



W212 Project

Antenna RF System Development Report

RF: Dragon.long
+Report Version : 20260701 V2



Shenzhen Cicent Communication Technology Co., Ltd.

A leading provider of RF technology and antenna solutions in the industry.

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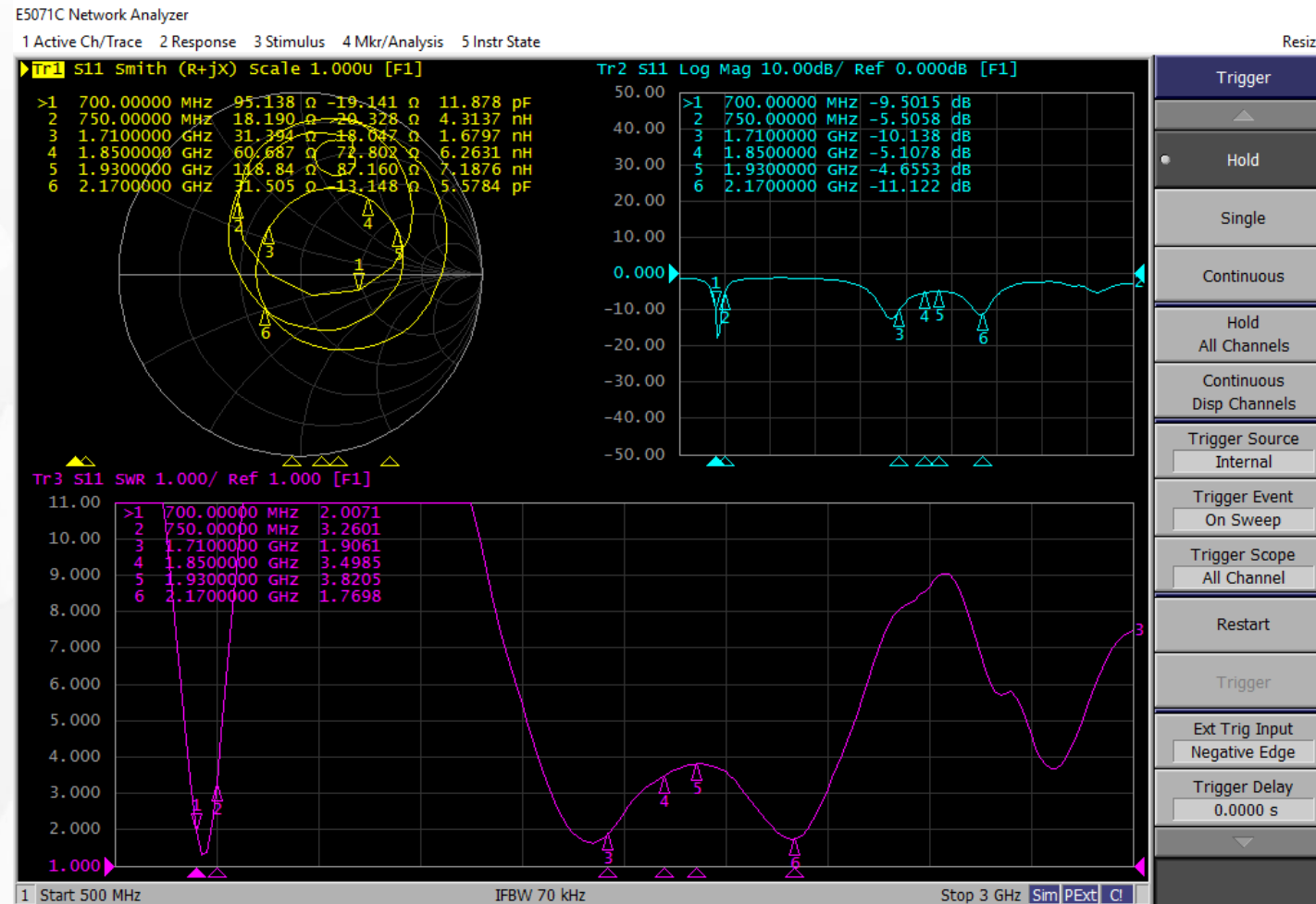
Introduction to project development

