



DM56 Antenna Report

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Project phase		TEL	15112352038

Time	Report version	Primary coverage
2024-05-09	V1.0	Antenna preliminary commissioning report

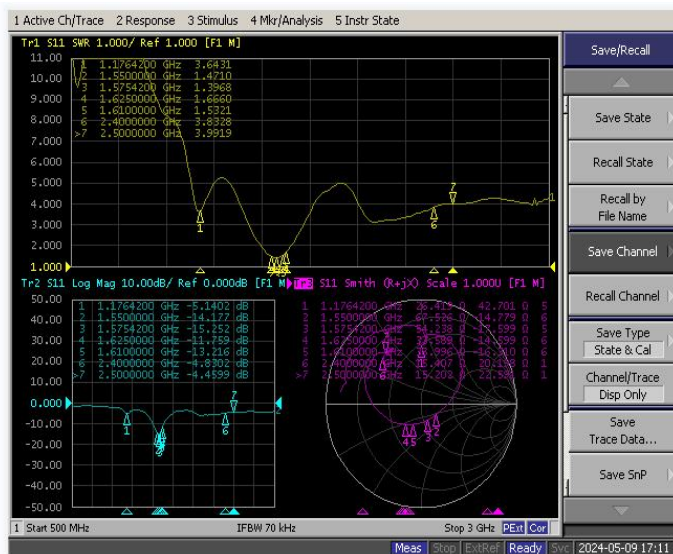
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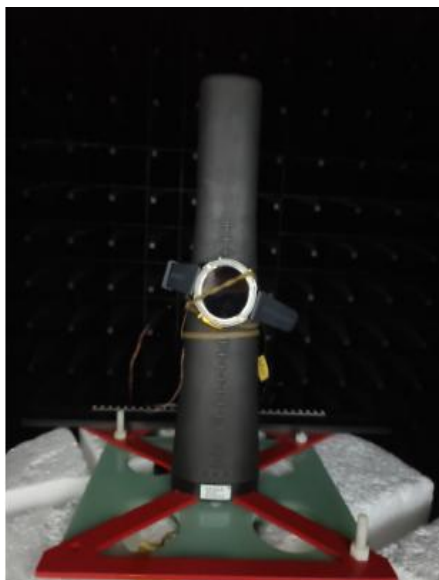
Antenna Report

