.04



4.4. Gain

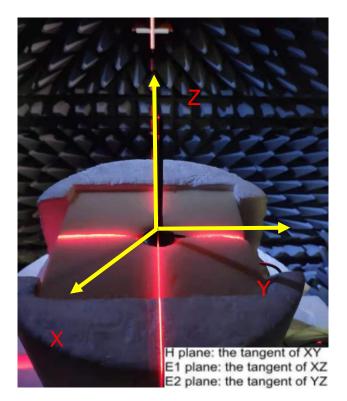






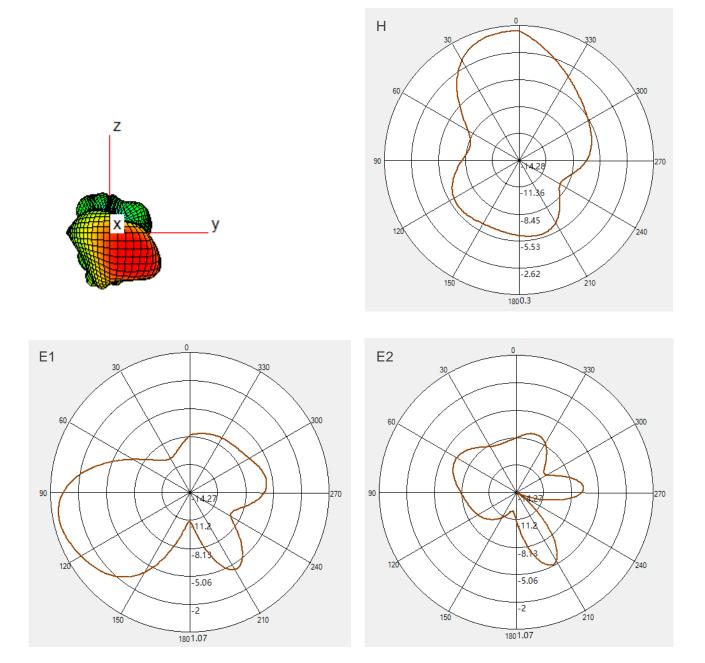
Frequency (MHz)	690	790	820	960	1710	2170	2400	2690
Gain (dBi)	0.24	2.31	1.78	0.76	-1.06	-0.77	-2.46	-2.01