Main Antenna	Frequency band		Antenna status	Antenna form	Design area	Match changes
	4G	LTE B2/4/12	LDS antenna fine-tuning	PIFA	LDS upper shell	Modified
Other antennas	GPS	1560-1605MHz	LDS antenna fine-tuning	PIFA	LDS upper shell	No changes
	BT	2.4GHz	LDS antenna fine-tuning	Monopole	LDS upper shell	Modified
Prototype status	Prototype prototype		Environmental treatment	Modified		

Summary of Report Version

Version	Date	Content Overview
V1	20260612	Prototype passive prototype antenna initial version debugging
V2	20260701	Feedback prototype antenna active test data

Main antenna S parameters

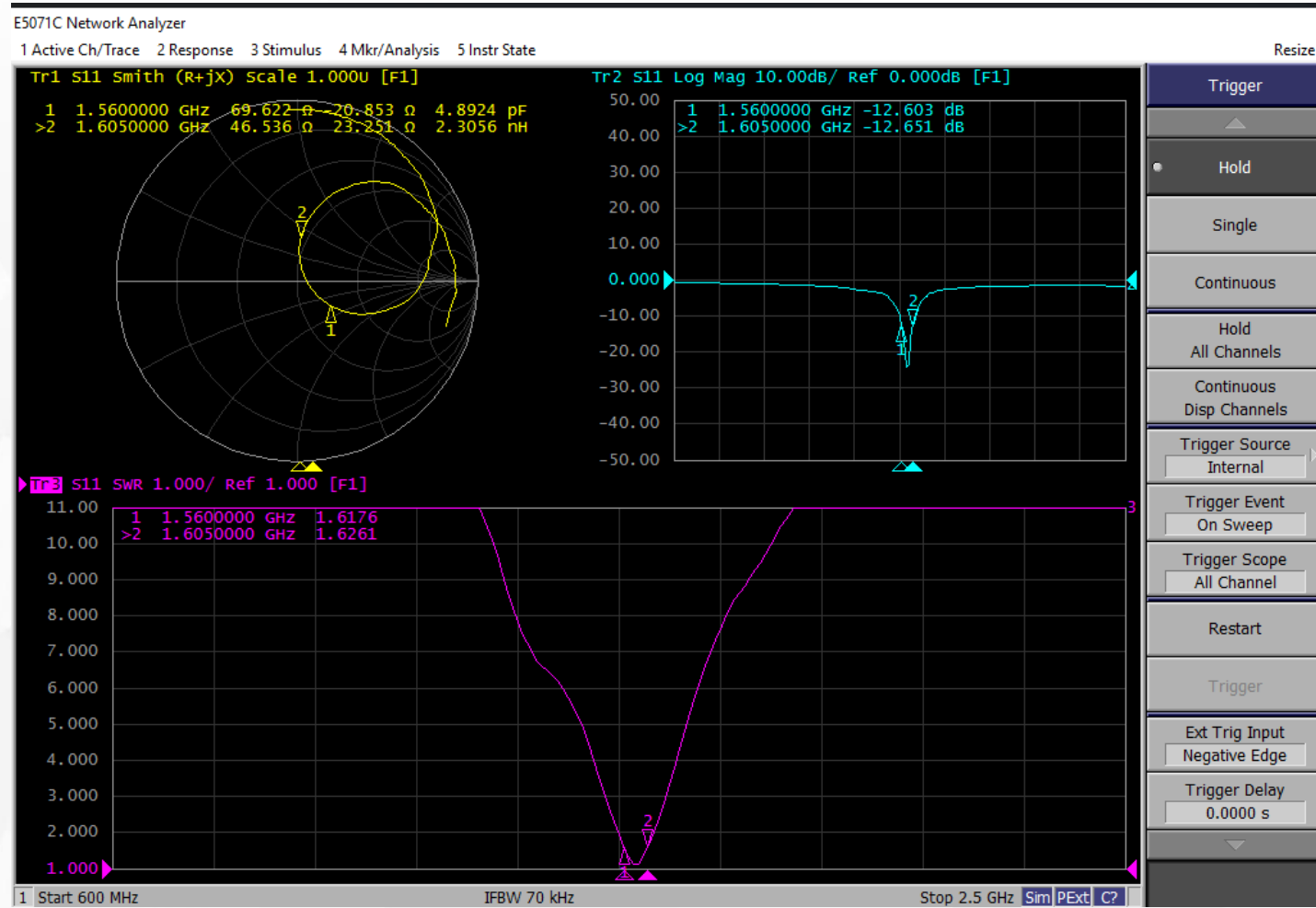


Passive efficiency of main antenna

Arm model			
Frequency (MHz)	Efficiency (dB)	Gain (dBi)	Efficiency (%)
1710	-8.3	-4.9	14.7
1730	-8.3	-4.8	14.9
1750	-8.2	-4.5	15.3
1770	-8.2	-4.6	15.0
1790	-8.5	-4.9	14.1
1810	-8.6	-5.2	13.7
1830	-8.8	-5.5	13.2
1850	-8.8	-5.5	13.2
1870	-8.8	-5.1	13.1
1890	-8.9	-5.0	12.8
1910	-8.9	-4.8	12.8
1930	-9.2	-5.0	12.0
1950	-9.2	-4.8	12.2
1970	-9.1	-4.7	12.2
1990	-9.0	-4.5	12.7
2010	-8.9	-4.4	13.0
2030	-8.5	-3.9	14.2
2050	-8.3	-3.5	14.8
2070	-8.2	-3.3	15.3
2090	-8.0	-2.8	15.8
2110	-8.0	-2.5	15.8
2130	-8.0	-2.3	16.0
2150	-8.3	-2.5	14.8
2170	-8.6	-2.6	14.0
AVG	-8.6	-4.2	14.0

Arm model			
Frequency (MHz)	Efficiency (dB)	Gain (dBi)	Efficiency (%)
700	-11.4	-5.6	7.3
710	-11.1	-5.3	7.7
720	-11.1	-5.5	7.8
730	-11.3	-6.3	7.4
740	-11.6	-6.0	6.9
750	-11.9	-5.3	6.4
AVG	-11.4	-5.7	7.3