Report main content Antenna preliminary commissioning report

S11 parameters of antenna without power



Darkroom test environment

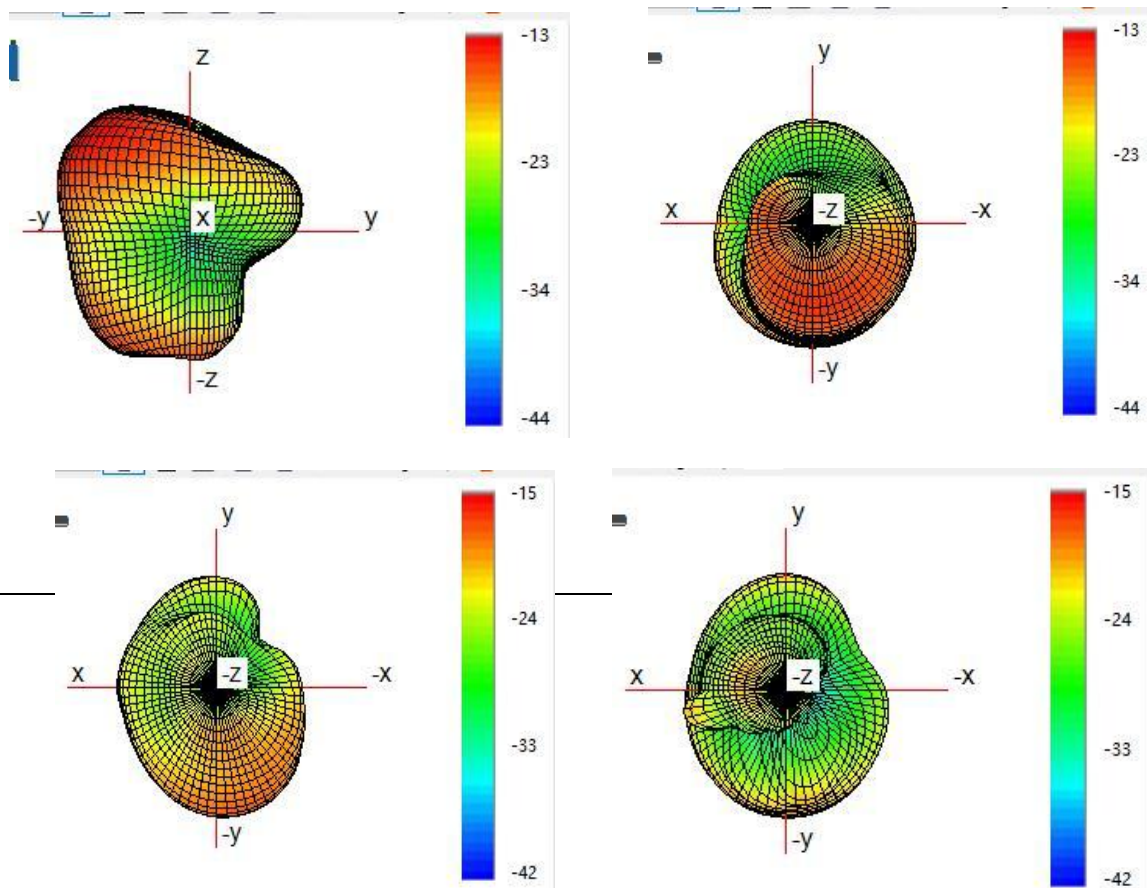


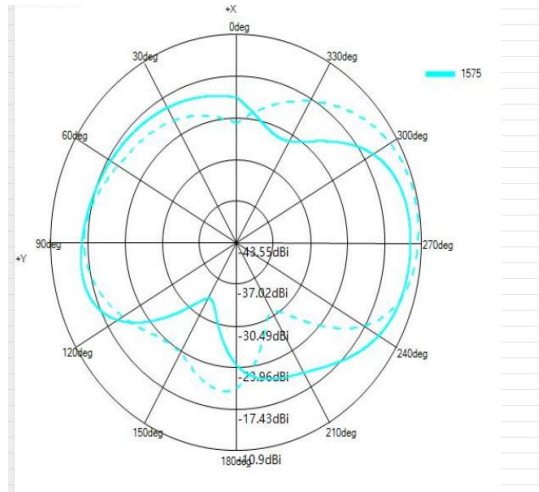
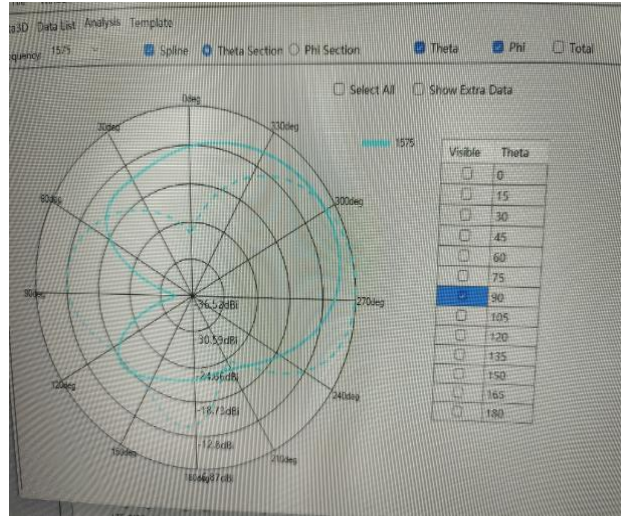
Test situation of antenna efficiency parameter

Arm test results	frequency point	gain(dBi)	productivene ss (dB)	productivene ss (dB)
	Freq (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
	1150	-13.6	-15.7	2.7
	1155	-13.4	-15.1	3.1
	1160	-13.3	-14.6	3.5
	1165	-13.1	-14.4	3.6
	1170	-13.3	-14.7	3.4
	1175	-13.4	-15.1	3.1
	1180	-13.5	-15.5	2.8