4.5. Radiation Pattern



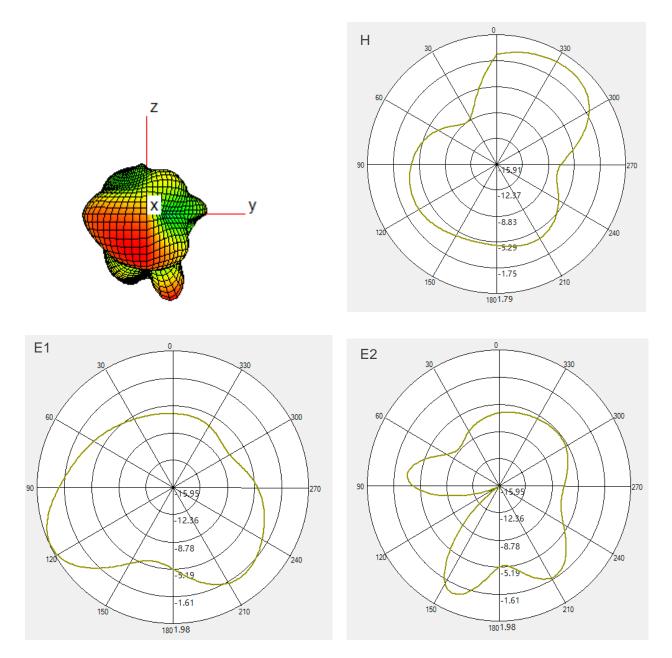


4.5.1. 690 MHz

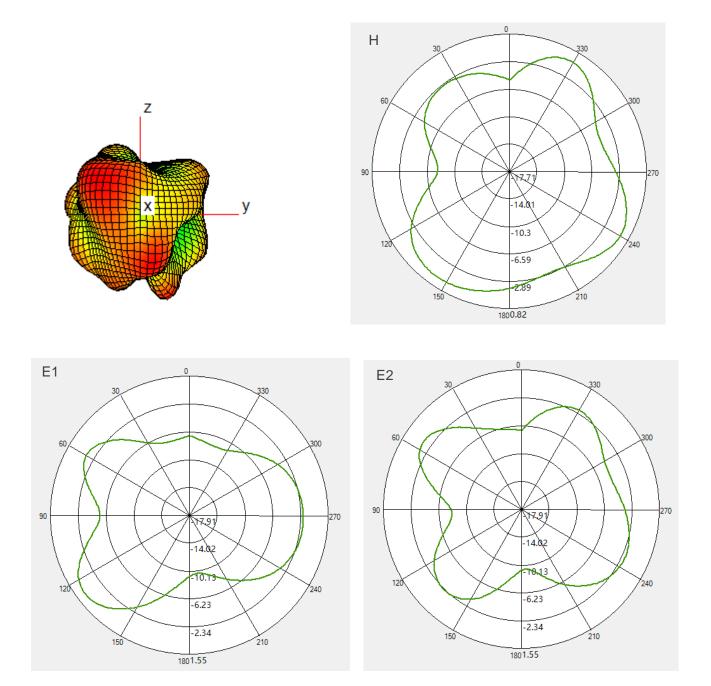




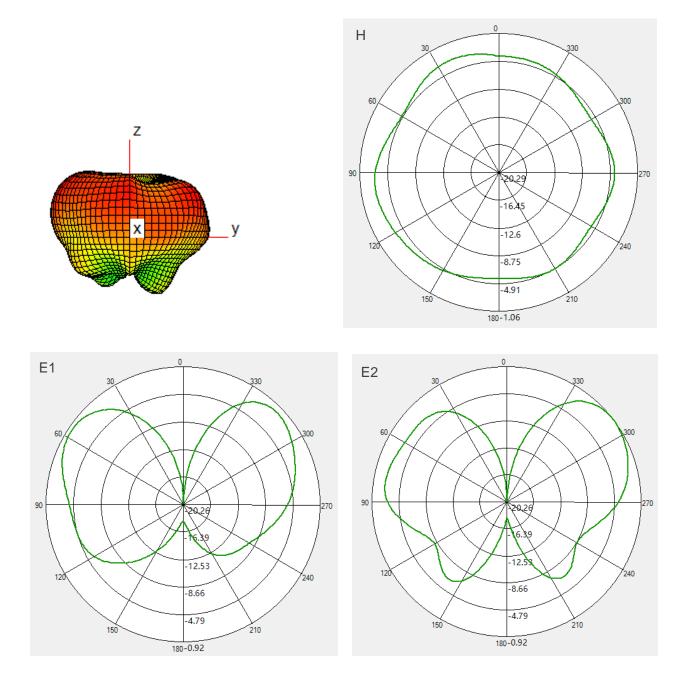
4.5.2. 820 MHz



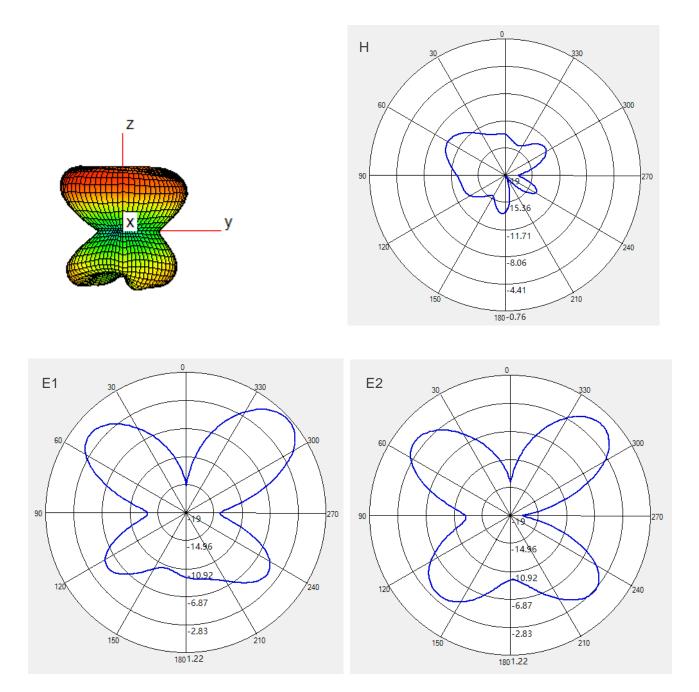