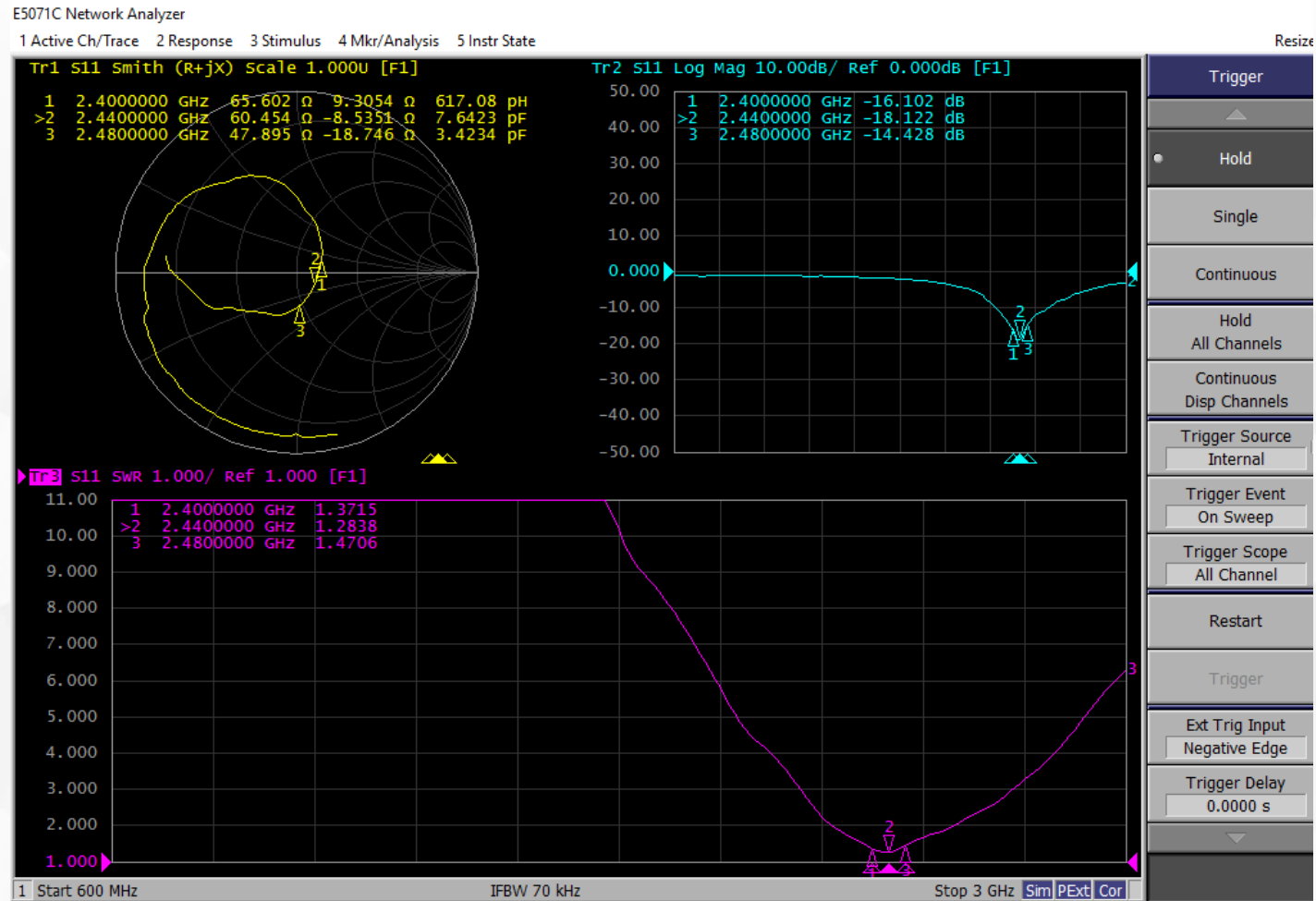
GPS antenna S parameters



Passive efficiency of GPS antenna

GPS (Arm model) 0 Ω			
Frequency MHz	Efficiency (dB)	Gain (dBi)	Efficiency (%)
1560	-10.2	-5.2	9.6
1565	-10.0	-4.9	10.1
1570	-9.7	-4.7	10.6
1575	-9.5	-4.6	11.1
1580	-9.4	-4.6	11.5
1585	-9.3	-4.5	11.8
1590	-9.2	-4.4	11.9
1595	-9.2	-4.4	11.9
1600	-9.2	-4.5	11.9
1605	-9.2	-4.5	12.0
AVG	-9.5	-4.6	11.2

BT antenna S parameters



Passive efficiency of BT antenna

BT (arm model) 2.0pF			
Frequency MHz	Efficiency (dB)	Gain (dBi)	Efficiency (%)
2400	-7.5	-1.4	17.8
2410	-7.5	-1.3	17.8
2420	-7.6	-1.2	17.6
2430	-7.6	-1.2	17.3
2440	-7.7	-1.3	16.9
2450	-7.8	-1.2	16.8
2460	-7.8	-1.3	16.7
2470	-7.8	-1.3	16.5
2480	-7.8	-1.3	16.5
AVG	-7.7	-1.3	17.1

Main antenna active OTA data

Arm model	Channel	TRP (dBm)	TIS (dBm)
FDD B2	CH 18650	16.8	
	CH 18900	17.3	
	CH 19150	17.5	-90.3
FDD B4	CH 20000	13.4	
	CH 20175	13.6	
	CH 20350	14.4	-88.8
FDD B12	CH 23035	11.8	
	CH 23095	12.0	
	CH 23155	11.9	-85.3

Summary

The performance of the main antenna and small antenna in this prototype debugging is basically up to standard.

Additional notes

1. Please carefully confirm whether the matching circuit mentioned in the report has been modified and whether the environmental treatment has been imported, as this will directly affect the antenna performance.
2. The parameters provided in the report are only the parameters provided by the customer to our company for testing the prototype, and do not represent the final mass production status of your company's final project.
3. If your company has the latest prototype for trial production or updated status (replacement of materials, software, environmental treatment, etc.), please submit it to our company for verification as soon as possible to confirm whether the antenna performance is affected.
4. If your company needs to send the machine for third-party retesting or customer testing, please be sure to hand it over to our company for testing and confirmation, as factors such as motherboard consistency, assembly consistency, and differences in antenna assembly may lead to deviations in antenna parameters.



THE END

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