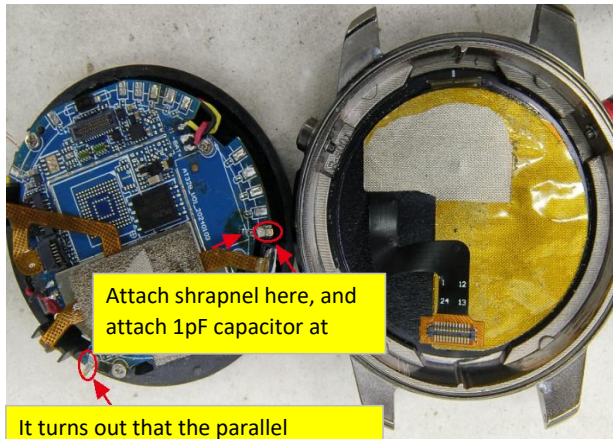
Arm test results	frequency point	gain(dBi)	productivene ss (dB)	productivene ss (dB)
	Freq (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
	1505	-6.8	-11.5	7.1
	1515	-6.4	-11.4	7.3
	1525	-6.2	-11.3	7.4
	1535	-6.1	-11.3	7.5
	1545	-5.9	-11.2	7.6
	1555	-5.6	-11.1	7.8
	1565	-5.5	-11.1	7.9
	1575	-5.4	-10.8	8.4
	1585	-5.6	-10.9	8.2
	1595	-5.2	-10.9	8.1
	1605	-5.4	-11.0	7.9
	1615	-5.8	-11.1	7.8
	1625	-6.1	-11.2	7.7
	2400	-4.8	-13.3	4.6
	2420	-4.9	-13.5	4.5
	2440	-5.2	-13.7	4.2
	2460	-5.5	-14.0	3.9
	2480	-6.0	-14.4	3.6
	2500	-6.2	-14.4	3.5

Antenna pattern



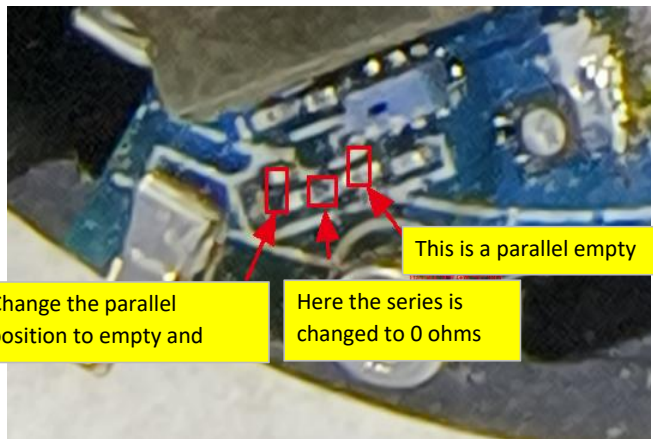


Antenna environment treatment



Attach shrapnel here, and attach 1pF capacitor at

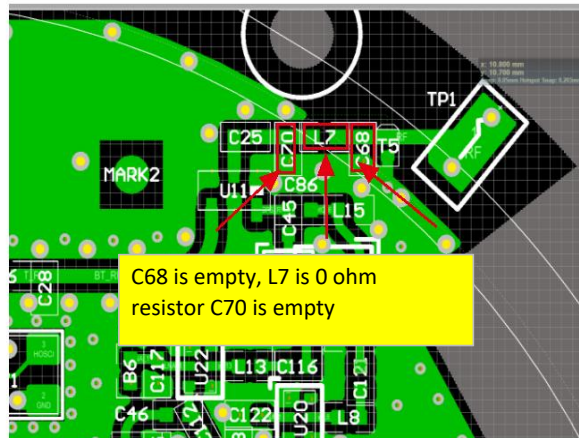
It turns out that the parallel capacitor is removed and the series inductor is changed to a 0 ohm