4.5.3. 960 MHz



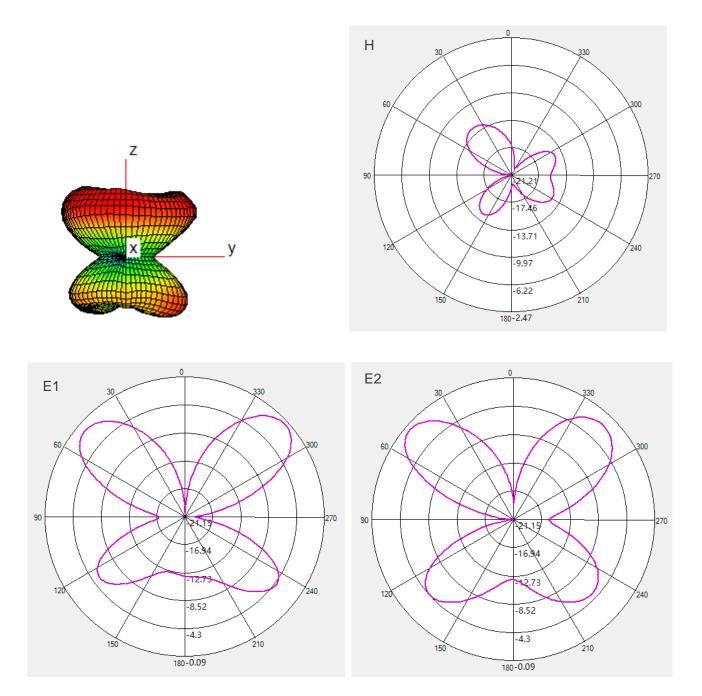
4.5.4. 1710 MHz



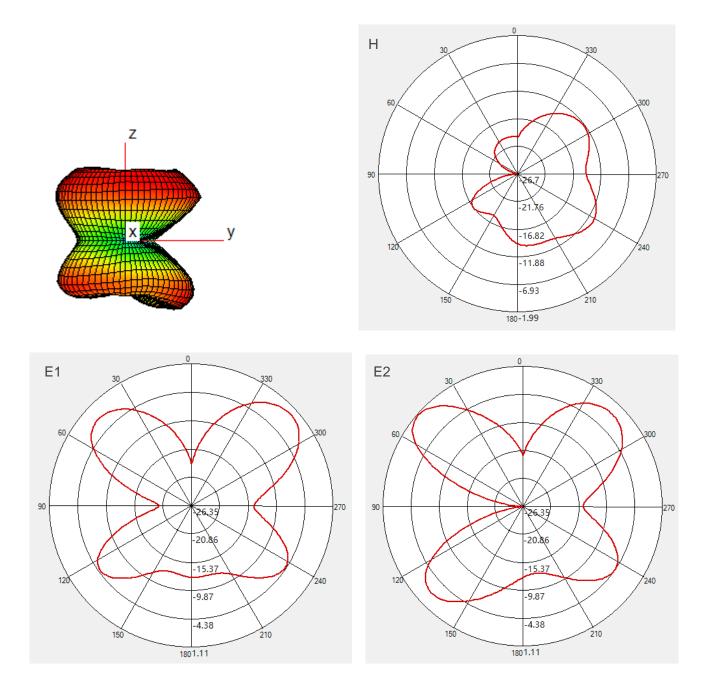
4.5.5. 2170 MHz



4.5.6. 2400 MHz



4.5.7. 2690 MHz



5 Product Size

