JX-AT-2301 Antenna test report

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Date：2023-3-20
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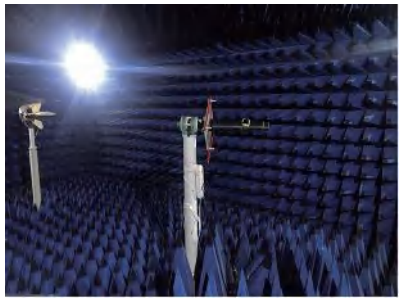
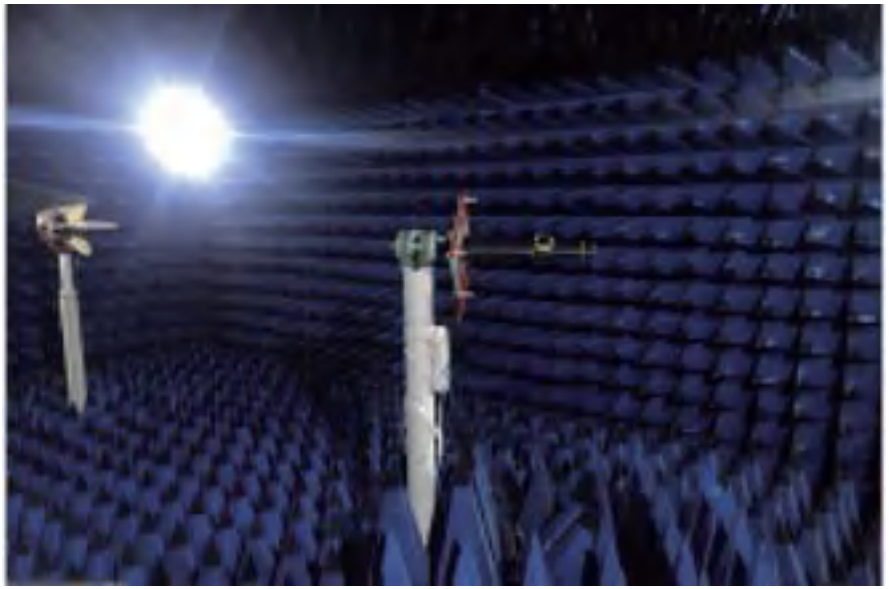


Project development environment

We are moving from the Internet era to the intelligent era, and the country is building a digital society and smart city. In the next 5-10 years, there is huge development potential in both the consumer electronics market and the Internet of Things market. The field of wireless communication is very diversified, in the future, Yusheng relies on the customer platform advantages of the antenna main business and its own comprehensive strength, and strives to provide customers with professional product solutions with market competitiveness.



Yusheng Communication's products cover almost all antenna applications of wireless terminal equipment, including automotive antennas, high-precision measurement and mapping antennas, UAV ground and satellite data navigation, high-precision positioning antennas, wireless transmission of medical equipment, consumer antennas (mobile phone antennas, PAD, laptop antennas), base stations/indoor distributed antennas, smart wearable antennas (smart watches, TWS headsets), security home antennas and a variety of wireless data transmission and wireless control smart device antennas.

1. Introduction to project debugging
2. Outline of the report version
3. Antenna active parameters
4. Antenna passive parameters
5. Antenna environment treatment and improvement
6. Summary & Additional Notes

Introduction to project debugging

Model	AT2301		
Plate type	PCBA		
Band and antenna material		Frequency band	Material
	BT	2.45GHz	Onboard
	NFC	13.56MHz	FPC+ferrite
Performance requirements	Executed according to customer requirements		

Outline of the report version

Report version	Reporting time	The problem solved by the development of this antenna
V0.1	20230320	Preliminary commissioning report