This is a parallel empty

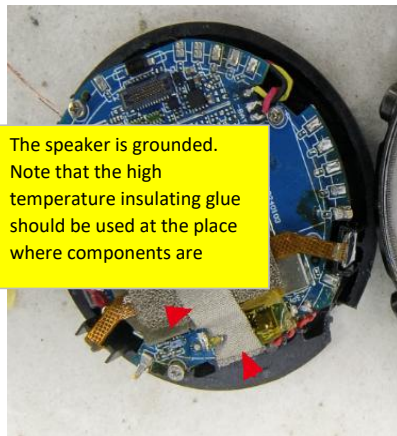
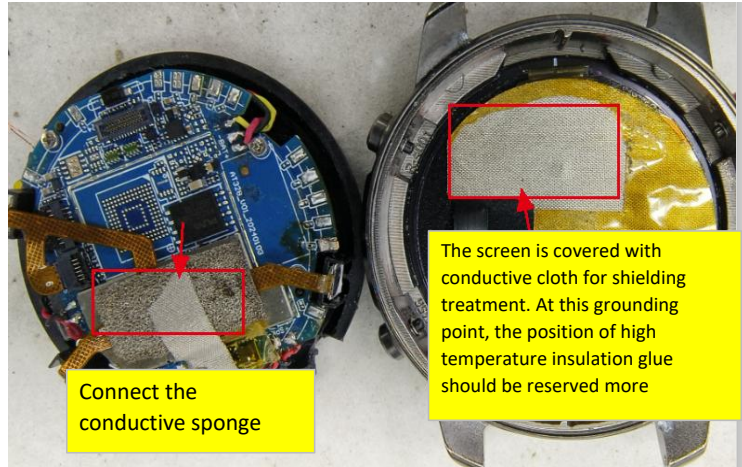
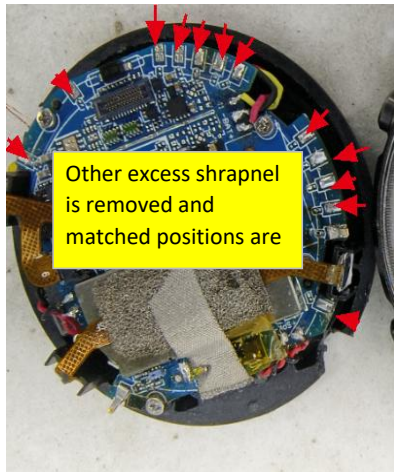
Change the parallel position to empty and

Here the series is changed to 0 ohms

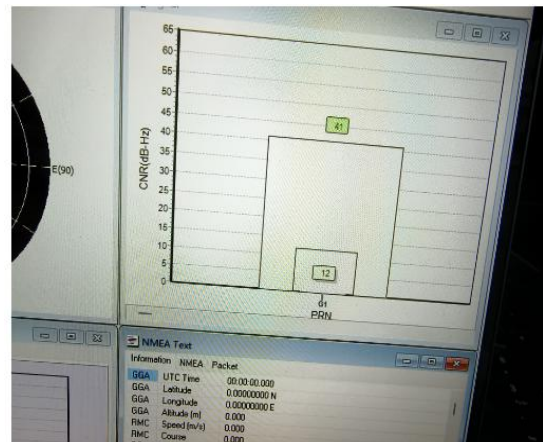


C68 is empty, L7 is 0 ohm resistor C70 is empty

实测搜星

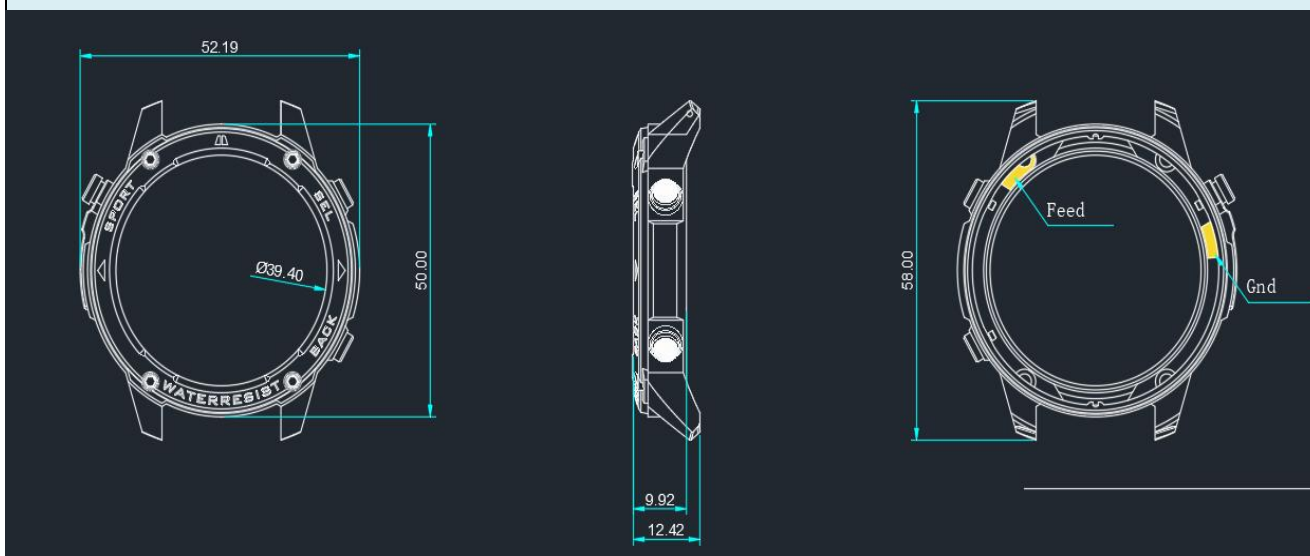


Mainboard conduction

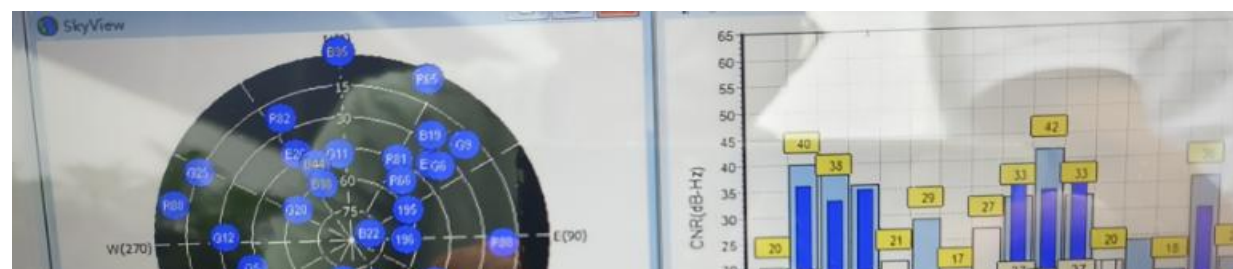
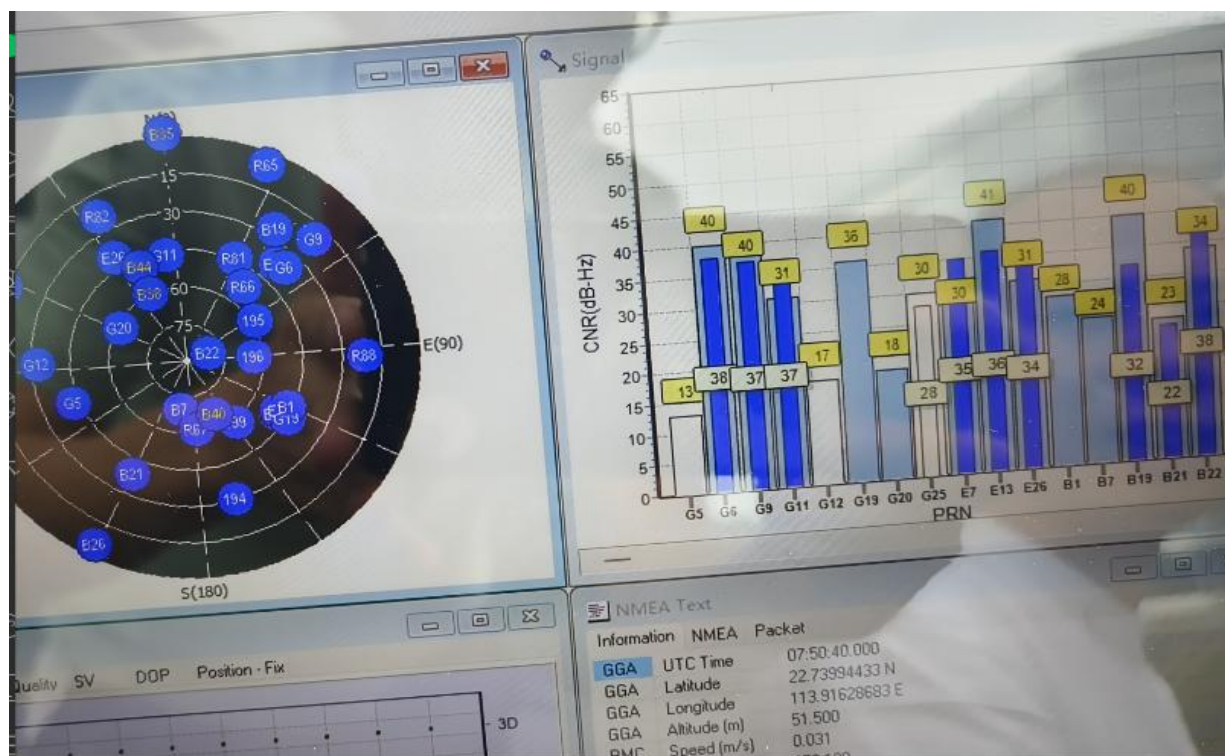