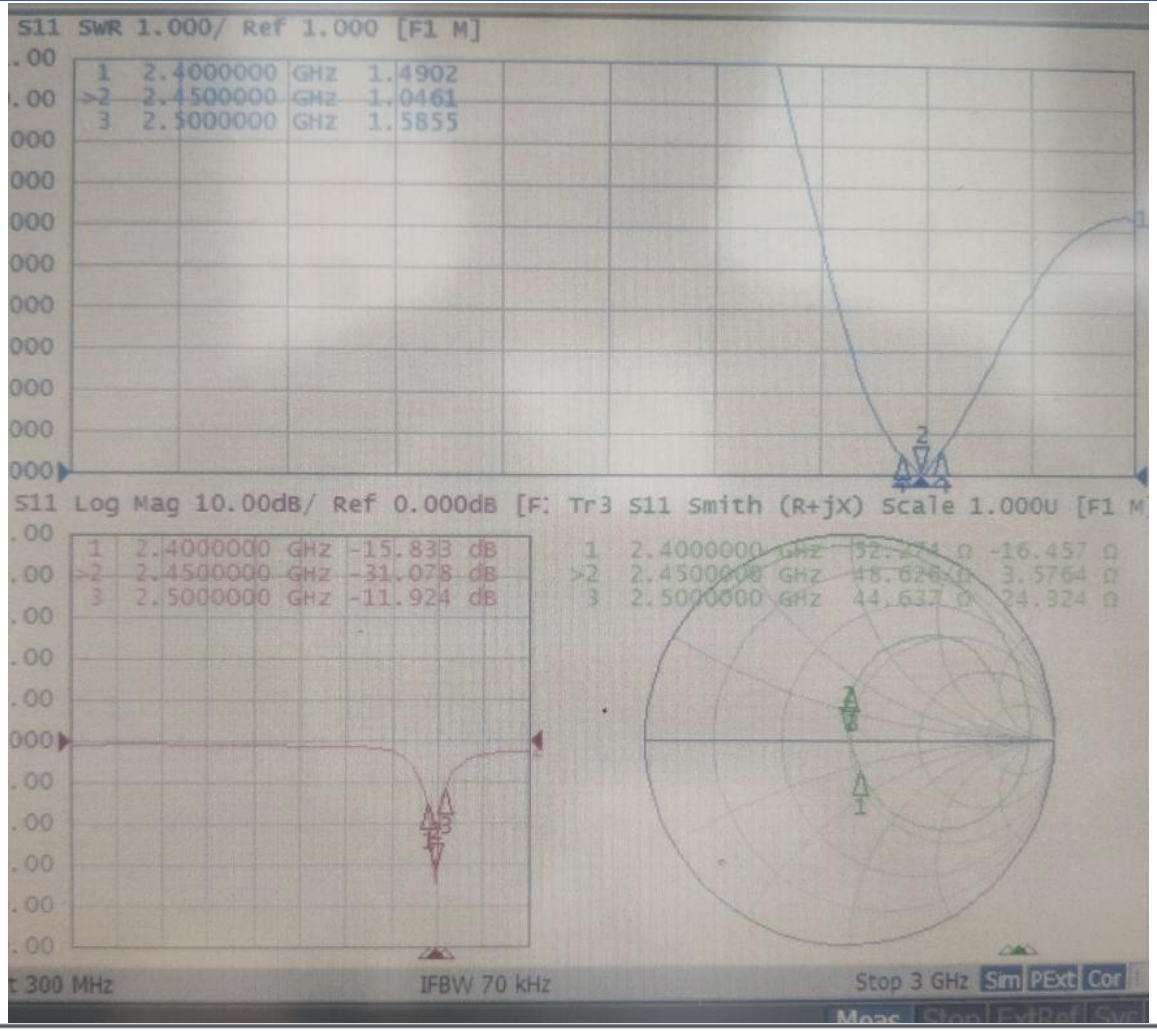
Antenna passive parameters-efficiency-1#

Test Point ID	1	2	3	4	5	6	7	8	9	10	11
Freq. (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	0.13	0.35	0.49	0.70	0.91	1.01	1.06	0.96	0.87	0.65	0.42
Efficiency (%)	37.5%	38.1%	38.7%	39.2%	39.9%	40.4%	40.9%	40.3%	39.8%	39.1%	38.4%

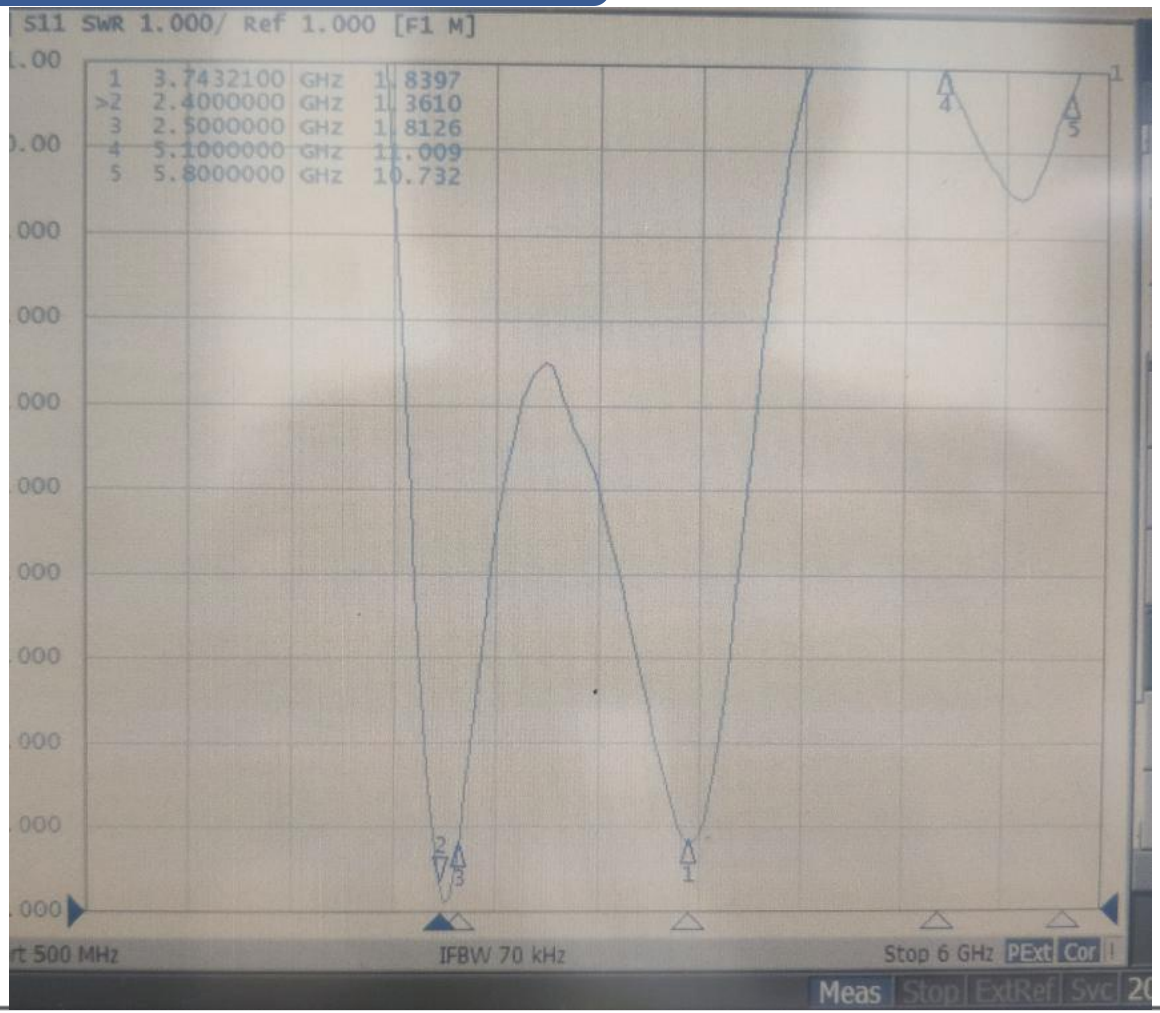
Antenna passive parameters-efficiency-2#

Test Point ID	1	2	3	4	5	6	7	8	9	10	11
Freq. (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	0.17	0.38	0.52	0.74	1.02	1.13	1.04	0.92	0.53	0.40	0.33
Efficiency (%)	38.2%	38.8%	39.4%	39.9%	40.5%	41.0%	40.6%	40.0%	39.4%	38.9%	38.3%