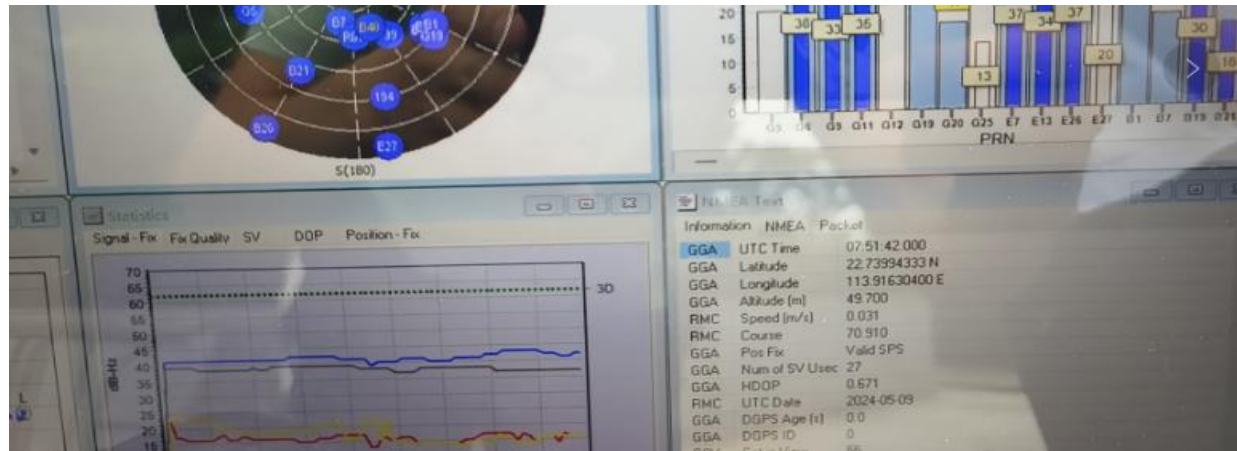
The signal of the proposed receiver is 130dBm, the loss of coaxial line is 1dBm, and the CN value of I1 signal is 41

Antenna specifications



Field survey search stars





Running, hanging down, upward position, running and hanging down posture field test effect will be better