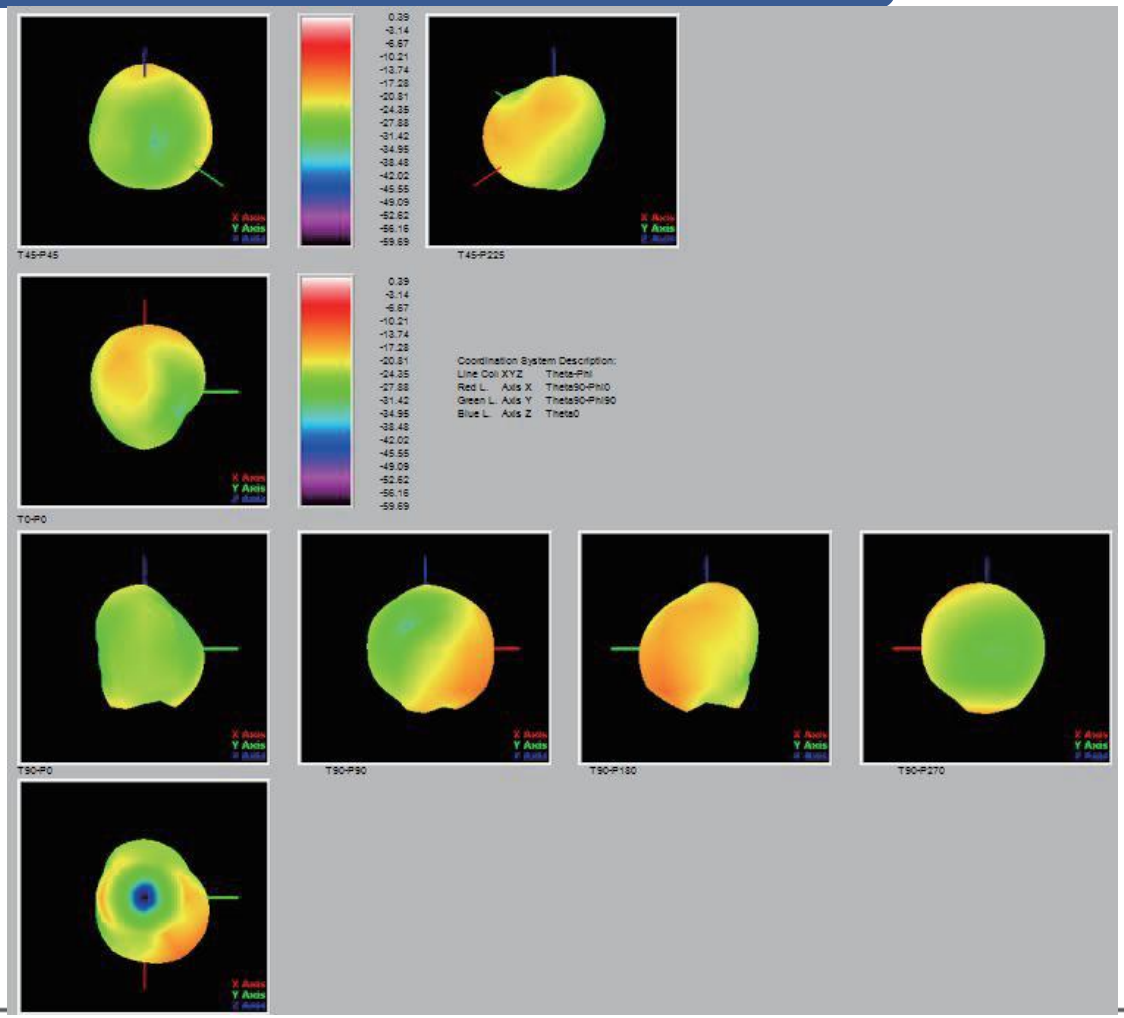
Antenna passive parameters（Artwork LOGMAG+VSWR+SMITH）



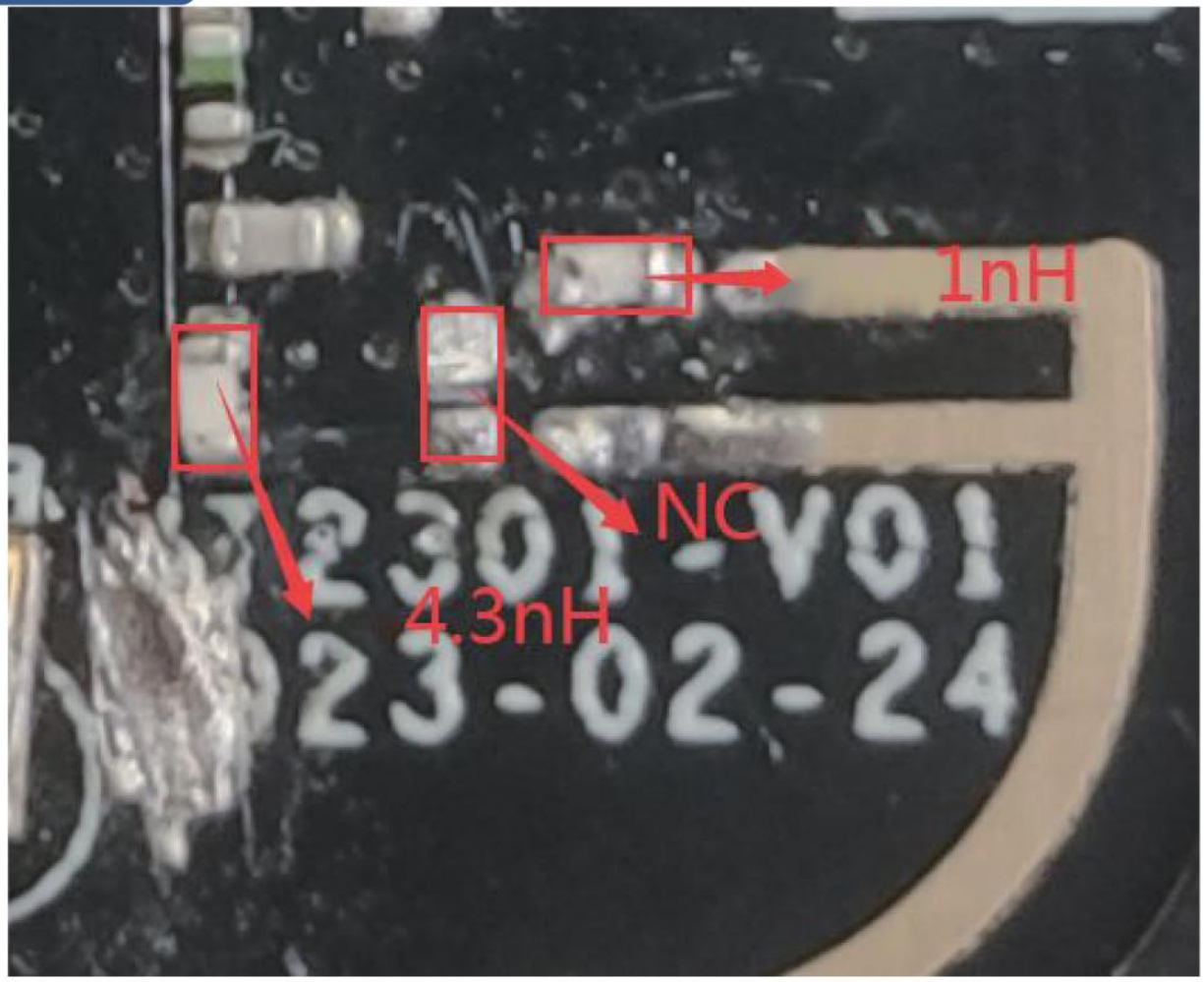
Antenna second harmonic (BT)



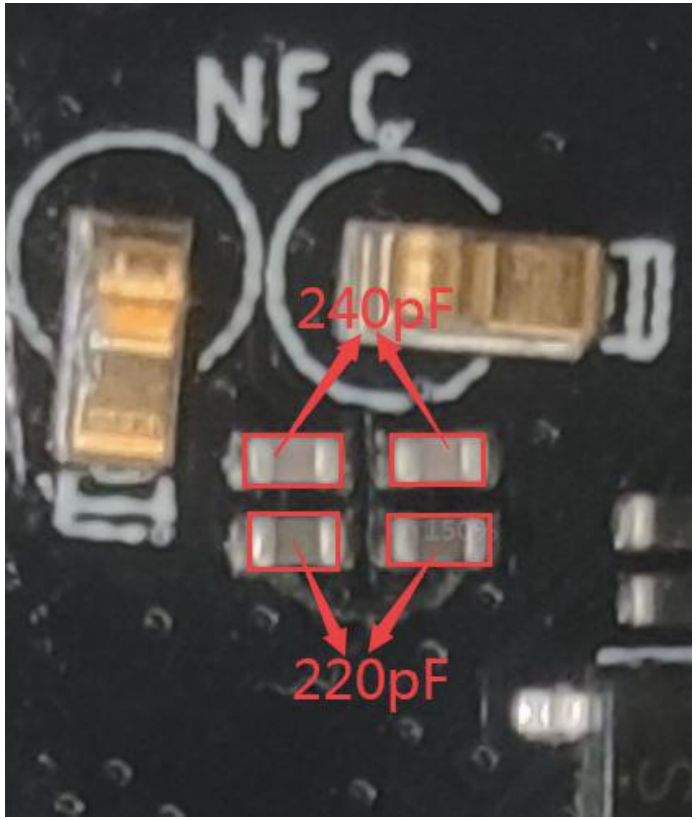
Passive vector diagram of the antenna (BT)



BT matching



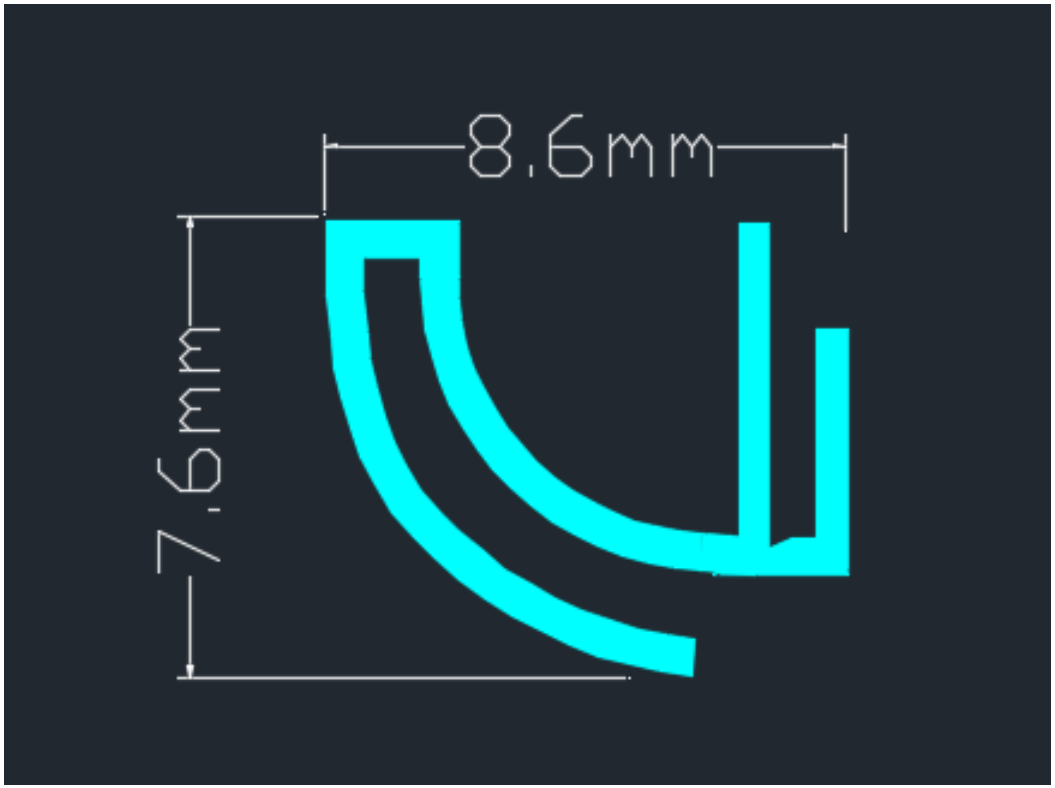
NFC Matching and measured distance



concentrate: Please be aware that it is not possible to measure it because there is no battery

Two above 240pF
The following two 220pF

RF Antenna Dimensional Drawing



Thank you!

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